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AWS-8430T

Industrial Workstation with 12.1" Flat Panel Display

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Part No. 2002843000
1st Edition Printed in Taiwan August 2001

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FCC Class A

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy. If not installed and used in accordance with this user's manual, it may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his own expense.

警告使用者

這是甲類的資訊產品，在居住的環境中使用時，可能會造成射頻干擾，在這種情況下，使用者會被要求採取某些適當的對策。

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Packing List

Before you set up the AWS-8430 workstation, make sure that the following materials have been included with the package, and that this manual is in good condition. If anything is missing or damaged, contact your dealer immediately:

- One AWS-8430 industrial workstation with 12.1" flat panel display
- A PCA-6654LB VGA card is installed in the AWS-8430TP and AWS-8430TP-T models
- One accessory box, including:
  - One power cord
  - One HMI products drivers and utilities CD-ROM
  - One utility diskette for function key programming
  - AWS-8430T User's Manual
  - PCA-6654 User's Manual (TP and TP-T only)
  - Cable to link front PS/2 connector to CPU card
  - Flat gray cable for 3.5" HDD and slim CD-ROM
  - A Y-cable for PS/2 keyboard and mouse
  - RS-232 cable to link touchscreen to CPU card (only -T models)
  - Screw bag with screws
- CDR-842-0024 (optional)

  The CD-ROM drive for the AWS-8430T is packed in a separate carton, to ensure that it is shipped safely and does not deteriorate.
  - One application notes
  - Screw bag with screws

If any of these items are missing or damaged, contact your distributor or sales representative immediately.

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Additional Information And Assistance

1. Visit the Advantech web sites at **www.advantech.com** or **www.advantech.com.tw** where you can find the latest information about the product.
2. Contact your distributor, sales representative, or Advantech's customer service center for technical support if you need additional assistance. Please have the following information ready before you call:
   - Product name and serial number
   - Description of your peripheral attachments
   - Description of your software (operating system, version, application software, etc.)
   - A complete description of the problem
   - The exact wording of any error messages

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Safety Instructions

1. Read these safety instructions carefully.
2. Keep this User's Manual for later reference.
3. Disconnect this equipment from any AC outlet before cleaning. Use a damp cloth. Do not use liquid or spray detergents for cleaning.
4. For plug-in equipment, the power outlet socket must be located near the equipment and must be easily accessible.
5. Keep this equipment away from humidity.
6. Put this equipment on a reliable surface during installation. Dropping it or letting it fall may cause damage.
7. The openings on the enclosure are for air convection. Protect the equipment from overheating. DO NOT COVER THE OPENINGS.
8. Make sure the voltage of the power source is correct before connecting the equipment to the power outlet.
9. Position the power cord so that people cannot step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for a long time, disconnect it from the power source to avoid damage by transient overvoltage.
12. Never pour any liquid into an opening. This may cause fire or electrical shock.
13. Never open the equipment. For safety reasons, the equipment should be opened only by qualified service personnel.
14. If one of the following situations arises, get the equipment checked by service personnel:
    a. The power cord or plug is damaged.
    b. Liquid has penetrated into the equipment.
    c. The equipment has been exposed to moisture.
    d. The equipment does not work well, or you cannot get it to work according to the user's manual.
    e. The equipment has been dropped and damaged.
    f. The equipment has obvious signs of breakage.
15. DO NOT LEAVE THIS EQUIPMENT IN AN UNCONTROLLED ENVIRONMENT WHERE THE STORAGE TEMPERATURE IS BELOW -20° C (-4° F) OR ABOVE 60° C (140° F). THIS MAY DAMAGE THE EQUIPMENT.

The sound pressure level at the operator's position according to IEC 704-1:1982 is no more than 70dB(A).

DISCLAIMER: This set of instructions is given according to IEC 704-1. Advantech disclaims all responsibility for the accuracy of any statements contained herein.

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Wichtige Sicherheishinweise

1. Bitte lesen sie Sich diese Hinweise sorgfältig durch.
2. Heben Sie diese Anleitung für den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Verwenden Sie Keine Flüssig-oder Aerosolreiniger. Am besten dient ein angefeuchtetes Tuch zur Reinigung.
4. Die NetzanschluBsteckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Verletzungen hervorrufen.
7. Die Belüftungsöffnungen dienen zur Luftzirkulation die das Gerät vor überhitzung schützt. Sorgen Sie dafür, daB diese Öffnungen nicht abgedeckt werden.
8. Beachten Sie beim. AnschluB an das Stromnetz die AnschluBwerte.
9. Verlegen Sie die NetzanschluBleitung so, daB niemand darüber fallen kann. Es sollte auch nichts auf der Leitung abgestellt werden.
10. Alle Hinweise und Warnungen die sich am Geräten befinden sind zu beachten.
11. Wird das Gerät über einen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
12. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könnte einen Brand bzw. elektrischen Schlag auslösen.
13. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von authorisiertem Servicepersonal geöffnet werden.
14. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu überprüfen:
    a - Netzkabel oder Netzstecker sind beschädigt.
    b - Flüssigkeit ist in das Gerät eingedrungen.
    c - Das Gerät war Feuchtigkeit ausgesetzt.
    d - Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioni ert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
    e - Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
    f - Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.

Der arbeitsplatzbezogene Schalldruckpegel nach DIN 45 635 Teil 1000 beträgt 70dB(A) oder weiger.

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CHAPTER 1

Introduction

- Description
- Specifications
- Dimensions
- Complete Functionality
- Modular Design Concept
- Front Accessible CD-ROM
- Front Control Panel

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1.1 Description

The AWS-8430 series is a standard 6U industrial workstation, designed to operate in tough industrial environments.

It features a 12.1" TFT LCD and membrane keypads, which makes the system an ideal Human-Machine Interface.

Although the system is only 220mm in depth, it can still fit a slim FDD, a slim CD-ROM and two 3½" HDD units.

The AWS-8430 series provides a variety of options to meet your system demands. PCI and ISA backplanes are available with a variety of CPU card options. As for power supplies, choices range from the standard AC 110/220 V to DC 24 V or - 48 V.

Two 49 CFM fans efficiently eliminate internal thermal flows, which creates a stable environment for the system to work in. The stainless steel back case gives the whole body a solid, corrosion-resistant body frame.

Versatile backplane supply

The backplanes were formed by four-layer PCBs with ground and power planes for reduced noise and lower power-supply impedence. They have LED power indicators for +5 V, +12 V, -5 V and -12 V. The PCA-6107P2 contains three PCI-compatible slots, four PC/AT-compatible (ISA-bus) slots and one dedicated slot for the CPU card. The PICMG standard and three power connectors were obtained by PCA-6107P2.

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Sealed-membrane tactile-response keypad

You can enter data with the workstation's two convenient sealed-membrane keypads, one with 60 data keys, the other with 20 function keys. An external keyboard can be attached through a connector on the front panel. A built-in keyboard interface module merges keyboard and keypad signals into a single output signal that acts like a standard IBM AT keyboard. No special software or I/O ports are needed. (Refer to Chapter 4 for a detailed description.)

Accessible and secure control panel

We have put all the workstation's controls at the front of the unit for easy access. A door protects the controls from damage. External controls are: power ON/OFF and reset switches, slim floppy disk drive, slim CD-ROM drive and PS/2 Keyboard/ Mouse port. Two LEDs indicate power ON and HDD status. There is a control to adjust the brightness of the LCD display.

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1.2 Specifications

General

- **Front panel**: Aluminum, meets NEMA 4 or IP 65
- **Disk drive housing**: Supports one slim 3.5" FDD, two 3.5" HDDs and one slim CD-ROM
- **VGA card:**
  TP & TP-T models: PCA-6654L with 2 MB DRAM on board
  CHIPS 65550 supports simultaneous CRT/LCD display

  Note: For AWS-8430T and AWS-8430T-T, we recommend PCA-6751, 6752 and 6770 series CPU cards, which bulit-in the LCD controller with 3.3 V TTL output.

- **Cooling system**: Two 49 CFM fans in back door
- **Membrane keypads**: One with 60 data entry keys, one with 10 function keys and 10 programmable macro function keys
- **Keyboard connector**: 6-pin PS/2 connector with dust-proof door on front panel
- **Indicators**: LEDs for Power On/Off and HDD activity
- **Linear VR adjustment:** Brightness and on/off control
- **Operating temperature**: 0 ~ 50° C (32 ~ 122° F)
- **Relative humidity**: 5 ~ 85% @ 40° C, non-condensing
- **CE, FCC, BSMI compliant**
- **Dimensions (W x H x D)**: 482 x 266 x 220 mm
  (19.0" x 10.5" x 8.7")
- **Weight**: 11.6 kg (25 lbs)

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Touchscreen (optional)

- **Type**: Analog resistive
- **Resolution**: Continuous
- **Light transmission:** 72%
- **Controller**: RS-232 interface
- **Power consumption**: +5 V @ 200 mA
- **Software driver**: DOS, Windows 3.1/95/98/2000/NT

Passive backplane

- **PCA-6107P2:** 4 ISA, 3 PCI, 1 CPU slots
- **PCA-6108C:** 8 ISA slots

Power supply options

AC input 300 W (standard offer)

- **Input**: 90 ~ 135 V_{AC} or 180 ~ 265 V_{AC}, switchable
- **Maximum Output**:
  +5V/30A,+12V/15A,-12V/0.8A,-5V/0.3A,+5VSBV/2A,+3.3V/24A
- **MTBF**: 100,000 hours
- **Safety**: UL/CSA/TÜV

-48 V_{DC} input 310 W (Optional offer)

- **Input**: -38 ~ -58 V_{DC}
- **Output**:
  +5 V @ 25 A; +12 V @ 10 A; -5 V @ 1 A; -12 V @ 5 A
- **MTBF**: 100,000 hours

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24 V_{DC} input 250 W (Optional offer)

- **Input:** 19 ~ 32 V_{DC}
- **Output**:
  +5 V @ 25 A; +12 V @ 10 A; -5 V @ 1 A; -12 V @ 1 A
- **MTBF**: 100,000 hours

LCD Specifications

Model	AWS-8430T
Display type	12.1" TFT color
Max. resolution	800 x 600
Max. colors	256 K colors
Dot size (mm)	0.3075 x 0.3075
Luminance (cd/m^2)	200
Viewing angle	90° (H), 40° (V)
Temperature	0 ~ 50° C
VR controller	Brightness & on/off
LCD MTBF	50,000 hours
Backlight MTBF	20,000 hours

Table 1-1: LCD Display

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1.3 Dimensions

Before you rackmount or panelmount the AWS-8430, use the following diagram to verify that the mounting screws correspond with the holes in your panel/rack.

