

**FCC PART 15 CLASS B**

**EUT User Manual**

FOR

**NMB TECHNOLOGIES**

9730 Independence Ave.,  
Chatsworth, CA 91311

**FCC ID: AQ6-RT2900**

August 30, 2000

<b>This Report Concerns:</b> <input checked="" type="checkbox"/> Original Report	<b>Equipment Type:</b> Keyboard - Peripheral, ITE
<b>Test Engineer:</b> Brian Tan	
<b>Test Date:</b> April 28, 2000	
<b>Reviewed By:</b> John Y. Chan - Director, Compliance Engineering	
<b>Prepared By:</b> Bay Area Compliance Laboratory Corporation 230 Commercial Street, Suite 2 Sunnyvale, CA 94086 (408) 732-9162	

**Note:** This report may not be duplicated without prior written consent of Bay Area Compliance Laboratory Corporation. This report **must not** be used by the client to claim product endorsement by NVLAP or any agency of the U.S. Government.

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**TABLE OF CONTENTS**

**1 - GENERAL INFORMATION..... 3**

- 1.1 PRODUCT DESCRIPTION FOR EQUIPMENT UNDER TEST (EUT)..... 3
- 1.2 OBJECTIVE ..... 3
- 1.3 RELATED SUBMITTAL(S)/GRANT(S) ..... 3
- 1.4 TEST METHODOLOGY..... 3
- 1.5 TEST FACILITY ..... 3
- 1.6 TEST EQUIPMENT LIST ..... 4
- 1.7 EQUIPMENT UNDER TEST (EUT)..... 4

**APPENDIX A – USER MANUAL ..... 5**

**APPENDIX B – AGENT AUTHORIZATION LETTER..... 10**

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## 1 - GENERAL INFORMATION

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### 1.1 Product Description for Equipment Under Test (EUT)

The *NMB Technologies*, Model *RT2900* or the "EUT" as referred to in this report is a standard Keyboard which could bring users closer and keeps users in touch with desktop world. The EUT measures 17.9" Lx 6.12"Wx 1.25"H.

- The EUT was connected to a Mid -Tower host system which provides for one (1) 3.5" floppy drive, one (1) IDE hard drive, one (1) CD-ROM drive, one (1) IBM motherboard, and one (1) modem card.

### 1.2 Objective

This Class B report is prepared on behalf of *NMB Technologies* in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules and to ICES-003 of the Canadian Interference-Causing Equipment Regulations.

The objective of the manufacturer is to demonstrate compliance with FCC Part 15 Class B limits for conducted and radiated margin and to ICES-003 requirements for Information Technology Equipment.

### 1.3 Related Submittal(s)/Grant(s)

No Related Submittals

### 1.4 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4 –1992, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratory, Corp. The radiated testing was performed at an antenna-to-EUT distance of 10 meters.

### 1.5 Test Facility

The Open Area Test site used by Bay Area Compliance Laboratory Corporation to collect radiated and conducted emission measurement data is located in the back parking lot of the building at 230 Commercial Street, Suite 2, Sunnyvale, California, USA.

Test sites at Bay Area Compliance Laboratory Corporation has been fully described in reports submitted to the Federal Communication Commission (FCC) and Voluntary Control Council for Interference (VCCI). The details of these reports has been found to be in compliance with the requirements of Section 2.948 of the FCC Rules on February 11 and December 10, 1997 and Article 8 of the VCCI regulations on December 25, 1997. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-1992.

The Federal Communications Commission and Voluntary Control Council for Interference has the reports on file and is listed under FCC file 31040/SIT 1300F2 and VCCI Registration No.: C-674 and R-657. The test sites has been approved by the FCC and VCCI for public use and is listed in the FCC Public Access Link (PAL) database.

Additionally, Bay Area Compliance Laboratory Corporation is a National Institute of Standards and Technology (NIST) accredited laboratory, under the National Voluntary Laboratory Accredited Program (NVLAP). The scope of the accreditation covers the FCC Method - 47 CFR Part 15 - Digital Devices, IEC/CISPR 22: 1993, and AS/NZS 3548: Electromagnetic Interference - Limits and Methods of Measurement of Information Technology Equipment test methods under NVLAP Lab Code 200167-0.

