



System One

Instruction

Manual

Cromemco[®]

SYSTEM ONE

Instruction Manual

**CROMEMCO, Inc.
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Mountain View, CA. 94043**

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INTRODUCTION

The Cromemco System One is a powerful microprocessor system designed for the office environment. It comes ready for use with a Z-80A processor, 64K of memory, terminal and printer support, and disk drives.

The System One is a member of Cromemco's line of hardware and software. As it comes, your system can run the CDOS operating system. By adding additional 64K memory boards, it can support the Cromix operating system. You can use the System One with any of Cromemco's hardware and software products, from its terminals to its graphic packages.

This is the system you have been waiting for, and Cromemco has it now.

THE SYSTEM ONE HARDWARE

The System One comes in two versions:

Model CS-1 This model comes with two 5-1/4 inch floppy disk drives. Each drive is dual density, double sided. This allows each disk in the drives to hold as much as 390K bytes of data. Figure 0-1 shows this model.

Model CS-1H This model comes with one 5-1/4 inch floppy disk drive and one 5 mega-byte fixed hard disk drive. The floppy disk drive is dual density, double sided. This allows a disk in the drive to hold as much as 390K bytes of data. Figure 0-2 shows this model.

The two models are as similar as possible other than in their disk drives. Some differences, of course, are inevitable. Throughout this manual, any differences between the two models are clearly identified.

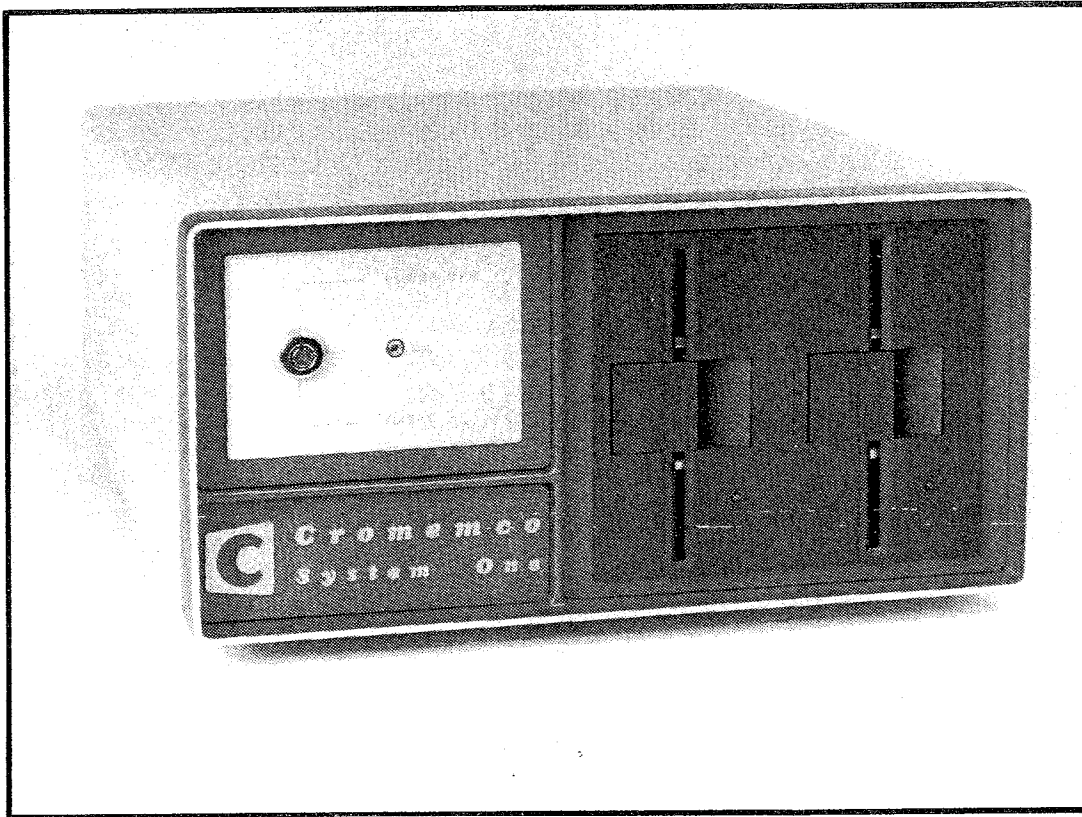


Figure 0-1: MODEL CS-1

The Cromemco System One has an 8-slot card cage for expandability, three fans for effective cooling, a pushbutton power supply for easy installation, and plenty of online disk storage. In addition, the System One comes with a full complement of Cromemco circuit boards:

ZPU	Central processing unit
16FDC	Floppy disk controller and terminal interface
64KZ	Random access memory
PRI	Printer interface
WDI-II	Winchester disk interface (CS-1H only)

These boards occupy only four (five in the CS-1H) of the eight available slots in the card cage.

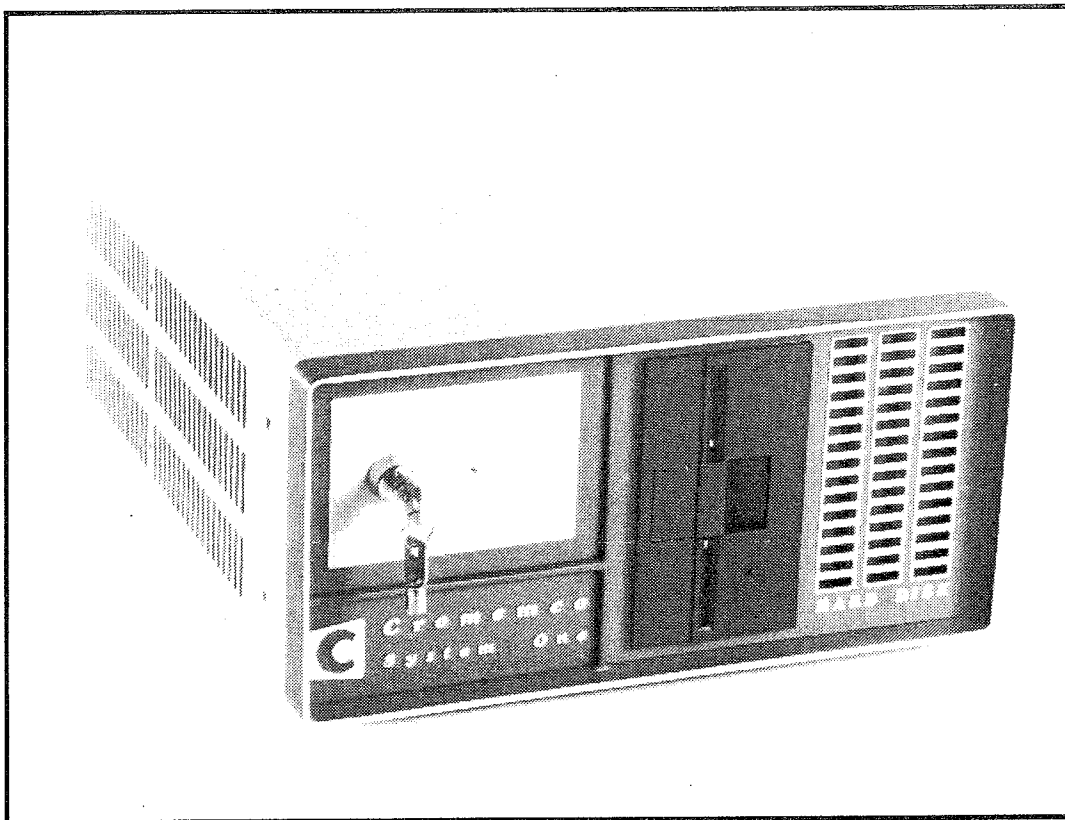


Figure 0-2: MODEL CS-1H

The System One is another rugged Cromemco computer made of steel. Hundreds of work-years of experience have been incorporated in the design and development of this computer system. Like the Cromemco System Zero, the System One is modular. It can quickly be disassembled for easy access to any part. Like the System Two, the CS-1 incorporates two quad capacity 5 inch disk drives. Like the System Three, the circuit boards are easily available to the user.

The Cromemco System One also features many innovations such as a power supply which can be configured for use with any line voltage anywhere in the world by the push of a button. It incorporates two fans for cooling the circuit boards plus one fan for the power supply and disk drives. Easy access to the card cage and cables running to the rear panel makes adding or removing boards and cables a snap.

USING THIS MANUAL

This manual gives you the information you'll need to set up and start running your Cromemco System One Computer. It does not detail the operation of any specific Cromemco software packages; this information may be found in the manuals accompanying the software.

The body of the manual, Chapters 1 through 3, gives instructions on setting up your system for use. The Appendices give you information you need to know to use your system effectively. You should take the time to read them.

In this manual, you will find references to a number of other Cromemco manuals. The following listing gives the full title and part numbers of these manuals. You can obtain copies through your Cromemco dealer.

- Cromemco CDOS Operating System Manual
part number 023-0036
- Cromemco 16FDC Floppy Disk Controller Manual
part number 023-2004
- Cromemco 3355A Driver Manual
part number 023-4005
- Cromemco WDI-II Winchester Disk Interface Manual
part number 023-2011
- Cromemco Cromix Operating System Manual
part number 023-4022
- Cromemco ZPU Central Processing Unit Manual
part number 023-0012
- Cromemco PRI Printer Interface Manual
part number 023-0055
- Cromemco 64KZ Random Access Memory Manual
part number 023-0008
- Cromemco HD5 5" Hard Disk Product Specification Manual
part number 023-6028

Chapter 1

SETTING UP THE SYSTEM

Before you unpack the boxes, decide where you want to install your computer. The System One should be accessible to its operators and have electrical power readily available. (The System One uses alternating current.) If you have a printer, you may want to provide noise abatement. All computer equipment generates heat, which is very hard on integrated circuits. Cromemco equipment is sturdy, but it must not be installed in a hot place. The cooling vents on the sides of the devices must not be blocked. In addition, the computer must be protected from liquids, noxious gasses, and the like. The rule of thumb is, "If the operator is comfortable, then the computer is all right."

Once you've decided where to place your system, you need to follow a few simple steps to set it up. Then you'll be ready to begin using it.

UNPACKING THE SYSTEM

The work surface where the unit will be used, should be cleared away and ready to receive the system. As you unpack, save all of shipping and packing materials. They will be useful if you have to move the unit.

The box the System One comes in contains a packing invoice and a number of packages. These include, in addition to the computer, a package of manuals and a package of miscellaneous pieces. Find and save them all. You will also want to take this opportunity to verify the serial numbers (see below).

If you follow these steps as you unpack, you'll find it easier to set up the system:

1. Place the unit on the work surface.
2. Place the power cord alongside the unit.
3. Store all packing materials.
4. Keep all paperwork associated with the unit in a safe place.

1. Setting Up the System

5. Store the spare fuses in a safe place or tape them to the inside of the system manual so they won't get lost.
6. Place the System One on the work surface so that you can access the rear panel.

You'll find the system's serial number written on a label on the bottom of the unit, the shipping container, and the warranty card. Compare the serial numbers. If the five numbers match, then all is in order. If they do not match, call your Cromemco dealer for assistance. Record these serial numbers on the inside front cover of this manual. Once the system is installed and checked, fill out and mail the warranty card as soon as possible.

SPECIFYING THE LINE VOLTAGE

After you have unpacked the shipping box, you need to specify the line voltage you'll be using. The Cromemco System One may be configured for use with a specific line voltage by means of a set of pushbutton switches located on the rear panel.

With the line cord in place in the rear panel, the switches are covered by a sliding plastic card (refer to Figure 1-1). This card acts as a safety interlock, preventing the switch settings from being changed while power is applied to the system. Do not try to get around this safety interlock. The switches are rated to carry the maximum possible system load. They are not, however, intended to switch this load. To do so will damage the switch and other components of the system.

FOUR PUSHBUTTONS ALLOW EASY SELECTION OF POWER LINE VOLTAGE ANYWHERE IN THE WORLD

Four pushbuttons comprise the line voltage selector (refer to Figure 1-1). The bottom switch is red and is separate from the upper group of three switches. Each switch may be in one of two positions, **in** or **out**. When in the **in** position, the face of the switch is below the level of the rear panel. In the **out** position, the switch is flush with the rear panel.

Only one of the upper three switches may be depressed at a time. Press on the switch which is to be in the **in** or depressed position. Any other switch which was **in** will automatically pop **out**.

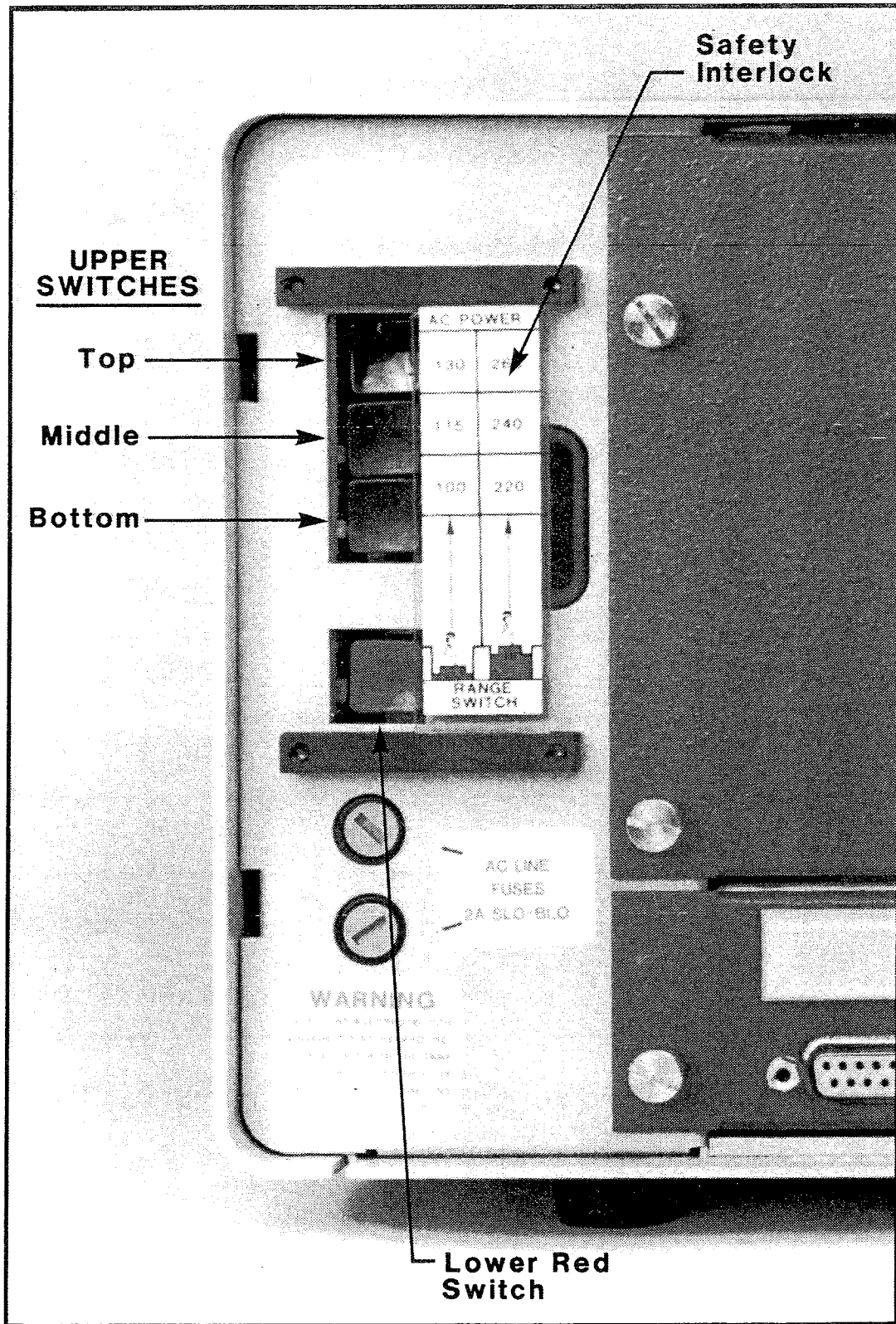


Figure 1-1: LINE VOLTAGE SELECTOR

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The red switch may be depressed in conjunction with any one of the upper switches. Press the red switch to change it from the **in** position to the **out** position or vice versa.

