terak
CORPORATION

MODEL 851O/A

INSTALLATION INSTRUCTIONS

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REV A

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The TERAK Model 8510 Data Processor is a self-contained, disk based minicomputer system. Specific design features include compactness, ease of operation and low operating/maintenance costs. The following information is intended as a general guide to the characteristics, operation and maintenance. For detailed specifications refer to software and hardware technical manuals and user applications/operator instruction manuals.

GENERAL: The 8510 operates on standard line voltages (105-120V/60Hz) and comes equipped with a 7' line cord with moulded plugs at both ends. The line cord must always be plugged into a grounded A.C. receptacle. Although it is recommended that the power on/off switch located on the front panel be in the "off" position whenever the line cord is being connected/disconnected, the 8510 is designed such that it will not be damaged nor will data be destroyed on a disk should the unit be connected or disconnected with the power switch in the "on" position. (NOTE: If data is being written onto the disk when power is removed from the system, the data on that sector of the disk can be lost. The formatting data on the disk will not, however, be destroyed.) Any power interruption will cause an orderly shut-down of the system electronics and the system will automatically restart upon restoration of power.

The 8510 does not require any special operating environment and is designed for operation in most environments where people are comfortable. Excessive temperature, humidity and dust laden air can be harmful. Specific ranges of environmental operating limits are covered under the technical specifications.

The 8510 is designed using low-power components to reduce the operating cost and keep component temperatures to a minimum, assuring their stability and longevity of service. The entire unit consumes less than 100 watts of power during operation. Even so, to minimise component damaging heat build-up, the entire inner chassis and front panel are constructed to provide flow-through ventilation around and over all components from the quiet, efficient ventilating fan mounted at the rear of the chassis. This fan completely replaces the air inside the unit more than 35 times each minute. To prohibit the introduction of foreign material, and as an added safety factor, the fan mounting supports a "fine particle" filter. The filter is externally removable permitting cleaning and replacement without internal access to the unit The filter should be removed periodically and gently washed in warm water. Make certain that the filter is completely dry before replacing. Conditions will vary depending upon location of the unit and the environment, but filter cleaning is recommended once every three months.

The 8510, though small and portable, is a delicate piece of electronic equipment and should be treated accrodingly. Do not expose to extremes of heat or cold and protect it against moisture and dust. Do not subject it to excessive shock. A damp rag should be used lightly on

outside paint surfaces if cleaning is necessary.

TERMINAL CONNECTIONS: The Model 8510 Serial Interface Connector Panel provides for interface through EIA Standard RS-232-C or 20ma current loop. Both female and male RS-232-C connectors are provided to enable the machine to operate as data communications equipment or data terminal equipment as defined in the Electronic Industries Assoication (EIA) RS-232-C Standards. The panel aslo contains two sets of eight miniature switches to select baud rates, parity and other features. Fourteen rates are selectable from 50 to 19,200 baud.

ADDITIONAL DISK DRIVES: The Model 8510 is provided with a disk drive external intertace board (EIB) as standard equipment. This EIB allows addition of a Model 8512 Flexible Disk Subsystem without any internal modifications to the 8510. Up to three 8512's can be added to the system merely by plugging in an interconnect cable from the 8510 to an 8512 and then from 8512 to 8512. All power on/off and control signals for the 8512's are controlled from the 8510. The system terminator should be left in place on the 8510 disk drive EIB.

OPERATING INSTRUCTIONS: The Model 8510 Data Processor has been designed for ease of operation even by persons with no prior computer training. The keyboard/display terminal connection is straight-forward and the operator need only turn the power switch on to begin operation.

NOTE: Prior to beginning operation, the operator should read the section of this manual dealing with DISKETTE HANDLING to insure familiarity with proper loading and unloading procedures.