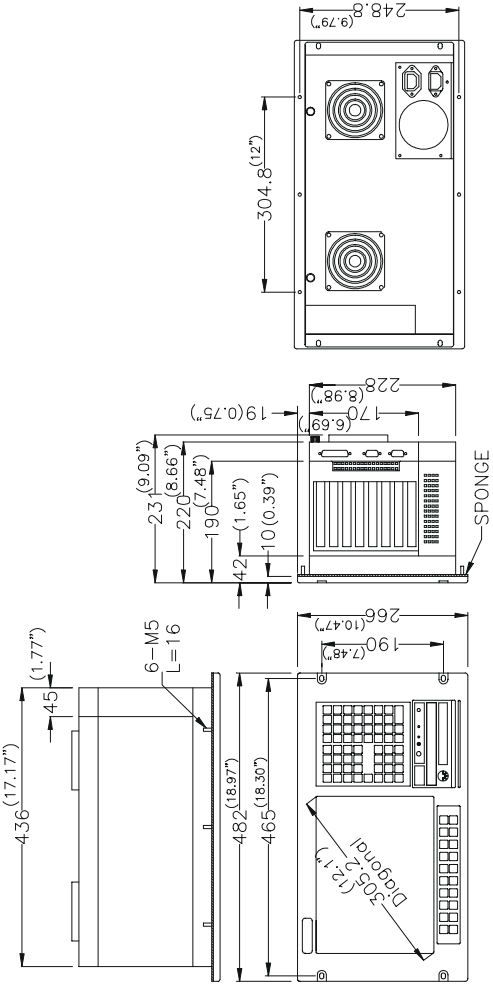


Figure 1-1: Dimensions

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1.4 Complete Functionality

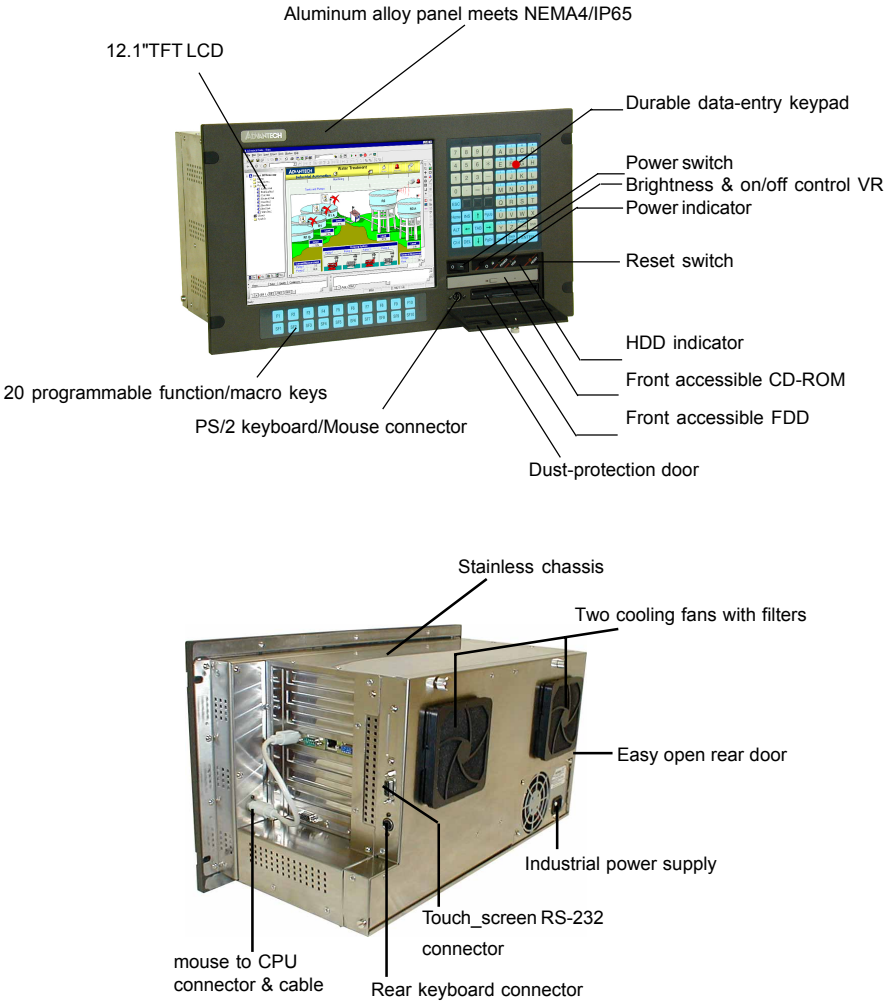


Figure 1-2: Complete functionality

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1.5 Modular Design Concept

The AWS-8430 is designed in modular concept. The whole system consists of four major parts: the rear panel, the back case, the LCD bracket case, and the front panel. This modular concept effectively reduces any maintenance. To disassemble the system, please refer to Chapter 4.

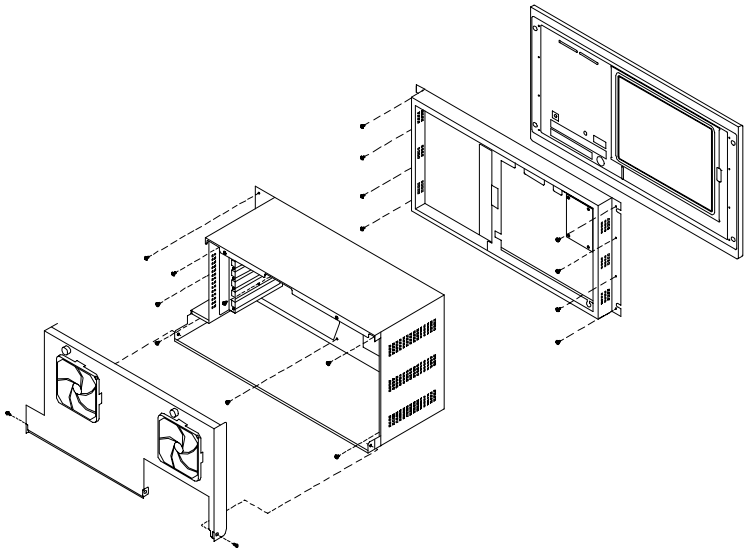


Figure 1-3: Modular design concept

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CHAPTER 2

System Setup

- General
- Opening the Rear Panel
- Adding Cards
- Installing Hold-down Clamps
- Installing Optional Drives
- Installing a Secondary HDD
- Connecting Cables
- Connecting External Keyboard and Mouse
- Panel Mounting
- Rack Mounting

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2.1 General

The AWS-8430 adopts the standard industrial PCI/ISA backplane. After installing the CPU card and other accessories, this system is operational. Due to the standard front panel span, the system can easily be mounted in a 19-inch rack.

Warning! *Do not begin your installation until you are sure there is no power flowing within the AWS-8430. It must be switched off and unplugged. Every time you access the interior of the AWS-8430, you should switch it off and unplug it.*



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2.2 Opening the Rear Panel

Unscrew the two knobs in the rear panel and open the back cover (see Fig. 2-1). If necessary, unplug the power cord of the two fans and unscrew the door axis-screws to remove the rear door (see Fig. 2-2).

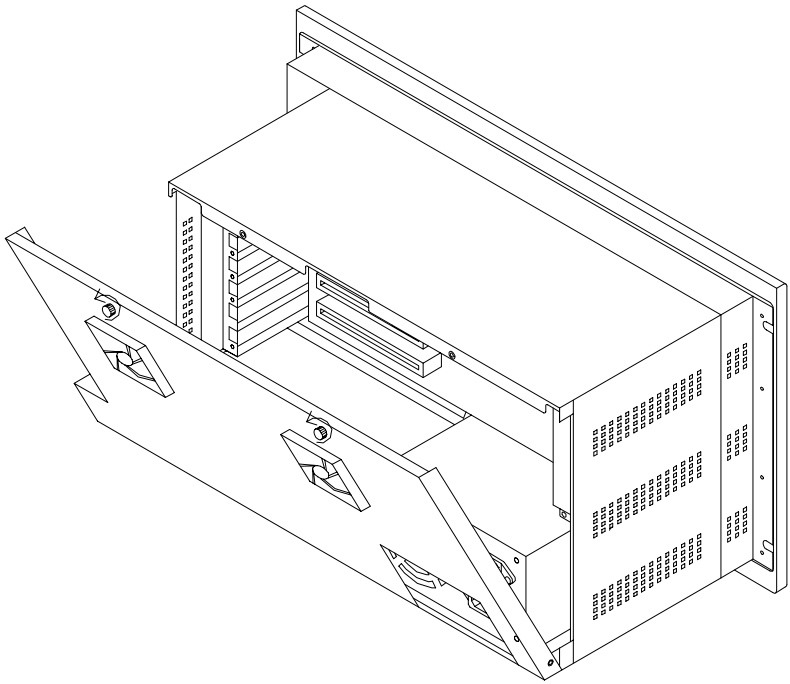


Figure 2-1: Opening the rear door

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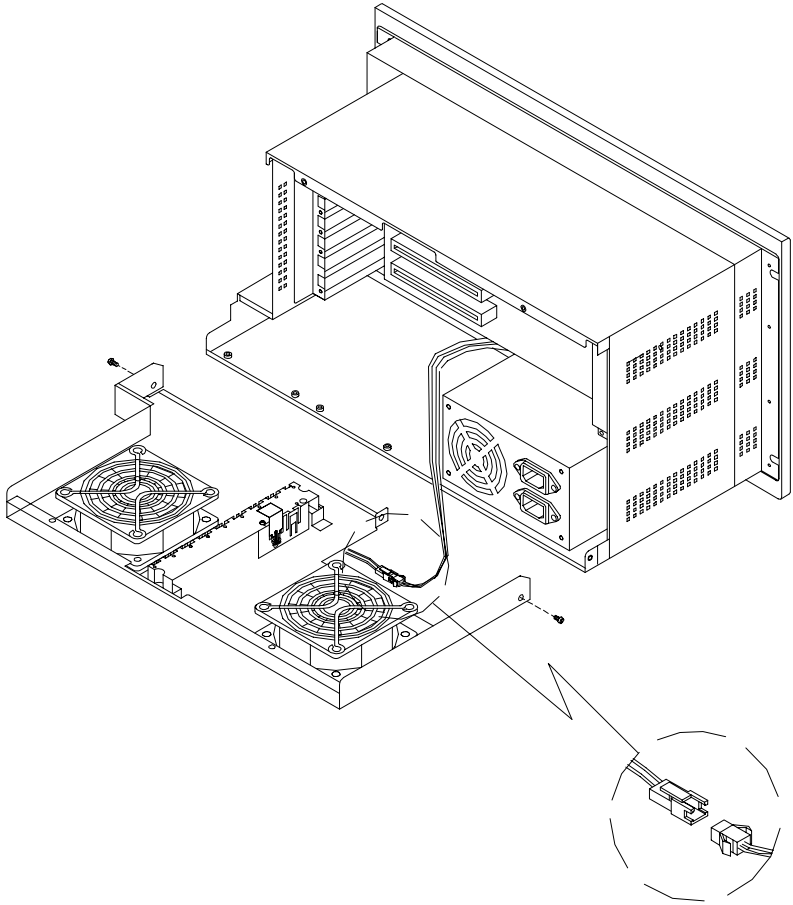


Figure 2-2: Removing the rear door

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2.3 Adding Cards

The PCI passive backplane accepts both PCI-bus and ISA-bus CPU and I/O cards. We recommend all-in-one cards. They are durable, and save valuable slot space by bundling a CPU card with hard disk and floppy disk controllers, as well as serial and parallel ports.

Open the rear door (see Section 2.2) and then slowly slide the card in and carefully press it into the backplane socket. Secure it with a screw to the side mounting bar. (See Fig. 2-3). Connect the wires. Install additional cards as needed. When you have finished, reattach the door.

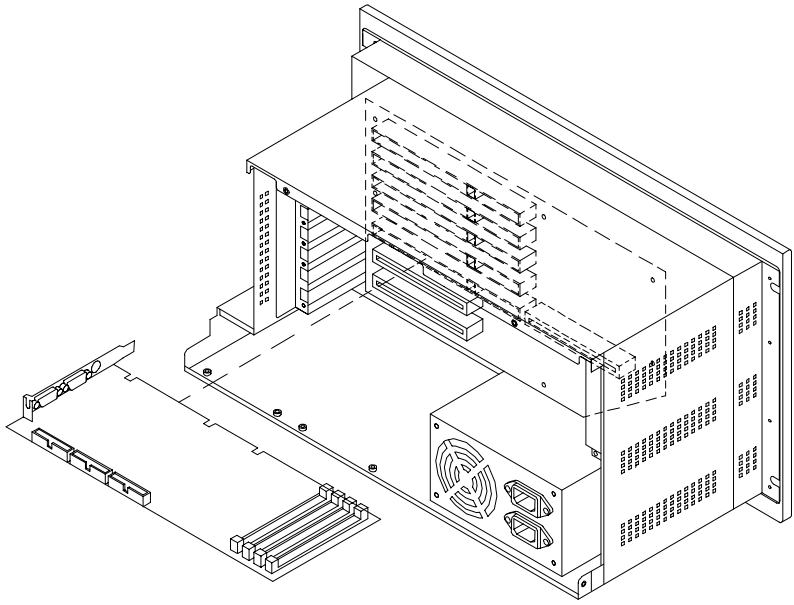


Figure 2-3: Installing add-on cards

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Note: When installing or maintaining the unit, do not invert the unit or place it face down. Handling the unit in that way can cause mechanical damage to the unit.

