

**DISPLAY UNIT**

**DP860 SERIES**

**USER'S GUIDE**

Copyright © 2001

All rights reserved. No part of this publication may be reproduced, transmitted, transcribed, stored in a retrieval system, or translated into any language, or computer language, in any form, or by any means, electronic, mechanical, magnetic, optical, chemical, or other, without the prior written permission of the manufacturer.

The manufacture reserves the right to revise this publication and to make changes from time to time in the contents hereof without obligation to notify any person of such revision or changes.

The manufacturer makes no representations or warranties, either expressed or implied, with respect to the contents hereof and specifically disclaims any warranties as to merchantability or fitness for any particular purpose. Any of the manufacturer's software described in this manual is sold or licensed "as is". Should the programs prove defective following their purchase, the buyer (and not the manufacturer, its distributor, or its dealer), assumes the entire cost of all necessary servicing, repair and any incidental or consequential damages resulting from any defect in the software.

#### Trademark Acknowledgments

IBM, PC, AT, XT are registered trademarks of International Business Machines Corp.

MS-DOS and Windows are registered trademarks of Microsoft Corp.

Pentium is the registered trademark of Intel Corp.

All product and company names are trademarks or registered trademarks of their respective holders.

# Warranty

This warranty gives you specific legal rights. You may also have other right that may vary from state to state or country to country.

## One-Year Limited Warranty

The company warrants its hardware products against defects in materials and workmanship for a period of one year from delivery of the products. During the warranty period, the company reserves the right to either repair or replace products that prove to be defective.

### Warranty Exclusions:

The warranty on your computer shall not apply to defects resulting from:

1. Vibration, shock, drop, dust, rain, high/low temperature, fungus, etc. environmental exposure.
2. Improper or inadequate maintenance by the customer.
3. Improper site preparation and maintenance.
4. Unauthorized modification, change hardware configuration or misuse.
5. Customer supplied software or interfacing.
6. Operation outside of the specified ratings.

To maintain the warranty, you must have your computer serviced by an authorized repair depot in the country of original purchase. You must prepay all shipping charges, duties and taxes for products returned to your dealer.

### Warranty Limitations:

The warranty set forth above is exclusive and no other warranty, whether written or oral, is expressed or implied. Specifically disclaims the implied warranties of merchantability and fitness for a particular purpose.

Some states or countries do not allow limitations on how long an implied warranty lasts, so the limitation or exclusion in the previous section may not apply to you. Any implied warranty of merchantability or fitness is limited to the one-year duration of this written warranty.

### Extended Warranty:

Please consult your dealer for details.

# **EMC Notice**

## **FCC**

### **Warning!**

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instructions, may cause interference to radio communications. This equipment has been tested and found to comply with Class B digital devices, pursuant to Part 15 of the FCC rules which are designed to provide reasonable protection against such interference when operated in a commercial or residential environment.

### **Countermeasures if interference occurs**

You are encouraged to do the following if interference occurs while you are operating the device:

1. Turn OFF the unit and unplug the AC adapter from the outlet to see if the interference disappears.
2. Connect the AC adapter to the outlet in another room and check if the interference still exists.
3. Use an outlet that is far away from the interfered appliance.
4. Re-orient your computer in respect to the interfered appliance to see if there is improvement.

If all of these failed, please call your dealer for help.

## **CE**

This equipment complies with the requirements set out in the Council Directive on the Approximation of the laws of the Member States relating to Electromagnetic Compatibility (89/336/EEC). For the evaluation regarding the electromagnetic compatibility, the following standards were applied:

EMI: EN55022 (CISPR 22) class B (conduction and radiation)

EMS EN55024

Harmonics: EN61000-3-2

Flicker: EN61000-3-3

ESD: EN61000-4-2

RS: EN61000-4-3

EFT: EN61000-4-4

Surge: EN61000-4-5

CS: EN61000-4-6

Power-Frequency Magnetic Field: EN61000-4-8

Voltage Dips, Interruptions: EN61000-4-11

**UL, TÜV**

AC Adapter (EN60950 LVD included in TÜV)

## **Power Conservation**

It is recommended that you enable the power saving functions even not running with battery.

Power saving will also prolong the life of this device.

Please apply the power saving features of this device and computer. Set proper scheme for optimal operation.

