

## **Attachment**

User's Manual

# **SCORPIUS 980N plus / 980 KEYBOARD SPECIFICATIONS**

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**QTRONIX®**

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## **WARNING**

Note : This equipment has been tested and found to comply with the limits for a Class B device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures :

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio / TV technician for help.

### **Notice:**

*Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.*

## **I SCOPE**

The purpose of this specification is to define the generic operational, Environmental, electrical and mechanical characteristics of the "Scorpius 980N plus / 980" rubber mechanical keyswitch keyboard.

## **II GENERAL**

### **Description**

The Scorpius 980N plus /980 keyboard has an enhanced slim design and can work with any USB compatible computer.

Utilizing the latest in rubber mechanical key switch technology, the Scorpius 980N plus offers durability and style that will enhance any system for years to come. 20 Extra rubber buttons let keyboard link more closer with PC, touch one button to make some functions work immediately. 10 of 20 buttons can be programmed by end-users.

### **Features**

- 104 ,105 or 109 key standard layouts .
- Scorpius 980N plus with 20 extra rubber buttons high quality rubber mechanical key switches.
- Adjustable tilt mechanism.
- Permanently attached coiled cord.
- Tactile key stroke.
- N-key –roll- over.
- 10,000,000 lift cycles per switch.

### **Appearance / Durability**

This keyboard is to be used in home and office environments . Therefore, the quality of appearance and touch are of great importance. Because of the environmental severity of home and office place, longevity, durability and resistance to contamination are also of major concern. Good engineering design practices shall be followed throughout, both mechanically and electrically.

### **Package Contents**

- SCORPIUS 980N USB plus Keyboard ( with wrist pad & program disk )
- SCORPIUS 980 USB Keyboard
- SCORPIUS 980 USB plus Keyboard (with wrist pad )
- User's Manual

### **Definitions**

The term "keyboard" when used in this document defines a PC board with 104 /105 /109 key switches and 20 rubber buttons for Scorpion 980N USB which is fully assembled and housed in an enclosure with an interconnecting cable. The complete assembly shall be tested and ready for use when plugged into a host device.

## **Vibration Test (*Packaged for shipment*)**

### ***Operating***

With the system installed on a shock platform and operating the test software, a vibration with a displacement of 0.02" shall be exerted over the frequency range of 5 Hz to 22 Hz and an acceleration of 0.5 g over the frequency range of 22 Hz to 500 Hz on each of the three orthogonal axes. This shall be sustained for approximately 13 minutes per axis only.

### ***Non-operating***

With the system installed on a vibration platform and switched OFF, a vibration with a displacement of 0.1" shall be exerted over the frequency range of 5 Hz to 22 Hz and an acceleration of 0.75 g over the frequency range of 22 Hz on each of the three orthogonal axes. This test shall be sustained for approximately 13 minutes per axis.

## **Shock Test**

### ***Operating***

With the system installed on a shock platform and operating the test software, a shock pulse of 5 G half sine for a duration of 15 ms shall be exerted on each of the 3 orthogonal axes. The test shall be repeated 3 times for the vertical axes only.

### ***Non-operating***

With the system installed on a shock platform and switched OFF, a pulse of 10 G half sine for a duration of 15 ms shall be exerted on each of the 3 orthogonal axes. The test shall be repeated 5 times.

## **Drop Test**

- Drop Height: 91.5cm
- Sequence : 1 corner, 3 edges, 6 faces

## **Related Documents**

The keyboard shell meet the requirements of FCC Part 15, Sub-part J, for Class B computing devices

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### **ESD**

- Test Condition : 3.5KV no data loss, 5kv no component damage
- Test Procedure : IEC 801-2

### **Contaminants**

#### *Dust*

The keyboard has been designed to be unaffected by the normal accumulation of airborne dust as found in the home or office place. This includes non-metallic dust and grime as might be carried into the work place or home from outside sources.

#### *Gases*

The keyboard shall not be corroded or defaced or otherwise damaged by atmospheres acceptable to OSHA standards for the home and work place. This includes normal amounts of oxygen and ozone.

## **IV MECHANICAL SPECIFICATIONS**

### **Materials**

#### *General*

- keyboard Bases, Cover and Keytop :  
Injection molded ABS Thermoplastic rates UL 94HB or better.
- PC Board : Paper Phenolic. Rated UL-94V0.tter.

#### *Interconnect Cable*

- Jacket : Low durometer PVC, 5mm to 10mm nominal diameter.
- Shield : Serve shield with 90%  $\pm$  5% coverage Ferrite coil.
- Conductor Insulation : PVC, Polypropylene or Teflon.

#### *Standard Connector(4 Pin USB-A plug )*

- Connector Shell :Shielded, plastic plated , with metallic contact  
dimples
- Insulator: Thermoplastic
- Contacts :Tin flash plated with a minimum of 15 micro-inches in  
contact area.
- Flex and Strain Relief: PVC.
- Backshell :Molded PVC.

