

ICTOLTOL SE-01

ICTOLTOL RT809H Universal Programmer Instruction Manual

Model: SE-01

1. INTRODUCTION

This manual provides detailed instructions for the safe and effective use of the ICTOLTOL RT809H Universal Programmer. The RT809H is a high-speed, versatile chip programmer designed for reading and writing various types of memory and microcontroller units (MCUs), including EMMC-Nand Flash, EEPROM, SPIFLASH, and more. It supports in-circuit programming (ISP) and offers intelligent chip detection features.

2. PRODUCT OVERVIEW

The RT809H Universal Programmer is equipped with 48-pin powerful pindrivers, eliminating the need for external adapters for many DIL devices. It features an ISP connector for in-circuit programming and dedicated VGA and HDMI ports for reading and writing LCD TV/Monitor data without disassembly. The programmer connects to a PC via a high-speed USB 2.0 interface.

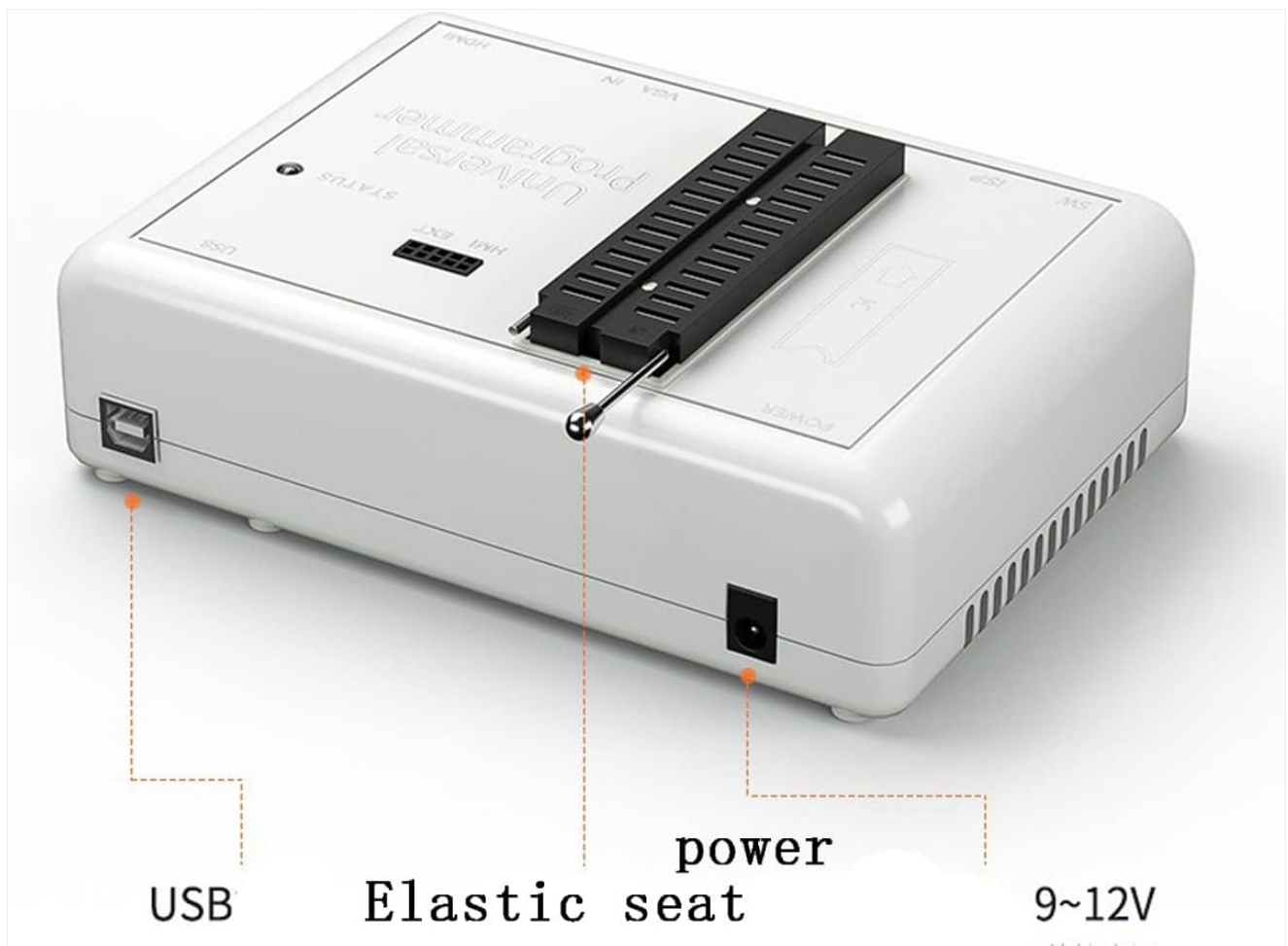


Figure 2.1: Front view of the RT809H Universal Programmer, highlighting the USB port, power input, and the ZIF (Zero Insertion Force) socket for chip placement.



Figure 2.2: Rear view of the RT809H Universal Programmer, illustrating the VGA, VGA ISP, and HDMI connectivity ports.

3. PACKAGE CONTENTS

Verify that all items listed below are included in your package. If any items are missing or damaged, please contact your vendor.

- 1 x RT809H Programmer Unit
- 1 x USB Cable
- 1 x TSOP48 Socket
- 1 x VGA Cable
- 1 x TSOP/VSOP/SSOP Adapter Board
- 1 x SOP28-DIP28 300mil Adapter

- 1 x TSSOP28-DIP28 Adapter
- 1 x SOP8-DIP8 200-208mil Adapter
- 1 x SOP8-DIP8 150mil Adapter
- 1 x TSSOP8-DIP8 Adapter
- 1 x SOP20-DIP20 Adapter
- 1 x SOP16-DIP16 150mil Adapter
- 1 x SOP16-DIP8 300mil Adapter
- 1 x PLCC44-DIP44 Adapter
- 1 x PLCC32 Adapter
- 1 x PLCC28 Adapter
- 1 x PLCC20 Adapter
- 1 x SOP8/MSOP8-DIP16 Simple Adapter
- 1 x 1.8V Socket
- 1 x KB9012 Board
- 1 x SOP8 Clip
- 1 x SOP8 0.65mm Board
- 1 x PLCC Extractor

**All adapters are gold-plated pin
better than sliver-plated pin**



long life & good contact

Figure 3.1: A selection of gold-plated adapters included with the RT809H programmer, designed for various chip packages.

Our PLCC44 socket is
Multifunctional function,
Support MCU and flash
Such as flash AT27C1024
mcu AT89S51

