



DVD-Video Player

TEST SPECIFICATION

Version 1.15
August 2006

Amendment for DVD-Video Player TS Version 1.15 (August 2006)

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

- **Amendment 1 (February 13, 2009)**

Page	Location	Amendment
Pages 8 to 9	Annex A	<ul style="list-style-type: none">• "Royal Philips Electronics" was deleted from the Class-A Lab list.• Class-A Lab information of "Mitsubishi Electric Corporation", "Matsushita Electric Industrial Co., Ltd. (company name)", "PIONEER CORPORATION", "Sony Corporation", "Victor Company of Japan, Limited" and "Industrial Technology Research Institute" was updated.
Page 12	Annex D	<ul style="list-style-type: none">• The company name "Matsushita Electric Industrial Co., Ltd." was changed to "Panasonic Corporation".• The Lab mark <*> was deleted from "Royal Philips Electronics".

- **Minor amendment (July 15, 2009)**

Page	Location	Amendment
Page 12	Annex D	<ul style="list-style-type: none">• The supplier of the Test Discs LVP00.06 and LVP08.01 was changed from "Royal Philips Electronics" to "OM&T B.V.".

- **Minor amendment (January 2010)**

Page	Location	Amendment
Pages 8 to 9	Annex A	<ul style="list-style-type: none">• Class-A Lab information of "Panasonic Corporation", "PIONEER CORPORATION", "Victor Company of Japan, Limited" and "SAMSUNG ELECTRONICS CO., LTD" were updated.
Page 12	Annex D	<ul style="list-style-type: none">• Class-A Lab information of "Panasonic Corporation" was updated.

- **Minor amendment (March 2011)**

Page	Location	Amendment
Page 8	Annex A	<ul style="list-style-type: none">• Class-A Lab information of "China Electronics Technology Group Corporation No.3 Research Institute" was updated.

- **Amendment 2 (January 2012)**

Page	Location	Amendment
Pages 8 to 9	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".
Page 12	Annex D	<ul style="list-style-type: none">• The supplier of the Test Stream Disc (IDL-0002) was changed from "Toshiba Corporation" to "ALMEDIO INC.".

- **Minor amendment (June 2012)**

Page	Location	Amendment
Page 9	Annex A	<ul style="list-style-type: none"> • Class-A Lab information of "Sony Corporation", "LG Electronics Inc.", "SAMSUNG ELECTRONICS CO., LTD" and "Industrial Technology Research Institute" were updated.

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Conditions for Publication

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- Time Warner Inc. (New York, USA)
- Toshiba Corporation (Tokyo, Japan)

Inquiry

For any further explanation of the contents of this document or in case of any perceived inconsistency or ambiguity 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 URL: <http://www.dvdflc.co.jp>

Revision History

- March 25, 1999
DVD-Video Player Test Specification Version 0.9 was distributed to Verification Task Force members and Format & Logo License AdHoc Working Group members.
- April 11, 1999
DVD-Video Player Test Specification Version 0.99 was distributed to Verification Task Force members.
- May 20, 1999
DVD-Video Player Test Specification Version 1.0 was authorized by Verification Task Force members.
- May 2001
DVD Logo Mechanism for DVD-Video Products was changed to complete the verification before commercial shipment. According to the Logo Mechanism change, the latest list of Class-A Labs and the latest Forms, DVD FLLC drafted the version 1.1.
Verification Task Force members authorized the version 1.1.
- January 2002
Next Production Model parameters for DVD-Video Disc playback functions for integrated system were defined in Paragraph 2.1. This modification shall be implemented in the first revision of Version 1.1 (Version 1.11).
- March 2002
A Class-A Lab.; The Third Institute of M.I.I., R.P.China was added.
- October 2003
Name or Organization of several A-Labs in **Annex A** changed and Form 1A was revised.
This modification was implemented in Version 1.12; the second revision of Version 1.1
- November 2004
A Class-A Lab; Sharp corporation (Japan) was added and A-Lab List in Annex A was up dated.
- June 2005
Version 1.14 updated Class-A Lab List (SAMSUNG) and was edited as electronic files.
- August 2006
Notes were added to **Form 3A** to clarify the test item, and Class-A Lab List was updated.
These modifications were implemented in Version 1.15.