1. Connect the 8532-1 Display Monitor to the Video EIB Monitor Connection by means of the Video cable.(See Figure 1 for location of connectors.
2. Connect the 8532-2 Keyboard to the Video EIB Keyboard Connector.
3. Connect any auxiliary keyboard/display terminal printer, or modem to the Serial Interface EIB. Select baud rate, parity and other features to insure compatibility with the terminal. (See figure 2.
4. Connect the A.C. power cable to the receptacle at the rear of the 8510 chassis and to a grounded A.C. outlet, with voltage and frequency matching the chassis ID label. .
5. Connect the A.C. power cable to the receptacle at the rear of the 8532-1 Display Monitor, with voltage and frequency matching the chassis ID label.
6. Press the top of the power on/off switch to the "on" position.
7. Open the disk drive door and insert the System Acceptance Test Diskette or other system diskette, with label side up, index hole closest to the operator until a 'click' is heard, and the diskette is not ejected. (DO NOT PRESS HARD ENOUGH TO BUCKLE OR WRINKLE THE DISKETTE.)
8. Immediately upon closing the disk drive door the system will bootstrap into the operating system of the diskette.

NOTE: Should the system fail to bootstrap or should you wish to re-bootstrap the system, momentarily press the top of the power on/off switch. The system is reset when the switch is pressed and re-bootstrapped when the switch is released. This can be accomplished in a quick press/release motion.

DISKETTE HANDLING

The Diskette consists of the flexible disk encased in a plastic jacket. When not in use the Diskette is always stored in a protective envelope. The storage envelope provides protection from dust and contaminants which can cause damage to the Diskette surface and loss or distortion of data.

To protect the Diskette, these precautionary procedures should be followed:

1. Return the Diskette to its storage envelope whenever it is removed from the disk drive.
2. Store Diskettes vertically.
3. Keep Diskettes away from magnetic fields and from ferromagnetic materials which might become magnetised. Strong magnetic fields can destroy recorded data on the Diskette, and can remove the preformatting on the diskette; such that it cannot store data.
4. Replace storage envelopes when they become worn, cracked or distorted. Envelopes are designed to protect the Diskettes.
5. Do not write on the Diskette with a lead pencil or ball-point pen. Use a felt tip pen.
6. Use labels with a non permanent adhesive. Never attempt to remove labels which use a permanent adhesive.
7. Do not smoke while handling the Diskette. Heat and contamination from a carelessly dropped ash can damage the Diskette.
8. Do not expose Diskettes to heat or sunlight. The read/write head cannot properly track a warped disk.
9. Do not touch or attempt to clean the disk surface. Abrasions may cause loss of stored data.

DISKETTE LOADING AND UNLOADING

CAUTION:

To avoid possible damage to the Diskette, insure that the Diskette is secured in the unit before closing the disk drive door. Slide the Diskette into the open mouth of the drive until a "click" sound is heard. Release the Diskette to ensure that it does not eject.

These procedures should be followed when loading and unloading a Diskette:

TO LOAD

1. Always insure that unit is turned on before inserting a Diskette.
2. Open the drive door by lifting up using the "lip" on the door.
3. Carefully remove the Diskette from its storage envelope.
4. Insert the Diskette with the label facing up and the index hole closest to the operator (see Figure 1).
5. Slide the Diskette into the open mouth of the drive until a "click" sound is heard. Then release the Diskette and ensure that it does not eject.
6. Close the drive door gently.

TO UNLOAD

1. Depress the disk release control located under the disk drive door.
2. Remove the Diskette.
3. Return the Diskette to its protective storage envelope.
4. Gently close the door (unless other Diskettes are to be loaded).