This kind of
PLCC44 **only**
support mcu

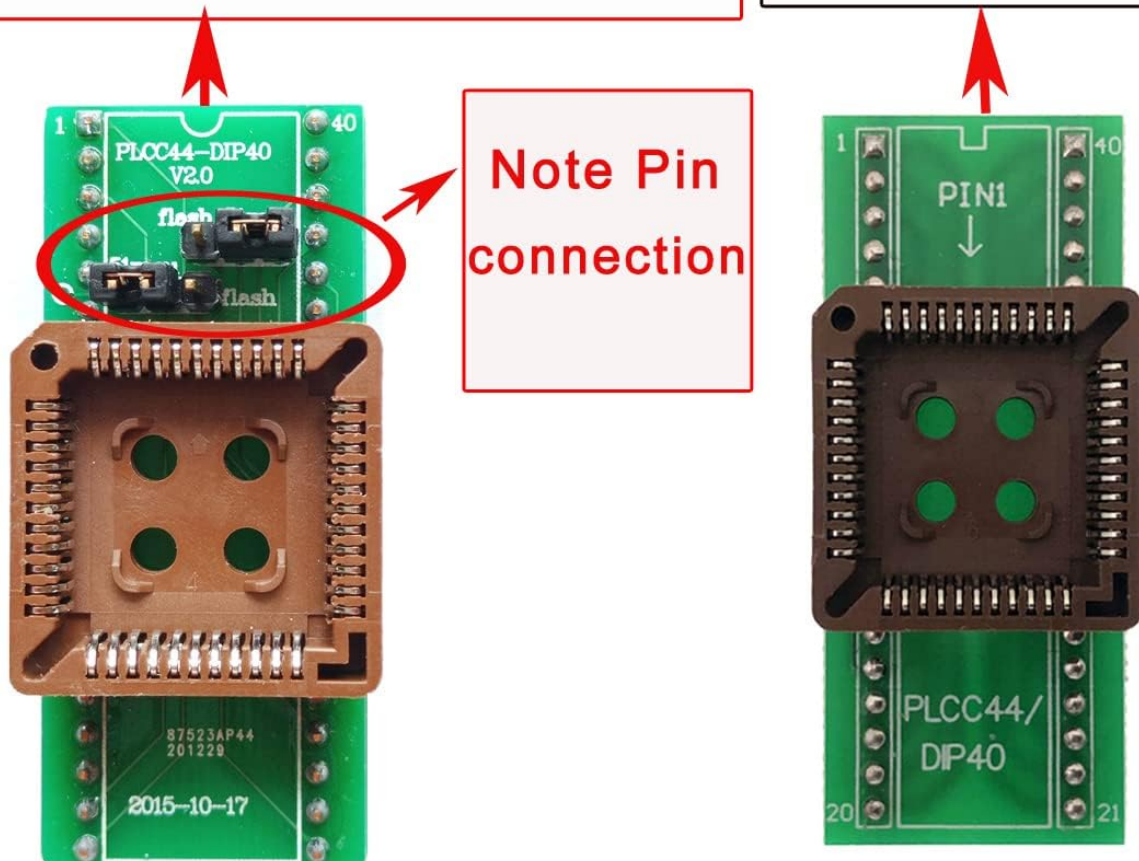


Figure 3.2: Illustration comparing a multifunctional PLCC44 socket (supporting MCU and Flash) with a standard PLCC44 socket (supporting only MCU).

Our sop8 clip cable length is 40cm

It is more convenient to operate



Other's clip cable length only 25cm

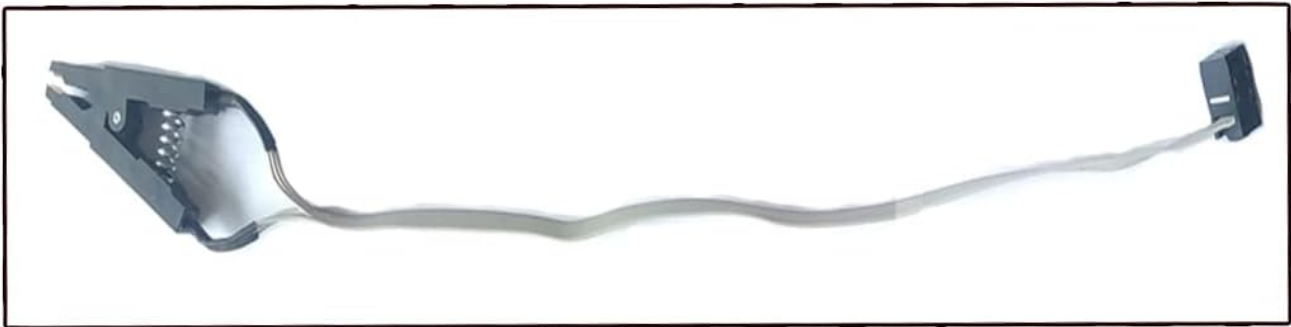


Figure 3.3: Comparison demonstrating the longer 40cm SOP8 clip cable provided with the RT809H, offering increased operational convenience.

4. SETUP INSTRUCTIONS

1. **Power Connection:** Connect a 9-12V DC power adapter (not included) to the power input port on the programmer. Ensure the power adapter meets the specified voltage requirements.
2. **USB Connection:** Connect the RT809H programmer to your computer using the provided USB cable. The programmer supports USB 2.0 (high speed/full speed) and is compatible with USB 1.1 interfaces.
3. **Driver Installation:** Allow your operating system to automatically install the necessary WHQL certified USB drivers. If automatic installation fails, refer to the manufacturer's website for manual driver installation instructions.
4. **Software Installation:** Install the RT809H programming software on your computer. Follow the on-screen prompts during installation.
5. **Initial Self-Test:** After software installation, it is recommended to perform a self-test using the software's built-in SELFTEST function to verify the programmer's functionality.