#### *Key Switch*

- Type: Tactile feeling rubber membrane.
- Membrane Key Travel: 3.5 mm $\pm$ 0.2mm
- Contact Bounce : Switch shall have electronically debounced contact  
time of 5 ms (max)
- Operation Force : 55g + 10 g
- Mechanical Life : 10million cycles

### **Weight**

The weight shall be 105kg (3.3lbs)

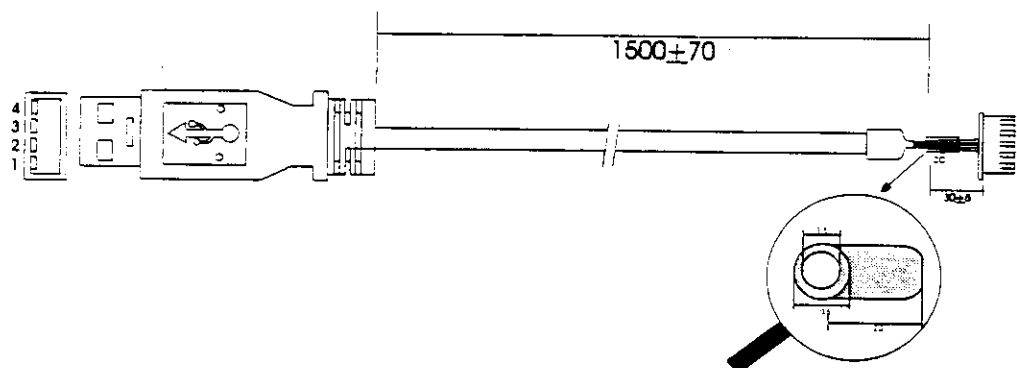
### **Standard Colors**

White (Color No : 3361)

## Dimentions

The maximum dimensions of the keyboard enclosure will not exceed 74mm in length , 190mm in width and 27mm in height.

## Cable Specification



## V ELECTRICAL SPECIFICATIONS

### Components

All component will be of the highest commercial grade and shall be mounted according to IPC and recommended vendor practices. Standard values are to be adhered to at all times . Single sources, unusual values or designs outside specified component ratings shall be avoided.

### PC Boards

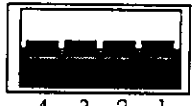
PC Board shall be made of UL (Underwriters Laboratories) rated material, 94V-0 or better as per UL 478.

### Design Practice.

All components shall perform well within their design ratings. Good IC design with respect to unused inputs and number of outputs shall be observed. Trace width and spacing shall be conservative wherever possible and shall meet IPC minimums at all times. Bypass capacitors shall be used liberally and some on-board filtering is expected when possible . Power consumption shall be minimized.

### Connector Pin Assignments

The standard connector pin out for USB-A plug is as follows :  
USB

| DESCRIPTION  | SIGNAL       | PINS | CONNECTOR                                                                             |
|--------------|--------------|------|---------------------------------------------------------------------------------------|
| Power Supply | +5Vdc Signal | 1    |  |
| Data -       | D-           | 2    |                                                                                       |
| Data +       | D+           | 3    |                                                                                       |
| Ground       | 0            | 4    |                                                                                       |

### Power Requirements

- Current Consumption : 40mA
- Operation Voltage : 5Vdc  $\pm$  5%

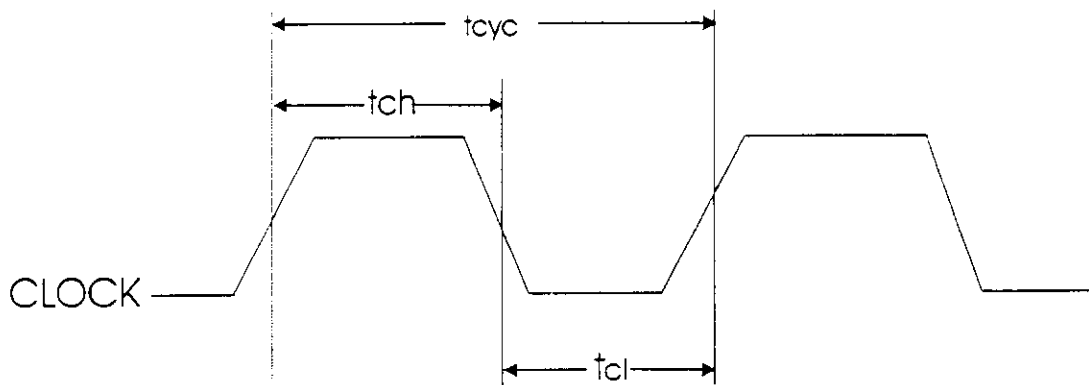
### Rubber / Membrane

- Rubber Dome Contact Resister : 100 $\Omega$  (max)
  - Membrane Contact Resister : 100  $\Omega$
  - Membrane Open Resister 10M  $\Omega$
-

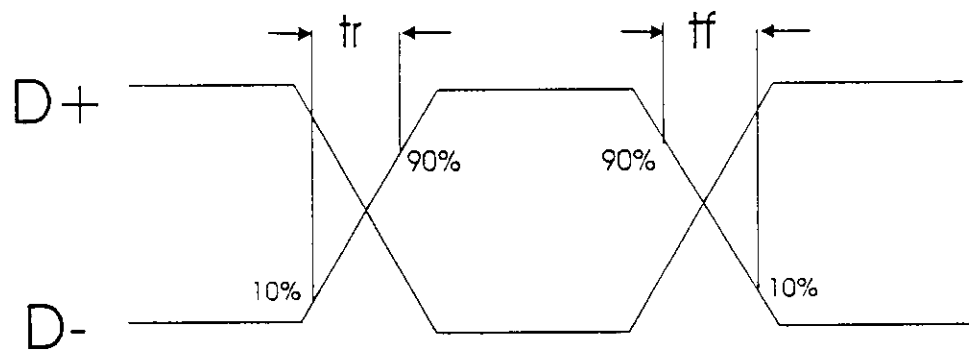
## Interface

- Serial data transfer
- Timing detail:

| Parameter | Description            | Min           | Max   | Unit |
|-----------|------------------------|---------------|-------|------|
| $t_{cyc}$ | Input click cycle time | 165.0         | 168.3 | ns   |
| $t_{ch}$  | Clock high time        | $0.45t_{cyc}$ | -     | ns   |
| $t_{cl}$  | Clock low time         | $0.45t_{cyc}$ | -     | ns   |
| $t_r$     | Transition rise time   | 75            | 300   | ns   |
| $t_f$     | Transition fall time   | 75            | 300   | ns   |



## Clock Timing



## USB Data signal Timing

## VI CODE SET TABLE

The following table shows three scan code sets used in the keyboard.

