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TM8500/TM8550 Microterminals

Installation Instructions

Revision A
May 1988

Publication MB51459
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Installation Instructions

UNPACKING

The TM8500 base unit, modules and accessories may be in separate boxes. These boxes should be retained and used if there is ever a need to ship the units. Special care should be taken with the option modules. These modules are shipped in special antistatic plastic boxes with a small sheet of silver saver paper. This packaging protects the module and its elastomeric connectors. To insure proper operation of the TM8500, it is important to always store unused modules in their original boxes to prevent static damage to components and oxidation of connector surfaces.

Inspect all received parts for damage and report problems to the carrier. Do not attempt to use a TM8500 with a damaged case or display.

CAUTION: As with all electronic equipment, it is important to avoid static discharge to modules, electronic components, and interface connectors. It is good practice to touch a grounded metal surface before making connections to the TM8500 or handling its option modules.

SELECTING THE COMMUNICATIONS INTERFACE

The TM8500 permits the user to choose either an RS-232 or an RS-422 communications interface. A socket on the circuit board accepts a jumper plug that selects either interface protocol. The unit is shipped with the plug in the RS-422 position. To move this jumper to the RS-232 position, follow the instructions and diagram on the following page.

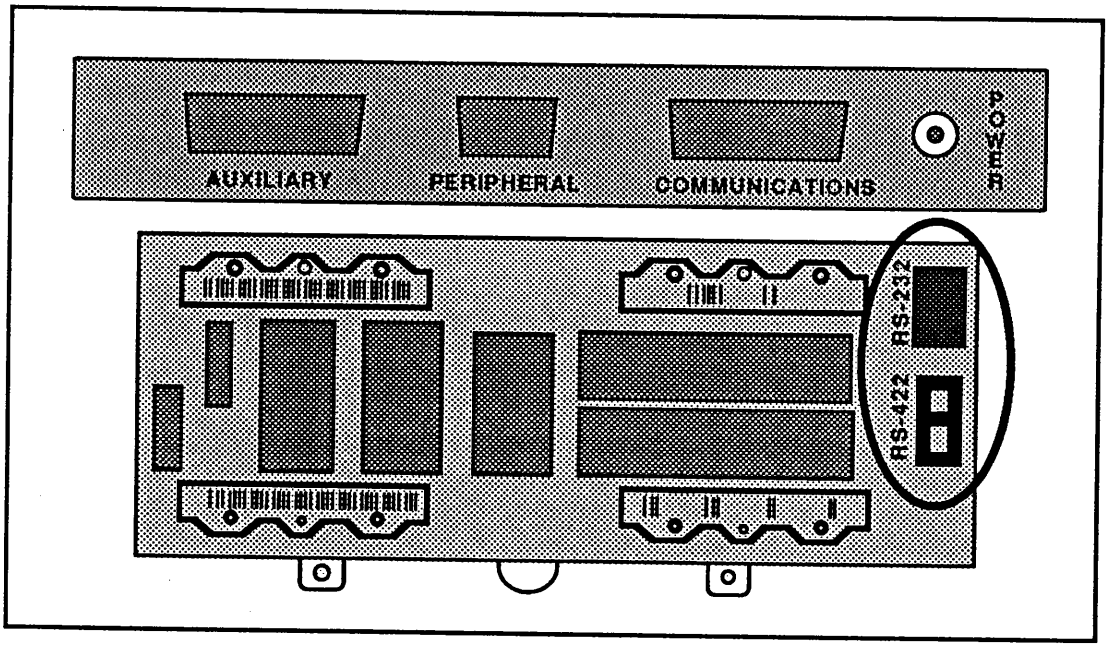
CAUTION: Check that power is disconnected before proceeding.

1. Place the terminal upside down on a flat surface. Remove the module access door by removing the two screws which secure it in place. Retain the door and screws for later replacement.

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2. Carefully remove the jumper from the RS-422 socket and insert it into the RS-232 socket.