## **Recycling**

All materials of the unit are recyclable or environmentally friendly. No CFC or related materials were used in the manufacturing process or inside the product.

Please recycle the packing materials, and at the end of the unit's life, all other materials in accordance with the local regulations.

Please refer “Material and Recycling” for the contents of the materials.

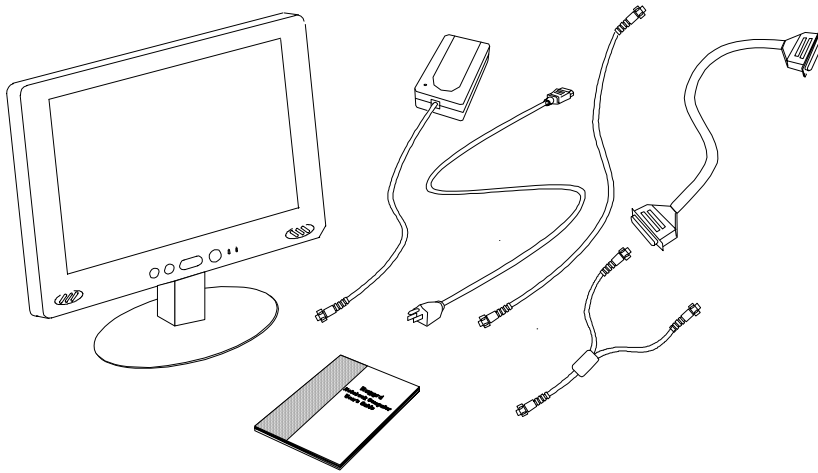
# CONTENTS

UNPACKING .....	8
QUICK OPERATION.....	8
CONTROLS, INDICATORS, AND PORTS.....	9
BUTTONS AND PORTS FUNCTIONS.....	11
OPERATION ENVIRONMENT.....	14
RUGGEDNESS .....	14
SYSTEM AND DISPLAY UNIT CONFIGURATIONS.....	15
AC ADAPTER.....	17
KEYBOARD (OPTIONAL) .....	18
TOUCH SCREEN (OPTIONAL).....	19
DISPLAY.....	19
DIMENSIONS AND WEIGHT .....	20
MATERIALS AND RECYCLING.....	20
ENVIRONMENTAL .....	20
CLEANING AND MAINTENANCE .....	21
TROUBLESHOOTING.....	21
RMA SERVICE .....	21

## Unpacking

The following components come with your display unit. If anything is missing or damaged please notify the dealer immediately.

- DP860 Display Unit
- DVI or Analog Cable
- Vehicle or AC Adapter
- DC Power Cord
- Y-Cable
- User's Guide



## Quick Operation

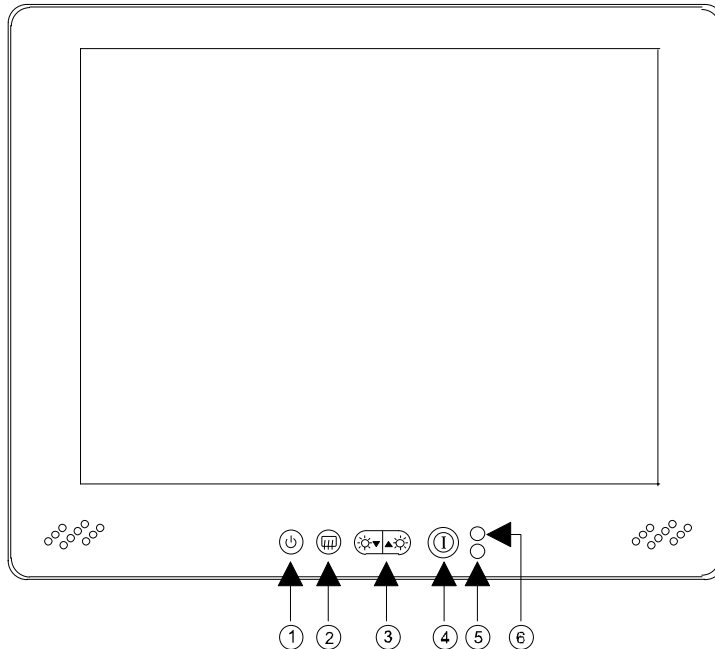
- Attach the DVI or analog cable to computer.
- (optional) Attach audio and touch screen controller cable to computer.
- Attach the AC or vehicle adapter. The green LED indicates the power is ready.
- Turn ON the display unit by pressing the power switch momentarily, then turn ON the computer.  
(If the host computer is MT686 series, power switch of display unit can control both system and display's power simultaneously.)



