

# FREEDOM TOOL<sup>®</sup>

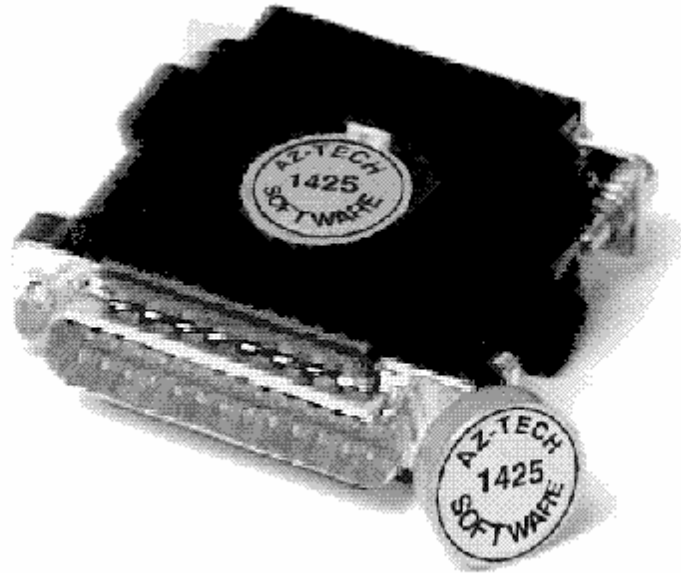
*Schindler 300A*



7502.9037

This is Your Software Security Access Key:

**DO NOT LOSE IT !**



**DO NOT PLUG THE SECURITY KEY INTO ANY  
ELEVATOR INTERFACE PORT**

This security device must be plugged into the notebook computer's PRINTER port whenever the FREEDOM Tool Software is to be run.

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## **Introduction:**

The FREEDOM Tool is a sophisticated software tool that allows the operator to service various elevators and elevator control systems. The software allows the operator to simultaneously view independent operations within the elevator system by opening windows to those systems / operations of interest. The selected windows may be left open during the maintenance / repair session and accessed when desired.

This User's Guide and Reference has been written to specifically target the Schindler / Westinghouse 300A hydraulic elevator control systems. All references to "**FREEDOM Tool**" throughout this manual implies that it pertains solely to the software systems that support the Schindler / Westinghouse elevator control systems.

## **FREEDOM Tool Features:**

The FREEDOM Tool is a Graphical User Interface (GUI) and provides all the functions necessary to service the Schindler / Westinghouse elevator systems. The software runs under the Microsoft Windows operating system and provides the following features:

- A Graphical User Interface which makes it easy to access various adjustment and diagnostic areas comprising the service tool resident upon the Schindler / Westinghouse elevator control system being diagnosed.
- Simple point and click operations. The computer does all necessary commands for the user in the background.

## **Minimum Hardware and Software Requirements:**

The software provided as of a package by WORLD electronics and is designed to operate on an IBM compatible notebook computer that has the following minimum characteristics:

- A 486 microprocessor.
- 4 Megabytes of RAM memory.
- Windows 3.1 or Windows 95 Operating System.
- Mouse, Trackball, or other pointing device.
- Minimal clock frequency of 33MHz
- Internal Fax/Data Modem

The FREEDOM Tool software is not capable of being executed without a sophisticated **security key** that is to be connected to the parallel port of the computer at the time of the FREEDOM Tool execution.

A **WORLD electronics** "FREEDOM TOOL Serial Interface Cable" is required. These interface cables provide the proper signal conversions and connections between the computer and the Schindler / Westinghouse elevator system that allows them to communicate with one another.

## How to contact WORLD electronics:

If you are having any problems operating the FREEDOM Tool, feel free to contact us at the following location. We value you as a customer and welcome any comments concerning the use of the FREEDOM Tool.

**WORLD electronics**  
**3000 Kutztown Road**  
**Reading, PA 19605-2617**

**Phone: 1-800-523-0427**  
**Phone: (610) 939-9800**  
**Fax: (610) 939-9895**

### E-mail:

**Elevator Sales:**

[ESales@world-electronics.com](mailto:ESales@world-electronics.com)

**Service:**

[Service@world-electronics.com](mailto:Service@world-electronics.com)

**FREEDOM Tool:**

[fwhelp@world-electronics.com](mailto:fwhelp@world-electronics.com)



When calling WORLD electronics for assistance, have your product serial number, the model computer being used, operating system type, and the error description ready.

## Getting Started:

### Security Device Information:

WORLD electronics protects itself and its FREEDOM Tool software by utilizing a sophisticated security device that must be installed on the parallel printer port, physically located in the rear of the computer, before operating the FREEDOM Tool software. This security key is unique to every FREEDOM Tool and cannot be shared among other FREEDOM Tools.

**WARNING!** -- It is extremely important this device is not lost. The replacement value of this device is equal to the dollar value of the FREEDOM Tool software Systems purchased from WORLD electronics. This cost is in thousands of dollars. Please take the steps necessary to safeguard yourself against loss of the security device. To Prevent theft, it is advisable to store the security device and the FREEDOM Tool in two (2) separate, secure locations when not in use. **DO NOT PLUG THE SECURITY KEY INTO THE ELEVATOR AT ANY TIME. ONLY PLUG THE SECURITY KEY INTO THE NOTEBOOK COMPUTER.** A damaged security key has a \$250 charge affiliated with its replacement.

**IMPORTANT!!:** The "FREEDOM Tool Serial Interface Cable 7502.9030" must not be connected to the elevator system until the FREEDOM Tool instructs the user to do so.

## Executing the Shell Program (Microsoft Windows 3.1):

The start up procedure of the WORLD electronics's FREEDOM Tool is described as follows:

1. From a power down condition, make sure the security key is installed on the parallel port of the computer.
2. Turn on the computer and allow the Windows operating system to become operational. From the Program Manager window select the "Applications" Icon by using the pointing device to position the cursor directly over the "Applications" Icon and double clicking the pointing device button. Refer to Figure #1.

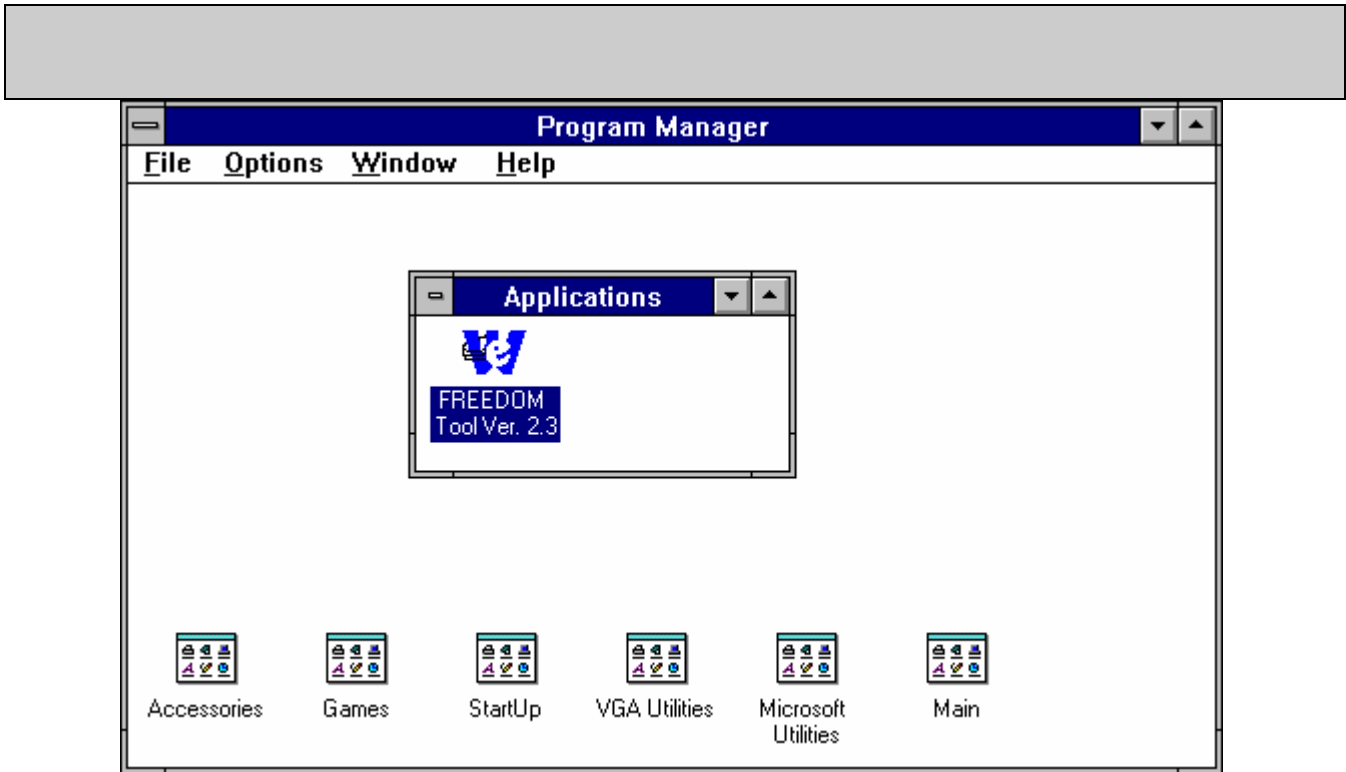


Figure 1

3. With the Applications window open select the “FREEDOM Tool” Icon by positioning the cursor over the “FREEDOM Tool” Icon with the pointing device and double clicking the pointing device button.
4. The “FREEDOM Tool Shell” window will be displayed as in Figure #2.



Figure 2

### **Executing the Shell Program (Microsoft Windows 95):**

The start up procedure of the WORLD electronics’s FREEDOM Tool is described as follows:

1. From a power down condition, make sure the security key is installed on the parallel port of the computer.



2. Turn on the computer and allow the Windows 95 operating system to become operational. From the Desktop either double click with the pointing device on the FREEDOM Tool icon, or select the "Start" Menu button, "FREEDOM Tool Folder", and then "FREEDOM Tool" Refer to Figure #3.



**Figure 3**

3. The "FREEDOM Tool Shell" window will be displayed as revealed in Figure #4.

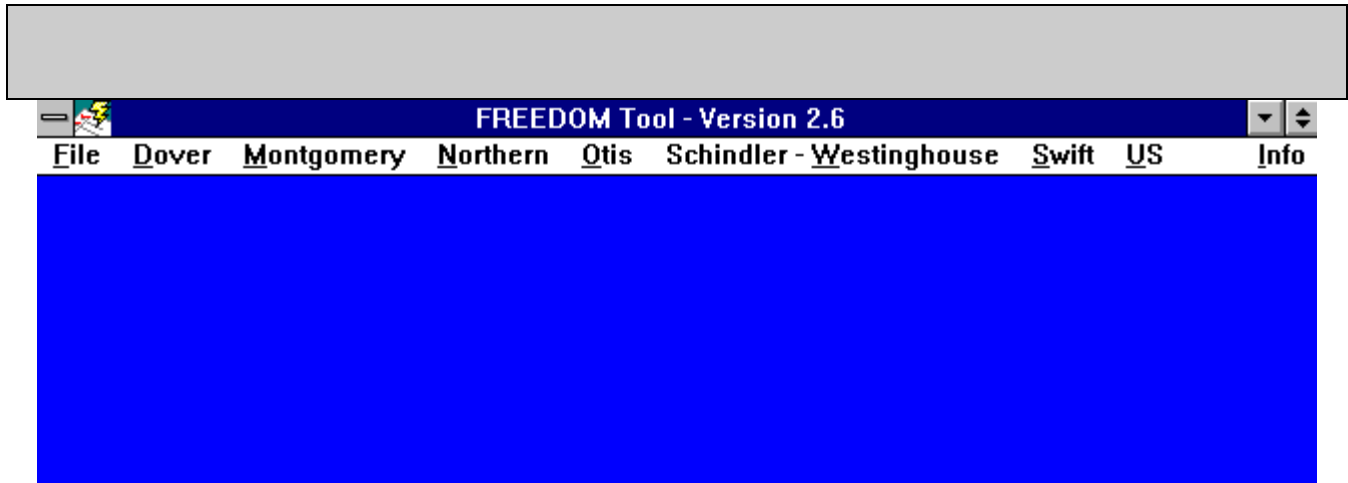


Figure 4

### Starting the Schindler-Westinghouse Software Module:

1. With the “FREEDOM Tool Shell” window open position the cursor directly over the appropriate system manufacturer menu item selection and single click the pointing device button to pull down a list of controllers for each manufacturer as shown in Figure #5.

