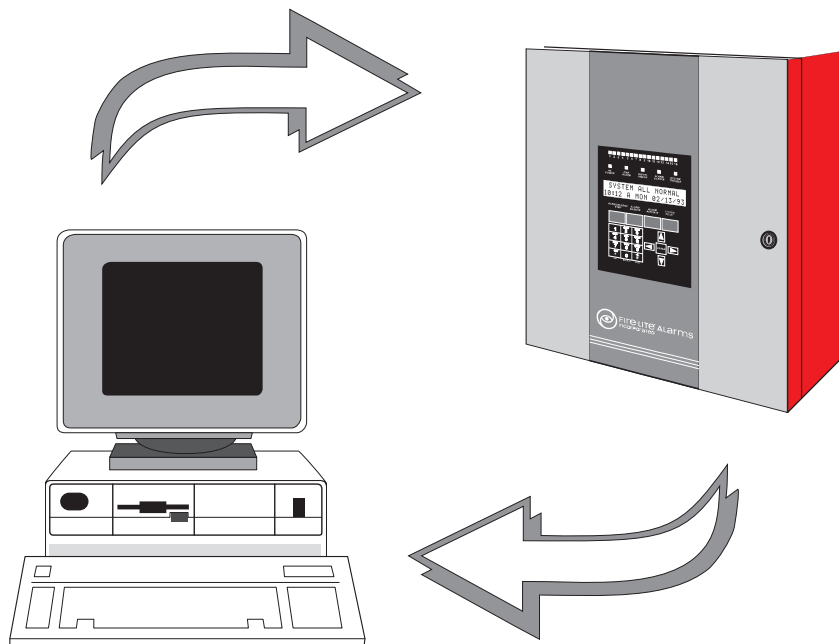


PK-9200 Off Line Programming Utility



***for the
MS-9200 Addressable Fire Control Panel***

Installation Precautions

WARNING - Several different sources of power can be connected to the fire alarm control panel. Disconnect all sources of power before servicing. Control unit and associated equipment may be damaged by removing and/or inserting cards, modules, or interconnecting cables while the unit is energized. Do not attempt to install, service, or operate this unit until this manual is read and understood.

CAUTION - *System Reacceptance Test after Software Changes:* To ensure proper system operation, this product must be tested in accordance with NFPA 72-1993 Chapter 7 after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions known to be affected by a change must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must be tested and proper system operation verified.

This system meets NFPA requirements for operation at 0-49° C/32-120° F and at a relative humidity of 85% RH (non-condensing) at 30° C/86° F. However, the useful life of the system's standby batteries and the electronic components may be adversely affected by extreme temperature ranges and humidity. Therefore, it is recommended that this system and its peripherals be installed in an environment with a nominal room temperature of 15-27° C/60-80° F.

Verify that wire sizes are adequate for all initiating and indicating device loops. Most devices cannot tolerate more than a 10% I.R. drop from the specified device voltage.

Adherence to the following will aid in problem-free installation with long-term reliability:

Like all solid state electronic devices, this system may operate erratically or can be damaged when subjected to lightning induced transients. Although no system is completely immune from lightning transients and interferences, proper grounding will reduce susceptibility. *Overhead or outside aerial wiring is not recommended, due to an increased susceptibility to nearby lightning strikes.* Consult with the Technical Services Department if any problems are anticipated or encountered.

Disconnect AC power and batteries prior to removing or inserting circuit boards. Failure to do so can damage circuits.

Remove all electronic assemblies prior to any drilling, filing, reaming, or punching of the enclosure. When possible, make all cable entries from the sides or rear. Before making modifications, verify that they will not interfere with battery, transformer, and printed circuit board location.

Do not tighten screw terminals more than 9 in-lbs. Over tightening may damage threads, resulting in reduced terminal contact pressure and difficulty with screw terminal removal.

This system contains static-sensitive components. Always ground yourself with a proper wrist strap before handling any circuits so that static charges are removed from the body. Use static suppressive packaging to protect electronic assemblies removed from the unit.

Follow the instructions in the installation, operating, and programming manuals. These instructions must be followed to avoid damage to the control panel and associated equipment. FACP operation and reliability depend upon proper installation.

Fire Alarm System Limitations

An automatic fire alarm system - typically made up of smoke detectors, heat detectors, manual pull stations, audible warning devices, and a fire alarm control with remote notification capability can provide early warning of a developing fire. Such a system, however, does not assure protection against property damage or loss of life resulting from a fire.