3. Reinstall the case top module access door.



Communication Jumper Locations

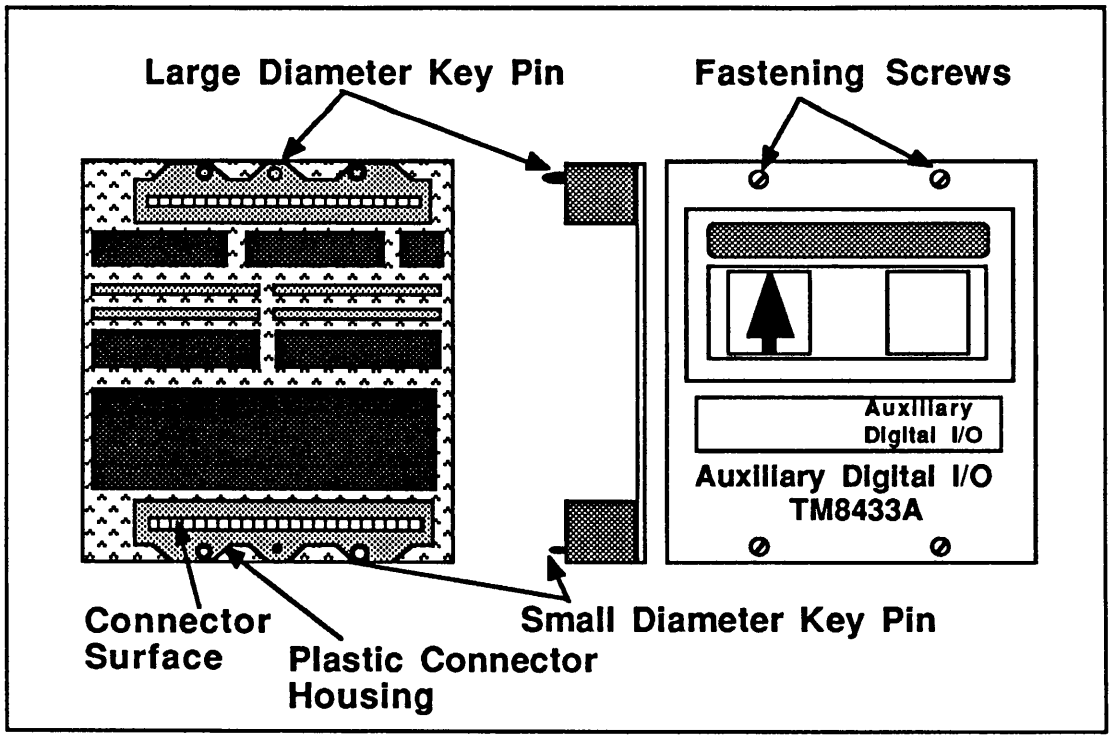
MODULE INSTALLATION

TM8500 option modules are actually small printed circuit boards with the electronic components necessary to add a particular capability to the terminal.

Before attempting to install the module, hold it by the edges and inspect it to identify the following features with the aid of the diagram on the following page:

Plastic connector housing
Elastomer connector surface
Large and small diameter key pins
Captive fastening screws
Graphic label

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Module Construction

Modules are installed by engaging the key pins in their corresponding holes on the terminal's main printed circuit board and then tightening the four fastening screws to secure the module in place. The size and location of key pins on each module are designed to prevent a module from being placed in the terminal upside down or in the wrong location.

Always use the following procedure when installing option modules. Check that power is disconnected before proceeding.