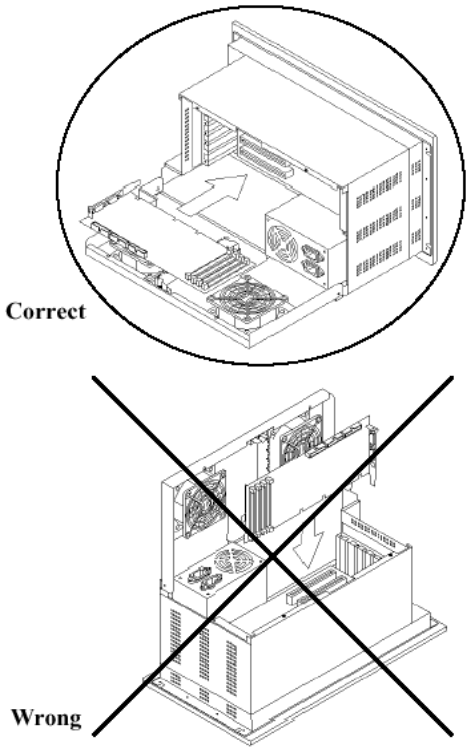


Figure 2-4: Card Installation Note

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2.4 Installing Hold-down Clamps

After installing the cards on the backplane, you may want to affix hold-down clamps to secure the cards better.

Take the clamps, springs, washers and screws (M3x5) from the accessory box. Choose a suitable position on the clamp shelf whereby the card can be firmly secured. Put the spring in its designated position (see Fig. 2-5). Then insert the clamp onto the spring, and fasten the screws with the washers onto the bracket shelf (see Fig. 2-6).

Warning! *Make sure the rubber pad on the hold-dowm clamp is firmly glued to the clamp. If any metal part of the clamp contacts any card, it may cause a short circuit.*

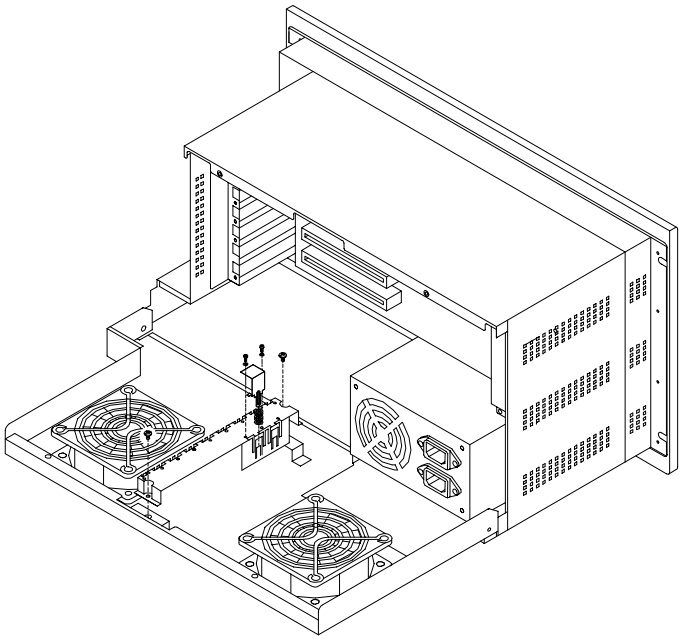


Figure 2-5: Installing a hold-down clamp

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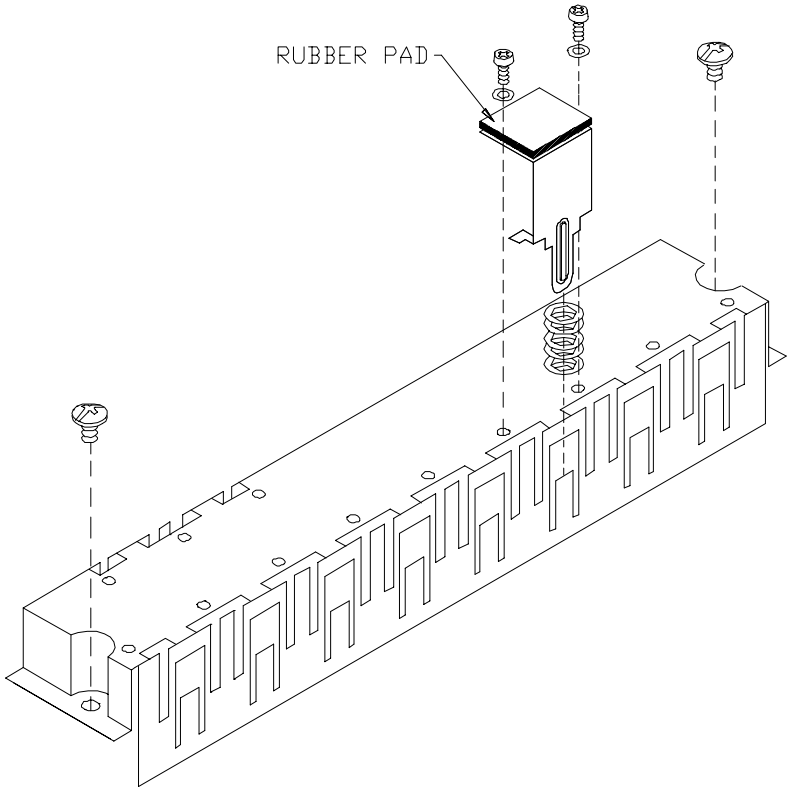


Figure 2-6: Hold-down clamp

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2.5 Installing Optional Disk Drives

The AWS-8430 provides space for four drives (one slim floppy disk drive, two hard disk drives and one slim CD-ROM drive) underneath the case. A front-facing floppy drive has already been installed. You can access it from the FDD dust-resistant door panel.

A slim CD-ROM unit can be installed above the front-facing floppy drive. When installing the CD-ROM or primary HDD, detach the back door panel first, then unscrew the drivemount assembly from the case, attach the drive with the screws, and then attach the ribbon connector. (See Figs. 2-7, 2-8, 2-9 and 2-10.) After installing, set the ribbon cables in place, mount the drivemount assembly and fasten the back door panel.

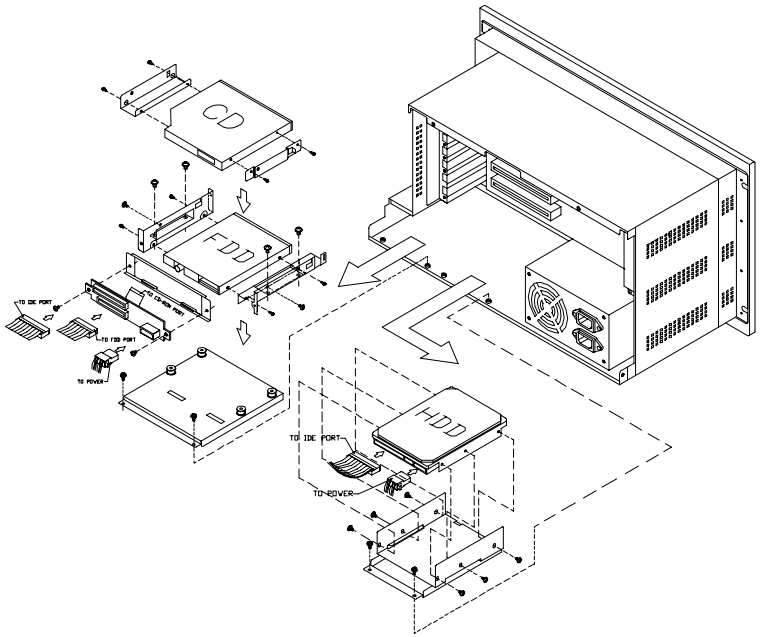


Figure 2-7: Installing optional disk drives - overall view

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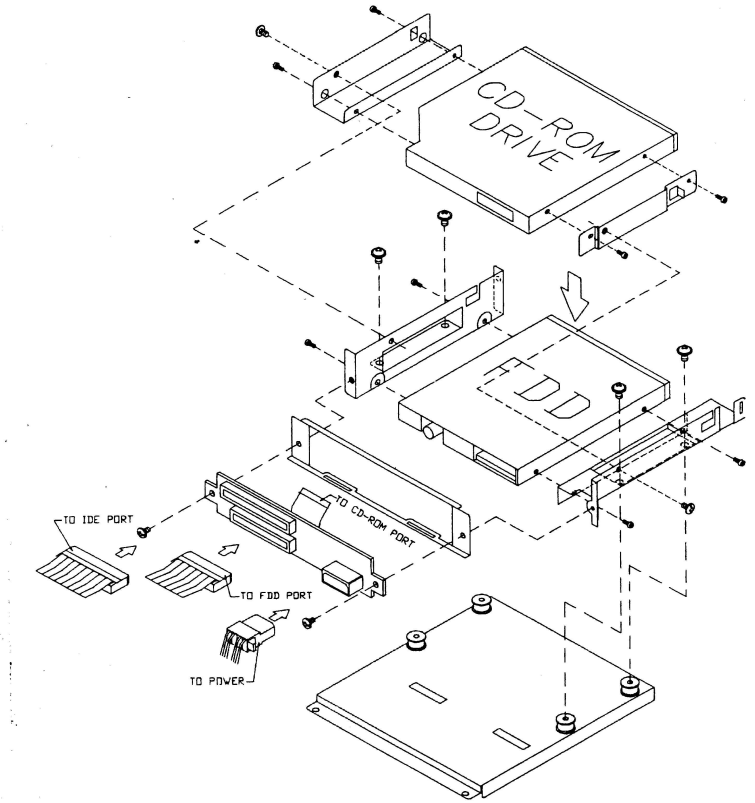


Figure 2-8: Installing a CD-ROM with an FDD

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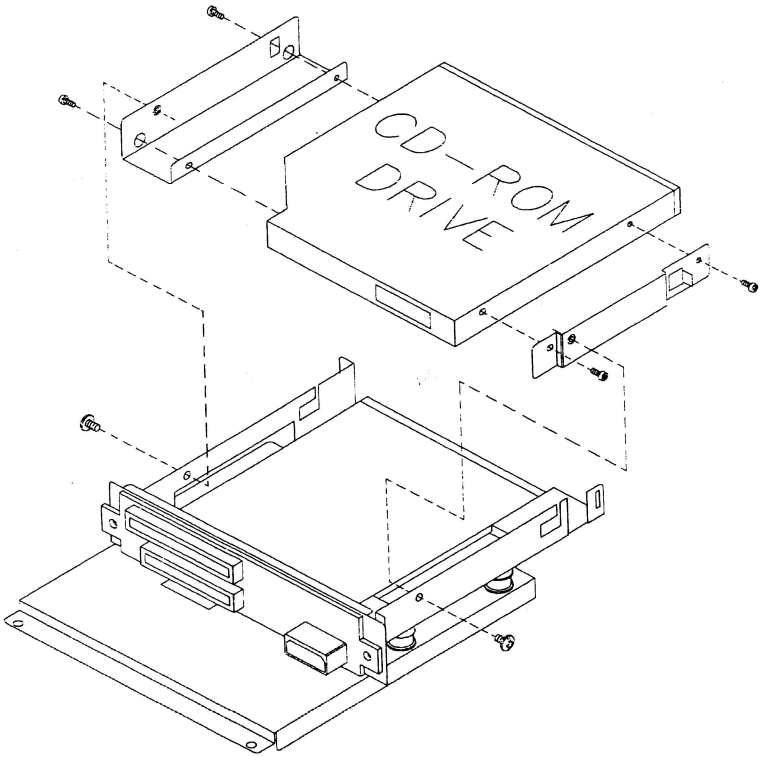