### Appendix C: USB Keyboard/Keypad Page (0x07)

This section is the Usage Page for key codes to be used in implementing a USB keyboard. A Boot Keyboard (84-, 101- or 104-key) should at a minimum support all associated usage codes as indicated in the "Boot" column below.

Note: Due to the variation of keyboards from language to language, it is not feasible to specify exact key mappings for every language. Where this list is not specific for a key function in a language, the closest equivalent key position should be used, so that a keyboard may be modified for a different language by simply printing different keycaps. One example is the Y key on a North American keyboard. In Germany, this is typically Z. Rather than changing the keyboard firmware to put the Z Usage into that place in the descriptor list, the vendor should use the Y Usage on both the North American and German keyboards. This continues to be the existing practice in the industry, in order to minimize the number of changes to the electronics to accommodate other languages.

| Usage<br>index<br>(dec) | Usage<br>Index<br>(hex) | Usage                                      | Ref:typical<br>AT-101<br>position | PC-<br>AT | Mac-<br>intosh | UNIX | Boot       |
|-------------------------|-------------------------|--------------------------------------------|-----------------------------------|-----------|----------------|------|------------|
| 0                       | 00                      | Reserved (no event indicated) <sup>9</sup> | N/A                               | ✓         | ✓              | ✓    | 84/101/104 |
| 1                       | 01                      | Keyboard ErrorRollOver <sup>9</sup>        | N/A                               | ✓         | ✓              | ✓    | 84/101/104 |
| 2                       | 02                      | Keyboard POSTFail <sup>9</sup>             | N/A                               | ✓         | ✓              | ✓    | 84/101/104 |
| 3                       | 03                      | Keyboard ErrorUndefined <sup>9</sup>       | N/A                               | ✓         | ✓              | ✓    | 84/101/104 |
| 4                       | 04                      | Keyboard a and A <sup>4</sup>              | 31                                | ✓         | ✓              | ✓    | 84/101/104 |
| 5                       | 05                      | Keyboard b and B                           | 50                                | ✓         | ✓              | ✓    | 84/101/104 |
| 6                       | 06                      | Keyboard c and C <sup>4</sup>              | 48                                | ✓         | ✓              | ✓    | 84/101/104 |
| 7                       | 07                      | Keyboard d and D                           | 33                                | ✓         | ✓              | ✓    | 84/101/104 |
| 8                       | 08                      | Keyboard e and E                           | 19                                | ✓         | ✓              | ✓    | 84/101/104 |
| 9                       | 09                      | Keyboard f and F                           | 34                                | ✓         | ✓              | ✓    | 84/101/104 |
| 10                      | 0A                      | Keyboard g and G                           | 35                                | ✓         | ✓              | ✓    | 84/101/104 |
| 11                      | 0B                      | Keyboard h and H                           | 36                                | ✓         | ✓              | ✓    | 84/101/104 |
| 12                      | 0C                      | Keyboard i and I                           | 24                                | ✓         | ✓              | ✓    | 84/101/104 |
| 13                      | 0D                      | Keyboard j and J                           | 37                                | ✓         | ✓              | ✓    | 84/101/104 |
| 14                      | 0E                      | Keyboard k and K                           | 38                                | ✓         | ✓              | ✓    | 84/101/104 |
| 15                      | 0F                      | Keyboard l and L                           | 39                                | ✓         | ✓              | ✓    | 84/101/104 |
| 16                      | 10                      | Keyboard m and M <sup>4</sup>              | 52                                | ✓         | ✓              | ✓    | 84/101/104 |
| 17                      | 11                      | Keyboard n and N                           | 51                                | ✓         | ✓              | ✓    | 84/101/104 |
| 18                      | 12                      | Keyboard o and O <sup>4</sup>              | 25                                | ✓         | ✓              | ✓    | 84/101/104 |
| 19                      | 13                      | Keyboard p and P <sup>4</sup>              | 26                                | ✓         | ✓              | ✓    | 84/101/104 |
| 20                      | 14                      | Keyboard q and Q <sup>4</sup>              | 17                                | ✓         | ✓              | ✓    | 84/101/104 |
| 21                      | 15                      | Keyboard r and R                           | 20                                | ✓         | ✓              | ✓    | 84/101/104 |
| 22                      | 16                      | Keyboard s and S <sup>4</sup>              | 32                                | ✓         | ✓              | ✓    | 84/101/104 |
| 23                      | 17                      | Keyboard t and T                           | 21                                | ✓         | ✓              | ✓    | 84/101/104 |
| 24                      | 18                      | Keyboard u and U                           | 23                                | ✓         | ✓              | ✓    | 84/101/104 |
| 25                      | 19                      | Keyboard v and V                           | 49                                | ✓         | ✓              | ✓    | 84/101/104 |

