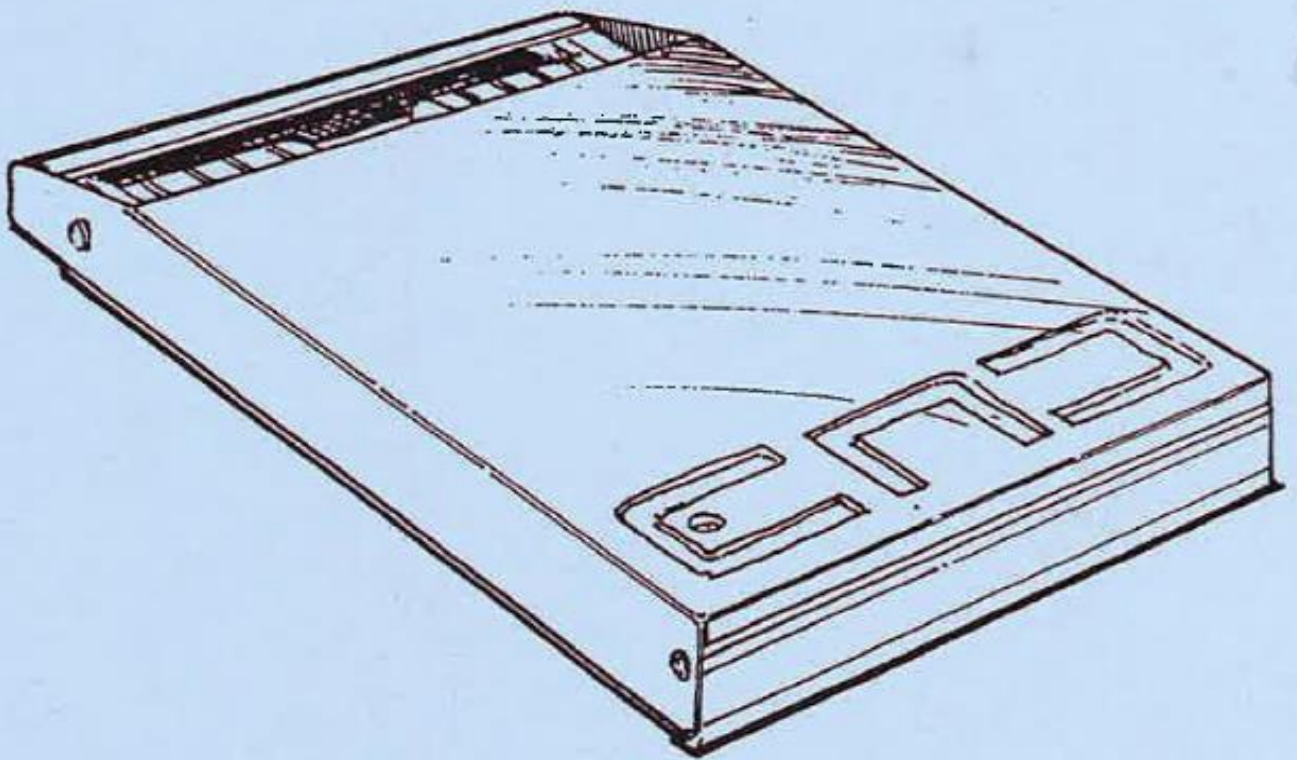





ELECTRONICS NETWORK DESIGNER



OPERATIONS MANUAL

**HMI HOYME MANUFACTURING INC.
4512 - 39th STREET
CAMROSE. AB T4V 2N5**



END

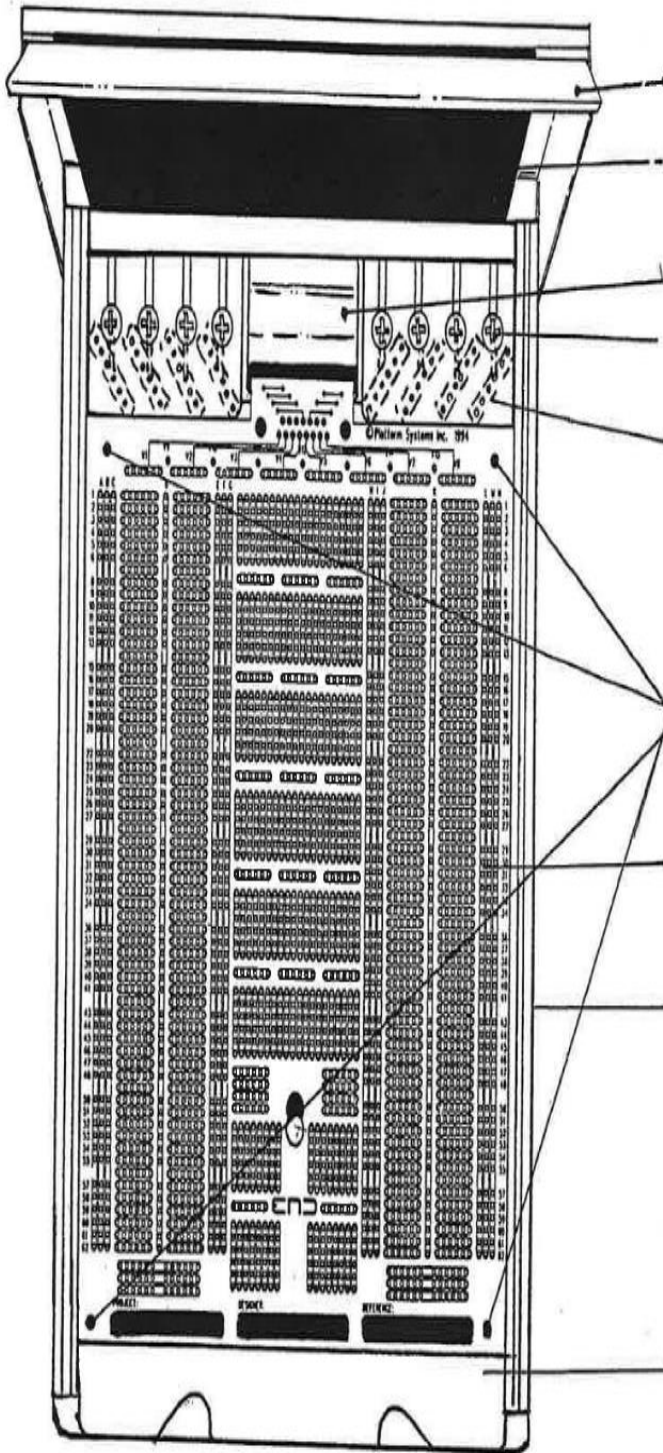
ELECTRONICS NETWORK DESIGNER

Introduction to the Electronics Network Designer

The Electronics Network Designer is designed to accelerate the process of prototyping electronics circuits using the breadboarding process. This product is unique in its design and should prove a valuable tool to professional engineers, students and hobbyists.

The END has features that are designed to make the production of 'hard' working circuits as simple and fast as possible, some of its features are listed below:

- High density of connections. Over 3,400 insertion points on a 6.5" x 7.0" area.
 - 8 input terminals. Each connected to six wire sockets to allow 48 input wires onto the board.
 - 14 vertical tracks. Allow for greater power transmission around the board and greater density.
 - Six-point connectors. The matrix uses six-point clips to increase the number of connections to IC's etc...
 - Flexible connector design. Different styles of circuit board are available with varying types of connectors including 8 position cardedge, DB-15 serial cable, 31 position cardedge connectors and screw post interconnections.
 - Compact design. Tough all-metal construction and low profile design allow the END unit to be easily transported from lab to home.
-



COVER LOCK

FOAM PAD

CENTER BOARD SUPPORT

INPUT CONNECTORS (8)
(Universal 6-32)

OUTPUTS TO BOARDS (48)
(Each input terminal is served by six
output terminals for distribution onto
circuit board)

ALIGNMENT PINS (4)
(from matrix to circuit board)

CIRCUIT BOARD
(3433 Insertion Points)

SIDE RAILS

SLIDING LOCK HOLD-DOWNS (2)
(on back surface)