Figure 2-9: Installing a CD-ROM

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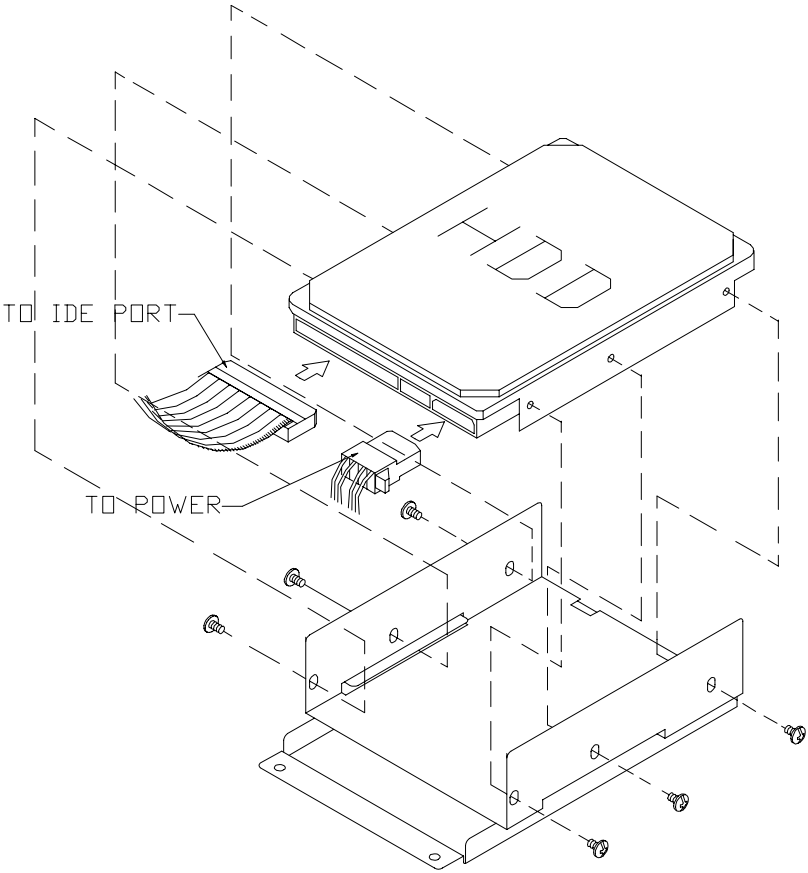


Figure 2-10: Installing a primary HDD

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2.6 Installing a Secondary HDD

The AWS-8430 provides space for a secondary HDD. With this spare HDD, you can effectively store data without worrying about loss. The secondary HDD drive bay is located just above the power supply. When installing a secondary HDD, refer to Fig. 2-11 below and note that you must:

1. Set the HDD jumper to "slave" mode.
2. Place the HDD in the bracket and screw it down tightly.
3. Link the power connector and the IDE cable.

Once you have added your cards, drives, and other equipment, you can switch on the AWS-8430 to check if it operates properly.

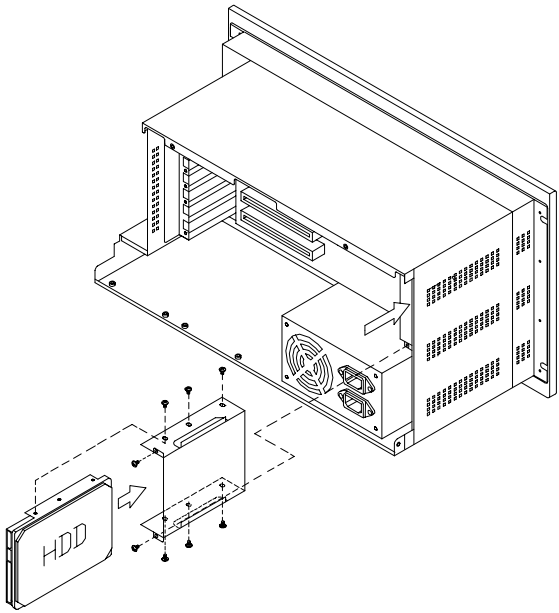


Figure 2-11: Installing a secondary HDD

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2.7 Connecting Cables

After inserting the CPU card into the chassis, connect the FDD, CD-ROM and HDD cables to the CPU card. In addition to the storage devices, three other cables need to be connected: the PS/2 mouse cable, keyboard cable and RS-232 cable for the touch screen. The PS/2 mouse cable is used to connect the mouse signal from the front panel PS/2 keyboard/mouse to the CPU card, as shown below. There is a keyboard control board in the system which integrates the keyboard signals. An internal keyboard cable needs to be connected to the CPU card as shown below. If your workstation is equipped with a touch screen, connect the touch screen controller and CPU card through the RS-232 cable as shown belows.

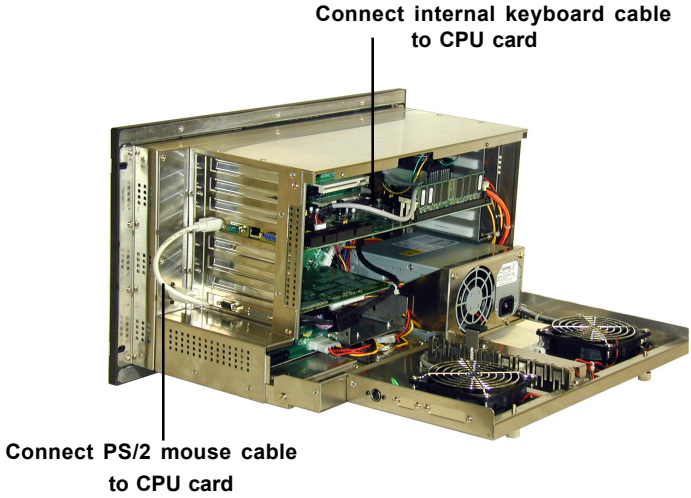


Figure 2-12 Connecting cables

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2.8 Connecting External Keyboard and Mouse

You can connect an external keyboard and mouse to the workstation. The first place to the keyboard and mouse is the PS/2 connector on the front panel, under the dust-protection door. You can connect a PS/2 keyboard to the connector if you do not need a mouse. Or use the Y-cable provided in the accessory box to connect simultaneously a keyboard and a mouse. There are two additional keyboard connectors in the back of the chassis as shown in figure 2-10. You cannot connect two keyboards to the two connectors in the back at the same time. You could connect a keyboard to the front panel PS/2 connector and another to one of the keyboard connectos at the back of the chassis at the same time.



Figure 2-13 connect front KB_Mouse



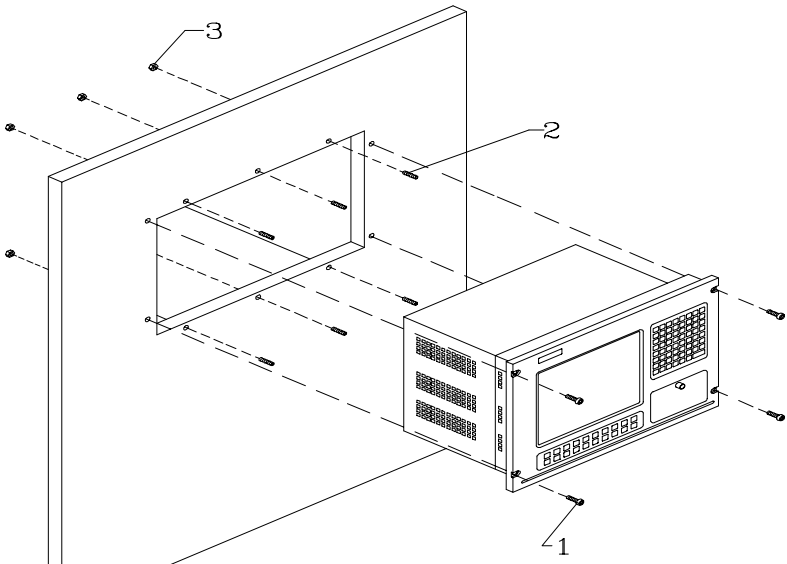
Figure 2-14 Connect rear KB

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2.9 Panel Mounting

The AWS-8430 can be installed on a shelf or table, and it may be mounted within a panel. Dimensions for the case, the mounting flanges, and the mounting bolts are shown in Fig. 1-1.

Once you have added your cards, drives, and other equipment, you can switch on the AWS-8430 to check if it operates properly. Then set the case within your panel aperture so that your screw holes line up with the mounting bolts on the flanges of the AWS-8430. Finally, secure the bolts to the panel.



Item	Part Name	Quantity
1	Screw M5x10	4
2	Tube M5x0.8x20	6
3	Nut M5x0.8	6

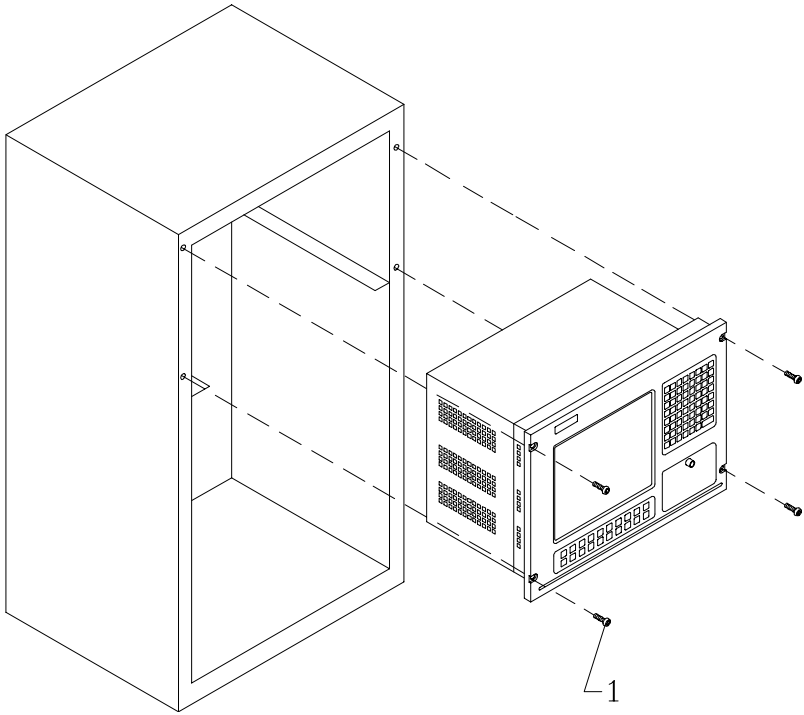
Figure 2-15: Panel mounting

Note: The panel wall should be able to bear three times the system's weight.

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2.10 Rack Mounting

The AWS-8430 can also be mounted in a 19" rack. Make sure that all additional equipment has been installed correctly. Also make sure that all cabling (such as the monitor signal cable, the keyboard cable and the monitor power cable) has been reattached. Fit the rack into the case by using screws on both sides of the case.



Item	Part Name	Quantity
1	Screw M5x10	4

Figure 2-16: Rack mounting

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CHAPTER 3

Macro Key Programming

- Introduction
- Macro Components
- Syntax
- How to Use SFED843.COM
- Examples

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3.1 Introduction

Our workstations are equipped with programmable function keys (macro keys) that greatly enhance the operator interface. Macros, far more powerful than batch files, automate the most commonly used input sequences. They extended their functional reach to within application programs.

3.2 Macro Components

The following article explains how to use and program the function keys. The complete macro function consists of the following elements:

Macro keys

Ten programmable macro keys that are located under the monitor screen of your workstation.

Macro EEPROM

Holds the key sequences that are activated when the corresponding macro key is pushed.