Any fire alarm system may fail for a variety of reasons:

Smoke detectors may not sense fire where smoke cannot reach the detectors such as in chimneys, in walls, or roofs, or on the other side of closed doors. Smoke detectors also may not sense a fire on another level or floor of a building. A second floor detector, for example, may not sense a first floor or basement fire. Furthermore, all types of smoke detectors - both ionization and photoelectric types, have sensing limitations. No type of smoke detector can sense every kind of fire caused by carelessness and safety hazards like smoking in bed, violent explosions, escaping gas, improper storage of flammable materials, overloaded electrical circuits, children playing with matches, or arson.

IMPORTANT! *Smoke detectors must be installed in the same room as the control panel and in rooms used by the system for the connection of alarm transmission wiring, communications, signaling, and/or power.* If detectors are not so located, a developing fire may damage the alarm system, crippling its ability to report a fire.

While installing a fire alarm system may make lower insurance rates possible, it is not a substitute for fire insurance!

Audible warning devices such as bells may not alert people if these devices are located on the other side of closed or partly open doors or are located on another floor of a building.

A fire alarm system will not operate without any electrical power. If AC power fails, the system will operate from standby batteries only for a specified time.

Rate-of-Rise heat detectors may be subject to reduced sensitivity over time. For this reason, the rate-of-rise feature of each detector should be tested at least once per year by a qualified fire protection specialist.

Equipment used in the system may not be technically compatible with the control. It is essential to use only equipment listed for service with your control panel.

Telephone lines needed to transmit alarm signals from a premise to a central monitoring station may be out of service or temporarily disabled.

The most common cause of fire alarm malfunctions, however, is inadequate maintenance. All devices and system wiring should be tested and maintained by professional fire alarm installers following written procedures supplied with each device. System inspection and testing should be scheduled monthly or as required by National and/or local fire codes. Adequate written records of all inspections should be kept.

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1: Installation and Start-up

1.0 Introduction

This manual describes the use of the PK-9200 Off Line Programming Utility. Using the programming utility, the MS-9200 can be programmed directly from most IBM PC/XT/AT or compatible computers, including laptops and portables, equipped with a serial port. MS-9200 program files can also be created and stored on the PC, then downloaded to the panel.

Before attempting to operate the programming utility, the user should have a knowledge of basic computer operations and MS-DOS command structure.

After creating or modifying an MS-9200 program, the system must be thoroughly tested with the newly installed software. For more information on the control panel, refer to the MS-9200 Technical Manual (Document #15668).

1.1 Inventory

The PK-9200 Off Line Programming Utility Kit P/N PK-9200 contains the following:

- One 3.5" floppy disk (P/N 75298).
- Adapter, 9-pin male to 25-pin female (P/N 46029).
- PK-9200 Instruction Manual P/N 15677.
- PIM-24 Printer/PC Interface Module with cable and DB9F connector.

1.2 Program Installation

Before running the PK-9200 programming utility, you should read the **Readme.txt** file on the supplied disk to learn about updates or changes to the program which may not be covered in this manual.

You can run the MS-9200 programming utility directly from either of the supplied floppy disks or from a hard disk drive. To install the application on a hard drive, create a directory called MS9200 on the hard drive. Copy the files from the floppy disk to this directory on the hard drive.

1.3 Getting Started

The PK-9200 Off Line Programming Utility can be used in two ways: **Online**—the PC is connected to the control panel and program files can be transferred between the two devices; **Offline**—the PC is not connected to the control panel, but program files can be created or modified for later use.

To connect the PC to the control panel, connect the 9-pin end of the supplied cable to the 9-pin serial connector on the PC. If a 9-pin serial port is not available on the PC, use the supplied 9-pin to 25-pin adapter. Connect the other end of the cable to J11 (OPTIONAL PRINTER & UP/DOWN LOAD connector) on the control panel main circuit board (*see Figure 1-1*).

Warning: Never connect a PC to the control panel when there is a preexisting earth ground fault condition on the panel, since damage can result.

The control panel does not have to be physically connected to the PC's serial port in order to use the programming application. The PC and the control panel need to be connected only during the transfer of files between the personal computer and the MS-9200.