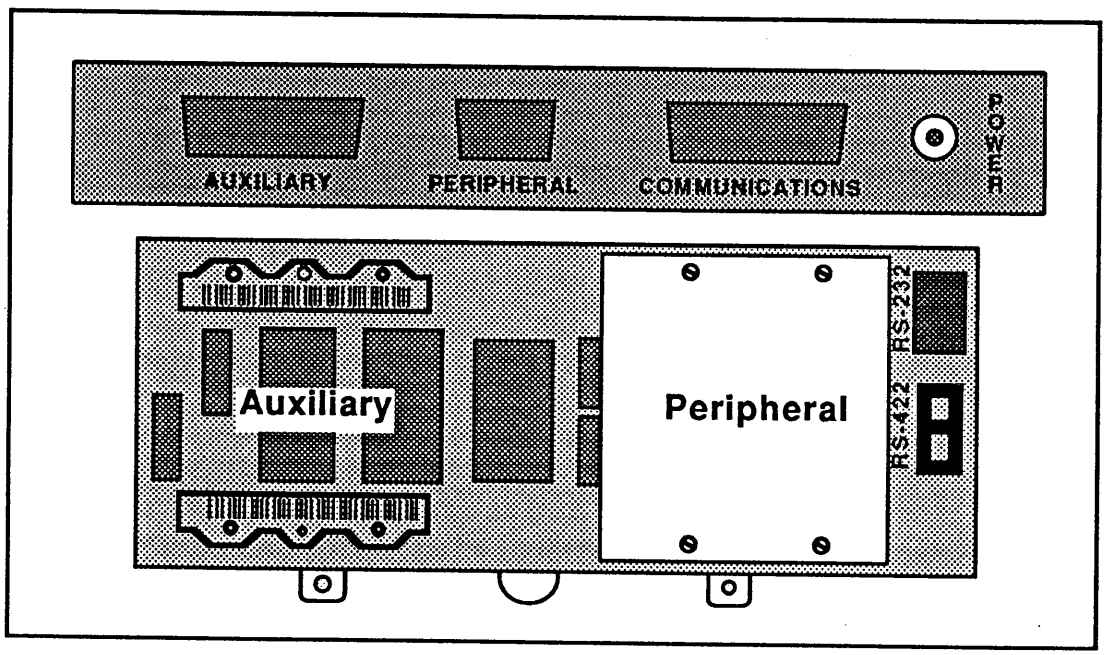
1. Place the terminal with its keyboard face down on a flat surface. Remove the two screws that secure the module access door and place the door and screws aside for later replacement.

2. Determine the correct location. An auxiliary module cannot be installed in a location designed for a peripheral module and vice versa. Place the terminal with its keyboard face down on a flat surface. Remove the module access door by removing the two screws which secure it in place. Retain the door and screws for later replacement.

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Inside the terminal you will see an electronic printed circuit board. If you look closely, you will see white outlines printed on this board in the shape of the module connector housings. Within each of these outlines are three holes, two threaded screw holes and a center key hole. Note that the key holes have larger and smaller diameters, corresponding to the key pins on the modules themselves.

The following diagram indicates the module locations and shows an installed peripheral module.



Module Locations

2. Handle the module properly. The module may be handled by grasping the edges of its printed circuit board or the heads of the fastening screws. Note that the fastening screws are captive, or retained by the connector housing. You should not attempt to remove the screws completely from this housing while installing or removing modules. Again, be certain to touch a grounded metal surface before handling the module to make sure you do not discharge static electricity.

3. Place the module carefully in its location. Lower the module into its proper location, making sure that the arrow printed on the module's graphic label is pointing upward toward the row of interface connectors

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on the back of the terminal. Move the module gently from side to side until the key pins engage in their corresponding holes on the printed circuit board.

4. Tighten the fastening screws. Use a small size screwdriver to avoid slipping off the screw heads and to prevent overtightening. Give each screw a few turns to seat the module and then go back and tighten each screw until moderate resistance is felt. **Do not overtighten.**

5. Don't force it!! Modules should install easily. If you encounter resistance, STOP, remove the module, check the orientation and location and begin again.

TERMINAL SELF-TEST

When the module installation is complete, perform the following steps to run the terminal self-test:

1. Turn the terminal power ON.

2. Listen for the beep and look for this message:

   TM8500 Vxx.xx Self-Test OK

3. Observe the module ID message. Make sure the modules you installed are correctly displayed.

Communication	Peripheral	Auxiliary
RS-422	Bar Code	Name

If the test fails, turn power Off, remove the module access door, and perform the following checks. Run the self-test after each check.