FINGER PLATE

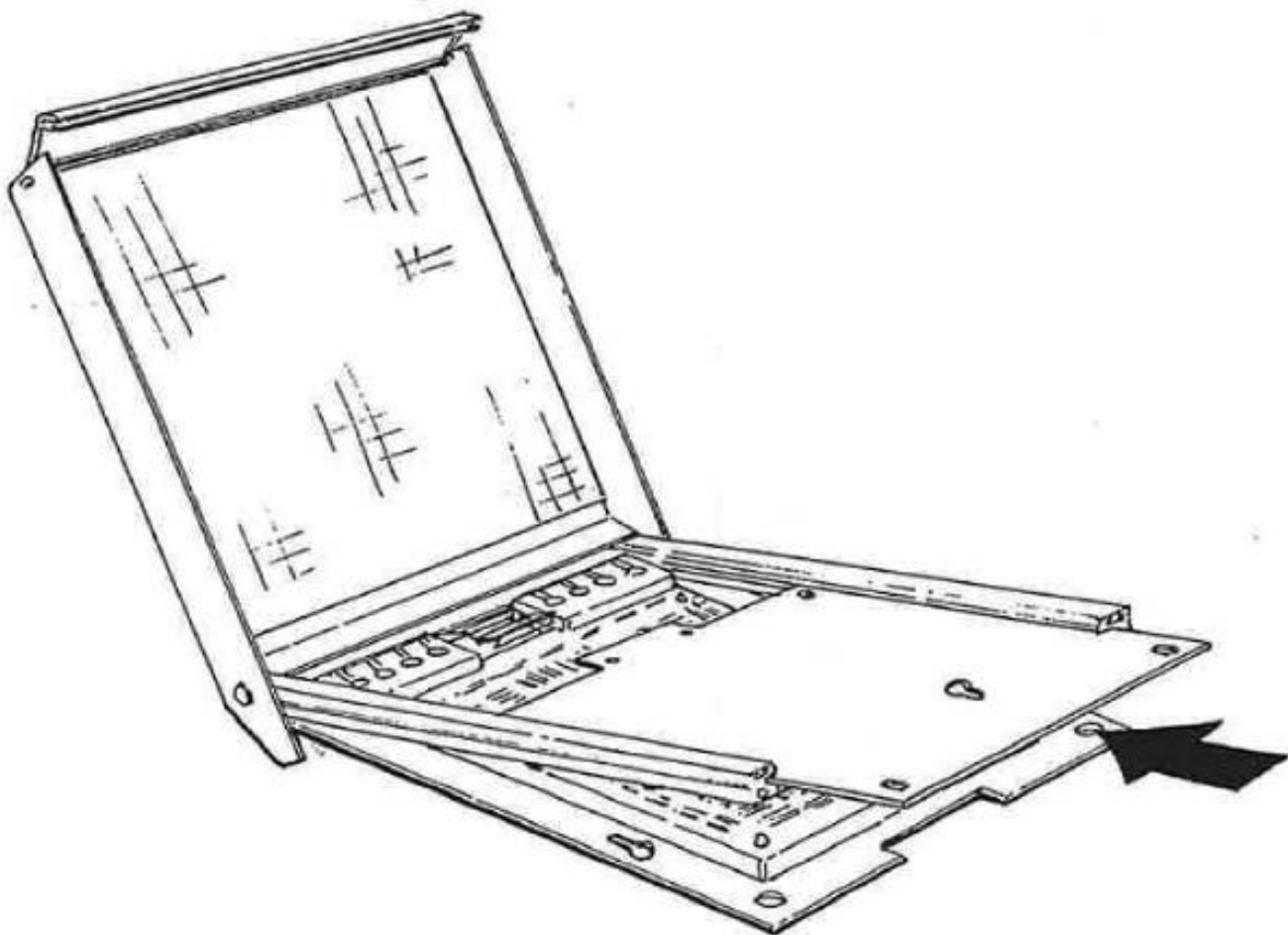
OPERATION OF THE END PRODUCT

The operation of the tool is relatively simple and is explained in the following diagrams.

Care in use and insertion of components will greatly reduce the chances of damage to the clip matrix and ensure a long product life.