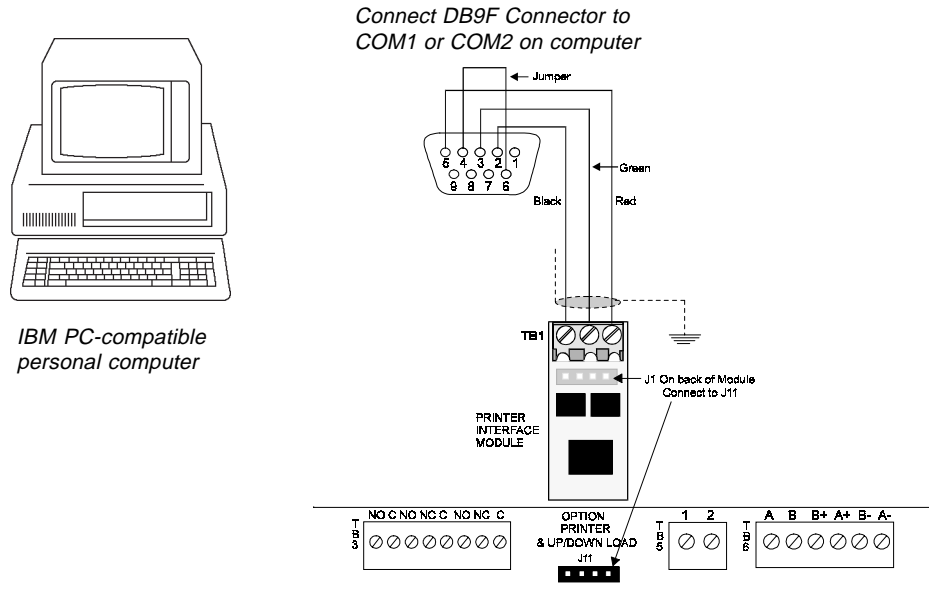


Figure 1-1: External Programming Connections for MS-9200

1.4 Start-up

From the MS9200 directory on the PC disk, begin by typing *MS9200* and pressing the *ENTER* or *RETURN* key. You should see the opening screen with the company logo. From the opening screen, pressing *ENTER* will cause the following screen to appear:

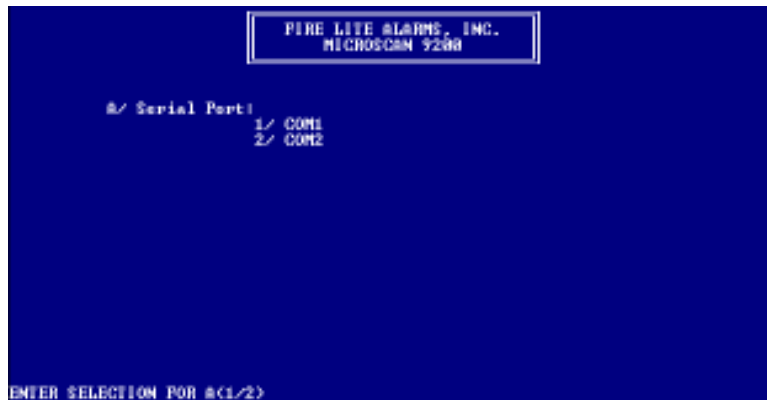


Figure 1-2: Serial Port Selection Screen

Choose the COM (serial) port which you will use to communicate with the control panel. Press the key (1 or 2) which corresponds to your selection.

The Available Services Screen (Figure 1-3) will now appear. This is the main option screen from which all available options may be selected. Options include the following:



Figure 1-3: Available Services Screen

<u>Selection</u>	<u>Function</u>	<u>Description</u>
1)	Call Diskfile to Display	This choice displays an MS-9200 program previously stored on the disk. Upon initial power-up, this file is empty.
2)	Upload from MS-9200 to View	This choice uploads an existing program stored in the control panel memory into the PC for editing or viewing. The PIM-24 Interface must be connected to perform an upload.
3)	Display Sample Program	This choice displays a sample configuration file. This file may be used to gain an understanding of the basic operation of the Off Line Programming Utility. The Sample File must be used to create a new program.
4)	Download to MS-9200	This option Downloads a program created and stored on the PC into the control panel memory. A PIM-24 must be connected to perform a download operation.
5)	Upload from MS-9200 to Diskfile	This selection Uploads a program stored in the control panel and stores the program in the PC diskfile. The PIM-24 must be connected to perform this function.
6)	Exit to DOS	This selection exits the PC from the Off Line Programming Utility, returning the computer to the DOS prompt.
A)	Change Serial Port	This allows the operator to switch from COM1 to COM2.