1. Ensure that all modules are installed correctly with their fastening screws tightened correctly. Loosen the screws and retighten them as described in the module installation section.

2. Remove the module(s) one at a time and check that the connector surface has not become loose and that it is clean. Connector surfaces may be cleaned with a cotton swab moistened with alcohol. Clean the

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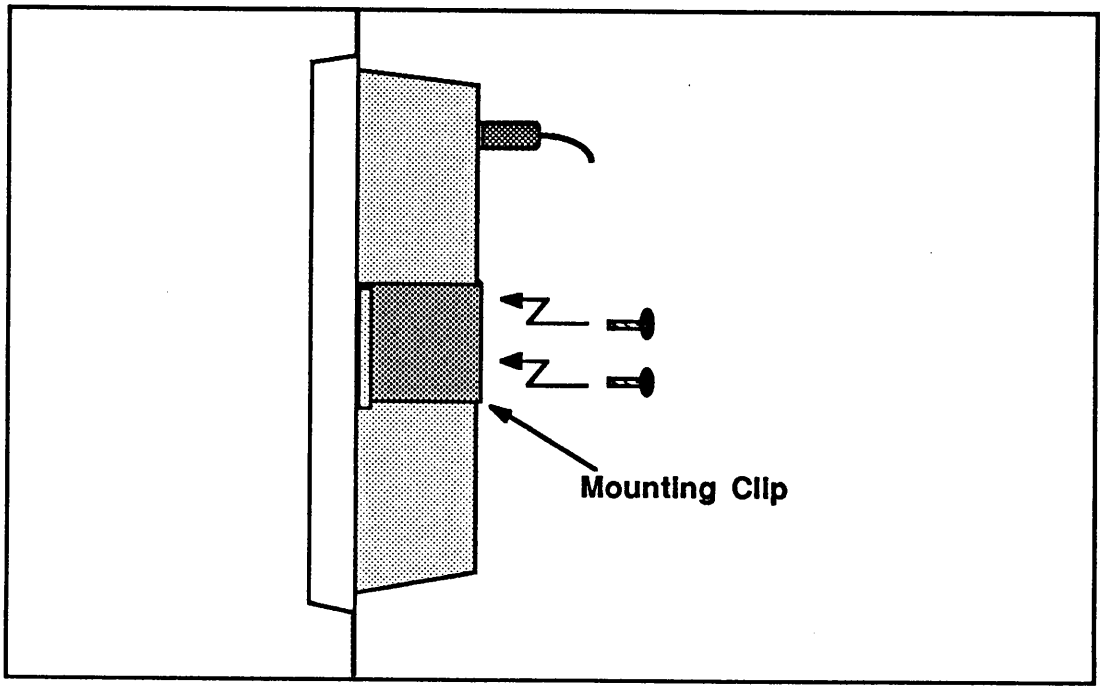
module and the board connector surfaces. Allow them to dry before reinstalling the module.

If the self-test still fails, contact your Burr-Brown distributor or representative for service.

MOUNTING

The TM8500 may be placed on a desktop using the TM8440A stand or mounted on a wall or panel. Refer to the TM8440A installation instructions, MB51425, for complete details. The optional TM8442 mounting kit allows for recess mounting through panel cutouts.

The TM8442 mounting kit contains two spring clips which allow the TM8500 to be recessed in an equipment panel up to .25" in thickness. To mount the terminal, prepare a cutout in the panel with dimensions as indicated below. Insert the TM8500 case through the front of the panel. While holding the terminal in place, attach the spring clips to the back case of the terminal with screws provided.