- Turn OFF the computer.
- Turn OFF the display by pressing power switch momentarily.

## Controls, Indicators, and Ports

### Front:

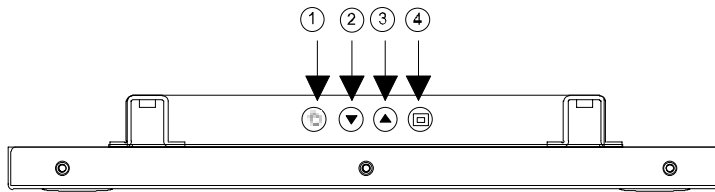


1. Display Suspend
2. Heater Switch (optional)
3. Brightness Up and Down
4. Power Button
5. Heater Indicator (optional)
6. Power indicator

*Front control buttons illuminates in the dark by energy stored from environmental light sources. No power consumption of AC power or battery.*

## Upper:

DP860 Uxxx models:

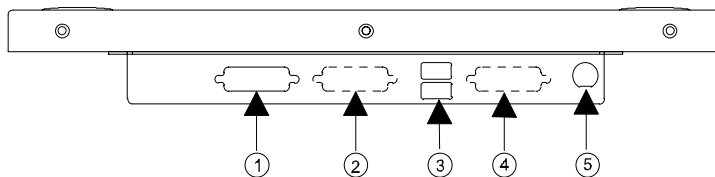


1. OSD Setting “Enter”
2. OSD Setting “Down” or “Left”
3. OSD Setting “Up” or “Right”
4. OSD Setting “Menu”

*OSD: On Screen Display, the on-screen menu for display adjusting.*

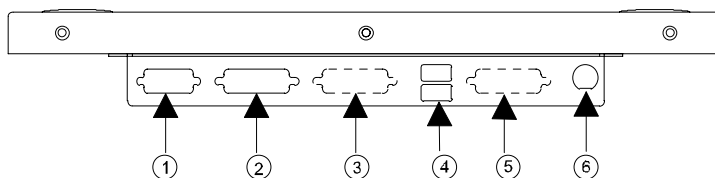
## Lower:

DP860 Dxxx models:



1. DVI In
2. DVI Out (optional)
3. USB 1 and 2
4. Port Replicate (optional)
5. DC Power Jack

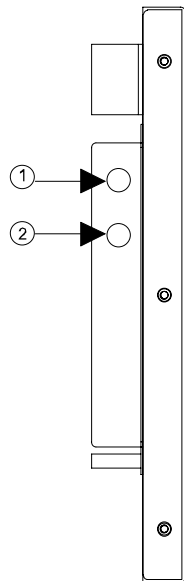
DP860 Uxxx models:



1. Analog RGB video in (optional)
2. DVI In
3. DVI Out (optional)
4. USB 1 and 2
5. Port Replicate (optional)
6. DC Power Jack

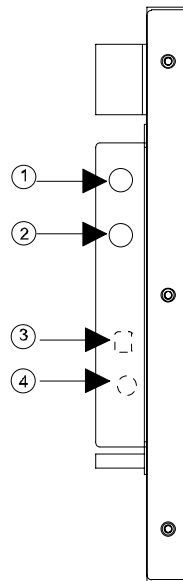
**Left:**

DP860 Dxxx models:



1. Speaker volume up
2. Speaker volume down

DP860 Uxxx models:



1. Speaker volume up
2. Speaker volume down
3. USB in (optional)
4. Speaker in (optional)

## Buttons and Ports Functions

### Power Button

Turns the display unit ON or OFF.

Turns system unit power ON or OFF (MT686 series system units only).  
On MT686 series the switch can also control the system's power ON/OFF.  
Under ACPI mode the button may act as suspend key, too. Refer MT686 User's Guide for detail.

### Brightness Up and Down

Pushing the right of key increases the brightness (Up). Pushing the left decreases the brightness (Down).