One of the top three switches should be depressed to configure the system for the appropriate line voltage according to Table 1. The red switch should also be positioned as indicated.

Table 1-1: LINE VOLTAGE SWITCH SETTINGS

Line Voltage	Lower Red Switch	Top Group of 3 Switches*
90-106	In	Bottom In
107-121	In	Middle In
122-143	In	Top In
198-229	Out	Bottom In
230-249	Out	Middle In
250-286	Out	Top In

* Only the indicated switch is in; the other two switches are out.

CONNECTING A TERMINAL

The terminal must be connected to a power source and to the computer. The power cord coming from the rear of the terminal must be plugged into a wall outlet. In addition, the terminal cable must run from the socket labeled **MAIN** on the rear of the terminal to the socket on the rear panel of the System One as indicated in Figure 1-2.

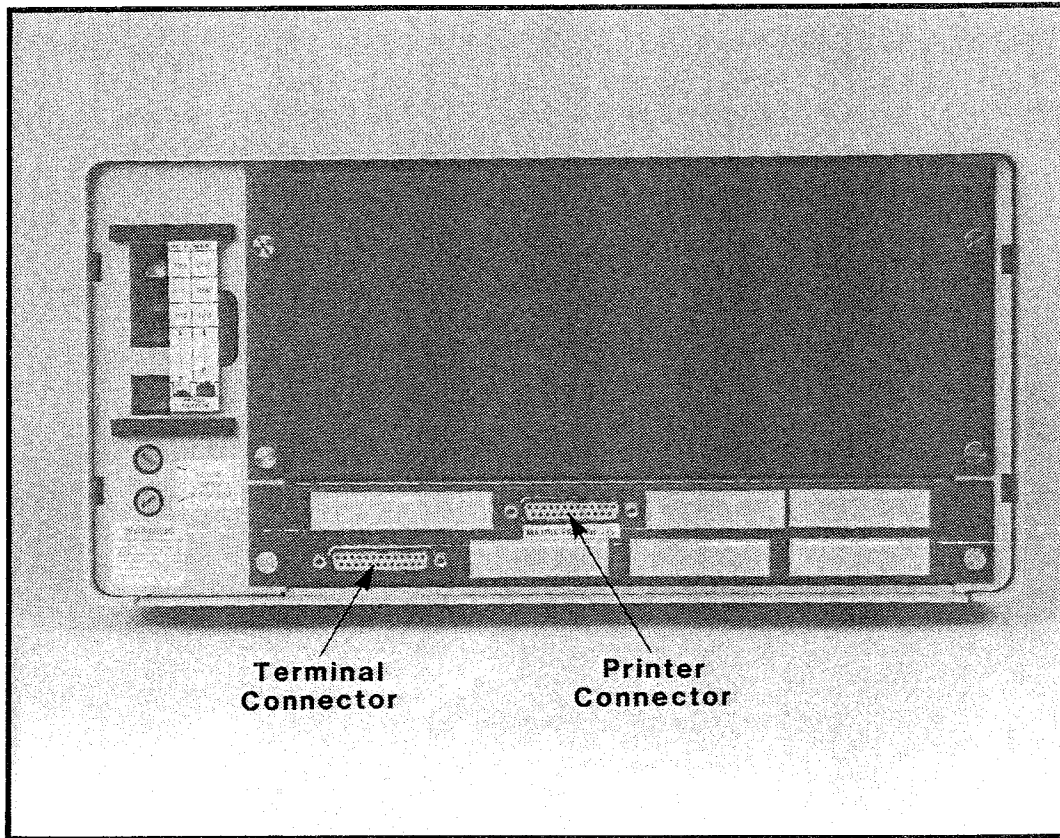


Figure 1-2: TERMINAL AND PRINTER CONNECTIONS

CONNECTING A PRINTER

Optionally, a printer may be attached to your System One. The printer must also be plugged into a wall outlet. The cable coming from the printer must run to a socket on the rear panel of the System One as indicated in Figure 1-2.

If you are using a Cromemco fully formed character printer (Cromemco model 3355B), the cable running (inside the System One) from the rear panel to the PRI board must be moved before the printer will function. To access the cable, remove the upper portion of the back panel. Referring to Figure 1-3, unplug the cable from the PRI board connector J1 (on the left) and plug it into connector J2 on the right of the PRI. Replace the rear panel.

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If you are running a 3355B printer under CDOS, don't forget to load the 3355B driver each time you boot the system. Refer to the Cromemco 3355B Driver manual for more information.

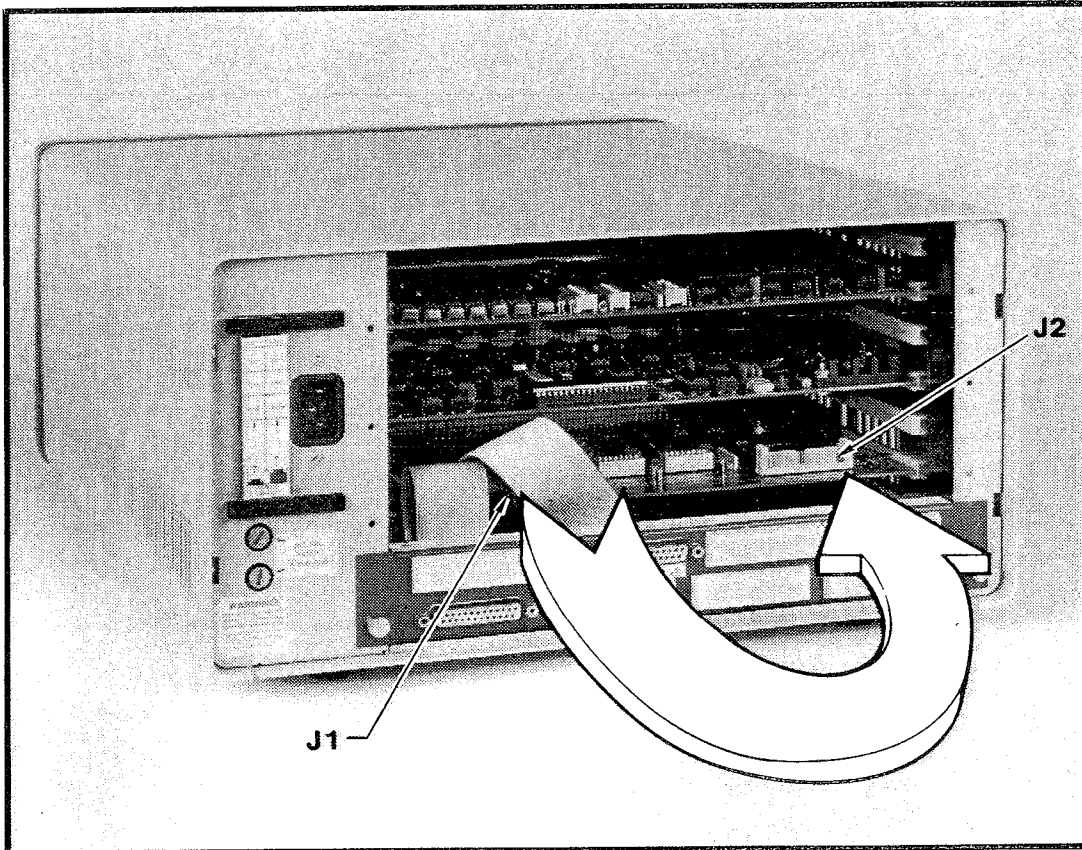


Figure 1-3: MOVING THE PRINTER CABLE

TURNING THE SYSTEM ON

Note: Floppy disks should be removed from the drives before turning the system on or off.

You use the turnkey located on the front of the system to turn the system on. As Figure 1-4 shows, there are three positions for the computer turnkey power switch. In clockwise order, they are OFF, ON, and RESET. The switch is like the ignition of an automobile; the first click turns on the machine, and the next click starts it. When you turn the key to ON, the system turns on. When you turn the key to RESET, the system clears its memory and loads an operating system into memory. Once you turn the key to RESET, it springs back to the ON position.

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Follow these rules in using the power switch:

1. Turn the key to RESET when you turn on the system after it's been turned off or whenever you want to clear the memory. Don't hold the key at the RESET position; let it spring back to the ON position.
2. Leave the key at the ON position whenever you're using the system. It doesn't hurt the system for it to be left on but idle overnight or over a weekend.
3. Turn off the system whenever you won't be using it for a long time or you will be dismantling it.

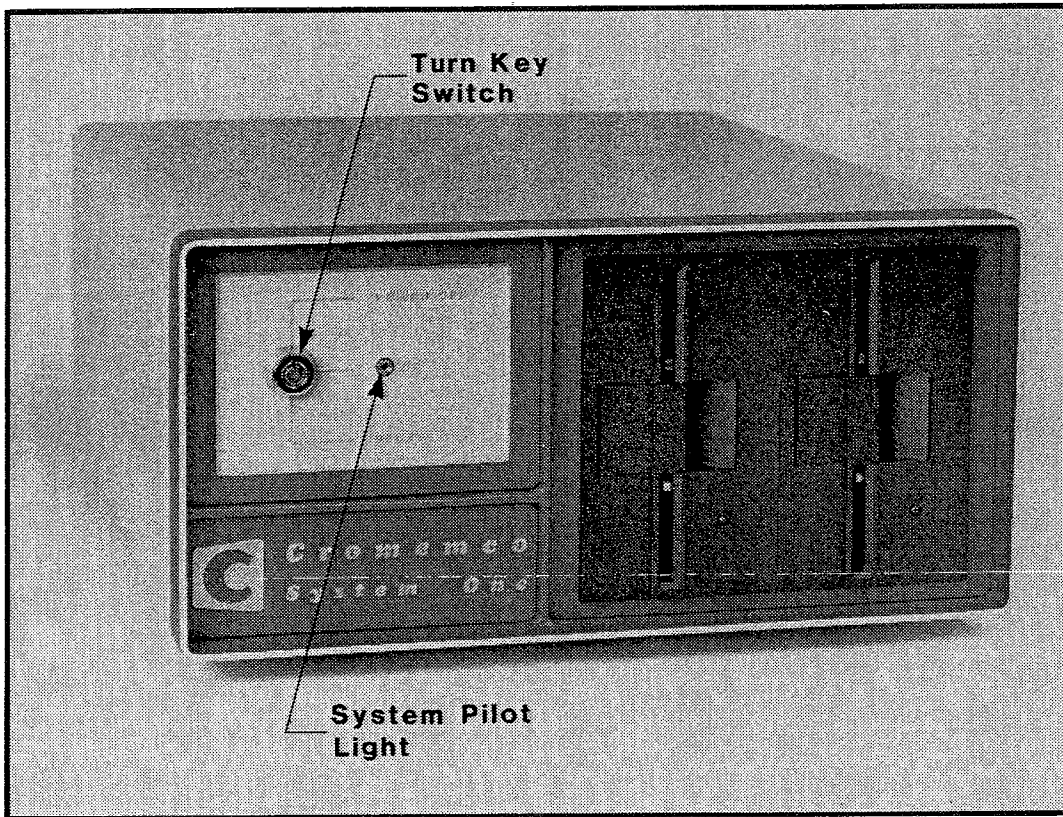


Figure 1-4: SYSTEM ONE TURNKEY POWER SWITCH

USING THE FLOPPY DISKETTES

The disk drive(s) use the 5-inch floppy diskettes shown in Figure 1-5. Each of the major features of the diskette is described below.

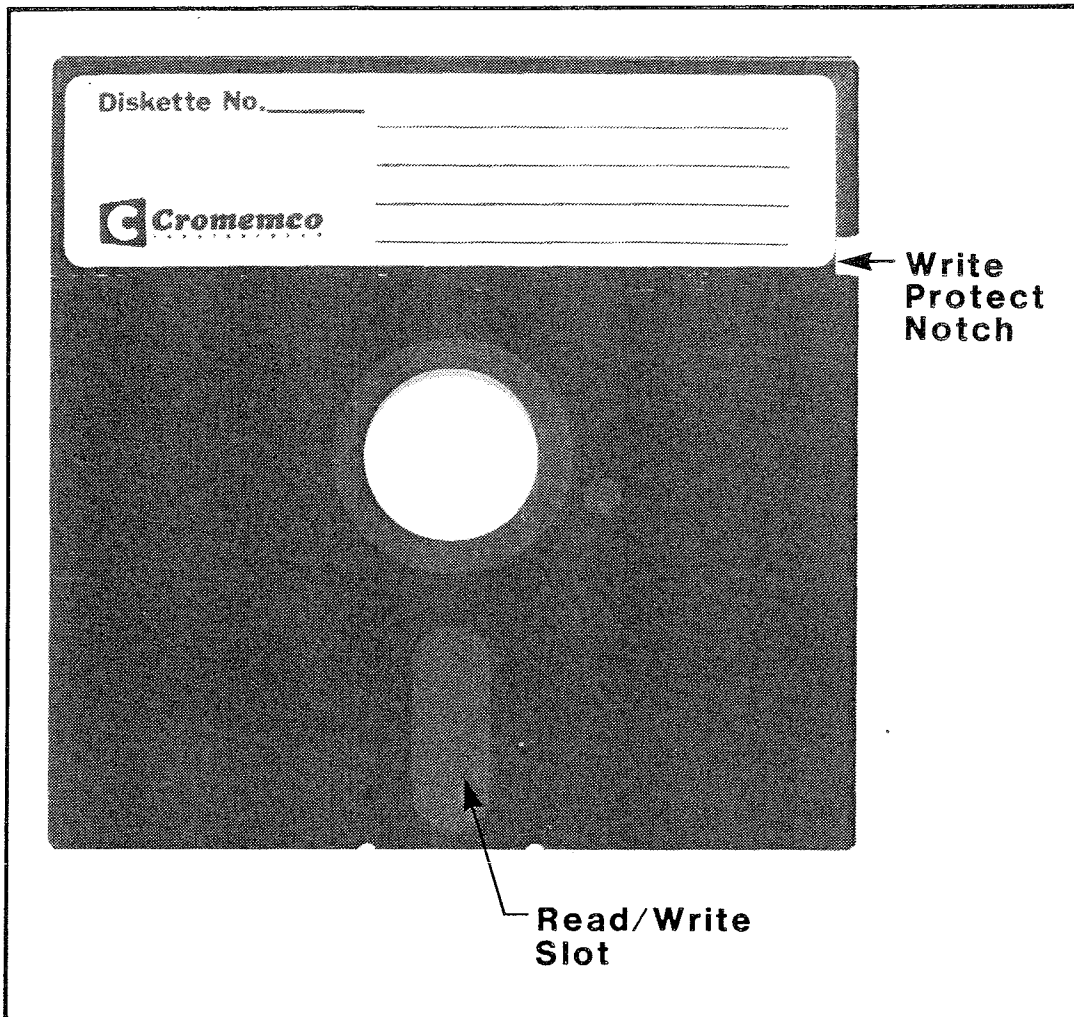


Figure 1-5: THE 5-INCH FLOPPY DISKETTE

The Read/Write Slot

The System One accesses the information on the diskette through this slot. Be careful never to scratch the surface of the diskette. If you do, you may destroy information recorded on it. When a diskette is not in the system, keep it in the white protective envelope that comes with it.

The Write Protect Notch

When the write protect notch is covered by an opaque piece of tape, the system cannot write to the diskette or erase information from it. It can only read information on the diskette.

When the write protect notch is not covered, the system can write to and erase information from the diskette as well as read information.

You should always maintain a write protected copy of diskettes that contain information which is difficult to replace.

Diskette Preparation

Release diskettes come ready for use. Blank diskettes need to be prepared by the Init utility program before they can be used to record information. See the CDOS manual for more information.

Inserting the Diskette

Once the system has been turned on, follow these instructions.