5. OPERATING INSTRUCTIONS

5.1. General Programming Workflow

1. **Launch Software:** Open the RT809H programming software on your computer.
2. **Connect Chip/Device:**
 - For DIL devices, place the chip into the ZIF (Zero Insertion Force) socket. The programmer features intelligent perception, allowing chips to be placed arbitrarily (NAND chips require correct orientation). The programmer will intelligently identify the memory model.
 - For other package types, select the appropriate adapter from the included kit and insert the chip into the adapter, then place the adapter into the ZIF socket.
 - For in-circuit programming (ISP), connect the ISP cable to the ISP connector on the programmer and to the target device.
 - For LCD TV/Monitor programming, connect the VGA or HDMI cable to the respective port on the programmer and to the TV/Monitor.
3. **Chip Identification:** Use the software's "Smart Identify" or "NAND_AUTO" / "EMMC_AUTO_ISP" functions to automatically detect and identify the connected chip.
4. **Select Operation:** Choose the desired operation (Read, Write, Verify, Erase, Protect) from the software interface.
5. **Load/Save Data:** Load the data file you wish to write to the chip, or save the data read from the chip to a file.
6. **Execute Operation:** Initiate the programming operation. Monitor the progress and status messages in the software.
7. **Disconnect:** Once the operation is complete and verified, safely disconnect the chip or device.

5.2. Key Features and Capabilities

- **Intelligent Chip Perception:** Automatically identifies most memory models and allows flexible chip placement in the ZIF socket (NAND chips require orientation). Prevents chip damage even if inserted incorrectly.
- **NAND_AUTO & EMMC_AUTO_ISP:** Dedicated functions for automatic identification and read/write operations for NAND and EMMC chips.
- **Deep Sleep Function:** Automatically powers off the programmer when the software is closed, conserving energy.
- **Wide Chip Support:**
 - 24/25/93/95 series serial SPIFLASH, EEPROM (offline read/write).
 - 26/27/28/29/30/39/49/50 series NOR FLASH/PROM (read/write).
 - LCD/LED flat-panel TV, display mainstream solution chip ISP online read/write.
 - Notebook computer motherboard 18/KB90/NPCE/MEC16 series EC chip read/write.
 - TSOP48 and BGA package NAND FLASH parameters (automatic identification, offline read/write).
 - Online and offline EMMC identification, BOOT/USER/RPMB/GPP area read/write.
- **Laptop I/O Programming:** Supports reading and programming Laptop I/O via keyboard line.
- **LCD TV/Monitor Programming:** Supports reading and programming LCD TV/Monitors via VGA and HDMI ports without disassembly.
- **User-Upgradable Flash Support:** Allows users to add support for new flash types without waiting for factory updates.