### Heater Control (optional)

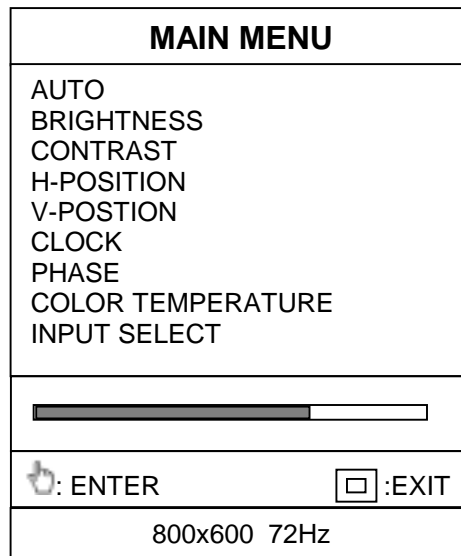
Push the button starts heating. The orange indicator turns ON while heating up. When the internal temperature reaches operational range the indicator turns OFF. Then the unit can be powered ON.

### Display Suspend

Pushing this button approximately 1 second turns display backlight ON or OFF. It is used for power saving or temporarily leaving the work. The screen data or system power is unaltered.

### Menu \*

Press to pop up OSD menu. After setting is done press Menu again to exit.



**▲ Up/Right \***

Move up or right in menu options. Generally it performs “increase” function.

**▼ Down/Left \***

Move down or left in menu options. Generally it is “decrease”.

**👉 Enter \***

Confirm main menu or sub-menu selection.

<p><i>*: The 4 buttons are available on DP860 Uxxx models only.</i></p>
---

**Analog RGB video in (optional)**

RGB input from host computer.

**DVI In**

DVI input from host computer.

**DVI Out (optional)**

DVI buffered output to another display unit.

**USB 1 and 2**

USB ports for connecting to USB devices.

**Port Replicate (optional)**

For field cable connection only.

**DC Power Jack**

Attaches AC or DC adapters.

**USB in (optional)**

Input port which connects USB port from host computer to display unit.

**Speaker in (optional)**

Input port which connects audio output of host computer to display unit speakers.

## Operation Environment

A clean and moisture-free environment is preferred. Make room for air circulation. Avoid areas with:

- Sudden or extreme changes in temperature.
- Extreme heat.
- Strong electromagnetic fields (near television set, motor rotation area, etc.).
- Dust or high humidity.

However, if it is necessary to work in a hostile environment, please regularly maintain your display unit by cleaning dust, water, etc. to keep it under optimal condition.

## Ruggedness

The display unit is designed with rugged features such as vibration, shock, dust, and rain/water protection. However, there is NO WARRANTY for such features. Please provide appropriate protection while operating in harsh environments.

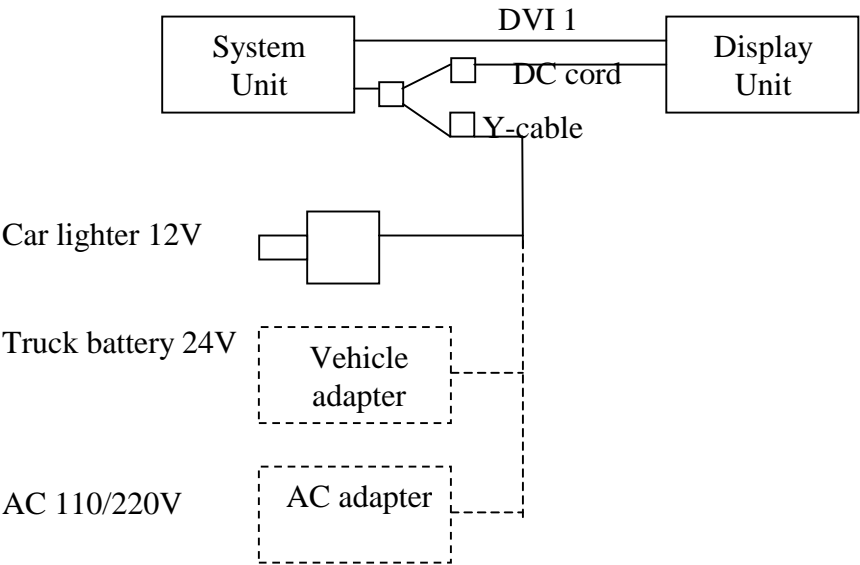
The display unit may withstand rainfall from top with mild wind blowing only. Please keep it in normal operating direction to maintain water resistance. NEVER immerse the unit into water or spray water with the system up side down. It may cause permanent damage.