Macro programming utility

Locate the program SFED843.COM in the Function Key Utility diskette for function key programming. The SFED software provides an edit function to produce an ASCII file that contains keystroke sequences for every macro key. After you have finished editing the file, the program will ask you whether you want to save the macro script and/or transmit it to the EEPROM. Macros consist of keystroke sequences to automate the most common procedures in your application. The way they function is much like batch files (.BAT) under DOS, but there are

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some differences. In a Macro you have to specify the ENTER key explicitly. Macros give you the possibility to enter key sequences in an application that was executed by the macro itself.

3.3 Syntax

Macro definitions consist of ASCII characters or character codes for special characters such as ALT, ENTER, SHIFT, F1, SF2, and so on. These codes are predefined, and SFED843.COM will display them on the screen for you. They are easily recognizable, appearing between the square brackets '[' and ']'.

For example:

ALT represents [26]
ENTER represents [33]

In your macro script, you can enter ordinary text (ASCII characters) or the code(s) of the required special character(s).

For example:

CD\TOOLKIT[33] means CD\TOOLKIT [ENTER]

For combination keystrokes (ALT/SHIFT/CTRL + another key) enter the codes of the special characters, followed by [90] (RELEASE).

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For example:

ALT-F1 represents [26][44][90]

CRTL-C represents [28]C[90]

SHIFT-B represents [27]B[90]

Please refer to the following examples:

ALT-X represents [26]X[90] or [26]x[90].

ALT-F1 represents [26][44][90]

SHIFT-X represents [27]X[90]

SHIFT-F1 represents [27][44][90]

CTRL-X represents [28]X[90]

CTRL-F represents [28][44][90]

CTRL-ALT-DEL represents [28][26][41][90] (reboot)

CTRL-ALT-A represents [28][26]A[90]

CTRL-SHIFT-1 represents [28][27]1[90]

Another useful function is the DELAY instruction. You can instruct the macro program to wait before executing the next keystroke. SFED843.COM displays the codes that you can use for various delays.

For example:

[86] - Wait for 10 seconds before executing next keystroke

[88] - Wait for 1 minute before executing next keystroke.

[26]A[90][86][26]B[90] means ALT-A, wait 10 seconds, ALT-B

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3.4 How To Use SFED843.COM

First, boot your system under pure DOS mode (not DOS shell in windows) and copy all the files to your hard disk and/or make a backup disk. Then start the macro editor, you will have to specify either an existing macro script file or a new macro script file. Here we will create a new file by typing SFED843 NEWKEY.TXT [ENTER].

Note: SFED843.COM could only work properly under pure DOS mode.

The following screen will appear:

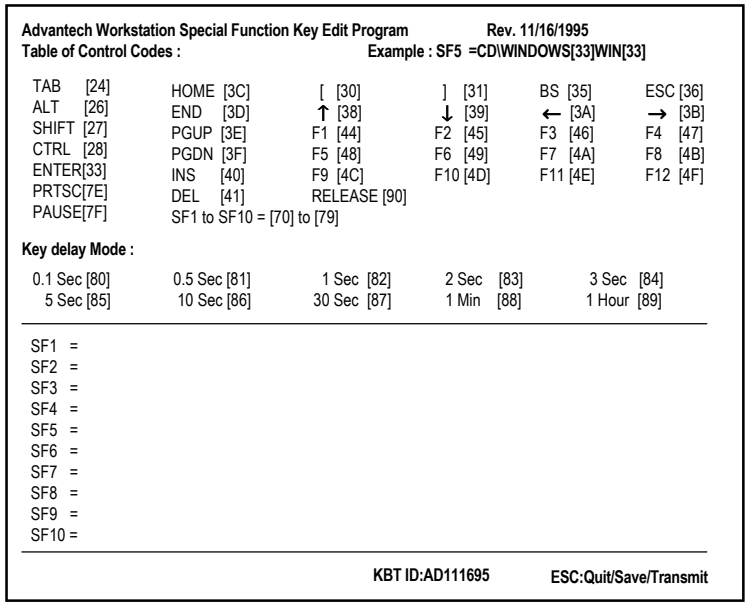


Figure 3-1: The Macro Editor screen

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When you have finished editing, press the ESC key. At the bottom line of the screen you will be prompted to choose if you want to save the file and/or if you want to transmit it to the EEPROM.

After confirmation with the ENTER key, the tasks are carried out and you return to DOS.

3.5 Examples

We will explain all macro functions that you can find in the EX843.TXT macro script file. After typing SFED843 EX843.TXT [ENTER], the following editor screen will appear:

```
TAB    [24]    HOME  [3C]    [  [30]    ]  [31]
ALT    [26]    END   [3D]    ↑  [38]    ↓  [39]
SHIFT  [27]    PGUP  [3E]    F1 [44]    F2 [45]
CTRL   [28]    PGDN  [3F]    F5 [48]    F6 [49]
ENTER[33]      INS   [40]    F9 [4C]    F10 [4D]
PRTSC[7E]      DEL   [41]    RELEASE [90]
PAUSE[7F]      SF1 to SF10 = [70] to [79]

Key delay Mode :

0.1 Sec [80]   0.5 Sec [81]   1  Sec [82]   2 Sec [83]
  5 Sec [85]    10 Sec [86]  30 Sec [87]   1 Min [88]

SF1  = CD\TOOL[33]SFED843 EXAMPLE.TXT[33]
SF2  = COPY C:\CONFIG.EMM C:\CONFIG.SYS[33]Y[33][85][79]
SF3  =
SF4  = C:\WP51\WP[33][86][27][4D][90]REPORT.WP5[33]
SF5  =
SF6  =
SF7  =
SF8  =
SF9  =
SF10 = [28][26][41][90]
```

Figure 3-2: Macro examples

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SF1 = CD\TOOL[33] SFED843 EXAMPLE.TXT[33]
This macro changes to the TOOL directory, then starts up SFED843.COM with EXAMPLE.TXT.

SF2 = COPY C:\CONFIG.EMM C:\CONFIG.SYS[33]Y[33][85][79]
The configuration information is changed by copying CONFIG.EMM to CONFIG.SYS. After a delay of 5 seconds, [85], the macro, invokes macro function key SF10, [79], which was defined to reset the system.

SF4 = C:\WP51\WP[33][86][27][4D][90]REPORT.WP5[33]
This example shows that after a macro executes, it is able to direct the program to accomplish several tasks. WordPerfect is started. After a delay of 10 seconds (time to load the program), the command Shift-F10, [27][4D], is issued to import a text file. The name of the text file (REPORT.WP5) is inserted and finally ENTER, [33], causes the text file to be loaded and appear on the screen.

SF10 = [28][26][41][90]
Restarts the computer (CTRL-ALT-DEL).

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CHAPTER 4

Maintenance

- Detaching the Backplane and Bracket
- Power Supply
- Keyboard Translator
- CPU Card with On-board VGA Chip

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4.1 Detaching the Backplane and Bracket

First remove the card and detach all cables connected to the backplane. Then unscrew all seven screws and take the backplane out of its case. (See Fig. 4-1.) If you want to repair or upgrade your peripherals (for example, the membrane keypad controller or the backlight of the LCD), you must first pull out the bracket. (See Fig. 1-2.)

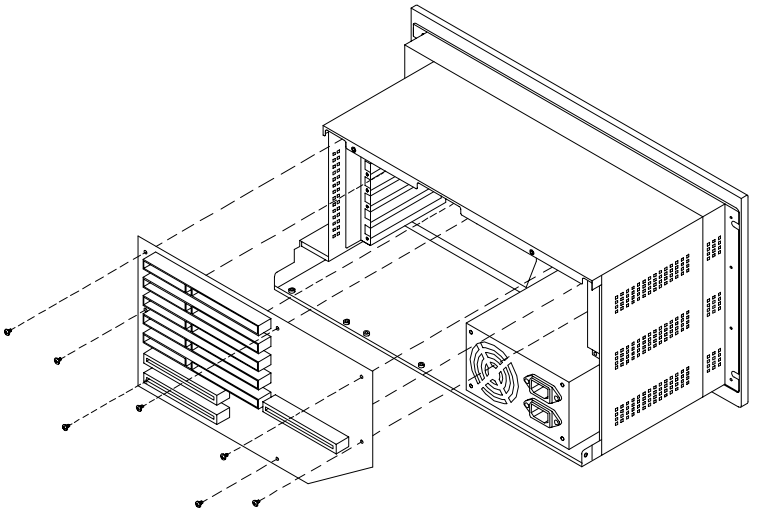


Figure 4-1: Detaching the backplane and bracket

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4.2 Power Supply

When undertaking maintenance of the power supply, first shut off all power input. Remove the rear panel (see Fig. 2-2). Unscrew the four screws under the power supply. The power supply and its bracket should now be detached from the case. Detach all power connectors linked to the accessory drives and other components. For the AWS-8430 models, pull out the connectors on the front switch. Then remove the power supply kit from the system (see Fig. 4-2). For the AWS-8430T/T-T (ISA backplane) model, disassemble the unit as far as the front panel (see Fig. 1-2). Then disconnect the switch connector and take out the power supply.

Warning: Shut off all power to the AWS-8430 before you commence to repair the power supply. Switch off the power and unplug the unit.

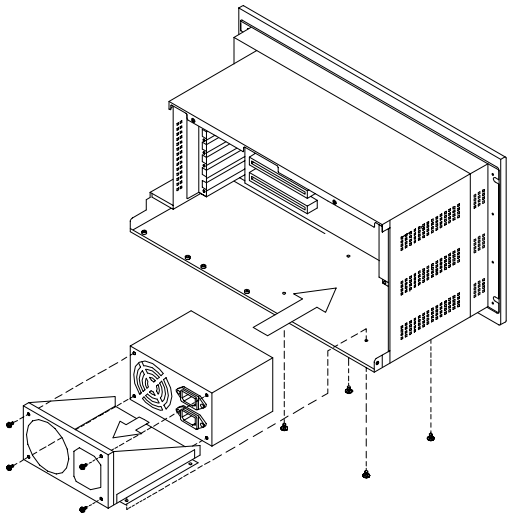


Figure 4-2: Installing the power supply

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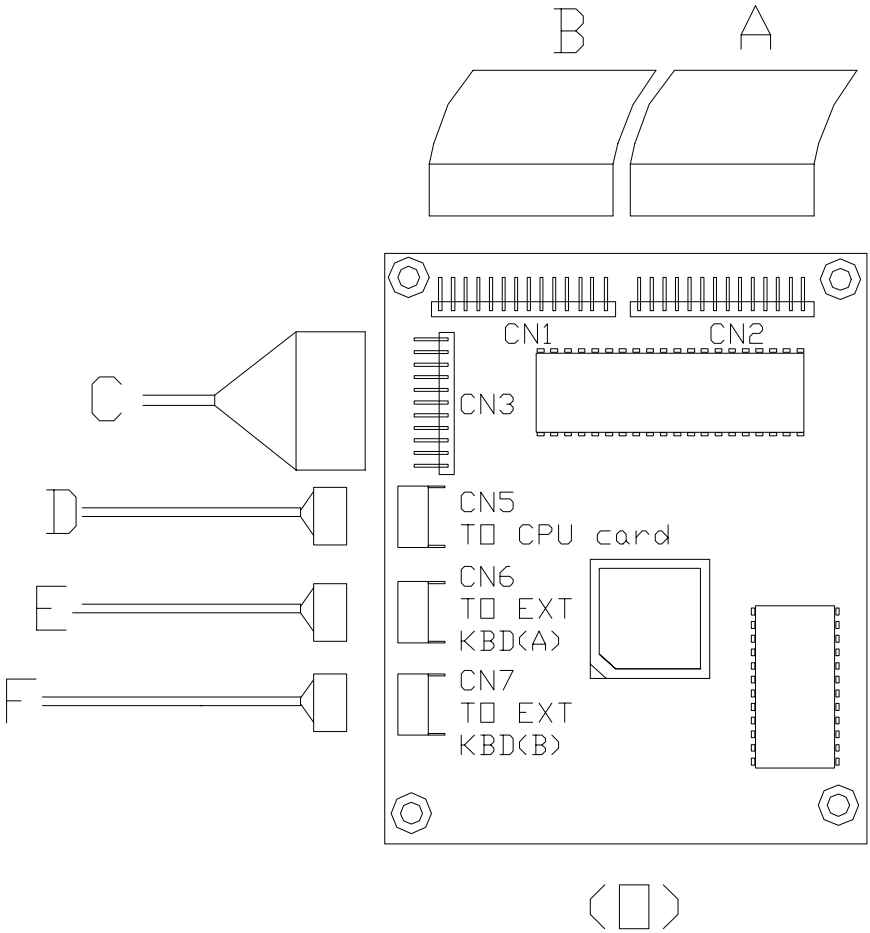
4.3 Keyboard Translator

The keyboard translator is an interface which switches the signal from the membrane keypad to the standard AT keyboard. There are six connectors on the board. On top of the board, there are two connectors linking two flat cables with the membrane keypad (as shown in Fig. 4-3). On the side of the board, there are four connectors. For connection details, refer to Fig. 4-4.

