



MARINE DIVISION

Certificate number: 22561/A0 BV

File number: AP 4069

Product code: 4483H

This certificate is not valid when presented without the full attached schedule composed of 7 sections

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TYPE APPROVAL CERTIFICATE

This certificate is issued to

Litemax Electronics Inc.
TAIPEI - TAIWAN

for the type of product

DISPLAY MONITORS / VIDEO SCREENS / TERMINALS

NavPixel Series Sunlight Readable Maritime Displays
Models: NPD0835, NPD1236, NPD1555, NPD1744 and NPD1954

Requirements:

BUREAU VERITAS Rules for the Classification of Steel Ships.

This certificate is issued to attest that BUREAU VERITAS did undertake the relevant approval procedures for the product identified above which was found to comply with the relevant requirements mentioned above.

This certificate will expire on: 11 Mar 2015

For BUREAU VERITAS,

At BV TAIPEI, on 11 Mar 2010,

Chia-Cheng Yu



This certificate remains valid until the date stated above, unless cancelled or revoked, provided the conditions indicated in the subsequent page(s) are complied with and the product remains satisfactory in service. This certificate will not be valid if the applicant makes any changes or modifications to the approved product, which have not been notified to, and agreed in writing with BUREAU VERITAS. Should the specified regulations or standards be amended during the validity of this certificate, the product(s) is/are to be re-approved prior to it/they being placed on board vessels to which the amended regulations or standards apply. This certificate is issued within the scope of the General Conditions of BUREAU VERITAS Marine Division available on the internet site www.veristar.com. Any Person not a party to the contract pursuant to which this document is delivered may not assert a claim against BUREAU VERITAS for any liability arising out of errors or omissions which may be contained in said document, or for errors of judgement, fault or negligence committed by personnel of the Society or of its Agents in establishment or issuance of this document, and in connection with any activities for which it may provide.

THE SCHEDULE OF APPROVAL

1. PRODUCT DESCRIPTION :

The Maritime Displays NavPixel™ NPD series comprises the following models:
NPD0835, NPD1236, NPD1555, NPD1744 and NPD1954.

1.1 - Common characteristics:

LCD Type:	Color LCD - LED Backlight
Signal Terminals: (Depending on Model)	DVI (x1 or x2 or None) VGA (x1 or x2) RGB (x3 or None) USB (x1 or None) RS232 (x1 or None)
Power Supply:	DC Powered through AC/DC Adapter Model KPA-060F manufactured by ISO (for NPD0835) Model PAA060F manufactured by CWT (for other Display Models) 100-240 VAC, 50/60 Hz
Ingress Protection Index:	IP 65 (Front), IP68 (NPD0835)
Operating Temperature:	-25 °C to +55°C

1.2 - Specific characteristics:

Model Name	Size	Pixel Number	Contrast Ratio
NPD0835	8.4 "	800x600 (SVGA)	600:1
NPD1236	12.1 "	1024x768 (XGA)	800:1
NPD1555	15.0 "	1024x768 (XGA)	700:1
NPD1744	17.0 "	1280x1024 (SXGA)	1000:1
NPD1954	19.0 "	1280x1024 (SXGA)	900:1

1.3 - Hardware / Firmware:

Model Name	Part no	F/W or H/W	Version
NPD0835	NPD0835-ETAW-A01	Hardware	Ver: 01
	990200150801	Firmware	Ver: 2.1
NPD1236	NPD1236-EGAW-G011	Hardware	Ver: 01
	990006221200	Firmware	Ver: 2.2
NPD1555	NPD1555-EGAW-G011	Hardware	Ver: 01
	990206221501	Firmware	Ver: 2.2
NPD1744	NPD1744-EGAW-H011	Hardware	Ver: 01
	990007131700	Firmware	Ver: 1.3
NPD1954	NPD1954-EGAW-H011	Hardware	Ver: 01
	990007131900	Firmware	Ver: 1.3

2. DOCUMENTS AND DRAWINGS :

Litemax Electronics Inc.:

Specifications dated 2008

Description of Hardware (Unreferenced and undated document)

User Manuals NPD0835 1st Ed. dated 9/8/2008, NPD1236 1st Ed. dated 3/2/2009, NPD1555 1st Ed. dated 3/2/2009, NPD1744 1st Ed. dated 3/2/2009 and NPD1954 1st Ed. dated 3/2/2009.