# SCORPIUS 980N PLUS /980 KEYBOARD SPECIFICATIONS

| Usage<br>index<br>(dec) | Usage<br>Index<br>(hex) | Usage                                        | Ref:typical<br>AT-101<br>position | PC-<br>AT | Mac-<br>intosh | UNIX | Boot       |
|-------------------------|-------------------------|----------------------------------------------|-----------------------------------|-----------|----------------|------|------------|
| 26                      | 1A                      | Keyboard w and W <sup>4</sup>                | 18                                | ✓         | ✓              | ✓    | 84/101/104 |
| 27                      | 1B                      | Keyboard x and X <sup>4</sup>                | 47                                | ✓         | ✓              | ✓    | 84/101/104 |
| 28                      | 1C                      | Keyboard y and Y <sup>4</sup>                | 22                                | ✓         | ✓              | ✓    | 84/101/104 |
| 29                      | 1D                      | Keyboard z and Z <sup>4</sup>                | 46                                | ✓         | ✓              | ✓    | 84/101/104 |
| 30                      | 1E                      | Keyboard 1 and ! <sup>4</sup>                | 2                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 31                      | 1F                      | Keyboard 2 and @ <sup>4</sup>                | 3                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 32                      | 20                      | Keyboard 3 and # <sup>4</sup>                | 4                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 33                      | 21                      | Keyboard 4 and \$ <sup>4</sup>               | 5                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 34                      | 22                      | Keyboard 5 and % <sup>4</sup>                | 6                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 35                      | 23                      | Keyboard 6 and ^ <sup>4</sup>                | 7                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 36                      | 24                      | Keyboard 7 and & <sup>4</sup>                | 8                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 37                      | 25                      | Keyboard 8 and * <sup>4</sup>                | 9                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 38                      | 26                      | Keyboard 9 and ( <sup>4</sup>                | 10                                | ✓         | ✓              | ✓    | 84/101/104 |
| 39                      | 27                      | Keyboard 0 and ) <sup>4</sup>                | 11                                | ✓         | ✓              | ✓    | 84/101/104 |
| 40                      | 28                      | Keyboard Return(ENTER) <sup>5</sup>          | 43                                | ✓         | ✓              | ✓    | 84/101/104 |
| 41                      | 29                      | Keyboard ESCAPE                              | 110                               | ✓         | ✓              | ✓    | 84/101/104 |
| 42                      | 2A                      | Keyboard DELETE<br>(Backspace) <sup>13</sup> | 15                                | ✓         | ✓              | ✓    | 84/101/104 |
| 43                      | 2B                      | Keyboard Tab                                 | 16                                | ✓         | ✓              | ✓    | 84/101/104 |
| 44                      | 2C                      | Keyboard Spacebar                            | 61                                | ✓         | ✓              | ✓    | 84/101/104 |
| 45                      | 2D                      | Keyboard - and (underscore) <sup>4</sup>     | 12                                | ✓         | ✓              | ✓    | 84/101/104 |
| 46                      | 2E                      | Keyboard = and + <sup>4</sup>                | 13                                | ✓         | ✓              | ✓    | 84/101/104 |
| 47                      | 2F                      | Keyboard [ and { <sup>4</sup>                | 27                                | ✓         | ✓              | ✓    | 84/101/104 |
| 48                      | 30                      | Keyboard ] and } <sup>4</sup>                | 28                                | ✓         | ✓              | ✓    | 84/101/104 |
| 49                      | 31                      | Keyboard \ and                               | 29                                | ✓         | ✓              | ✓    | 84/101/104 |
| 50                      | 32                      | Keyboard Non-US# and ~ <sup>2</sup>          | 42                                | ✓         | ✓              | ✓    | 84/101/104 |
| 51                      | 33                      | Keyboard ' <sup>4</sup>                      | 40                                | ✓         | ✓              | ✓    | 84/101/104 |
| 52                      | 34                      | Keyboard ' and " <sup>4</sup>                | 41                                | ✓         | ✓              | ✓    | 84/101/104 |
| 53                      | 35                      | Keyboard Grave Accent and Tilde <sup>4</sup> | 1                                 | ✓         | ✓              | ✓    | 84/101/104 |
| 54                      | 36                      | Keyboard , and < <sup>4</sup>                | 53                                | ✓         | ✓              | ✓    | 84/101/104 |
| 55                      | 37                      | Keyboard . and > <sup>4</sup>                | 54                                | ✓         | ✓              | ✓    | 84/101/104 |
| 56                      | 38                      | Keyboard / and ? <sup>4</sup>                | 55                                | ✓         | ✓              | ✓    | 84/101/104 |
| 57                      | 39                      | Keyboard CapsLock <sup>11</sup>              | 30                                | ✓         | ✓              | ✓    | 84/101/104 |
| 58                      | 3A                      | Keyboard F1                                  | 112                               | ✓         | ✓              | ✓    | 84/101/104 |
| 59                      | 3B                      | Keyboard F2                                  | 113                               | ✓         | ✓              | ✓    | 84/101/104 |
| 60                      | 3C                      | Keyboard F3                                  | 114                               | ✓         | ✓              | ✓    | 84/101/104 |
| 61                      | 3D                      | Keyboard F4                                  | 115                               | ✓         | ✓              | ✓    | 84/101/104 |
| 62                      | 3E                      | Keyboard F5                                  | 116                               | ✓         | ✓              | ✓    | 84/101/104 |
| 63                      | 3F                      | Keyboard F6                                  | 117                               | ✓         | ✓              | ✓    | 84/101/104 |