When servicing the keyboard translator:

1. Switch off the power, and detach the main power cord.
2. Disassemble the AWS-8430. The translator will be located in the left part of the front panel. (See Fig. 1-2.)
3. Remove the keypad connector protective bracket.
4. Carefully detach all cables connected to the keyboard translator. (See Fig. 4-3.)
5. Unscrew the four screws on the corners, pull out the keyboard translator, and replace it.

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(A), (B) Input from operational keypad

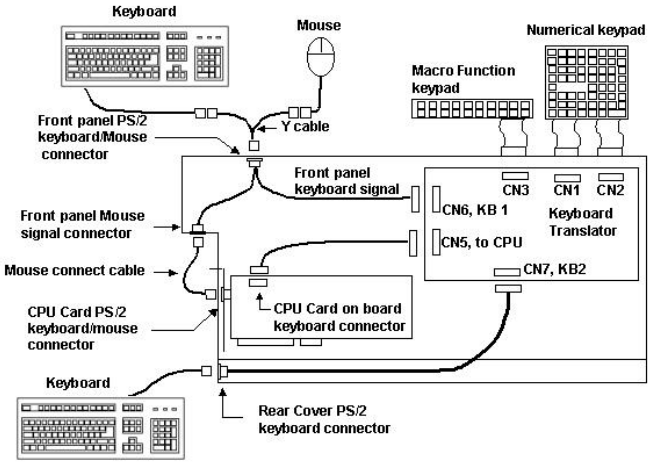
(C) Input from functional keypad

(D) Output to CPU card

(E) Input from external keyboard

Figure 4-3: Keyboard translator input/output (basic schematic)

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APPENDIX A

Power Supply Specifications

- 300 watt Power Supply
- -48 V_{DC} Power Supply
- 24 V_{DC} Power Supply

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A.1 Voltage Characteristics

1. Input Characteristics:

1.1 Input Voltage Range: 90Vac to 135Vac /180Vac to 265Vac

1.2 Normal Voltage Range: 115Vac/230Vac.

1.3 Input Frequency Range: 47 Hz to 63 Hz.

1.4 Max. input AC current 9 A max. @ 115Vac, 4.5 A max. @ 230Vac, max. load.

1.5 Inrush Current: No damage shall occur to the power supply and the fuse shall not open or exceed its spec.

1.6 Efficiency: 65% min. at 115Vac input max. load.

1.7 5Vsb Standby Efficiency: The power supply shall draw less than 5W of true input power at 230Vac when in the standby mode and the 5Vsb load is 0.4A.

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2. Output Characteristics:

2.1 Static Output Characteristics:

Output Voltage	Load Range		Surge 15 sec.	Regulation	Ripple Vp-p max.
	Min.	Max.			
+5V	1A	30A	-	+5% -5%	50mV
+12V	0.5A	15A	18A	+5% -5%	120mV
-12V	0A	0.8A	-	+10% -10%	120mV
-5V	0A	0.3A	-	+5% -5%	100mV
+5VSBV	0A	2A	-	+5% -5%	50mV
+3.3V	0.3A	24A	-	+5% -5%	50mV

Table A-1: Static output characteristics

Note:

1.) The total output power shall not exceed 300W. The max. Isurge duration is 10 seconds and the +12V tolerance is ±10% during surge conditions.

2.) The -12V and +5V max. total combined current shall not exceed 0.8A.

3.) Max. current slew rate shall not exceed 1.0A/μ S.

4.) The max. conditions power rating of supply is 300W at 25°C.Derate 1W /°Cfrom 50°C to 25°C to yield a max. continuous power rating of 275W at 50°C.

5.) For output 275W
+3.3V and +5V total O/P power can not exceed 160W.
+3.3V, +5V and +12V total O/P power can not exceed 260W.

6.) For output 300W.
+3.3V and +5V total O/P power can not exceed 180W.
+3.3V, +5V and +2V total O/P power can not exceed 290W.

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2.2 DC Output Current:

12V Load		12V	3.3V	5V	3.3V/5V Max.
24W	Min.	0.5A	0.3A	1A	100W
	Max.	2A	7A	15A	
50W	Min.	2A	0.3A	1A	180W
	Max	4.16A	28A	17.52A	
80W	Min.	2A	0.3A	1A	180W
	Max.	6.66A	28A	17.52A	
100W	Min.	2A	0.3A	1.5A	180W
	Max.	8.33A	28A	17.52A	
150W	Min.	0.5A	0.3A	2A	140W
	Max.	12.5A	28A	9.52A	
180W	Min.	0.5A	10A	8A	110W
	Max.	15A	18A	10A	

Table A-2: DC output current load range

Note:

1.) Noise Test: Noise bandwidth is from 10Hz to 20 MHz.

2.) Add 0.47 μF ceramic capacitor /10 μF tantalum capacitor at output connector terminals for ripple & noise measurements.

3.) Main O/P shall be enabled by pulled "remote" pin to TTL low level, and disabled by pulled "remote" pin to TTL high level.

2.3 Dynamic Output Characteristics:

2.3.1 Rise Time: +5V O/P voltage rise from 10% of normal to within regulation should be less than 25 mS.

2.3.2 Turn-on Delay Time: 1S max. at any condition. AC input with respect to +5V.

2.3.3 Hold Up Time: 17mS min. for +5V output at 115Vac, AC zero cross 60Hz, max. load.

2.3.4 Overshoot: Any overshoot at turn on or turn off shall be less than 10% of the normal value.

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2.4 Transient Response (Step Load)

Min.	4.75V	10.8V	3.135V	4.75V
Nom.	+5V	+12V	+3.3V	+5Vsb
Max.	5.25V	13.2V	3.465V	5.25V

Output	Decoupling Caps	Load Change	Step Load
+5V	15000UF	1.0A to 7A and back	0.2A/us
+12V	4000UF	0.5A to 3.5A and back	0.2A/us
+3.3V	5000UF	0.3A to 5.9A and back	0.2A/us
+5Vsb	5000UF	0A to 0.4A and back	0.2A/us

Table A-3: Step load limit

The following transient loads are to be applied to the output. The frequency range of the transient loads described shall be from 1 Hz to 2 KHz. The waveform shall be a square wave with the slope of the rise and fall at 0.2A/microsecond.

The output voltages shall not exceed regulation limits as defined in Table 3 under the following condition:

Step load changes of up to 20% of full load including steps increasing from minimum or decreasing from full load, while the other loads remain constant within the rating as in Table 1. In addition, the +12V output shall remain within ±10% tolerance limits and the remaining outputs shall not exceed regulation limits as defined in Table 3 under the following condition:

Step load change of up to 2A on the +12V output including increasing from minimum or decreasing from full load, while the other loads remain constant within the ratings as in Table 1. The audible noise level of the power supply shall not increase during transient loading.

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3. Protections:

3.1 Over Voltage Protection:

O.V.P	O.V.P. Limit
+3.3V	4.5V
+5V	7V
+12V	15.6V

Table A-4: Over voltage protection

3.2 Short Circuit Protection:

The power supply shall shut down and latch off for shorting +5V, +12V, -12V, -5V or +3.3V rails to COM and shorting +5Vsb, P/S can latch down or automatically recovery when the fault condition is removed.

3.3 No Load Operation: No damage or hazardous condition will occur.

3.4 Cooling and Acoustics:

The power supply shall contain a thermal sensing circuit capable of varying fan speed. The power supply shall have at T ≤ 25 and +5V@1A, +3.3V@3A, +12V@1A load:

1.) A min. voltage of 6.0V ± 0.5V.
2.) A max. noise level of 30dBA between 0 and 4KHz measured 39.4 inches from the intake side of the fan in free air.

The power supply shall have at T ≥ 50°C and max. rated load:

1.) A min.voltage of 12V ± 0.5V.
2.) A max. noise level of 45dBA between 0 and 4KHz measured 39.4 inches from the intake side of the fan in free air.

The fan shall be a Ball Bearing DC brushless tubeaxial fan rated to operate between a range of 6 to 12V.

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4. Dielectric Withstand Voltage:

4.1 Hi Pot Test:

Primary to secondary 2150Vdc 1sec.
Primary to F.G 2150Vdc 1sec.
Trip Current Sensitivity : 600 µ A max. 10mA (AC)
Breakdown Arc Detection: 10 µ S max.

4.2 Insulation Resistance: Primary to safety ground: 500Vdc, 5 M Ω min.

4.3 Leakage Current: Measured at 120 Vac and 460uA max.

5. Conducted EMI:

The power supply shall comply with CISPR 22, Class B for both conducted and radiated emissions with a 4 dB margin at system level test only. .

6. Product Safety:

This power supply is designed to meet the following specs.

1.) UL 1950 3rd.
2.) CSA C22.2 No. 234-1990,1st Edition.
3.) EN60 950 and IEC 950 2nd Edition (1993) including Amendments 1, 2, 3 and 4.
4.) TUV EN60 950: 1993+A1+A2+A3+A4.
5.) NORDIC Certificate EMKO-TSE (74-sec) 207/94.
6.) CB Certificate

6.1 Input Line Current Harmonic Content

The power supply shall meet the requirements of EN61000-3-2 Class D and the Guidelines for the Suppression of Harmonics in Appliances and General Use EDC output current load range equipment Class D for harmonic line current content at full rated power.
See Table 1 for the harmonic limits.

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Table A-5: Harmonic Limits, Class D

Harmonic Order N	Maximum permissible harmonic current per watt mA/W	Maximum permissible Harmonic current Amps
3	3.4	2.30
5	1.9	1.14
7	1.0	0.77
9	0.5	0.4
11	0.35	0.33
13	0.30	0.21
15<n<39	3.85/n	0.15X(15/n)

PFC: Apply Table 12 limits as shown for 230V operation and multiply limits by 230/100 for 100V operation for world-wide requirements in both EU and Japan, respectively.
non-PFC Not applicable, no harmonic reduction is required.

7. Environment:

7.1 Operating Temperature:+10°C to 50°C .

7.2 Operating Relative Humidity: 5% to 85%.

7.3 Storage Temperature: -40°C to + 70°C .

7.4 Storage Relative Humidity: 5% to 95%.

7.5 Altitude:

Operate properly at any altitude between 0 to 10,000 feet.
storage: 50,000 feet.

7.6 Mechanical Shock:

The power supply shall not be damaged during a shock of 40G half sine wave, 11mS, non-operation.