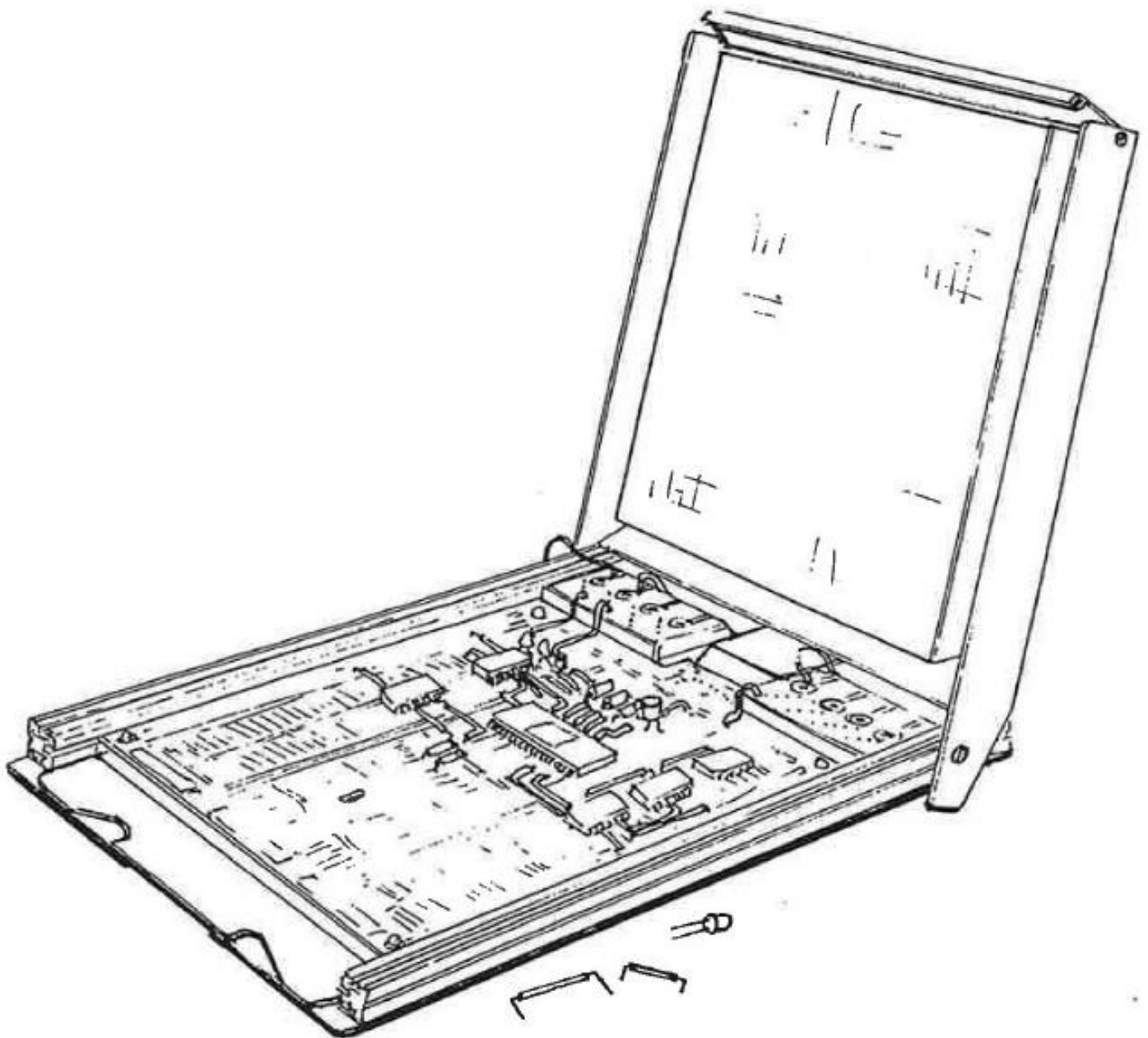
1. BOARD INSERTION

Insert the circuit board into the frame and slide it down to align with the top two pins. Depress the frame and the circuit board should locate with the lower alignment pins. Engage locking mechanism and ensure the board is securely held down onto connector matrix.



