

**ELECTRONIC MODULAR SYSTEM TRAINER MODEL T-902A, DEVICE 6B37****TRAINING CATEGORY:**

BASIC SCIENCE (2) (Electronic)

ORIGINATING AGENCY:

CNET

SECURITY CLASSIFICATION:

Device 6B37 is unclassified.

INTENDED USE:

The Model T-902 Modular Systems Trainer is a training aid in the area of solid state electronic circuitry. The unit enables the user to observe a circuit(s) performance without having to construct the circuit; this modular concept provides the student with more time to study and observe circuit theory and operation. Once an individual circuit has been set up and studied, it can be combined with other circuits supplied with the unit and a subsystem or specific functioning black box, such as a series regulated power supply, can be established and studied.

FUNCTIONAL DESCRIPTION:

The circuits supplied with the T-902A are built on printed circuit boards which compose the circuit foundation in today's state-of-the-art in electronics. The use of solid state circuitry on the PC boards allows the user to acquire the state-of-the-art feeling and knowhow in circuit performance, debugging, adjustment, and modification since all electronic equipment has as its heart the PC board and solid state circuitry.

A multiple of test points per board are provided at the board connector to permit the user to see, using an oscilloscope, the circuit function thus leading to an understanding of the operation of the circuit.

Each circuit board provides the capability, especially for the instructor, of removing or opening, interchanging, shorting, or readjusting several of the circuit components. In doing so, understanding of the circuit through debugging is greatly enhanced.

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More capability in debugging exercises is provided by allowing the DC voltage supplies to the boards to be removed or changed by switch manipulation under the chassis or main frame.

The user will gain knowledge and experience from the variety of circuits since the circuits are of the analog, pulse and switching, and power supply type.

Each of the trainer circuit boards has a schematic showing the component labeling for each component used on the board. The board itself has the identical component labeling which simplifies circuit diagnosis, study, and checking.

PHYSICAL INFORMATION:

The T-902A Unit consists of the following:

The chassis or main frame with eight (8) board connectors, J1 thru J8, speaker, switches and a potentiometer controls, transformers and coils, and power supplies.

Each circuit board connector, J1 thru J8, has a maximum of ten (10) test points, TP1 thru TP10, available for each circuit board used in the connector. Also, four (4) common or ground points are provided in close proximity to the connectors on top of the chassis. These check points and grounds permit an oscilloscope to be utilized to check several of the critical points on each of the circuit boards.

POWER REQUIREMENTS:

The T-902A operates from standard 110 VAC, 60 Hz. power. A fuse, an indicator lamp, and an on/off switch interrupt and indicate the power status to the unit.

DC voltages of ± 6 vdc and ± 15 vdc for the unit are produced and regulated by a PC board, board A22, internal to the chassis. Application of the ± 6 vdc to the circuits can be controlled by three (3) sets of switches under the chassis or main frame. These switches allow the ± 6 vdc voltages to be removed (opened or shorted), changed to half-value, or supplied to the boards in the normal mode.

CONTRACT IDENTIFICATION:

Manufactured by Spaco, Inc., Huntsville, AL under NAVTRASYSCEN Contract No. N66314-72-C-3127.
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