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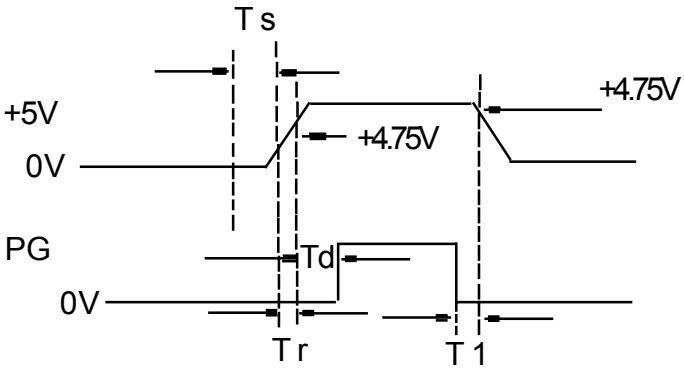
7.7 Vibration:

0.38m/m,5-55-5Hz, 7 minutes per cycle, 30 minutes for each axis (x, y, z).

8. Burn-In:

Unit shall be burn in under 45 ± 5°C, with 115Vac and outputs at 70% of max. load.

9. Power-Good Signal:



Tr: 25 mS max , T1 ≥ 1mS, Ts ≤ 1S

Td: 100~500mS

Tr, Td and T1 are measured at 90 Vac, 60Hz. full load condition.

10. M.T.B.F.: 100K hours min. at 275W load and 25 °C ambient conditions.

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A.2 -48 V_{DC} Power Supply

The following specifications describe the physical and electrical characteristics of a 310 W, four output, DC to DC switching power supply housed in a standard size PS/2 casing.

Specifications

Input voltage: -38 ~ -58 Vdc (continuous operation)
-48 Vdc (normal operation)

Input current: 10 A max. @ -48 Vdc input

Inrush current: 5 A max. @ -48 Vdc input

Efficiency: 70% min. @ full load and normal line voltage

Output characteristics:

Output voltage	Loading current			Total regulation tolerance		Noise plus ripple
	Min.	Max.	Surge	Max.	Min.	Max.
+5Vdc	2A	25A	30A	+3%	-3%	50 mV p-p
+12Vdc	0A	10A	12A	+3%	-3%	120 mV p-p
+5Vdc	0.0A	1.0A	-	+5%	-5%	50 mV p-p
-12Vdc	0.0A	5A	-	+3%	-3%	120 mV p--p

Table A-6: -48Vdc power supply output characteristics

Note 1: Total regulation tolerance includes temperature change, warmup drift and dynamic load.

Note 2: Ripple and noise were measured differentially at the power supply using loads that were each shunted by at least a 0.1 μF ceramic disc capacitor and a 10 μF electrolytic capacitor, each capacitor having a band width up to 20 MHz.

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Overshoot (resistive load):
Any output overshoot when the power is turned on does not exceed 10% of the nominal output voltage.

Output power: Maximum continuous: 310 W

Power good and power fail signals (optional):
When the power is turned on, the power good signal will activate 100 to 500 ms after all output DC voltages are operating within their respective regulation limits. The power fail signal will activate at least 1 ms before the +5 V output voltage falls below its regulation limit.

Short circuit protection:
A short circuit placed on any output to ground is shut down. When the short circuit conditions have ceased to exist, power will then be recycled to restart the power supply.

Over-current protection:
The power supply will shut down all the DC outputs when any output is overloaded beyond its current limit or beyond its nominal line voltage limit. When the over-current conditions have ceased to exist, power will then be recycled to restart the power supply.
Current limit ranges: 5 V: 32 ~ 45 A
12 V: 13 ~ 20 A
-12 V: 6 ~ 12 A
-5 V: 1.5 ~ 3 A

Over-voltage protection:
The power supply will shut down all the DC outputs when any output maximum voltage limit is exceeded. When the over-voltage conditions have ceased to exist, power will then be recycled to restart the power supply.

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Voltage limit ranges: 5 V: 6.25 ±0.75 V
12 V: 14 ±1 V
-5 V: -6.25 ±0.75 V
-12 V: -14 ±1 V

Reset time: When the power supply has automatically shut down, and the short circuit, over-current and/or over-voltage conditions have ceased to exist, power will be automatically recycled to restart the power supply within 3 seconds of such return to normal conditions.

No load start: When the power supply is switched on but with no load connected, the power supply does not get damaged, and it is still completely safe for users.

Transient response: Dynamic load change: ±50% of maximum rating load Recovery time: 500 ms max.

Reliability Mean time between failures (MTBF): 100,000 hours minimum

Environmental specifications
Operating temperature: 0 ~ 50° C
Storage temperature: -40 ~ 60° C
Operating and storage humidity: 10 ~ 95% RH
Operating altitude: sea level ~ 15,000 ft
Storage altitude: sea level ~ 50,000 ft

International standards compliance
Safety: UL 1950
CSA 22.2 No. 234
TUV EN 60950
EMI: FCC Part 15 Subpart J Class B

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DC output wire list

All DC output cables use UL 1007 type wires.

Table A-4: -48 Vdc power supply DC output wire list

Connector	Output	Color	Wire #AWG	Length (mm)	Housing	Terminal
P8-1	PG	Orange	18	300 +30/-10	BURNDY GTC 6P-1 or equivalent	BURNDY DCK 18-2TR9 or equivalent
P8-2	+5V	Red	18			
P8-3	+12V	Yellow	18			
P8-4	-12V	Blue	18			
P8-5	COM	Black	18			
P8-6	COM	Black	18			
P9-1	COM	Black	18	300 +30/-10	BURNDY GTC 6P-1 or equivalent	BURNDY DCK 18-2TR9 or equivalent
P9-2	COM	Black	18			
P9-3	-5V	White	18			
P9-4	+5V	Red	18			
P9-5	+5V	Red	18			
P9-6	+5V	Red	18			
PE-1	+12V	Yellow	18	300 +30/-10	AMP 480424-0 or equivalent	AMP61314 or equivalent
PE-2	COM	Black	18			
PE-3	COM	Black	18			
PE-4	+5V	Red	18			
PF-1	+5V	Red	20	150 +30/-10	AMP 171822-4 or equivalent	AMP 170262-1 or equivalent
PF-2	COM	Black	20			
PF-3	COM	Black	20			
PF-4	+12V	Yellow	20			
PA-1	+12V	Yellow	18	300 +30/-10	AMP 480424-0 or equivalent	AMP 61314 or equivalent
PA-2	COM	Black	18			
PA-3	COM	Black	18			
PA-4	+5V	Red	18			
PB-1	+12V	Yellow	18	300 +30/-10	AMP 480424-0 or equivalent	AMP 61314 or equivalent
PB-2	COM	Black	18			
PB-3	COM	Black	18			
PB-4	+5V	Red	18			

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A.3 24 Vdc Power Supply

This is a DC to DC switching mode power supply with a 24 V DC input.

Specifications

Input voltage: +19 ~ +32 V DC (normal operation)
Input current: 16 A max. @ +24 V DC input
Inrush current: 10 A max. @ +24 V DC input
Output load range:

Table A-7: 24Vdc Power Supply Output load range

Output No.	Output Load	Min. load	Rated load	Peak load	Voltage accuracy
1	+5V	1.0A	25A	30A	4.90~5.10 V
2	+12V	0A	10A	12A	11.28~12.72 V
3	-12V	0A	1A	2A	-11.40~-12.60 V
4	-5V	0A	1A	2A	-4.75~5.25 V

At the factory, the +5 V output was set between 5.00 and 5.10 V, while other outputs were simultaneously set at 60% of their respective rated loads.

The -5 V and -12 V outputs can be used at their respective rated loads. The +5 V output should carry a load of at least 4 A.

Output power:
Total DC continuous power does not exceed 250 W. Each output should be able to operate continuously under its maximum load.

Ripple and noise:
Peak to peak ripple and noise for each output is less than 1% of each output's respective voltage. Measurements were performed with a 15 MHz bandwidth limited oscilloscope, and each output was terminated with a 0.47 mF capacitor.

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Line regulation:
The output line regulation for each output is less than ±1%, when measured at each output's respective rated load and under ±10% changing input voltage conditions.

Load regulation:
The values for each of the following output numbers were obtained by changing each output load ±40% from the 60% rated load, whilst simultaneously keeping all other outputs at 60% of their respective rated loads.

Table A-8: 24Vdc Power Supply load regulation

Output No.	Load regulation
1	±4%
2	±5%
3	±3%
4	±3%

Power good signal:
When the power is turned on, the power good signal will activate 100 to 500 ms after all output DC voltages are operating within their respective regulation limits.

Power fail signal:
This will activate at least 0.5 ms before any of the output voltages fall below their respective regulation limits.

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General features

Efficiency:
65% typical when measured at nominal input and rated load.

Input protection:
Protection against wrong polarity if the +24 V input voltage is mistakenly reversed.

Output protection:
If for some reason the power supply fails to control itself, the built-in over-voltage protection circuit will shut down the outputs to prevent damage to external circuits. The trip point of the crowbar circuit is approximately 5.7 ~ 7.0 V. The power supply

Environmental specifications

Operating temperature: 0-45°C
Storage temperature: -40-75°C

International standards compliance

Safety: UL 1950
CSA 234
TüV EN 60950

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APPENDIX B

Touchscreen Driver Installation

- Introduction
- Windows 95/98
- Windows NT
- Windows 2000
- Windows 3.1 and DOS

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B.1 Introduction

The AWS-8430T's touch screen drivers for different operating systems are included in the "HMI Products Drivers Utilities" CD-ROM. You could install the touch screen drivers from the utility CD-ROM; the AWS-8430T has an optional CD-ROM drive, or a floppy disk drive, which is a standard device of the AWS-8430T series of products. If you want to install the drivers from a floppy disk, you need to copy the drivers from the utility CD-ROM first.

Touch screen drivers for DOS, Windows 3.1/95/98/2000 and Windows NT are now supported. The touch screen drivers for the supported OS are under the following path:

Windows 3.1 and DOS:
\AWS-825&842&8120\TouchDrv\PenMount\Win31&DOS\

Windows 95 and 98:
\AWS-825&842&8120\TouchDrv\PenMount\Win9Xv3.3\

Windows 2000:
\AWS-825&842&8120\TouchDrv\PenMount\Win2000v1.0\

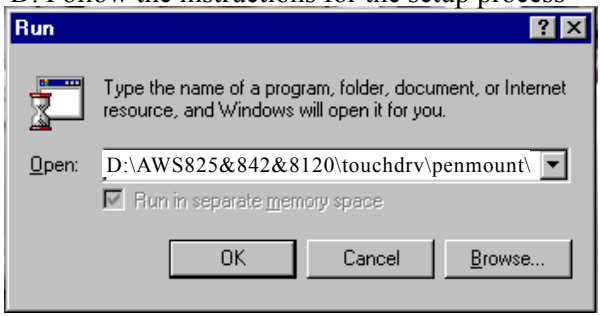
Windows NT:
\AWS-825&842&8120\TouchDrv\PenMount\Winnt-ver3.11\

Note: Following the installation procedures, "D" represents the CD-ROM or floppy disk drive.

