

ICTOLTOL T76

ICTOLTOL T76 Programmer User Manual

Model: T76

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective use of the ICTOLTOL T76 Programmer. Please read this manual thoroughly before operating the device to ensure proper functionality and to prevent damage. The T76 Programmer is designed for reading and writing various types of integrated circuits, offering high-speed performance and broad compatibility.

2. PRODUCT OVERVIEW

The ICTOLTOL T76 Programmer is an advanced device featuring a high-performance 32-bit RISC-V MCU and FPGA controller, coupled with a high-speed USB 3.0 Type-C interface. This configuration enables rapid data transfer, significantly faster than many traditional programmers.

Key features include:

- **Adjustable Voltages:** VCC voltage is adjustable from 1.2V to 6.5V (64 levels), and VPP voltage from 6.5V to 25V (64 levels). IO communication signal voltage is adjustable from 1.2V to 3.6V (64 levels).
- **Current Protection:** VCC current limit is adjustable from 120mA to 450mA, and VPP current limit is 150mA, both with overcurrent protection.
- **Power Efficiency:** Supports 5V <1A power supply with a static power consumption of only 150mA in standby mode.
- **Comprehensive Protection:** Features external power multi-protection, including over-voltage, reverse connection, over-current, and low-voltage alerts.
- **Wide Chip Support:** Compatible with 26, 27, 28, 29, 37, 39, 49, 50 series parallel ROM, EPROM, EEPROM; 24, 25, 35, 45, 85, 93, 95 series serial EEPROM; P-NAND FLASH, SPI NAND (SD NAND/SD cards), EMMC/EMCP, microcontrollers, GAL/CPLD programmable logic devices, VGA tools, VGA ISP programming, and SRAM chip testing.

- **High-Quality Adapters:** Most adapters utilize gold-plated pin headers and high-quality spring-loaded sockets for reliable contact and extended lifespan.

The T76 is an updated version, replacing the T56 programmer, and offers enhanced capabilities and speed for various programming tasks.

3. SETUP

3.1 Package Contents

Verify that all items are present in your package:

- 1 x T76 Programmer Unit
- 1 x USB Cable (Type-C)
- 1 x SOP8 Clip
- 1 x SOP44 Adapter
- 1 x SOP8 150mil Adapter
- 1 x SOP8 208mil Adapter
- 1 x Sop8/SOP16 Adapter
- 1 x TSOP48 Adapter

3.2 System Requirements

The T76 Programmer software supports the following operating systems:

- Windows XP
- Windows 2003
- Windows 2008
- Windows Vista
- Windows 7
- Windows 8
- Windows 10
- Windows 11

3.3 Software Installation

Obtain the latest programming software from the manufacturer's official website. Follow the on-screen instructions to install the software and necessary drivers on your computer.

3.4 Hardware Connection

1. Connect the T76 Programmer to your computer using the provided USB 3.0 Type-C cable.
2. Ensure the programmer receives adequate power. It supports a 5V <1A power supply.
3. If programming a chip that requires an adapter, carefully insert the appropriate adapter into the ZIF socket on the programmer.
4. Place the chip to be programmed into the adapter or connect the SOP8 clip if applicable. Ensure correct orientation and secure contact.



Figure 1: T76 Programmer with ZIF sockets ready for adapter insertion.



Figure 2: T76 Programmer with a TSOP48 adapter installed.



Figure 3: T76 Programmer with a SOP adapter installed.

Our sop8 clip cable length is 40cm
It is more convenient to operate



Other's clip cable length only 25cm

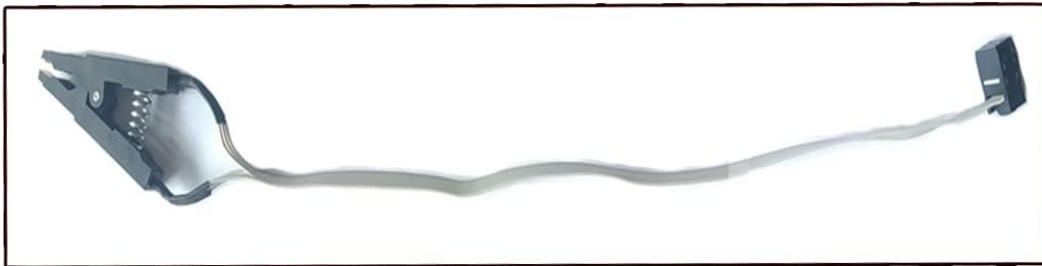


Figure 4: Comparison illustrating the T76's SOP8 clip with a 40cm cable for easier operation.

