

## Type Approval Certificate Extension

This is to certify that Certificate No. 98/10009(E3) for the undernoted products is extended and renumbered as shown.

This certificate is issued to:

**PRODUCER** Kawai Electronic Innovation System Co., Ltd.  
1-1-5, Ikuno Nishi, Ikuno-ku, Osaka, 544-0024, Japan

**PLACE OF PRODUCTION** Kawai Electronic Innovation System Co., Ltd.  
1-1-5, Ikuno Nishi, Ikuno-ku, Osaka, 544-0024, Japan

**DESCRIPTION** Computer System

**TYPE** KEI-1000, KEI-800

Comprising:-

Modules

BTB-251/01	:	CPU module
BTB-834/12	:	CPU module
BTB-NPX	:	Numeric processor module
BTB-ACA	:	CA input module
BTB-ACR	:	CRC input module
BTB-AII	:	Current input module
BTB-AVI	:	Voltage input module
BTB-BIO	:	Current output module
BTB-BVO	:	Voltage output module
BTB-DI	:	Contact input module
BTB-DO	:	Contact output module
BTB-FI	:	Frequency input module
BTB-MI	:	Special input module
BTB-PT	:	Pt input module
BTB-PW	:	Power module
BTB-SIO	:	Serial I/F module
BTB-UDC	:	Counter input module
BTB-DVI	:	Ref. Container input or clock input module
TRX-232	:	TTL-RS232C conversion module

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**Issue Date** 6 May 2008

**Expiry Date** 5 May 2013

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## TYPE (Continued)

### I/O module with terminal

BTB-KLS	:	KLS CENTER module
KLS-DI	:	contact input with terminal
KLS-DIO	:	contact input/output with terminal
KLS-DO	:	contact output with terminal
KLS-AII	:	current input with terminal
KLS-AVI	:	voltage input with terminal
KLS-PT	:	3 wires Pt input with terminal
KLS-DLS	:	KLS line exchanger with terminal

### Power supply unit

VTB01A,	VTB01C24,	VTB24SA,	VTB24SC24
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### CRT

KEI-CRT15M	:	15" colour CRT
KEI-CRT17M	:	17" colour CRT
KEI-CRT21M	:	21" colour CRT

### CRT controller AGUII

KEI-1630A or D	:	CRT graphic controller
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### Keyboard

ENTRY-KEY32	:	32 key
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### Racks

KPR-007	:	7 slots rack
KPR-014	:	14 slots rack
KPR-021	:	21 slots rack

## APPLICATION

Marine, offshore and industrial applications for use in environmental categories ENV1, ENV2 and ENV3 in "Bridge and Deck Zone" as defined in LR's Test Specification No. 1-2002.

## DESIGN CODE

Manufacturer's specification ;  
No. LRS-TP1000-530, No. LRS-TYP1000-542,  
Manufacturer's Catalogues Feb.1998

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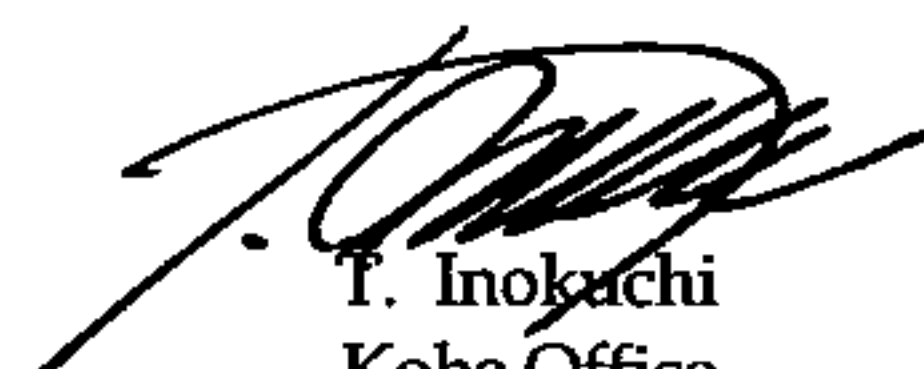
*"This Certificate is not valid for equipment, the design, ratings or operating parameters of which have been varied from the specimen tested. The manufacturer should notify Lloyd's Register Asia of any modification or changes to the equipment in order to obtain a valid certificate."*

*The attached Design Appraisal Document No.98/10009(E4) and its supplementary Type Approval Terms and Conditions form part of this Certificate.*

All other details remain as the previous Certificate No. 98/10009(E3) to which this extension should be attached.

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*Lloyd's Register Asia, registered office:  
71 Fenchurch Street, London EC3M 4BS*

  
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# Marine Design Appraisal Document

Lloyd's Register Asia  
Kobe Office  
Urban Ace Sannomiya Building 9F  
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651-0088, Japan

Date  
06 May 2008  
Quote this reference on all future communications  
KOB/TIN-TA/O-4319/0814020 (E02-08)

**THE LR TYPE APPROVAL SYSTEM, 2002.**  
Issued to: KAWAI ELECTRONIC INNOVATION SYSTEM CO., LTD.  
for: COMPUTER SYSTEM  
Type: KEI-1000 AND KEI-800  
TYPE APPROVAL CERTIFICATE No. 98/10009(E4)

The undernoted documents have been reviewed for compliance with the requirements of the LR Type Approval System, 2002 and this Design Appraisal Document forms part of the Certificate.