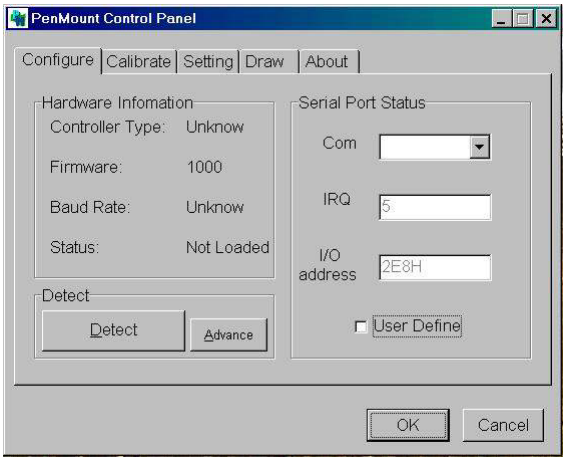
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B.1.1 Installation for Windows 95/98

1. A. Select Start menu and then click Run
   B. Type D:\AWS825&842&8120\
      touchdrv\penmount\win9xv3.3\setup.exe
   C. Press OK
   D. Follow the instructions for the setup process



2. A. Click the Detect button
   B. Press OK and the system will reboot

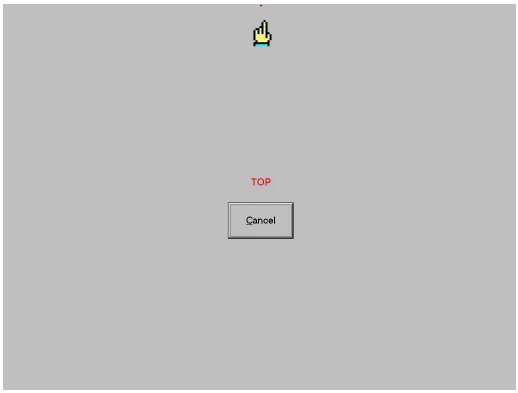


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3. A. After the system reboots, click Start, Programs, Pen Mount Utilities, PenMount Control Panel
   B. Select the Calibrate tab
   C. Click the Calibrations button on the right

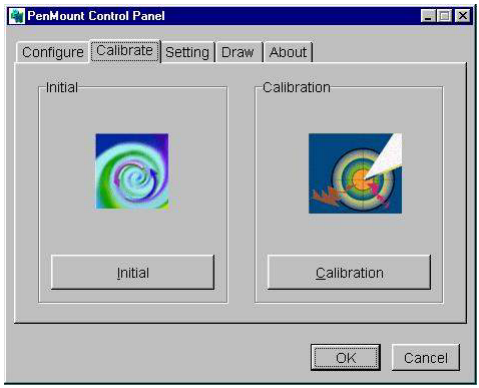


4. A. Use a soft stylus to press the little red dot located above the finger icon
   B. Repeat the process according to the sequence: top, right, bottom, and left



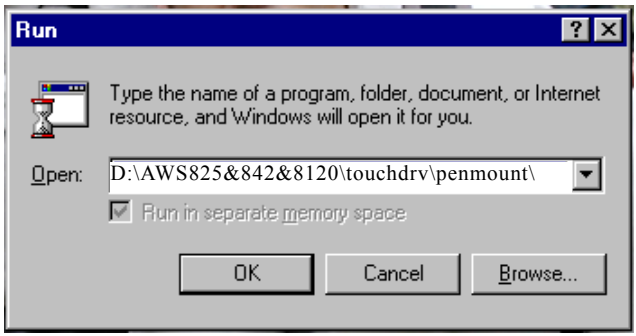
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5. Press OK



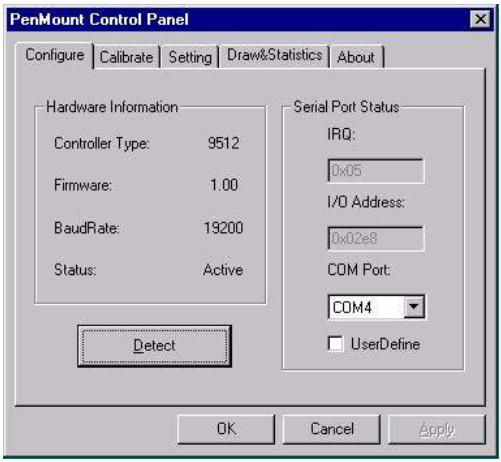
B.1.2 Installation for Windows NT

1. A. Select Start menu and then click Run
   B. Type D:\AWS825&842&8120\
      touchdrv\penmount\winnt-ver3.11\setup.exe
   C. Press OK
   D. Follow the instructions for the setup process



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2. A. Click the Detect button
   B. Press OK and the system will reboot

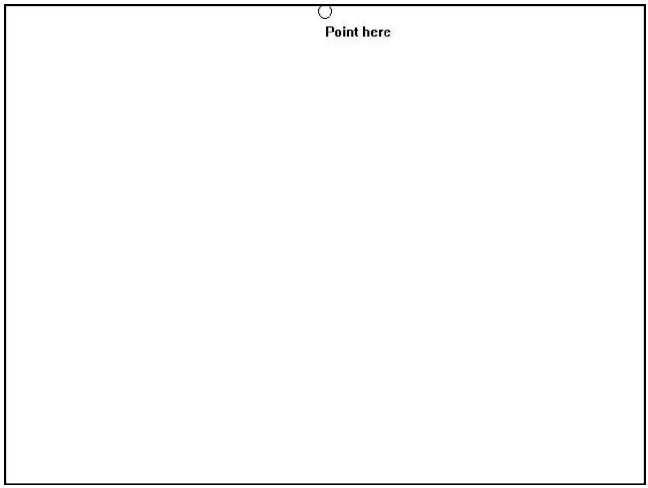


3. A. After the system reboots, click Start, Programs, Pen Mount Utilities, PenMount Control Panel
   B. Select the Calibrate tab
   C. Click the Calibrations button on the right



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4. A. Use a soft stylus to press the little red dot located above the finger icon
   B. Repeat the process according to the sequence: top, right, bottom, and left



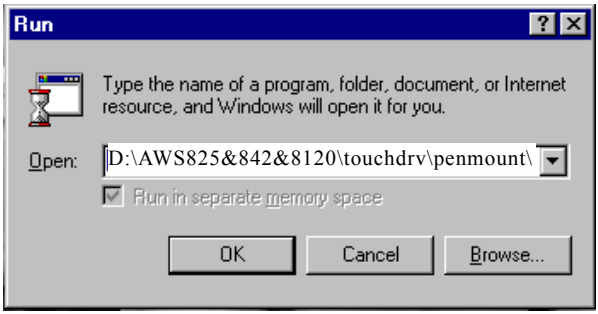
5. Press OK



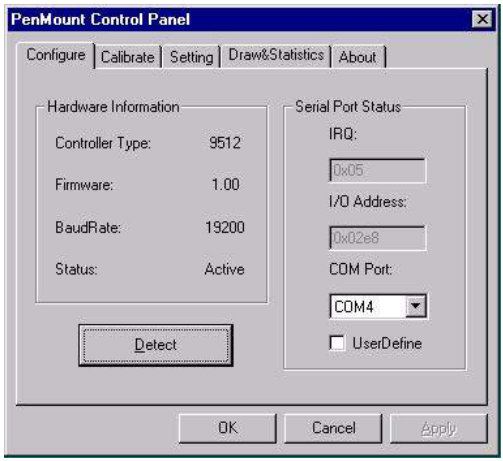
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B.1.3 Installation for Windows 2000

1. A. Select Start menu and then click Run
   B. Type D:\AWS825&842&8120\
   touchdrv\penmount\win2000v1.0\setup.exe
   C. Press OK
   D. Follow the instructions for the setup process



2. A. Click the Detect button
   B. Press OK and the system will reboot

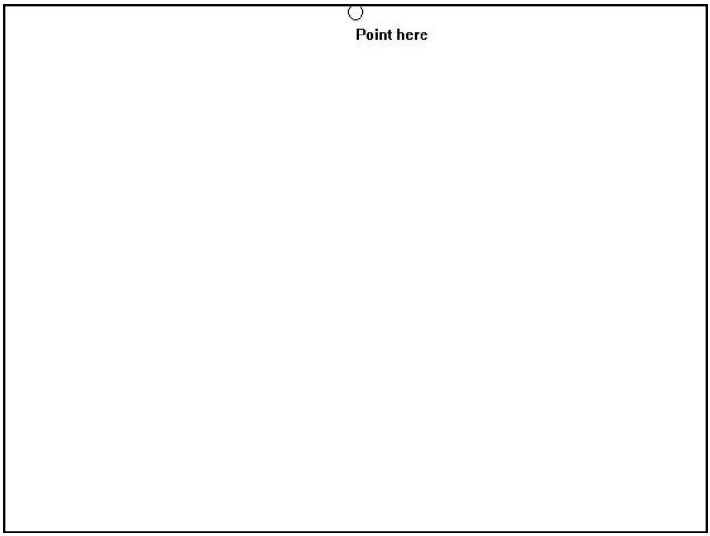


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3. A. After the system reboots, click Start, Programs, Pen Mount Utilities, PenMount Control Panel
   B. Select the Calibrate tab
   C. Click the Calibrations button on the right



4. A. Use a soft stylus to press the little red dot located above the finger icon
   B. Repeat the process according to the sequence: top, right, bottom, and left



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5. Press OK



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B.1.4 Installation for DOS

B.1.4.1 Using HMI CD Driver to install PenMount software driver.

A. Insert the driver CD toCD-ROM drive.

B. Type
"D:\AWS825&842&8120\touchdrv\penmount\win31&dos\install"

C. A pop-up window will display "Salt International Corp. PenMount Install Utilities. Press ENTER key to allow Pen-Mount install the drivers to drive C or use keyboard to key-in the hard disk drive that you plan to install the driver." Press ENTER.

D. The pop-up window will ask "Do you want to modify your Autoexec.bat to initilaize PenMount? (Y/N)" Choose "Y" to generate the initializing instruction in the autoexec.bat files.

B.1.4.2 Identify the communication port and IRQ number

A. For first time installation, or to change PenMount Touch Screen's COM port, use PMDETECT (e.g. C:\PENMOUNT\PMDETECT) to check the COM port and IRQ number automatically. The screen will then show:

PenMount is initialized successfully!

Create file "pmouse.cfg". Success.

PenMount internal settings:

Comm. Port: COM<n> IRQ<n>

.....

B. PMDETECT program is able to skip IRQ detecting if you do not need to detect a specified IRQ number. For example, if you do not need to detect IRQ5, the command is :

C:\PENMOUNT\PMDETECT -N5

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If you do not need to detect IRQ5 and IRQ9, the command is:

C:\PENMOUNT\PMDETECT -N5 -N9

B.1.4.3 Do Calibration

A. To adjust touch screen mapping properly for the display, use PM.BAT (C:\PENMOUNT\PM) tocalibration.

B. Choose "1" DO CALIBRATION (adjust screen mapping).

C. The message on the pop up window asks you to select video mode number. Select by keyboard to start the calibration, touch the upper-center point, then right-center point, bottom-center point and left-center point in sequence. After calibration, the data will show in the screen. Press any key to continue the progress.

D. After the calibration, suggest you to test touch screen and display mapped results by choose "3" DRAWING TEST under PM.BAT

B.1.4.4 Initializing the PenMount driver

A. If you don't have the initialization commands in AUTOEXEC.BAT, initialize the PenMount controller before you use the PenMount Touch Screen.

C:\PENMOUNT\PMINIT

The display will show the initialization message :

PenMount V7.06 Copyright(c) SALT International Corp.

Test:COM<n> IRQ<n> (<n> is the number after PMDETECT done)

PenMount communication settings: COM<N> IRQ<n> Baud Rate: <xxxx>

... ...

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B.1.4.5 Demonstration

To demonstrate or test touch screen operation, select “3” DRAWING TEST in PM.BAT file of Utility Directory. Drawing on screen.

The other demonstration program called “ICECREAM.EXE” in the “PENMOUNT” directory can also be applied.

Now, the PenMount DOS driver is installed.

B.1.4.6 PenMount DOS driver functions

There are several functions in the PenMount DOS driver. The user is able to change the settings of the following utilities:

1) Show Current Setting

A. The current setting data could be found from PM.BAT file.

B. The procedure to get the status is C:\PENMOUNT\PM

C. Choose “2” SHOW CURRENT SETTINGS

2) Beep Sound On or Off

A. Beep sound is able to set ON or OFF with parameter.

B. Enable Beep Sound command is

C:\PENMOUNT\PMOUSE /S.

C. Disable Beep Sound (Default) command is

C:\PENMOUNT\PMOUSE.

3) Getting current touch’s data

A. To get the touching data, use “PMGET.EXE” utility. This utility is only available for COM 1 or COM 2 port.

C:\PENMOUNT\PMGET <COM port> <baud rate>

B. User will see the touching point address in the pop-up window.

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