



Pocket386

User's Guide

Document Revision 1.0

1. Introduction to New Features

- **Display Aspect Ratio Switching (4:3 & 16:9):** Utilize the OSD menu with Fn+F4 to seamlessly switch between 4:3 (default) and 16:9 display ratios.



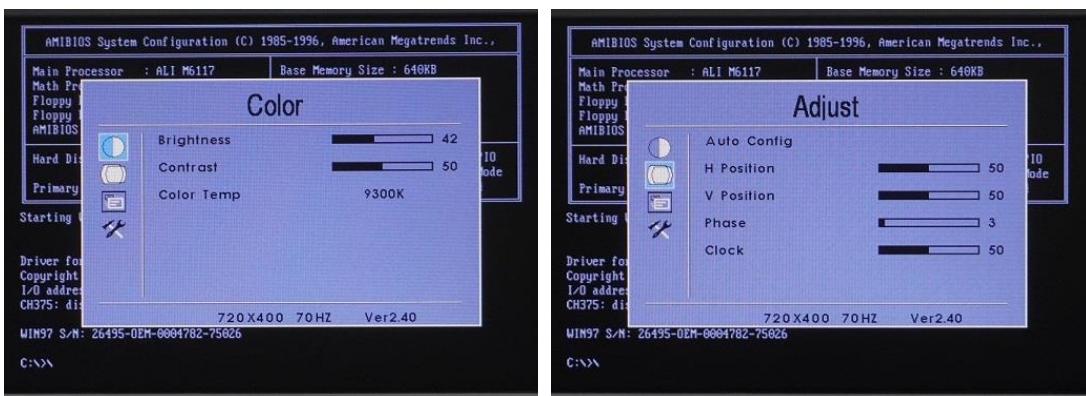
(4:3 Mode)



(16:9 Mode)

- **Super On-Screen Display (SOSD) (Fn+F5)**

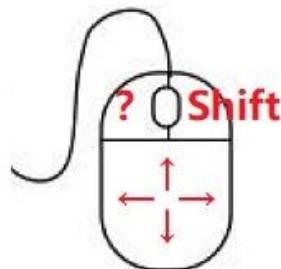
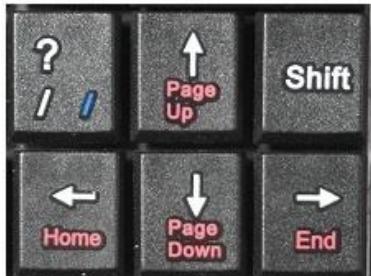
The advanced OSD feature allows for on-screen overlay of function menus, enabling users to adjust LCD parameters such as brightness, contrast, and color. Additionally, it provides real-time status updates on internal devices and battery level without interrupting PC operations.



(Partial functions of OSD)

- **Integrated Mouse Control:**

Users can enable the built-in mouse feature without an external PS2 mouse, using keyboard directional keys for navigation. The "?" and "shift" keys function as left and right mouse buttons, respectively.



- **Internal ISA Interface & GPIO Expansion:**

The device supports the addition of a 16-bit ISA adapter, such as serial or network adapters, offering customization through 9 GPIOs accessible via the rear interface.



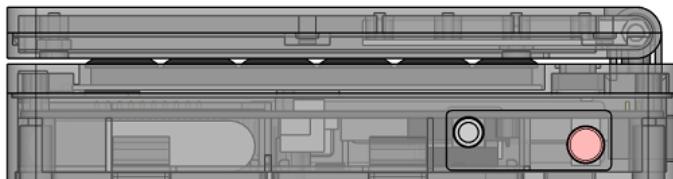
- **Connectivity and Expansion Ports:** Equipped with a built-in CH375 USB controller for DOS/Windows compatibility, 16-bit ISA bus extension, PS2 ports, VGA output, and a DB25 parallel port, facilitating versatile connectivity and expansion.

- **Open Source Circuit Diagram:**

Provides open access to hardware circuit designs for user-driven expansion and customization. Visit WWW.8086CPU.COM for detailed information.

