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› DollaTek PICKIT3 PIC Kit3 Simulator Programmer User Manual

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Model: PICKIT3

INTRODUCTION

The DollaTek PICKIT3 is a versatile tool designed for debugging and programming PIC and dsPIC Flash microcontrollers. It connects to a host PC via a full-speed USB interface, providing a cost-effective solution for microcontroller development. This device is compatible with the MPLAB Integrated Development Environment (IDE) and supports a range of functionalities including real-time execution, firmware upgrades, and comprehensive diagnostic features.

This manual provides essential information for the proper setup, operation, maintenance, and troubleshooting of your PICKIT3 unit.

PACKAGE CONTENTS

- 1x PICKIT3 Device
- 1x USB Cable
- 1x 6-Pin Cable



Image: The DollaTek PICKIT3 programmer unit in red, shown with its accompanying 6-pin cable. The unit features LED indicators for Power, Active, and Status.

SETUP INSTRUCTIONS

1. **Software Installation:** Download and install the MPLAB Integrated Development Environment (IDE) from the official Microchip website. The PICKIT3 requires MPLAB IDE for operation. Ensure you have a compatible version installed.
2. **Connect to PC:** Connect the PICKIT3 device to your computer using the provided USB cable. The device features a full-speed 12 Mbps USB interface.
3. **Connect to Target Microcontroller:** Use the provided 6-pin cable to connect the PICKIT3 to your target PIC or dsPIC microcontroller. The connection is typically made via an RJ-11 compatible Microchip Debug connector on your target board.
4. **Power Supply:** The PICKIT3 supports low voltage operation down to 2.0 volts, with a range of 2.0V to 6.0V. Ensure your target board's voltage is within this range. The PICKIT3 can power the target in some configurations, or the

target can be self-powered.

5. **Driver Installation:** Upon initial connection, your operating system may automatically install necessary drivers. If not, refer to the MPLAB IDE documentation for manual driver installation instructions.



Image: The 6-pin cable used to connect the PICKIT3 programmer to the target microcontroller board.

OPERATING INSTRUCTIONS

The DolaTek PICKIT3 operates primarily through the MPLAB IDE. Follow these general steps for programming and debugging:

1. **Launch MPLAB IDE:** Open the MPLAB IDE software on your computer.
2. **Select Programmer/Debugger:** Within MPLAB IDE, navigate to the project settings or configuration options to select "PICKIT3" as your hardware tool.
3. **Configure Project:** Ensure your project is correctly configured for your specific PIC or dsPIC microcontroller, including oscillator settings, memory allocation, and other device-specific parameters.

4. **Program Device:** To program your microcontroller, compile your code within MPLAB IDE and then use the "Program" or "Make and Program Device" function. The PICKIT3 will transfer the compiled firmware to the target. The device supports programming up to 512K bytes of flash memory.
5. **Debug Device:** For debugging, set breakpoints in your code within MPLAB IDE. Use the "Debug" functions (e.g., "Run," "Step Into," "Step Over," "Step Out") to control program execution on the target microcontroller. The PICKIT3 supports real-time execution and can freeze peripherals at breakpoints.
6. **Diagnostic LEDs:**
 - **POWER LED:** Indicates the PICKIT3 is receiving power.
 - **ACTIVE LED:** Illuminates when the PICKIT3 is actively communicating with the target or the PC.
 - **STATUS/ERROR LED:** Indicates the operational status or an error condition. Refer to MPLAB IDE for specific error messages.
7. **Firmware Upgrade:** The PICKIT3 firmware can be upgraded from your PC or via web download through the MPLAB IDE. Follow the prompts within the software for firmware updates.

MAINTENANCE

- **Cleaning:** Keep the device clean and free from dust. Use a soft, dry cloth for cleaning. Avoid liquid cleaners.
- **Storage:** Store the PICKIT3 in a dry, cool environment when not in use. Protect it from extreme temperatures and humidity.
- **Cable Care:** Inspect the USB and 6-pin cables regularly for any signs of damage. Replace damaged cables immediately to ensure reliable operation and prevent short circuits.
- **Firmware Updates:** Periodically check for and apply firmware updates through the MPLAB IDE to ensure optimal performance and compatibility with the latest microcontrollers and software features.

TROUBLESHOOTING

Problem	Possible Cause	Solution
PICKIT3 not recognized by PC/MPLAB IDE	◦ USB cable issue ◦ Driver not installed or corrupted ◦ MPLAB IDE version incompatibility	◦ Try a different USB port or cable. ◦ Reinstall PICKIT3 drivers via MPLAB IDE or device manager. ◦ Ensure your MPLAB IDE version supports PICKIT3. (Note: Newer MPLAB X versions may not support PICKIT3; consider using older versions or alternative programmers if issues persist).

Problem	Possible Cause	Solution
Target device not detected or programming fails	◦ Incorrect wiring to target ◦ Target power issue ◦ Incompatible microcontroller ◦ Over-voltage/short-circuit detected	◦ Verify all connections between PICKIT3 and target. ◦ Check target board power supply and voltage (2.0V to 6.0V range). ◦ Ensure the selected device in MPLAB IDE matches your physical microcontroller. ◦ Check for any short circuits on the target board. The PICKIT3 has a built-in over-voltage/short-circuit monitor.
Firmware upgrade issues	◦ Interrupted connection ◦ Corrupted download	◦ Ensure a stable USB connection during the upgrade process. ◦ Attempt to re-download the firmware and retry the upgrade.

SPECIFICATIONS

- **Model:** PICKIT3
- **Brand:** DollaTek
- **Connectivity Technology:** USB
- **Connector Type:** USB Type A (Male)
- **Cable Type:** USB Cable, 6-Pin Cable
- **Compatible Devices:** PIC and dsPIC Microcontrollers
- **Special Features:** Real-time execution, Built-in over-voltage/short-circuit monitor
- **Data Transfer Rate:** 12 Megabits per second
- **Number of Pins (Debug Connector):** 6
- **Frequency:** 12 MHz
- **Maximum Voltage:** 6 Volts
- **Low Voltage Support:** Down to 2.0 Volts (Range: 2.0V to 6.0V)
- **Dimensions (Package):** 22 x 12.2 x 1.2 cm
- **Weight (Package):** 100 grams
- **Usage Environment:** Indoor
- **UPC:** 742548979058
- **ASIN:** B07DJ5PBSX

WARRANTY AND SUPPORT

Specific warranty information for the DollaTek PICKIT3 is not provided in the product details. For support inquiries, please refer to the vendor or retailer from whom the product was purchased. It is recommended to retain your proof of purchase for any warranty claims or technical assistance.

Note: Some user reviews indicate potential compatibility issues with newer versions of Microchip's MPLAB X IDE. Users

experiencing difficulties may need to use older versions of MPLAB IDE or consider alternative programming tools if the PICKIT3 is not recognized.

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ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page's manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question