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Forms for DVD Format verification

Form 1A

Preliminary Information for DVD Format Verification F1

Form 2A

Test Information of DVD Format Verification F2

Form 3A

Test result of Test Stream Disc (TDL-0002) F3

Form 4A

Test result of Navigation Files Test Disc Vol. 1 (DVD-NF002) F5

Form 5A

Test result of Navigation Files Test Disc Vol. 2 (DVD-NF100 or NF150) F10

Form 6A

Test result of PAL Test Stream Disc (LVP00.06) F13

Form 7A

Test result of PAL Multi-channel Test Disc (LVP08.01) F17

Form 8A

Test result of PAL Navigation Files Test Disc Vol. 1 (DVD-NF200) F18

Form 9A

Test result of PAL Navigation Files Test Disc Vol. 2 (DVD-NF250) F23

Form 10A

Confirmation of DVD Format Verification F26

1. General

1.1 Scope

The scope of this Test Specification is the testing DVD-Video Players for compliance with **DVD Specifications for Read-Only Discs Part 1, 2 and 3**. The test procedure described herein could be used by Class-A Verification Labs, Class-B Verification Labs and Quality Assurance Departments of DVD-Video Player 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 Read-Only Disc

Part 1: Physical Specifications Version 1.0

Part 2: File System Specification Version 1.0

Part 3: Video Specifications Version 1.1

1.3 Scope of Products Covered

A. DVD-Video Player

B. DVD-Video Disc playback functions of integrated systems such as PC DVD Video Player and DVD Video decoder.

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 its 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**:

A. DVD-Video Player

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

B. DVD-Video Disc playback functions of integrated systems

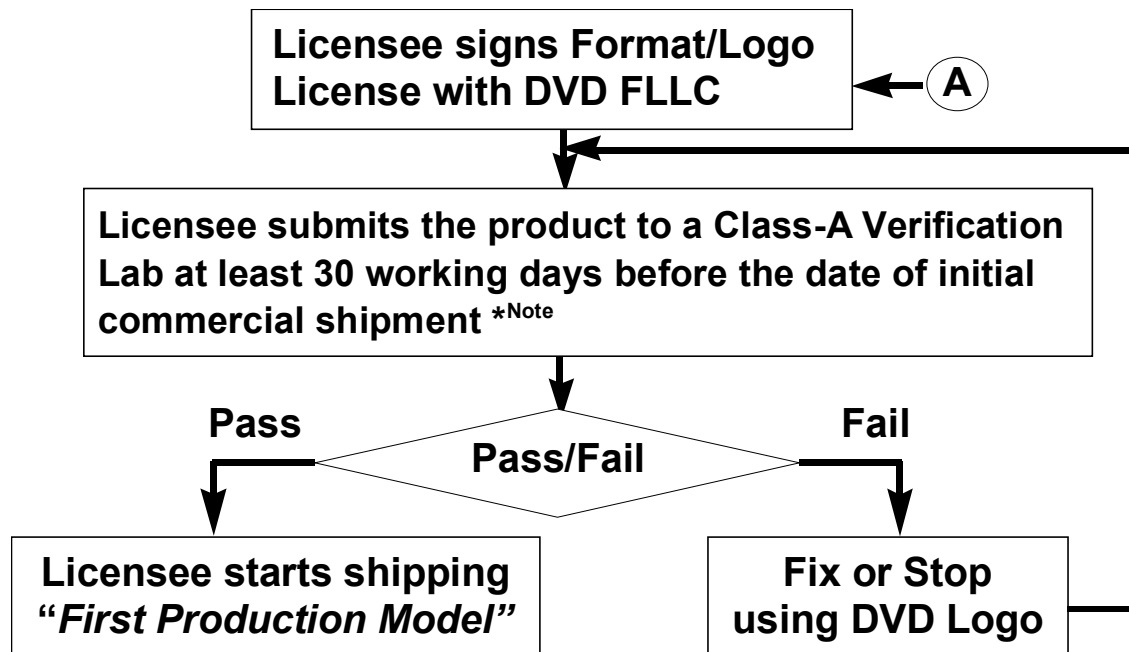
- DVD Specifications Version n.x changing to n.x+1
- Significant changes at Licensees discretion to PC DVD decoder's Software and/or Hardware components New OS support, OS components, Graphics controller, Audio controller, CPU, chipset, memory.