2. Product Overview

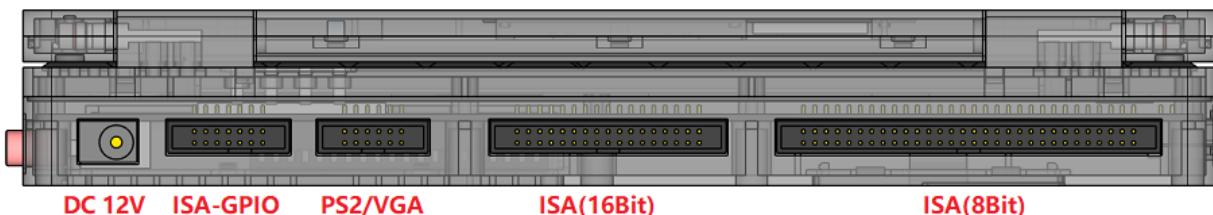
- IBM PC Compatible Handheld Computer
- **386 SX** (40MHz) Embedded in an Ali M6117
- **8MB** DRAM
- Replaceable **VGA Card** (CL-GD542X / TVGA9000 / CHIPS F655xx)
- Seamless Online Switching between **4:3** and **16:9** display ratios. (**640x480 / 800x480**)
- **CF Card** (IDE Mode) Storage
- **USB** Controller (CH375B)
- **OPL3** (Yamaha YMF262-M) Sound Card
- **Built-in Mouse**
- **OSD/SOSD** LCD Control
- Lithium Battery
- External Interface
 - ① DCIN-12V 1.5A
 - ② Built-in ISA Adapter IO
 - ③ PS2 Keyboard/Mouse/VGA
 - ④ ISA-16bit
 - ⑤ ISA-8bit
 - ⑥ CF Card
 - ⑦ USB Port
 - ⑧ Parallel Port



3.5mm Line-OUT Power



CF Card USB Parallel Port



DC 12V ISA-GPIO PS2/VGA ISA(16Bit) ISA(8Bit)

3. Power Management

- **Turning On:** Press the power switch to turn on the device
- **Turning Off:** Direct power-off in DOS; system shutdown required in Windows before turning off.



4. Sound and Peripheral Management

Fn+3: Turn on/off the sound card amplifier. This function mutes the speaker, directing audio exclusively to the Line Port for focused listening without external disturbances.

Fn+O: Enable/disable the **built-in OPL3 sound card port**.
(IO Address = 388H)

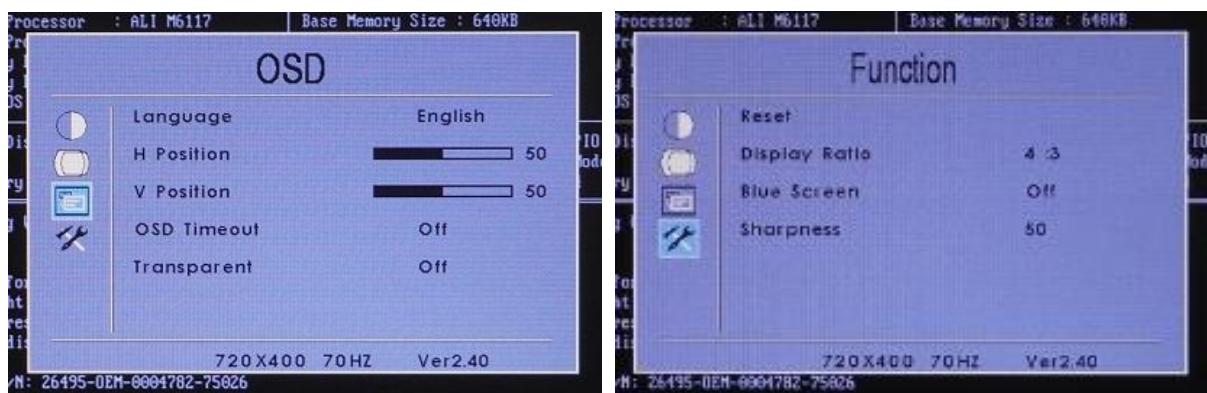
Fn+P: Enable/disable the **built-in parallel port**.
(IO Address = 378H)

Note: Disabling the OPL3 sound card and parallel port is recommended to avoid IO conflicts when using external ISA adapters, ensuring smooth operation and compatibility.