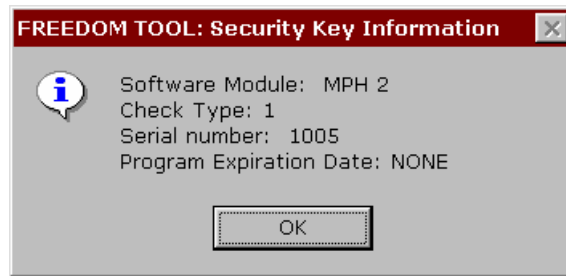


Figure 5

At this time notice that the “W” in the menu item “Schindler - Westinghouse” is underlined. This “W” is underlined because it is a built-in Microsoft Windows shortcut. When the user presses and holds down the “Alt” key on the keyboard, and then presses the key representing the underlined letter, the item with that particular underlined letter will be selected. Any item with a character underlined within the FREEDOM Tool software can use this method for selecting that particular item.

2. Position the cursor over “Schindler - Westinghouse” and single click the pointing device button to display the Schindler - Westinghouse system menu elevator controller selections, shown in Figure #5.
3. There are a total of five elevator systems that the “Schindler - Westinghouse” tool will service. To select one of these systems, position the cursor over any one of the menu selections and single click with the pointing device button.
4. The “FREEDOM Tool: Security Key Information” window will be displayed as in Figure # 6 if the correct security key has been determined to be installed. The Security Key Information window gives the user information on the software module being used, part of the key being

diagnosed, the serial number, and the expiration date. Continue with the program by positioning the cursor over the OK button and single click with the pointing device button.



**Figure 6**

In the event that the security key has not been installed or a problem exists with the installed key, a “FREEDOM Tool: Security Key Information” window will be displayed revealing an authorization error as shown in Figure # 7. Please take note of this error number and call WORLD electronics for help. To continue, position the cursor over the OK and single click with the pointing device button. This causes the FREEDOM Tool software to terminate execution and return to the FREEDOM Tool Shell.



**Figure 7**

5. The “FREEDOM Tool Info” window will be displayed as in Figure #8 which indicates the software version selected, displays copyright information, and provides the 800 number in which to contact WORLD electronics. When finished viewing this window, continue by selecting OK with the notebook pointing device.



**Figure 8**

6. After connecting the serial cable and closing the FREEDOM Tool Module Information window, the FREEDOM Tool User Interface Window will appear as in Figure #9 along with instructions on connecting and logging onto the elevator system. At this time plug the “FREEDOM Tool Serial Interface Cable” into the Processor Board’s 25-pin female connector. When the cable is connected, proceed by positioning the cursor over the OK button and single click the pointing device button.

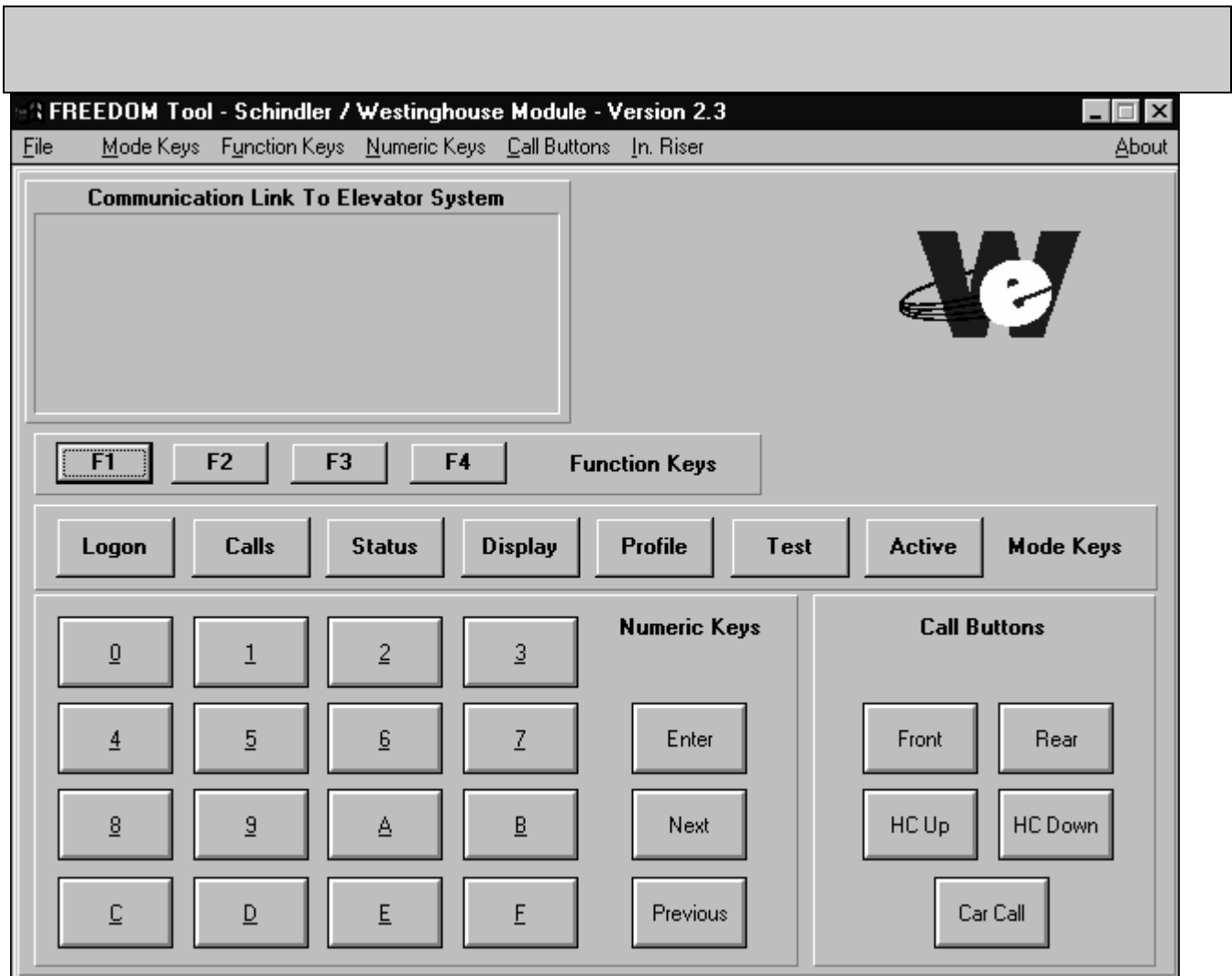


Figure 9

## General Description:

The FREEDOM Tool is a multi-functional diagnostic tool that allows the user to do everything from diagnosing faults registering car calls. All software functions can be accessed from the FREEDOM Tool's Main window as seen in Figure #10.

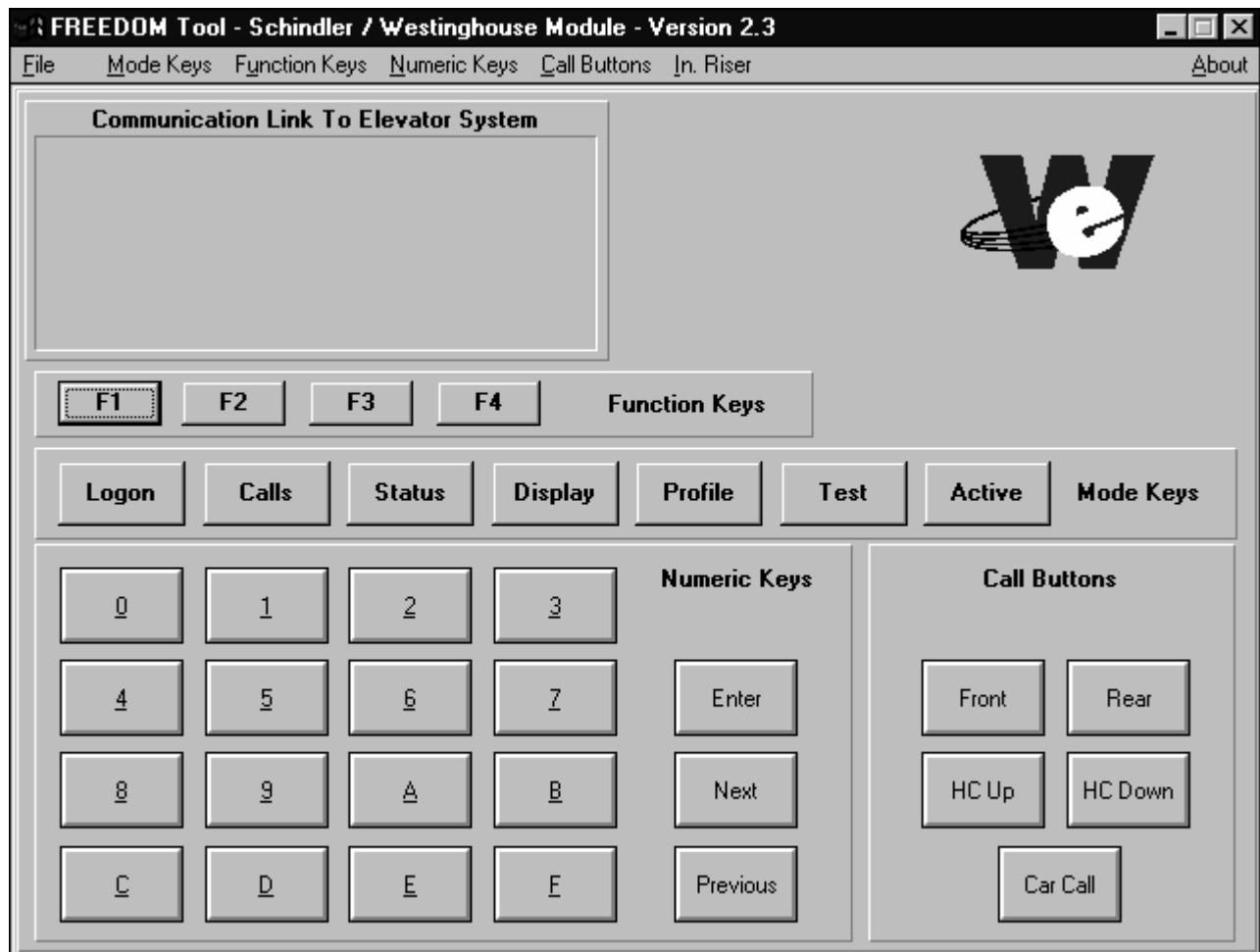


Figure 10

These software functions can be accessed from the main window by means of menu choices, accelerator keys, or the actual push buttons seen on the diagnostic screen. The tool's control window is broken into three sections. These three sections are the menu, the Communication Link to Elevator System, and screen controls. An overview of each of these three sections follows. For more detailed information about the operations with respect to the current elevator system being diagnosed please review the section of this manual for that elevator system.

- Communication Link to Elevator System:

The window, labeled Communication Link to Elevator System, is exactly as it is titled. Any communication coming from the elevator system to the tool will be displayed within this

window. The information displayed in this window is dependent upon what mode the user puts the FREEDOM Tool in.