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

Class-B Verification Labs - DVD-Video Player Class-B Verification Labs provide DVD-Video Player testing strictly according to the DVD-Video Player Test Specification as described in this document (They can not interpret the specifications).

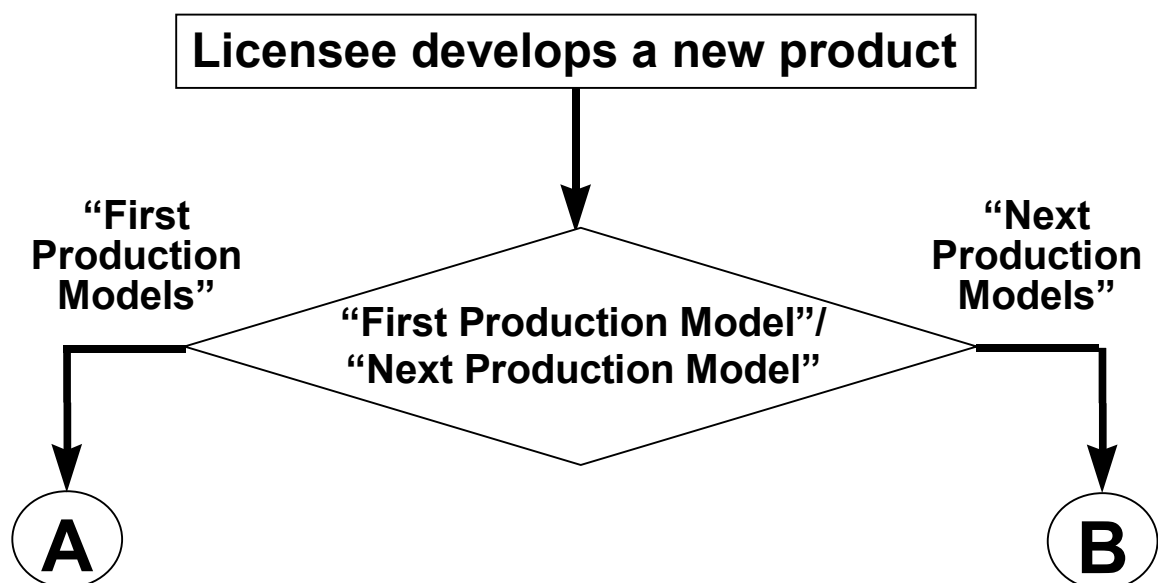
2.2 DVD Logo Mechanism

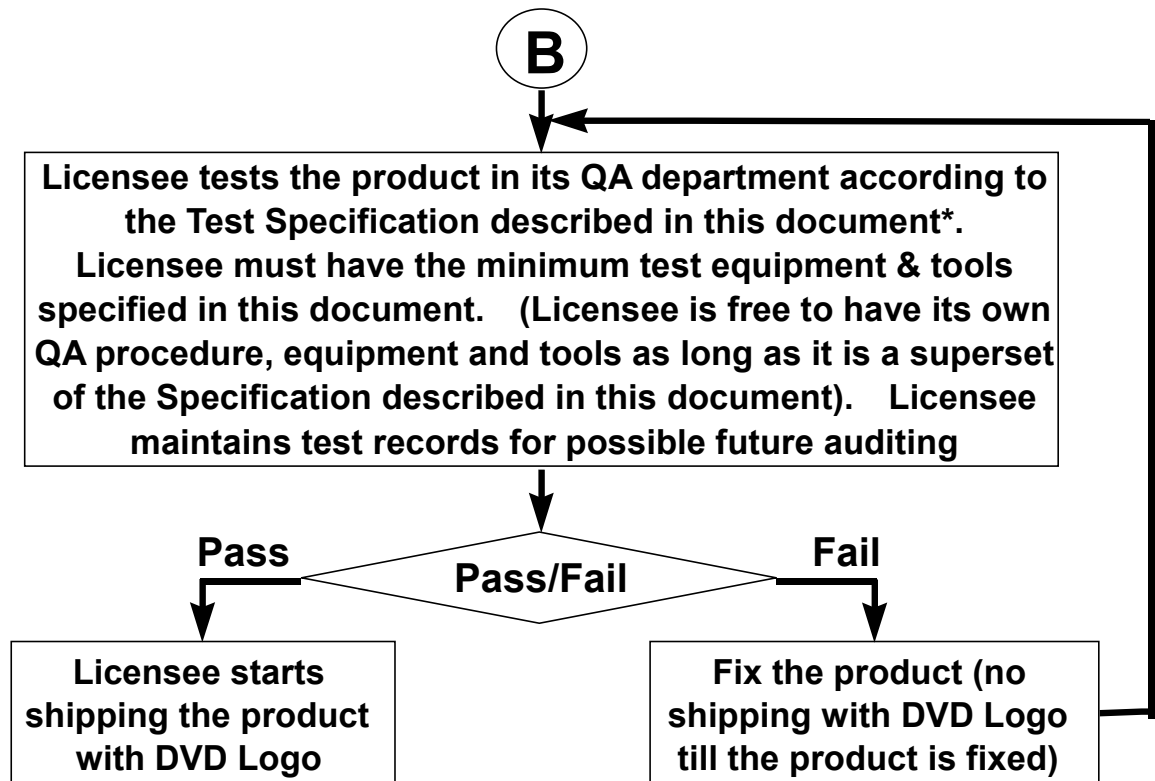
The DVD Logo mechanism for DVD-Video Products is described in the following flow chart:



**Note: This rule is applied to the First Production Model of DVD-Video Products (DVD-Video Disc and DVD-Video Player) commercially shipped on or after October 1, 2001.*

To the First Production Model shipped before October 1, 2001, the rule of Test Specification version 1.0, in which Licensee submits the product samples within 60 days from the date of initial commercial shipment, is applied.





*: Licensee without own QA department can get the product tested by a **DVD-Video Player Class-B Verification Lab**.

3. Test Tools and Test Specification

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 tests specified and shall be available before executing the test procedures. As for acquisition, refer to Annex D.

(DVD-Video Player for 525/60 TV system)

- Test Stream Disc: TDL-0002
- Navigation Files Test Disc Vol. 1: DVD-NF002
- Navigation Files Test Disc Vol. 2: DVD-NF100 (Dual layer, Parallel Track Path) or/and
- Navigation Files Test Disc Vol. 2: DVD-NF150 (Dual layer, Opposite Track Path)

(DVD-Video Player for 625/50 TV system)

- PAL Test Stream Disc: LVP00.06
- PAL Multi-channel Test Disc: LVP08.01
- PAL Navigation Files Test Disc Vol. 1: DVD-NF200
- PAL Navigation Files Test Disc Vol. 2: DVD-NF250 (Dual layer, Parallel Track Path)

3.2 Test Specification of DVD-Video Player for 525/60 TV system

The following sections describe the test procedures required for the DVD-Video Player for 525/60 TV system, the tests are identical for both, the First Production Models and the Next Production Models.