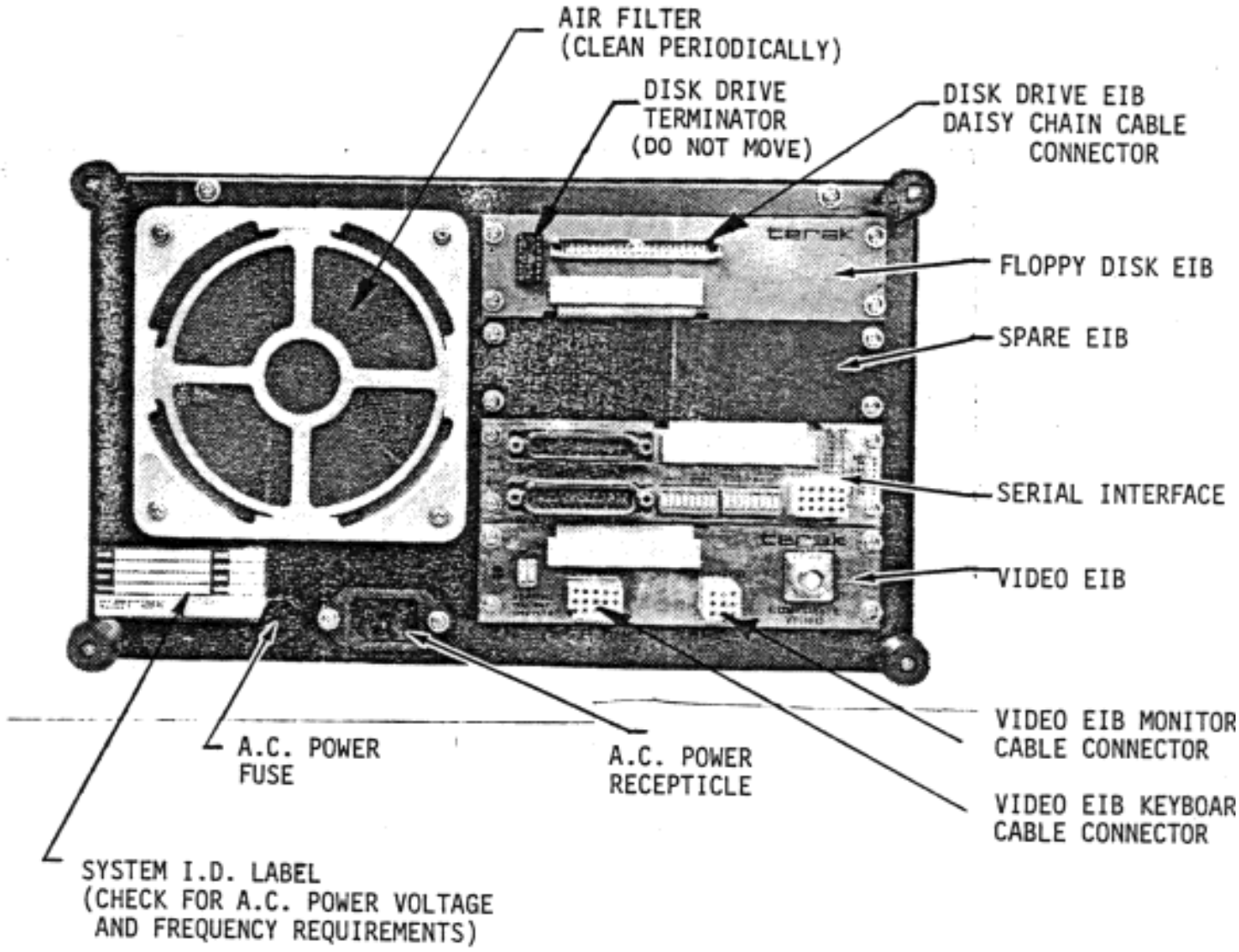

FIGURE 1

SERIAL INTERFACE EIB SWITCHES

Setting	Unit	Base Address
OFF OFF ON ON	0	177560
ON OFF ON OFF	1	177520
ON OFF OFF OFF	2	177530
OFF OFF OFF OFF	3	177570
ON ON ON OFF	4	176520
ON ON OFF OFF	5	176530
OFF ON ON OFF	6	176560
OFF ON OFF OFF	7	176570

Notes: Never set two serial interfaces to the same unit number. Unit 0 (if selected) requires Video EIB switch to be set to "ALT"

Setting	Rate
ON ON ON OFF	50
ON ON OFF OFF	75
OFF OFF OFF OFF	110
OFF ON ON ON	134
OFF OFF ON OFF	150
OFF ON OFF ON	200
OFF OFF OFF ON	300
OFF ON ON OFF	600
ON OFF OFF OFF	1200
ON OFF ON OFF	1800
OFF ON OFF OFF	2400
ON OFF OFF ON	4800
ON OFF ON ON	9600
ON ON ON ON	19200

FIGURE 2