### APPROVAL DOCUMENTATION

	<u>Document Ref.</u>	<u>Date</u>
Request for Marine Services	2502	17 April 2008
Approval Services – Request for Quotation	6606	17 April 2008
SPECIFICATION, KEI-1000/800 COMPUTER SYSTEM	LRS-TP1000-530	JAN.28.1998
KEI 1000 COMPUTER SYSTEM (ADDITION MODULE) SPECIFICATION	LRS-TYP1000-542	JUN.29.2001
Manufacture's Catalogues, KEI-1000 DATA LOGGER SYSTEM	---	Feb. 1998
KEI 1000 VALVE CONTROL SYSTEM	---	Feb. 1998

### TEST REPORTS

	<u>Document Ref.</u>	<u>Date</u>
TEST REPORT for LR TYPE APPROVAL SYSTEM (KEI-1000/800 SYSTEM)	LRS-TP1000-501	APR-1.1998
TEST REPORT for LR TYPE APPROVAL SYSTEM KEI COMPUTER SYSTEM (KEI-1000/KEI-CRT/KEYBOARD/KEI-1630) ADDITIONAL NEW MODULE (BTB-KLS, KLS-***)	LRS-TP1000-545 LRS-TP1000-547	Jul.30.2001 NOV.19.2001
KEI COMPUTER SYSTEM (KEI-1000/KEI-CRT/KEI-KEY BOARD/KGCU/KEI-1630)	NK-TYP1000-561	JUN.17.2004
TEST REPORT for ABS TYPE APPROVAL TEST	ABS-TYP1000-511	JUN.17.2004

### Supplementary Type Approval Terms and Conditions

*Type Approval certifies that a representative sample of the product(s) referred to herein has/have been found to meet the applicable design criteria for the use specified herein. It does not mean or imply approval for any other use, nor approval of any product(s) designed or manufactured otherwise than in strict conformity with the said representative sample.*

*Type Approval is based on the understanding that the manufacturer's recommendations and instructions and any relevant requirements of the Rules and Regulations are complied with.*

*Type Approval does not eliminate the need for normal inspection and survey procedures required by the Rules and Regulations.*

*Lloyd's Register Asia reserves the right to cancel or withdraw this Type Approval Certificate in accordance with the LR Type Approval System Procedure.*

FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Issue number **0**

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**651-0088, Japan**

Date  
**06 May 2008**

Quote this reference on all future communications  
**KOB/TIN-TA/O-4319/0814020 (E02-08)**



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FINAL ACCEPTANCE OF ACTUAL ITEM(S) DEPEND(S) ON SATISFACTORY SURVEY AND TESTING

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Part 3

Control Units

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
<p>Kawai Electronic Innovation System Co. Ltd., 1-1-5, Ikuno Nishi, Ikuno-ku, Osaka, 544-0024, Japan</p>	<p>Computer system Type KEI-1000, KEI-800</p> <p>Comprising:- Modules BTB-251/01 CPU module BTB-834/12 CPU module BTB-NPX Numeric processor module BTB-ACA CA input module BTB-ACR CRC input module BTB-AII Current input module BTB-AVI Voltage input module BTB-BIO Current output module BTB-BVO Voltage output module BTB-DI Contact input module BTB-DO Contact output module BTB-FI Frequency input module BTB-MI Special input module BTB-PT Pt input module BTB-PW Power module BTB-SIO Serial I/F module BTB-UDC Counter input module BTB-DVI Ref. Container input or clock input module TRX-232 TTL-RS232C conversion module</p> <p>I/O module with terminal BTB - KLS KLS CENTER module KLS-DI contact input KLS-DIO contact input/output KLS-DO contact output KLS-AII current input KLS-AVI voltage input KLS-PT 3 wires Pt input KLS-DLS KLS line exchanger</p> <p>Power supply unit VTB01A, VTB01C24 VTB24SA, VTB24SC24</p> <p>CRT KEI-CRT15M 15" colour CRT KEI-CRT17M 17" colour CRT KEI-CRT21M 21" colour CRT</p>	<p>Power supply 100V, 50/60 Hz 24V d.c.</p> <p>Central processor COM20051/i8044/i8344 ROM 64KB RAM 32KB Clock rate 16/12/12 MHz</p> <p>Numeric processor 80C186/80C187 ROM 512KB RAM 832KB DP-RAM 8/16KB</p> <p>RS232C</p>	<p>ENV1 ENV2 ENV3 (2002) in "Bridge and Deck Zone"</p>	<p>Expires: 5 May 2013 See Manufacture's Spec. No. LRS-TP1000-530 No. LRS-TP1000-542 Catalogues: Feb. 1998</p>	<p>98/10009(E4)</p>



- 6 MAY 2008

Part 3

Control Units

Producer/Licence No.	Item Description	Technical Details	Category/Additional Tests	Remarks	Cert. No.
	CRT controller AGUII KEI-1630A or D CRT graphic controller  Keyboard ENTRY-KEY32 32 key  Racks KPR-007 7 slots rack KPR-014 14 slots rack KPR-021 21 slots rack				