



CSA INTERNATIONAL

Certificate of Compliance

Certificate: 1497128

Master Contract: 223100

Project: 1652760

Date Issued: 2005/04/05

Issued to: StacoSwitch
1139 Baker St
Costa Mesa, CA 92626
USA
Attention: Tim Reilly

The products listed below are eligible to bear the CSA Mark shown with adjacent indicators 'C' and 'US'



Issued by: Oscar D. Enojado

Authorized by: Mark Christopherson, P.E.,
Manager, Certification Services

PRODUCTS

CLASS 3862 90 - INFORMATION TECHNOLOGY EQUIPMENT-(CAN/CSA-C22.2 No.60950-00, - 3rd Edition/UL 60950, 3rd Edition, NRTL Program)

CLASS 3862 10 - INFORMATION TECHNOLOGY EQUIPMENT - (CAN/CSA-C22.2 No. 60950-00,3rd Edition)

PC-Compatible Keyboard

- Part A: Series M75, Model M751111, M751101, M751116, M751106, M752116, M752106, M752/0001, M752/0002, component, input rated 5 V dc, 100 mA.
- Part B: Series M76, Model M760116, M761116, M76A116, component, input rated 5 V dc, 100 mA.
- Part C: Series M716, Model M716116, M716106, M756116, M756106, M756/0001, M756/0002,

The 'C' and 'US' indicators adjacent to the CSA Mark signify that the product has been evaluated to the applicable CSA and ANSI/UL Standards, for use in Canada and the U.S., respectively. This 'US' indicator includes products eligible to bear the 'NRTL' indicator. NRTL, i.e. National Recognized Testing Laboratory, is a designation granted by the U.S. Occupational Safety and Health Administration (OSHA) to laboratories which have been recognized to perform certification to U.S. Standards.



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M756/0003, component, input rated 5 V dc, 100 mA.

- Part D: Series M717, Model M717111, M717101, component, input rated 5 V dc, 100 mA.
- Part E: Series M777, Model M777VWXYZ, component, input rated 5 V dc, 175 mA.

Where V = M or C, W = B, S or D, X = L or U, Y = E or P, Z = 0, 2 or 3.

Notes:

(a) The model designations may have a suffix and/or prefix consisting of alphanumeric characters denoting minor mechanical options, system configuration options and/or safety extra low voltage secondary circuit options.

CONDITIONS OF ACCEPTABILITY

1. The above models are SELV devices and are certified only as components of other certified equipment, where the suitability of the combination is to be determined by CSA International.
2. For Part A, B, D: Series M75, M76, M717 has an optional Non-laser type indicating LED lighting connected to a source which is limited to 2.1 Vdc, 1.7 A max.
3. For Part C: Series M716 has an optional Non-laser type indicating LED lighting connected to a source which is limited to 2.1 Vdc, 2.65 A max.

APPLICABLE REQUIREMENTS

- CAN/CSA C22.2 No 60950-00 - Safety of Information Technology Equipment
- ANSI/UL No 60950, 3rd Ed. - Safety of Information Technology Equipment



Supplement to Certificate of Compliance

Certificate: 1497128

Master Contract: 223100

The products listed, including the latest revision described below, are eligible to be marked in accordance with the referenced Certificate.

Product Certification History

Project	Date	Description
1652760	2005/04/05	Covers the addition of new model designation M777 series
1497128	2004/02/04	PC-Compatible Keyboard, NRTL/C Certification



Descriptive and Test Report

MASTER CONTRACT: 223100

REPORT: 1497128

PROJECT: 1652760

Edition 1: February 3, 2004; Project 1497128 - Irvine
Issued by Oscar D. Enojado

Edition 2: **April 4, 2005; Project 1652760 - Irvine**
Issued by Oscar D. Enojado

Pages Replaced: All (Report Updated and Re-issued)

Contents: Certificate of Compliance - Page 1 to 2
Supplement to Certificate of Compliance – Page 1
Description and Tests – Pages 1 to **13**
Includes: Figures – 1 to **9**
Illustrations – 1
Bi-Nat CSA 60950-00/UL 60950, 3rd Edition Design Manual, Version 3.1

PRODUCTS

CLASS 3862 10/90 – INFORMATION TECHNOLOGY EQUIPMENT

PC-Compatible Keyboard

Part A: Series M75, Model M751111, M751101, M751116, M751106, M752116, M752106, M752/0001, M752/0002, component, input rated 5 V dc, 100 mA.

