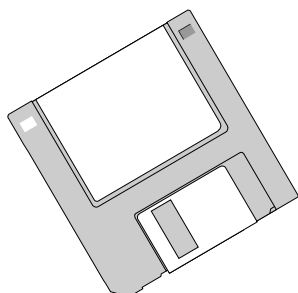
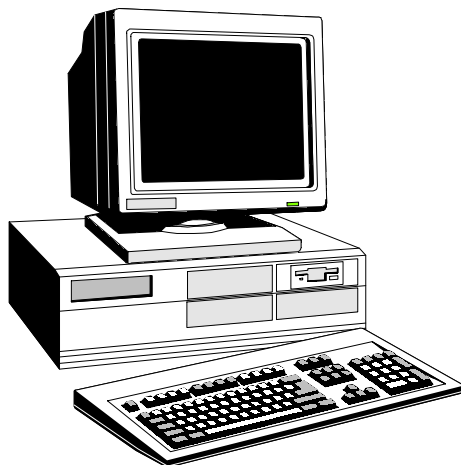




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SK-5C

Remote Upload/Download Software Manual



DOCUMENT #51052
2/26/99 REV: **B**
P/N 51052:B ECN 99-037

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

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 also 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.

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

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

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.

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.

FCC Warning

WARNING: This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for class A computing device pursuant to Subpart B of Part 15 of FCC Rules, which is designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user will be required to correct the interference at his own expense.

Canadian Requirements

This digital apparatus does not exceed the Class A limits for radiation noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

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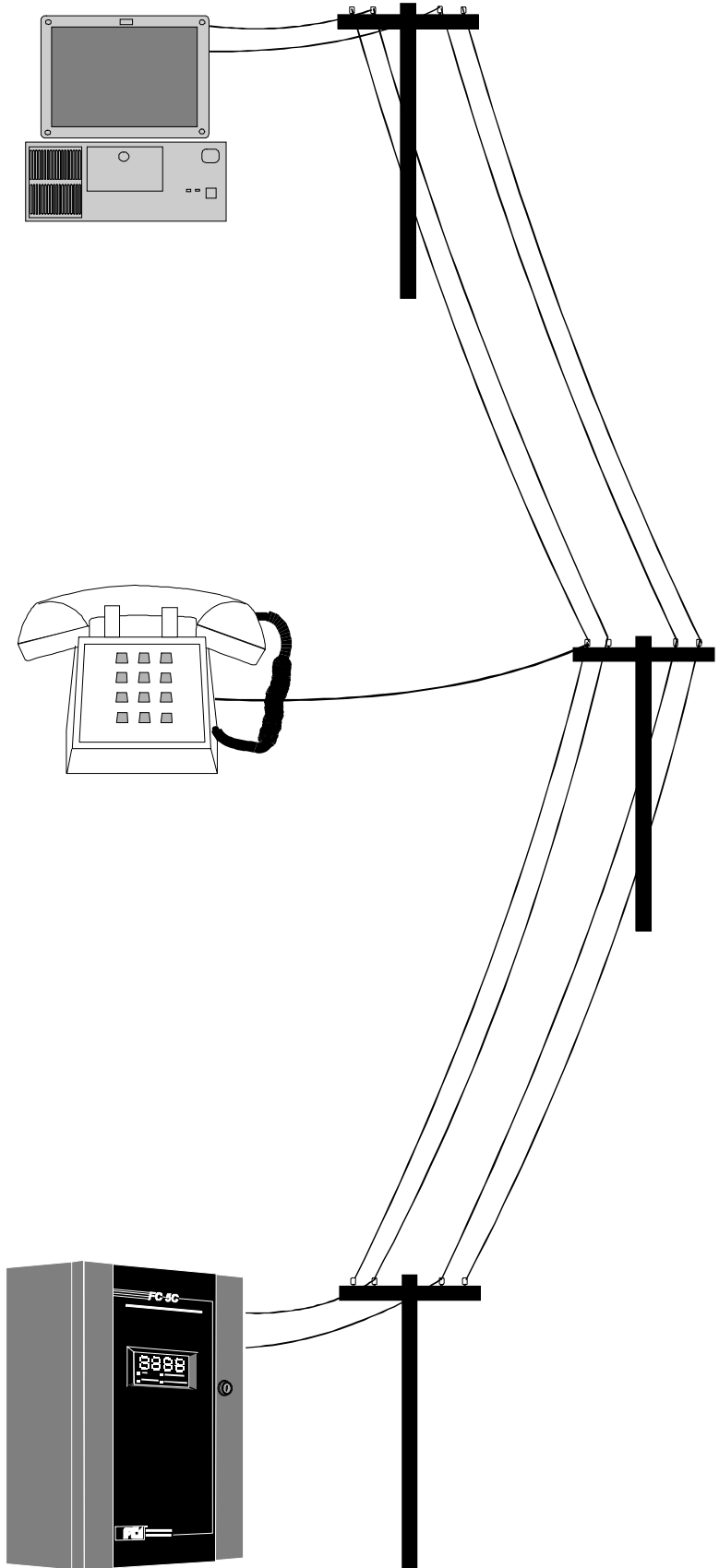
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CHAPTER 1

1.0 Product Description

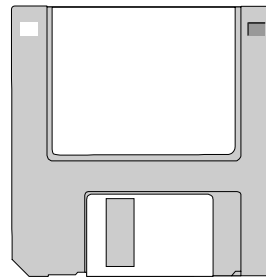
The SK-5C Remote Upload/Download Software is a versatile utility program with an extensive list of powerful features which permits remote programming of the FC-5C panel over standard public telephone lines. Using this utility, the panel can be programmed using most IBM AT or compatible computers, including laptops, equipped with a Hayes compatible modem. Program files can also be created and stored on the PC and then downloaded to the panel.

Each time a new program is created or an existing program is modified and entered into an FC-5C FACP (Fire Alarm Control Panel), the panel must be thoroughly tested. For information on the FC-5C, refer to the FC-5C Technical Manual P/N:51047.



1.1 Main Features

- Program runs under Microsoft® Windows™ 3.1 or higher
- Password protection for four separate levels
- Modem option selection screen
- Operator Identification Screen provides operator information which is stored in database
- Customer Setup Screen allows configuration using customer information and the database stores the information for each customer in separate data files.
- Downloading Parameters Screen permits setup of Download File Utility for programming control panels
- Uploading Parameters Screen permits setup of Upload File Utility for retrieving panel programming
- Upload/Download Control Screen provides quick setup options
- Create and customize a Master Default Download Program or edit existing programs
- Execute control panel functions:
 - ✓ Silence Trouble
 - ✓ Manual Evacuate
 - ✓ Restore Evacuate
 - ✓ Zone Enable/Disable
- Retrieve information from control panel:
 - ✓ Panel Program
 - ✓ History File
 - ✓ Walk Test File
 - ✓ Troubleshoot Voltages
 - ✓ Current Panel Status
 - ✓ Time and Date
- Security Features:
 - ✓ Secret Code
 - ✓ Time-out at Control Panel
 - ✓ Callback
 - ✓ Panel Identification Number
 - ✓ Error Checking
 - ✓ Central Station Acknowledge
 - ✓ Central Station Data Protection



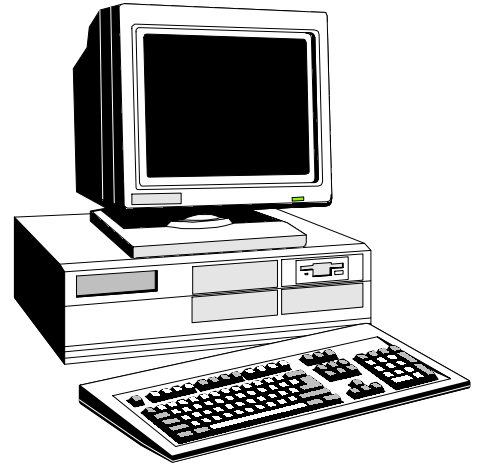
CHAPTER 2

2.0 Getting Started

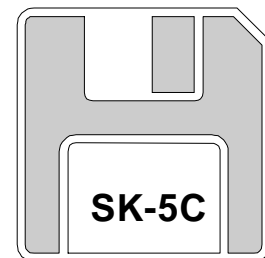
The SK-5C Software provides a convenient and powerful tool which can be used to program and manipulate the FC-5C programming data from a remote location. This user friendly utility has been designed to provide many features which will enhance the control panel's serviceability. In order to take full advantage of all the available features, it is important to become familiar with the SK-5C functions and the environment in which the program was designed to operate. This chapter provides information on the minimum system requirements for the computer in which the SK-5C will be installed.

Some computer literacy and a rudimentary understanding of DOS and Windows™ are necessary to successfully use this utility. Even if exposure to computers is limited, the information in this chapter along with DOS and Windows™ reference material should provide sufficient knowledge to use the SK-5C program. Take the time to read and understand the installation procedures and system requirements as presented in this chapter.

An On-line Help feature has been incorporated into the software. For information about a screen option, use the mouse arrow to point to the screen option button. Click and hold the mouse button, and move the arrow off the selected screen button. Release the mouse button and then press the F1 keyboard key to display the Help screen for the selected button.



**WINDOWS® 3.1
(Or Higher)
Or WINDOWS® 95**



2.1 Basic System Requirements

The SK-5C Program has been designed for a specific computer environment. Although most IBM AT or compatible computers will accommodate the SK-5C software, specific computer requirements and operating systems must be adhered to. In order to ensure proper operation of the SK-5C software, the minimum requirements listed below must be met.

2.1.1 System Microprocessor

Most IBM AT or compatible computers with at least a 386 microprocessor may serve as a service terminal and will accommodate the SK-5C software.



2.1.2 Memory and Drive Requirements

The service terminal must have a minimum of 8 megabytes of on board RAM in order to run the SK-5C software. The program must be run from a hard drive and requires a minimum of 4 megabytes of hard drive space to store the program.



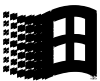
2.1.3 Monitor

A minimum of a VGA monitor is required for adequate display of the SK-5C menu screens.



2.1.4 Mouse

Any IBM compatible mouse or track ball is recommended to run the program, however, keyboard commands may be used.



2.1.5 Microsoft® Windows™

The SK-5C software was developed to run in a Windows™ environment. Microsoft® Windows™ version 3.1 or better must be installed.

To take full advantage of the Windows® based software, a basic understanding of Windows® is needed and may be acquired from the many excellent books and manuals on Microsoft® Windows®. It is not the intention of this manual to provide this training, however some of the terms used in reference to Windows® are indicated in this section.

2.2 About Modems

A modem (**mod**ulator/**dem**odulator) converts the digital data signals of a computer to audio tones in order to transmit the serial data over standard telephone lines. The modem also converts the incoming audio tones to digital data that the computer can use.

Two basic type of modems have been designed for IBM PCs and compatibles: direct connect internal modems and direct connect external modems.

