Operator's manual

Model NO. :

S K- 3320 Series Keyboard

DATE :5/25/1999

Federal Communications Commission (FCC) Statement

This Equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the 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.

Warning:

Use only shielded cables to connect I/O devices to this equipment.
You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

CONTENTS

INTRODUCTION 2

Thank you for choosing this innovative product.
This keyboard is one of the SK-3320 series products, which are 104/105/106/107/109 keys enhanced keyboards for IBM PC/AT, PS/2 and its compatibles.And integrated a smartcard reader in it.

OPERATION 3

3.1 PC/AT, PS/2 Mode Selection / Smartcard Reader

This keyboard is designed to be AT,PS/2 mode Selection is done by auto-switchable.
Carder is designed in RS-232 interface.

3.2 Mode Indicators

There are three LEDs on the keyboard to indicate Caps Lock', 'Num Lock' and 'Scroll Lock'.
The LEDs are 'toggled'. The first depression of the key turns on the LED. The second depression turns the LED off and so on. LEDs are off on power-up or software reset, but will flash during power-on initialization.
There has a smartcard reader indicator LED should light up when data communicate between PC and reader.

3.3 Type Ahead Capability

The keyboard has 16 keys type ahead capability. This means that you can depress 16 keys before host can receive. If more keys are pressed before the host allows keyboard output, the additional data is lost.

3.4 Typematic Delay and Repeat Rate

With the exception of the Pause key, all keys are typematic. When a key is pressed and held down, the keyboard delays 0.5 sec. and begins sending a make code for that key at a rate of 10.9 characters per second. (The delay is called typematic Delay and the rate is called Repeat Rate.)
If two or more keys are pressed, only the last key pressed is repeated at the repeat rate. Typematic operation stops only when the last key pressed is released, even if other keys are still held down.
If a key is pressed and held down while keyboard transmission is disable, only the first make code is stored in the type ahead buffer. This prevents the type ahead buffer overflow as result of typematic action
In AT mode, the typematic delay and repeat rate are programmable, this is done by command from host.

The default data:

Typematic Delay = 0.5 sec.
Repeat Rate = 10.9 characters per sec.

3.5 Pseudo N-Key Roll-over Capability

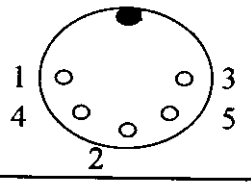
The 'N' key roll-over capability where 'N' is the total number of keys on the keyboard 'N' key roll is the number of keys that may be held depressed simultaneously and have the keyboard generate the appropriate code for

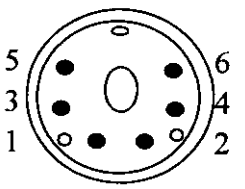
3.6 Diagnostic Test

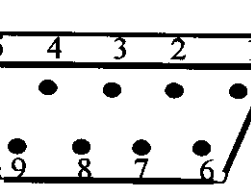
The keyboard microprocessor will perform a diagnostic self-test after Power-up or after the host system signals the keyboard to perform a software Reset. The microprocessor will check its data memory locations, do a sum-check internal RAM check and check for any depressed keys. If the diagnostic test is correct, the keyboard will transmit an 'AA HEX' code. This will be the first transmission following a Power-Up condition. If the diagnostic test was unsuccessful, then the keyboard will transmit an 'FD/FC HEX' code. In either case, after the diagnostic check the keyboard will begin normal operation.

CABLE AND CONNECTOR 4

The keyboard shielding cable is a 6 ft long cable. The keyboard cable is connected to the host unit through a 5/6-pin Din connector .
The smartcard reader is connected to host unit through a DB9 connector.
The following figure lists the connector pins and their signals.

Description	Signal	Pins	Connector
keyboard clock	5 Vdc signal	1	
keyboard data	5 Vdc signal	2	
		3	
ground	0	4	
power supply	5 Vdc	5	

Description	Signal	Pins	Connector
keyboard data	5 Vdc signal	1	
		2	
ground	0	3	
power supply	5 Vdc	4	
keyboard clock	5 Vdc signal	5	
		6	

Description	Signal	Pins	Connector (DB9)
		1	
Receive Data	+/-12 Vdc signal	2	
Transmite Data	+/-12 Vdc signal	3	
DSR (P&P)	+/-12 Vdc signal	4	
Data terminal Ready	+/-12 Vdc signal	6	
Ring Indicator	+/-12 Vdc signal	9	

TECHNICAL DATA 5

5.1 Electrical Characteristics	Keyboard : Input Power: +5 VDC, 60 mA max. Power Consumption: 0.3 watts max. Smartcard Reader : Input Power: +5 VDC, 150 mA max. Power Consumption: 0.75 watts max.
5.2 Mechanical Characteristics	Total Travel: 3.6 +/- 0.2 mm Pretravel: 2.5 +/- 0.25 mm Operating Life: 20 million cycles Dimension: 475 * 165 * 40 mm (W * D * H)
5.3 Environmental Specifications	Operating Temperature: 5 ℃ to 40 ℃ Storage Temperature: -20 ℃ to 55 ℃ Relative Humidity: under 95% non-condensing