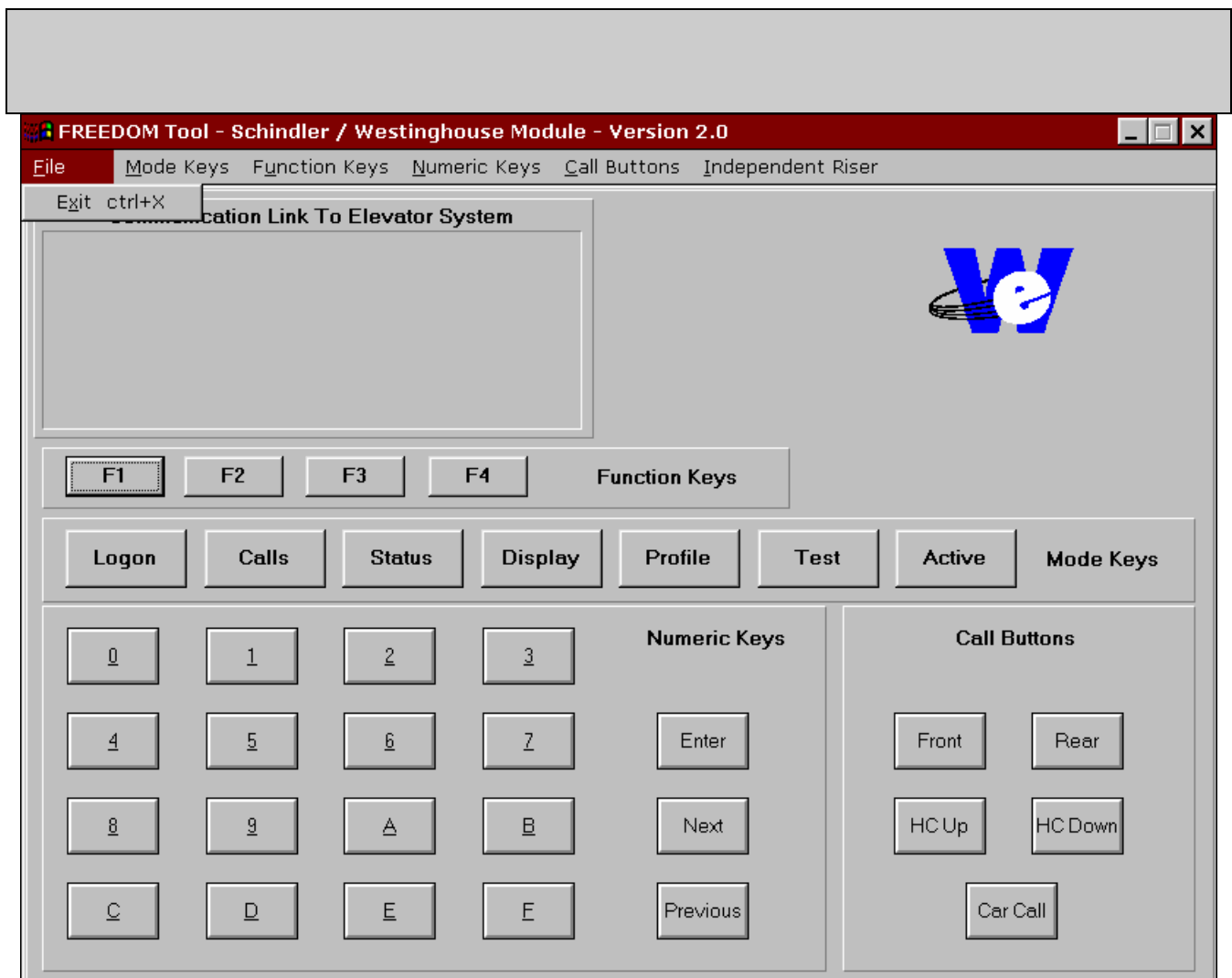
- If the Communication's Link window is blank or does not respond when a selection was made, the user should check all connections to the elevator system. If a thorough check of communication link turns up negative, a problem may be occurring within the main processor board of the system.
- If the Communication Link window is filling with repetitive "5's", the elevator system requires the tool to re-logon. Follow the procedures described under "Logon" to perform a Logon to the elevator system.

- Menu:

The Control window allows the user access to the elevator system in two distinct ways. The first of these interfaces is the push button controls found within the control window itself. The second of these interfaces is the menu choices along with their respective accelerators. The Schindler / Westinghouse software module has six menu groups in which certain functions will occur. These six menu groups are labeled as follows: File, Mode Keys, Function Keys, Numeric Keys, Call Buttons, and Independent Riser. A list of all keyboard accelerators appears in Appendix A.

- File:

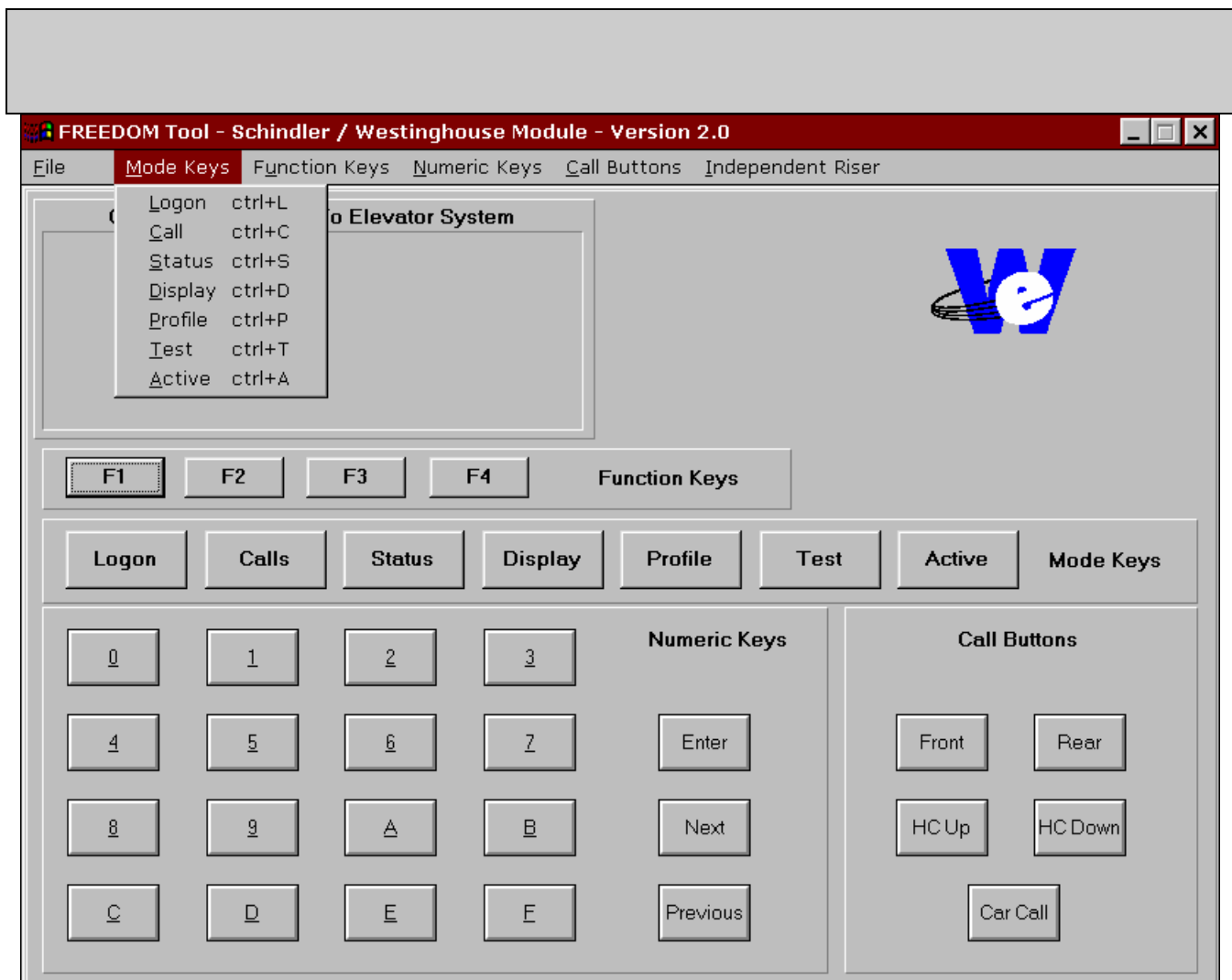
The first of the six menu groups, File, lets the user exit out of the Schindler / Westinghouse software module. The "File" group has a single menu item as seen in Figure #11 labeled Exit. Beside the label Exit is another group of text labeled "Ctrl + X". This second grouping of text is called a keyboard accelerator. A keyboard accelerator allows the user to perform a menu choice without moving the mouse to the menu item. The keyboard accelerator assigned to the Exit function is "Ctrl + X". To exit out of the Schindler / Westinghouse software module at any point depress the following keys Control and X



**Figure 11**

- **Mode Keys:**  
The seven mode selections found under the menu choice “Mode Keys” place the tool into seven distinct modes of operation. These modes are Logon, Calls, Status, Display, Profile, Test, and Active. Referring to Figure #12, notice that these mode selections also have keyboard accelerators assigned to them. The modes and their corresponding accelerators are described as follows:





**Figure 12**

- **Logon:**  
Logon Mode uses the keyboard accelerator “Ctrl + L”. Whenever the “Ctrl” key is depressed along with the “L” key the command to logon onto the elevator system is given by the tool. If the elevator is ready to allow a user to logon to it, the elevator will respond to the tool with communication string “LOGON”. Please refer to the section titled “Logging on to an Elevator system” for more detailed instructions on logging on.
- **Calls:**  
The Call Mode of the Schindler / Westinghouse software module allows the user to perform various function with car and hall calls. The two main functions of this mode is to allow the user to set and display these calls. The Call Mode has “Ctrl + C” assigned to it as a keyboard accelerator. At any time within the Schindler/Westinghouse software module, depressing the “Ctrl” key along with the “C” key will invoke the Call Mode of the tool. Please see the Call Mode section of the elevator system currently being diagnosed for more information on how it works.

- Status:  
The keystrokes “Ctrl + S”, Control and “S” simultaneously, will invoke the Status Mode of the Schindler/Westinghouse software module. The Status Mode shows the user the current operating status of the elevator in terms of car and group operation. Please see the Status Mode section of the elevator system currently being diagnosed for more information on how it works.
- Display:  
Inputs, Outputs, and memory locations are among some of the things that are found within the Display Mode of the Schindler/Westinghouse software module. To invoke the Display Mode of the tool the user would either select the Display menu item with the pointing device or use the keyboard accelerator “Ctrl + D”. For more specific information on the operation of the Display Mode, please see the Display Mode section within the particular elevator system being diagnosed.
- Profile:  
The Profile Mode of the Schindler/Westinghouse software module gives the user job-specific information on the elevator being diagnosed. Adjustments, timers, enabled floors, and security settings are among the choices that can be found within this mode. The keyboard accelerator “Ctrl + P” is one way of gaining access to the Profile Mode. The other is by selecting the menu item “Profile” under the “Mode Keys” listing. A more detailed description of the functionality of Profile Mode may be obtained under the section labeled “Profile Mode” within the specific elevator section of the elevator being diagnosed.
- Test:  
When an individual device or I/O signal within the elevator system is desired to be diagnosed the user enables the Test Mode of the Schindler/Westinghouse software module. This mode is enabled by selecting the menu item Test under the “Mode Keys” section of the manual. Notice that Test is assigned the keyboard accelerator “Ctrl + T”. This keyboard accelerator can be used at any time as a shortcut to invoking the “Test Mode” of the tool. Note: In most cases the elevator must be on Hand Operation before Test Mode can be enabled. More detailed information on the Test Mode can be found in the Test Mode section of the specific elevator being diagnosed.
- Active:  
Active Mode gives the user access to software specific features associated within a particular elevator system. This mode can be accessed by selecting the Active menu item within the Mode Keys section of the menu, or by selecting the keyboard accelerator “Ctrl + A”. For a more detailed description of Active Mode for each elevator system.
- Function Keys:  
Within each mode of the Schindler/Westinghouse tool there are functions that allow the user access to software dependent functions. These function labels can be seen at the bottom of the window labeled “Communication Link to Elevator System”. Each function key will line-up with a corresponding function label. The function keys progress from left to

right from F1 to F4. Referring to Figure #13 it is evident that there are accelerator keys assigned to the Function Keys. By depressing the keyboard button labeled “Ctrl” and the corresponding “F” key at the same time, the function at that location will be entered.