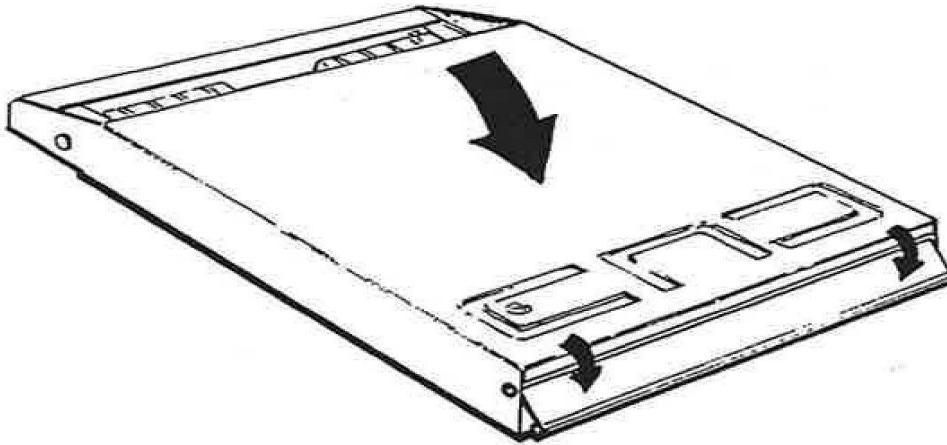
2. ASSEMBLY OF CIRCUIT

With the circuit board in place, the product can be populated with components as one would with a conventional type of breadboard. Jumper wires are used to connect components to each other to complete the circuit being prototyped.



3. CLOSING THE UNIT

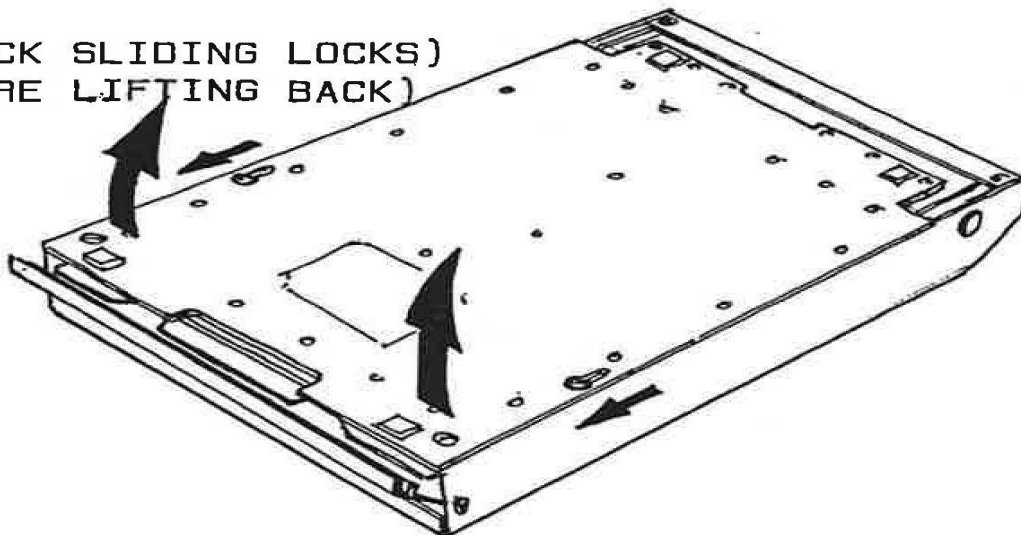
When the circuit is completed, the unit is closed and the cover lock is locked onto the frame finger plate this compresses the foam against the components and holds them in place. Small components that are close to larger ones may need to be taped in position to prevent them from falling out of the circuit board.