All connectors will corrupt if exposed to water or moisture. They corrupt even faster if the power is ON. Please take proper water-resistant measures for cable connections.

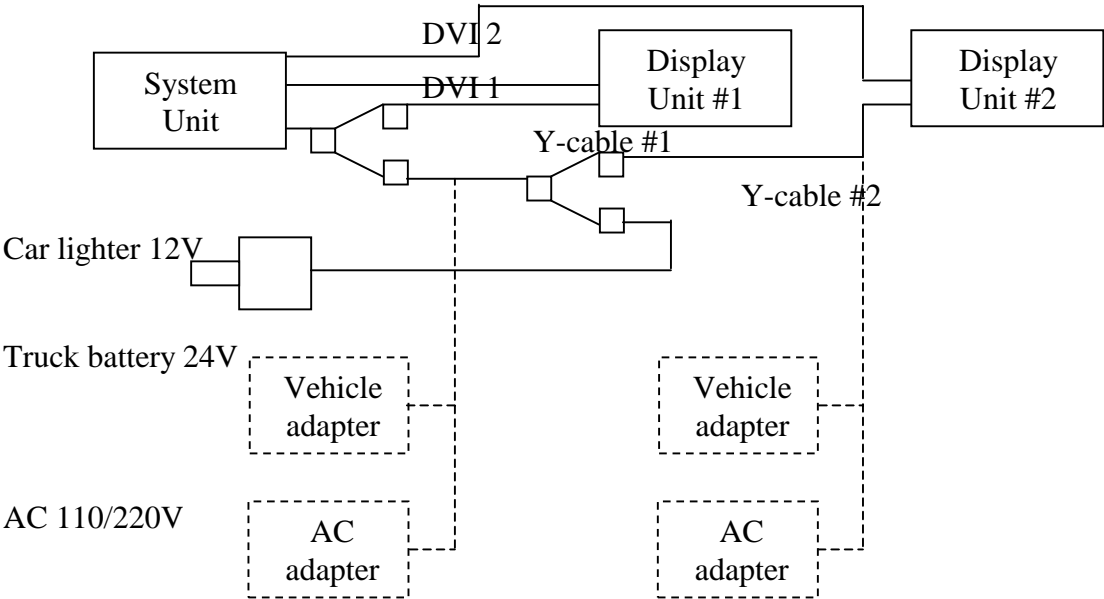
The DC jack and cable are sealed which may operate with water splashing while attached. All rubber caps should be closed when there is no cable attached.

System and Display Unit Configurations

DVI Single Screen:



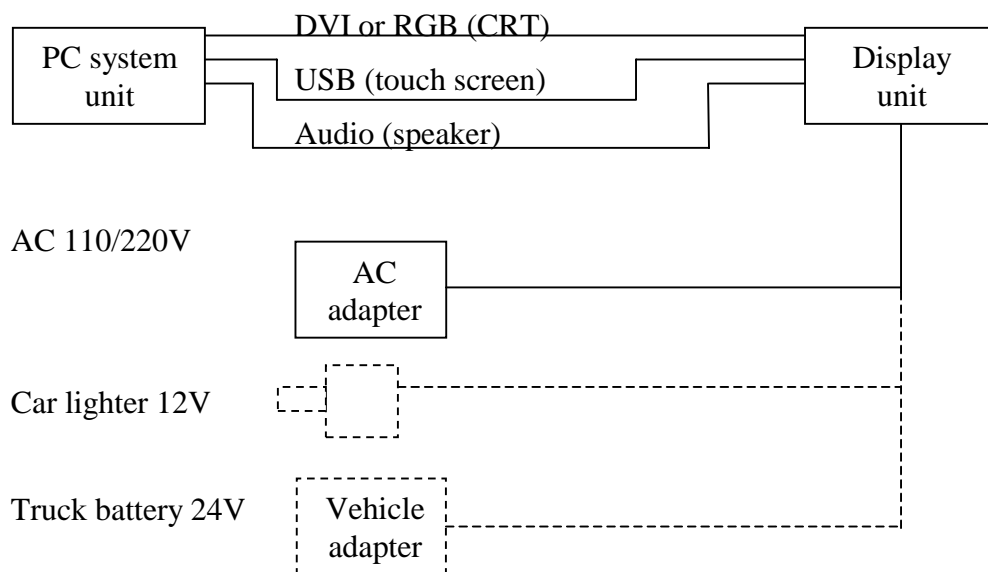
DVI Dual Screen:



