

DIGITAL IC TESTER

USER MANUAL



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INTRODUCTION

The Arduino Based Digital IC Tester allows you to analyze and test various integrated circuits effortlessly. This user manual serves as your comprehensive guide to unlocking the full potential of this versatile and cost-effective tool, designed to cater to all your testing needs. Its user-friendly interface and LCD display panel provide a seamless experience, enabling you to obtain accurate truth tables for different ICs. With this IC tester in your hands, you can confidently explore the functionality of various ICs with ease and reliability.

FEATURES

- Capable of testing a wide range of digital ICs, including 4000, 7400 series, and more.
- User-friendly Nokia 5110 LCD display for clear and convenient interface.
- 15-key keypad for easy data entry and control.
- Two testing methods: Auto-search and Manual-checking.
- Auto-search method quickly detects the IC type based on input signals.
- Manual-checking method allows in-depth testing with truth table comparison.
- 16MHz processing speed (No time-lag during data entry and display, ensuring fast and efficient testing.)
- Auto-adjustable LCD panel with low power consumption.

- Pause and skip options for truth tables, enhancing user experience.
- Reproduction of previous stages without device reset, ensuring efficiency.

SPECIFICATIONS

Parameters	Specifications
Operating voltage	7V-12V
Test socket	20 pins
Display unit	Nokia 5110 LCD (48x84 pixels)
Input method	5x3 matrix keypad
Operating Temperature	10°C to 40°C
Storage temperature	0°C to 50°C
Product lifetime	15 years
Dimensions	13cm x 12cm x 4.5cm
Weight	400g

CONTROLS & INDICATORS

Product consists of the LCD display with keypad and the power adapter. All switches, LEDs and other components that are important for you to understand the device functionality is indicated in figure below.

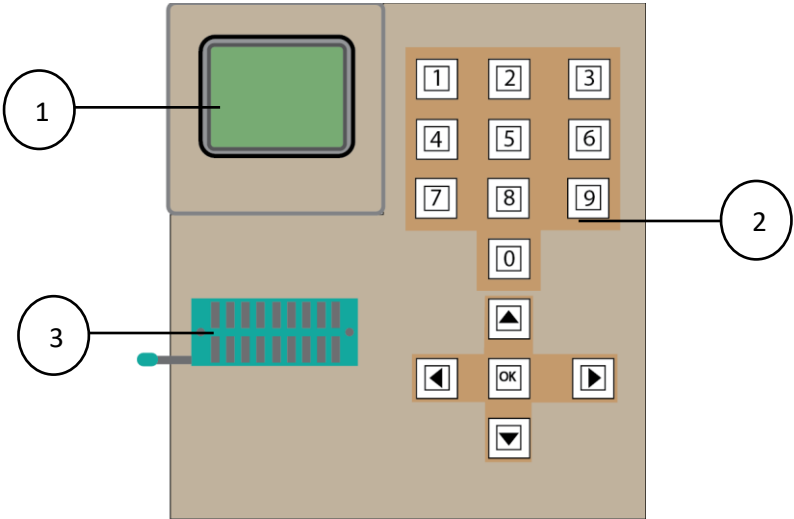


Figure 1

No.	Name
1	LCD display
2	Keypad
3	Socket

FUNCTIONS

The Arduino Based Digital IC Tester offers two methods for checking a particular IC:

- a. Auto-search Method: Enter the number of pins of the IC to be checked. The device will automatically manifest all possible input signals to the IC. The response for each input is compared to the database, and the IC is declared as good if matched.
- b. Manual-checking Method: Enter the IC number to be tested. Basic details of the IC will be displayed. The user can select the option for truth tables for a detailed check. The tester will provide the necessary inputs to each gate based on the truth table. Outputs from the IC are compared to expected results, and the overall condition of the IC is displayed.

The IC tester has been successfully tested with the following ICs: 4000, 4001, 4002, 4011, 4012, 4023, 4025, 4029, 4030, 4049, 4050, 4068, 4069, 4070, 4071, 4072, 4073, 4075, 4077, 4081, 4082, 4093, 5408, 5409, 5411, 5421, 5479, 7266, 7400, 7401, 7402, 7403, 7404, 7405, 7408, 7409, 7410, 7411, 7412, 7414, 7420, 7421, 7427, 7430, 7432, 7473, 7474, 7476, 7478, 7479, 7486, 74132 and 74393

The device's capabilities can be enhanced by incorporating new functions and libraries into the program.

TESTING PROCEDURES

STEP 1: Connect the IC to the socket as Pin 1 side, faces up.

STEP 2: Power up the tester using the on/off button shown in figure 1 to turn on the device.

STEP 3: For Auto-search, enter the number of pins of the IC you want to test. For Manual-checking, enter the IC number to display basic details.

STEP 4: Choose the truth table option to view the truth tables (applicable for Manual-checking).

STEP 5: Follow the instructions displayed on the LCD for further testing.

TROUBLESHOOTING

Situation	Reason	How
LCD's dark backlight	Power off	Reset power
No message on the LCD	Loose power code	Tighten power cord
No response from keyboard	Burned fuse	Replace fuse
LCD appears irregular	Damaged LCD unit	Replace LCD unit
LCD back light is dark		
Some keys no response	Keyboard damaged	Replace the keyboard
IC test unstable	Bad contact between IC and socket	Place the IC again
	Damaged socket	Replace the socket
	Unstable internal circuit	Replace an IC

NOTICES

- Do not drop from height or expose to vibration.
- To avoid incorrect results or possible damage to the device, please operate and handle the device in accordance with the manual.
- The IC tester should only be stored or used between the highest temperature and the lowest temperature mentioned above in specifications and do not expose to high humidity or electromagnetic field.
- If there is dust on the surface of the device after long-term use, please clean it lightly.

STANDARD ACCESSORIES SUPPLIED

- Adaptor
- User manual
- One year warranty card

Thank you for choosing the Arduino Based Digital IC Tester. We hope this user manual enhances your testing experience and helps you effectively operate our device. If you have any questions or need further assistance, please feel free to contact us.

CONTACT DETAILS

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