4. EXPOSING THE SOLDER SIDE

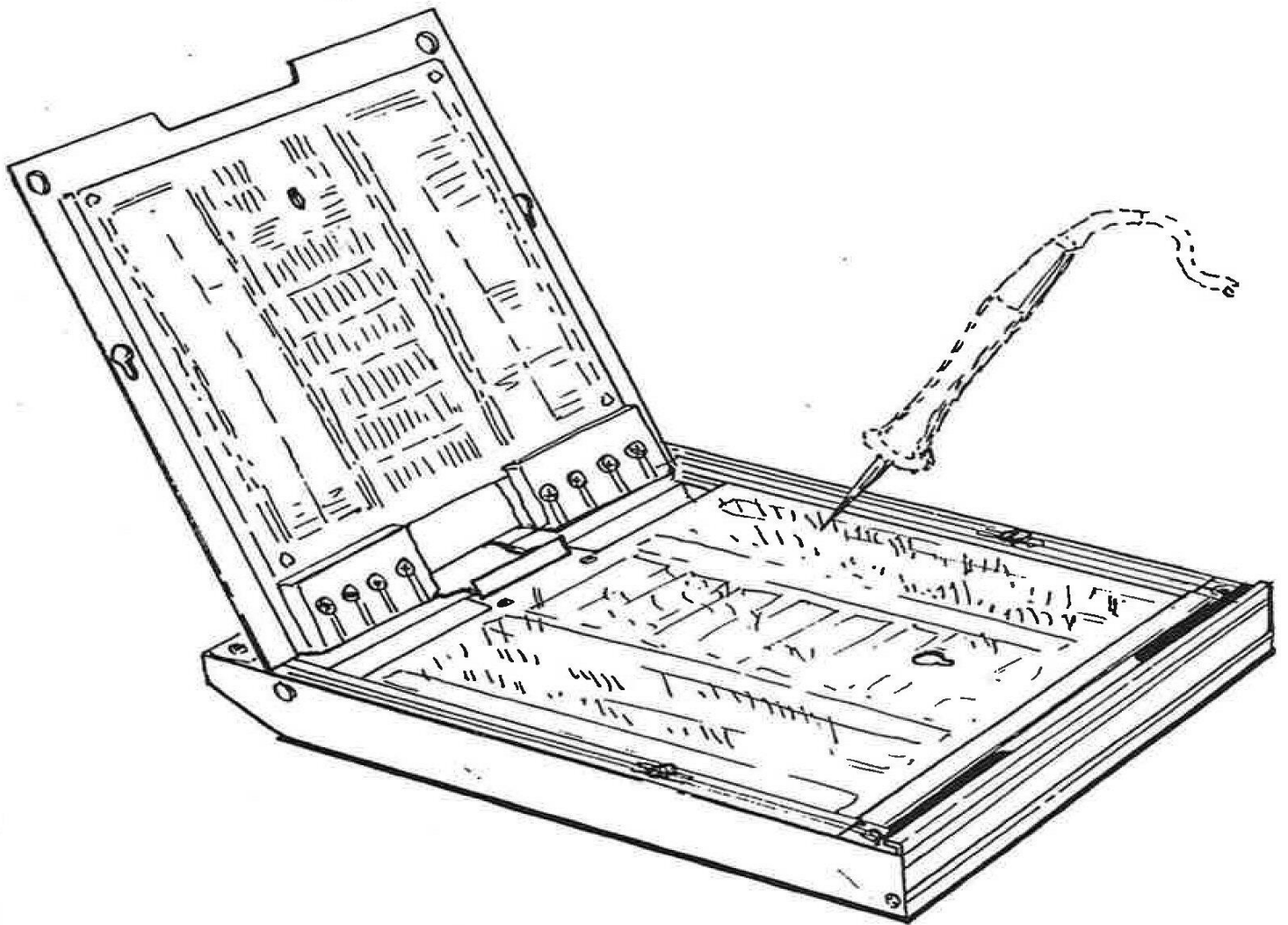
Turn the closed END unit over, ensure that it is on a protective surface to prevent scratching, and carefully lift the backplate up to separate the component leads from the clip matrix. It may be useful to carefully press the edges up with a screw driver or any other flat object. This should be done with extreme care to ensure that all component leads are visible on the back-side of the circuit board, leads that fall down can be soldered later after the board is removed.

(UNLOCK SLIDING LOCKS)
(BEFORE LIFTING BACK)