*Note:*

1. Only MT686 system unit is capable of dual screen connections.
2. One AC or Vehicle adapter can power maximum 2 units (system + display, or 2 displays) only.
3. If battery is installed car lighter direct input is not applicable (cannot charge).
4. VHB type display unit always need dedicate power source (AC or Vehicle adapter). It cannot share with other unit because of the higher power consumption.
5. Under dual screen mode the 2 screens' resolution must be the same.

**Universal Display Unit:**





## AC adapter

The following are recommended when using the AC adapter:

- Use a properly grounded AC outlet.
- Use one AC outlet exclusively for the display unit and computer. Having other appliances on the same line may cause interference.
- Use a power strip with built-in surge protection.

Connect the AC adapter:

1. Plug the AC cord into the adapter.
2. Plug the other end of the AC cord into the wall outlet. Make sure the green LED on the adapter turns on.
3. Attach the DC plug into the power jack of the Y-cable; turn the lock ring clockwise to secure it.
4. Attach the Y-cable to computer and display unit. Extend length with DC cord for the unit in farther location.

The AC adapter automatically detects the AC line voltage (110V or 220V) and adjusts accordingly.

### AC or Vehicle Adapter Indicator

The green LED indicates that the power is ready.

### AC Adapter Specifications

Input Voltage:	AC 90 - 240 V
Input Frequency:	50/60 Hz
Output Voltage:	DC 19V
Maximum Power:	65 Watts
Dimension:	122 mm(W) x 55mm(D) x 29mm(H)
Weight:	240 g (0.52 lb.)

### Vehicle Adapter Specifications

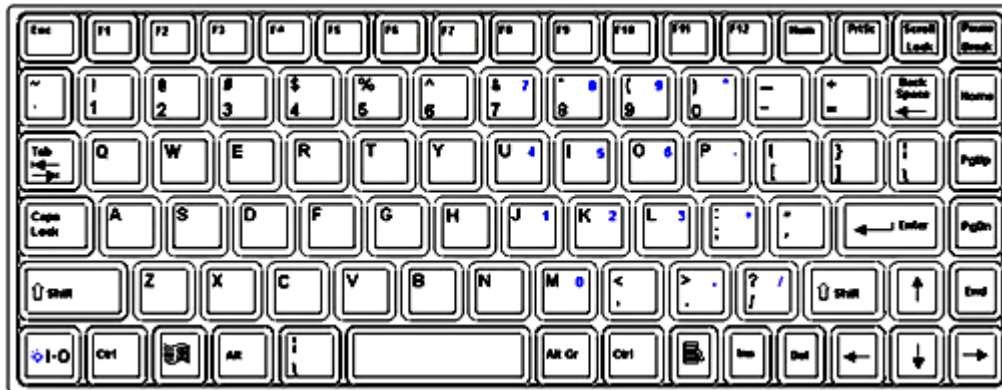
Input Voltage	12V/24V (10~32V) Auto-sense
Input Current	2.5A/5.5A max. (24V/12V respectively)

---

Output Voltage	19V +/-5%
Output Current	2.8A
Wiring	Cigarette lighter or Truck battery

### Keyboard (optional)

The keyboard is functionally equivalent to a full size desktop keyboard. A sample key layout is shown below.



#### Function: Keyboard Specifications

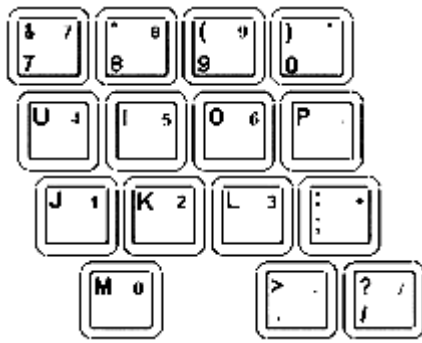
Number of keys:	89
Key travel:	2.5 mm (standard) 1.5 mm (optional backlight)
	Emulates standard 101/102-key keyboard

### Keyboard Backlight

Press [I-O] key for approximately 1 second turns keyboard backlight ON or OFF.