1. If it is not already open, open the latch of the drive you want to use.
2. Remove the diskette from the protective envelope.
3. With its label to the left and towards you, insert the diskette in the drive slot. Push the diskette gently until it is all the way in and has come to a stop. **DO NOT FORCE THE DISKETTE.** Refer to Figure 1-6.
4. Close the latch over the drive slot.

The diskette is now ready for use.

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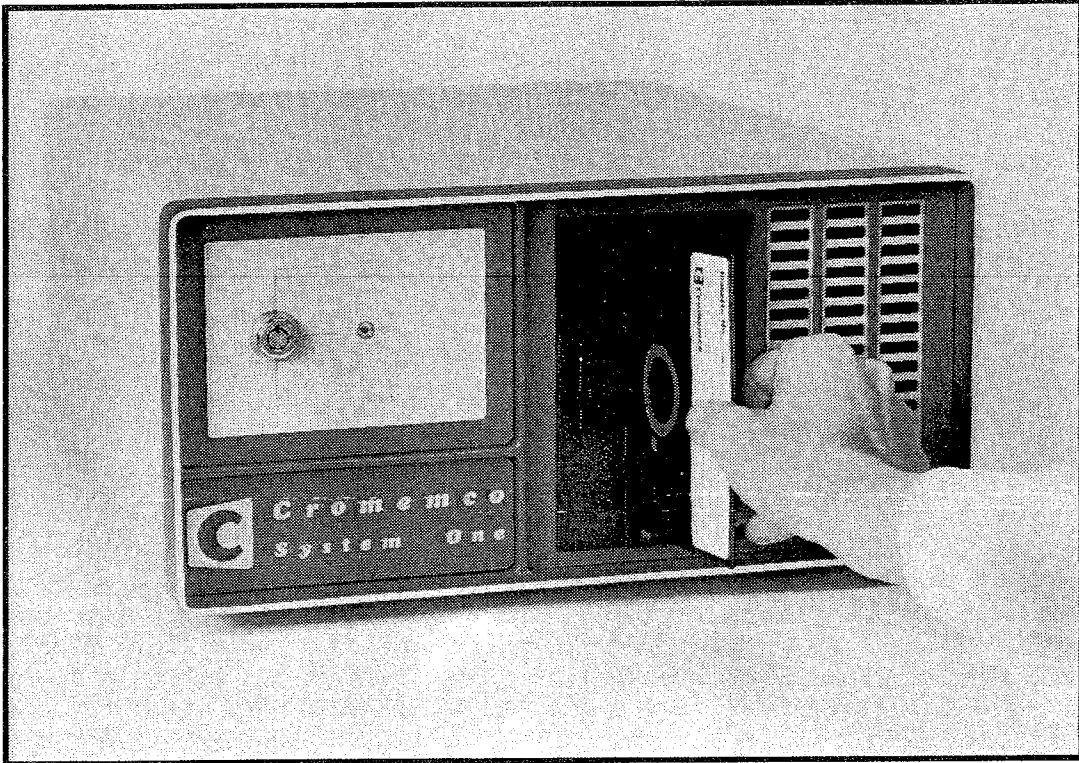


Figure 1-6: INSERTING THE DISKETTE

Removing the Diskette

To remove the diskette, reverse the steps used to insert it:

1. Open the latch covering the drive slot.
2. Gently pull the diskette out from the drive slot.
3. Put the diskette in its protective envelope.

Never remove the diskette when the red light next to the drive is lit. When the light is on, it means the diskette is in use and should not be removed. Once the light goes out, you can safely remove the diskette.

Chapter 2

TESTING THE SYSTEM

Your system should now be ready for use. Two quick tests will ensure that it is working correctly.

TESTING THE CONNECTIONS

You can check the connections -- and a large portion of the system's hardware -- by simply turning the system on. To do this, first turn on the terminal. Then turn the System One's power switch (see the previous section) to the RESET position and then let it return to the ON position. The first thing the computer does is to determine the rate at which data is being sent from the terminal. A Cromemco 3102 terminal will automatically send signals to the computer to establish the data (or **baud**) rate. For all other terminals, you must press the key marked **RETURN** several times to establish the baud rate.

This message should appear on the screen:

```
Preparing to Boot, ESC to abort
```

If you get the appropriate display on your screen, then you know that the connections and a large part of the hardware are functioning properly.

If the message doesn't appear, then something is not working properly. The first thing to check is the cable that connects the terminal to the computer, because that is the most common cause of problems. Turn off the power to ALL devices and check this connection. Turn the power on again to make sure that all devices are turned on. If you still do not see the appropriate display, turn off all devices, check all of the connections, and if you can't find the problem, call your Cromemco dealer.

TESTING THE MEMORY AND DISK DRIVES

Once you know the connections are correct, you need to test the system's memory and disk drives. A unique feature of all Cromemco computers is a built-in

self-test diagnostic program. This diagnostic program is part of the Resident Disk Operating System (RDOS-II) supplied with the System One. The full capabilities of RDOS-II are documented in the Cromemco 16FDC Manual. The following section describes the use of the self-test feature.

Cromemco recommends that you periodically test the memory and disk drives. It will aid in identifying potential problems before they affect user data. It will also help in isolating system malfunctions should they occur.

Loading RDOS-II

To load RDOS-II, turn the power switch located on the front of the system to the RESET position and then let the switch go back to the ON position.

RDOS-II first needs to determine the rate at which the terminal sends data to the computer. With the Cromemco 3102 terminal, this process is automatic. With other Cromemco terminals, it is necessary to press the **RETURN** key several times. When the sending rate (called the **baud rate**) of the terminal is determined, execution of the bootstrap loader program commences.

After RDOS-II determines the baud rate, it normally tries to load the CDOS operating system from a diskette in drive A. For the following section, we will be using RDOS-II, so you must defeat the automatic booting. To do so, press the **ESC** key when the following display appears:

Preparing to Boot, ESC to abort

You have approximately one second (which is longer than it sounds) in which to press the **ESC** key before the CDOS loading begins. If the RDOS-II prompt, a semicolon (;), does not appear, turn the System One power switch to the RESET position and allow it to return to ON. The program will restart and give you another chance to press the **ESC** key in time. For Cromemco terminals other than the 3102, reestablish the baud rate by pressing the **RETURN** key several times to cause the boot message to come up again.

When the CDOS boot is properly aborted, the following message will appear.

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Cromemco RDOS yy.yy
;

You're now ready to begin the testing. To do so, press the key marked **t** followed by the key marked **RETURN**. (After this, we will say only "type **t RETURN**".) RDOS-II automatically goes from one test to the next.

Memory Test

The first test checks the 64KZ memory board. The display will be:

```
Memory: 0 1 2 3 4 5 6 7 8 9 A B C D E F
```

where each number or letter represents 4096 (4K) bytes of memory. The test will erase anything in memory. During the test, the system will place one of two characters under each number or letter.

^ represents a successful test
x represents an unsuccessful test

After completion, the display should appear as follows:

```
Memory: 0 1 2 3 4 5 6 7 8 9 A B C D E F  
         ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^ ^
```

If your display does not look like the one shown above, then there is a problem with memory. Memory problems are usually caused by

1. Improper switch settings on the 64KZ memory board.
2. Bad memory chip in the affected block of the 64KZ memory board.

If the test fails, repeat the test by typing **ESC t RETURN**. If a problem appears again, contact your Cromemco dealer.

Floppy Diskette Read Test

The second RDOS-II test checks the system's ability to read data from the floppy diskettes. You must use an initialized floppy disk for the test. Initialization instructions may be found in Chapter 1 and 6 of the Cromemco CDOS manual.

Insert the diskette into one of the drives and close the latch. (Chapter 1 of this manual gives complete instructions on inserting the floppy disk.)

When RDOS-II is ready to begin the read test, it displays

Specify disk (e.g, A;DS)

where A represents a disk drive (A or B); the number of semicolons represents the speed of access; D represents the density of the drive (Single or Double); and S represents the number of sides on the drive (Single or Double). Refer to the Cromemco 16FDC manual for further information.

The System One drives are double sided, double density. To begin this test, enter

a;;;dd RETURN

in response to the request for disk specification. Replace the a with b if you wish to test drive B. To stop the test, press the **ESC** key.

If the console display is:

```
Seek tests:
 01:OK 02:OK 03:OK 04:OK 05:OK
 06:OK 07:OK 08:OK 09:OK 00:OK
 27:OK 00:OK 15:OK 00:OK 01:OK
Restore:OK
27:OK
Read/Write Tests
Data read OK
Write test MAY DESTROY data
ESC=Abort CR=proceed
```

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then the step/seek and read portions of the test were successful; proceed to the Write Test in the following section. If a malfunction occurs during the test, one of three messages will appear on the screen. The messages and their explanations follow.

Step/Seek Error -- If an error message of the following format is displayed, it indicates that an error has occurred during the step/seek portion of the test.

nn:error xx

The floppy disk drive has not performed properly. The cylinder number where the test failed is designated by **nn**; **xx** indicates the error code associated with that failure. For more information, refer to the 16FDC Manual. Make note of the error code information. It will be helpful to the Cromemco dealer when you call for assistance.

Restore Error -- If an error message of the following format is displayed, it indicates that the system failed to execute the **restore** command properly.

Restore:error xx

The error code associated with the failure is designated by **xx**. Record the error code information for your dealer.

Read Error -- If an error message of the following format is displayed, it indicates that a read error occurred.

Data read error xx

The error code associated with the failure is designated by **xx**. Again, record the error code information.

Floppy Diskette Write Test

The third RDOS-II test checks the system's ability to write data to the floppy diskettes. If the test sequence is continued there is the risk of losing data contained on the diskette. Do not use a diskette that has difficult to replace information on it. The subsequent test will operate on the diskette in the disk drive specified during the step/seek and read test described in the previous section. You may remove the disk currently in that disk drive and replace it with another initialized diskette, but the new diskette must match the diskette being replaced in terms of the number of sides and the density. The write protect notch, located on the side of the diskette, must not be covered.

If you decide to abort the test sequence, press **ESC**. RDOS-II will display the letter designation of the drive which was being tested, followed by 3 semicolons. You may boot the system at this point by following instructions in Chapter 3 or you may perform any other RDOS-II operation.

If you decide to continue the test and a diskette has been inserted into the floppy disk drive, press **RETURN**. If the screen display is as follows:

```
pattern write OK
pattern read OK
pattern compare OK
data write OK
A;;;
```

then the disk drive is reading and writing properly. The letter **A** will be replaced by **B** if drive B is being tested. You may boot the system at this point by following instructions in Chapter 3 or you may perform any other RDOS-II operation.

If RDOS-II encounters a problem, it displays one of the messages described in the following sections.

Write Error -- If an error message of the following format is displayed, it indicates that the system was unable to write the test data pattern on the diskette.

```
Pattern write error xx
```

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Record the error code information and go to the section below, All Write Test Errors.

Read Error -- If an error message of the following format is displayed, it indicates that the system was unable to read the test data pattern from the diskette.

Pattern read error xx

Record the error code information and go to the section below, All Write Test Errors.

Rewrite Error -- If an error message of the following format is displayed, it indicates that the system was unable to rewrite data on the diskette.

Data write error xx

During this operation, the system moved any user data from the area on the disk which was to be tested to a storage location in memory. The system is now attempting to write that user data back into its original location and has failed to perform properly.

Record the error code information and go to the next section, All Write Test Errors.

All Write Test Errors -- Immediately beneath the display of one of the error messages shown above will be another display as follows:

Test failed
Disk data at CCSS H may have been destroyed
Original is located at YYYYSZZZZ in memory

1. CCSS H is the location on the diskette where the test was performed. CC is the cylinder number, SS is the sector number, and H is the surface number.
2. YYYY indicates the location in memory where the original user data is stored.

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3. S stands for swath.

4. ZZZZ indicates the length of the sector affected.

Note the values displayed and call your Cromemco dealer for assistance.

Chapter 3

LOADING THE OPERATING SYSTEM

This chapter describes how to load the Cromemco CDOS operating system. As you read this chapter, have your Cromemco CDOS manual handy. Many of the terms, procedures, and utility programs mentioned here are described in detail in the CDOS manual.

While this chapter describes the use of the System One with CDOS, any System One that is optionally equipped with at least two Cromemco 64KZ memory boards (128K total) can also be used with the Cromemco Cromix Operating System. Model CS-1H, with additional 64KZ memory boards, makes an ideal Cromix system. Please refer to the Cromix Manual for information on loading this operating system.

To load CDOS, you will need a 5-inch (small) Cromemco **release** diskette that has the Cromemco Boot Track and the CDOS Operating System recorded on it. (The diskettes which come in Cromemco software packages are called **release diskettes**. At least one diskette in each package will have CDOS on it.) If one of the release diskettes is labeled the **System Disk** or **Disk #1**, use that diskette. Otherwise, pick a release diskette at random and try to boot the system with it. Continue trying the release diskettes until the system boots. If you've tried all the release diskettes and the system still doesn't boot, call your Cromemco dealer.

To boot the system, follow these steps:

1. Turn the key on the System One to the RESET position and then allow it to return to the ON position. You may have to push in slightly on the key to get it to turn. Refer to Figure 3-1. If you are not using a Cromemco 3102 terminal, you will need to depress the **RETURN** key on the terminal several times until the following message appears on the screen:

Preparing to BOOT, ESC to Abort

If you are using the Cromemco 3102 terminal, the message will appear automatically. The light next to drive A will go on as the disk is read.

Cromemco System One Instruction Manual
3. Loading the Operating System

2. Insert a diskette that has the Boot Track and CDOS Operating System recorded on it into drive A. For model CS-1, this is the drive on the left. For model CS-1H, this is the only floppy disk drive.

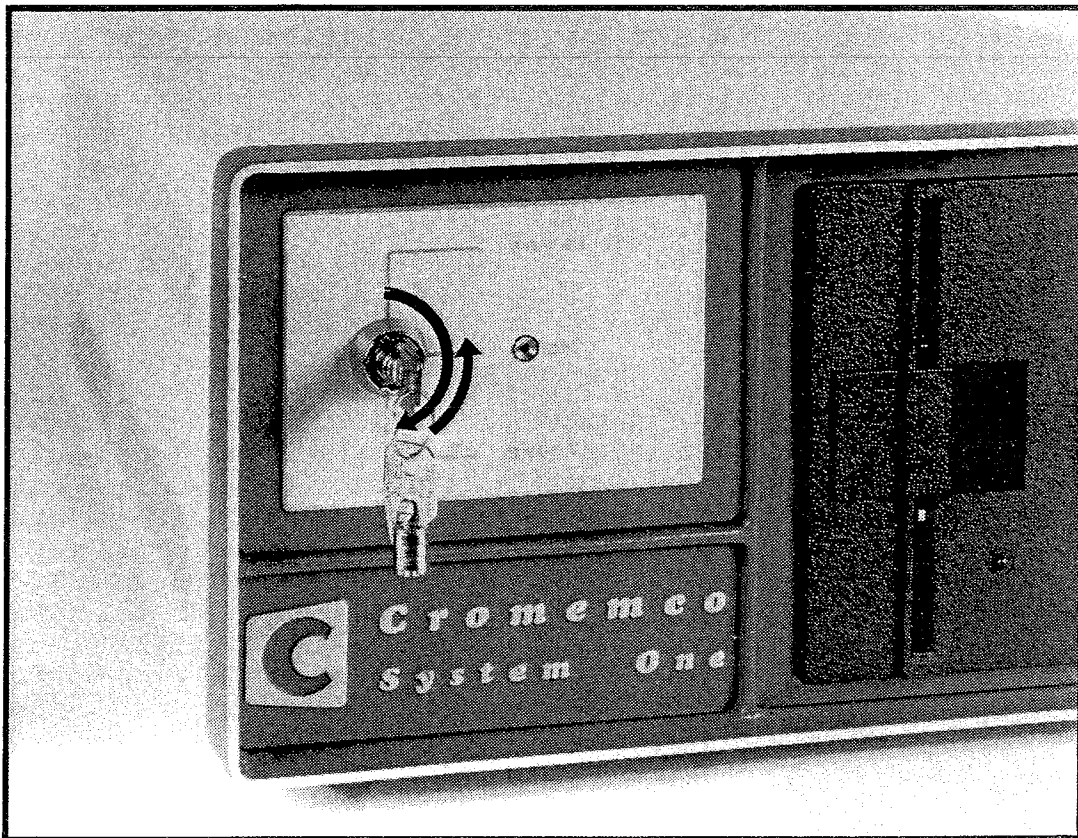


Figure 3-1: TURNING THE KEY

Once the system starts to boot, the following messages appear:

Standby

CDOS version xx.xx
Cromemco Disk Operating System

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A.