2: Screen Navigation

Use the following keys and submenus to navigate through the various options and selections.

- *Arrow Keys*—Use the up, down, left, and right arrow keys to move the cursor.
- *Space Bar*—When in the device code screen, pressing the space bar while in the INS, TYPE, or CODE LABEL fields scrolls the available choices. When in the SYSTEM CODE screen, pressing the space bar in any field scrolls the available choices. When the desired option appears, use the arrow keys to move to the next field.
- *View Submenu (Alt + V)*—In addition to the space bar, various View submenus provide another method to see the available options. To utilize the view submenus, press and hold the **ALT** key while typing the letter **V**. A submenu will be displayed with a list of options. Use the up and down arrow keys to move through the list, then press the *ENTER* key to make your selection or type the letter or number corresponding to the option.

NOTE: The PAGE UP and PAGE DOWN keys may be used while in the Device Code screen. The spacebar or typing over existing text is used to erase/delete characters. The PC's delete key will not function. Zone entries higher than 56 will not be accepted. An error message appears at the bottom of the screens.

- *ESC Key* - Pressing the Escape key calls various submenus to the screen. It also is used to abort entries.

3: System Programming

This chapter discusses the use of the Off Line Programming Utility to create and/or modify MS-9200 programs. If a control panel program has not previously been uploaded into the PC, the Display Sample Program selection *must* be used to create the initial program. The Display Sample Program is 'customized' for the application, then downloaded into an control panel. For additional information about the capabilities of the control panel and programming techniques, please refer to the MS-9200 Technical Manual.

3.0 Display Sample Program

If you are using the utility for the first time, choose *Display Sample Program* (selection 3) before choosing other options. This is recommended since a thorough understanding of the basic operations is necessary. Once this selection has been made, the screen shown in Figure 3-1 will appear. Included as part of this screen are the View Submenu in the upper right corner and the Abort message in the bottom right corner. Pressing the ESC key will cause the display to revert back to the Available Services screen.



Figure 3-1: Display Sample Program Screen

System /Device Code Submenu

The submenu shown in Figure 3-2 gives the option of selecting the system code or the device code editing screens. Various submenus appear when selecting other available service functions.

To select one of the submenu options, use the *Up* and *Down* arrow keys or type the first letter of the selection on the PC keyboard then press the Enter key to finalize the selection.



Figure 3-2: System or Device Code Submenu

Escape Key

While the screens for System Code or Device Code editing are shown, pressing the *ESC* key will bring up a submenu with four choices as shown in Figure 3-3. From this menu, the available options are CHECK PROGRAM, SYSTEM CODE, DEVICE CODE and EXIT. See Section 4 for a complete description of these submenu functions.



Figure 3-3: Check Program, System Code, Device Code, and Exit Submenu

3.1 System Code

From the submenu shown in Figure 3-2, select System Code to bring up the display shown in Figure 3-4.



Figure 3-4: Sample System Code programming screen

From the screen shown above, you can program eight general system parameters. The options are listed below.

<u>Selection</u>	<u>Option</u>	<u>Description</u>
1/	ANNUN	None = No Annunciator 56 Zone = Annunciate status of 56 zones 198 Point = Annunciate status of 198 point addresses
2/	STYLE (4 or 6)	4 = SLC Loop wiring configuration Style 4 6 = SLC Loop wiring configuration Style 6
3/	SILENCE INHIBIT	N = None Y = 60 seconds
4/	AUTO SILENCE	N = None Y = 10 minutes
5/	ALARM VERIFY	N = None Y = 13 second retard time, 107 second verification time
6/	PRESIGNAL	N = None Y = 15 second acknowledge period, 3 minute delay
7/	BELL CODING	S = Steady M = March Time T = Temporal C = California
8/	ALARM/TROUBLE REMINDER	N = No Y = 15 seconds for alarms, 2 minutes for troubles
9/	PRINTER/LCD-40	0 = Printer 1 = LCD-40 2 = None

Use the arrow keys to move the cursor. View options by pressing the space bar or ALT + V. When finished, press Escape key to bring up the submenu options.