### 1.6 Test Equipment List

Manufacturer	Description	Model	Serial Number	Cal. Due Data
HP	Spectrum Analyzer	8568B	2610A02165	12/6/00
HP	Spectrum Analyzer	8593B	2919A00242	12/20/00
HP	Amplifier	8349B	2644A02662	12/20/00
HP	Quasi-Peak Adapter	85650A	917059	12/6/00
HP	Amplifier	8447E	1937A01046	12/6/00
A.H. System	Horn Antenna	SAS0200/571	261	12/27/00
Com-Power	Log Periodic Antenna	AL-100	16005	11/2/00
Com-Power	Biconical Antenna	AB-100	14012	11/2/00
Solar Electronics	LISN	8012-50-R-24-BNC	968447	12/28/00
Com-Power	LISN	LI-200	12208	12/20/00
Com-Power	LISN	LI-200	12005	12/20/00
BACL	Data Entry Software	DES1	0001	12/20/00

### 1.7 Equipment Under Test (EUT)

Manufacturer	Description	Model	Serial Number	FCC ID
NMB	Keyboard	RT2900	41100077/41100081	AQ6-RT2900

## **Appendix A – USER MANUAL**

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**Model Series RT-2900W Modern Design Membrane Keyboard**

■ **FUNCTIONAL**

**Auto Repeat**

This function is controlled by the host system with the following default values. When a key is held down, the keyboard will continuously output 10.9 characters per second after a delay of 0.5 seconds.

**Locking Functions**

LEDs located on the enclosure indicate the status of Num Lock, Caps Lock and Scroll Lock Keys. The LED indicators are controlled by the host system.

**Buffering**

The keyboard will buffer up to 16 bytes when the system is unable to receive scan codes from the keyboard. The keystrokes are stored in a first-in-first-out (FIFO) buffer.

**Input-Output Data Logic Level**

Data input and output is standard TTL level.

■ **ELECTRICAL**

**Input Voltage**

4.75 to 5.25 VDC.

**Input Current**

75 milliamperes maximum.

■ **MECHANICAL**

**Enclosure Material**

Injection Molded Thermoplastics.

**Keycap Material**

Thermoplastic.  
UL flammability rating 94 HB.

**Enclosure Color**

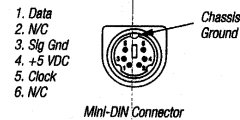
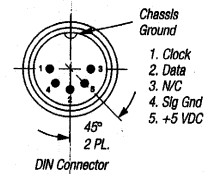
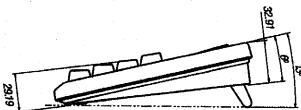
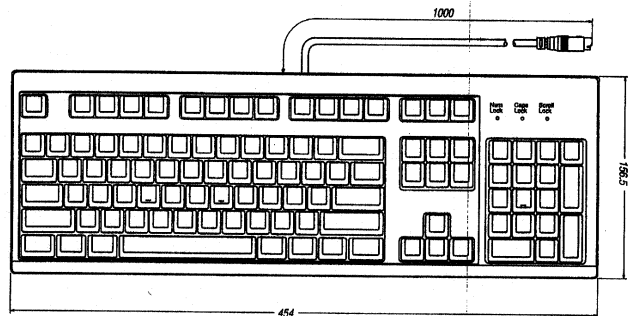
Pearl White

**Keycap Color**

Pearl White

Dimensions in are in millimeters

Cable exits from center, right, or left



■ **ENVIRONMENTAL**

**Temperature**

Operating: +32°F to +131°F (0°C to +55°C)  
Storage: -40°F to +149°F (-40°C to +65°C)

**Relative Humidity**

0 to 95 percent.

**Electromagnetic Compatibility**

The keyboard is designed and manufactured to comply with Class B limits, Part 15 of FCC rules for computing device peripherals. Also complies with Canadian ICES-003 Class B.

**Electrostatic Discharge (ESD)**

The level of ESD protection is dependent on the grounding of the host system. In most cases the RT keyboard features 10 KV protection without any soft errors. Conforms to IEC 1000-4-2 specifications.

**Agency Approval**

Keyboard is approved by FCC, UL, CSA, TUV, VCCI and CE.

■ **MECHANICAL**

**Contact Material**

Mylar with silver-carbon overlay.

**Keyswitch Travel**

0.140 ± .020 inch (3.6 ± .5 mm)

**Travel to Make**

0.090 ± .020 inch (2.3 ± .5 mm)

**Operating Force**

Momentary Action:  
2.0 oz. nominal (55 grams)