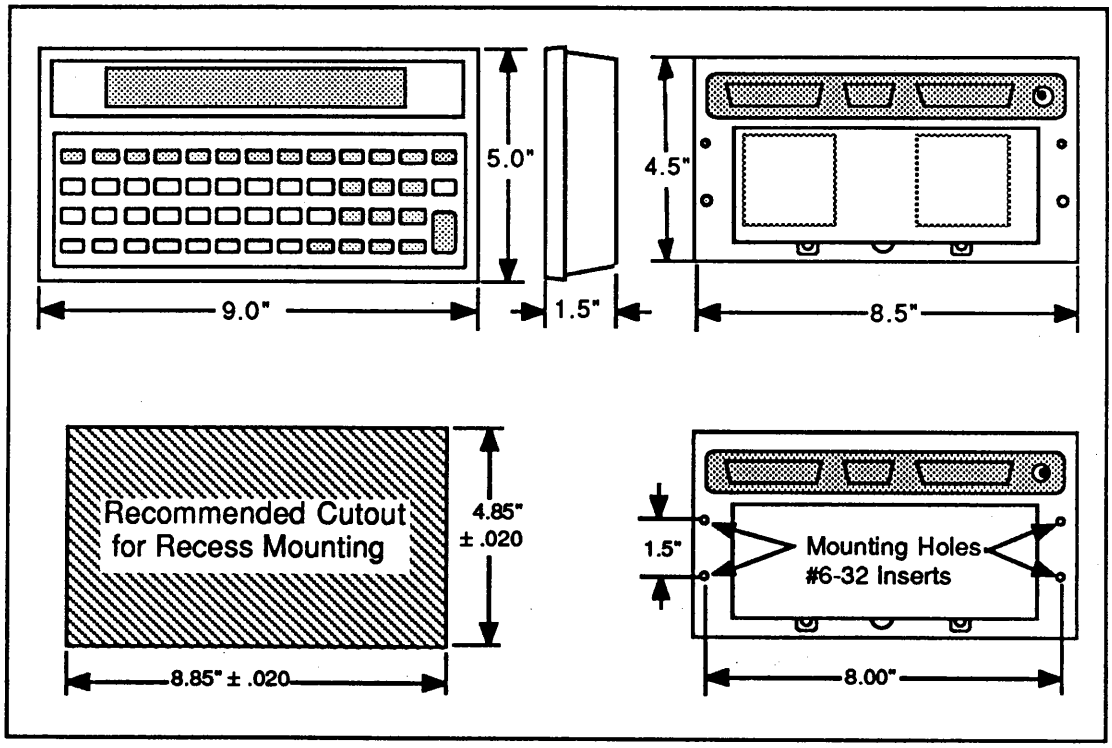


Recessed Mounting

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The TM8500 may also be surface mounted on a wall or other flat surface and requires only a small cutout for power and interface connectors.

The following diagram gives mechanical dimensions of the TM8500 case, recommended recess mount cutout, and surface mounting footprint.