4. OPERATING INSTRUCTIONS

4.1 Software Interface Overview

After connecting the programmer and launching the software, you will see the main interface. This interface allows you to select the IC, perform read/write operations, and configure settings.

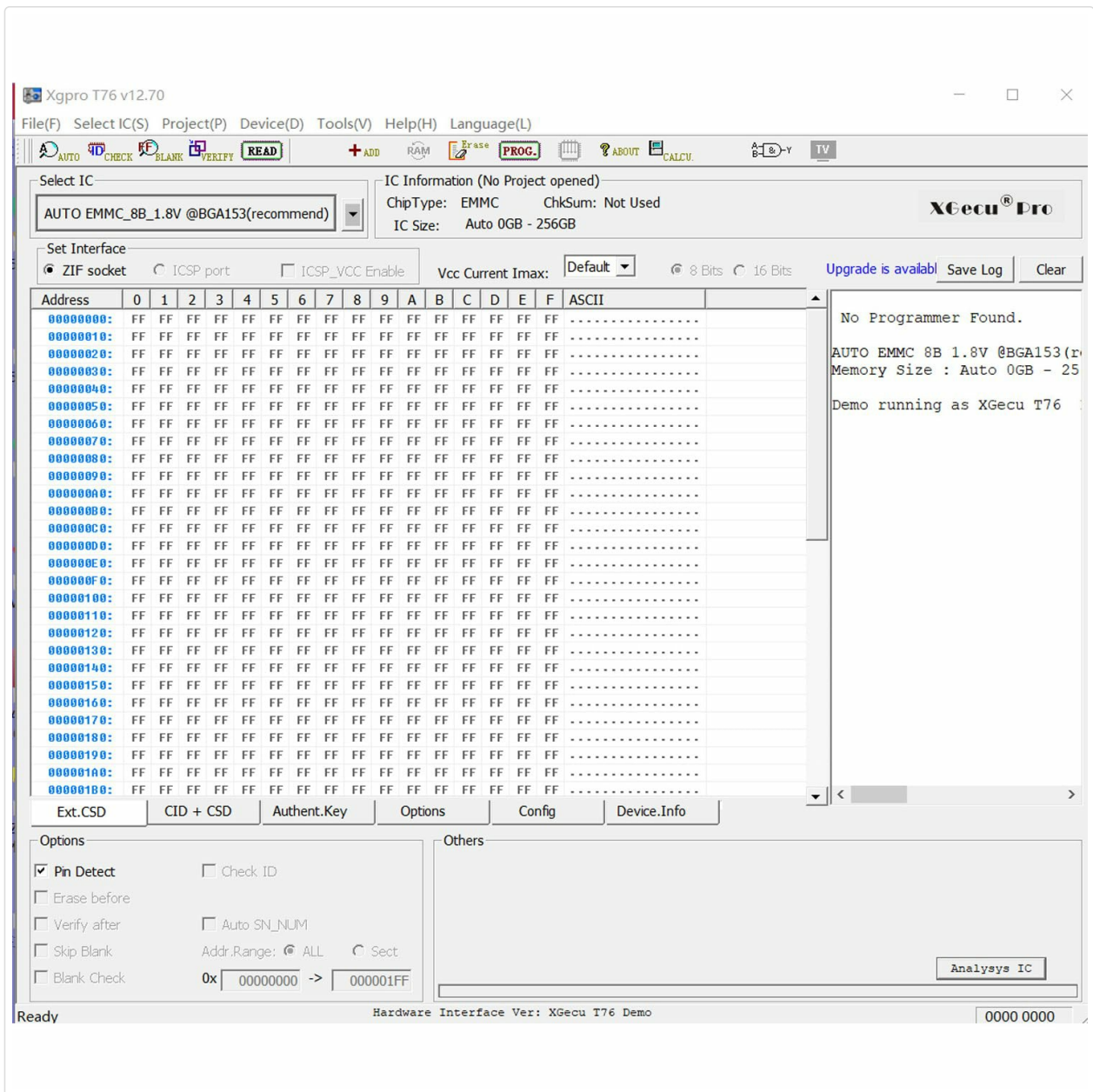


Figure 5: Screenshot of the XGecu T76 programming software interface, showing IC selection and data display.