3.2.1 Presentation data

- Playback the Test Stream Disc: TDL-0002 and check the presentation data of Audio, Video, Sub-pictures, Max. bit-rate, Slide show and general presentation in accordance with **Form 3A**.

3.2.2 Navigation data structure

- Playback the Navigation Files Test Disc Vol. 1: DVD-NF002 and check the Sub-picture & highlights, Pan-scan, Sub-pictures, Audio selections, Simple seamless, Seamless multi-angle, Non-seamless multi-angle, Parental control, Still pictures, Linear Title play, Chapter search, Time search, Part of Title access, PGC playback control, Navigation between PG's, Cell still, Highlight, Linear Title control, Non-linear Title control, Title with branch structure, GPRM in register mode, Navi-commands & GPRM, Navigation timer and Command execution in accordance with **Form 4A**.
- Playback the Navigation Files Test Disc Vol. 2: DVD-NF100 or DVD-NF150 and check the UOP blocking, Highlight, Cell playback, Angle blocks, E-STD boundary, Parental, Navigation commands, Random/Shuffle and Domain transitions in accordance with **Form 5A**.

3.3 Test Specification of DVD-Video Player for 625/50 TV system

The following sections describe the test procedures required for the DVD-Video Player for 625/50 TV system, the tests are identical for both, the First Production Models and the Next Production Models.

3.3.1 Presentation data

- Playback the PAL Test Stream Disc: LVP00.06 and check the presentation data of MPEG1 Audio (low, medium and high average VBR, CBR, combined with AC-3), MPEG2 Audio (base, base & extension, 7 channel extension, low & high VBR, CBR), MPEG2Video (low, medium and high VBR, CBR, 352×576, 704×576, Pan-scan, gaps, stills) and Audio LPCM syntax in accordance with **Form 6A**.
- Playback the PAL Multi-channel Test Disc: LVO08.01 and check the Stereo configuration, Configuration for 6 channel and 8 channels, CBR, VBR, Small extension frames, Extreme VBR, De-matrix procedures, Dynamic range control, High bit-rate 1 audio stream (7.1ch), High bit-rate audio 8 streams (7.1ch) and A/V synchronization in accordance with **Form 7A**.

3.3.2 Navigation data structure

- Playback the PAL Navigation Files Test Disc Vol. 1: DVD-NF200 and check the Sub-picture & highlights, Pan-scan, Sub-pictures, Audio selections, Simple seamless, Seamless multi-angle, Non-seamless multi-angle, Parental control, Still pictures, Linear Title play, Chapter search, Time search, Part of Title access, PGC playback control, Navigation between PG's, Cell still, Highlight, Linear Title control, Non-linear Title control, Title with branch structure, GPRM in register mode, Navi-commands & GPRM, Navigation timer and Command execution in accordance with **Form 8A**.
- Playback the PAL Navigation Files Test Disc Vol. 2: DVD-NF250 and check the UOP blocking, Highlight, Cell playback, Angle blocks, E-STD boundary, Parental, Navigation commands, Random/Shuffle and Domain transitions in accordance with **Form 9A**.

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.

China

China Electronics Technology Group Corporation No.3 Research Institute

DVD Verification Laboratory

7B North Jiuxanqiao Road, Chaoyang District, Beijing, 100015 P.R.China

Tel: +86-10-59570185

Fax: +86-10-64362837

Japan

JVC KENWOOD Corporation

DVD Verification Laboratory

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

Fax: +81-45-450-2425

Mitsubishi Electric Corporation

DVD Verification Laboratory

Advanced Technology R&D Center

1 Zusho-Baba, Nagaokakyo-city, Kyoto, 617-8550 Japan

Fax: +81-75-958-3703

Panasonic Corporation

Format Verification Laboratory

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

Fax: +81-6-6909-5027

E-mail: fv1-info@ml.jp.panasonic.com URL: <http://panasonic.co.jp/avc/fv1/en/index.html>