Cromemco System One Instruction Manual
3. Loading the Operating System

When the system prompt, **A.**, appears, the system has booted successfully. If the system does not boot after you follow these instructions, check to see that you are using the proper disk and that all the connections between various pieces of equipment were made correctly. If the connections are correct and the system won't boot, perform the tests described in Chapter 2. If you still have problems, call your Cromemco dealer.

Appendix A

POWER SUPPLY AND FUSES

The System One Power Supply is a modular subsystem that provides reliable direct current power and cooling air to the computer circuit boards and floppy disk drives while providing visual status indication of the individual DC outputs.

The high reliability of the power supply is due to very low stress on components, efficient thermal design that keeps component temperatures low, and the use of components with proven reliability. The use of large filter capacitors allows reduced direct current to be delivered to the computer circuit boards; the boards in turn dissipate less heat. Because of its reliability, the supply improves the reliability of the computer system as a whole.

All outputs of the supply are protected either by fuses or active current-limiting devices to make the supply resistant to abuse or load faults.

The modular design of the supply makes it easy to service. It can quickly be removed from the system for repair or replacement. The supply is also sub-modular; it is composed of three basic assemblies to further facilitate disassembly, should this be necessary.

The LED status indicators simplify hardware trouble shooting procedures by allowing a user to diagnose a system malfunction as either a power supply or a computer logic problem. No test equipment or disassembly of the system is necessary to make this diagnosis. In addition, the pilot lamp (on the front panel) is a diagnostic tool; it is powered by the +8 volt line, not the AC line, and indicates the presence of the +8 volt supply.

FUSES

The System One comes with two types of fuses: line fuses and power supply fuses. The line fuses are located on the rear panel of the System One. The power supply fuses are located inside the computer on top of the power supply. The proper fuses for any line voltage are installed in the System One before shipping. The disk drives in both models are protected by active current limiters, not fuses.

Line Fuses

The line fuses interrupt power to the system in either of two situations: First, if a power supply component fails by shorting. Second, if you specify a line voltage that is **lower** than the voltage available in your area.

Each of the two line fuses in the System One is a 2-Ampere Slo-Blo fuse. These fuses are located on the rear panel (refer to Figure A-1). Fuse selection for the System One is different from previous Cromemco products. The same fuses are used in each of the two fuse holders no matter what the line voltage is.

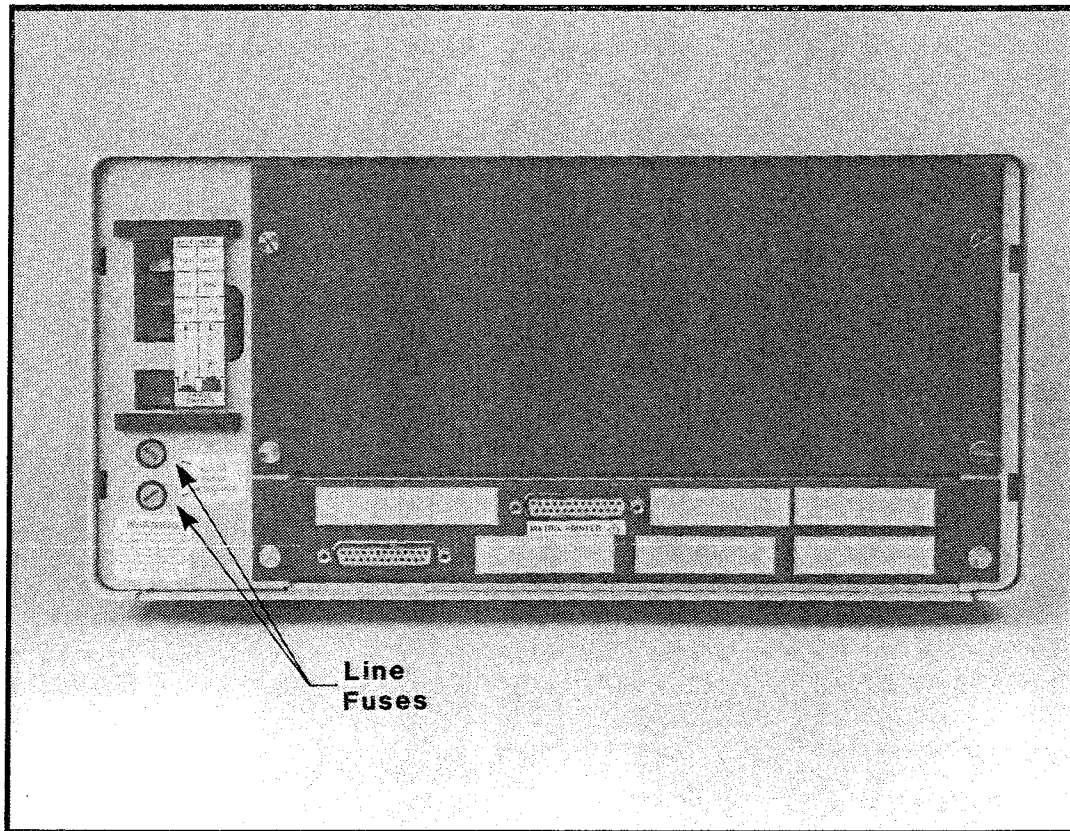


Figure A-1: LOCATION OF LINE FUSES

ONLY 2-AMPERE FUSES SHOULD BE USED IN THE SYSTEM ONE REGARDLESS OF LINE VOLTAGE.

Power Supply Fuses

The power supply fuses protect the power supply from load faults (such as a short circuit) on the circuit boards. You can reach the three fuses by removing the system's cover. Figure A-2 shows their location. Fuse F1 protects the +8 volt line, F2 protects the +16 volt line, and F3 the -16 volt line.

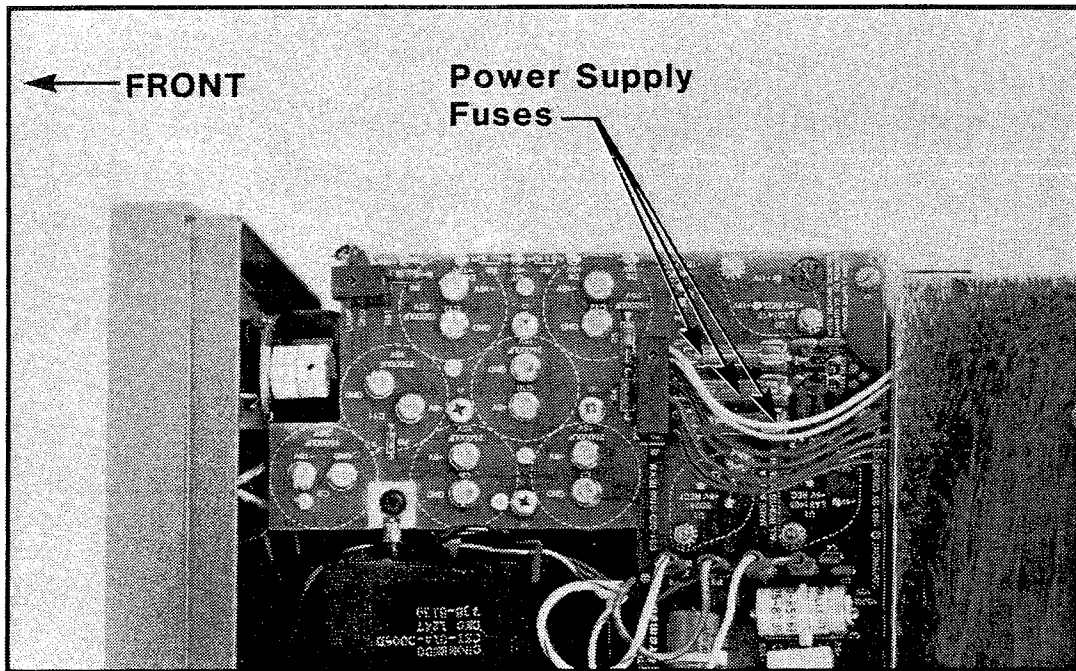


Figure A-2: POWER SUPPLY FUSES

Power Supply LEDs

When the power supply is functioning properly, the green light emitting diodes (LEDs) mounted on the power supply circuit board all will be lit. Figure A-3 shows the LEDs for the model CS-1, and the voltage it stands for. Figure A-4 does the same for the model CS-1H.

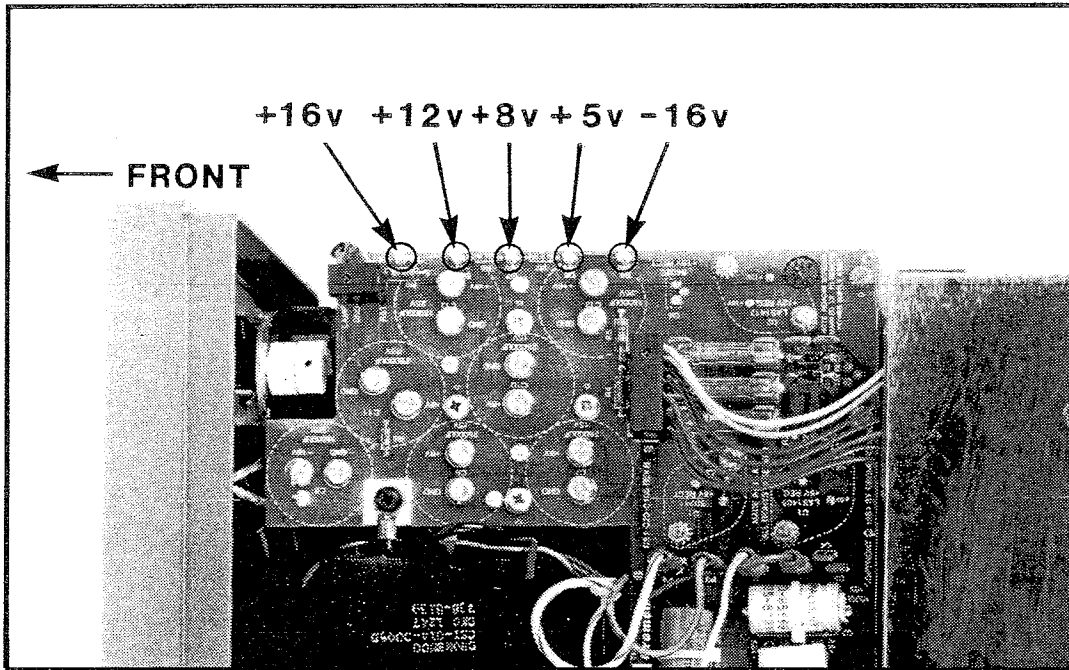


Figure A-3: LED INDICATORS ON MODEL CS-1

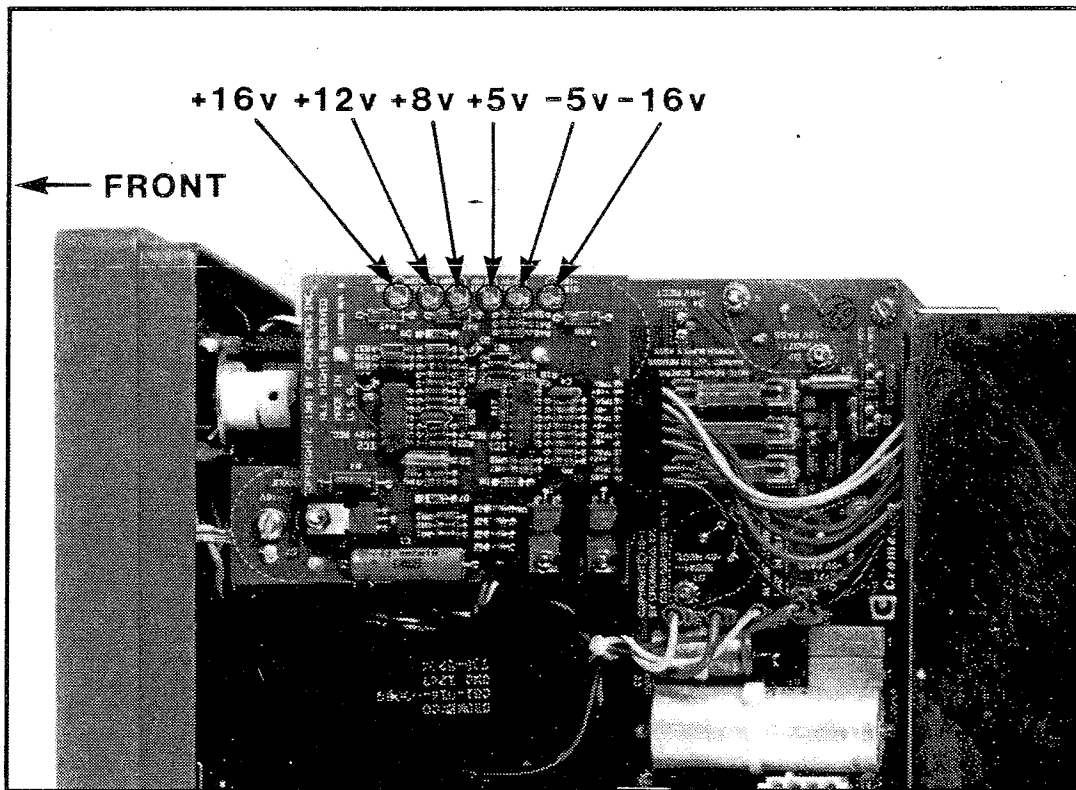


Figure A-4: LED INDICATORS ON MODEL CS-1H

Cromemco System One Instruction Manual
A. Power Supply and Fuses

You can view these LEDs through the ventilation slots on the left side of the computer toward the front. If any one of these LEDs is not lit when the system is turned on, it means that the power supply is not providing that voltage. If a +8, +16, or -16 volt indicator is out, check to see if the appropriate power supply fuse has been blown. If so, replace it. If the LED still doesn't light -- or the fuse blows again after a short time -- you probably have a hardware failure.

If a +5, -5, +12 volt indicator is out, you have a hardware failure in either the power supply or the disk drives.

In case of a hardware failure, contact your Cromemco dealer for assistance.

POWER SUPPLY SCHEMATICS

Figure A-5 shows a schematic of the power supply's circuitry for model CS-1. Figure A-6 shows the same for model CS-1H.