5. OSD Settings:

To access the OSD (On-Screen Display) menu, press Fn+F4 once the display content stabilizes. Navigate through the OSD options using the directional keys. To select an option, press the Enter key; to exit the menu, press the Esc key.

Note: The keyboard will be inactive if the OSD menu is not exited properly. Should you encounter this, press the Esc key to exit the OSD menu and restore keyboard functionality. Be aware that frequently refreshing the OSD menu might cause display characters to become garbled. This does not impact the PC's operation and will be corrected upon the next restart.



(Partial functions of OSD)

6. SOSD Menu:

To access the Super On-Screen Display (SOSD) menu, press Fn+F5 once the display content is stable. This menu provides advanced settings and system information.



7. VGA Output Switching:

Use the "FN+1" key to toggle between the device's LCD and an external monitor. When switching to an external monitor, the LCD will indicate "No Signal", signifying that the display output has been redirected.

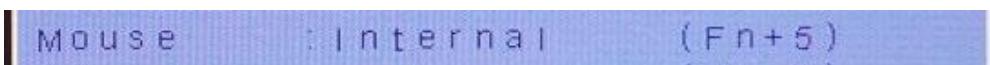


(The LCD will display "No Signal", After switching to an external monitor)

8. Mouse Functionality:

Toggle between the built-in mouse and an external PS2 mouse by pressing the "FN+5" key. Note the following:

- * A system restart is required for the change to take effect.
- * The current mouse selection can be verified through the SOSD menu.

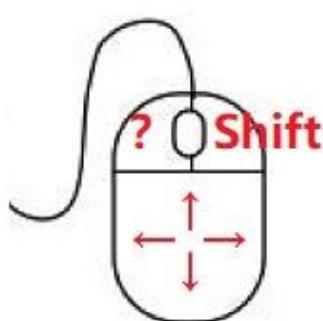
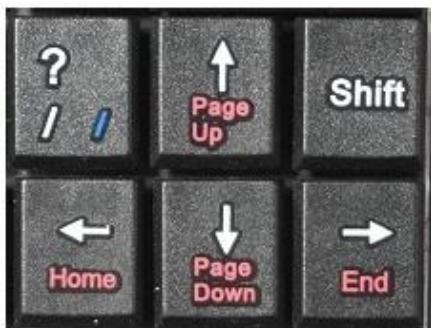


* The built-in and external PS2 mice cannot operate simultaneously. If the built-in mouse function is active, do not connect an external PS2 mouse. Conversely, ensure the external PS2 mouse setting is selected when using one.

* For the mouse to function, it must be enabled in the BIOS settings, where it is disabled by default.



To activate mouse control keys, press the "Mkey". This action reassigns the directional, "?", and "shift" keys for mouse navigation.



9. USB Port:

The CH375B USB controller integrates USB flash devices with DOS/Windows Disk Manager seamlessly. Upon connecting a USB device and entering the DOS system, a prompt displaying the assigned disk symbol, such as "D", will appear.

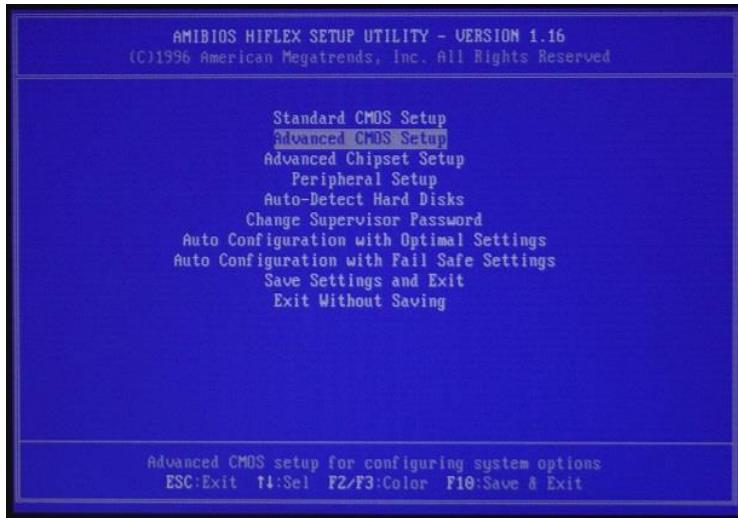
```
Driver for CH375 USB-Disk V2.0A
Copyright (C) W.ch 1998-2007
I/O address = 0260H, interrupt = 00, iospeed = 02, add disk D:
CH375: disk not found
HMA not available: Loading DOS low
C:\>
```