# SCORPIUS 980N PLUS /980 KEYBOARD SPECIFICATIONS

| Usage<br>index<br>(dec) | Usage<br>Index<br>(hex) | Usage                                  | Ref:typical<br>AT-101<br>position | PC-<br>AT | Mac-<br>intosh | UNIX | Boot       |
|-------------------------|-------------------------|----------------------------------------|-----------------------------------|-----------|----------------|------|------------|
| 64                      | 40                      | Keyboard F7                            | 118                               | √         | √              | √    | 84/101/104 |
| 65                      | 41                      | Keyboard F8                            | 119                               | √         | √              | √    | 84/101/104 |
| 66                      | 42                      | Keyboard F9                            | 120                               | √         | √              | √    | 84/101/104 |
| 67                      | 43                      | Keyboard F10                           | 121                               | √         | √              | √    | 84/101/104 |
| 68                      | 44                      | Keyboard F11                           | 122                               | √         | √              | √    | 101/104    |
| 69                      | 45                      | Keyboard F12                           | 123                               | √         | √              | √    | 101/104    |
| 70                      | 46                      | Keyboard PrintScreen <sup>1</sup>      | 124                               | √         | √              | √    | 101/104    |
| 71                      | 47                      | Keyboard ScrollLock <sup>11</sup>      | 125                               | √         | √              | √    | 84/101/104 |
| 72                      | 48                      | Keyboard Pause <sup>1</sup>            | 126                               | √         | √              | √    | 101/104    |
| 73                      | 49                      | Keyboard Insert <sup>1</sup>           | 75                                | √         | √              | √    | 101/104    |
| 74                      | 4A                      | Keyboard Home <sup>1</sup>             | 80                                | √         | √              | √    | 101/104    |
| 75                      | 4B                      | Keyboard PageUp <sup>1</sup>           | 85                                | √         | √              | √    | 101/104    |
| 76                      | 4C                      | Keyboard Delete Forward <sup>1</sup>   | 76                                | √         | √              | √    | 101/104    |
| 77                      | 4D                      | Keyboard End <sup>1</sup>              | 81                                | √         | √              | √    | 101/104    |
| 78                      | 4E                      | Keyboard PageDown <sup>1</sup>         | 86                                | √         | √              | √    | 101/104    |
| 79                      | 4F                      | Keyboard RightArrow <sup>1</sup>       | 89                                | √         | √              | √    | 101/104    |
| 80                      | 50                      | Keyboard LeftArrow <sup>1</sup>        | 79                                | √         | √              | √    | 101/104    |
| 81                      | 51                      | Keyboard DownArrow <sup>1</sup>        | 84                                | √         | √              | √    | 101/104    |
| 82                      | 52                      | Keyboard UpArrow <sup>1</sup>          | 83                                | √         | √              | √    | 101/104    |
| 83                      | 53                      | Keypad NumLock and Clear <sup>11</sup> | 90                                | √         | √              | √    | 101/104    |
| 84                      | 54                      | Keypad /'                              | 95                                | √         | √              | √    | 101/104    |
| 85                      | 55                      | Keypad *                               | 100                               | √         | √              | √    | 84/101/104 |
| 86                      | 56                      | Keypad -                               | 105                               | √         | √              | √    | 84/101/104 |
| 87                      | 57                      | Keypad +                               | 106                               | √         | √              | √    | 84/101/104 |
| 88                      | 58                      | Keypad ENTER5                          | 108                               | √         | √              | √    | 101/104    |
| 89                      | 59                      | Keypad 1 and End                       | 93                                | √         | √              | √    | 84/101/104 |
| 90                      | 5A                      | Keypad 2 and Down Arrow                | 98                                | √         | √              | √    | 84/101/104 |
| 91                      | 5B                      | Keypad 3 and PageDn                    | 103                               | √         | √              | √    | 84/101/104 |
| 92                      | 5C                      | Keypad 4 and Left Arrow                | 92                                | √         | √              | √    | 84/101/104 |
| 93                      | 5D                      | Keypad 5                               | 97                                | √         | √              | √    | 84/101/104 |
| 94                      | 5E                      | Keypad 6 and Right Arrow               | 102                               | √         | √              | √    | 84/101/104 |
| 95                      | 5F                      | Keypad 7 and Home                      | 91                                | √         | √              | √    | 84/101/104 |
| 96                      | 60                      | Keypad 8 and Up Arrow                  | 96                                | √         | √              | √    | 84/101/104 |
| 97                      | 61                      | Keypad 9 and PageUp                    | 101                               | √         | √              | √    | 84/101/104 |
| 98                      | 62                      | Keypad 0 and Insert                    | 99                                | √         | √              | √    | 84/101/104 |
| 99                      | 63                      | Keypad . and Delete                    | 104                               | √         | √              | √    | 84/101/104 |
| 100                     | 64                      | Keyboard Non-US\ and <sup>13</sup> 5   | 45                                | √         | √              | √    | 84/101/104 |
| 101                     | 65                      | Keyboard Application <sup>10</sup>     | 129                               | √         |                | √    | 104        |
| 102                     | 66                      | Keyboard Power <sup>9</sup>            |                                   |           | √              | √    |            |
| 103                     | 67                      | Keypad =                               |                                   |           | √              |      |            |
| 104                     | 68                      | Keyboard F13                           |                                   |           | √              |      |            |