The internal modem is designed as an 8-bit IBM PC compatible expansion card which plugs into the computer's expansion slot. A built-in serial port is accessible through the back of the computer. The main advantages of the internal modem are the relatively low cost and the built-in serial port.

An external modem incorporates its own power supply and RS-232 interface into a single package. It connects to an IBM compatible computer through an RS-232 serial cable. The main advantages of the external modem are the simplicity of connection to an IBM compatible computer with an RS-232 serial interface and the ease with which it can be moved from one computer to another.

Using the Configure Communication screen, the SK-5C can be set to operate with either an internal or external modem with a baud rate of 1200 or higher. The SK-5C will set it to the proper baud rate. Baud rate refers to the speed of transmission in bits per second. Most 1200 baud modems conform to Bell 212A North American standard. Baud rate standards set guidelines for modem manufacturers to insure compatibility between modems operating at the same baud rates.

2.2.1 Compatible Modems

The following internal and external modems are supported:

- Cardinal 14400
- Cardinal 28800
- Hayes Accura 14400
- Hayes Accura 28800
- Hayes Optima 9600
- Hayes 2400 Data/9600 Fax
- Hayes 1200 Smart Modem
- Identity ID-2400
- US Robotics Sportster 1200
- US Robotics Sportster 9600
- US Robotics Sportster 14400
- US Robotics Sportster 28800
- Zoom 14400 Data/Fax
- Zoom 9600

2.3 Cable Connections

Direct connect modems are connected to telephone lines using standard RJ11 modular jacks and plugs.

Internal modems which plug into the PC computer's expansion slot, connect directly to the phone line using the RJ11 connectors as shown in Figure 2-1. An RJ11 jack is built into the modem card allowing connection to the phone line. Power for the modem is supplied by the computer.

External modems connect to the telephone line using the RJ11 jack and plug and then connects to the PC's RS-232 serial port as shown in Figure 2-2. A DB-9 or DB-25 RS-232 cable is used depending on the computer serial port connector. Power must be supplied to the external modem.

Note that cables are not supplied with the SK-5C.

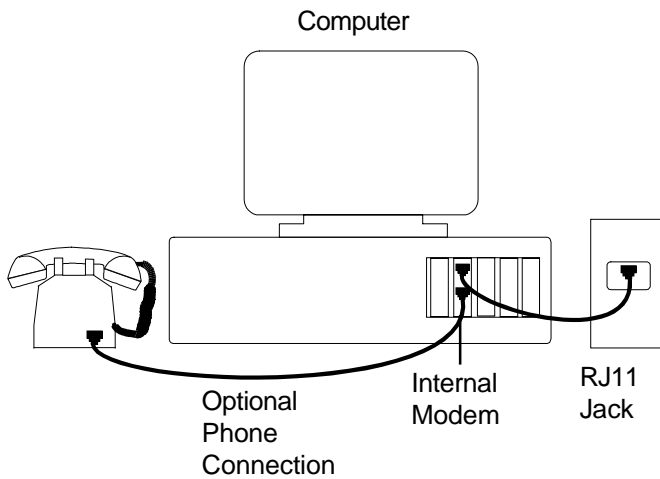


Figure 2-1: Internal Modem

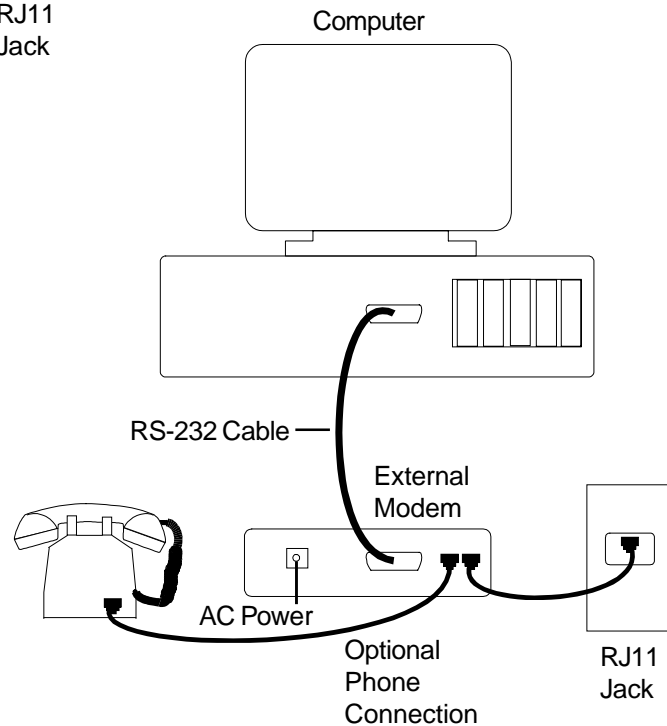


Figure 2-2: External Modem

2.4 Loading Software

The SK-5C software, which is supplied on a 3½" floppy disk, must be loaded onto the service terminal (computer) hard drive. The software should be loaded using Windows™.

2.4.1 Loading SK-5C using Windows™

With the Windows™ program displaying the Program Manager, insert the floppy disk containing the SK-5C software into the floppy drive. Using the mouse pointer, click on File in the Program Manager menu line. If a mouse is not installed, press ALT + F to open the File menu. Select Run from the list of options under File by clicking on it with the mouse or using the up/down arrow keys to highlight Run and the Enter key to select it. The window shown in Figure 2-3 will be displayed with a cursor blinking in a box labeled Command Line. Type the following:

A:\SETUP.EXE

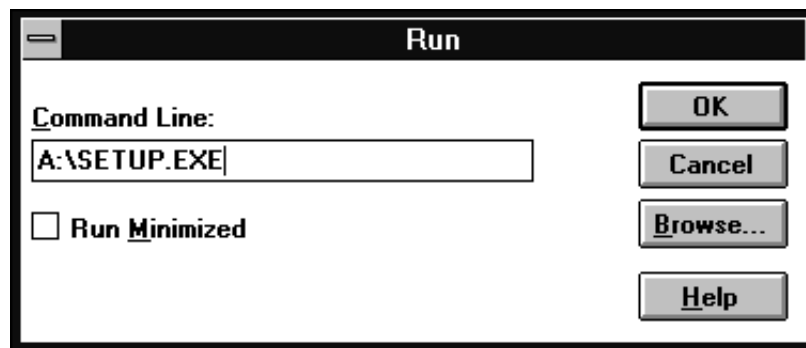


Figure 2-3: Windows 3.1 Dialog Box

If a floppy drive other than A is used, replace **A** with the floppy drive in which the SK-5C floppy disk is inserted. Click on the OK button in this screen or use the Tab key to highlight the OK button (faint box appears in button) and the Enter key to select it. The computer will begin loading the software from the floppy disk to the hard drive. The software will provide prompts as indicated in Section 2.4.2.

With Windows® 95 installed, using the mouse pointer, click on the Start button. The window shown in Figure 2-4 will be displayed. Using the mouse pointer, click on Run to display the dialog box shown in Figure 2-5. The cursor will be blinking in the box labeled Open.

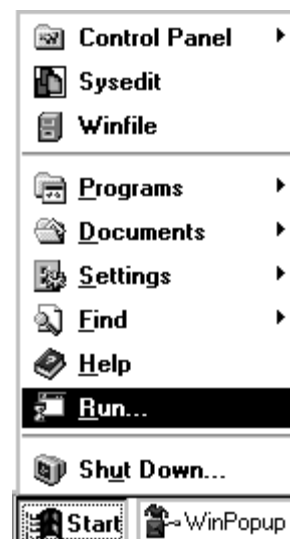


Figure 2-4: Windows® 95 Start

For Windows® 3.1 or higher and Windows® 95, type the following in the Command Line or Open line:

A:\SETUP.EXE

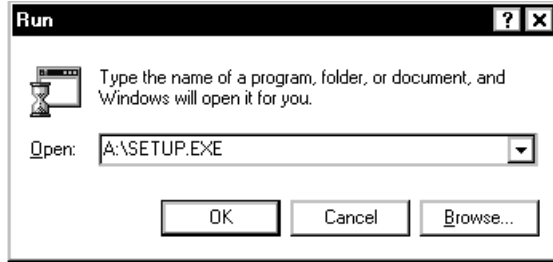


Figure 2-5: Windows® 95 Dialog Box

If a floppy drive other than A is used, replace **A** with the floppy drive in which the SK-5C floppy disk is inserted. Click on the OK button in this screen. The computer will begin loading the software from the floppy disk to the hard drive. The software will provide prompts as indicated in Section 2.4.2.

2.4.2 SK-5C Installation Prompts

The first screen to be displayed during the installation process is shown in Figure 2-6. This screen indicates the default path for loading the software to the hard drive. As shown in the dialog box, the program will be loaded on the C drive in a directory called SK5C. If you wish to change this default path, click the Change Directory box and type in the new information using the same format as the default.

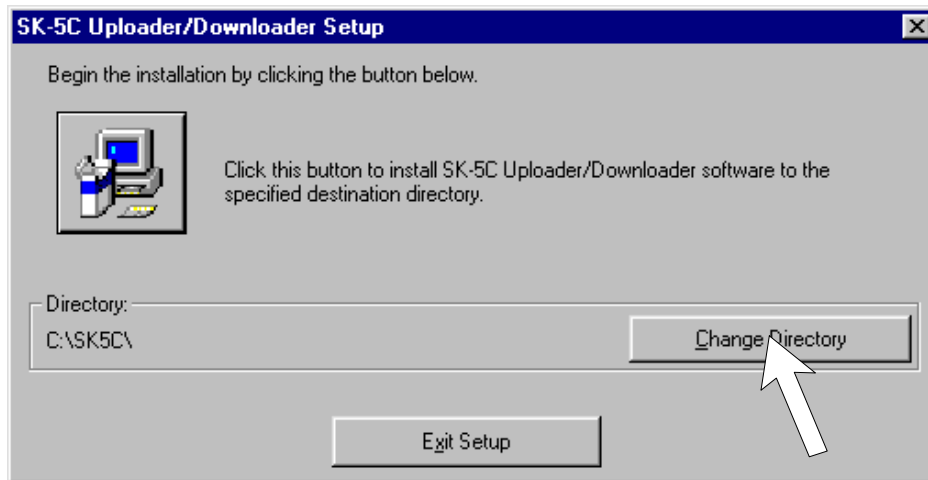


Figure 2-6: Installation To Hard Drive

For example, if you have a partitioned hard drive containing a D drive, you may load the program to the D drive partition. If you wish to call the directory something other than SK5C, type a different name such as PROGRAM (limit is 11 characters). To use more than 8 characters, a period followed by up to 3 characters may be entered (PROGRAM.DIR) The information would be typed in as follows:

D:\PROGRAM

Click on the Continue button or since the C in Continue is underlined, press the ALT + C keys to continue the installation. The screen shown in Figure 2-7 will appear stating to the user that setup cannot install system files or update shared files if they are in use, and to close any open applications. Click **OK** to continue the installation or **Exit Setup** to stop installing the program.

