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H HOLDPEAK UKHP-770S

HoldPeak HP-770S Digital Multimeter User Manual

Model: HP-770S

1. Introduction

The HoldPeak HP-770S is a professional 6000-count digital multimeter designed for precise measurement in various electrical and electronic applications. It offers a wide range of functions including AC/DC voltage, AC/DC current, resistance, frequency, continuity, diode, hFE, and temperature measurement.

This manual provides detailed instructions for the safe and effective operation, maintenance, and troubleshooting of your HP-770S Digital Multimeter. Please read this manual thoroughly before use.

2. Safety Information

Always adhere to safety precautions when using the multimeter to prevent electric shock or personal injury, and to avoid damage to the meter or the equipment under test.

- Do not apply more than the rated voltage, as marked on the meter, between terminals or between any terminal and ground.
- Use caution with voltages above 30V AC RMS, 42V peak, or 60V DC. These voltages pose a shock hazard.
- Always disconnect the test leads from the circuit before changing functions or ranges.
- Inspect the test leads for damaged insulation or exposed metal. Replace if damaged.
- Ensure the battery cover is securely closed before operation.
- Do not operate the meter if it appears damaged or if it is not operating properly.
- Adhere to local and national safety codes.

3. Key Features

- 6000 Counts Display for high precision measurements.
- Measures AC/DC Voltage, AC/DC Current, Resistance, Frequency, Capacitance, Diode, Continuity, and hFE.
- Non-Contact Voltage (NCV) detection for live wire identification.
- Temperature measurement with included thermocouple.
- Automatic backlight and dial light in dark environments.

- Data Hold function.
- Low power consumption with automatic power-off after 15 minutes of inactivity.
- Double fuse protection for enhanced safety.
- Durable protective rubber sleeve for drop protection.
- Integrated 180° rotating kickstand for convenient viewing.

4. Product Components



Figure 4.1: HoldPeak HP-770S Digital Multimeter and included accessories, including test leads, 9V battery, temperature probe, and carrying bag.



Figure 4.2: Front panel layout of the HP-770S Multimeter, highlighting the display, power button, REL button, SELECT/HOLD button, and rotary switch.

4.1 Package Contents:

- HoldPeak HP-770S Digital Multimeter
- 9V Battery
- Test Leads (Black and Red)
- Thermocouple Temperature Probe
- Alligator Clip Leads
- Protective Carrying Bag
- User Manual (this document)

4.2 Meter Overview:

- **Display:** 6000 counts LCD with automatic backlight.
- **Rotary Switch:** Used to select measurement functions (Voltage, Current, Resistance, etc.).
- **POWER Button:** Turns the multimeter on/off.
- **REL Button:** Used for relative measurement.
- **SELECT/HOLD Button:** Toggles between functions within a range (e.g., AC/DC) and activates data hold.
- **Input Jacks:** Terminals for connecting test leads (VΩHz, mA, 20A, COM).

5. Setup and Battery Installation

5.1 Battery Installation:

1. Ensure the multimeter is turned off and test leads are disconnected.
2. Locate the battery compartment on the back of the multimeter.
3. Use a small Phillips head screwdriver to loosen the screw securing the battery cover.
4. Remove the battery cover.
5. Connect the 9V battery to the battery clip, observing correct polarity.
6. Place the battery into the compartment.
7. Replace the battery cover and secure it with the screw.



Figure 5.1: Illustration of installing the 9V battery into the back compartment of the multimeter.

5.2 Initial Check:

After battery installation, press the **POWER** button to turn on the multimeter. The display should light up, indicating the meter is ready for use. If the display does not light up, check the battery installation or replace the battery.

6. Operating Instructions

Before any measurement, ensure the rotary switch is set to the correct function and range, and test leads are connected to the appropriate input jacks.

6.1 Measuring AC/DC Voltage:

1. Insert the red test lead into the **VΩHz** jack and the black test lead into the **COM** jack.
2. Turn the rotary switch to the **V~** (AC Voltage) or **V-** (DC Voltage) position.
3. Connect the test leads in parallel to the circuit or component to be measured.
4. Read the voltage value on the display.



Figure 6.1: Example of measuring AC voltage from a power outlet using the multimeter.



Figure 6.2: Example of measuring DC voltage from a 9V battery using the multimeter.

6.2 Measuring AC/DC Current:

1. Insert the red test lead into the **mA** or **20A** jack (depending on expected current) and the black test lead into the **COM** jack.
2. Turn the rotary switch to the appropriate **A~** (AC Current) or **A-** (DC Current) range.
3. Disconnect power to the circuit. Open the circuit where current is to be measured.
4. Connect the multimeter in series with the circuit.
5. Apply power to the circuit and read the current value on the display.
6. *Caution: Do not exceed the maximum input current for the selected range.*

6.3 Measuring Resistance:

1. Insert the red test lead into the **VΩHz** jack and the black test lead into the **COM** jack.
2. Turn the rotary switch to the **Ω** (Resistance) position.
3. Ensure the circuit or component is de-energized before measuring resistance.
4. Connect the test leads across the component to be measured.
5. Read the resistance value on the display.

6.4 Continuity Test:

1. Insert the red test lead into the **VΩHz** jack and the black test lead into the **COM** jack.
2. Turn the rotary switch to the **Continuity** position (often shared with Diode test).
3. Connect the test leads across the circuit or component.
4. If resistance is less than approximately 50Ω, the built-in buzzer will sound, indicating continuity.



Figure 6.3: Performing a diode or continuity test, showing the test leads connected to a component.

6.5 Non-Contact Voltage (NCV) Detection:

1. Turn the rotary switch to the **NCV** position.
2. Move the top front part of the multimeter close to the wire or conductor you want to test.
3. If AC voltage is detected, the meter will beep and the NCV indicator light will flash, with increasing frequency as the voltage strength increases.