Cromemco System One Instruction Manual
 A. Power Supply and Fuses

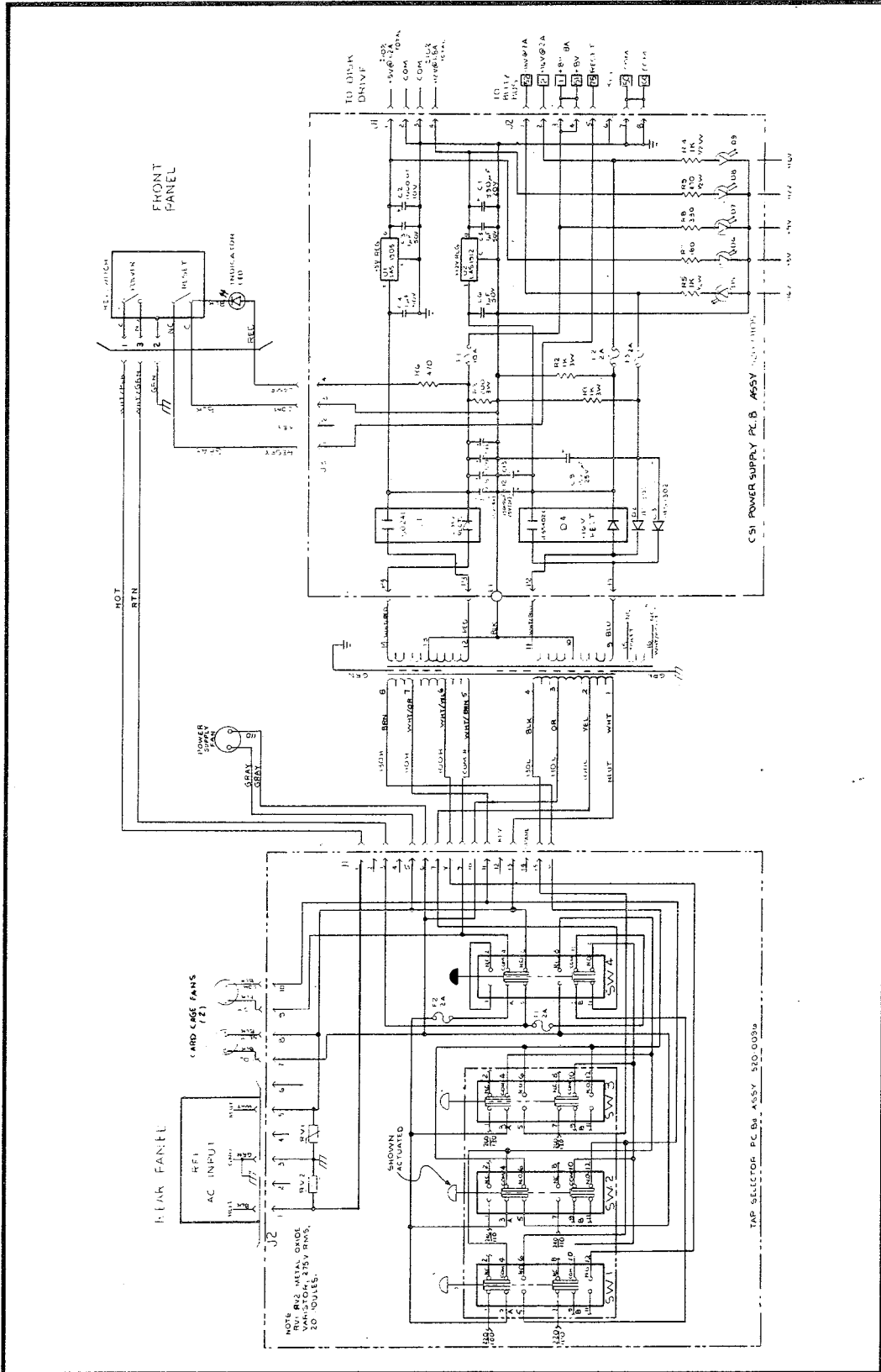


Figure A-5: MODEL CS-1 POWER SUPPLY SCHEMATIC

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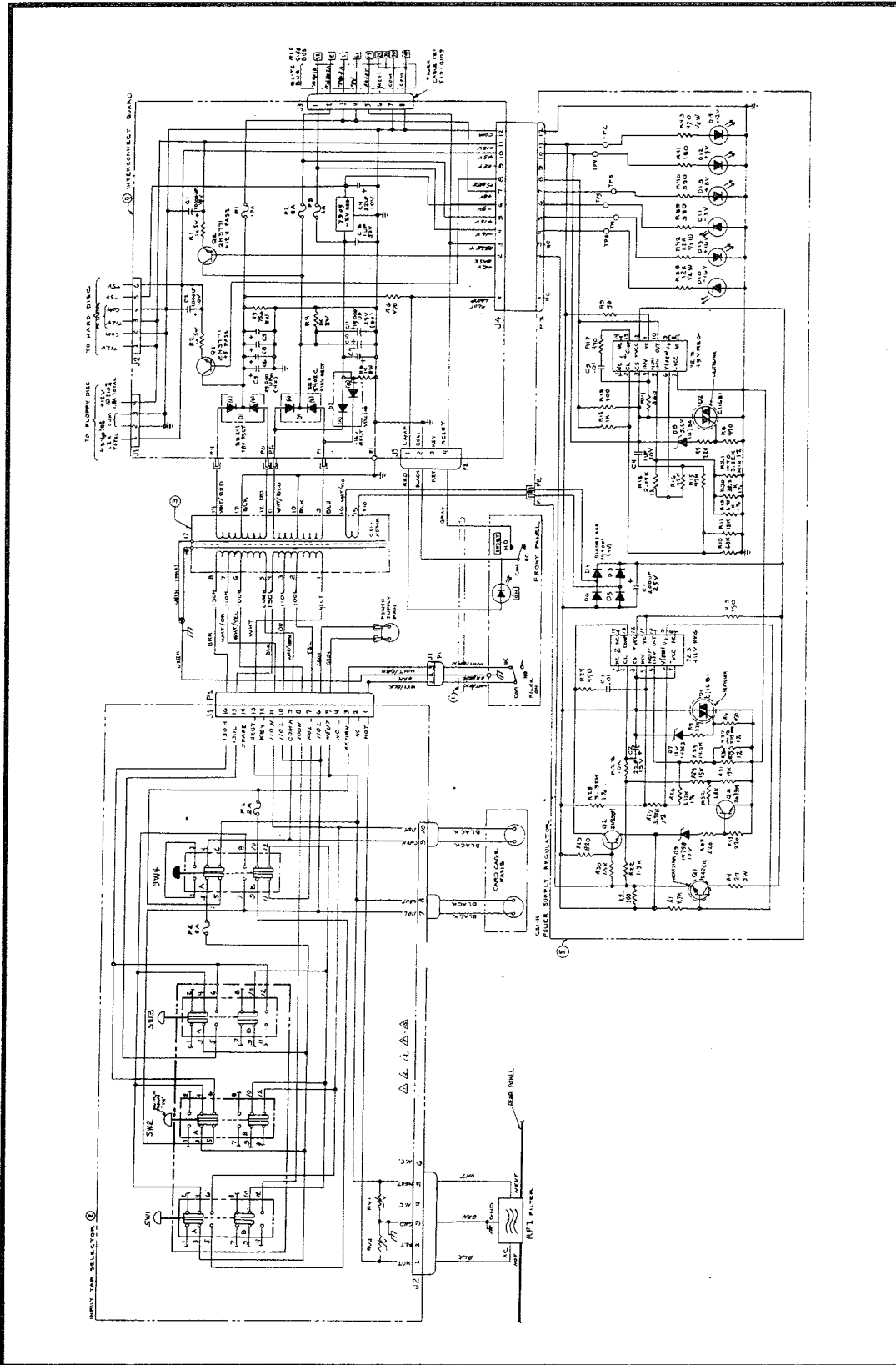


Figure A-6: MODEL CS-1H POWER SUPPLY SCHEMATIC

Appendix B

DISASSEMBLING THE SYSTEM

Cromemco designed the System One to be easily disassembled should the need arise. The sections in this appendix describe how to get to the system's major components.

REAR PANEL

The rear panel is comprised of two parts: a solid upper panel and a lower panel with two DB-25 connectors and six knockouts. To remove either panel, remove the screws indicated in Figure B-1.

Only the upper rear panel need be removed to add circuit boards, set switches located on circuit boards, or adjust cables. Each of the two parts of the rear panel may be removed independently of each other. Their removal will allow the user to gain access to the card cage containing the system circuit boards and all rear panel cabling.

THE SYSTEM ONE SHOULD NOT BE OPERATED WITH ANY PORTION OF THE REAR PANEL REMOVED. TO DO SO MAY OVERHEAT OF THE SYSTEM.

One of the connectors located on the lower portion of the rear panel accepts the terminal cable while the other is used by an optional system printer. Refer to the sections in Chapter 2 on connecting a terminal and connecting a printer for additional information.

The knockouts located on the lower portion of the rear panel may be removed to install additional connectors as needed. Remove the knockouts by pushing them out from the inside.

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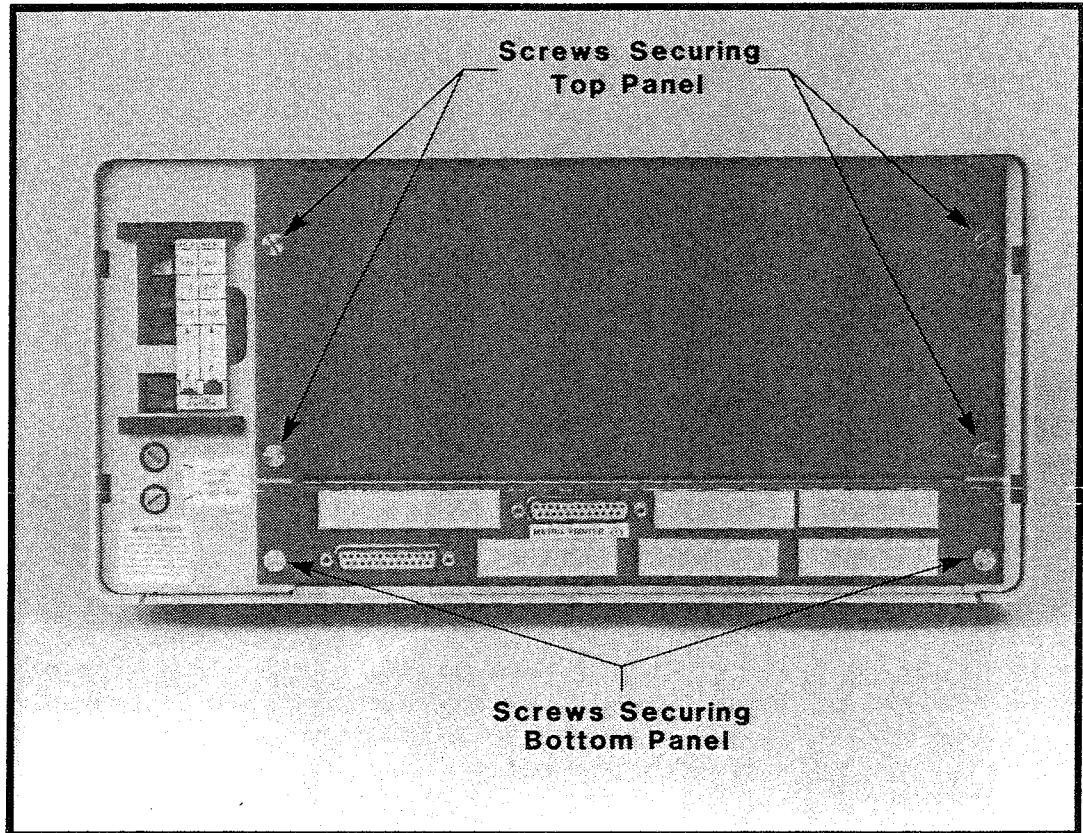


Figure B-1: SCREWS SECURING REAR PANELS

COVER

The System One cover must be removed to access the power supply and some internal cabling. The cover can be removed independently of the rear and front panels.

To remove the cover, remove the eight screws indicated in Figure B-2 and slide the cover off of the rear of the system. Reverse this procedure to replace the cover.

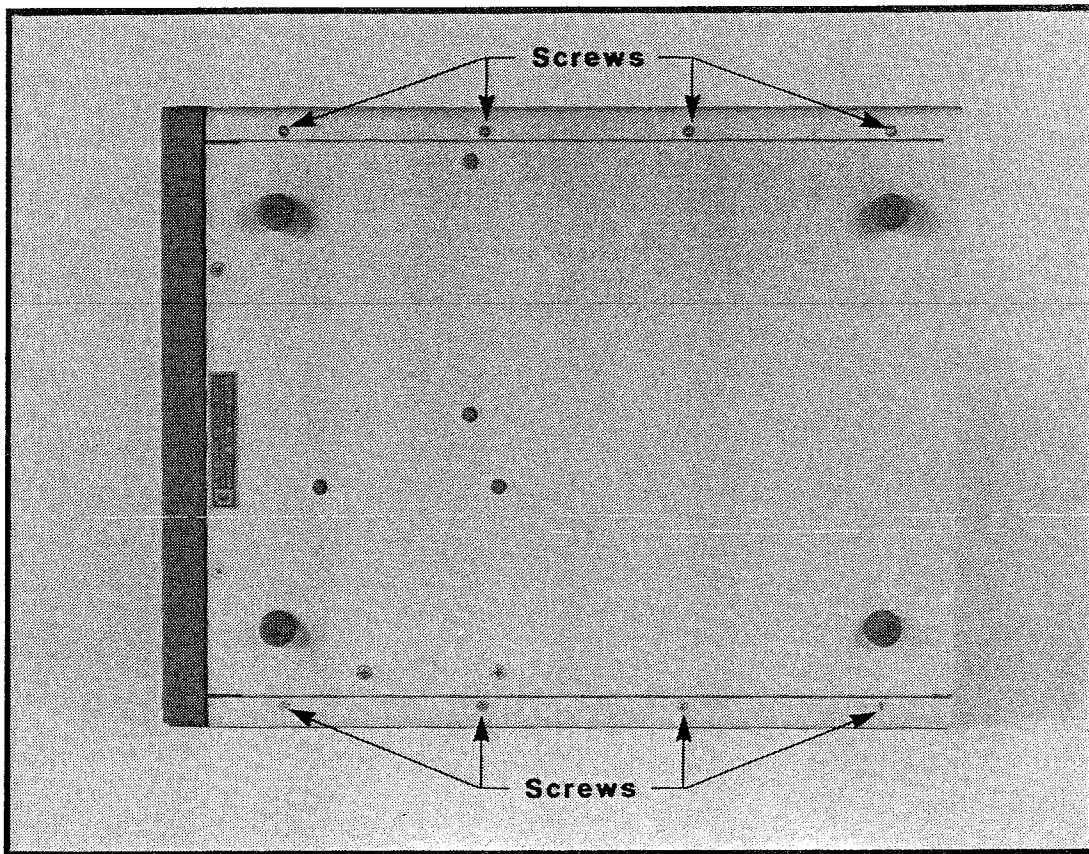


Figure B-2: SCREWS SECURING THE COVER

FRONT PANEL

The front panel must be removed before the disk drives can be removed; it can be removed independently of the cover.

To remove the front panel, remove the four screws indicated in Figure B-3 and remove the front panel and disk drives.

If, after reinstalling the front panel, the system pilot light does not work, reverse the two leads going to the pilot light.