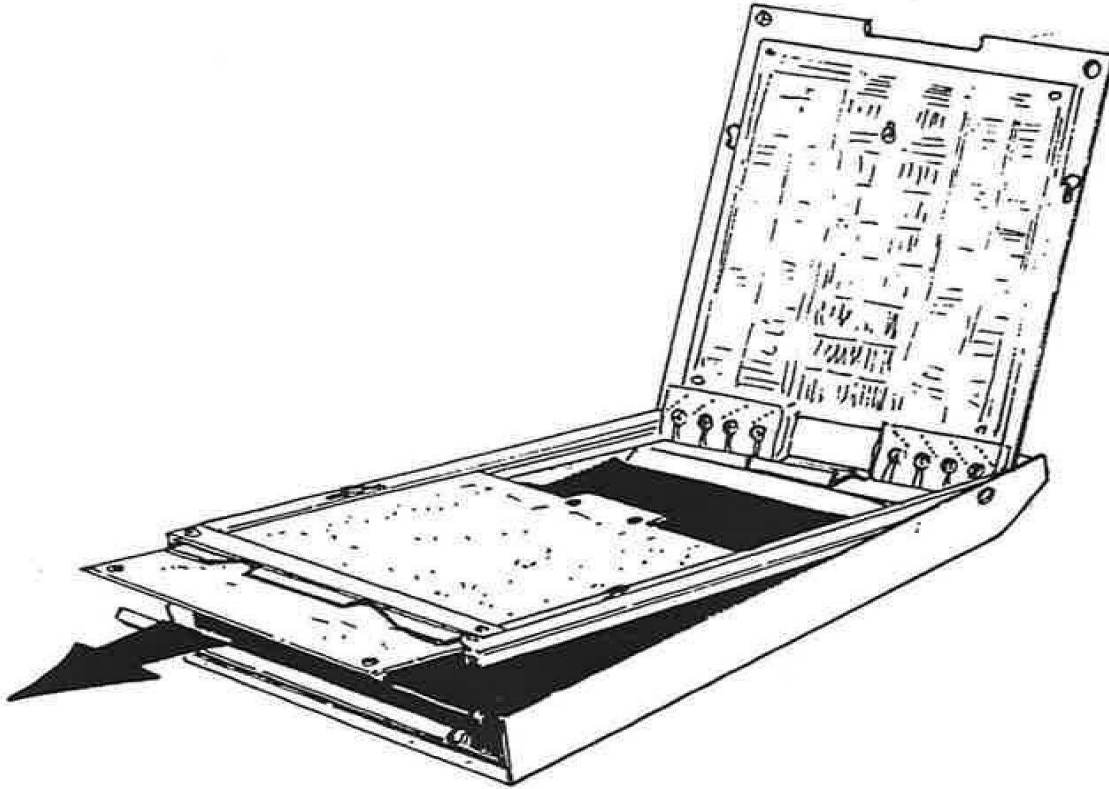
5. SOLDERING

Each wire that protrudes from the circuit board should be carefully soldered.



6. REMOVING THE COMPLETED BOARD

When all of the component leads have been soldered to the circuit board, they can be trimmed to a height of no more than 0.1" from the surface of the board. The completed board can now be removed from the product and the tool is now ready for another project.



CARE AND MAINTENANCE OF THE END PRODUCT

The cover should be cleaned with a non-solvent type of household cleaner and kept away from abrasive surfaces to prevent scratching. The base matrix should not be exposed to any liquid cleansers at all as it will cause corrosion of the clips and shorting of the connections. To clean the base matrix; use a fine, dry brush to remove dust and particles. It is recommended that you always keep a circuit board in the product to keep the base matrix covered and free from potential contaminants.

HELPFUL HINTS

* Watch out for small wires and leads that may fall out when the unit is turned over. We suggest taping them in place before you turn the unit. Also use the schematic diagram to keep track of your circuit design. This way you can replace stray leads.

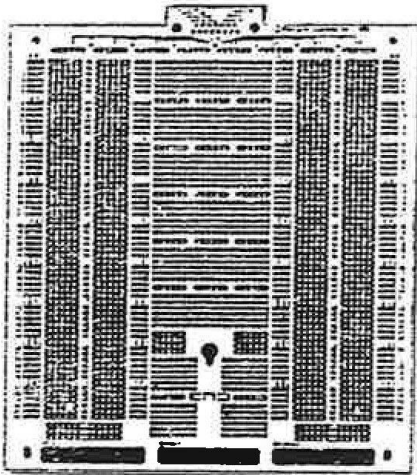
* The circuit boards are FR4 and only 0.03 thickness. They can be cut easily with a sturdy pair of scissors. The remaining parts of the circuit board can be used as a general purpose universal printed circuit board.

* Banana plugs can be substituted for the screw input connectors by removing screw and inserting plugs into threaded metal inserts.