Model Name	Drawing Name	Version	Date
NPD0835	NPD0835 AD5621 Electronic drawing (V2.2).pdf	V 2.2	11/08/2008
	NPD0835 LID Electronic drawing(V1.1).pdf	V 1.1	20/10/2008
	NPD0835-Back Cover mechanical drawing 1.pdf	V0	23/07/2009
	NPD0835-Explode mechanical drawing 2.pdf	V 1	15/01/2009
	NPD0835-Front case mechanical drawing 3.pdf	V 0	23/07/2009
NPD1236	NPD1236 AD2662 Electronic drawing.pdf	V 2	29/09/2009
	NPD1236 COM VR Electronic drawing.pdf	V A	22/09/2008
	NPD1236 KEYPAD Electronic drawing .pdf	V A	01/12/2008
	NPD1236 LID Electronic drawing.pdf	V 1	27/02/2009
	NPD1236-Back Cove rmechanical drawing 1.pdf	V 1	04/09/2009
	NPD1236-Explode mechanical drawing 2.pdf	V 1	12/01/2009
	NPD1236-Front Case mechanical drawing 3.pdf	V 1	11/11/2009
	NPD1236-Main Case mechanical drawing 4.pdf	V 2	12/08/2009
NPD1555	NPD1555 AD2662 Electronic drawing.pdf	V 2	29/12/2009
	NPD1555 COM VR Electronic drawing.pdf	V A	22/09/2008
	NPD1555 KEYPAD Electronic drawing .pdf	V A	01/12/2008
	NPD1555 LID Electronic drawing.pdf	V 1	27/02/2009
	NPD1555-Back Cover mechanical drawing 1.pdf	V 1	17/12/2009
	NPD1555-Explode mechanical drawing 2.pdf	V 1	25/12/2009
	NPD1555-Front Case mechanical drawing 3.pdf	V 2	09/09/2009
	NPD1555-Main Case mechanical drawing 4.pdf	V 2	04/09/2009
NPD1744	NPD1744 KEYPAD Electronic drawing.pdf	V A	01/12/2008
	NPD1744 AD8668 Electronic drawing.pdf	V A	22/12/2008
	NPD1744 COM VR Electronic drawing.pdf	V A	22/09/2008
	NPD1744 LID Electronic drawing.pdf	V 1	27/02/2009
	NPD1744-Back_cover mechanical drawing 1.pdf	V 2	14/12/2009
	NPD1744-Explode mechanical drawing 2.pdf	V1	25/12/2009
	NPD1744-Front_Case mechanical drawing 3.pdf	V 2	23/12/2009
	NPD1744-Main Case mechanical drawing 4.pdf	V 3	14/12/2009
NPD1954	NPD1954 KEYPAD Electronic drawing.pdf	V A	01/12/2008
	NPD1954 AD8668 Electronic drawing.pdf	V A	22/12/2008
	NPD1954 COM VR Electronic drawing.pdf	V A	22/09/2008
	NPD1954 LID Electronic drawing.pdf	V 1	27/02/2009
	NPD1954-Back Cover mechanical drawing 1.pdf	V 1	04/09/2009
	NPD1954-Explode mechanical drawing 2.pdf	V 1	25/12/2009
	NPD1954-Front_Case mechanical drawing 3.pdf	V 1	09/09/2009
	NPD1954-Main Case mechanical drawing 4.pdf	V 2	04/09/2009

3. TEST REPORTS :

Litemax Electronics Inc.:

Unreferenced and undated Product Test Plan

Engineering Verification Test Reports NPD0835 dated 2009/02/25, NPD1236 dated 2009/03/27, NPD1555 dated 2009/03/31, NPD1744 dated 2009/03/30 and NPD1954 dated 2009/03/17.

Interocean EMC Technology Corp.:

Test Reports No. 9A073003C-1 (NPD0835), No. 9A061703C-1 (NPD1555) and 9A073004C-1 (NPD1954) all dated 2010/02/05.

4. APPLICATION / LIMITATION :

4.1 - BUREAU VERITAS Rules for the Classification of Steel Ships.

4.2 - Approval valid for ships intended to be granted with the following additional class notations: **AUT-UMS, AUT-CCS, AUT-PORT and AUT-IMS.**

4.3 - BUREAU VERITAS Environmental Category, **EC Code: 21/41.**

4.4 - The equipment fulfils the EMC requirements for installation on the Bridge and Deck Zone.

4.5 - Only flush mounting is allowed.

4.6 - Not to be used for Navigation Applications.

4.7 - The minimum safe distance at which the equipment may be mounted from a standard or a steering magnetic compass is not to be less than 5 m.

4.8 - To be only used with AC/DC Adapters, Model KPA-060F manufactured by ISO or Model PAA060F manufactured by CWT.

5. PRODUCTION SURVEY REQUIREMENTS :

5.1 - The NavPixel™ NPD Series Displays are to be manufactured, examined and tested by **Litemax Electronics Inc.** in accordance with the type described in this certificate and Bureau Veritas Rules for the Classification of Steel Ships.

5.2 - Production sites are to be recognized by Bureau Veritas as per NR320 for HBV products. To this end **Litemax Electronics Inc.** has to make the necessary arrangements for a Society's Surveyor to perform visits and product audits at the production sites.

5.3 - **Litemax Electronics Inc.** has declared to Bureau Veritas that the type of product described in this certificate are manufactured at the following production site:

**Litemax Electronics Inc.
7F-1, No. 135, Lane 235,
Bau-chiau Rd., Shin-dian City,
Taipei County, 231
TAIWAN**

6. MARKING OF PRODUCT :

Manufacturer's name and Trademark

Type and model number

Date of manufacture and serial number

Equipment type or model identification under which it was type-tested.

7. OTHERS :

7.1 - This approval is given on the understanding that the Society reserves the right to require check tests to be carried out on the units at any time, and that:

**Litemax Electronics Inc.
8F-2, No. 133, Lane 235,
Bau-chiau Rd., Shin-dian City,
Taipei County, 231
TAIWAN**

will accept full responsibility for informing shipbuilders, shipowners or their sub-contractors of the proper methods of use and general maintenance of the units and the conditions of this approval.

***** END OF CERTIFICATE *****