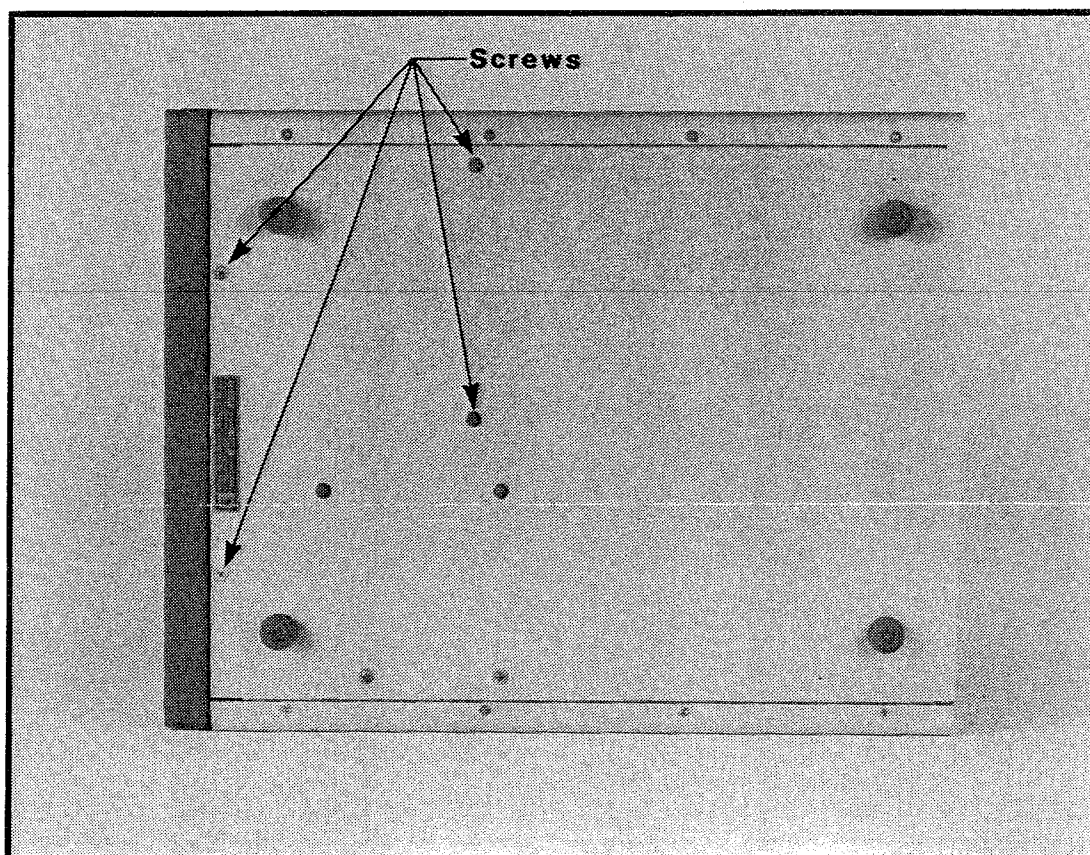


Figure B-3: SCREWS SECURING THE FRONT PANEL

DISK DRIVES ON MODEL CS-1

To remove the floppy disk drives, detach the front panel as described above and then separate the disk drives from the front panel by removing the bar over the top of the drives (see Figure B-4) and the four screws indicated in Figure B-5. Unplug cables as necessary.

Cromemco System One Instruction Manual
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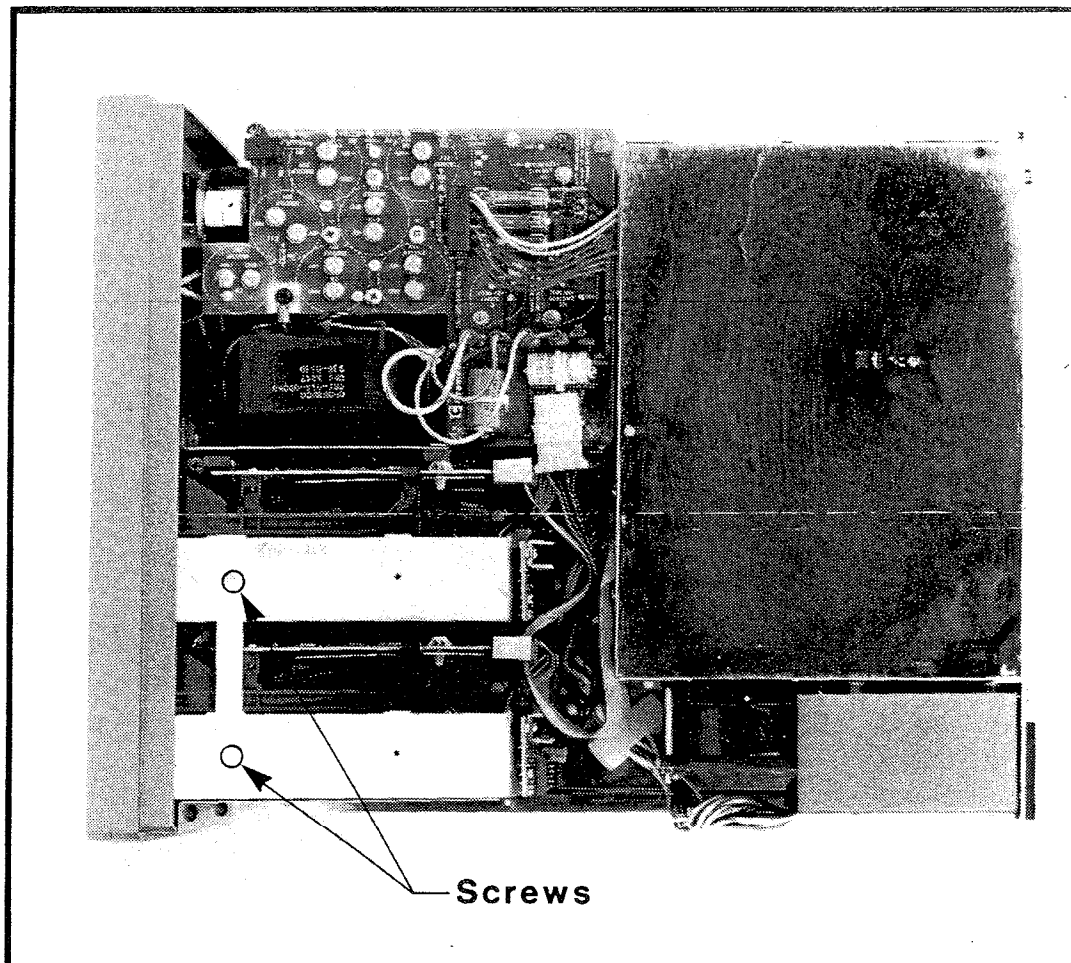


Figure B-4: SCREWS SECURING CS-1
DISK DRIVES TO FRONT PANEL

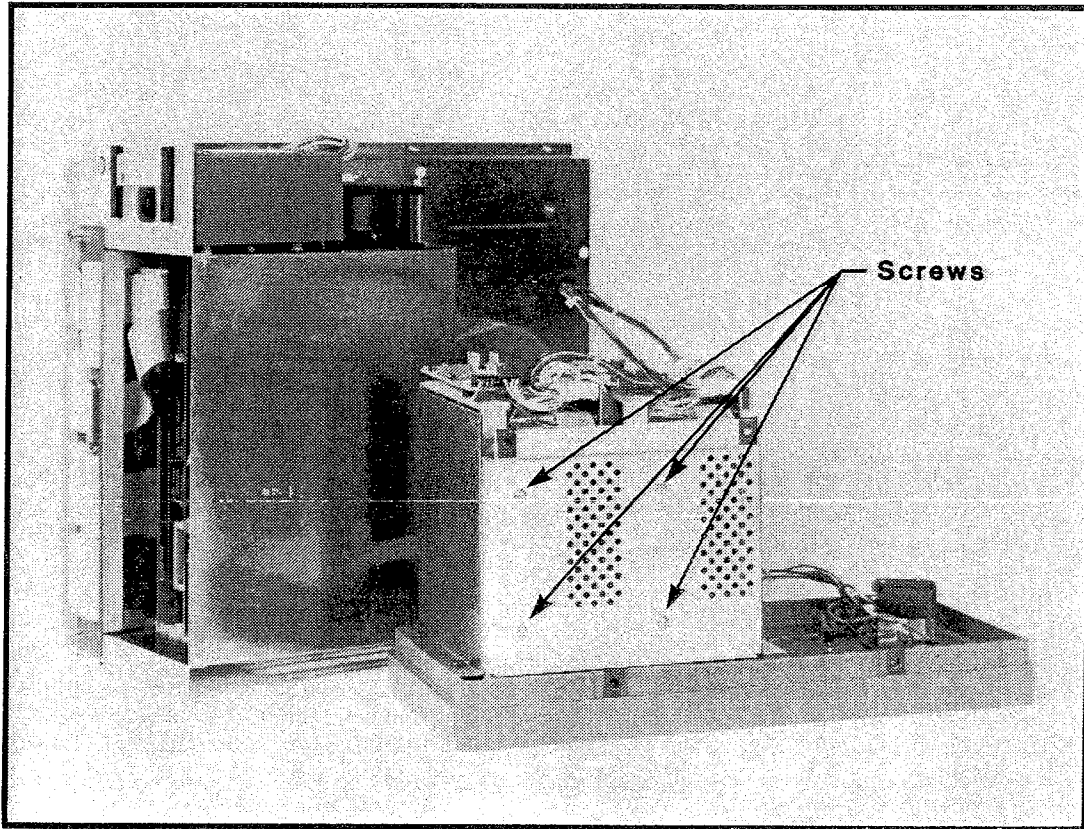


Figure B-5: SCREWS SECURING CS-1
DISK DRIVES (bottom view)

DISK DRIVES ON MODEL CS-1H

To remove the disk drives on the model CS-1H, detach the front panel as described above. To remove the floppy diskette drive, remove the screws indicated in Figures B-6 and B-7 and pull the drive out from the front of the box. To remove the hard disk drive, remove the screws indicated in Figures B-6 and B-7 and pull the drive out from the back of the box. Unplug cables as necessary.

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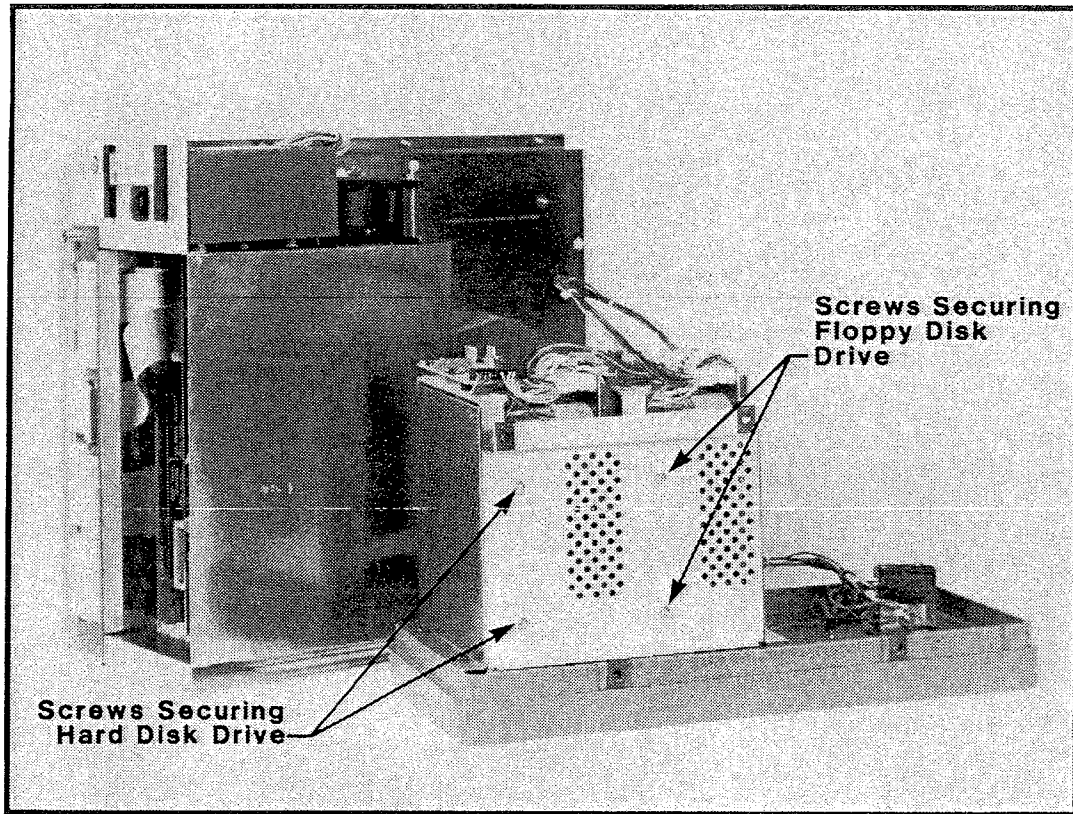


Figure B-6: SCREWS SECURING CS-1H
DISK DRIVES (bottom view)

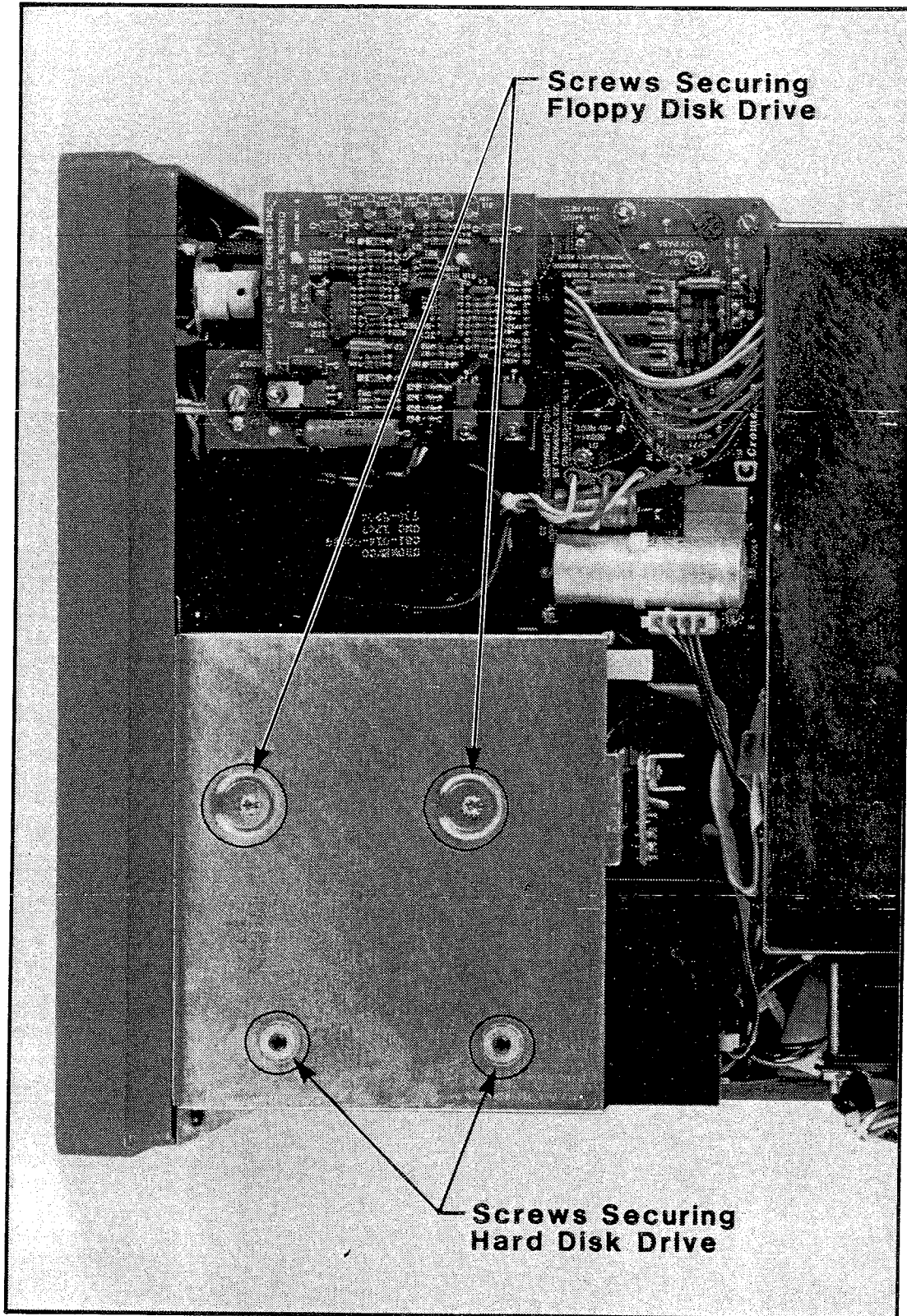


Figure B-7: SCREWS SECURING CS-1H
DISK DRIVES (top view)

POWER SUPPLY

Before removing the power supply, it is necessary to remove the cover and front panel as described above. The four connectors coming from the power supply and the four screws securing the power supply to the bottom of the System One can then be removed (refer to Figure B-8). After this, the power supply can be separated from the system.