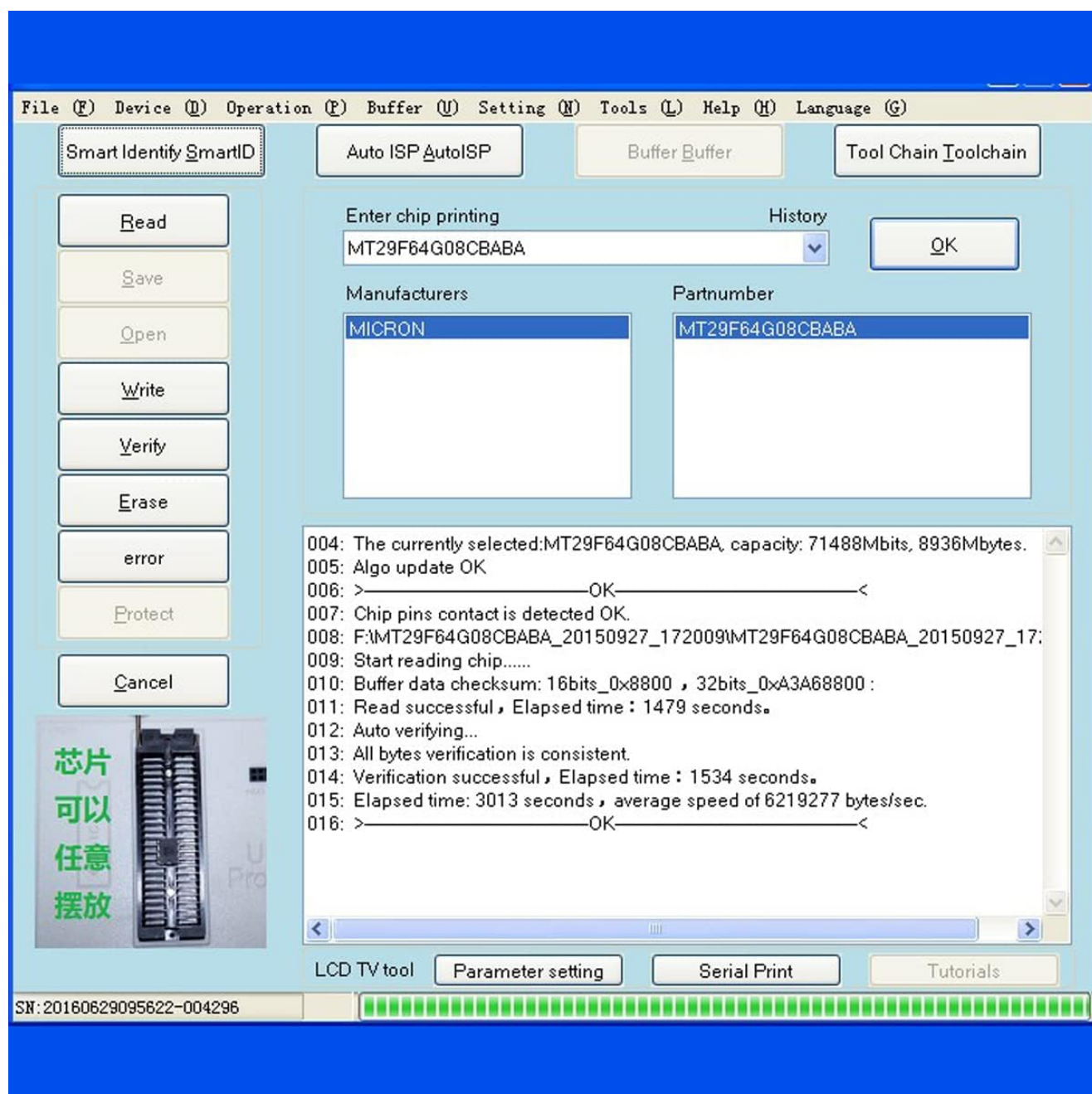


Figure 5.1: Main interface of the RT809H programming software, displaying options for chip identification, read/write operations, and status messages.