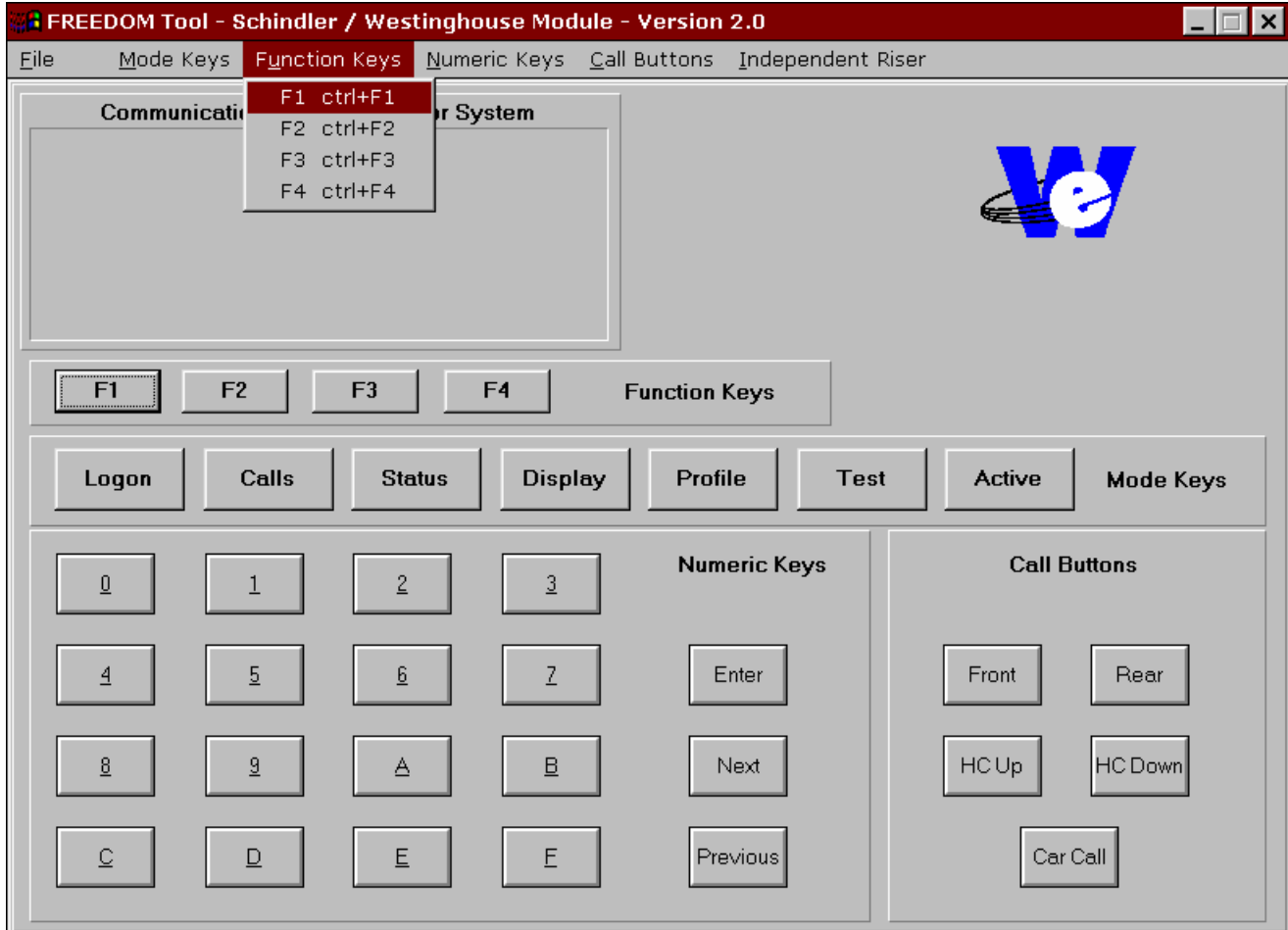
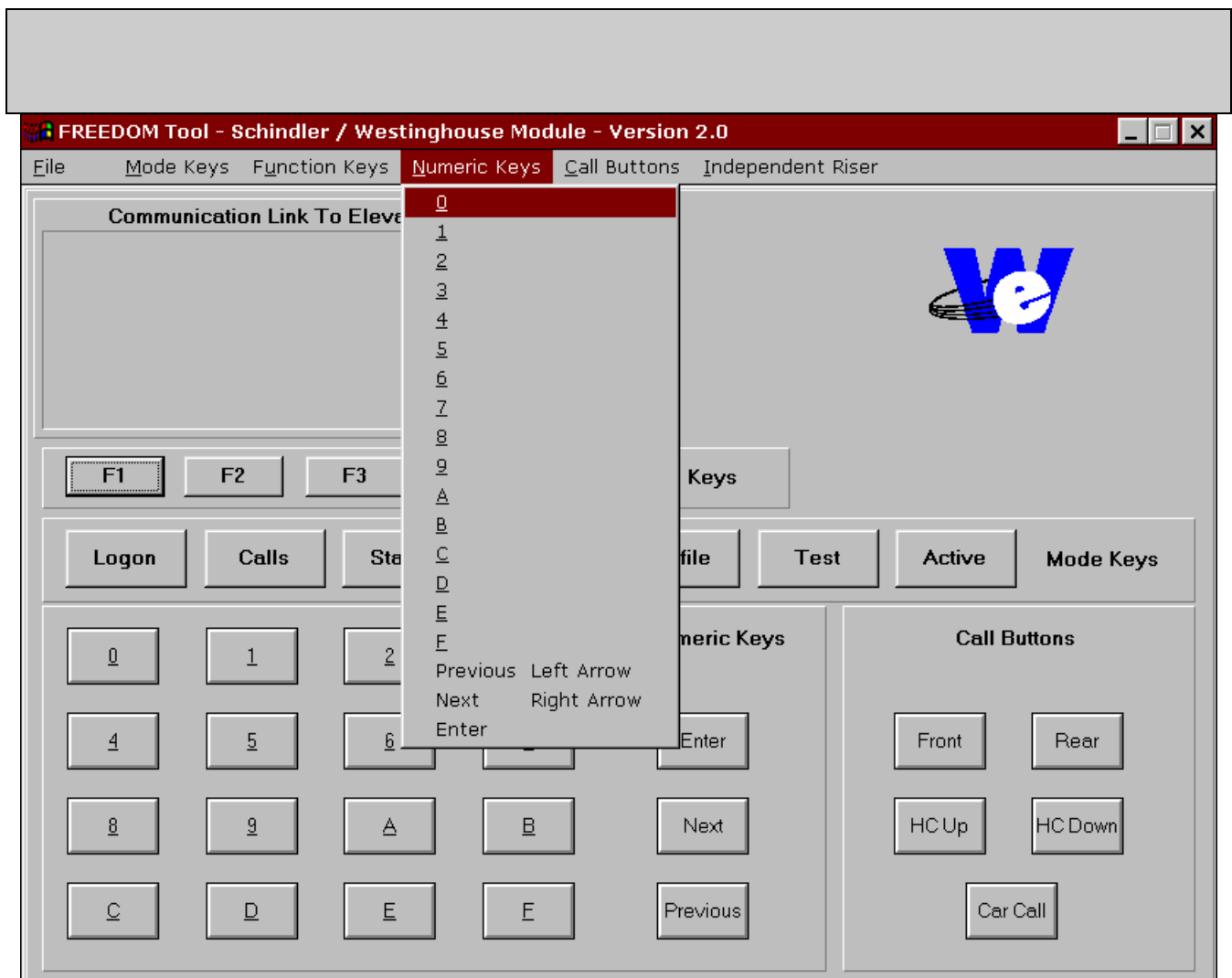


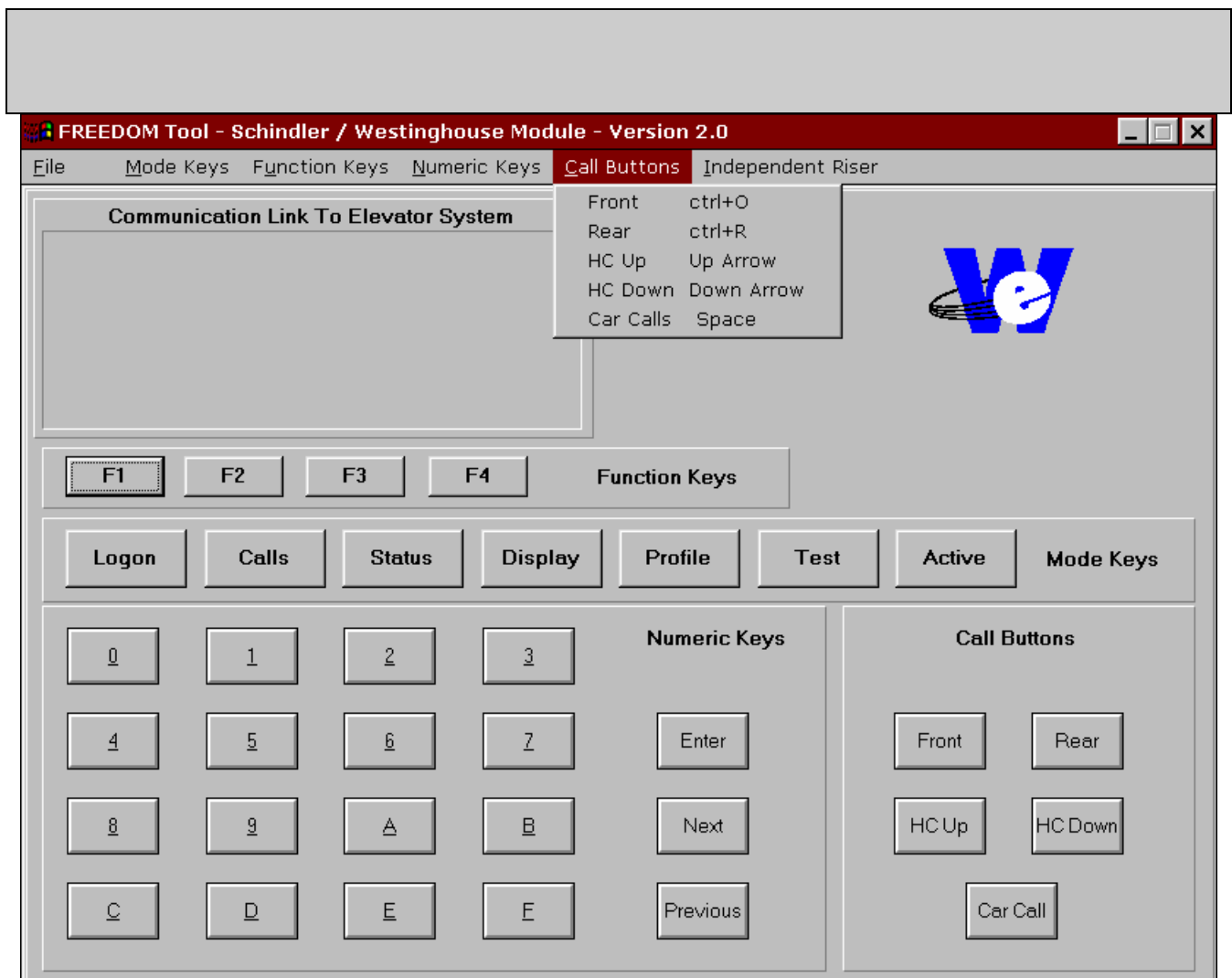
Figure 13

- Numeric Keys:  
Whenever data needs to be entered into a particular function within the Schindler/Westinghouse software module, the Numeric Keys as seen in Figure #14 will be used. Assigned to each option within the Numeric Keys menu selection are keyboard accelerator keys. The key that is used for the keyboard accelerator is the same as the label of the menu option, i.e. “A” for A, “Enter” for Enter, etc.



**Figure 14**

- **Call Buttons:**  
 When the user is in Call Mode, the Call Buttons may be used to alter between front and rear car calls, front and rear up hall calls, and front and rear down hall calls. These choices can be seen in Figure #15. All commands within the Call Buttons Menu have keyboard accelerators associated with them. Refer to the additional label beside the desired call command to use the appropriate keyboard accelerator.



**Figure 15**

- Independent Riser:  
The Independent Riser menu selections, refer to Figure #16, allow the user to enter an Independent Riser Call in the Up or Down direction. Not all elevator controllers use this feature.