3.2 Device Code

From the submenu shown in Figure 3-2, select Device Code to bring up the display shown in Figure 3-5. From this screen, you can program the various parameters for up to 99 addressable detectors and 99 monitor and/or control modules. *Note that both Main PC Board Notification Appliance Circuits are assigned to zone Z00 (General Alarm) and cannot be changed.* Circuit 1 is silenceable and circuit 2 is non-silenceable. Use the PgDn, PgUp, and arrow keys to move the cursor.

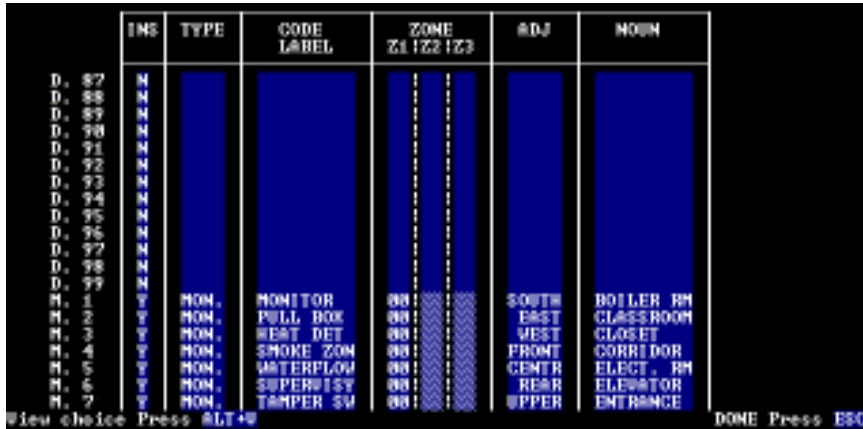


Figure 3-5: Sample Device Code programming screen

The device parameters to be programmed are defined in the table below:

LABEL	DEFINITION	CHOICES
D = Detector M = Monitor	Device Address	01-99
INS	Device Installed?	Y=Yes, N=No Use ALT V or Space bar to view choices
TYPE	Device Type Selection	Use ALT V or Space bar to view choices
CODE LABEL	Changes functional operation of module	Use ALT V to view choices
SOFTWARE ZONE ASSIGNMENT	Each control module can be assigned up to 3 software zones. Smoke Detectors and Monitor Modules may only be assigned to one zone.	Zone '00' is general alarm. Maximum zone number = 56
ADJ	Enter descriptor, i.e. NORTH, SOUTH, etc.	Use ALT V to view choices
NOUN	Enter descriptor, i.e. HALL, STAIRS, etc.	Use ALT V to view choices

Custom labels may be typed for the ADJ and NOUN labels. Use entry #1 or move the cursor to the appropriate location and type the custom label. To duplicate a custom label without keying in each character again, move the cursor to the first position of the new ADJ or NOUN field and type ALT + 0 (zero). Any numeric entries may be incremented by pressing and holding the ALT + I keys, as long as the number is the last character in the field..

Zone Assignments

Each initiating circuit can be assigned to only one software zone. A zone number from 1 to 56 can be typed in the Zone column labeled Z1 (Entries under Z2 or Z3 are not allowed). Zone numbers higher than 56 are not allowed to be entered.

Each output circuit (control module) can be assigned to three different software zones (Z1, Z2, Z3) to accomplish floor of alarm, floor above and floor below programming, if desired. For example, a detector on the first floor is assigned to Zone 1, a detector on the second floor to Zone 2 and another on the third floor to Zone 3. A control module (controlling a notification appliance) on the second floor may be assigned to Zone 1, Zone 2 and Zone 3. This will cause activation of the notification appliance on the second floor if an alarm occurs on floor one, two, or three.

When Device Code entry is complete, press the ESC key. Selection of C - CHECK PROG will verify if all devices are assigned to software zones. Errors will be displayed at the bottom of the screen.

4: Saving Programs

After you have finished working in a screen, press the *ESC* key. For example, pressing the *ESC* key while in the System Code screen brings up the submenu shown in Figure 4-1.



Figure 4-1: ESC Key Submenu

Check Program - This option reviews the data you have entered into the system and checks for programming errors.

NOTE: It is recommended that Check Program be used as an aid for error checking whenever a program is edited.

System Code - This selection returns the user to the System Code screen.

Device Code - With this option, you can move to the Device Code screen.

Exit - Choosing Exit brings up another submenu shown in Figure 4-2.