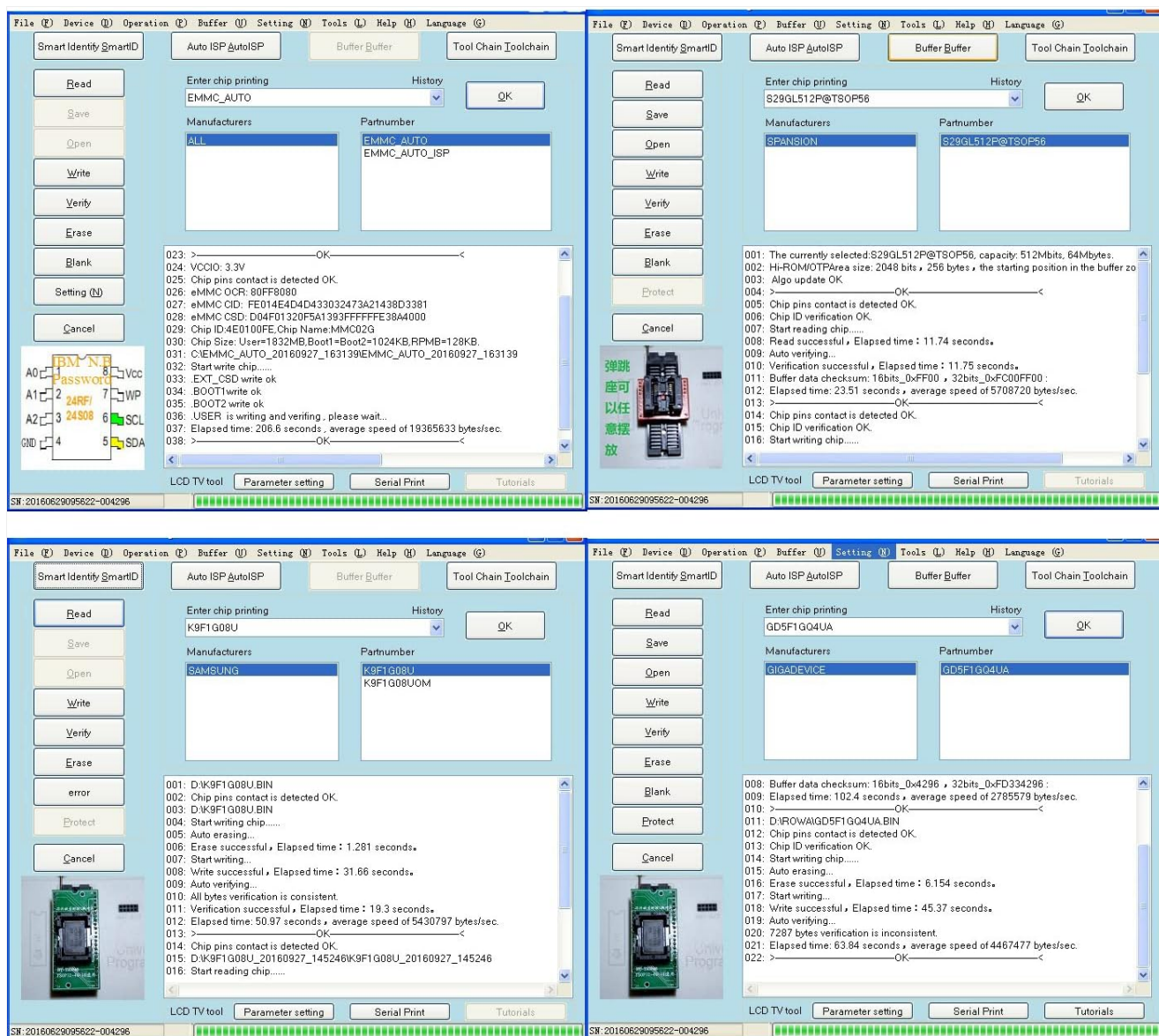


Figure 5.2: Examples of the RT809H software interface during programming operations for various chip types, including EMMC, SPIFLASH, and NAND.

RT809H support list



LCD Monitor



laptop



LCD TV



Desktop PC



network set-top box



GPS

Figure 5.3: Visual representation of various devices and components supported by the RT809H programmer, such as LCD monitors, laptops, LCD TVs, desktop PCs, network set-top boxes, and GPS units.

6. MAINTENANCE

- **Cleaning:** Keep the programmer unit and adapters clean and free from dust and debris. Use a soft, dry cloth for cleaning. Avoid liquid cleaners.
- **Storage:** Store the programmer and its accessories in a dry, cool environment, away from direct sunlight and extreme temperatures.
- **Adapter Care:** Handle adapters carefully to prevent bending or damaging the pins. Ensure proper insertion and removal from the ZIF socket.
- **Software Updates:** Regularly check the manufacturer's website for software updates to ensure optimal performance and support for new chips.

7. TROUBLESHOOTING

Problem	Possible Cause	Solution
Programmer does not power on.	No power adapter connected or incorrect voltage.	Ensure a 9-12V DC power adapter is correctly connected. Note that a power cord is not included with the unit.
Programmer not recognized by PC.	USB cable issue or driver not installed correctly.	Try a different USB port or cable. Reinstall USB drivers from the manufacturer's website.