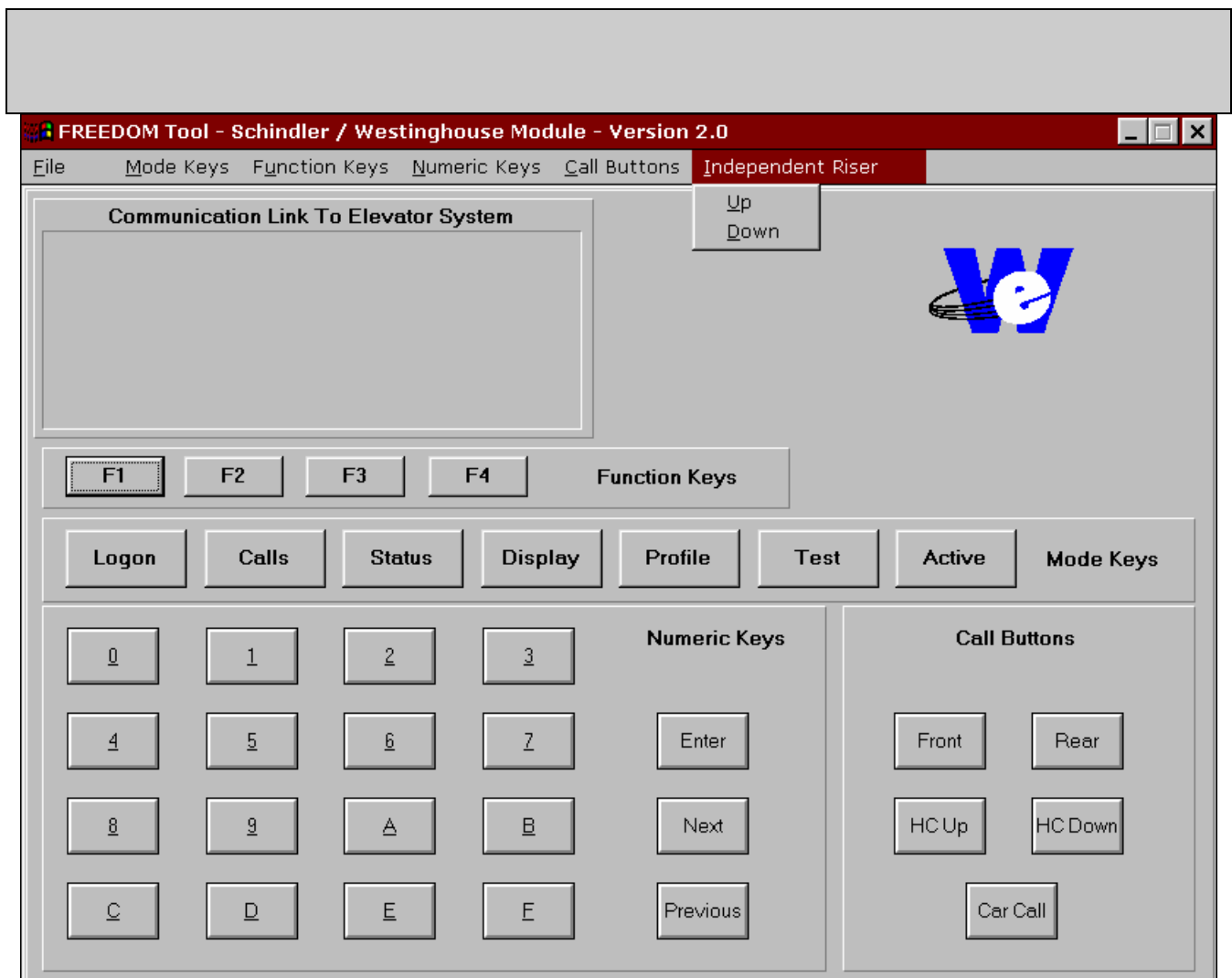


Figure 16

- **Screen Controls:**

The screen controls within the Schindler/Westinghouse software module can be broken up into four distinct sections. Each of these sections has a corresponding menu allowing the user three ways to enable the operation of each particular screen control. The four distinct sections within the screen controls are the Function Keys, Mode Keys Numeric Keys, and Call Buttons.

- **Mode Keys:**

The seven mode selections found under the menu choice “Mode Keys” place the tool into seven distinct modes of operation. These modes are Logon, Calls, Status, Display, Profile, Test, and Active. The modes and their corresponding accelerators are described as follows:

- **Logon:**

Logon Mode uses the keyboard accelerator “Ctrl + L”. Whenever the Control key is depressed along with the “L” key the command to logon onto the elevator system is given by the tool. If the elevator is ready to allow a user to Logon to it, the elevator will

respond to the tool with communication string "LOGON". Please refer to the section titled "Logging on to an Elevator system" for more detailed instructions on logging on.

- Calls:

The Call Mode of the Schindler / Westinghouse software module allows the user to perform various function with car and hall calls. The two main functions of this mode is to allow the user to set and display these calls. The Call Mode has "Ctrl + C" assigned to it as a keyboard accelerator. At any time within the Schindler/Westinghouse software module, depressing the Control key along with the "C" key will invoke the Call Mode of the tool. Please see the Call Mode section of the elevator system currently being diagnosed for more information on how it works.

- Status:

The keystrokes "Ctrl + S", Control and "S" simultaneously, will invoke the Status Mode of the Schindler/Westinghouse software module. The Status Mode shows the user the current operating status of the elevator in terms of car and group operation. Please see the Status Mode section of the elevator system currently being diagnosed for more information on how it works.

- Display:

Inputs, Outputs, and memory locations are among some of the things that are found within the Display Mode of the Schindler/Westinghouse software module. To invoke the Display Mode of the tool the user would either select the push button "Display" with the pointing device or use the keyboard accelerator "Ctrl + D". For more specific information on the operation of the Display Mode, please see the Display Mode section within the particular elevator system being diagnosed.

- Profile:

The Profile Mode of the Schindler/Westinghouse software module gives the user job-specific information on the elevator being diagnosed. Adjustments, timers, enabled floors, and security settings are among the choices that can be found within this mode. The keyboard accelerator "Ctrl + P" can be used to gain access to the Profile Mode. A more detailed description of the functionality of Profile Mode may be obtained under the section labeled "Profile Mode" within the specific elevator section of the elevator being diagnosed.

- Test:

When an individual device or I/O signal within the elevator system is desired to be diagnosed the user enables the Test Mode of the Schindler/Westinghouse software module. This mode is enabled by selecting the button labeled Test or using the keyboard accelerator "Ctrl + T". Note: In most cases the elevator must be on Hand Operation before Test Mode can be enabled. More detailed information on the Test Mode can be found in the Test Mode section of the specific elevator being diagnosed.

- Active:

Active Mode gives the user access to software specific features associated within a particular elevator system. This mode can be accessed by selecting the Active push

button within the Mode Keys section of the control window, or by selecting the keyboard accelerator "Ctrl + A". For a more detailed description of Active Mode for each elevator system.

- **Function Keys:**

The Function Keys section of the control window allows the user to choose several sub-modes or functions within each mode. Each Function Button labeled "F1" through "F4" corresponds to a label that will be placed directly above it in the window labeled "Communication Link to Elevator System". There are shortcuts assigned to these buttons which are a combination of the "Ctrl" key and the corresponding "F" key. Please review the appropriate mode section for the elevator system being diagnosed for more precise information on what the function keys do.

- **Numeric Keys:**

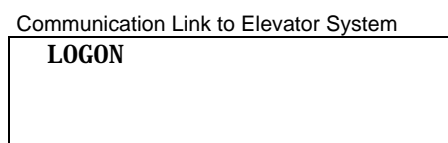
Whenever a function or mode require input from the user, the Numeric Keys section of the control window gives the user the interface required to enter this data. The Numeric Keys section contains a hexadecimal key set ranging from "0" to "F". It also has the necessary interfaces for going forward or backwards within a particular function and an Enter key to accept any data entered by the user. Each of these Numeric Keys has an accelerator assigned to it. The accelerator is the actual key represented by the text label on the button. For example: "A" key for the "A" button, "Enter" key for the "Enter" button, etc.

- **Call Buttons:**

The Call Buttons are used when the user is in the Call Mode. These buttons provide the user the necessary interface to enter and display car calls, hall calls, and specify whether the call is for front or rear. Each of these buttons has a corresponding shortcut.

- **Logging onto an Elevator System:**


When the user has properly connected to the elevator system being diagnosed and no tool has been logged on to the elevator for a period of five minutes, the Communication Link to Elevator System window will update with the number 5. This 5 is a signal to the user that the elevator is looking for a tool to log on to it. A new 5 will be sent approximately every two minutes until the tool logs onto the elevator. To log-on the user selects the Logon Mode by either using the menu, the push button, or the keyboard shortcut. Done successfully, the Communication Link to Elevator System Window will update with the text LOGON. Refer to Figure #17.



**Figure 17**

The text LOGON appearing is a signal to the user to enter the five digit logon code. This five digit logon code can be found printed on the EPROMS located on the Main Processor board in the system. The five digit code is actually the contract number affiliated with





installation/purchase of the elevator system. It has been found that this number can be written just about anywhere within the machine room, i.e. controller cabinet, electrical conduiting, walls, door. After the five digit code has been punched in, the user should select the Enter key to have the elevator accept or reject the logon code. If no response is given to the user through the Communication Link to Elevator System window, the LOGON code was rejected and the Logon procedure should be repeated. When the Communication Link to Elevator System window is updated, the elevator has accepted the tool's logon code and the user can continue using the different modes of the tool.

**Note:** If there is no communication to the elevator system after a period of five minutes, the elevator will start transmitting the 5 character over the Communication Link to Elevator System window until a Logon procedure is completed.

## System Information:

The information within the following sections gives detailed information on the operation of the tool in regards to each elevator system. Due to software changes within the elevator, the information described herein may be different than the actual operation of the tool with respect to the elevator system being communicated.

### 300A:

- **CALL Mode:**

Within the 300A diagnostic system car and hall calls may be entered and displayed through the tool. When the CALL Mode is initiated through the tool, the screen will update informing the user as to what mode the tool is in and the available functions. Refer to Figure #18.

```
Communication Link to Elevator System
CALL

DSP ENT TRGT
```

**Figure 18**

a **DSP:**

Used to display all registered car and hall calls. A "1" means a call is registered for that landing. "-" means no call is registered for that landing. Figures numbered #19 through #24 show the different methods to display car and hall calls.

Default: Front Car Calls:

Select: Calls and F1

```
Communication Link to Elevator System
CALL DSP F C
00-07 --1-----

DSP ENT TRGT
```

**Figure 19**

Rear Car Calls:  
Select: Calls and F1 and Rear

Communication Link to Elevator System

```
CALL DSP R C
00-07 1-----

DSP ENT TRGT
```

**Figure 20**

Front Up Hall Calls:  
Select: Calls and F1 and HC Up

Communication Link to Elevator System

```
CALL DSP F U
00-07 ---1-----

DSP ENT TRGT
```

**Figure 21**

Front Down Hall Calls:  
Select: Calls and F1 and HC Down

Communication Link to Elevator System

```
CALL DSP F D
00-07 -----1-

DSP ENT TRGT
```

**Figure 22**

Rear Up Hall Calls:  
Select: Calls and F1 and HC Up and REAR

Communication Link to Elevator System

```
CALL DSP R U
00-07 ---1-----

DSP ENT TRGT
```

**Figure 23**

Rear Down Hall Calls:  
Select: Calls and F1 and HC Down and REAR

```
Communication Link to Elevator System
CALL DSP R D
00-07 -1-1-----
DSP ENT TRGT
```

**Figure 24**

- a ENT:  
Used to register all car and hall calls. Figures #25 through #30 depict the different ways to register a call through the tool. Once a landing is entered the user can proceed to register a call at the previous or next landing by choosing the Previous or Next buttons respectively and then selecting Enter. When a call is entered the screen should update with the phrase "CALL ENTERED".

Default: Front Car Calls:  
Select: Calls and F2 and 01(Floor Number) and Enter

```
Communication Link to Elevator System
CALL ENT F C 01
CALL ENTERED
DSP ENT TRGT
```

**Figure 25**

Rear Car Calls:  
Select: Calls and F2 and REAR and 01(Floor Number) and Enter

```
Communication Link to Elevator System
CALL ENT R C 01
CALL ENTERED
DSP ENT TRGT
```

**Figure 26**

Front Up Hall Calls:  
Select: Calls and F2 and HC Up and 01(Floor Number) and Enter

```
Communication Link to Elevator System
CALL ENT F U 01
CALL ENTERED
DSP ENT TRGT
```

**Figure 27**

Front Down Hall Calls:  
Select: Calls and F2 and HC Down and 01(Floor Number) and Enter

Communication Link to Elevator System

```
CALL ENT F D 01  
CALL ENTERED  
  
DSP ENT TRGT
```

**Figure 28**

Rear Up Hall Calls:

Select: Calls and F2 and HC Up and REAR and 01(Floor Number) and Enter

Communication Link to Elevator System

```
CALL ENT R U 01  
CALL ENTERED  
  
DSP ENT TRGT
```

**Figure 29**

Rear Down Hall Calls:

Select: Calls and F2 and HC Down and REAR and 01(Floor Number) and Enter

Communication Link to Elevator System

```
CALL ENT R D 01  
CALL ENTERED  
  
DSP ENT TRGT
```

**Figure 30**

a TRGT:

The TRGT function of the Call Mode of the 300A tool allows the user to view the target floor for a particular car within the elevator system. Refer to Figure #31. To get into the target function the user needs to select Call Mode and F3.

Select: Calls and F3

Communication Link to Elevator System

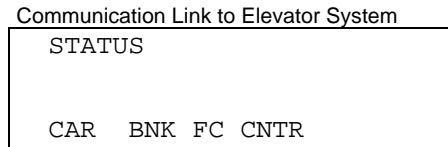
```
CALL TRGT S/C 00  
  
DSP ENT TRGT
```

**Figure 31**

- **Status Mode:**

To get information on the status of communication between the processor board and other components within the 300A elevator system can be viewed using the Status Mode. The ability to look at specific I/O and internal signals between individual cars and within a single car is given in the Status Mode. To enter the tool into Status Mode, the user needs to select the button labeled Status or select Status from the mode keys menu. A keyboard

shortcut of "Ctrl + S" will also enter the tool into Status Mode. Within the 300A elevator system Status has four functions associated with it. Refer to Figure #32. These functions are: CAR, BNK, FC, and CNTR. A brief description of these functions within Status Mode are described as follows.

