Unique Micro Design
Advanced Thinking Products

Model 364
Keyboard Wedge
User Manual

Document Reference : DOC-M364-UM

UMD Part Number : 6-0364-993-6

Issue : 5

Revision : 7/7/94

Revision History

Date	Issue	Comments
4/02/93	1	First Release
28/04/93	2	Error in Switch 3+4 Settings fixed
10/11/93	3	New format
7/01/94	4	Keyboard Connector drawing corrected
7/07/94	5	Part No. Corrected, Note on XT operation Pg3 Note on Blocking Pg6

1. Introduction

1.1 Scope

This manual provides installation and configuration details for the *Unique Micro Design Model 364 Keyboard Wedge.*

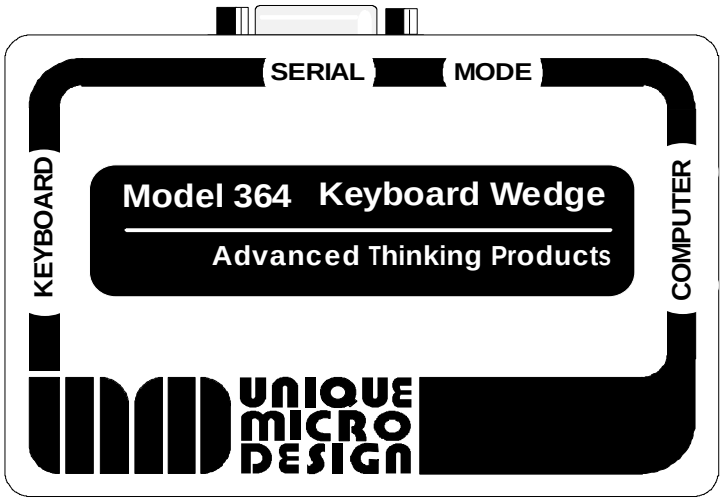
1.2 Overview

The *Unique Micro Design Model 364 Keyboard Wedge* provides a serial port which connects in between the keyboard of a AT or PS/2 style personal computer and the system unit. The *Keyboard Wedge* converts asynchronous serial RS-232 data to appropriate keyboard characters. It is totally transparent to the computer system which accepts the serial input as if it was typed from the keyboard.
The *Keyboard Wedge* finds utility in adding serial devices such as bar code scanners to a PC system without the need to alter software. Whenever the program expects keyboard input it can accept data from the attached serial device.
This manual describes the *Keyboard Wedge* operating with the standard firmware. Other firmware options can be provided to suit specific applications.

NOTE: The *Unique Micro Design Model 364 Keyboard Wedge* as standard, is configured for AT and PS/2 or equivalent keyboard scan codes. To operate with XT or other computers, factory firmware options are available.

1.3 Description

There is one full duplex serial port on the *Keyboard Wedge*, a set of four switches numbered one to four and two 5 pin DIN connectors for connecting to standard PC's and keyboards.



Upon receiving a character on its serial interface, the *Keyboard Wedge* monitors the keyboard input and output ports for activity. If the keyboard and PC are in communication, the *Keyboard Wedge* will wait for inactivity before sending its data. Inactivity is monitored for approximately 1 millisecond.

ASCII characters received are converted to the equivalent AT or PS/2 key scan codes. Whilst in control, the keyboard port is disconnected from the computer port.

2. Installation

1) Turn off the computer.

2) Disconnect the keyboard from the PC system unit.

3) Connect the PC's keyboard interface to the "computer" interface of the *Keyboard Wedge*. Use a *CA202* cable for computers with 5 pin DIN connectors, or a *CA226* cable for PS/2 compatible computers with 6 pin mini-DIN connectors.

4) Plug the keyboard directly into the "keyboard" interface of the *Keyboard Wedge*. If it is a PS/2 compatible keyboard with a 6 pin male mini-DIN connector then a *CA227* adapter is required.

5) Set the switches according to the mode of operation required (see the next section).

6) Connect the serial device via a suitable cable to the serial port of the *Keyboard Wedge* and turn on the computer.

7) Configure the serial device's communications parameters to 9600 baud, 8 data bits with no parity and one stop bit.

8) The computer should now operate as usual and characters received on the serial interface of *Keyboard Wedge* will be "typed" into the computer.

3. Configuration

3.1 Intercharacter delay

The intercharacter delay setting determines the delay period between characters. For some situations it might be necessary to use the slow rate.

Switch Setting	
1	
OFF	Fast rate (approximately 1 mS)
ON	Slow rate (approximately 20 mS)

3.2 Blocking modes

Input received on serial interface may be *blocked*. Here input is buffered until a *terminator character* is received, which in the standard firmware option is the carriage return (<CR>) control character (ie hexadecimal 0D, decimal 13).
Once the terminating character is received, the buffered characters (*excluding* the terminating character) is output followed by the optional *postamble* string. The postamble string is factory set to <CR> or <CR><CR> (see Blocking Selection) and can be changed upon request.

Switch 3	Setting 4	
OFF	OFF	no blocking
OFF	ON	blocking with no post-amble
ON	OFF	blocking with <CR> post-amble
ON	ON	blocking with <CR><CR> post-amble
where <CR> equals Hexadecimal 0D, Decimal, 13		

Switches 3 & 4 Blocking Selection

3.3 Caps Lock Sense

In the Normal Mode of operation the keyboard wedge processes data in the following way:
a) When serial data is uppercase alpha characters, the wedge will "press" the Left shift key and "type" the corresponding lowercase characters to the computer. If Caps Lock is *off* then the computer registers uppercase and if Caps Lock is *on* then the computer registers lowercase.
b) When the serial data is lowercase alpha characters, the wedge will "type" the lowercase characters to the computer. If Caps Lock is *off* then the computer registers lowercase and if Caps Lock is *on* then the computer registers uppercase.

In Caps Lock Sense Mode the keyboard wedge attempts to track the state of the Caps Lock and will "type" characters to the computer in the appropriate case.
i.e. Uppercase characters will be "typed" as uppercase if the Caps Lock is *on,* and typed as lowercase if Caps Lock is *off*, and lowercase characters will be "typed" as uppercase if the Caps Lock is *on,* and typed as lowercase if Caps Lock is *off*.

Switch Setting 2	
OFF	Normal Mode
ON	Caps Lock Sense Mode

Switch 2 Caps Lock Sense selection

4. Interfaces

4.1 Serial port

The serial port is a full duplex RS232 interface that uses +/- 9 volt levels. Five volt DC power is provided on the interface to allow bar code scanners to be powered. Communications parameters are fixed at 9600 baud, 8 data bits with no parity and one stop bit with hardware handshaking.

Pin	I/O	Description
1	-	no connection
2	i/p	RxD
3	o/p	TxD
4	o/p	DTR
5	-	Ground
6	-	no connection
7	o/p	+5V (RTS asserted)
8	i/p	CTS
9	-	no connection

Serial interface

DB9 plug connector

Front view of DB9 Plug

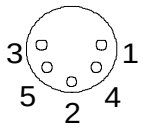
4.2 Wedge interfaces

The "computer" interface of the *Keyboard Wedge* is used to communicate with, and derive power from, the PC's keyboard interface. Standard PC keyboards connect to the "keyboard" interface of the *Keyboard Wedge*.

Pin	I/O	Description
1	i/o	Clock
2	i/o	Data
3	-	Reset
4	-	Ground
5	-	5V DC

Computer and Keyboard interfaces

5 Pin 180 degree DIN socket



Front view of 5 Pin Din socket

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