Chip not detected or read/write errors.	Incorrect chip placement, wrong adapter, or chip damage.	• Ensure the chip is correctly seated in the ZIF socket or adapter. For NAND chips, verify orientation. • Select the correct chip type and adapter in the software. • Use the software's "SELFTEST" function to check programmer integrity. • Inspect chip pins for damage.
Software crashes or freezes.	Software incompatibility or system resource issues.	Ensure your operating system meets software requirements. Close other applications. Reinstall the software if necessary.

8. SPECIFICATIONS

Feature	Detail
Model Number	SE-01
Brand	ICTOLTOL
Pindrivers	48-pins (no adapter required for DIL devices)
Connectivity	USB 2.0 (up to 480 Mbit/s, high speed/full speed), USB 1.1 compatible
Video Ports	VGA, HDMI (for LCD TV/Monitor programming)
ISP Connector	Yes, for in-circuit programming
Supported Memory Capacity	Up to 64GB NAND FLASH
Read/Write Speed	Up to 25MB/S
Power Input	9-12V DC (power adapter not included)
Item Weight	1.87 pounds
Package Dimensions	10.24 x 9.88 x 4.09 inches

9. WARRANTY AND SUPPORT

For warranty information and technical support, please refer to the documentation provided with your purchase or contact the manufacturer, ICTOLTOL, directly. Keep your purchase receipt as proof of purchase for warranty claims.