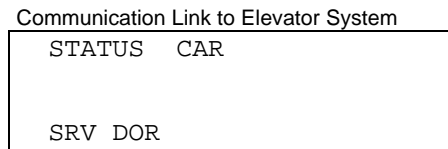


**Figure 32**

a CAR:

The CAR function of the Status Mode for the 300A module presents to the user the ability to view various input, internal, and error signals within the 300A elevator controller system (SRV) and door controller (DOR). To access the two sections within the Car status function the user would select the corresponding function buttons, F1 and F2 respectively. Refer to Figure #33.

To enter into the CAR function:  
Select: Status and F1

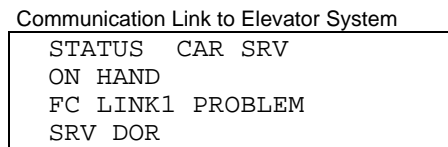


**Figure 33**

◆ SRV:

The SRV function of the CAR status function gives the user real time information on the current status of the elevator system. Refer to Figure #34. This screen is real time because it continually updates the screen with data describing the current state of the elevator system. When the elevator state changes this screen will update, informing the user to the problem the elevator is experiencing. Table #1 shows some of the possible descriptions given in the SRV function.

Select: Status and F1 and F1



**Figure 34**

457T TIMEOUT	NORMAL (O.K.)
FC LINK1 PROBLEM	OH NO-I'M LOST
BATTERY RAM ERR	ON A.P.E.

COLD OIL BYPASS	ON BLOCK OPER
DOIN A DUMMY RUN	ON CAR-TO-LOBBY
DOOR-CONTACT TRB	ON CODE BLUE
DOOR-LIMIT TRBL	ON EMT OPERATION
EM-PWR PRE-WARN	ON FIRE PHS-1
EMERGENCY STOP	ON FIRE PHS-2
EMP:CAR SELECTED	ON HAND
EMP:NOT SELECTED	ON HOSP EMERGENCY
FC 00/01 PROBLEM	ON IND SERVICE
FC LINK2 PROBLEM	PHOTO-SW ERROR
K40/K40A MSMATCH	R BYPASS ON
LOW OIL/AST TRBL	RE-LEVEL PROBLEM
NO FR-DOOR PWR	SAF-T-EDGE PROB
NO RR-DOOR PWR	WHEW IT'S HOT!
NO STAT-PNL-PWR	

**Table 1**

◆ DOR:

The DOR function of the CAR status function gives the user real time information on the current status of the elevator doors. Refer to Figure #35. This screen is real time because it continually updates the screen with data describing the current state of the doors. When the door state changes this screen will update informing the user to the problem the doors are experiencing. Table #2 shows some of the possible descriptions given in the DOR function. To get the status of the Rear door operation, the user should select the call button Rear. Refer to Figure #36.

Select: Status and F1 and F2

Communication Link to Elevator System	
STATUS	CAR FDOR
NORMAL DOORS	
FULLY CLOSED	
SRV DOR	

**Figure 35**

For Rear door status.  
 Select: Status and F1 and F2 and Rear

Communication Link to Elevator System

STATUS	CAR	RDOR
		ON NUDGING
		CLOSING
		SRV DOR

**Figure 36**

CLOSING	NORMAL DOORS
EMT DOORS	ON NUDGING
FULLY CLOSED	OPENING
FULLY OPENED	PHASE I DOORS
IS/HE DOORS	PHASE II DOORS
NO DOOR OPENING	RR-DOORS UNAVAIL
NO DOOR POWER	SPECIAL DOORS

**Table 2**

a **BNK:**

The bank or group status function within the 300A elevator system displays several internal signals within the group operation of the elevator system. The Bank status window displays the signal name, car number, and current signal status for the group. Refer to Figure #37 through #54. To move forward and backward through the list of bank status signals the Next and Previous buttons may be used respectively. A “1” means the condition is true for the signal name for that car. A “0” means the signal name has a False condition for that car. A table of all the available BNK signals and their description can be found in Table #3.

**Group Communication Status (COMP)**

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
COMP	1	0	0	0
CAR	BNK	FC	CNTR	

**Figure 37**

**Dispatch Controller (DISP)**

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
DISP	0	1	0	0
CAR	BNK	FC	CNTR	

**Figure 38**



Master Controller (FCMS)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
FCMS	0	1	0	0
CAR	BNK	FC	CNTR	

**Figure 39**

Floor Communication Link(FC) Problem (FC1P)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
FC1P	0	1	0	0
CAR	BNK	FC	CNTR	

**Figure 40**

Cars currently in-service (INSV)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
INSV	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 41**

Cars currently available for service (AVAS)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
AVAS	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 42**

Cars traveling in the Up direction (UPTR)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
UPTR	0	1	0	0
CAR	BNK	FC	CNTR	

**Figure 43**

Car currently servicing a call in the Up direction (UPSV)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
UPSV	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 44**

Landing where car will be stopping (AVP)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
AVP	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 45**

Door is closed or closing (DRCL)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
DRCL	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 46**

Safety Circuit complete (K29)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
K29	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 47**

Car in Leveling zone (LVZN)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
LVZN	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 48**

## Extended Leveling (EXLV)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
EXLV	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 49**

## Car operating at decelerated speed (DEC)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
DEC	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 50**

## Cars on Independent Service (INDS)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
INDS	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 51**

## Cars on Fire Service (FIRE)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
FIRE	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 52**

## Anti-Stall Timer (AST)

Communication Link to Elevator System

STATUS	BANK			
CAR #	0	1	2	3
AST	0	0	0	0
CAR	BNK	FC	CNTR	

**Figure 53**

## Oil Temperature Problem (TEMP)

### Communication Link to Elevator System

STATUS	BANK
CAR #	0 1 2 3
TEMP	0 0 0 0
CAR	BNK FC CNTR

**Figure 54**

**Note:** Bank status may only be viewed if the car being diagnosed is part of a group operation. If the car is in simplex operation a message of SINGLE CAR SYS will appear within the Communication Link to Elevator System window. Refer to Figure #55.

### Communication Link to Elevator System

STATUS	BANK
SINGLE CAR SYS	
CAR	BNK FC CNTR

**Figure 55**

Signal:	Description:
AST	Anti-stall timer
AVAS	Available for service
AVP	Advanced landing position
COMP	Communication status
DEC	Car operating at decelerated speed
DISP	Dispatch controller
DRCL	Door closed
EXLV	Extended leveling
FC1P	Floor communications link #1 problem
FCMS	Master controller
FIRE	Fire service
INDS	Independent service
INSV	In service
K29	Safety circuit
LVZN	Leveling zone
TEMP	Oil-temperature problem
UPSV	Car servicing call in UP direction
UPTR	Car traveling in UP direction

**Table 3**

**a FC:**

All car I/O are connected to the processor by means of a serial link. The FC function displays to the user the status of this serial link to these car I/O boards, hall I/O boards, and the status panel boards. If no problem exists within the serial link a status of COMM OK will appear within the communications link window. Otherwise the term, COMM PROBLEM, will appear and the number of the board with the communication

problem will be listed. Figures #56 through #61 show when the I/O board communications link is good and when it is bad for the three I/O board locations.

For car I/O board communication status:

Select: Status and F3 and F1

Communication Link to Elevator System

STATUS FC CAR  
COMM OK

CAR HALL SPB

**Figure 56**

Communication Link to Elevator System

STATUS FC CAR  
COMM PROBLEM

CAR HALL SPB

**Figure 57**

For hall I/O board communication status:

Select: Status and F3 and F2

Communication Link to Elevator System

STATUS FC HALL  
COMM OK

CAR HALL SPB

**Figure 58**

Communication Link to Elevator System

STATUS FC HALL  
COMM PROBLEM

CAR HALL SPB

**Figure 59**

For Status Panel board communication status:

Select: Status and F3 and F3

Communication Link to Elevator System

STATUS FC SPB  
COMM OK

CAR HALL SPB

**Figure 60**

Communication Link to Elevator System

STATUS F C  
STAT-PNL UNAVAIL


CAR HALL SPB

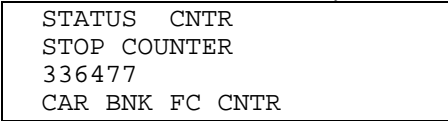
**Figure 61**

a CNTR:

Every time the elevator enters into a high speed run, the Stop Counter function found within the Status Mode of the tool increments in value. Refer to Figure #62. This value is a registry of the number of times the elevator has entered into a high speed run within its lifetime. Like an odometer on a car, this number can not be reset, but when it reaches 999999 the counter will roll over to all 0's.

Select: Status and F4.

Communication Link to Elevator System



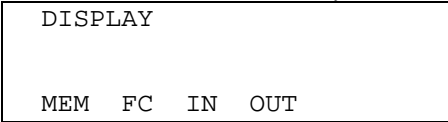
STATUS CNTR  
STOP COUNTER  
336477  
CAR BNK FC CNTR

**Figure 62**

- **Display Mode:**

The Display Mode is used to show the user the operating values of a specific location within the elevator system. Specifically the Display Mode of the tool allows the user to see these values within the elevator's memory, car I/O ports, hall I/O ports, Status Panel I/O ports, input signals, and output signals. To enter the tool into Display Mode, the user needs to select the button labeled Display or select Display from the mode keys menu. A keyboard shortcut of "Ctrl + D" will also enter the tool into Display Mode. Within the 300A elevator system Display Mode has four functions associated with it. Refer to Figure #63. These functions are: MEM, FC, IN, and OUT. A brief description of these functions within Display Mode are described as follows.

Communication Link to Elevator System



DISPLAY  
  
MEM FC IN OUT

**Figure 63**

a MEM:

The memory function of the 300A diagnostic tool allows the user to view specific memory addresses within the elevator system. To enter into the memory function, the user would first select the button Status and then F1. Refer to Figure #64. After the MEM function is invoked, the user must enter a 4 byte hex address for the memory location desired to be viewed. Refer to figure #65. When this hex address has been completed the Enter push button is pressed to send it to the elevator system for a response to the tool. Refer to Figure #66. To move to the previous or next memory address the buttons labeled Previous and Next may be used respectively.

Select: Status and F1.

```
Communication Link to Elevator System
DISPLAY

MEM FC IN OUT
```

**Figure 64**

Select: 0008 (Memory Address).

```
Communication Link to Elevator System
DISP MEM 0008

MEM FC IN OUT
```

**Figure 65**

Select: Enter.

```
Communication Link to Elevator System
DISPLAY MEM 0008
11 11 21 40
4D 38 03 49
MEM FC HFC STP
```

**Figure 66**

a FC:

An I/O state of a car I/O board may be viewed using the FC function of the Display Mode. Refer to Figure #67. When the FC function is selected the user must decide whether they desire to look at the I/O of an Car I/O board, a Hall I/O board, or a Status Panel board. When the type of board is selected the user must enter the number of the I/O location they desire to look at. When the location number is entered and the Enter key is selected the elevator will respond showing the twelve Input and twelve output bits of the board. Refer to Figure #68 through #72.

Select: Display and F2.

Communication Link to Elevator System

DISP	FC	
CAB	HALL	SPB

**Figure 67**

Select the Type of Board:

For Car FC:

Select: F1

Communication Link to Elevator System

DISP	CAB	FC
CAB	HALL	SPB

**Figure 68**

For Hall FC:

Select F2

Communication Link to Elevator System

DISP	HALL	FC
CAB	HALL	SPB

**Figure 69**

For Status Panel FC:

Select F3

Communication Link to Elevator System

DISP	SPB-	
CAB	HALL	SPB

**Figure 70**



Select: 001 (FC Board Number).

Communication Link to Elevator System

```
DISP CAB FC 001
```

```
CAB HALL SPB
```

**Figure 71**

Select: Enter.

Communication Link to Elevator System

```
DISP CAB FC 001
```

```
IN 110101101011
```

```
OUT 100101010011
```

```
CAB HALL SPB
```

**Figure 72**

a IN:

The IN function of the Display Mode allows the user to view and diagnose signals coming into and internal to the 300A system. Within the IN function is a listing of signals listed four at a time with their current value. Refer to Figure #73. At any time the user may proceed to the previous or next group of signals by selecting the buttons titled Previous and Next. All signal information displayed within the IN function is continuously updated through the tool's communication protocol. Figures #74 through #79 show the input signals within a 300A elevator system. A list of all of the input signals found within this function can be seen in Table #4.

Select: Display and F3.