Part B: Series M76, Model M760116, M761116, M76A116, component, input rated 5 V dc, 100 mA.

Part C: Series M716, Model M716116, M716106, M756116, M756106, M756/0001, M756/0002, M756/0003, component, input rated 5 V dc, 100 mA.

Part D: Series M717, Model M717111, M717101, component, input rated 5 V dc, 100 mA.

Part E: Series M777, Model M777VWXYZ, component, input rated 5 V dc, 175 mA.

Where V = M or C, W = B, S or D, X = L or U, Y = E or P, Z = 0, 2 or 3.

Notes:

- (a) The model designations may have a suffix and/or prefix consisting of alphanumeric characters denoting minor mechanical options, system configuration options and/or safety extra low voltage secondary circuit options.

The test report shall not be reproduced, except in full, without the approval of CSA International.

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CONDITIONS OF ACCEPTABILITY

1. The above models are SELV devices and are certified only as components of other certified equipment, where the suitability of the combination is to be determined by CSA International.
2. For Part A, B, D: Series M75, M76, M717 has an optional Non-laser type indicating LED lighting connected to a source which is limited to 2.1 Vdc, 1.7 A max.
3. For Part C: Series M716 has an optional Non-laser type indicating LED lighting connected to a source which is limited to 2.1 Vdc, 2.65 A max.

BI-NAT CSA 60950-00/UL 60950, 3RD EDITION DESIGN MANUAL, VER 3.1, IS AN INTEGRAL PART OF THIS REPORT

APPLICABLE REQUIREMENTS

- CAN/CSA C22.2 No 60950-00 - Safety of Information Technology Equipment
- ANSI/UL No 60950, 3rd Ed. - Safety of Information Technology Equipment

MARKINGS

The following markings appear on a CSA Certified and UL Recognized adhesive type nameplate:

- (a) The CSA Monogram with "C US" indicators and the optional indicators "CSA 60950" and "ANSI/UL 60950";
- (b) StacoSwitch and/or Contract Number "223100";
- (c) Model designation;
- (d) Complete electrical rating in volts and amperes;
- (e) A date code or serial numbers traceable to month and year of manufacture and manufacturing facility

ALTERATIONS

- (a) Markings, as described above, appear on each unit.

FACTORY TEST

Not applicable.

DESCRIPTION

General: Part A, B: Series M75, M76 are desk-top, low voltage, component keyboard for use with other Certified equipment.

Part C, D: Series M716, M717 are panel mount, low voltage, component keyboard for use with other Certified equipment.

Part E: Series M777 are desk-top or panel mount, low voltage, component keyboard for use with other Certified equipment.

(a) Type of Equipment: Desk-top or Panel Mount

(b) Class of Equipment: III

(c) Connection to Supply: Connected to SELV

(d) Mobility: Moveable

(e) Weight of Equipment: <18 kg

(f) Pollution Degree: 2

(g) Maximum Rated Ambient Temperature: 25°C

(h) Installation: Part C, D: Series M716, M717 - May be installed in the field in accordance with the installation instructions provided with the equipment.

(i) Equivalent Components: A "+" prefix denotes that an alternative component with the same min required approval and ratings may be used. If no approval is required, then the component must be constructed as described in the illustration referred to.

(j) Minimum required approval coding is:

CSA = CSA International; CSA NRTL/C or CSA C/US= CSA (Canadian and US Requirements);

UL = UL Listed/Recognized; cUL = UL (Canadian and US Requirements);

VDE; SEMKO; TUV; SEV; Demko; Nemko.