4.2 Basic Programming Steps

1. **Select IC:** In the software, navigate to the 'Select IC' option and choose the specific chip model you intend to program. It is crucial to verify that the chip model is supported by the T76 Programmer.
2. **Load Data:** Load the data file (e.g., .bin, .hex) that you wish to write to the chip.
3. **Read/Write Operation:** Select the desired operation (Read, Write, Erase, Verify, Blank Check) from the software interface.
4. **Execute:** Click the 'Program' or 'Start' button to initiate the operation. Monitor the progress and any messages displayed by the software.

4.3 High-Speed Performance

The T76 Programmer offers exceptional data transfer speeds:

- EMMC 5.1 actual transfer rate: Up to 140MB/sec (8.4GB/minute).
- SPI NAND read speed: Up to 18MB/s.
- 64 Gb P-NAND read speed: 30MB/S.

5. MAINTENANCE

To ensure the longevity and optimal performance of your T76 Programmer, follow these maintenance guidelines:

- **Keep Clean:** Regularly clean the ZIF sockets and adapter pins with a soft, dry brush or compressed air to remove dust and debris. Avoid using liquids.
- **Proper Storage:** Store the programmer and its adapters in a dry, dust-free environment when not in use. Keep them away from extreme temperatures and direct sunlight.
- **Handle with Care:** Avoid dropping or subjecting the device to physical shocks. When inserting or removing chips and adapters, do so gently to prevent bending pins or damaging sockets.
- **Cable Care:** Do not bend or crimp the USB cable excessively. Store it neatly to prevent damage.

6. TROUBLESHOOTING

If you encounter issues with your T76 Programmer, refer to the following common problems and solutions:

6.1 Programmer Not Detected by Computer

- **Check USB Connection:** Ensure the USB 3.0 Type-C cable is securely connected to both the programmer and the computer. Try a different USB port.
- **Verify Drivers:** Confirm that the necessary drivers for the T76 Programmer are correctly installed. Reinstall them if needed.
- **Power Supply:** Ensure the programmer is receiving adequate power (5V <1A).

6.2 Chip Not Detected or Read/Write Errors

- **Chip Orientation:** Double-check that the chip is inserted correctly into the adapter or ZIF socket, following the pin 1 indicator.
- **Adapter Connection:** Ensure the adapter is firmly seated in the programmer's ZIF socket.
- **Chip Support:** Verify that the specific chip model is listed in the programmer's supported chip list. Contact the manufacturer if unsure.
- **Chip Condition:** Inspect the chip for any physical damage or bent pins.
- **Software Selection:** Ensure the correct chip model is selected in the programming software.

6.3 Overcurrent/Over-voltage Protection Triggered

The T76 Programmer includes multi-protection features. If an over-voltage, reverse connection, or over-current condition is detected, the device may temporarily cease operation or display an alert. Disconnect the power, inspect the setup for any short circuits or incorrect connections, and then reconnect.

7. SPECIFICATIONS

Feature	Specification
Model Number	T76

Feature	Specification
Interface	USB 3.0 Type-C
VCC Voltage	1.2V to 6.5V (64-level adjustable)
VPP Voltage	6.5V to 25V (64-level adjustable)
IO Signal Voltage	1.2V to 3.6V (64-level adjustable)
VCC Current Limit	120mA to 450mA
VPP Current Limit	150mA
Power Supply	5V <1A
Static Power Consumption	150mA (standby)
Supported Operating Systems	Windows XP, 2003, 2008, Vista, Win7, WIN8, WIN10, WIN11
Dimensions	8.46 x 5.63 x 2.48 inches
Item Weight	14.4 ounces

8. WARRANTY INFORMATION

Specific warranty terms and conditions may vary. Please refer to the product packaging or contact your point of purchase for detailed warranty information. Keep your purchase receipt as proof of purchase for any warranty claims.

9. SUPPORT

For technical assistance, software updates, or inquiries regarding chip compatibility, please contact the ICTOLTOL customer support team or visit the official product website. Ensure you have your product model number (T76) and any relevant purchase details ready when seeking support.