Note: The floppy disk should remain in the disk drive with write protect disabled.

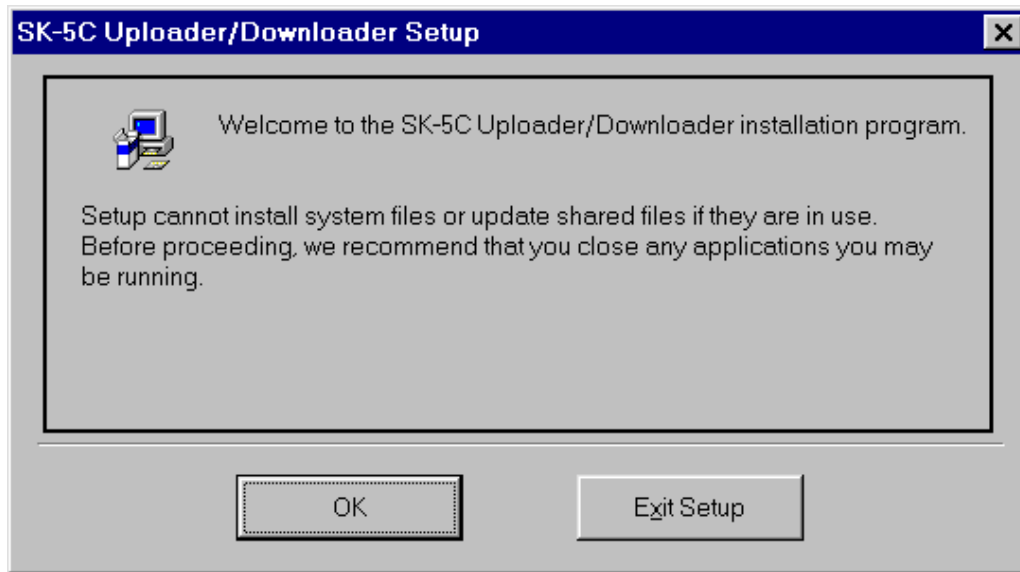


Figure 2-7: Welcome Screen

The next installation screen as shown in Figure 2-8, informs you that the installation is complete. Use the mouse arrow to click on the OK button in this screen.



Figure 2-8: Installation Completed

The last installation screen as shown in Figure 2-9, informs you that the installation is complete. Use the mouse arrow to click on the OK button in this screen or press the keyboard ENTER key. The final installation process is the creation of the Upload/Download program ICON.

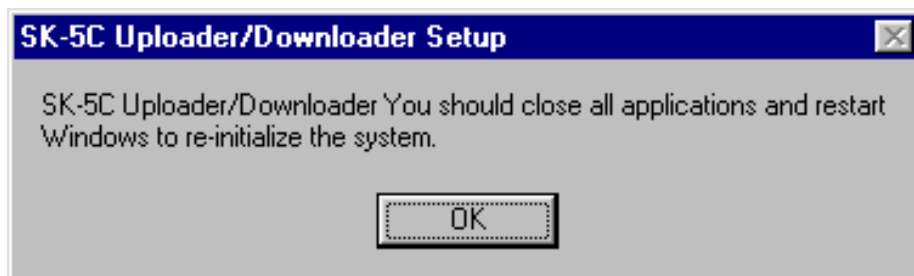


Figure 2-9: Re-Initialize the System

CHAPTER 3

3.0 SK-5C Start-up

Following the completion of the SK-5C program installation, a window is created with the SK-5C UPLOADER ICON as shown in Figure 3-1. The Upload/Download program can be run by placing the mouse pointer on the ICON and doubling clicking.

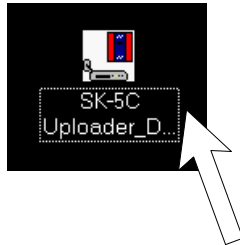


Figure 3-1:UPLOADER ICON

3.0.1 Initial Use of SK-5C

The screen shown in Figure 3-2 will appear only on initial use of the SK-5C Upload/Download Program. The primary (master) program operator is assigned at this time. The flashing cursor will be in the top box labeled Last Name. The primary or master operator types in the last name and then places the mouse cursor in the First Name box and clicks or presses the Enter key. The cursor moves to the next field labeled First Name where the operator types the first name. The mouse cursor is placed in the Operator Password box and clicked or the Enter key is pressed. The cursor now moves to the Operator Password field. A user defined password consisting of at least 1 but not more than 8 alphanumeric characters is typed in. The name and password should be checked and confirmed for accuracy. If satisfied with this data, position the mouse pointer on the Update key and click to store this information or press the ALT + U keys. The software is now registered to the individual entering this data. This screen will not appear on subsequent start-up of the SK-5C program.

Update Operator Database

Last Name

First Name

Operator Password

Access Level

Record Count : 0

Press 'F1' for help, Press 'Ctrl-C' to center form on screen

Figure 3-2: Initialization Screen

3.0.2 Log-in as Master

Following the Initialization screen shown in Figure 3-2, or each time the Upload/Download program is run after initialization, the screen shown in Figure 3-3 will appear. The operator must type in the Last Name, the First Name and the previously assigned password. Movement from one entry field to the next is accomplished by pressing the Enter key, the Down Arrow key or by using the mouse arrow to click on the next field. Once the Password is keyed in, click on the OK button or press the Enter key twice.

It should be noted that for security reasons, the password is not displayed as it is typed (asterisks appear instead). Make certain the password is typed correctly since there is no visual confirmation. Any incorrect entries during Log-in will result in a message screen stating Error With Log-in.

UPLOAD/DOWNLOAD SOFTWARE FOR FC-5C
Model Number - SK-5C Ver 1.0



Enter Last Name

Enter First Name

Enter Password

Figure 3-3: Log-in

3.1 Main Menu

Following a successful Log-in, the Main Menu screen shown in Figure 3-4 will be displayed. Each menu option will be described in the sequence in which they would normally be used for an initial FC-5C panel upload or download. Note that pressing ALT + K or double clicking on the time/date block in the bottom right corner of this screen will display a pull-down screen which may be used to change the service terminal (PC) time and date. The flashing cursor will be in the time field. Type the new time or Tab the cursor to the date field and type the new date. Press ALT + O or click on the OK button to update.

3.1.1 Operator Information

This optional menu selection may be used to create new users and maintain existing operators. The individual designated as the Master (Level 0 access) during the program initialization process has access to all program options and features. The Master may, however, designate an alternate Master for Level 0 or limited access to Levels 1 through 3.

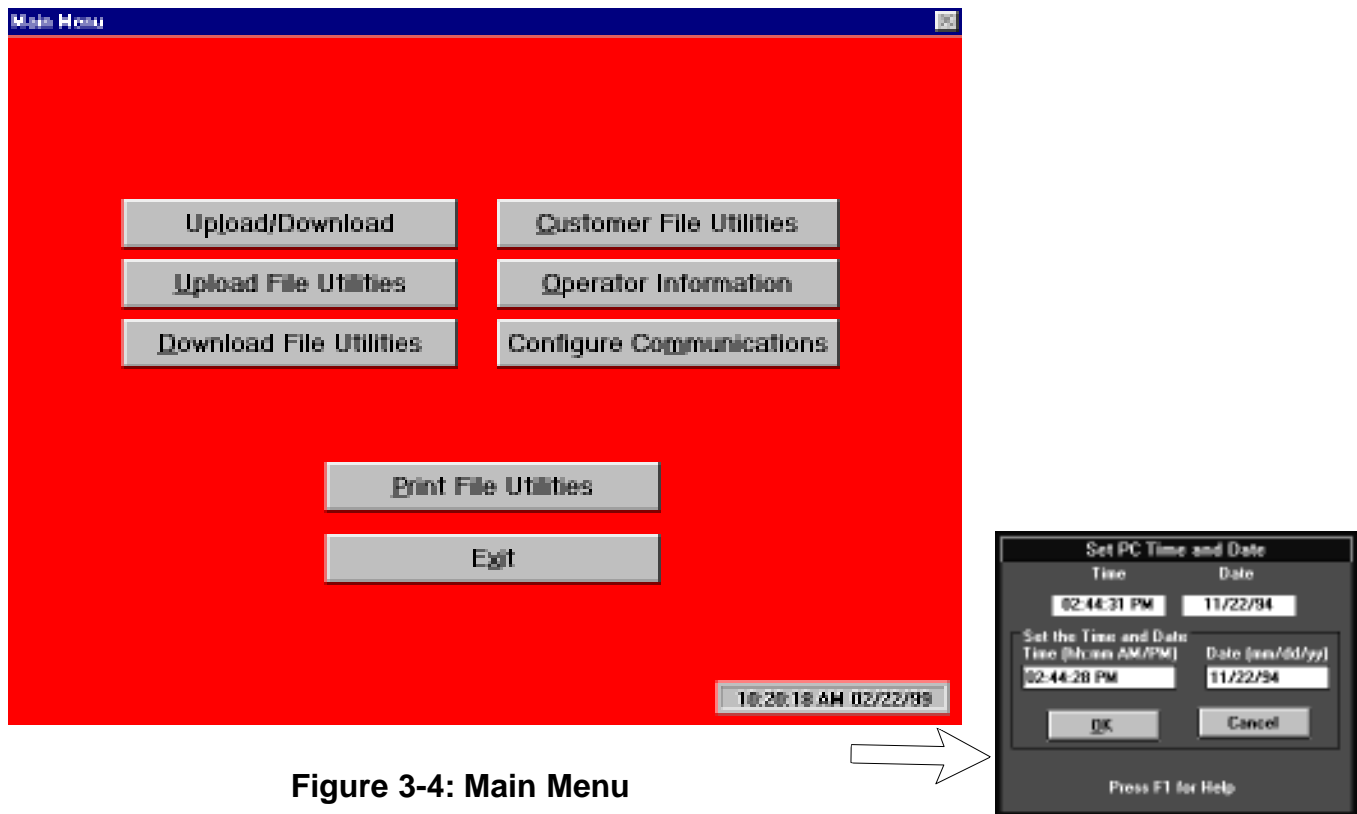


Figure 3-4: Main Menu

Figure 3-5 shows the screen which will be displayed by clicking on the Operator Information button or pressing the ALT + O keys. The Name fields in this display will contain the name of the individual who initially installed the SK-5C program and is designated the master. This screen allows the master to create alternate masters and designate individuals with lower access levels.

Figure 3-5: Operator Information

The Record Count displayed in the lower right corner of the screen indicates the number of individuals with access to the program. The count following initialization should be 1 since the program installer (master) is the only one with initial access.