1. Enclosure: Part A, B: Series M75, M76, Moulded Elastomer housing, Dupont (Neoprene) or Bayer (Bayprene), Chloroprene, Black, flammability rated UL94V-HB min.

Table 1.5.1 — List of Critical Components

Object/Part No.	Manufacturer/ Trademark	Type/Model	Technical Data	Standard	Mark(s) of Conformity ¹⁾
PWB	Various	- - -	V-0 minimum	UL94	UL
Keyboard Top Cover (For Enclosed model only)	Dow Corning	Silastic LS-53U	Molded Eleastomer Technology (MET), rated HB min.	UL94	UL
+Key Caps	StacoSwitch Inc.	Lexan Translucent Plastic, P/N PL1952-001	Moulded Plastic, rated HB min.	UL94	UL
+Built-in Cursor Control (Optional)	In-Control Solutions (StacoSwitch)	P/N 1490029-009 (Series M72)	LED rated 2.0 V dc, 40 mA.	- - -	- - -
+LED (Optional)	Chicago Miniature Lamps	P/N 13784-001	Single Color Green	- - -	- - -
+LED (Optional)	Chicago Miniature Lamps	P/N 13785-001	Dual Color Red/Green	- - -	- - -
Interconnection Cable	Various	- - -	Insulated conductors with PVC Jacket. The other end is terminated by PS2 connector.	- - -	- - -

¹⁾ An asterisk indicates a mark which assures the agreed level of surveillance.

TEST REPORT

Edition: 1

The detailed test results are located in the Engineering File at the CSA International Irvine Office.

<u>LIST OF TESTS</u>		
Tests Conducted (marked with a "C")	Clause	Description
C	1.6	Power Interface (Input) Test
C	1.7.13	Marking Durability
	2.1.1.5	Energy Hazard Measurement (20 joules and 240VA)
	2.1.1.7	Shock Hazard Measurement
	2.2	SELV (Single Fault Simulation)
	2.3.1	TNV Limit Measurements
	2.3.4	Connection of TNV Circuits to Other Circuits
	2.3.5	TNV Voltages Generated Externally
	2.4	Limited Current Circuit Measurement
	2.5	Limited Power Sources
	2.6.3.3	Protective Earthing Resistance Measurement
	2.8	Safety Interlock System
	2.9	Insulation (Hygroscopic Material)
	2.10	Creepage/Clearance/Distances Through Insulation
	3.1.1	Maximum Limit of Secondary Protection (Tables 2B and 2C)
	3.1.4	Conductor Insulation (Electric Strength Test)
	3.1.9	Electrical/Mechanical Connection Test
	3.2.3	Permanent Connection (Installation Test/Measurement)
	3.2.6	Power Supply Cord Strain Relief/Cord Anchorage
	3.2.8	Power Supply Cord Guard Test
	3.3.8	Field-Wiring Test

LIST OF TESTS		
Tests Conducted (marked with a "C")	Clause	Description
	4.1.1	Physical Stability Test
	4.2	Mechanical Strength and Stress Relief
	4.2.10	Mounting Means Test (For wall or Ceiling Mounted equipment)
	4.3.2	Handle Test (For Handles Supporting >9.0kg Only)
	4.3.2	Pull Test (Handle, Knob, Grip, Lever, etc.)
	4.3.6	Direct Plug-In Moment Test
	4.3.8	Lithium / Rechargeable Battery (Reverse/Charging Current)
	4.3.10	Spillage Test (For Non-Flammable Liquid)
	4.3.13	Ionizing Radiation
	4.5.1	Heating Test
	4.5.2	Resistance to Abnormal Heat (Ball Pressure Test)
	4.6.5	Adhesive Aging and Securement Test
	5.1	Earth Leakage Current Measurement
	5.1.8.1	Limitation of Touch Currents to a Telecommunication Network
	5.1.8.1.1	Limitation of Touch Currents due to Ringing Signals
	5.1.8.2	Summation of Touch Currents from Telecommunication Networks
	5.2	Electric Strength Test
C	5.3	Abnormal - Component Failure (System)
	*5.3	Abnormal - Component Failure (Power Supply)
	5.3.2	Abnormal - Motor (See Annex B)
	*5.3.3	Abnormal - Transformer (See Annex C)
	*5.3.4	Electric Strength Test (for Deficient Operational Spacings on CB's)
	5.3.6	Overload Test (Operator Accessible Connectors)
	*5.3.6	Overload/Short Circuit Test (Power Supply Outputs)
	6.1.2	Separation of the TNV Network from Earth
	6.2.2.1	TNV Circuit (Impulse Test)
	6.2.2.2	TNV Circuit (Electric Strength)
	6.3	Telecommunication Wiring System Protection from Overheating
	6.4	Protection Against Overvoltages from Power Line Crosses (Annex NAC)
	6.5	Acoustic Pressure Tests
	A	Flame Tests
	B	Motor Tests
	C	Transformer Tests