Figure 4-2: Exit Submenu

Main Menu - This selection returns to the main menu, *without saving the program*.

Print - This option sends the completed program to a printer attached to the PC.

NOTE: If a printer is not connected to the PC when this option is selected, an error message will be displayed on the screen stating "Printer is off line. Press <ESC> to Exit or any key to Continue."

Save - Choosing this selection saves your program to the file in the PC's MS9200 subdirectory. The application will prompt you to name the file. Type the name, press *ENTER*, and the file will be saved to the disk.

NOTE: To delete files, exit to DOS and use DOS commands.

Download - This Downloads the program to an MS-9200 connected to the PC. It is recommended that you save the program before downloading it.

NOTE: Do not make this choice if an MS-9200 is not attached to the PC.

5: Editing Programs

Use Main Menu option 1, *Call Diskfile to Display*, to call up an existing MS-9200 program stored on the disk. The application will prompt you to enter the file name. Type the file name, press *ENTER*, and the file will be available for editing.

6: File Transfer

6.1 Setup

See Chapter One for information on connecting the control panel to the serial port on your PC. You will not be able to transfer data if this connection is not made correctly. Also, the text "CONNECT COMPUTER NOW RUN PROGRAM FROM PC" must appear on the LCD display of the control panel. See the MS-9200 Technical Manual for more information.

6.2 Downloading to an MS-9200

To download a program to a control panel, begin by making sure the panel to PC connection is correct. If the PC has two serial ports, note which is connected.

Next, choose the COM port to which you have connected the control panel. From the Available Services Screen, choose *4) Download to MS-9200*. The screen shown below will appear.

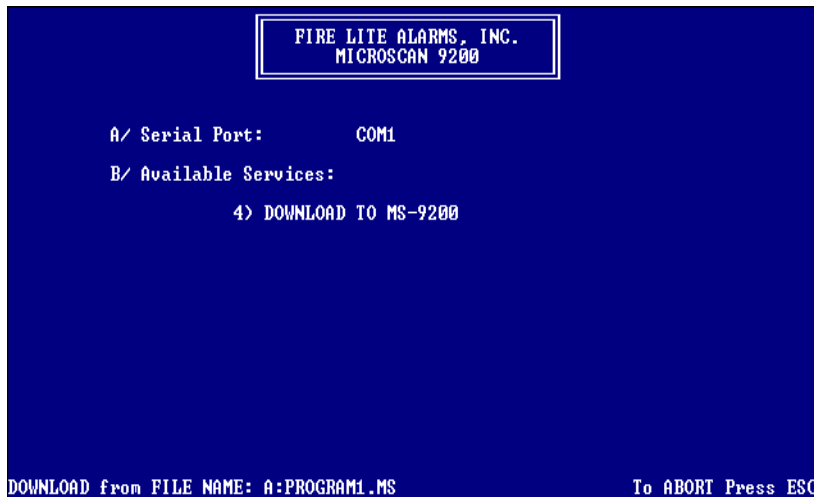


Figure 6-1: Download to MS-9200 Screen

The application will prompt you to enter a file name. (The screen above shows **PROGRAM1.MS** entered). The **A:** denotes the disk drive which contains the file. After you type the name and press the ENTER key, the application will begin copying the program stored on the computer's disk to the memory of the MS-9200. The application will prompt you when the program has finished downloading.

If the control panel is not correctly connected to the proper COM port of the PC, the application will cease to respond for a short period, and then return to the main menu.

6.3 Uploading from an MS-9200

To upload a program from a control panel to be viewed on the PC, select 2) Upload from MS-9200 to View. To upload a program from the MS-9200 directly to a diskfile to be stored, select 5) Upload from MS-9200 to Diskfile. The word UPLOADING will appear at the lower left side of the screen along with incrementing four digit numbers. When the numbers stop counting, the uploading is complete. When selecting option 2) Upload from MS-9200 to View, remember that the file is brought up to the PC for viewing purposes only. Use the SAVE submenu to save the file.

Upload files may be edited and stored to disk or downloaded back into the control panel.



Figure 6-2: Upload from MS-9200 to Diskfile Screen

If an error is encountered during communications, the following message will be displayed:

"UPLOADING.... ERROR!!!!....TRY AGAIN....(Y/N)?"

Make certain the cable connectors are firmly seated in the correct COM ports and try uploading again by pressing Y. If the error persists, check the cable for continuity.

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