Using the mouse pointer, click on the New button or press the ALT + N keys if you wish to add someone to the access list. The screen shown in Figure 3-6 will appear. Type the Last Name, First Name and Password for the new individual. Complete each entry by pressing the Enter key or clicking on the next field with the mouse pointer. When the password has been entered and the Enter key pressed, the cursor will move to the Access Level box. Typing the desired Access Level will automatically cause the adjacent box to display the allowed function for that level. Available Access Levels follow:

- 0 = Master User (all functions)
- 1 = Uploading/Downloading
- 2 = Upload Only
- 3 = View/Print Files

Clicking on the Cancel button will clear all data entered in this screen prior to Updating. Clicking on the Update button or pressing ALT + U will store this information and increment the Record Count by 1. The fields will clear in preparation for new input data. If no new user is to be added, click on the Exit button or press ALT + X to return to the Main Operator Information screen. From this screen click on Exit To Main Menu or press ALT + X to return to the main menu selections.

Figure 3-6: New Access

3.1.2 Configure Communications

The SK-5C software must be configured for compatibility with the user's service terminal (PC) communications ports and modem setup. Clicking on the Configure Communications button or pressing ALT + M in the Main Menu will display the options screen shown in Figure 3-7. Use the mouse pointer to click on the appropriate selections or use the Tab key to move from field to field and the Arrow keys to move within fields to make selections.

The **Port** selection (COM1 through COM4) determines the location of the physical connection for the modem. An internal or external modem may be used. This selection depends on the service terminal's available serial connectors. Refer to the service terminal (PC) technical manual for information.

An **Auto-Detect** button is provided which allows the software to determine which port is connected to the modem. Clicking on the Auto-Detect button will cause the software to send modem test signals to all ports. Messages detailing the presence or absence of a modem will be displayed in the **Modem Communications** text block as the tests are generated. If multiple modems are installed, the first modem found will be selected. If no modem is detected, a dialog box will appear stating a "No Modems Found" message.

The Baud Rate, which is the data transmission speed, is fixed at 1200 bps (bits per second).

The screenshot shows a dialog box titled "Modem Configuration and Initialization" with a red background. The "Port" section has radio buttons for COM1 (selected), COM2, COM3, and COM4, along with an "Auto Detect" button. Below this are fields for "Dial Prefix", "Test AI Commands", and "Dial Number", each with a "Send" button. The "Initialization Parameters" field contains the string "&F;Z;C1;E1;V1;Q0;S7=255;&C1;&R0;M1;L1;B1;&Q0;X4;". The "Hangup String" field contains "H" and an "Initialize Modem Port" button. The "Modem Type" dropdown is set to "Generic". A large "Modem Communications" text area is on the right, with a "Clear Display" button below it. At the bottom are "Exit and Save", "Cancel", and "Print" buttons, with "Press F1 for Help" text centered below them.

Figure 3-7: Configure Communications

The optional **Dial Prefix ONLY** field allows the end user to program the digit or digits which must be dialed at the service terminal location to access an outside line. Enter the appropriate information by clicking in the Dial Prefix ONLY box and typing the dial prefix.

If during initialization, a particular AT Test fails, the information will be displayed in the **Modem Communications** text block. Enter the failed At Test in the **AT Test Commands** text block and click the **Send** button. The designated AT Test will be generated to the modem with the test results being displayed in the Modem Communications text block. The **Clear Display** button clears all messages from the Modem Communications text block.

The **Initialization Parameters** field is used to select the type of modem being used and customize initialization parameters of selected modem. Clicking on the Down Arrow symbol of this block will cause a pull-down menu to appear with the list of available modem options as shown in Figure 3-8. The keyboard Tab key may be used to move to this field and then the up and down Arrow keys will scroll through the selections. To modify parameters, click in box and add parameters noted in the modem manual.

Clicking the **Initialization Modem Port** button will send the initialization string to the PC modem in order to test the modems functionality. Text messages will be displayed in the Modem Communications text block. Entering a modem phone number in the **Dial Number** field and clicking the **Dial** button will test the service terminal modems ability to dial out. Clicking the **Hangup** button will cause the service terminal to disconnect the call to the modem.

The **Hang-up String** field is used to enter the modem command required to hang-up or disconnect the modem from the phone line. The factory default is HO. Refer to your specific modem manufacturer's manual for the required Hang-up String.

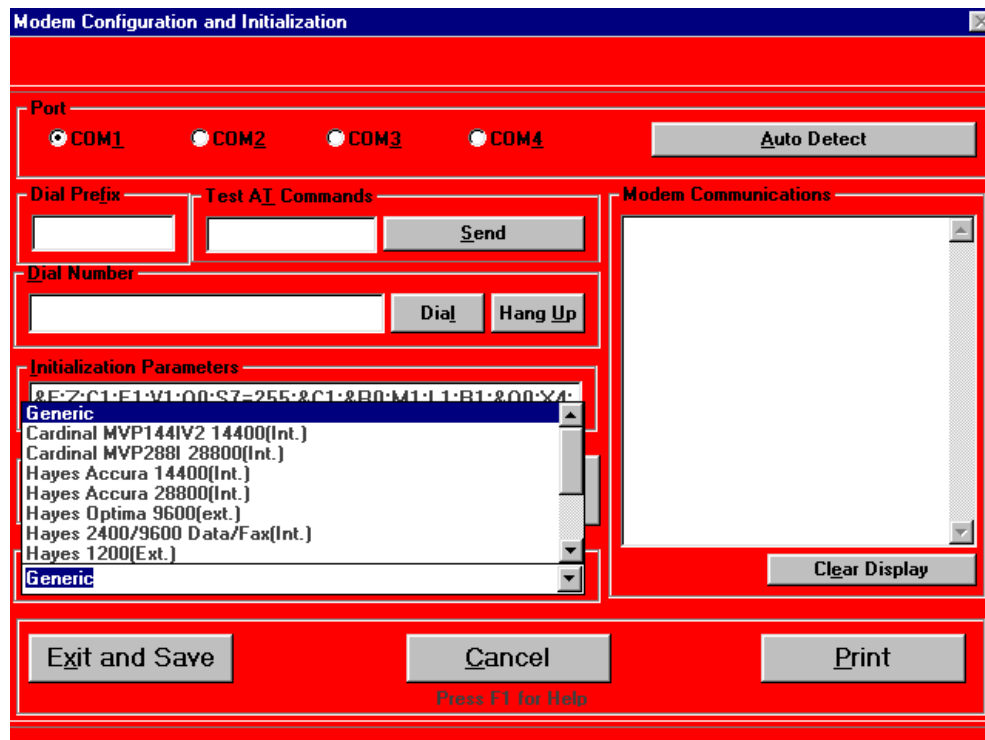


Figure 3-8: Additional Parameters

For example, many offices require an individual to dial 9 before an outside number can be dialed. This dial prefix will automatically be dialed for all outgoing calls. A comma should be inserted after the dial prefix to instruct the modem to wait before dialing the phone number. *Do not include any portion of the actual telephone number.*

After completing the communications configuration, click on the **Exit & Save** button or press ALT + X to store the information and return to the Main Menu. These settings should not require further editing unless a different modem, access code or phone line is to be used. Clicking on the **Cancel** button or pressing ALT + C will access the Main Menu without saving the settings just selected. Clicking on the **Print** button or pressing ALT + P with a printer connected to the service terminal, will generate a hard copy of the current communication settings.

3.1.3 Download File Utilities

Clicking on Download File Utilities or pressing ALT + D in the Main Menu, will display the screen shown in Figure 3-9. This option allows the creation or customization of a program for the FC-5C fire alarm control panel.

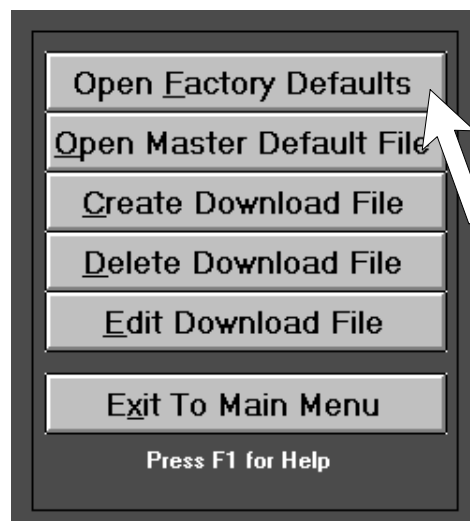


Figure 3-9: Download File Utilities

Clicking on Open Factory Defaults or pressing ALT + F will access the screen shown in Figure 3-10. This file lists all of the factory default settings for the FC-5C FACP (refer to the FACP Technical Manual for an explanation of the settings). Clicking on the Prev. Screen or Next Screen buttons or pressing ALT + V or ALT + N allows viewing of all default settings.

The Factory Default program file may be used to program a panel with the original factory settings. The file may also be used as a template to create a customized default program. For example, if a number of panels are to be programmed with similar information, using a default program containing information common to all panels will allow the programmer to easily customize the programs for specific panels.

Note: When programming phone numbers, unused digits must be entered as F.

Programmable Addresses [0 - 68] - C:\UPDN\FACTORY.DLD

Primary Phone Number	FFFFFFFFFFFFFFF	Slave Comm Selection	0 Panel Only
Primary Comm Format	A 4+2 Std 18/23	Zone 1 Function Select	0 2 Wire Smoke
Primary Account Code	0000	Zone 2 Function Select	0 2 Wire Smoke
Primary 24 Hour Test Time	0000	Zone 3 Function Select	0 2 Wire Smoke
Primary # Test Time Interval	0 24 Hour	Zone 4 Function Select	0 2 Wire Smoke
Secondary Phone Number	FFFFFFFFFFFFFFF	Zone 5 Function Select	0 2 Wire Smoke
Secondary Comm Format	A 4+2 Std 18/23	Waterflow Retard Time	00 Seconds
Secondary Account Code	0000	AC Loss Delay	0 6 Hours
Secondary 24 Hour Test Time	0000	Alarm Presignal	0 Disabled
Secondary # Test Time Interval	0 24 Hour	Alarm Presignal Delay Time	120 Seconds
Alarm Verification	0 Disabled		

Put the cursor in the data entry field and press F1 for Help

Note: To change entries, use Up/Down Arrow, Tab or Enter keys or mouse cursor to move from line to line and then type in new information. Double clicking on a line requiring specific entries will scroll through the available selections.

Figure 3-10: Factory Default

After creating a customized default program, selecting the Store Data button or pressing ALT + D will save the program. A dialog box shown in Figure 3-11 will prompt the programmer to select a filename for the default program. Type the desired name in the File Name box. Attempting to save the file as Factory Default will cause an error message indicating that the Factory Default program cannot be changed, ensuring that the original factory default program is always available.

The customized program may be saved using the filename *default.dld* (must exist in the same directory as *UPDN3.exe*) if it will be used as a template for all panels, or it could be saved using a distinctive filename relating to the specific panel being programmed. Once the program has been saved, click on the Exit button or press ALT + X to return to the Download File Utilities screen.

The Open Master Default File button or pressing ALT + O will display the *default.dld* program. The *default.dld* file may be edited and then saved under the same filename or a new name.