Requirements/Tests Waived:

The following CSA and U.S. requirements/tests were waived. {Pick one}

- Not applicable

Edition: 2 (Project No. 1652760)

Covers the addition of new model designation, Series M777.

**Only the following test was deemed necessary.
Power Interface, Clause 1.6.2**

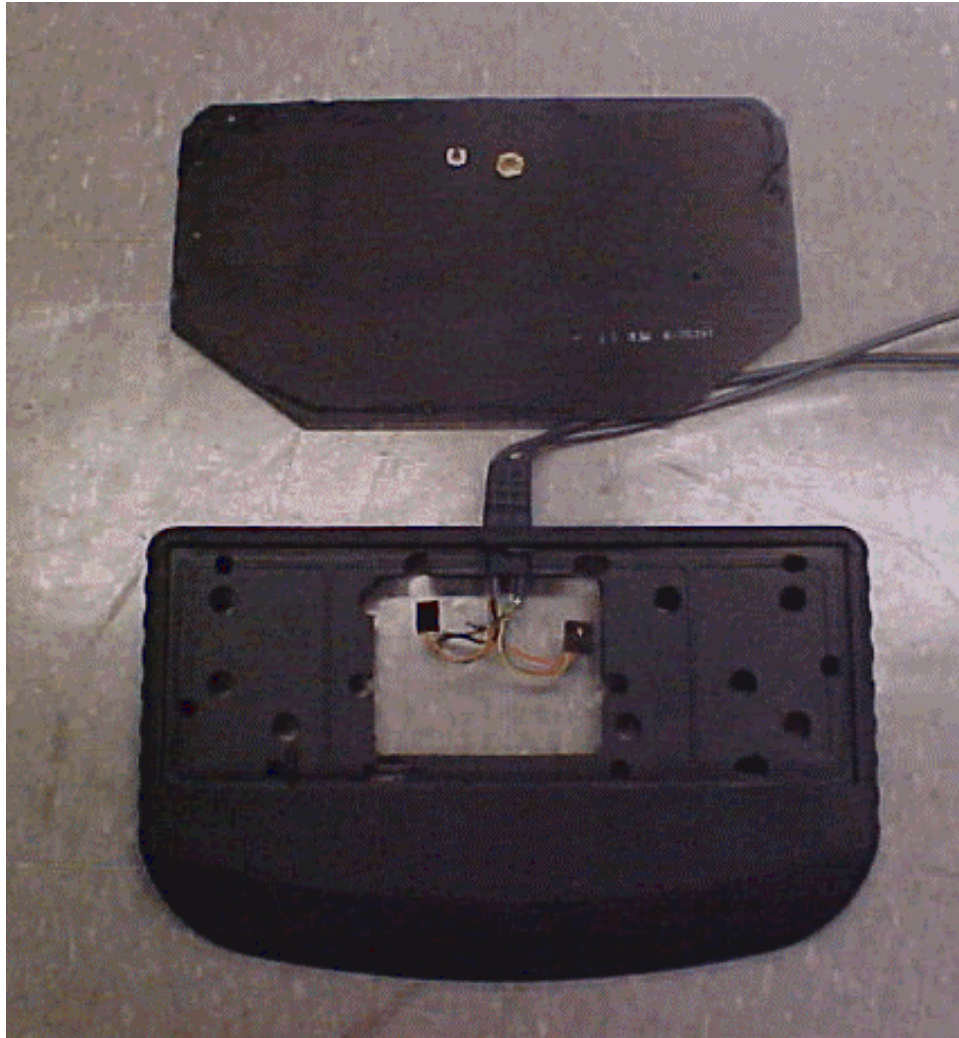
FIGURES



**Series M75, Model M751111
Figure 1**



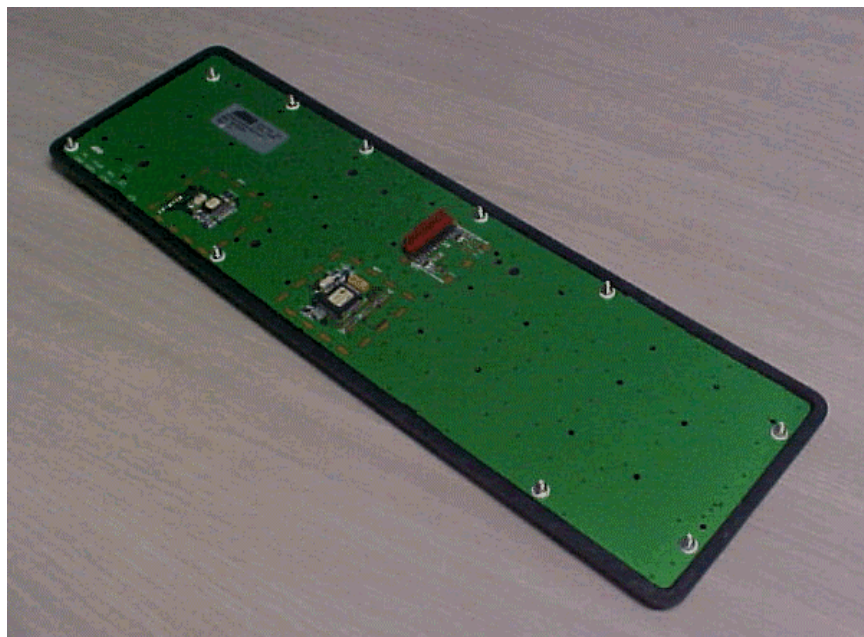
**Series M75, Model M751111
Figure 2**



Series M75, Model M751111 Housing
Figure 3



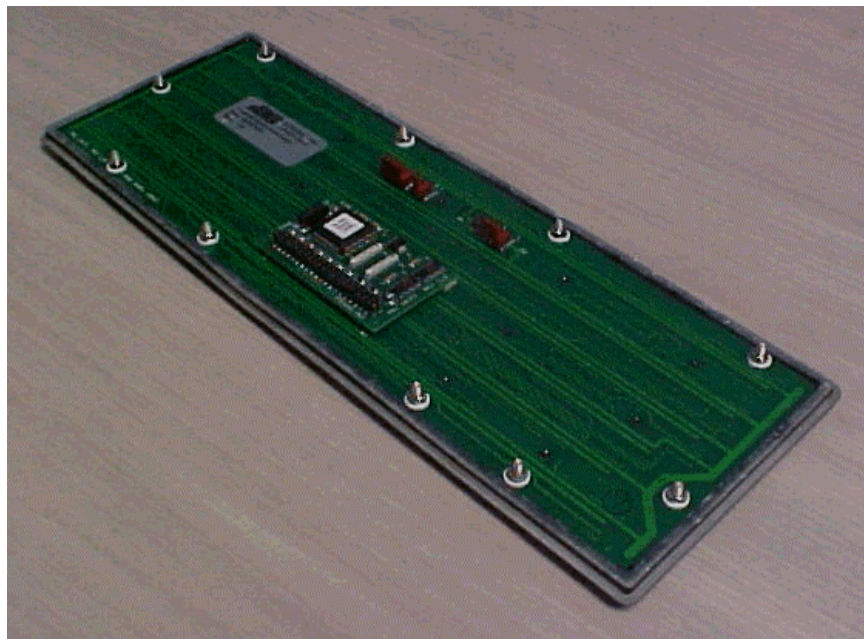
**Series M716, Model M716116 Panel Mount
Figure 4**