# SCORPIUS 980N PLUS /980 KEYBOARD SPECIFICATIONS

| Usage<br>index<br>(dec) | Usage<br>Index<br>(hex) | Usage                                         | Ref:typical<br>AT-101<br>position | PC-<br>AT | Mac-<br>intosh | UNIX | Boot |
|-------------------------|-------------------------|-----------------------------------------------|-----------------------------------|-----------|----------------|------|------|
| 105                     | 69                      | Keyboard F14                                  |                                   |           | √              |      |      |
| 106                     | 6A                      | Keyboard F15                                  |                                   |           | √              |      |      |
| 107                     | 6B                      | Keyboard F16                                  |                                   |           |                |      |      |
| 108                     | 6C                      | Keyboard F17                                  |                                   |           |                |      |      |
| 109                     | 6D                      | Keyboard F18                                  |                                   |           |                |      |      |
| 110                     | 6E                      | Keyboard F19                                  |                                   |           |                |      |      |
| 111                     | 6F                      | Keyboard F20                                  |                                   |           |                |      |      |
| 112                     | 70                      | Keyboard F21                                  |                                   |           |                |      |      |
| 113                     | 71                      | Keyboard F22                                  |                                   |           |                |      |      |
| 114                     | 72                      | Keyboard F23                                  |                                   |           |                |      |      |
| 115                     | 73                      | Keyboard F24                                  |                                   |           |                |      |      |
| 116                     | 74                      | Keyboard Execute                              |                                   |           |                | √    |      |
| 117                     | 75                      | Keyboard Help                                 |                                   |           |                | √    |      |
| 118                     | 76                      | Keyboard Menu                                 |                                   |           |                | √    |      |
| 119                     | 77                      | Keyboard Select                               |                                   |           |                | √    |      |
| 120                     | 78                      | Keyboard Stop                                 |                                   |           |                | √    |      |
| 121                     | 79                      | Keyboard Again                                |                                   |           |                | √    |      |
| 122                     | 7A                      | Keyboard Undo                                 |                                   |           |                | √    |      |
| 123                     | 7B                      | Keyboard Cut                                  |                                   |           |                | √    |      |
| 124                     | 7C                      | Keyboard Copy                                 |                                   |           |                | √    |      |
| 125                     | 7D                      | Keyboard Paste                                |                                   |           |                | √    |      |
| 126                     | 7E                      | Keyboard Find                                 |                                   |           |                | √    |      |
| 127                     | 7F                      | Keyboard Mute                                 |                                   |           |                | √    |      |
| 128                     | 80                      | Keyboard Volume Up                            |                                   |           |                | √    |      |
| 129                     | 81                      | Keyboard Volume Down                          |                                   |           |                | √    |      |
| 130                     | 82                      | Keyboard Locking Caps<br>Lock <sup>12</sup>   |                                   |           |                | √    |      |
| 131                     | 83                      | Keyboard Locking Num<br>Lock <sup>12</sup>    |                                   |           |                | √    |      |
| 132                     | 84                      | Keyboard Locking Scroll<br>Lock <sup>12</sup> |                                   |           |                | √    |      |
| 133                     | 85                      | Keypad Comma                                  |                                   |           |                |      |      |
| 134                     | 86                      | Keypad Equal Sign                             |                                   |           |                |      |      |
| 135                     | 87                      | Keyboard Kanji <sup>15</sup>                  |                                   |           |                |      |      |
| 136                     | 88                      | Keyboard Kanji <sup>16</sup>                  |                                   |           |                |      |      |
| 137                     | 89                      | Keyboard Kanji <sup>17</sup>                  |                                   |           |                |      |      |
| 138                     | 8A                      | Keyboard Kanji <sup>18</sup>                  |                                   |           |                |      |      |
| 139                     | 8B                      | Keyboard Kanji <sup>19</sup>                  |                                   |           |                |      |      |
| 140                     | 8C                      | Keyboard Kanji <sup>20</sup>                  |                                   |           |                |      |      |
| 141                     | 8D                      | Keyboard Kanji <sup>21</sup>                  |                                   |           |                |      |      |
| 142                     | 8E                      | Keyboard Kanji <sup>22</sup>                  |                                   |           |                |      |      |
| 143                     | 8F                      | Keyboard Kanji <sup>22</sup>                  |                                   |           |                |      |      |

# SCORPIUS 980N PLUS /980 KEYBOARD SPECIFICATIONS

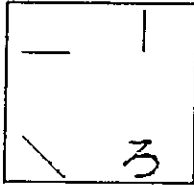
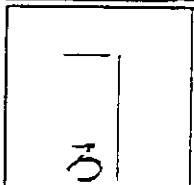
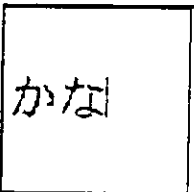
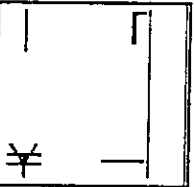
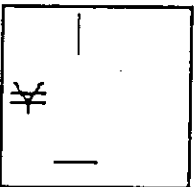
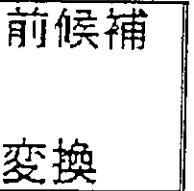
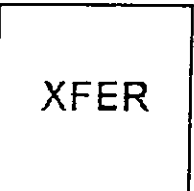
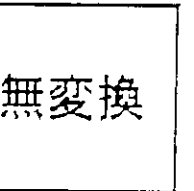
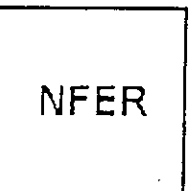
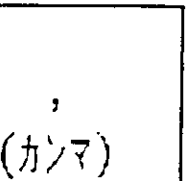
| Usage<br>index<br>(dec) | Usage<br>Index<br>(hex) | Usage                                | Ref:typical<br>AT-101<br>position | PC-<br>AT | Mac-<br>intosh | UNIX | Boot       |
|-------------------------|-------------------------|--------------------------------------|-----------------------------------|-----------|----------------|------|------------|
| 144                     | 90                      | Keyboard LANG1 <sup>3</sup>          |                                   |           |                |      |            |
| 145                     | 91                      | Keyboard LANG2 <sup>3</sup>          |                                   |           |                |      |            |
| 146                     | 92                      | Keyboard LANG3 <sup>3</sup>          |                                   |           |                |      |            |
| 147                     | 93                      | Keyboard LANG4 <sup>3</sup>          |                                   |           |                |      |            |
| 148                     | 94                      | Keyboard LANG5 <sup>3</sup>          |                                   |           |                |      |            |
| 149                     | 95                      | Keyboard LANG6 <sup>3</sup>          |                                   |           |                |      |            |
| 150                     | 96                      | Keyboard LANG7 <sup>3</sup>          |                                   |           |                |      |            |
| 151                     | 97                      | Keyboard LANG8 <sup>3</sup>          |                                   |           |                |      |            |
| 152                     | 98                      | Keyboard LANG9 <sup>3</sup>          |                                   |           |                |      |            |
| 153                     | 99                      | Keyboard AlternateErase <sup>7</sup> |                                   |           |                |      |            |
| 154                     | 9A                      | Keyboard SysReq/Attenti <sup>1</sup> |                                   |           |                |      |            |
| 155                     | 9B                      | Keyboard Cancel                      |                                   |           |                |      |            |
| 156                     | 9C                      | Keyboard Clear                       |                                   |           |                |      |            |
| 157                     | 9D                      | Keyboard Prior                       |                                   |           |                |      |            |
| 158                     | 9E                      | Keyboard Return                      |                                   |           |                |      |            |
| 159                     | 9F                      | Keyboard Separator                   |                                   |           |                |      |            |
| 160                     | A0                      | Keyboard Out                         |                                   |           |                |      |            |
| 161                     | A1                      | Keyboard Oper                        |                                   |           |                |      |            |
| 162                     | A2                      | Keyboard Clear/Again                 |                                   |           |                |      |            |
| 163                     | A3                      | Keyboard CrSel/Props                 |                                   |           |                |      |            |
| 164                     | A4                      | Keyboard ExSel                       |                                   |           |                |      |            |
| 165-<br>223             | A5-DF                   | Reserved                             |                                   |           |                |      |            |
| 224                     | E0                      | Keyboard LeftControl                 | 58                                | √         | √              | √    | 84/101/104 |
| 225                     | E1                      | Keyboard LeftShift                   | 44                                | √         | √              | √    | 84/101/104 |
| 226                     | E2                      | Keyboard LeftAlt                     | 60                                | √         | √              | √    | 84/101/104 |
| 227                     | E3                      | Keyboard Left GUI <sup>10:23</sup>   | 127                               | √         | √              | √    | 104        |
| 228                     | E4                      | Keyboard RightControl                | 64                                | √         | √              | √    | 101/104    |
| 229                     | E5                      | Keyboard RightShift                  | 57                                | √         | √              | √    | 84/101/104 |
| 230                     | E6                      | Keyboard RightAlt                    | 62                                | √         | √              | √    | 101/104    |
| 231                     | E7                      | Keyboard Right GUI <sup>10:24</sup>  | 128                               | √         | √              | √    | 104        |
| 232-<br>255             | E8-FF                   | Reserved                             |                                   |           |                |      |            |