Clicking on Create Download File or pressing ALT + C opens a dialog box similar to the one shown in Figure 3-11 which prompts you to enter a File Name. Typing a new filename will cause the program to create a file with the new name and then open the existing *default.dld* file from the directory where the SK-5C is installed. The file may then be edited. Once the *default.dld* file has been customized to your liking and the Store Data button selected or ALT + D pressed, the altered program will be saved under the filename just created without altering the existing *default.dld* file.

The Delete Download File button or ALT + D opens a dialog box as shown in Figure 3-11 which prompts for the filename to be deleted. Entering the filename and clicking on OK or pressing Enter will cause the warning message shown in Figure 3-12 to be displayed. Clicking OK or pressing Enter will delete the selected file.

Clicking on the Edit Download File button or pressing ALT + E will display the same dialog box shown in Figure 3-11 which prompts for a File Name. Typing in the filename and selecting OK or pressing Enter will cause the chosen file to be displayed, ready for editing. After the changes have been made, clicking on the Store Data button or pressing ALT + D will once again display the dialog box similar to Figure 3-11 prompting you to enter a File Name to be used for saving the edited file. The File Name box will contain the original filename. If the original file is to be replaced with the edited version, click on the OK button or press Enter. If the edited file is to be saved under a new name, type the filename in the appropriate box and then click OK or press Enter.

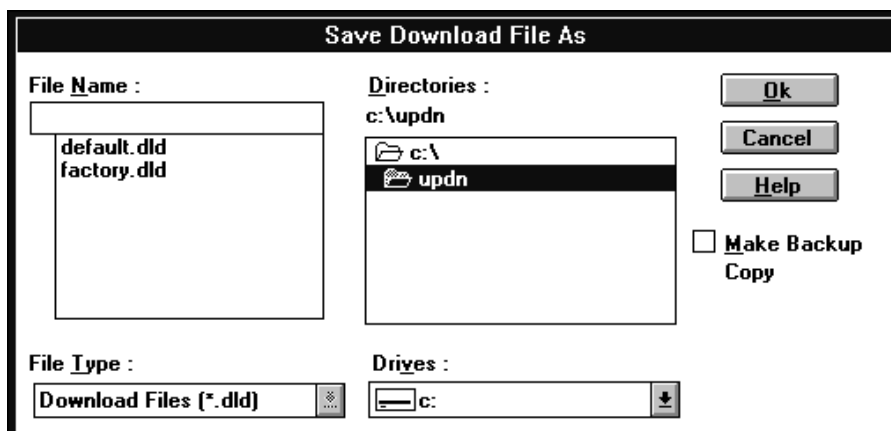


Figure 3-11: Save Default Program

After all work in the Download File Utilities is completed, select the Exit to Main Menu button or press ALT + X.



Figure 3-12: Delete Download Warning

3.1.4 Customer File Utilities

The Customer File Utilities option in the Main Menu is used to associate a program file which was created or customized in the Download File Utilities option with a specific customer control panel. Using the mouse arrow, select Customer File Utilities from the Main Menu shown in Figure 3-13 or press ALT + C. The screen shown in Figure 3-14 will be displayed.

Clicking on the Select Customer File button or pressing ALT + S will display a screen similar to the one shown in Figure 3-11. In the File Name box, enter the name of the customer file to be downloaded and click on the OK button or press Enter. The selected file is ready to be downloaded to the control panel. Exit to the Main Menu and select the Upload/Download option and download the file.

Clicking on Delete Customer File or pressing ALT + D will display the screen in Figure 3-11.

Enter the File Name of the customer file to be deleted and click on the OK button or press Enter. The selected customer file will be removed from the database.

To make a new customer file, click on the Create Customer File button or press ALT + C. A screen similar to Figure 3-11 will be displayed. Type the new customer filename in the File Name box and click on the OK button or press Enter. The screen shown in Figure 3-15 will be displayed.

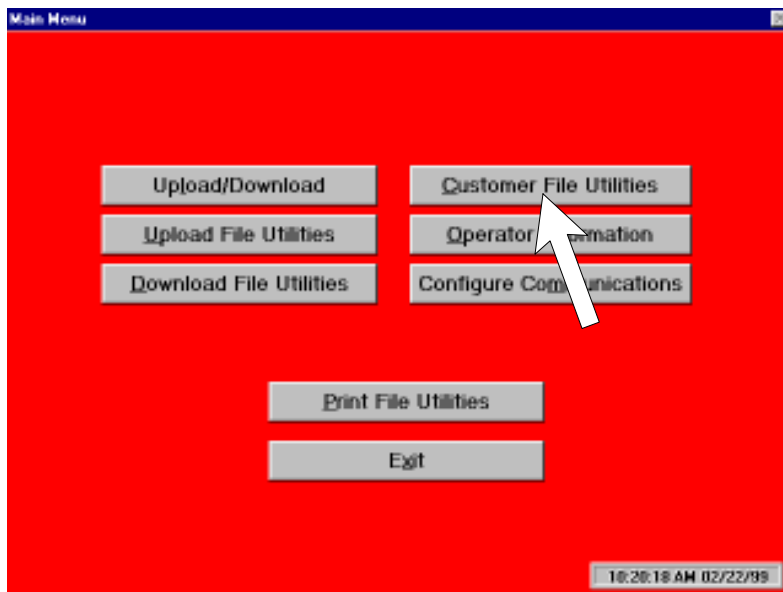


Figure 3-13: Main Menu



Figure 3-14: Customer File Utilities

The first field in this screen is the Panel Secret Code which is the identifying code used by the service terminal to access the FC-5C control panel. A maximum of 8 digits may be selected for this code. When the service terminal calls the control panel, the number in the Secret Code Number field of the service terminal software is compared to the secret code in the control panel. If they are the same, access to the control panel is permitted.

Note: The Secret Code is established in the FC-5C during the initial download by the SK-5C. The Secret Code can be changed only by a download, not at the control panel.

Figure 3-15: Select Download File

Enter the main phone number for the control panel in the Panel Primary Phone Number field. If this number is long distance, it must include the digit 1 + the area code. A comma may be used to insert a pause between digits. Do not include the Dial Prefix discussed in Section 3.1.2.

The Panel Secondary Phone Number field may contain an alternate phone number for the control panel. It uses the same format as the Primary Phone Number.

Clicking on the Select Download File button or pressing ALT + D displays the screen shown in Figure 3-16. It is used to associate the fire alarm control panel configured in this option with the program utility to be downloaded to the panel.

Figure 3-16: Select Dialog Box

The field labeled Set Time For Shared Line 1 Ring is valid only if the primary panel phone number is shared with a fax or answering machine. The time in the adjacent box refers to the amount of time it takes for the FC-5C to receive a ring. The default time is 5 seconds.

The field labeled Set Time For Shared Line 2 Ring is treated in similar manner to Line 1. It is valid only if the secondary panel phone number is shared with a fax or answering machine.

The remaining fields are for informational purposes only and cannot be changed in this screen. The Service Terminal Numbers (primary and secondary) and Primary and Secondary Line Shared With (fax or answering machine) are set in the Download File Utilities screen.

The final option in the Customer File Utilities is Edit Customer File Option. Clicking on this button or pressing ALT + E will cause the screen shown in Figure 3-11 to be displayed. Type the customer filename to be edited and click on the OK button or press Enter. The screen shown in Figure 3-15 will appear. Make the desired corrections to this screen and then click on the Save button or press ALT + S. The file will be updated in the database.

The option buttons at the bottom of the screen shown in Figure 3-15 include the following:

- ✓SAVE (ALT + S) - used to save a Customer File which was just created or edited. A screen similar to the one shown in Figure 3-17 will prompt you to enter the name of the Customer File to be saved. The program will automatically add a filename extension of .CST.
- ✓PRINT (ALT + P) - creates a hard copy (if printer is connected) of the Customer File and Download File being displayed.
- ✓CANCEL - exits to the Main Menu without changing the screen entries.
- ✓EXIT (ALT + X)- returns to Main Menu.

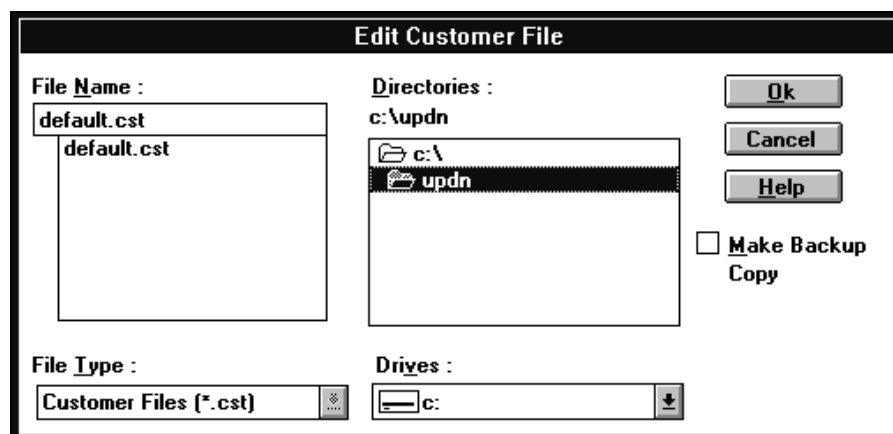


Figure 3-17: Load Customer File

3.1.5 Upload File Utilities

Selecting the Upload File Utilities (ALT + U) from the Main Menu will cause the screen shown in Figure 3-18 to be displayed.

The Delete Upload File button or pressing ALT + D will display a screen similar to the one in Figure 3-17 prompting you to enter the File Name of the Upload File you wish to delete. Typing in the name and clicking on the OK button or pressing Enter will cause the warning screen shown in Figure 3-19 which questions if you really want to delete this file. Clicking on OK or pressing Enter will delete the selected file.

The View Upload File button (ALT + V) allows viewing of a selected upload file. The screen shown in Figure 3-17 will be displayed prompting for the File Name of the upload file to be viewed. Type in the filename and click on OK or press Enter to see the file contents.

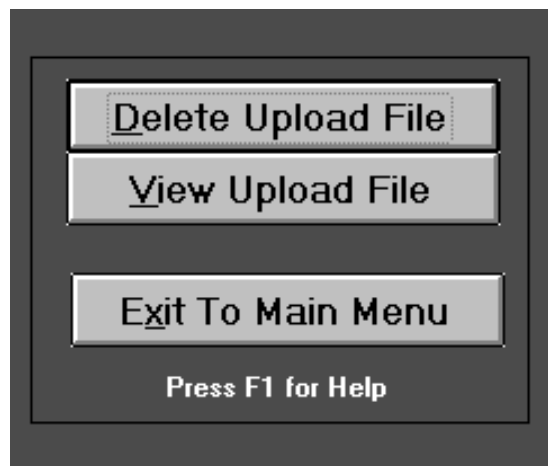


Figure 3-18: Upload File Utilities



Figure 3-19: Delete Upload Warning

3.1.6 Upload/Download

Selecting Upload/Download (ALT + L) from the Main Menu causes the screen shown in Figure 3-20 to be displayed. Where all previous utilities were used to configure the equipment and programs, this utility is used for the transfer of data between the service terminal and the FACP.