Communication Link to Elevator System

```
DISP INPUTS
```

```
KTS1 1 KTS2 1
```

```
KSTE 1 KSTER 0
```

```
MEM FC IN OUT
```

**Figure 73**

Communication Link to Elevator System

```
DISP INPUTS
```

```
KDOL 0 KDCL 1
```

```
KDOB 0 KDCBR 0
```

```
MEM FC IN OUT
```

**Figure 74**

Communication Link to Elevator System

DISP	INPUTS		
KHU	0	KLU	1
KHD	0	KLD	1
MEM	FC	IN	OUT

**Figure 75**

Communication Link to Elevator System

DISP	INPUTS		
KHEM	0	KHCS	0
KFMCM	0	KEMTC	0
MEM	FC	IN	OUT

**Figure 76**

Communication Link to Elevator System

DISP	INPUTS		
KHOLD	0	KFCR	0
KTS1R	0	KTS2R	0
MEM	FC	IN	OUT

**Figure 77**

Communication Link to Elevator System

DISP	INPUTS		
KDOBR	0	KDCBR	0
KDOLR	0	KDCLR	0
MEM	FC	IN	OUT

**Figure 78**

Communication Link to Elevator System

DISP	INPUTS		
KTSA	0		
MEM	FC	IN	OUT

**Figure 79**

Signal:	Description:
KDCB	Door close button
KDCBR	Rear door close button
KDCL	Door closing
KDCLR	Rear door closing
KDOB	Door open button
KDOBR	Rear door open button
KDOL	Door opening
KDOLR	Rear door opening
KEMTC	Emergency medical operation
KFCR	Fire service recall
KFMCM	Phase II fire service ON position
KHCS	Handicap operation push button
KHD	Down slowdown
KHEM	Hospital emergency
KHOLD	Phase II fire service HOLD position
KHU	Up slowdown
KLD	Level down
KLU	Level up
KSTE	Safety edge
KSTER	Rear safety edge
KTS1	Safety ray
KTS1R	Rear safety ray
KTS2	Safety ray
KTS2R	Rear safety ray
KTSA	Safety ray cutout

**Table 4**

a OUT:

The OUT function of the Display Mode allows the user to view and diagnose signals leaving the 300A system to the various operating devices. Within the OUT function is a listing of signals listed four at a time with their current value. Refer to Figure #80. At any time the user may proceed to the previous or next group of signals by selecting the buttons titled Previous and Next. All signal information displayed within the OUT function is continuously updated through the tool's communication protocol. Figures #81 through #83 show the output signals within an 300A elevator system. A list of all of the output signals found within this function can be seen in Table #5.

Select: Display and F3.

Communication Link to Elevator System

DISP    OUTPUTS			
DOPEN	0	DCLS	1
DNUDG	0	DSTE	0
MEM	FC	IN	OUT

**Figure 80**

Communication Link to Elevator System

DISP	OUTPUTS		
DOPNR	0	DCLSR	0
DNDGR	0	DSTER	0
MEM	FC	IN	OUT

**Figure 81**

Communication Link to Elevator System

DISP	OUTPUTS		
DFRL	0	DEMTC	0
DCLU	0	DCLD	0
MEM	FC	IN	OUT

**Figure 82**

Communication Link to Elevator System

DISP	OUTPUTS		
SOVD2	0	DTONE	0
MEM	FC	IN	OUT

**Figure 83**

Signal:	Description:
DCLD	Cab lantern down
DCLS	Close front door
DCLSR	Rear door close
DCLU	Cab lantern up
DEMTC	Emergency medical operation light
DFRL	Fire service light
DNDGR	Rear door nudging
DNUDG	Front door nudging
DOPEN	Open front door
DOPNR	Open rear door
DSTE	Front door safety edge
DSTER	Rear door safety edge
DTONE	Car chime
SOVD2	Car stop output

**Table 5**

- **Profile Mode:**

The Profile Mode in the 300A elevator system shows features of the elevator system that are job specific. These features that the Profile Mode allows the user to view are the lights that are enabled, field programmable adjustments, programmable digital position indicators, and security access codes. To enter into Profile Mode, the user would do one of the following three things: 1) Select the menu item Profile under the Mode Keys menu, 2) Select the button labeled Profile in the control screen, 3) Use the keyboard shortcut Ctrl + P. Once in Profile Mode four functions are displayed to the user: ENA, ADJ, DPI, LOCK. Refer to Figure #84. Select one of the Function keys to call up one of these functions.

Communication Link to Elevator System

PROFILE

ENA ADJ DPI LOCK

**Figure 84**

a ENA:

The enables mode allows the user to view which floors are active or enabled in the elevator system being diagnosed. An enabled floor is represented by the numeric character "1", while a disabled floor is represented by a "-". Refer to Figure #85. The enables function shows the enabled landings for both the front and rear landings.

To view the enabled landings.

Select: Profile and F1.

Communication Link to Elevator System

PROFILE ENABLES

FLOORS 01234567

FRONT: 111-----

REAR: -----

**Figure 85**

a ADJ:

The ADJ function found within the Profile Mode gives the user the ability to alter several field adjustable variables. Some of the field adjustable variables that can be found within the ADJ function are door times and floor lockouts. The user can enter into the ADJ function by: 1) Selecting Profile and then 2) Selecting ADJ. Once in ADJ the Communications Link to Elevator System window will appear as in Figure #86. In the ADJ function are controls that the user can select to increase the adjustment value, decrease the adjustment value, save the current adjustment value to RAM. Also, the Enter key can be used to toggle from the top adjustment to the bottom one. The Previous and Next keys can be used to progress forward and backward through the adjustment list. Refer to Figures #87 through #94. A list of the possible adjustments with their meaning, range, and default value can be viewed in Appendix B.

Select: Profile and F2

Communication Link to Elevator System

PROFILE ADJUST

DR-OPN TIME=06.0

S-DOPN TIME=03.0

INC DEC SAV

**Figure 86**

Communication Link to Elevator System

```
PROFILE ADJUST
NUDGING FTR= Y
NDGING TIME=20.0
INC DEC SAV
```

**Figure 87**

Communication Link to Elevator System

```
PROFILE ADJUST
STALL -TIME=08.0
LBY TS-TIME=02.0
INC DEC SAV
```

**Figure 88**

Communication Link to Elevator System

```
PROFILE ADJUST
COR TS-TIME=01.5
CAR TS-TIME=23.0
INC DEC SAV
```

**Figure 89**

Communication Link to Elevator System

```
PROFILE ADJUST
CLDOIL-mins= 05
MAIN FLOOR = 00
INC DEC SAV
```

**Figure 90**

Communication Link to Elevator System

```
PROFILE ADJUST
PARKING FLR= 00
PRK DOR-OPR= 01
INC DEC SAV
```

**Figure 91**

Communication Link to Elevator System

```
PROFILE ADJUST
C-CALL TONE= N
EMP 1ST CAR= 01
INC DEC SAV
```

**Figure 92**

Communication Link to Elevator System

```
PROFILE ADJUST  
EMP 2ND CAR= 01  
EMP 3RD CAR= 02  
INC DEC SAV
```

**Figure 93**

Communication Link to Elevator System

```
PROFILE ADJUST  
EMP 4TH CAR= 03  
  
INC DEC SAV
```

**Figure 94**

a DPI:

The 300A gives the user the ability to adjust the digits displayed on the Digital Position Indicators found throughout the elevator system. The 300A's digital PI's can display just about any ASCII character. The DPI function gives the user the ability to customized characters for both the left and the right characters on a digital PI for each individual landing the elevator is at. The user can enter into the DPI function by: 1) Selecting Profile and then 2) Selecting DPI. Once in DPI the Communications Link to Elevator System window will appear as in Figure #95. In the DPI function are controls that the user can select to increase(INC) the adjustment value, decrease(DEC) the adjustment value, and save(SAV) the current adjustment value to RAM. The Previous and Next keys can be used to progress forward and backward through the floor number list for the digital PI. A press of the Enter button will toggle between left and right PI characters. Refer to Figures #96 through #105.

Select: Profile and F3

Communication Link to Elevator System

```
PROFILE DPI 00  
LEFT PI CHAR =  
  
INC DEC SAV
```

**Figure 95**

To Increment:

Select: F1


Communication Link to Elevator System

```
PROFILE DPI 00  
LEFT PI CHAR = A  
  
INC DEC SAV
```

**Figure 96**

Communication Link to Elevator System

```
PROFILE DPI 00
```



```
LEFT PI CHAR = B
INC DEC SAV
```

**Figure 97**

To Decrease:  
Select: F2

```
Communication Link to Elevator System
PROFILE DPI 00
LEFT PI CHAR = 3
INC DEC SAV
```

**Figure 98**

```
Communication Link to Elevator System
PROFILE DPI 00
LEFT PI CHAR = 2
INC DEC SAV
```

**Figure 99**

To toggle from left to right:  
Select: Enter

```
Communication Link to Elevator System
PROFILE DPI 00
RGHT PI CHAR = 3
INC DEC SAV
```

**Figure 100**

```
Communication Link to Elevator System
PROFILE DPI 00
RGHT PI CHAR = 2
INC DEC SAV
```

**Figure 101**



To move to the next landing:  
Select: Next

Communication Link to Elevator System

```
PROFILE DPI 02
LEFT PI CHAR = 3

INC DEC SAV
```

**Figure 102**

Communication Link to Elevator System

```
PROFILE DPI 03
LEFT PI CHAR = 4

INC DEC SAV
```

**Figure 103**

To move to the Previous landing:  
Select: Previous

Communication Link to Elevator System

```
PROFILE DPI 01
LEFT PI CHAR = 1

INC DEC SAV
```

**Figure 104**

Communication Link to Elevator System

```
PROFILE DPI 00
LEFT PI CHAR = B

INC DEC SAV
```

**Figure 105**

a LOCK:

The 300A elevator controller has the ability of using security access codes to allow access to a car call. When the elevator's security access code is enabled the elevator operator must punch in his code with the car call buttons of the elevator. The LOCK function of the Profile Mode allows the user to view and change the access codes for the floors contained within the elevator. To enter into the LOCK function of the Profile Mode, the user needs to select Profile and then F4. Refer to Figure #106. After the LOCK function has been entered, the user needs to select a landing in which to view or set up the access code. Refer to Figure #107. If the security feature is not enabled in the elevator firmware, the Communication Link to Elevator System window will show "DOES NOT EXIST". Refer to Figure #108. Front and rear calls can have their security features set by selecting the button labeled Front or Rear before entering a floor value. Refer to Figure #109 and #110. Once the desired landing is selected and the button access code is displayed, Figure #111, the user is given new function options of UPDT and SAV.

Select: Profile and F4

Communication Link to Elevator System

```
PROFILE SECURITY
FRNT OPNG

UPDT SAV
```

**Figure 106**

Default: Front Opening

Communication Link to Elevator System

```
PROFILE SECURITY
FRNT OPNG

UPDT SAV
```

**Figure 107**

For Rear opening:  
Select: Rear

Communication Link to Elevator System

```
PROFILE SECURITY
REAR OPNG

UPDT SAV
```

**Figure 108**

Elevator not programmed for security access:

Communication Link to Elevator System

```
PROFILE SECURITY
DOES NOT EXIST

ENA ADJ DPI LOCK
```

**Figure 109**

Select: Type in 1 (Landing Number) and Enter

Communication Link to Elevator System

```
PROFILE SECURITY
FRNT OPNG 1
HAS CODE 0,1,1
UPDT SAV
```

**Figure 110**

- ◆ UPDT:  
The UPDT function within the LOCK function of the Profile Mode, allows the user to change the buttons necessary to log a car call into the elevator when the elevator is on security operation. Refer to Figure #111. After the UPDT function is selected

the user will type in the three numbers corresponding to the car call buttons located within the elevator system. Refer to figure #112. Remember that the highest number possible for an access code digit is the highest available floor within the elevator system. Once the three digits of the access code have been updated the user will select enter to register the new access number into the elevator system.

Select: F1

```
Communication Link to Elevator System
PROFILE SECURITY
FRNT OPNG 1
ENT CODE
UPDT SAV
```

**Figure 111**

Select: Type in 230 (New 3 digit Access Code) and Enter

```
Communication Link to Elevator System
PROFILE SECURITY
FRNT OPNG 1
ENT CODE 2,3,0
UPDT SAV
```

**Figure 112**

◆ SAV:

The SAV function allows the user to save the button access code for the selected floor. When the SAV function has been selected the Communication Link to Elevator System window will update to "SAVE SECURITY". Refer to Figure #113.