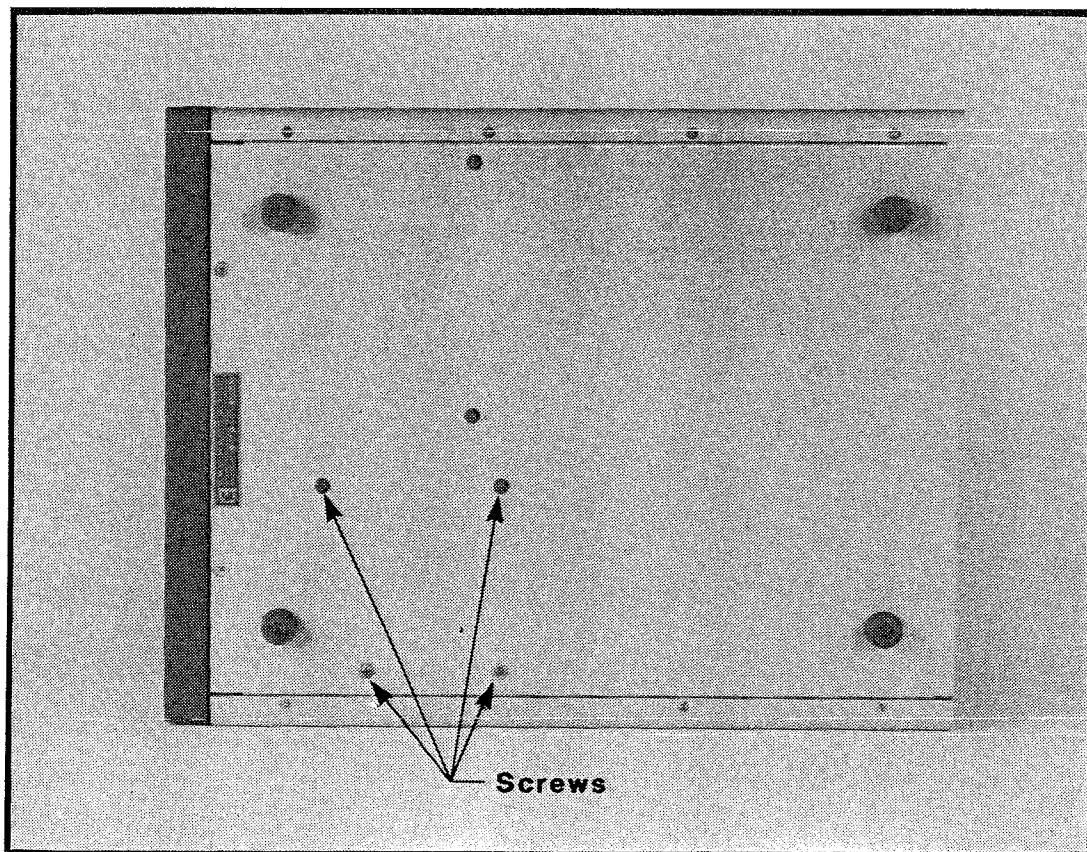


Figure B-8: SCREWS SECURING THE POWER SUPPLY

Appendix C

SYSTEM ONE SWITCH SETTINGS

The boards you received with your System One come ready to use. All the switches on the printed circuit boards are set to support the System One. If you replace any of the boards, you should check to see that the switches are set as shown on the next page. The WDI-II (Winchester disk interface) board is not shown because it doesn't have any switches.

For more information on any of these boards, see the appropriate manual listed in the introduction.

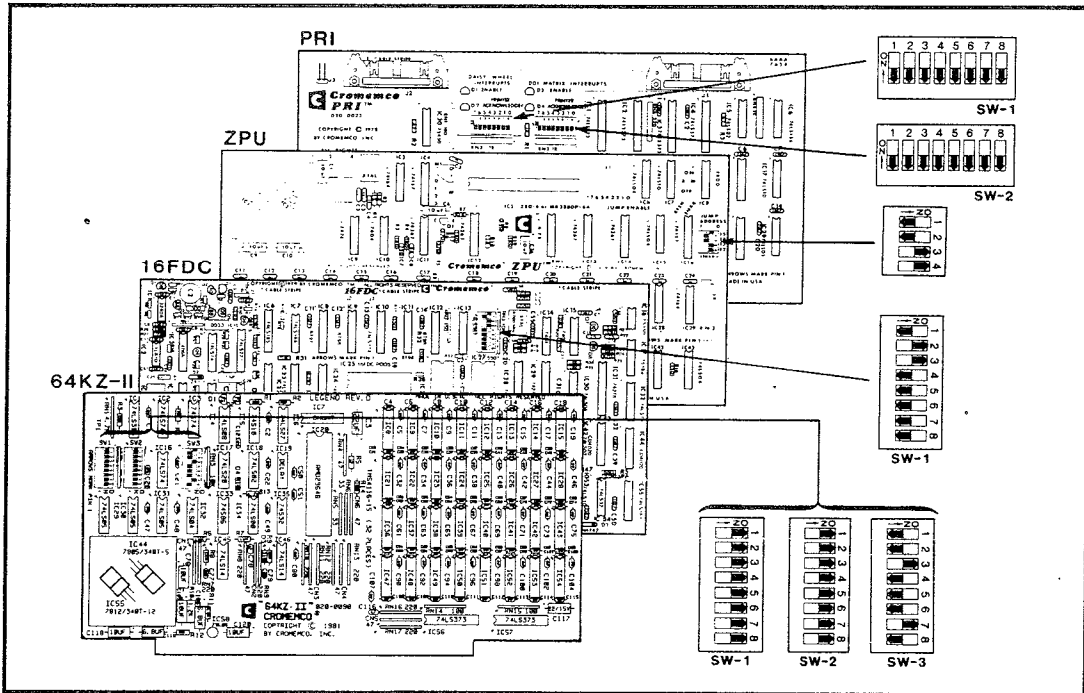


Figure C-1: SYSTEM ONE SWITCH SETTINGS

Appendix D **LIMITED WARRANTY**

Cromemco, Inc. ("Cromemco") warrants this product against defects in material and workmanship to the original purchaser for ninety (90) days from the date of purchase, subject to the following terms and conditions.

What Is Covered By This Warranty

During the ninety (90) day warranty period Cromemco will, at its option, repair or replace this Cromemco product or repair or replace with new or used parts any parts or components, manufactured by Cromemco, which prove to be defective, provided the product is returned to an Authorized Cromemco Dealer as set forth below.

How To Obtain Warranty Service

You should immediately notify IN WRITING your Authorized Cromemco Dealer or Cromemco Inc of problems encountered during the warranty period. In order to obtain warranty service, first obtain a return authorization number by contacting the Authorized Cromemco Dealer from whom you purchased the product. Then attach to the product:

1. Your name, address and telephone number,
2. the return authorization number,
3. a description of the problem, and
4. proof of the date of retail purchase.

Ship or otherwise return the product, transportation and insurance costs prepaid, to the Authorized Cromemco Dealer. If you are unable to receive warranty repair from the Authorized Cromemco Dealer from whom you purchased the product, you should contact Cromemco Customer Support at: Cromemco, Inc., 280 Bernardo Ave., Mountain View, Ca. 94043.

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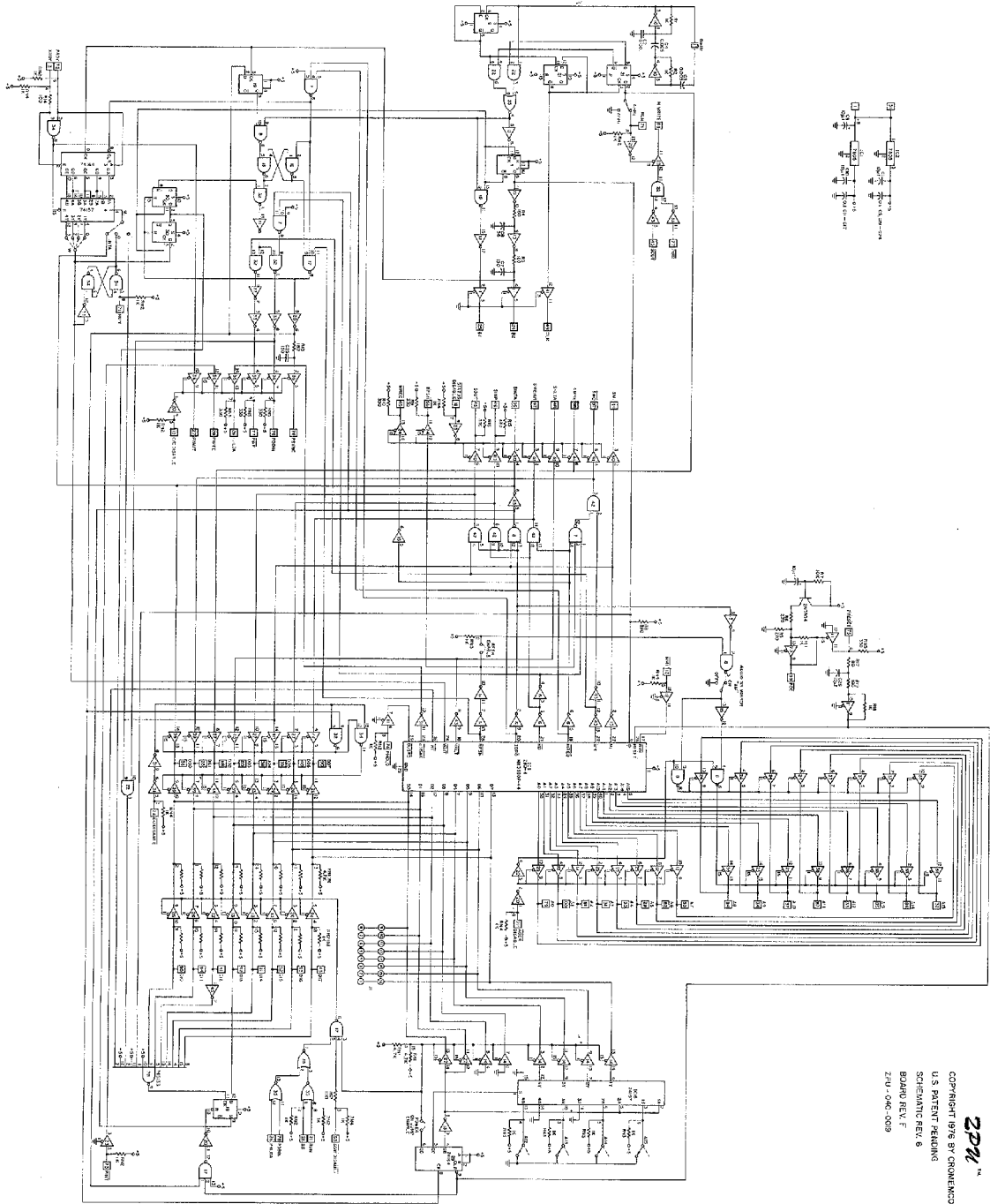
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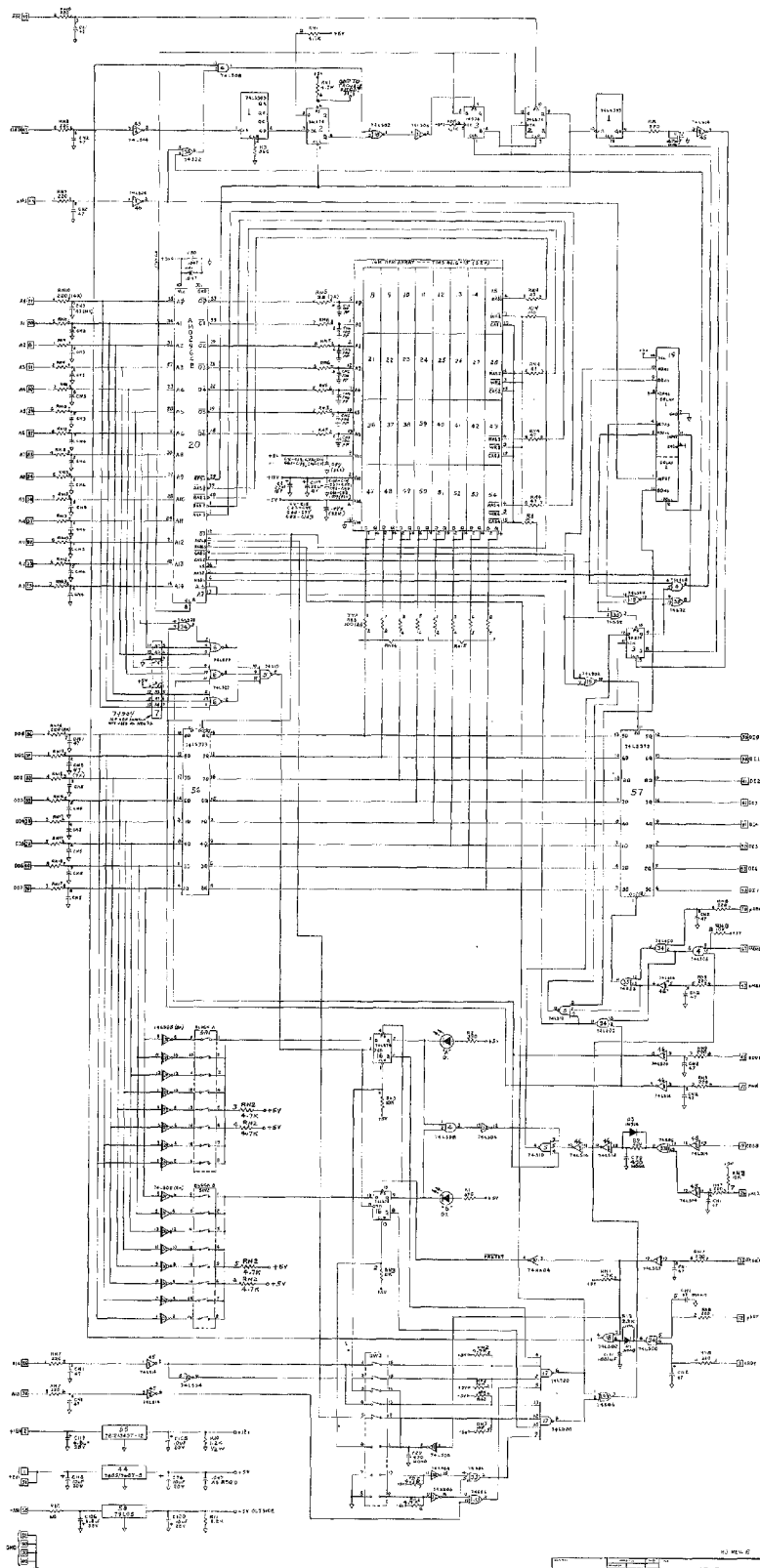
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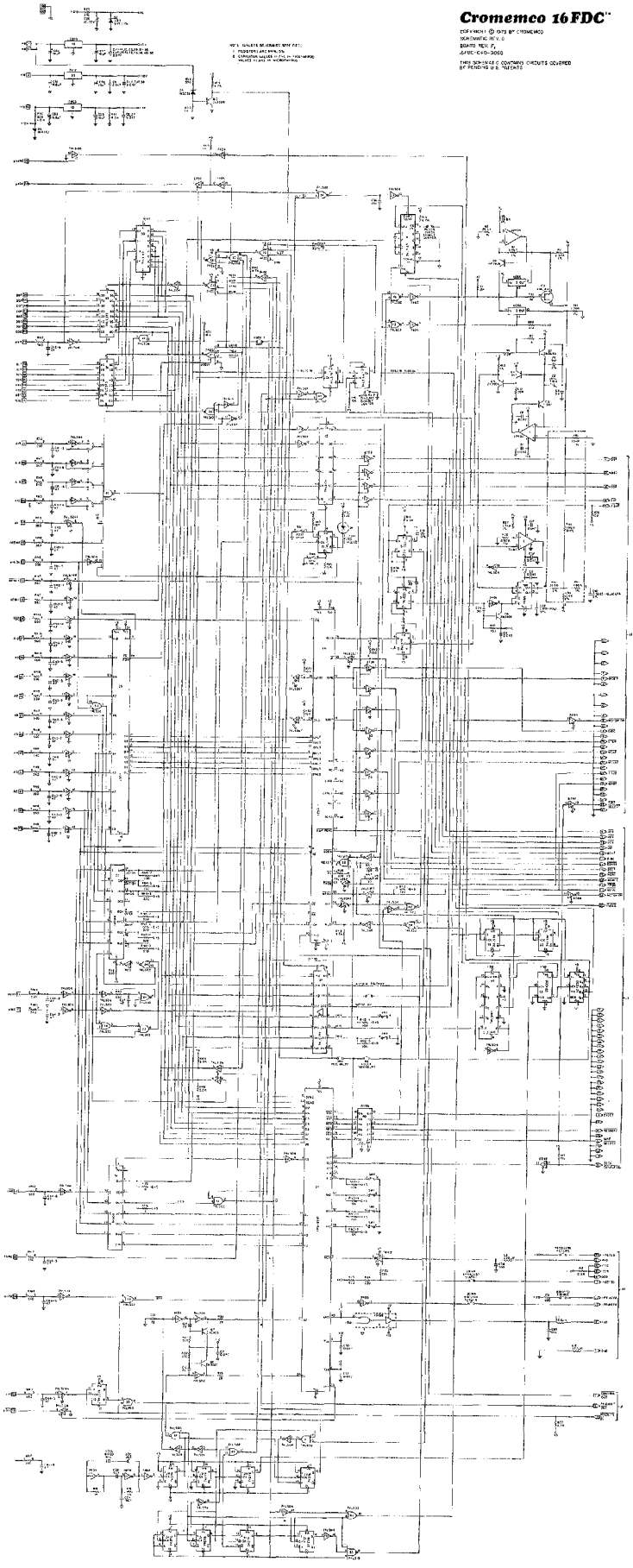
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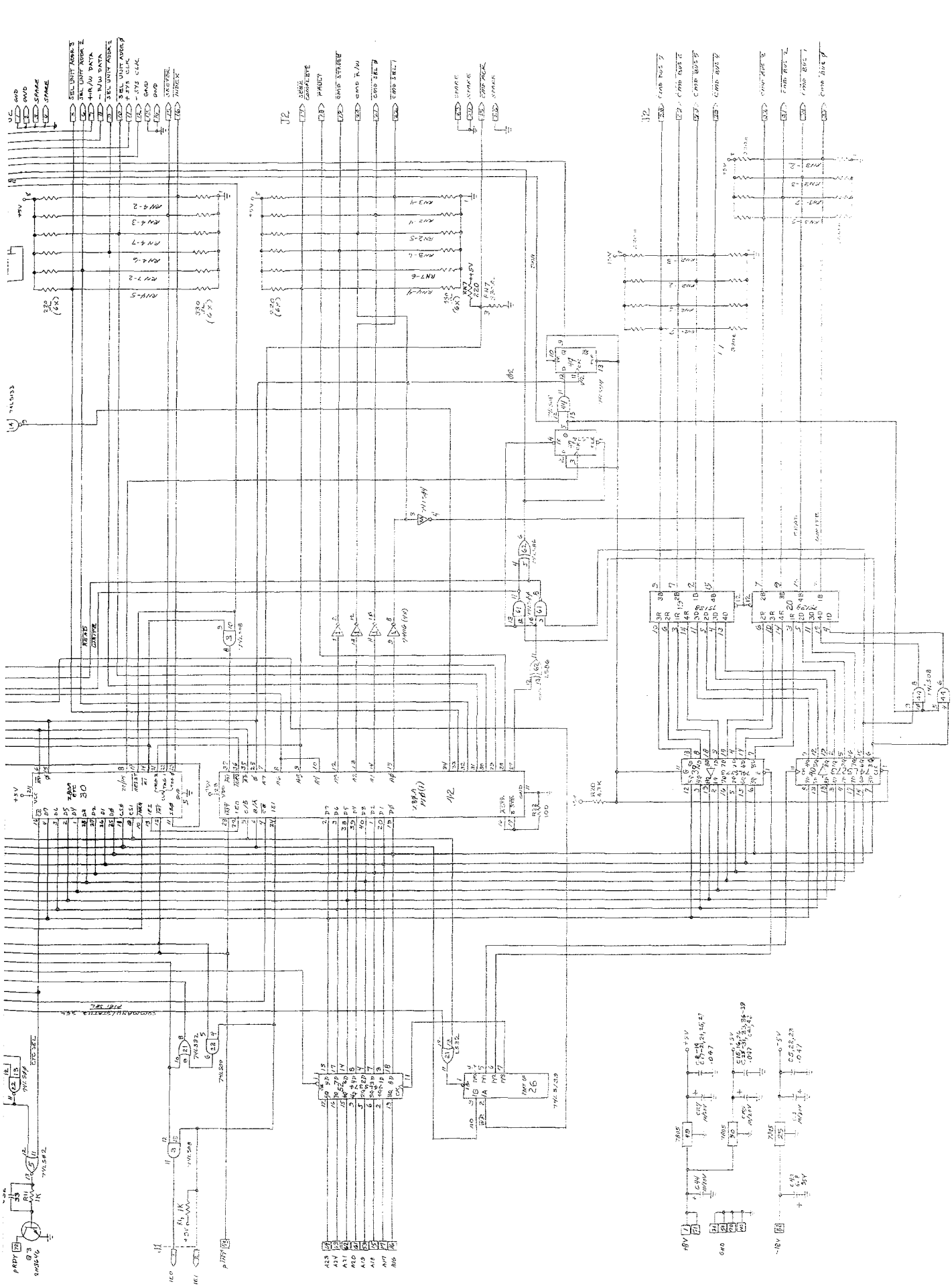
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CHECKED BY	
APPROVED BY	
Cromenco	
64K211-020-0090	