To access the contents of the USB device, enter "D" and press Enter to navigate to the D drive.

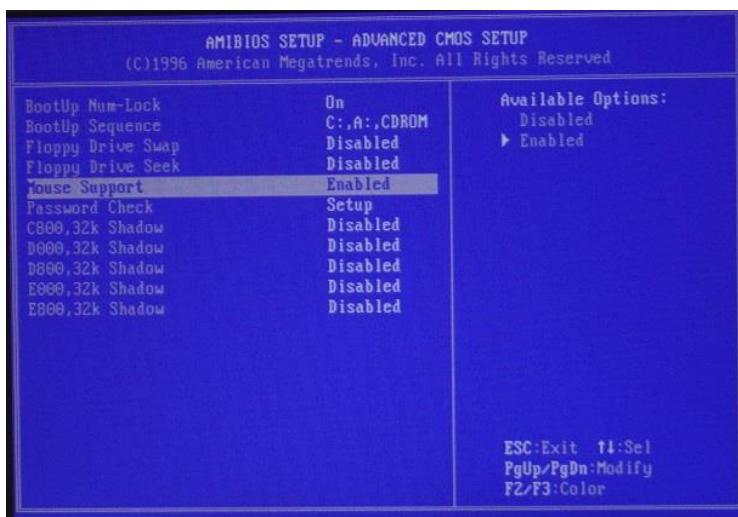
10. BIOS Settings:

To enter the BIOS settings, press and hold the "Del" key during startup. As an example, to enable the mouse functionality:

Step 1: Navigate to "Advanced CMOS Setup".



Step 2: Select "Mouse Support", then use Fn+Up or Fn+Down to enable the mouse.



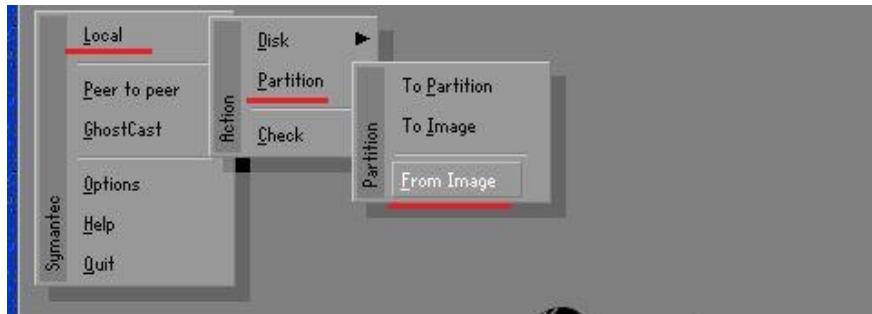
Step 3: Press Esc, choose "Save Settings and Exit", and confirm by pressing the "Y" key.



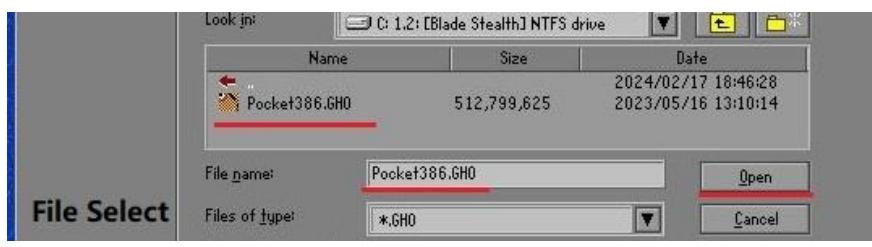
11. CF Adapter & System Recovery:

The Pocket386 uses a CF card (formatted in FAT with a capacity of 2GB or less) as its storage device. In cases of system file corruption, the "Ghost" software on another computer can be used to restore ".gho" image files to the CF card:

- Download the "Pocket386.gho" image file and "Ghost.exe" software.
- Insert the CF card into the new computer's USB port using a CF-to-USB card reader.
- Launch the Ghost software and select "Local -> Partition -> From Image".