**Feel** - Tactile.

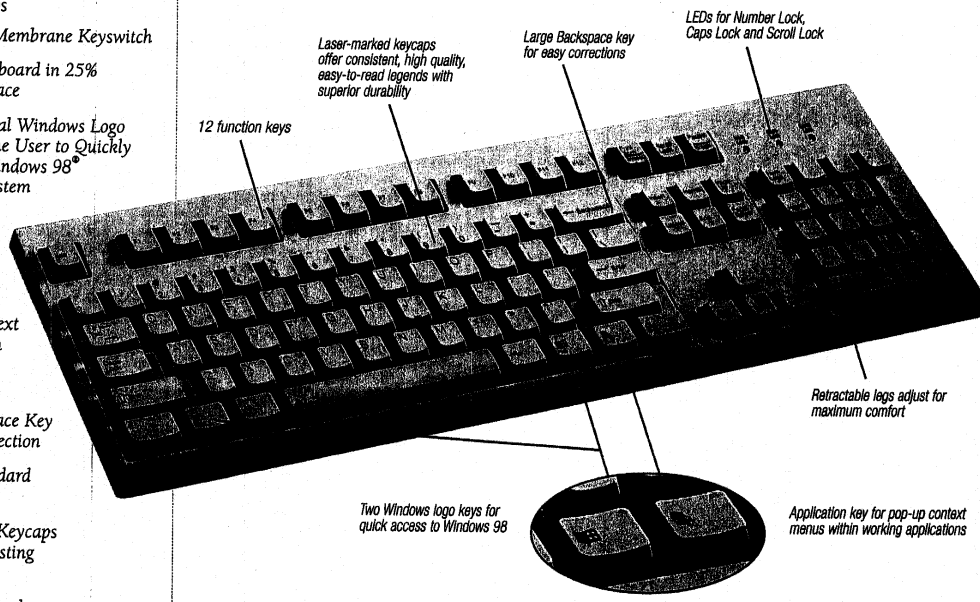
**Life** - Meets or exceeds 10 million cycles.



**NMB** **Model Series RT-2900W**  
*Right Touch™*  
 Modern Design Membrane Keyboard

**FEATURES/BENEFITS**

- Design with Single Caps
- Membrane Keyswitch
- Keyboard in 25% Smaller Space
- Optional Windows Logo Keys for the User to Quickly Access Windows 98® System
- Text
- Space Key Correction
- Standard
- Keycaps
- Membrane
- Rated at Cycles of Operation
- Compatibility with Processor
- Compatibility with DOS, 5 and Windows 98
- 2 Compatibility or Optional connector.
- RMA Process
- Model Available... Industry Standard



**The "Right Touch" For Compatibility**

The new NMB Right Touch keyboard for Windows 98 has a 25% smaller footprint than a full size keyboard, complementing modern enclosure designs and smaller office work areas. With the addition of three new keys for increased functionality with the Windows 98 operating system, users have direct access to all applications.

The RT-2900W keyboard operates with any DOS, Windows and Windows 98 compatible system. As a result of advanced electronic engineering and extensive compatibility testing, certification by Microsoft Compatibility Labs has been awarded.

Assembled in a high volume, state-of-the-art, automated factory, NMB keyboards deliver high quality at a competitive price. NMB's reputation as the leader in the worldwide keyboard industry is built upon 27 years of keyboard experience, outstanding domestic engineering support, and a commitment to customer service and satisfaction.

Visit the NMB Technologies home page at [www.nmbtech.com](http://www.nmbtech.com) for more information on our products.



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# **|| NIMB TECHNOLOGIES INC.**

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## *Computer Keyboard*

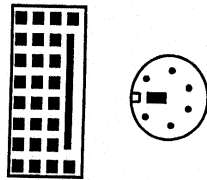
## *User's Manual*

NMB Technologies, Inc.



**To Install the Keyboard:**

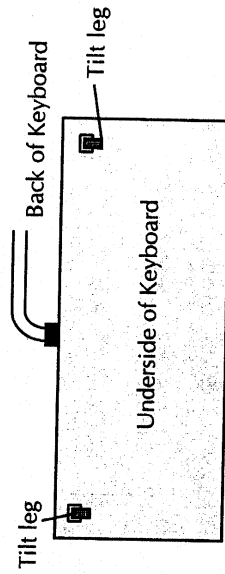
- Turn off computer before installing the keyboard.
- Find the keyboard receptacle on the rear panel of the computer. Usually, an icon can be seen to identify the keyboard connector as shown below.



- Connect keyboard plug on keyboard cable to the proper receptacle on the computer.
- **Note:** Never attempt to force the plug into the receptacle if it does not fit!

**To Angle the Keyboard:**

- Use the fold-out tilt legs, located at the back left and right corners on the underside of the keyboard. Pull the tabs outward to full open position. Do not use excessive force when doing so.



**Appendix B – AGENT AUTHORIZATION LETTER**

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NMB Technologies, Inc. 9730 Independence Avenue, Chatsworth, California 91311 USA

August 9, 2000

Federal Communications Commission  
7435 Oakland Mills Road  
Columbia, Maryland, 21046

Sir/Madam,

Reg: FCC grand for AQ6-RT2900

This letter is an authorization to accept Bay Area Compliance Lab. Corporation as an agent for NMB Technologies Inc., at 9730 Independence Avenue, Chasworth CA. 91311 to sign applications before the Commission on our behalf, to make representations to you on our behalf, and to receive and exchange data between our company and the commission in connection with certification of the following NMB Technologies Inc., product:

NMB Computer Keyboard (Model: RT2900)

Under FCC docket number 20780 and general docket number 80-284 pursuant to part 15, FCC rules and regulations.

Sincerely,

A handwritten signature in black ink that reads "John Guo". The signature is written in a cursive style.

John Guo  
Manager, Electronic Engineering