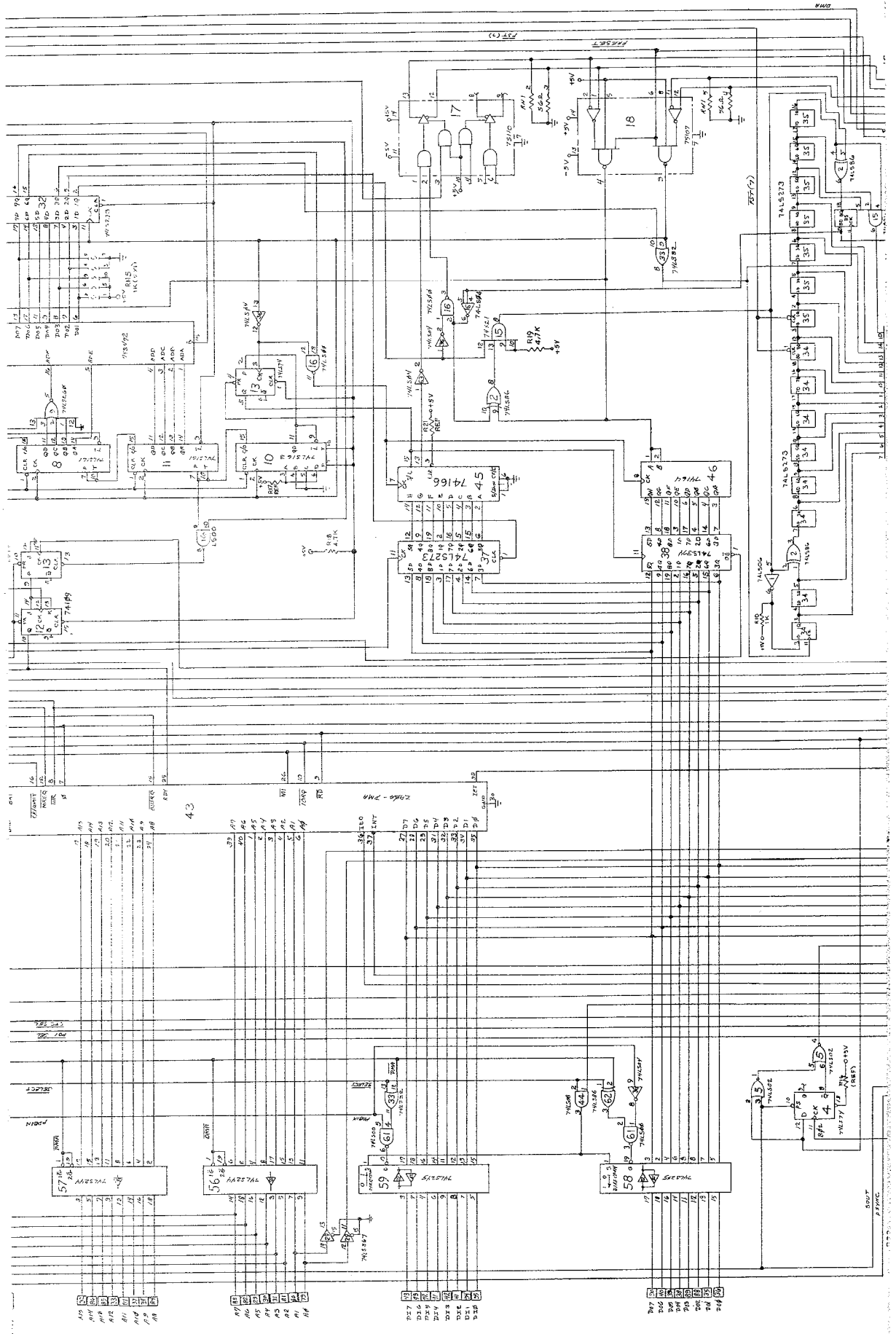
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REVISION NO. 1
PART NO. 16 FDC
DATE 10-10-66
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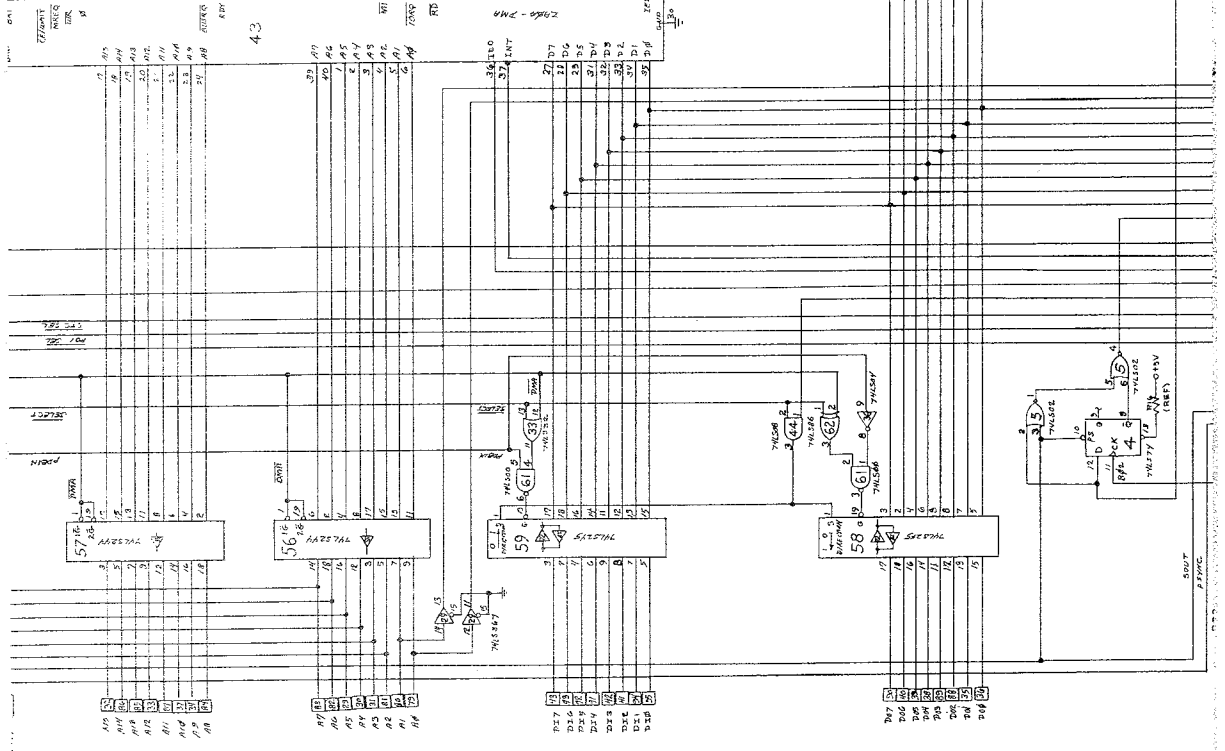
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PART NO. 16 FDC
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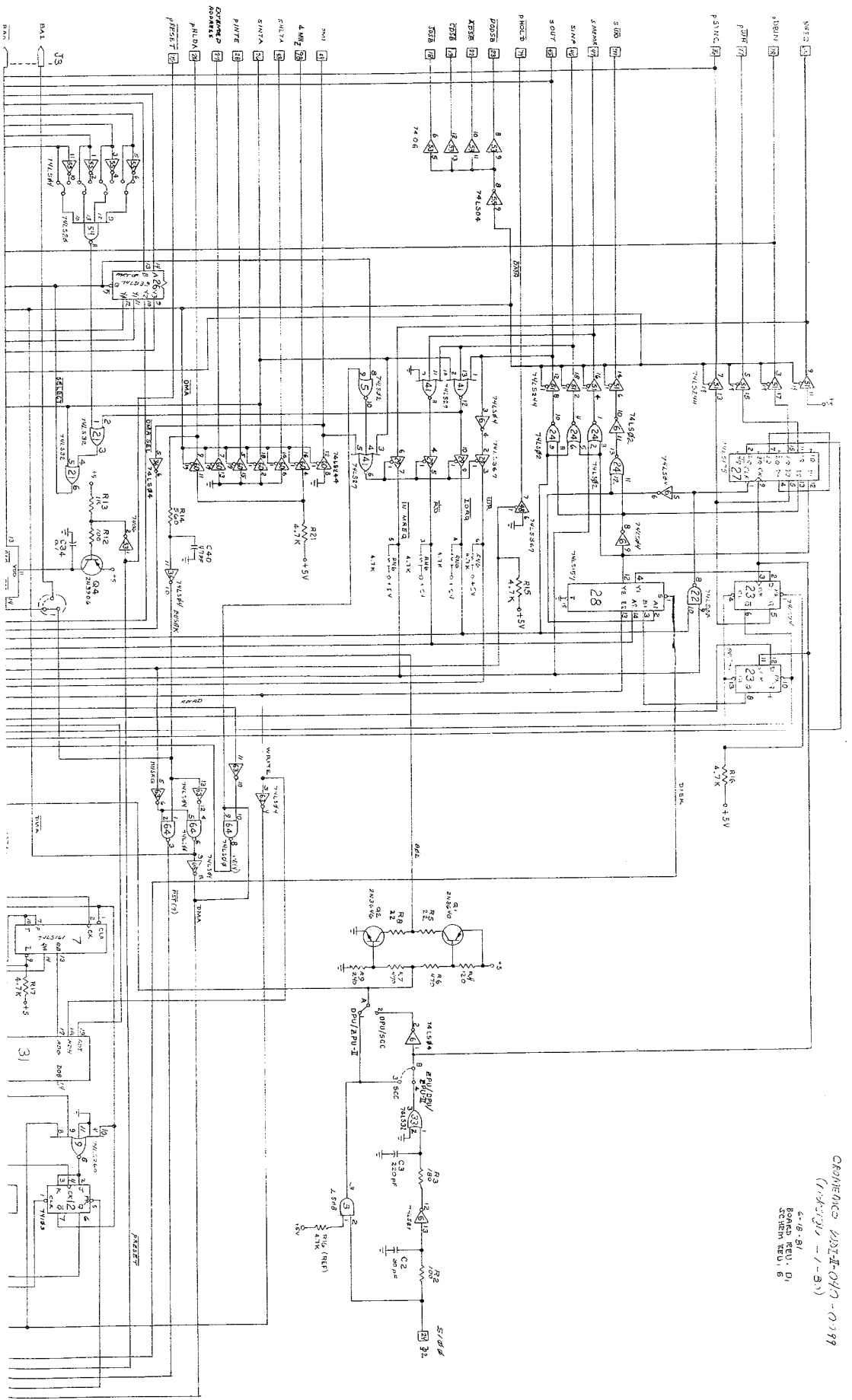




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ZONE - 2M8





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