During an Upload or Download operation, it is important to remember the following:

- ✓ Do not exit the SK-5C screen from which the call to the FACP was originated until after the callback has been answered by the service terminal.
- ✓ An FACP alarm or trouble occurring during an upload or download will cause the FACP to stop data transfer and terminate the call in order to call the central station.

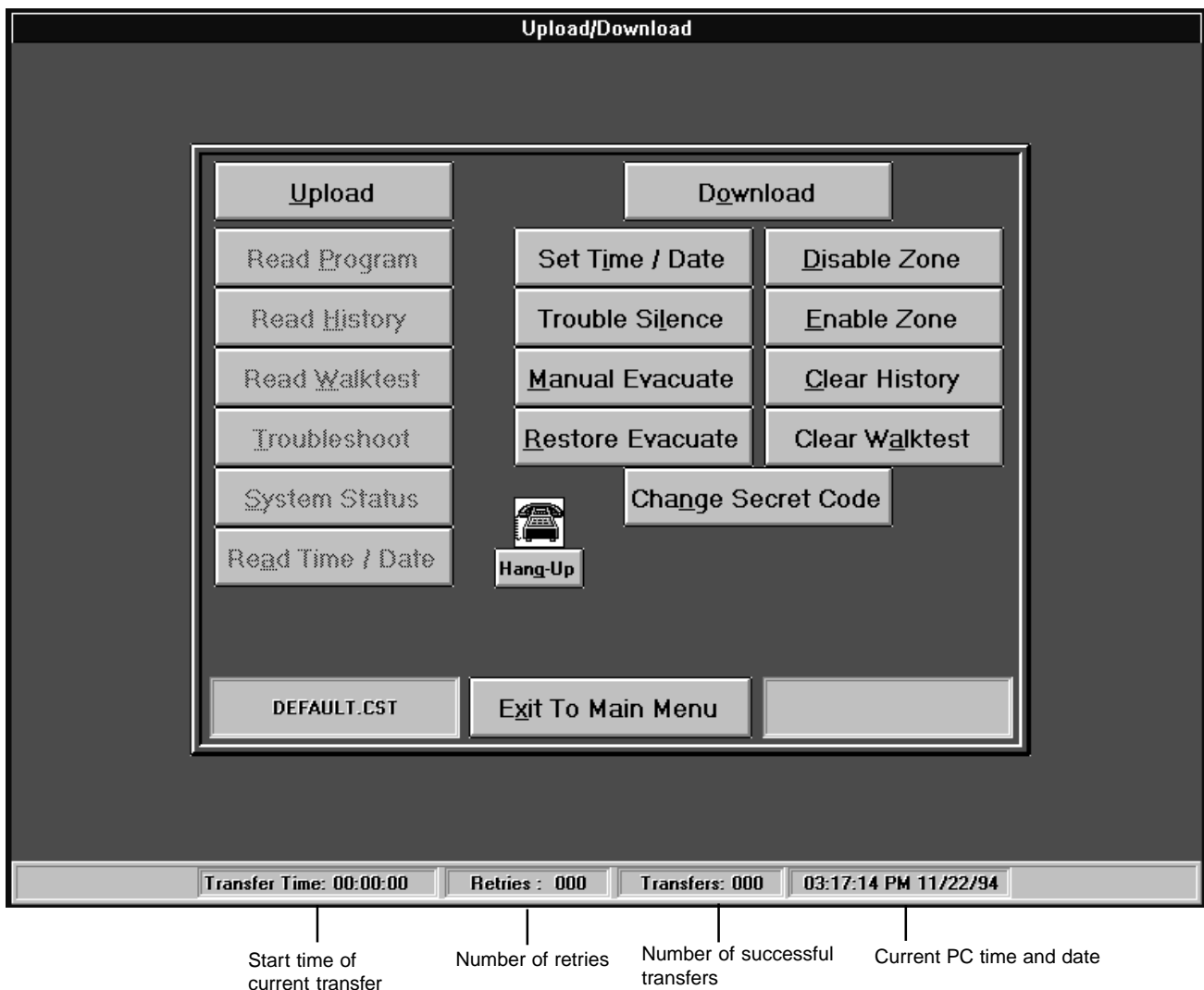


Figure 3-20: Upload/Download

3.1.6.1 Upload - this option allows the SK-5C user to retrieve data from an FACP. The upload process includes the following:

- ✓ Read Program
- ✓ Read History
- ✓ Read Walktest
- ✓ Troubleshoot
- ✓ System Status
- ✓ Read Time/Date

Click on the FACP primary or secondary phone line for transmission to the panel and the service terminal phone number 1 or 2 to be used for callback. *Clicking on the Disable Callback button will defeat the FACP callback feature only if the user is a Master.* Clicking on the OK button or pressing Enter will commence the upload process. If an upload or download has already been performed and the call has not been terminated, the screen shown in Figure 3-22 is not displayed and the requested transaction occurs immediately.

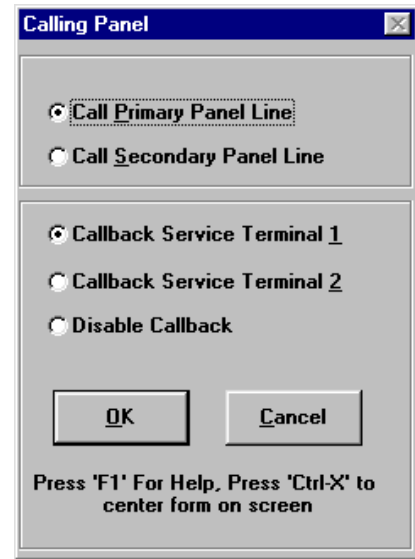


Figure 3-21: Upload

Upload With Callback Disabled- Uploads can be done in a variety of ways, with or without callback. The following message sequence will display on the screen for an entire upload with callback disabled:

- 1) Calling the Panel
- 2) Waiting for Modem to Connect
- 3) Communicating with the Panel
- 4) Verifying Secret Code
- 5) Requesting Disable Callback
- 6) Requesting Upload from Panel
- 7) Received User Program, Waiting for History
- 8) Received History, Waiting for Walktest
- 9) Received Walktest, Waiting for Troubleshoot
- 10) Received Troubleshoot, Waiting for System Status
- 11) Received System Status, Waiting for Time and Date
- 12) Received Time and Date, Upload Complete

Note: Items 5 - 11 above will not occur for the first upload from an FC-5C FACP. They will occur on all subsequent uploads following the initial download operation to the panel.

Upload With Callback Enabled- The following message sequence displays on the screen for an entire upload with callback enabled:

- 1) Calling the Panel
- 2) Waiting for Modem to Connect
- 3) Communicating with the Panel
- 4) Verifying Secret Code
- 5) Requesting Upload from Panel
- 6) Requesting Callback to Phone Number zzz (where zzz is the Service Terminal Phone Number)

- 7) Disconnecting from Panel
- 8) Waiting for Callback
- 9) Ring
- 10) Connecting with Panel
- 11) Verifying Secret Code
- 12) Requesting Upload from Panel
- 13) Received User Program, Waiting for History
- 14) Received History, Waiting for Walktest
- 15) Received Walktest, Waiting for Troubleshoot
- 16) Received Troubleshoot, Waiting for System Status
- 17) Received System Status, Waiting for Time and Date
- 18) Received Time and Date, Upload Complete

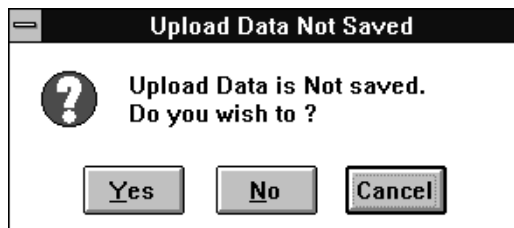


Figure 3-22: Save Upload Data

Selecting Exit to Main Menu (ALT + X) will display the screen shown in Figure 3-22. Clicking on Yes or pressing ALT + Y will display a dialog box similar to Figure 3-17 requesting the File Name under which you wish to save this data. Type the filename and click the OK button or press Enter to save the upload data.

Following the completion of an Upload, the six buttons below the Upload button (refer to Figure 3-20) will be enabled. This allows the viewing of these control panel files.

Clicking on the **Read Program** button or pressing ALT + P will display a screen similar to Figure 3-23. This screen contains the program which has been copied from the FACCP during this upload. Use the Next and Previous buttons to view additional screens. *An Upload and Read Program operation should be done after every Download to confirm that the panel contains the correct program information.*

Programmable Addresses [0 - 68] - C:\UPDN\DEFAULT.ULD

Primary Phone Number	18004303572FFFFF	Slave Comm Selection	0 Panel Only
Primary Comm Format	A 4+2 Std 18/23	Zone 1 Function Select	0 2 Wire Smoke
Primary Account Code	0431	Zone 2 Function Select	0 2 Wire Smoke
Primary 24 Hour Test Time	0000	Zone 3 Function Select	5 Waterflow (Silence)
Primary # Test Time Interval	0 24 Hour	Zone 4 Function Select	0 2 Wire Smoke
Secondary Phone Number	18004303572FFFFF	Zone 5 Function Select	0 2 Wire Smoke
Secondary Comm Format	A 4+2 Std 18/23	Waterflow Retard Time	30 Seconds
Secondary Account Code	0431	AC Loss Delay	0 6 Hours
Secondary 24 Hour Test Time	1000	Alarm Presignal	0 Disabled
Secondary # Test Time Interval	0 24 Hour	Alarm Presignal Delay Time	120 Seconds
Alarm Verification	0 Disabled		

Put the cursor in the data entry field and press F1 for Help

Figure 3-23: Read Program

Clicking on the **Read History** button or pressing ALT + H will display a screen similar to the one shown in Figure 3-24. The information in this screen will consist of all panel status changes such as alarms, troubles, switch activations, etc., since date last cleared as indicated in upper right corner. This information can be extremely useful when tracking sporadic troubles or recurrent false alarms.



Figure 3-24: Read History

Clicking on the **Read Walktest** button or pressing ALT + W will display a screen similar to the one in Figure 3-25. The number of walktest activations will be listed, time and date of walktest and devices tested.



Figure 3-25: Read Walktest

Clicking on **Troubleshoot** or pressing ALT + T will display a list of actual FACP voltages and the normal and abnormal values for these voltages as shown in Figure 3-26. This feature allows the panel voltages to be analyzed by a service technician who is not on site.