PIONEER CORPORATION

Verification Laboratory

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

Fax: +81-44-580-4027

SHARP CORPORATION

DVD Verification Laboratory

174, Hayakawa-cho, Yaita-city, Tochigi, 329-2193 Japan

Tel: +81-287-44-3749 Fax: +81-287-43-6680

(Continued)

Sony Corporation

Verification Laboratory

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

Fax: +81-50-3750-6608

Korea

LG Electronics Inc.

DVD Verification Laboratory

19-1 Cheongho-Ri, Jinwi-Myun, Pyungtaik-City, Kyunggi-Do, 451-713 Korea

Tel: +82-31-686-4838 Fax: +82-31-686-4827

E-mail: kyoungtai.koo@lge.com

SAMSUNG ELECTRONICS CO., LTD

DVD Verification Laboratory

VD Division, DM Business

416, Maetan-3Dong, Yeongtong-Gu, Suwon-City, Gyeonggi-Do, 443-742 Korea

Tel: +82-31-277-0875 Fax: +82-31-277-3398

E-mail: bd.tcenter@samsung.com

Taiwan

Industrial Technology Research Institute

DVD Verification Laboratory

Rm. 917, Bldg. 51, No. 195, Section 4, Chung Hsing Road, Chutung, Hsinchu, 31040, Taiwan, R.O.C.

Tel: +886-3-5918295 Fax: +886-3-5917531

E-mail: jtrann@itri.org.tw

U.S.A.

Panasonic Disc Manufacturing Corporation of America

PDMC Verification Laboratory

20608 Madrona Avenue, Torrance, CA, 90503 U.S.A.

Fax: +1-310-783-4849

Annex B

Glossary of Terms used

(May be defined in future.)

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 1A** to provide preliminary information

Self Test

Applicant must test the product in accordance with this Test Specification prior to submitting it to a Class-A Verification Lab. Applicant must complete **Form 2A** and **Form 3A to 5A** (DVD-Video Player for 525/60 TV system) and/or **Form 6A to 9A** (DVD-Video Player for 625/50 TV System) to provide test results.

Mutual Non-Disclosure Agreement (NDA)

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

Application

Applicant must submit **3 product samples** along with **Form 2A** and **Form 3A to 5A for 525/60 TV system** and/or **Form 6A to 9A for 625/50 TV System**, and the **NDA**.

Test Result

Upon completion of testing, Verification Lab will complete **Form 10A** 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.

Test Discs for 525/60 TV system

<ul style="list-style-type: none"> Test Stream Disc: TDL-0002 	ALMEDIO INC. <*> Testing Laboratory 32-13, Sakae-cho 2 chome, Higashimurayama-shi, Tokyo, 189-0013 Japan Fax: +81-42-397-1919 E-mail: testlab@almedio.co.jp
<ul style="list-style-type: none"> Navigation Files Test Disc: Vol. 1: DVD-NF002 Vol. 2: DVD-NF100 (Dual Layer Parallel Track Path) Vol. 2: DVD-NF150 (Dual Layer Opposite Track Path) 	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

Test Discs for 625/50 TV system

<ul style="list-style-type: none"> PAL Test Stream Disc: LVP00.06 	OM&T B.V. Global Sales Order Desk Building SFH, Glaslaan 2, 5616 LW Eindhoven, The Netherlands Fax: +31-40-2171-435 E-mail: orderdesk.td@om-t.net URL: http://www.om-t.net
<ul style="list-style-type: none"> PAL Multi-channel Test Disc: LVP08.01 	
<ul style="list-style-type: none"> PAL Navigation Files Test Disc: Vol. 1: DVD-NF200 Vol. 2: DVD-NF250 (Dual Layer Parallel Track Path) 	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