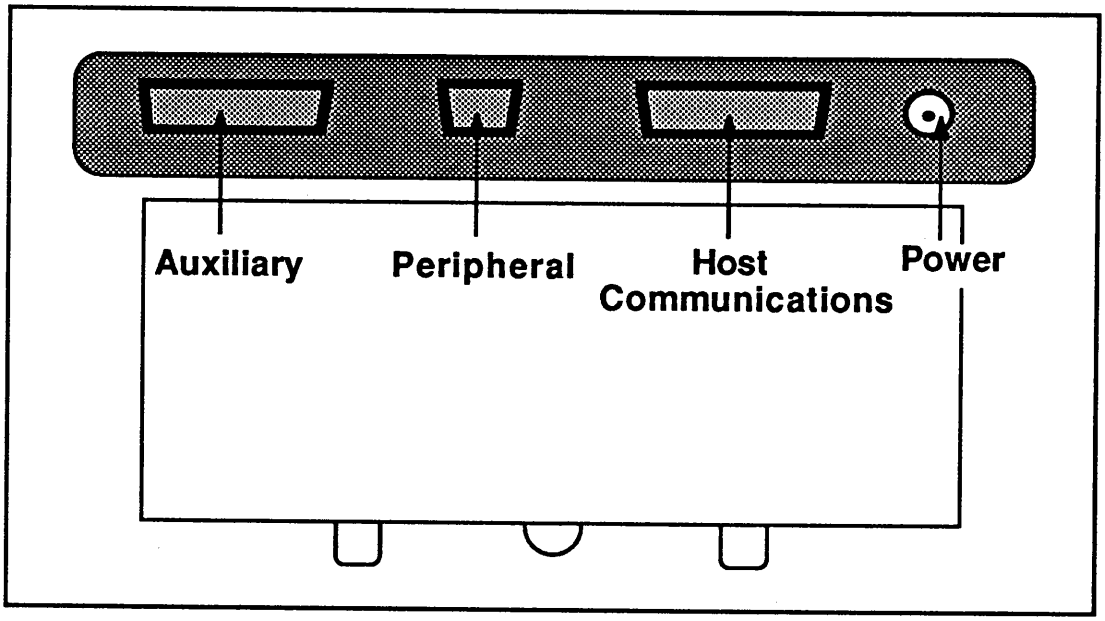


Mechanical Dimensions

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POWER AND INTERFACE CONNECTIONS

There is a row of four interface connectors on the back of the TM8500 case. The following diagram indicates the proper connection to each of these locations.



Power and Interface Connectors

It is recommended that power be supplied to the unit by the TM8441 power pack. For connecting power from other sources, a barrel-type mating connector is required. The connector should be wired so that the center is positive and the outside is ground. External DC power should range between 7.5 and 9 volts. The maximum current draw of the terminal is 500 mA. If TM8465 laser is used, 12VDC at 1.2A is required. Use the TM8443 power pack.

For compatibility with previous systems, power may also be connected to special pins on the host communications connector. Power connected at this point may be either 5 VDC or 7.5-9 VDC as indicated below.

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Power	Connection
5 VDC	Jumper pins 14 and 15, connecting +V to these pins. Connect supply return to pin 1.
7.5-9 VDC	Connect +V to pin 15. Connect supply return to pin 1.

Power connection through the host interface is not recommended for new installations.

The host interface terminal is connected through a female DB-25 connector. The pinout of this connector is dependent on the communication module installed in the unit. Pinouts and full signal specifications for these communications interfaces are given in the appendix to the User's Guide.

Please note that there are three non-standard signals present on this connector: pins 14 and 15 are connected to the unit's power regulator, and pin 10 is an active high digital output signal which is activated when the internal beeper is sounded. Care should be taken that these signals are not accidentally connected to communications circuits of the host system.

Pin #	Function	Pin #	Function
1	Ground	14	+5VDC
2	TX Data	15	Power Input
3	RX Data	16	N/C
4	$\overline{\text{RTS}}$	17	N/C
5	$\overline{\text{CTS}}$	18	N/C
6	N/C	19	N/C
7	Signal Ground	20	$\overline{\text{DTR}}$
8	N/C	21	N/C
9	N/C	22	N/C
10	Beeper	23	N/C
11	N/C	24	N/C
12	N/C	25	N/C
13	N/C		

RS-232 DB-25 Pin Assignments

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Pin #	Function	Pin #	Function
1	Ground	14	+5VDC
2	B	15	Power Input
3	A	16	N/C
4	B'	17	N/C
5	A'	18	N/C
6	N/C	19	N/C
7	Signal Ground	20	N/C
8	N/C	21	N/C
9	N/C	22	N/C
10	Beeper	23	N/C
11	N/C	24	N/C
12	N/C	25	N/C
13	N/C		

RS-422 DB-25 Pin Assignments

To connect a bar code wand or slot scanner to the terminal, simply plug the latching DE-9P connector into the peripheral interface. This interface is associated with a peripheral module which must be installed for operation of this feature.

Connection of Auxiliary interfaces to the male DB-25 connector is dependent on the particular auxiliary module installed. Prewired cables are available from Burr-Brown for the Printer module. The Serial I/O module may use a standard 25 conductor ribbon cable. Digital I/O modules should be connected with the aid of the auxiliary module specifications provided in the Accessories Manual.

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