AD-90 Universal AC Adapter

User's Manual

Important Safety Precautions

Warnings: This manual contains important operating instructions for your adapter. Please carefully read this section before using, and pay attention to the following:

- Only use the accessories provided in this package; otherwise, it could result in a risk of fire, injury to persons, or damage to personal property.

- Read all User Manual, and follow the exact procedures step by step before setting up the device; otherwise, there is an increasing risk of electrical shock or damage to this unit.

- Output Voltage Adjustment Devices are specially designed. These devices are not normal fuse. Do not plug normal fuse into this power adapter, or it could result in a risk of fire, injury to persons, or damage to personal property.

- Do not open the device, make any attempt to disassemble or modify it. It could result in a risk of fire, injury to persons, or damage to personal property.

- Avoid placing this product in direct sunlight, in temperatures below –20°C or over 70°C.

Though this product incorporates a multiple-protection circuit, please adhere to avoid the following status when using:

1-1 Avoid operating in the environment exceeding 40°C or so as to prevent invoking the internal circuit protection system of the product.

1-2 Avoid operating in temperatures below 0°C or so as to prevent the power supply efficiency from losing.

1-3 Do not operate the adapter with damaged input, output cords or plugs.

1-4 Please ensure that your voltage for this power adapter is correct and suitable for your Notebook PC while operating.

1-5 This power adapter supports up to 90W. Please confirm the maximum power requirement of your Notebook PCs before using.

1-6 The polarity of output power from this power adapter is Center Polarity +, ⊖–●–⊕. Please confirm your Notebook PC is Center Polarity +, ⊖–●–⊕ before using, or it could result in a risk of fire, injury to persons, or damage to personal property.

No guarantee would be given if any of the following situations occurs:

- Drop in liquid
- Hard Impact
- Placed near fire

Specifications

Input	
Voltage	100-240 VAC
Maximum input surge current	50/60 Hz 1.5A
Output	
Voltage	15~24VDC
Maximum current output	4.74 Amp
Power Max	90W
Protections	• Over Current Protection
	• Short Circuit Protection
	• Internal Over Temperature Shut Down
Environmental	
Operating Temperatures	0°C~25°C (32°~72°F)
Relative Humidity	Less Than 90%
Physical	
Case Dimensions	145 (L) x 59.2 (W) x 29.5 (H) mm
Input AC Power Code	0.9M
Output DC Power Cable	1.8M
Total Weight	400g
Construction	UL rated 94V-0
Color	Matted Black
Certification Approvals	
UL, CUL, FCC, TUV, CE	

Table of Contents

Introduction

Congratulations on your purchase of the Universal AC Adapter, AD-90, a highly efficient power adapter for Notebook PCs. There are several advantages on AD-90.

• **Convenience:** Universal type. It allows you to charge different notebook models.
• **Energy efficiency:** Over 80%
• **Lightweight:** 400 g only
• **Reliability:**
  Unique design of five multiple internal protection features.
  1. Output: Over current protection
  2. Output: "Short circuit" shut down
  3. Internal over temperature shut down
• **Easy Voltage Selection:**
  Unique design. Switch to any different voltage with the Voltage Adjustment Device.

Please carefully read this User Manual for instructions on using this product and its operations.

Before Use (Item Check List)

This standard package of AD-90 is designed for most popular Notebook PC models, and contains:

• Tips for Notebook DC power connector x 7

Seven types of tips inside for most popular Notebook PC models.

Center Polarity +, ⊖─◉─⊕

Type A—OD: 6.5mm, ID: 4.5mm

Type B—OD: 6.3mm, ID: 3.0mm

Type C—OD: 5.5mm, ID: 2.5mm

Type D—OD: 5.5mm, ID: 2.1mm

Type E—OD: 4.75mm, ID: 1.7mm

Type L—for new IBM / Lenovo notebook modles

Type S—for new Dell (power only) / HP notebook modles

• Output Voltage Adjustment Device x 4

Purple(15V): for 15V notebook PC models

Blue(16V): for 16V notebook PC models

Green(19V): for 19V notebook PC models

Black(20V): for 20V notebook PC models

For requests of other Voltage type which are not included in this package, please check with the store of purchase.

• AD-90 Power Adapter

• User's Manual

• Notebook Compatibility Chart

All above items are essential for setup. Please check if they are complete. Should any items found to be damaged or missing, please check with the store of purchase.
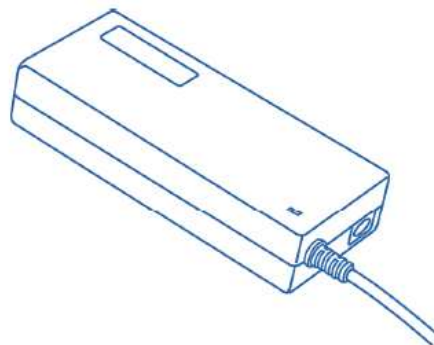
Setup Procedures & Operations

Please see the "Notebook Compatibility Chart" to find what "tip" and "voltage adjustment device" is required for your Notebook Computer model.

Step 1. Setting the voltage on your AC Adapter

AD-90 develops a unique adjustment device to adjust the voltage. It allows you to change the output voltage easily, for example, Green is 19VDC. Blue is 16VDC.

Please review your notebook PCs voltage requirement, and select the correct one to install into the AD-90:
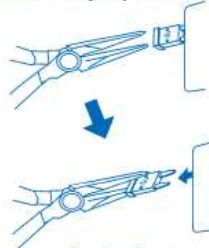
⚠️ **Caution:**

**Please ensure the correct voltage adjustment device is selected for your notebook before using.
Incorrect voltage selection may damage this product or your notebook PCs.
The voltage adjustment device shall always be installed when transport with Notebook PC.**

If your Notebook Computer model is not listed in the "Notebook Compatibility Chart":

Review the power or ID plate on the label of your Notebook AC adapter. For some models, the voltage is written on the back of the laptop or your device; for instance, "output 19VDC"
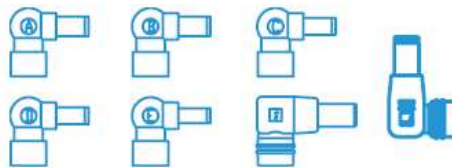
You will need to use Long-Nosed Pliers to remove the voltage adjustment device when changing voltage for different Notebooks.
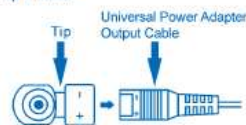
Options: For other inquiry of voltage types, please consult our local agent.

Step 2. Setup the Tip

There are seven types of tips in the package. You can easily identify the tip number from the tip out looking.

Connect the correct tip to the universal power adapter output cable. There are "+" and "-" on the Universal Power Adapter Output Cable. Match the correct "+" and "-" on the tip with it.

Tip   Universal Power Adapter
          Output Cable

⚠️ **Caution:**

Tips are uniquely designed. If a tip does not fit in a socket, this indicates that a mismatch may occur. Please carefully re-read this section. Do not force the tip to plug into the Notebook PCs, or it will damage this product and your Notebook PCs.

If your Notebook Computer model is not listed in the "Notebook Compatibility Chart":

Please make a visual match from the AC Adapter connector of your Notebook to one of the seven tips included in the package.

Step 3. Find the AC power cable and attach it to this AD-90.

Step 4. Insert the AC plug into the wall outlet. The indicator light will be on. Your Notebook PCs will operate and charge normally.

AD-90
Universal AC Adapter