## Footnotes

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1. Usage of keys is not modified by the state of the Control, Alt, Shift or Num Lock keys. That is, a key does not send extra codes to compensate for the state of any Control, Alt, Shift or Num Lock keys.
2. Typical language mappings: US: \| Belg: µ' £ FrCa: <> Dan: \* Dutch: <> Fren: \*µ Ger: # Ital: ü§ LatAm: } ] Nor: \* Span: }Ç Swed: ; \* Swiss: \$£ UK: #-.
3. Typical language mappings: Belg: <|> FrCa: «» Dan: <|> Dutch: ]][ Fren: <> Ger: <|> Ital: <> LatAm: <> Nor: <> Span: <> Swed: <|> Swiss: <|> UK: \| Brazil: \|.
4. Typically remapped for other languages in the host system.
5. Keyboard Enter and Keypad Enter generate different Usage codes.
6. Typically near the Left-Shift key in AT-102 implementations.
7. Example, Erase-Eaze™ key.
8. Reserved for language-specific functions, such as Front End Processors and Input Method Editors.
9. Reserved for typical keyboard status or keyboard errors. Sent as a member of the keyboard array. Not a physical key.
10. Microsoft® Windows® key for Microsoft® Windows® 95 and "Compose."
11. Implemented as a non-locking key; sent as member of an array.
12. Implemented as a locking key; sent as a toggle button. Available for legacy support; however, most systems should use the non-locking version of this key.
13. Backs up the cursor one position, deleting a character as it goes.
14. Deletes one character without changing position.
15. See next page
16. See next page
17. See next page
18. See next page
19. See next page
20. See next page
21. Toggle Double-Byte/Single-Byte mode.
22. Undefined, available for other Front End Language Processors.
23. Windowing environment key, examples are Microsoft® Left Win key, Macintosh® Left Apple key, Sun® Left Meta key
24. Windowing environment key, examples are Microsoft® Right Win key, Macintosh® Right Apple key, Sun® Right Meta key.

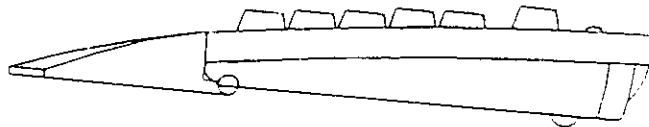
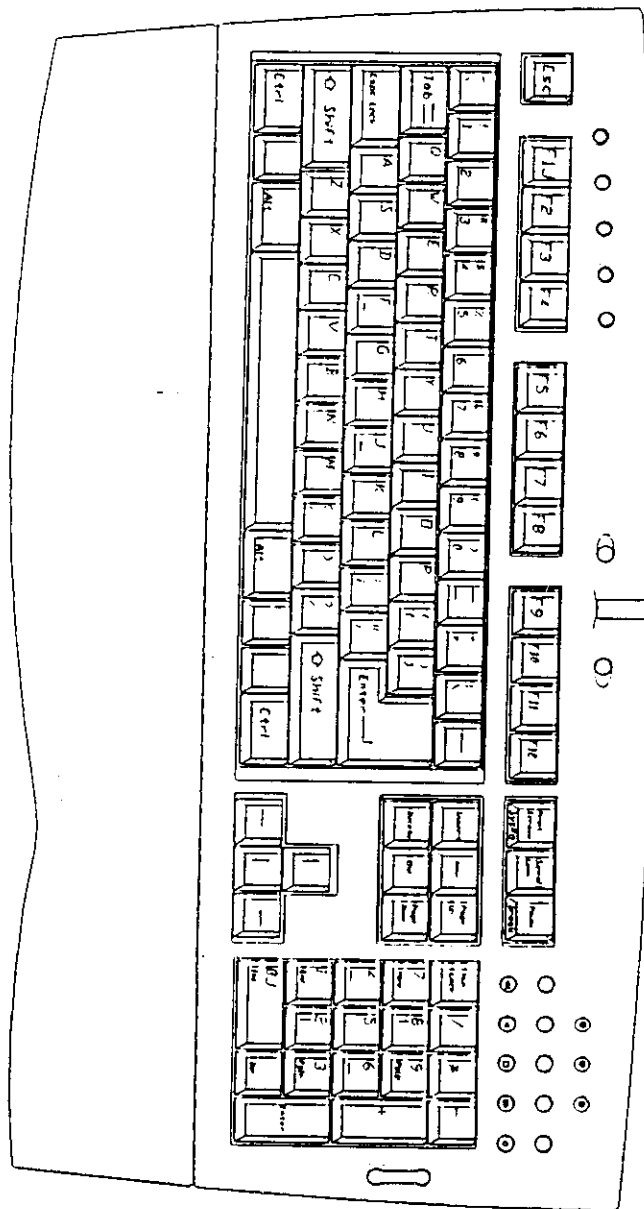
Footnotes 15-20