**Series M716, Model M716116 Panel Mount
Figure 5**



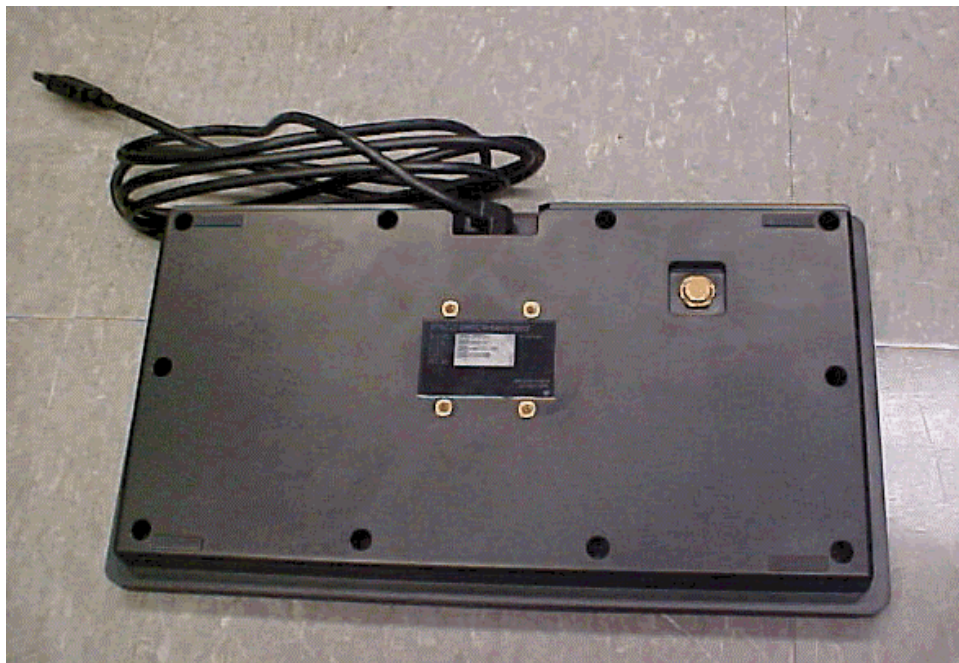
**Series M717, Model M717111 Panel Mount
Figure 6**



**Series M717, Model M717111 Panel Mount
Figure 7**



Series M777, Model M777CBLE2
Figure 8



Series M777, Model M777CBLE2
Figure 9

DIAGRAMS

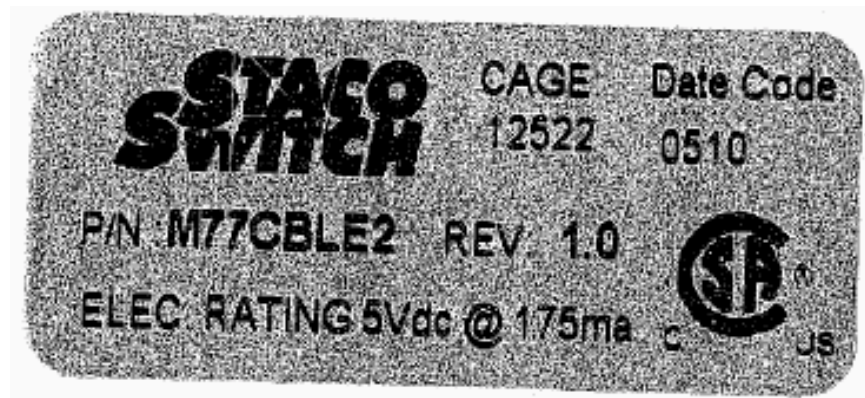


Illustration 1