Troubleshoot Voltages - C:\UPDN\DEFAULT.ULD				
Zone #	Actual Voltage	Nominal Threshold Voltages		
		Normal W/ E.O.L	Shorted	Open Circuit
1	24.47	23.5 V	0.0 V	25.4 V
2	24.45	23.5 V	0.0 V	25.4 V
3	23.96	23.5 V	0.0 V	25.4 V
4	24.22	23.5 V	0.0 V	25.4 V
5	24.47	23.5 V	0.0 V	25.4 V
		Low	Normal	High
AC Line	126.0	102 VAC	115 VAC	132 VAC
NAC Bell 1	-1.45	< -0.5 V	-2.32 V	> -4.0 V
NAC Bell 2	-1.45	< -0.5 V	-2.32 V	> -4.0 V
Resettable 24V	25.30	21.60 V	24.00 V	26.40 V
Battery Voltage	27.64	20.40 V	24.00 V	28.00 V

Store Data
Prey. Screen
Next Screen
Print
Exit

Press F1 for Help

Figure 3-26: Troubleshoot

Clicking on **System Status** or pressing ALT + S will display the FACP zone and other circuit status (refer to Figure 3-27) at the time of the upload.



Figure 3-27: System Status

Clicking on **Read Time/Date** or pressing ALT + A will display the FACP and PC time and date at the time of the upload as well as current PC time and date as shown in Figure 3-28.

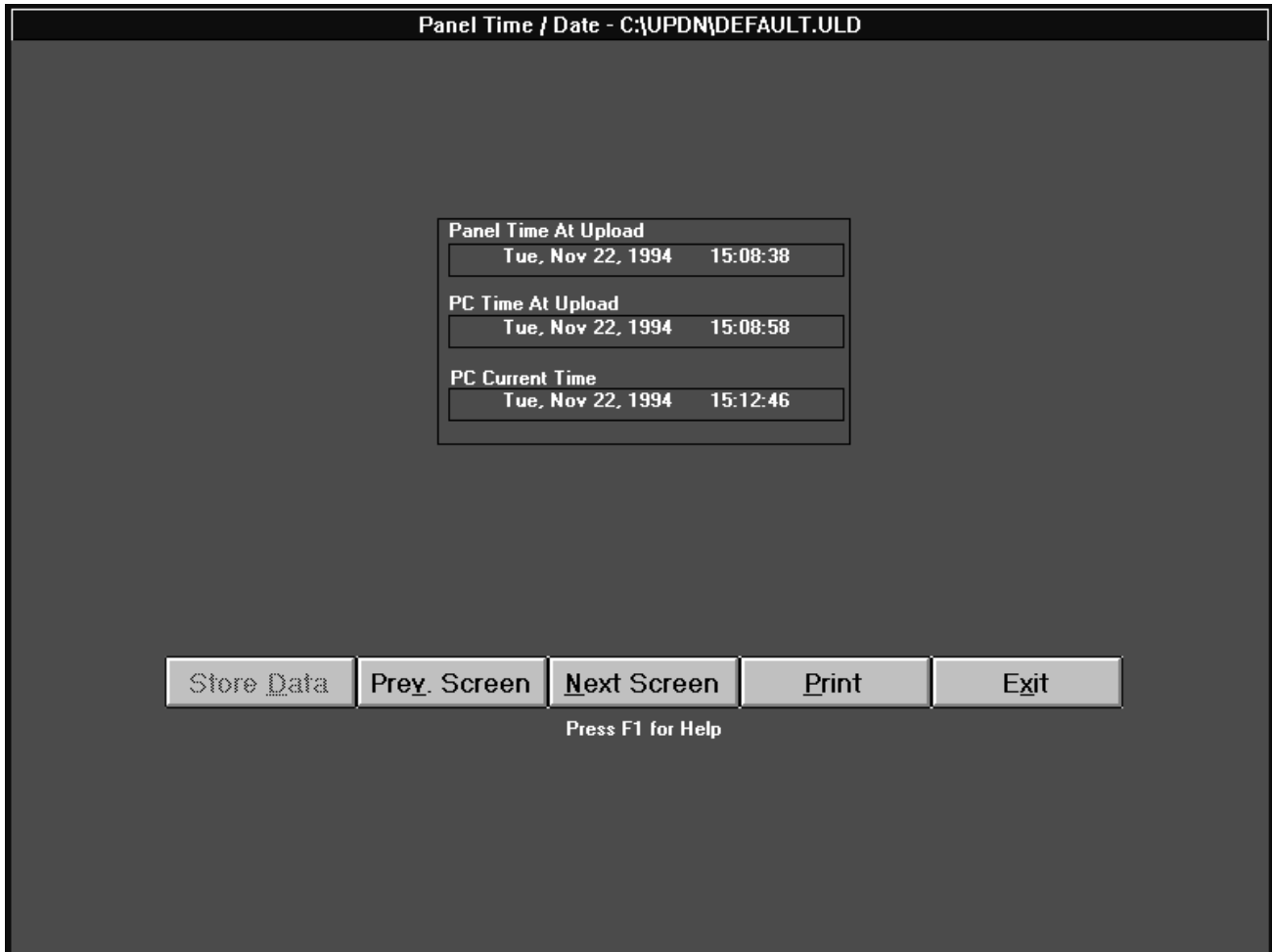


Figure 3-28: Read Time/Date

3.1.6.2 Download - This option allows the user to transmit programming data to the FC-5C control panel. Before using this function, the program and Customer ID that is to be sent to the FACP must be specified in the Customer Information section of the SK-5C programming utility (refer to Section 3.1.4).

Clicking on the Download button or pressing ALT + O will display the screen shown in Figure 3-21. Select the FACP primary or secondary phone line for transmission to the panel and the service terminal phone number (1 or 2) to be used for callback. Clicking on the OK button or pressing Enter will commence the download process. The screen will indicate each step during the download as follows:

Download with Callback Enabled- Downloads can be done in a variety of ways, with or without callback. The following message sequence displays on the screen for a download with callback enabled:

- 1) Calling the Panel
- 2) Waiting for Modem to Connect
- 3) Communicating with the Panel
- 4) Verifying Secret Code
- 5) Downloading (download file) to Panel
- 6) Requesting Callback to Phone zzz (where zzz is the Service Terminal Phone Number)
- 7) Disconnecting from Panel
- 8) Waiting for Callback
- 9) RING
- 10) Connecting with Panel
- 11) Verifying Secret Code-xxxx
- 12) Requesting Download to Panel
- 13) Downloading (download file) to Panel
- 14) Download Information Complete

Note: Items 5-10 above will not occur for the first download to an FC-5C FACP. They will occur on all subsequent downloads.

When the Packet Received by Panel message is displayed, downloading is complete and a new option may be selected. Communication will terminate if the user clicks on 'Hang-up' or 'Exit to Main Menu' or if the FACP terminates communication.

Download with Callback Disabled- The following message sequence displays on the screen for a download with callback disabled:

- 1) Calling the Panel
- 2) Waiting for Modem to Connect
- 3) Communicating with the Panel
- 4) Verifying Secret Code
- 5) Requesting Disable Callback
- 6) Requesting Download to Panel
- 7) Downloading (download file) to Panel
- 8) Download Information Complete

Communication will terminate if the user clicks on 'Hang-up' or 'Exit to Main Menu' or if the FACP terminates communication. Note that once communication has been established with the FACP, each of the operations may be selected without reestablishing communications as long as selections are made before the 2 minute time-out.

Set Time/Date (ALT + I) - Selection of this option will display the screen shown in Figure 3-29. To download the time and date as displayed in this screen, click on the Send Current Time and Date button or use the Tab key to highlight this button and press Enter. The screen shown in Figure 3-31 will appear. Make the appropriate selections in this screen and click on the OK button or press ALT + O to perform a download.

If the time and/or date are to be changed, click on the Modify and Send Time and Date button or use the Tab key to highlight this button and press Enter. The screen shown in Figure 3-30 will appear. Place the cursor in the time or date box and click or use the Tab key to move the cursor to the time or date box and then type the correct values. After completing the entries, click the OK button or press ALT + O. The screen shown in Figure 3-31 will be displayed. Make the appropriate selections and click on the OK button or press ALT + O to perform the download operation.



Figure 3-29: Set Time/Date

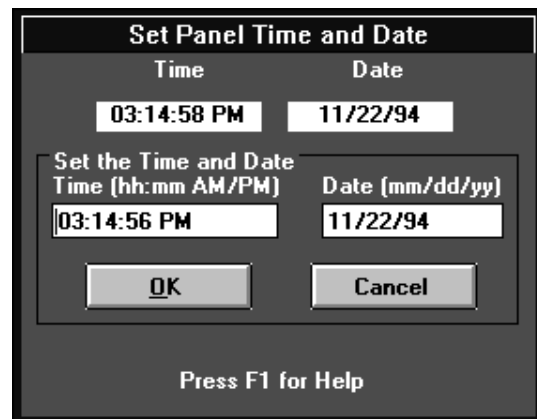


Figure 3-30: Modify Time and Date

Trouble Silence (ALT + L) - If a trouble exists in the panel and there is no active fire alarm, the FACP piezo sounder may be remotely silenced with this feature. Selection of this option will display the screen shown in Figure 3-31. After making the appropriate selections, click on the OK button or press ALT + O to silence the panel.

Manual Evacuate (ALT + M)- This feature will force the fire alarm control panel to perform a drill which will sound all of the Notification Appliances. Selection of this

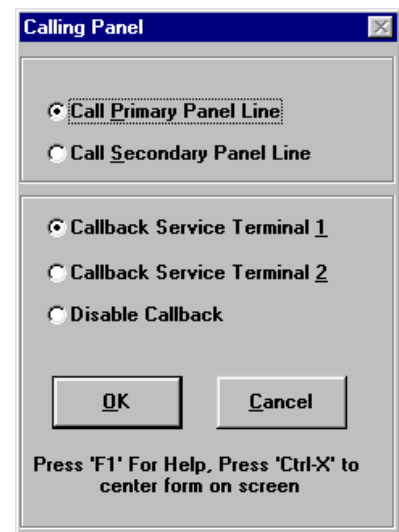


Figure 3-36: Send To Panel

option will cause the screen shown in Figure 3-31 to be displayed. Select the primary or secondary panel phone line and service terminal 1 or 2 for callback and then click on the OK button or press ALT + O to download the manual evacuate instruction to the panel.

Restore Evacuate (ALT + R) - This feature allows the remotely initiated Manual Evacuate (Drill) function to be cleared. Selection of this option will display the screen shown in Figure 3-31. Make the appropriate selections and click the OK button or press ALT + O to clear the Manual Evacuate function.

Disable Zones (ALT + D) - FACP zones may be disabled from the service terminal with this feature. Selection of this option will cause the screen shown in Figure 3-32 to be displayed. Using the mouse, point and click on the zone to be disabled or press ALT + 1, 2, 3, 4 or 5 corresponding to the zone to be disabled. Note that an X will appear in the box next to the zones. Clicking on OK or pressing ALT + O will display the screen from Figure 3-31. Make the appropriate selections in this screen and select OK or press ALT + O to disable the selected zones.