* PLCC Socket Adapters (44, 52, 68 pin) are designed to plug into the centre section of the circuit board with the left and right terminal rows in the first holes of the horizontal buses (next to the vertical buses E and J)

More Products From

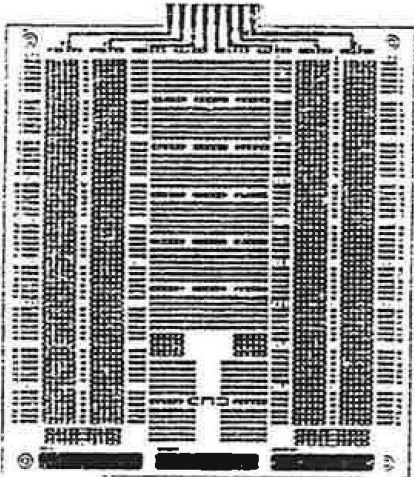
REPLACEMENT CIRCUIT BOARDS



High Quality Gold PCB

(CB 01AYF)

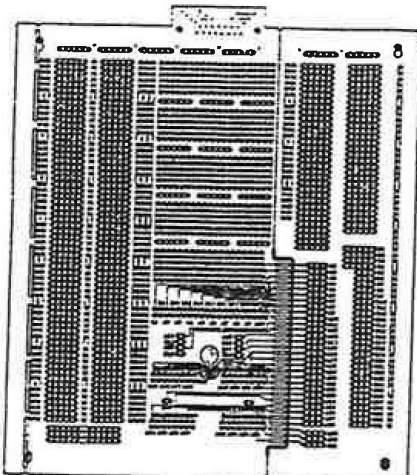
Compatible w/: ED 01NAA
Connectors: DB-15
Dimensions: 6.875" x 8.00" x 0.031"
Description: Dbl sided, gold plated,
thru hole FR-4, 1 oz.
copper



Value Priced PCB

(CB 02BYE)

Compatible w/: ED 01NAA
Connectors: 8 pin standard or cardedge
Dimensions: 6.875" x 8.00" x 0.031"
Description: Single sided, solder plated
FR-4, 1 oz. copper



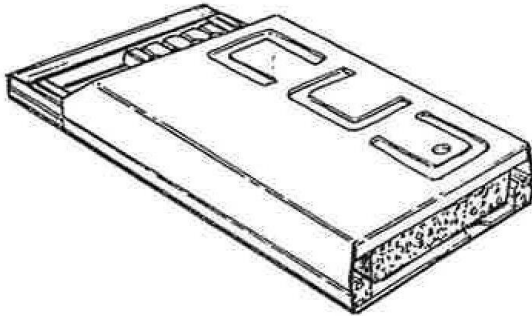
PC Cardedge PCB

(CB 01AYG)

Compatible w/: ED 01NAA
Connectors: 31 position card edge
Dimensions: 6.875" x 8.00" x 0.031"
Description: Dbl sided, gold plated, thru
hole

PLATFORM SYSTEMS

OTHER PROTOBOARDS



Compact Model of the END

(ED 22NDC)

- Smaller version of the END
- Two vertical working areas
- Connection strips in rows of 6
- 2154 connection points
- 11 vertical buses
- 4 binding posts
- Removable cover

REPLACEMENT CIRCUIT BOARD

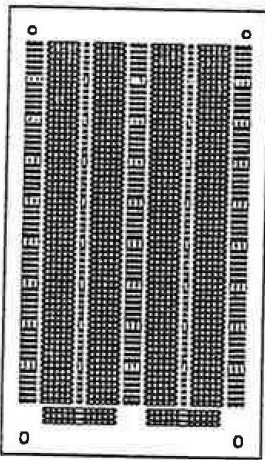
Value Priced PCB

(CB 22BYH)

Compatible w/: ED 22NDC

Dimensions: 4.44" x 7.625" x 0.031"

Description: Single sided, solder plated
PCB FR-4, 1 oz. copper



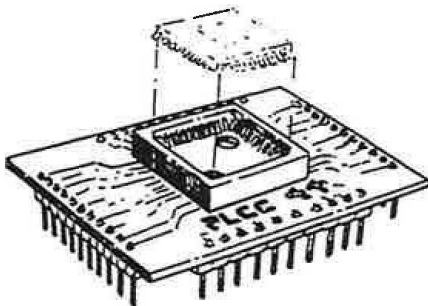
PLCC SOCKET ADAPTERS

Prototype With Surface Mount

(SM44A02- 44 pin

(SM52A02- 52 pin

(SM68A02- 68 pin



Compatible w/: ED 01NAA

Description: Variable pin sized PLCC
socket mounted on a mini FR-4 PCB,
connected to connector strip compatible
with ED 01NAA.