### The Numeric Keypad

The numeric keypad functions like an electronic calculator. It is embedded in the main keyboard, with the numeric figures printed on the upper right of their respective keys. The keypad has keys for the digits 0 through 9, the decimal point ( . ), addition ( + ), subtraction ( - ), multiplication ( \* ), and division ( / ).



To activate the keypad, press the Num Lock key. The 15 keys shown in the figure then switch from alphabetic keys to numeric keys. Press Num Lock again switches the keys back to alphabetic.

### **Touch Screen (optional)**

Touch screen facilitates direct finger touch input on the panel instead of mouse or touch pad.

#### **Touch Screen Specifications**

Interface                      USB (optional serial)

Resolution                    >1024 x 1024

#### **Touch Screen Driver Installation**

Under Windows just plug in the display unit and let Windows detect the hardware. Then follow the prompt to complete installation.

#### **Touch Screen Calibration**

In the first time use the touch screen needs calibration. Run the calibration program contained in the Driver/Utilities CD and follow the prompt to complete it.

### **Display**

The display is a SVGA compatible LCD (Liquid Crystal Display) of 800 x 600 dots (horizontal x vertical) or XGA compatible 1024 x 768 dots with 16M colors.

## Display Types

Model	DP860 xx08	DP860 xx12	DP860 xx13
Type	8.4" TFT color	12.1" TFT Color	13.3" TFT Color
Resolution	800 x 600 pixels	800 x 600 pixels	1024 x 768 pixels
Mode	SVGA	SVGA	XGA
Color	16.8 million	16.8 million	16.8 million

## Dimensions and Weight

Model	DP860 xx08	DP860 xx12	DP860 xx13
Width:	250mm (9.8")	306mm (12")	319mm (12.5")
Height:	200mm (7.9")	277mm (10.9")	299mm (11.7")
Depth:	150mm (5.9")	150mm (5.9")	150mm (5.9")
Weight:	3.2Kg (7.0 lb.)	4.0Kg (8.8 lb.)	4.5Kg (9.9 lb.)

*Note: Weight varies depending on system configurations.*

## Materials and Recycling

Materials of the display unit are as follows:

Cabinet: Steel with Nickel plating, Aluminum 5052, or Stainless Steel S304

PCB: FR-4, UL 94V0

Packing: Carton: Unbleached paper  
Cushion: Recyclable PE  
Carrying bag: Recyclable PE Fiber  
User's Guide: Paper

Please recycle the parts according to local regulations.

## Environmental

Temperature:	0 ~ 45°C (32 ~ 113°F) operating -20 ~ 60°C (-4 ~ 140°F) storage
Humidity:	5~95% Non-condensing operating 95% maximum storage
Altitude:	0 ~ 4570 meters (0 ~ 40,000 feet) operating

## **Cleaning and Maintenance**

Wipe the exterior with a clean, soft, and lint-free cloth. If there is difficulty to remove dirt, apply non-ammonia, non-alcohol based glass cleaner onto the cloth.

An air gun is recommended for cleaning water and dust. For salty water please clean with fresh water then blow-dry with an air gun. Be sure not to turn the display up side down while there is water being applied.

ALWAYS turn OFF the power and unplug the power cord before cleaning.

## **Troubleshooting**

Should the device failed to function properly, you may try the following to troubleshoot it.

- Check cable connections.
- Check AC/vehicle adapter and the power source.
- Minimize the configuration, i.e., remove extra peripherals and devices.
- Set factory default.
- Re-install operating system and application software.

## **RMA Service**

If all of the user troubleshooting still cannot help, consult the dealer for service. When sending out the display unit, please follow the re-packing guides listed below:

- Use the original shipping container and packing material, if possible.
- When not using the original packing material, wrap the equipment with soft material (e.g., PU/ PE form) then put it into a hard carton.
- Secure the separate parts so they would not mix together during transportation.
- Send ALL parts of your configuration, including hardware/software, if possible.
- Include DETAILED descriptions of the problems you encountered, and the list of your hardware/software configuration.

Printed in Taiwan  
Recycled / Recyclable