Enable Zones (ALT + E) - The control panel zones may be enabled using this feature. Selecting this option will cause the screen shown in Figure 3-32 to be displayed. Select the zones to be enabled (as in Disable Zones) and click the OK button or press ALT + O. The screen shown in Figure 3-31 will appear. Make the appropriate selections and click on the OK button or press ALT + O to enable the selected zones.



Figure 3-32: Enable/Disable Zones

Clear History (ALT + C) - This will clear the history buffer in the FC-5C control panel. Selection of this option will display the screen shown in Figure 3-31. Making the appropriate selections and clicking on the OK button or pressing ALT + O will clear the panel history buffer.

Clear Walktest (ALT + A) - This feature will clear the panel walktest event buffer. Selection of this option will display the screen shown in Figure 3-31. After the appropriate selections have been made, click on the OK button or press ALT + O to clear the panel walktest event buffer.

Change Secret Code (ALT + N) - Selection of this option will display the screen shown in Figure 3-33. Refer to Section 4.0 for information on the Secret Code. Type the new Secret Code (8 characters max.) and click on OK or press the Enter key. The new secret code is sent to the FACP and the customer file at the service terminal is automatically updated.

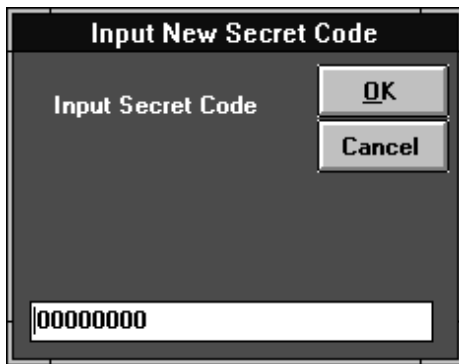


Figure 3-33: Change Secret Code



Figure 3-34: Print Files

3.1.7 Print File Utilities

This option provides a hard copy of selected program files. Clicking on Print File Utilities or pressing ALT + P in the Main Menu screen will cause the screen shown in Figure 3-34 to be displayed. Click on the Print Upload File (ALT + U) or Print Download File (ALT + D) button to select the file to be printed. The screen shown in Figure 3-35 will prompt for the name of the file to be printed.

If the selection was Print Download File, after entering the filename in the screen shown in Figure 3-35 and clicking on the OK button or pressing ALT + O, the download program file will be printed.

If the original selection was Print Upload File, after typing the filename and clicking on the OK button or pressing ALT + O, the new screen shown in Figure 3-36 will be displayed. Select one or all of the Upload File options to be printed by clicking on the items desired or pressing ALT + the underlined letter in the desired selection. Note that an X will appear in the selected boxes. To deselect, click on the item a second time or press ALT + the underlined letter and the X will clear. Click on the OK button or press ALT + O and the file will be printed.

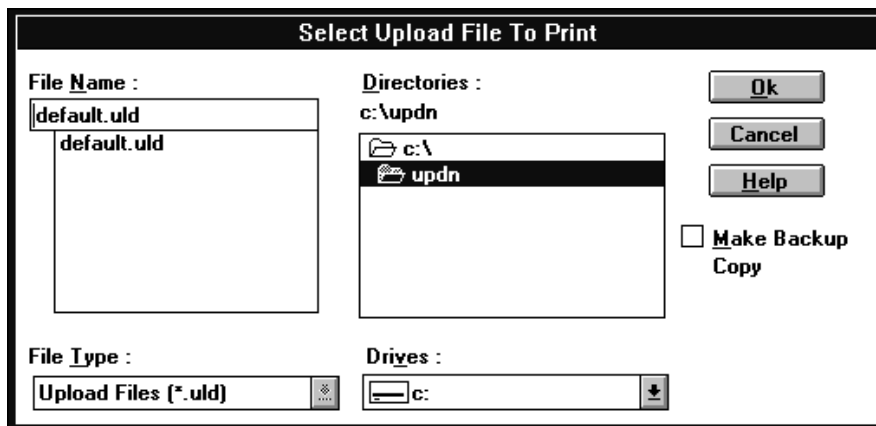


Figure 3-35: File Name



Figure 3-36: Upload File

CHAPTER 4

Security features have been made an integral part of the SK-5C software to maximize FACP integrity and reliability. These features include the following:

- ✓ restricted access to the program
- ✓ panel callback to service terminal
- ✓ control panel time-out
- ✓ data error checking
- ✓ central station acknowledge
- ✓ central station data protection

4.0 Secret Code

The Secret Code for each FC-5C control panel is set to a factory default value of **00000000**. The Secret Code for each panel should be customized by the SK-5C user. The code can only be changed through an initial download to the FACP or by using the Change Secret Code option of the Upload/Download utility.

To change the Secret Code after it has been established by an initial download, select Upload/Download from the Main Menu. The screen shown in Figure 4-1 will appear. Clicking on the Change Secret Code button or pressing ALT + N will cause the screen shown in Figure 4-2 to be displayed. A flashing cursor will be positioned in the box at the bottom of this screen.



Figure 4-1: Upload/Download



Figure 4-2: Change Secret Code

Type in from 1 to 8 characters for the new Secret Code. Use the mouse arrow to click on the OK button or press Enter. The dialog box shown in Figure 4-3 will be displayed. Select either the primary or secondary phone line to call the panel and service terminal 1 or 2 to receive the callback from the panel. Once the selections have been made, click on the OK button or press ALT + O to download the new Secret Code to the FACP. The Customer File is automatically updated with the new Secret Code.

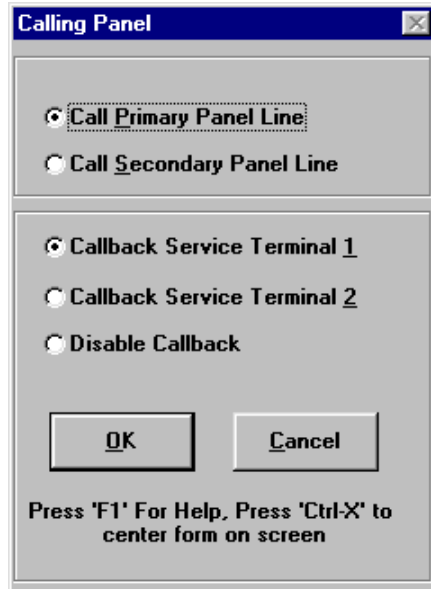


Figure 4-3: Download Secret Code

4.1 Panel Callback

All upload or download operations require the FACP to callback the service terminal initiating the call before proceeding with a data transfer. This callback procedure is incorporated in the software for the following reasons:

- ✓ Confirmation of service terminal initiating call
- ✓ Insures that only authorized service terminal can access the FACP
- ✓ FACP must notify the central station(s) of request for upload or download. If central station(s) denies the request, the FACP will not call back the service terminal.

Note: The Central Station is capable of denying the request for upload or download only if FACP address 56 is programmed to a value greater than zero (0). Refer to the FC-5C Technical Manual for additional information.

4.2 Control Panel Time-out

The FC-5C software has been designed to terminate communications with a service terminal if valid data is not received within a specific period of time. Reasons for the termination are as follow:

- ✓ If the modem connect sequence does not occur within 30 seconds of the FACP answering a call, the FACP will terminate (hang-up) the call. This is a protection against wrong numbers interfering with normal FACP operations.
- ✓ Following the connection of the FACP and service terminal modem, any errors occurring during message, command or data transfers will prompt an attempt to retransmit the information. If transmission errors continue with each retry, the FACP will terminate the call after 30 seconds.
- ✓ Following the connection of the FACP and service terminal modem, any delay of 2 minutes or more in initiating a data transfer will result in the FACP terminating the call.
- ✓ After answering a call from the service terminal, the FACP will attempt to callback the service terminal a maximum of 4 times. If the Secret Code is not verified after the 4th attempt, the FACP will hang-up and notify the Central Station(s) of the failed upload/download attempt. Possible reasons for failure of the service terminal to answer a callback are as follows:
 - 1) Service terminal phone lines inoperative.
 - 2) Service terminal modem failure.
 - 3) Service terminal screen initiating call has been exited before receiving callback.
 - 4) Data transmission errors have occurred prompting the 30 second time out. 4 callbacks have been made each resulting in the 30 second time out.

4.3 Error Checking

Data from the service terminal is transmitted to a temporary holding buffer in the FACP. This data is verified by the FACP for integrity and if the data is correct, it will be transferred from the temporary buffer to the panel memory for permanent storage and immediate use.

It should be noted that a partial data transfer is not possible. The FACP requires an all or nothing transfer of data to prevent partial panel programming. Refer to Section 4.5 Central Station Data Protection.

If the data is found to be incorrect, the FACP will request the service terminal to retransmit the data. If the retransmitted data is still incorrect, the FACP will continue to request retransmission for a maximum of 30 seconds. If still unsuccessful, the FACP will terminate the connection. Should a failure to transmit occur, the operator must reinitiate the sequence at the service terminal. If this should occur, consult the factory.

4.4 Central Station Acknowledge

The FACP will report to the central station(s) that a request for upload or download has been received if FACP program address 56 does not equal zero (0). If the central station(s) does not acknowledge receipt of this request, uploading or downloading is prohibited. If acknowledged by the central station(s), another message is transmitted by the FACP informing the central station(s) that: (1) downloading was successful, (2) uploading was successful or (3) uploading/downloading was not successful.

4.5 Central Station Data Protection

FACP program addresses '00' through '51' are assigned to the primary and secondary central station phone number, communication format, account code, and test time. Addresses '127' through '374' are reserved for the programmable event codes. This block of addresses holds the entire vital central station information. These blocks are protected from partial programming due to faulty phone connections, line noise and other errors. This prevents the panel from being confused due to a wrong phone number, account code, test time and most critical formatting errors.

4.6 Password Protection

The SK-5C provides for 4 user access levels, each requiring a password for access. Refer to Section 3.1.1 Operator Information for a description about this process.

Level 0 is reserved for the Master(s). All SK-5C options are available to the Master. In addition, the Master must assign all other levels and their passwords and may view Operator Information.

Level 1 has access to all options except the assignment of level access and passwords. Level 1 cannot view Operator information.

Level 2 can upload from the FACP, view the upload data, print the upload and download data, change the modem configuration and view the download data but not edit and save it.

Level 3 can only view and print the upload data.

If a user attempts to access an unauthorized level, the screen shown in Figure 4-4 will be displayed.

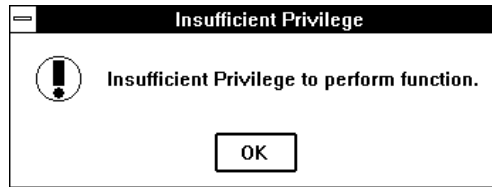


Figure 4-4: Access Denial