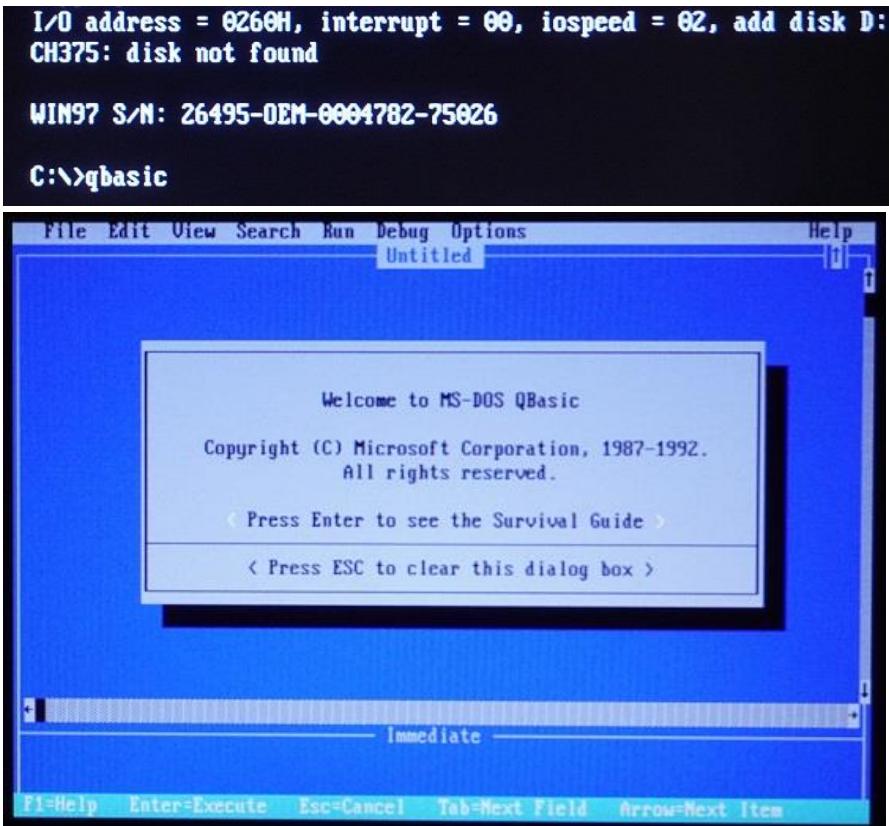
- Navigate to and select the directory containing the ".gho" file.



- Wait for the restoration process to complete, effectively recovering the system.

12. Using Qbasic as an Example

To open the Qbasic software, simply type qbasic at the command prompt and press Enter. For assistance or to access the help documentation within Qbasic, press Shift+F1.



13. Common Problems and Solutions:

- **Missing BIOS Settings**

- The RTC (Real-Time Clock) is powered by the main battery. If the battery voltage drops too low, BIOS settings may be lost, including the mouse setting which defaults to disabled. Should this happen, re-enter the BIOS to restore the necessary settings.

- **Keyboard Not Functioning**

- If the keyboard becomes unresponsive, it may be due to the OSD menu being active. Press the Esc key to exit the OSD menu.

- If the "?" "shift", and directional keys do not work while the built-in mouse is enabled, press the "Mkey" to toggle back to keyboard mode.

- **OPL3 Sound Card or Parallel Port Issues**

If either the OPL3 sound card or the parallel port is not recognized, ensure they are enabled in the BIOS settings. These features may be disabled to prevent I/O conflicts with external ISA adapters.

- **Low Battery Shutdown**

A low battery can cause system instability or an abrupt shutdown, accompanied by noise from the speaker. In such instances, turn off the device and charge it. To monitor the battery level, press Fn+F5.