Figure 6.4: Demonstrating Non-Contact Voltage (NCV) testing near a power strip to detect live wires.

6.6 Temperature Measurement:

1. Insert the temperature probe into the **VΩHz** and **COM** jacks, observing polarity.
2. Turn the rotary switch to the **°C/°F** position.
3. Place the tip of the temperature probe on or near the object whose temperature you wish to measure.

4. Read the temperature value on the display. Use the **SELECT** button to switch between Celsius and Fahrenheit.

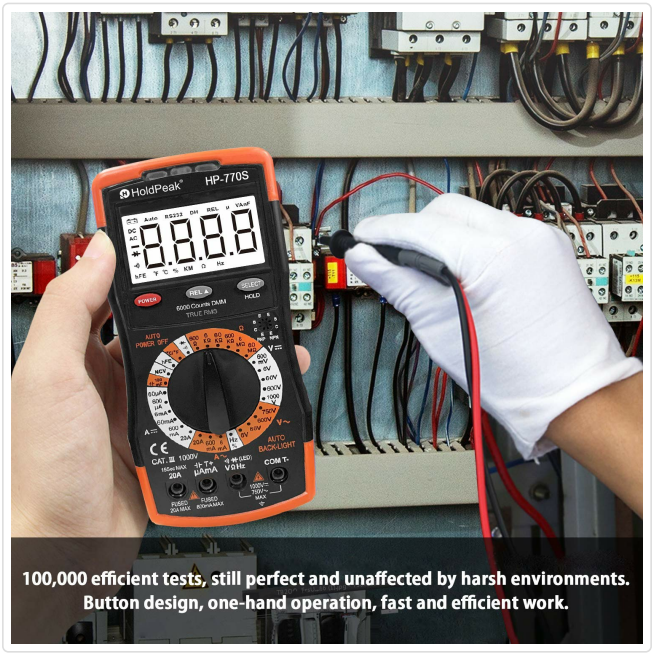

Figure 6.5: Measuring temperature using the included thermocouple probe with the multimeter.

6.7 Data Hold Function:

Press the **HOLD** button (part of SELECT/HOLD) during a measurement to freeze the current reading on the display. Press it again to release the hold and resume live readings.

6.8 Automatic Backlight:

The HP-770S features an automatic backlight that activates in low-light conditions, improving readability of the display. The indicator light on the rotary dial also illuminates.



Figure 6.6: The multimeter's display with automatic backlight activated, showing clear readability.

7. Maintenance

7.1 Cleaning:

Wipe the case with a damp cloth and mild detergent. Do not use abrasives or solvents. Keep the terminals free from dirt and moisture.

7.2 Battery Replacement:

When the battery low indicator appears on the display, replace the 9V battery as described in Section 5.1.

7.3 Fuse Replacement:

The HP-770S is protected by two internal fuses. If the current measurement function fails, the fuse may need replacement. Fuse replacement should only be performed by qualified personnel.

- **F1 Fuse:** 800mA/250V (for mA range)
- **F2 Fuse:** 20A/250V (for 20A range)

To replace a fuse:

1. Ensure the multimeter is turned off and test leads are disconnected.
2. Remove the battery cover and battery.
3. Unscrew the remaining screws on the back case and carefully open the meter housing.
4. Locate the blown fuse and replace it with a fuse of the identical type and rating.
5. Carefully reassemble the meter, ensuring all screws are tightened.

8. Troubleshooting

Problem	Possible Cause	Solution
Meter does not power on.	Dead or incorrectly installed battery.	Check battery polarity, replace battery.
No reading or "OL" displayed.	Open circuit, incorrect range, or leads not connected.	Check connections, select appropriate range, ensure circuit is closed.
Incorrect current reading.	Blown fuse, incorrect lead connection, or wrong range.	Check/replace fuse, ensure leads are in correct current jacks, select correct range.
NCV not detecting.	Not close enough to live wire, or wire is not live.	Move closer to the conductor, verify the conductor is live.

9. Specifications

Parameter	Specification
Display	6000 Counts

Parameter	Specification
DC Voltage	600mV, 6V, 60V, 600V, 1000V (±0.5% + 2 digits)
AC Voltage	6V, 60V, 600V, 750V (±1.0% + 3 digits)
DC Current	60uA, 600uA, 6mA, 600mA, 20A (±1.5% + 3 digits)
AC Current	6mA, 600mA, 20A (±1.5% + 3 digits)
Resistance	600Ω, 6KΩ, 60KΩ, 600KΩ, 6MΩ, 60MΩ (±1.0% + 3 digits)
Frequency	9.999 Hz ~ 9.999 MHz (±0.1% + 5 digits)
Capacitance	9.999nF, 99.99nF, 999.9nF, 9.999uF, 99.99uF, 999.9uF, 9.999mF, 99.99mF (±3.0% ~ 10% + 10 digits)
Duty Cycle	0.1% ~ 99.9% (±2.0% + 2 digits)
Temperature	-20℃ ~ 1000℃, -4℉ ~ 1832℉ (±3.0% + 3 digits)
Power Supply	1 x 9V Battery
Dimensions (L x W x H)	19.5 x 8.8 x 4 cm
Weight	640 grams

10. Warranty and Support

HoldPeak products are manufactured with quality and reliability in mind. This product comes with a standard manufacturer's warranty. Please refer to the warranty card included in your package or visit the official HoldPeak website for detailed warranty terms and conditions.
For technical support, troubleshooting assistance, or service inquiries, please contact HoldPeak customer service through their official channels. Keep your purchase receipt as proof of purchase for warranty claims.

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