Select: F2

```
Communication Link to Elevator System
PROFILE SECURITY
SAVE SECURITY

UPDT SAVED
```

**Figure 113**

● **Active Mode:**

The Active Mode gives the user the ability to activate the Hospital Emergency and Emergency Power features of the elevator system. Also found within the Active Mode are function that allow the user to view and set the Real-Time clock and view active error signals within the elevator system. These functions have the labels HEM, PWR, CLK, and ERR respectively. Refer to Figure #114.

To enter into Active Mode:

Select: Active

Communication Link to Elevator System



ACTIVE
HEM PWR CLK ERR

**Figure 114**

a HEM:

The HEM function of the Active Mode allows the user to enable or disable the hospital Emergency Service operation, when available. The active and inactive state of the Hospital Emergency Service can be toggled by selecting the HEM function. Refer to Figures #115 and #116. If the HEM function is not programmed or available in the elevator system the Communication Link to Elevator System window will appear with a label of UNAVAILABLE. Refer to Figure #117.

To activate Hospital Emergency Service:  
 Select: Active and F1

Communication Link to Elevator System	
ACTIVE	HEM
HEM	ACTIVE
HEM PWR CLK ERR	

**Figure 115**

To de-activate Hospital Emergency Service:  
 Select: Active and F1

Communication Link to Elevator System	
ACTIVE	HEM
HEM	INACTIVE
HEM PWR CLK ERR	

**Figure 116**

If Hospital Emergency Service can't be Activated the communications link window will appear with the label UNAVAILABLE.

Communication Link to Elevator System

```
ACTIVE  HEM
UNAVAILABLE

HEM PWR CLK ERR
```

**Figure 117**

a PWR:

To activate the special power (emergency power) operation of the elevator the user can select the function PWR. When selected, the PWR function places the SP/TDS Power setting into either a function or overridden state. To toggle between these two states the user needs to select the PWR function till the desired state appears. Refer to Figures #118 and #119.

To make the emergency power switch functional:  
Select: Active and F2

Communication Link to Elevator System

```
ACTIVE  PWR
SP/TDS POWER SW
FUNCTIONAL
HEM PWR CLK ERR
```

**Figure 118**

To override the emergency power switch:  
Select: Active and F2

Communication Link to Elevator System

```
ACTIVE  PWR
SP/TDS POWER SW
OVERRIDDEN
HEM PWR CLK ERR
```

**Figure 119**

a CLK:

To view the current status of the real-time clock, the user would invoke the CLK function of the Active Mode. If the real-time clock is available the current time and date set up in the elevator will be displayed. If the real-time clock is not present the Communication Link to Elevator System window will display "UNAVAILABLE". Refer to Figures #120 and #121.

To view the real time clock:  
Select: Active and F3

Communication Link to Elevator System

ACTIVE	CLOCK
REAL-TIME	CLOCK
11:43	06-03-97
HEM PWR	CLK ERR

**Figure 120**

If the Real-Time clock is not present:  
Select: Active and F3

Communication Link to Elevator System

ACTIVE	CLOCK
REAL-TIME	CLOCK
NOT	AVAILABLE
HEM PWR	CLK ERR

**Figure 121**

a ERR:

The 300A software has a mode where error signals and their current states can be viewed. These error signals are updated continuously while the elevator power is on. To view the 300A's error codes, the user enters into Active Mode and selects F1 for the ERR function. A brief description of the error codes, and how they are displayed to the user are shown in Figures #122 through #126. The error list can be moved forward and backward by selecting the Previous and Next keys. Table #6 shows the names and descriptions of the error signals found within the 300A elevator system.

To view the active error signals:

Select: Active and F4

Communications Trouble (COMTRB)

Car I/O Board Communications Trouble (FCTRB)

Communication Link to Elevator System

ACTIVE	ERRORS
COMTRB	00
FCTRB	48
HEM PWR	CLK ERR

**Figure 122**

Hall I/O Board Communications Trouble (HFCTRB)  
8256 MUART Initializations (MUIZ)

Communication Link to Elevator System

ACTIVE	ERRORS
HFCTRB	56
MUIZ	41
HEM PWR CLK ERR	

**Figure 123**

Non-Volatile RAM Problems (NVRMBD)  
CPU Resets (RESET)

Communication Link to Elevator System

ACTIVE	ERRORS
NVRMBD	00
RESET	20
HEM PWR CLK ERR	

**Figure 124**

Front Door Stuck (TDS1ER)  
Rear Door Stuck (TDS2ER)

Communication Link to Elevator System

ACTIVE	ERRORS
TDS1ER	00
TDS2ER	00
HEM PWR CLK ERR	

**Figure 125**

Timer Trouble (TRMTRB)

Communication Link to Elevator System

ACTIVE	ERRORS
TRMTRB	00
HEM PWR CLK ERR	

**Figure 126**



Signal:	Description:	States:
COMTRB	Communications Trouble Count	Number of times communications has failed
FCTRB	Car I/O (Link #1) Communications Trouble	Indicates number of times communications failed to a single Car I/O Board on Link #1
HFCTRB	Hall I/O (Link #2) Communications Trouble	Indicates number of times communications failed to a single hallway I/O Board on Link #2
MUIZ	8256 Multifunctional Universal Asynchronous Receiver-Transmitter Initializations	Number of times the 8256 MUART has reset
NVRMBD	Non-Volatile RAM Error Conditions	Condition of Battery backed RAM (1 = Bad, 0 = Good)
RESET	CPU Reset Count	Number of times CPU has been reset
TDS1ER	Front Door Stuck	1 = Front doors stuck, 0 = Front doors OK
TDS2ER	Rear Door Stuck	1 = Rear doors stuck, 0 = Rear door OK
TMRTRB	Timer Trouble Counter	Indicates number of times an error timer has timed out

Table 6

- **Test Mode:**

The Test Mode can be used to test the functionality of PI's, Hall Lanterns, Car I/O Board operations, and Hall I/O Board operation. To enter into Test Mode the elevator must be on Hand operation or inspection. Refer to Figure #127. Once the car is on inspection these tests can be performed. Test Mode can be entered by selecting Test from the Mode Keys menu, selecting the Test push button, or using the Ctrl + T accelerator. The different functions located within the Test Mode are described as follows:

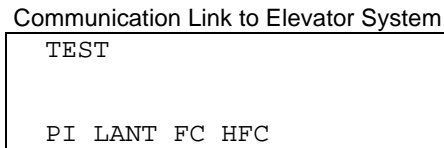


Figure 127

- a PI:

The PI function of the Test Mode allows the user to test the functionality of the horizontal and digital PI's. Once the PI function is entered, the user needs to enter in the floor number for the PI location desired to be tested. After the floor location is entered, the communication link will update the screen to show the item is activated.



Refer to Figures #128 through #129. When an item is activated, the user can then go to the device and check its condition.

To perform a PI test:

Select: TEST and F1

```
Communication Link to Elevator System
TEST PI

PI LANT FC HFC
```

**Figure 128**

Select: 02(Floor Number) and Enter

```
Communication Link to Elevator System
TEST PI      02
PI ACTIVATED

PI LANT FC HFC
```

**Figure 129**

a LANT:

LANT test, of the Test Mode, allows the user to determine the functionality of the hall lanterns of the 300A elevator system. When the user implements the LANT function of the Test Mode and then enters a landing number, the Hall lantern on that landing will light. Refer to Figures #130 through #133. The user has the ability to choose which lantern, up or Down direction, to light by selecting the HC Up or HC Down call button.

Default: Up Lantern test:

Select: TEST and F2

```
Communication Link to Elevator System
TEST LANT UP

PI LANT FC HFC
```

**Figure 130**

Select: 01(Floor Number) and Enter

```
Communication Link to Elevator System
TEST LANT UP 01
LANT ACTIVATED

PI LANT FC HFC
```

**Figure 131**

To perform a Down Lantern test

Select: TEST and F2

Communication Link to Elevator System

TEST LANT DN

PI LANT FC HFC

**Figure 132**

Select: 02(Floor Number) and Enter

Communication Link to Elevator System

TEST LANT DN 02

LANT ACTIVATED

PI LANT FC HFC

**Figure 133**

a FC:

By using the FC function of the Test Mode, the user can send signals to the different output ports of the Car I/O boards. Refer to Figures #134 and #135.

To perform a Car I/O test:

Select: TEST and F3

Communication Link to Elevator System

TEST FC

PI LANT FC HFC

**Figure 134**

Select: 01(Board Number) and 04(Port Number) and Enter

This sends a signal to the Door Open Push Button for the Front Door.

Communication Link to Elevator System

TEST FC 01-04

ACTIVATED

PI LANT FC HFC

**Figure 135**

a HFC:

A user can send signals to the different output ports of the Hoistway I/O boards by selecting the HFC function found within the Test Mode of the tool. Refer to Figures #136 and #137.

To perform a Hall I/O test:

Select: TEST and F4

Communication Link to Elevator System

TEST HFC

PI LANT FC HFC

**Figure 136**

Select: 03(Board Number) and 05(Port Number) and Enter  
This is the 4<sup>th</sup> Landing Down Push Button.

Communication Link to Elevator System

TEST HFC 03-05

ACTIVATED

PI LANT FC HFC

**Figure 137**

## Appendix A: FREEDOM Tool Shortcut Keys

Shortcut Key	Function
Ctrl - X	Exit software
Ctrl - L	Logon Mode
Ctrl - C	Call Mode
Ctrl - S	Status Mode
Ctrl - D	Display Mode
Ctrl - P	Profile Mode
Ctrl - T	Test Mode
Ctrl - A	Active Mode
Ctrl - F1	F1
Ctrl - F2	F2
Ctrl - F3	F3
Ctrl - F4	F4
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
A	A
B	B
C	C
D	D
E	E
F	F
←, Left Arrow	Previous
→, Right Arrow	Next
Ctrl - O	Front
Ctrl - R	Rear
↑, Up Arrow	Hall Call Up
↓, Down Arrow	Hall Call Down
Space Bar	Car Calls

## Appendix B: Contract Adjustments

Adjustment Title:		
Door Open Time	Floor 0 Digital PI Most Significant Digit	Rear Call Lockout Switch 0
Short Door Open Time	Floor 0 Digital PI Least Significant Digit	Rear Call Lockout Switch 1
Stall Time	Floor 1 Digital PI Most Significant Digit	Rear Call Lockout Switch 2
Nudging	Floor 1 Digital PI Least Significant Digit	Rear Call Lockout Switch 3
Nudging Time	Floor 2 Digital PI Most Significant Digit	Rear Call Lockout Switch 4
Momentary Door Open Push Button	Floor 2 Digital PI Least Significant Digit	Rear Call Lockout Switch 5
Main Floor	Floor 3 Digital PI Most Significant Digit	Rear Call Lockout Switch 6
Main Traffic Time	Floor 3 Digital PI Least Significant Digit	Rear Call Lockout Switch 7
Call Entry Tone	Floor 4 Digital PI Most Significant Digit	Rear Call Lockout Switch 8
Car Traffic Time	Floor 4 Digital PI Least Significant Digit	Rear Call Lockout Switch 9
Continuous Door Open Push Button	Floor 5 Digital PI Most Significant Digit	Rear Call Lockout Switch 10
Corridor Traffic Time	Floor 5 Digital PI Least Significant Digit	Rear Call Lockout Switch 11
Off At Return Floor	Floor 6 Digital PI Most Significant Digit	1 <sup>st</sup> Button Access Digit
Two Alternate Parking Landings	Floor 6 Digital PI Least Significant Digit	2 <sup>nd</sup> Button Access Digit
Lobby DOB Per Car	Floor 7 Digital PI Most Significant Digit	3 <sup>rd</sup> Button Access Digit
Lobby Door Open	Floor 7 Digital PI Least Significant Digit	Emergency Power Car 1
2 <sup>nd</sup> Alternate Parking Floor	Front Call Lockout Switch 0	Emergency Power Car 2
Parking Door Cycle	Front Call Lockout Switch 1	Emergency Power Car 3
Parking Floor	Front Call Lockout Switch 2	Emergency Power Car 4
Always Present DOB	Front Call Lockout Switch 3	
Emergency Power 2 Car Service	Front Call Lockout Switch 4	
Front Door Operator Type	Front Call Lockout Switch 5	
Rear Door Operator Type	Front Call Lockout Switch 6	
Fire Service Alternate Landing	Front Call Lockout Switch 7	
Fire Service Dispatch Floor	Front Call Lockout Switch 8	
Fire Service Call Cancel Button	Front Call Lockout Switch 9	
Fire Service Operation	Front Call Lockout Switch 10	
Flashing Sign	Front Call Lockout Switch 11	