| Note | AT-104      | DOS/V-109 (suggested)                                                               | PC98 (suggested)                                                                      |
|------|-------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| 15   | No function |    |    |
| 16   | No function |    |    |
| 17   | No function |   |   |
| 18   | No function |  |  |
| 19   | No function |  |  |
| 20   | No function | No function                                                                         |  |

1. 980N 20 hot keys for multimedia function.

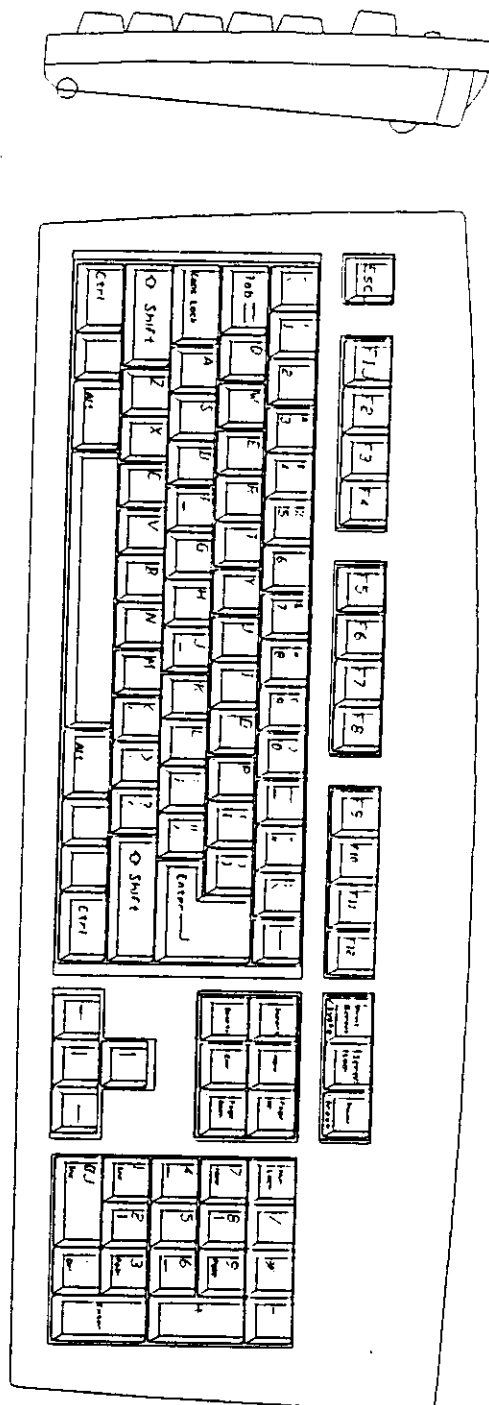
| Key Name     | Default Assignment                                                                              | Code |
|--------------|-------------------------------------------------------------------------------------------------|------|
| Menu         | Pop-out Menu and shows the active key assignment.<br>User can also change assignment from here. | F7   |
| WWW          | Open Browser                                                                                    | F0   |
| Previous     | Back to last page                                                                               | F1   |
| SRCH         | Search Web Site                                                                                 | F4   |
| STOP         | Stop loading from Web Site                                                                      | F3   |
| Next         | Forward to next page                                                                            | F2   |
| Rewind       | Previous track                                                                                  | EA   |
| Play/Pause   | Play / pause CD ROM                                                                             | E8   |
| Stop         | Stop Play                                                                                       | E9   |
| Forward      | Next track                                                                                      | EB   |
| Record       | Record from assigned source                                                                     | EC   |
| Scroll Up    | Scrolling work sheet or browser up                                                              | F5   |
| Scroll Down  | Scrolling work sheet or browser down                                                            | F6   |
| +            | Volume increase                                                                                 | ED   |
| 0            | Volume Mute                                                                                     | EF   |
| -            | Volume decrease                                                                                 | EE   |
| Suspend      | Turns system into suspend mode                                                                  | F8   |
| Coffee Break | Turns system into sleeping mode                                                                 | F9   |
| Calculator   | Brings out Calculator                                                                           | FB   |
| X'fer        | Transfer the amount of Calculator to Worksheet                                                  | FA   |

## VII LANGUAGE LAYOUT



Scorpius-980N plus

# SCORPIUS 980N PLUS /980 KEYBOARD SPECIFICATIONS



**Scorpius 980**

## **IX RELIABILITY**

### **MTBF**

The keyboard assembly shall have a demonstrated MTBF of over five (5) years When operated in a 30° C environment. Test results must meet 90% confidence level of the specified MTBF. Test report to be submitted with the first article unit shipment to Customer . MTBF report to include environmental, operating and non-operating, ESD, vibration, switch and key button life test plans and results.

### **Yield**

During the first six (6) months of production yields as received by Buyer shall be 95% or greater.