MODEL 611

MONITOR/TEST SYSTEM SOFTWARE

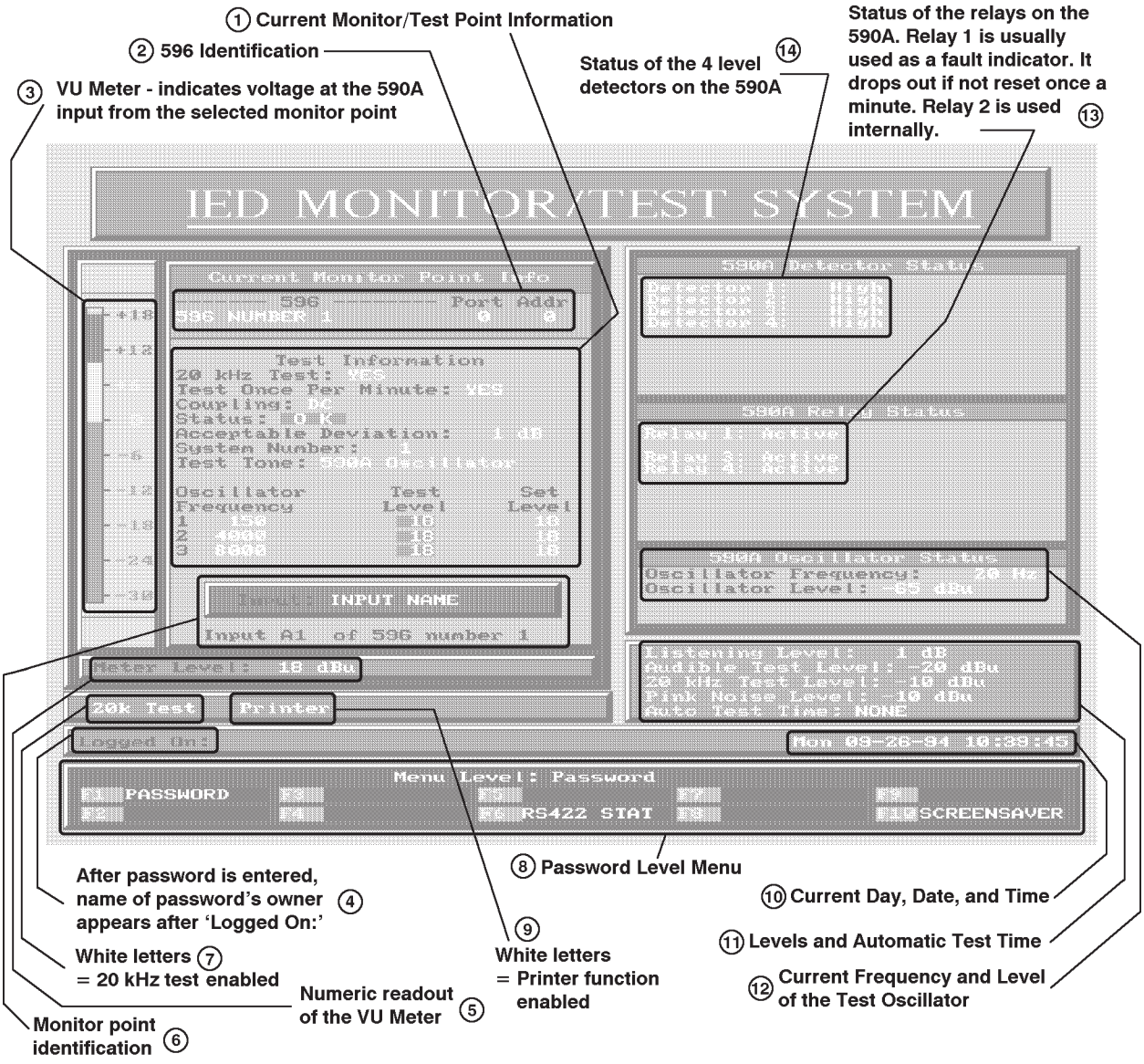

Figure 1 - Monitor/Test System
Password Menu and Screen

An explanation of the Password level screen begins on the next page. Feature numbers correspond to the reference numbers in figure 1.

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Explanation of Password Level Screen

1. **Current Monitor/Test Point Test Information.** This area is a display of test information about the currently selected test point. In this case, the 20 kHz test is enabled, the test is performed once a minute, the input to the 590A card is DC coupled, the status is 'OK' (meets test criteria), the deviation limit is 1 dB, the computer is interfacing with system number 1, the test tone source is the oscillator on the 590A card. This information is followed by a tabulation of the oscillator frequencies specified for the indicated test point, the level measured in the last system test, and the levels obtained in the last system set to which they are compared.

2. **596 Identification.** The 596 identification consists of the name assigned to the 596 for the current monitor point and its computer location (port and address). The name may simply be 596 number 1 as in the example, or it may be given the name of an area or group of rooms which it serves for easier recognition.

3. **VU Meter.** The VU Meter is active whenever a signal is present at the current monitor point. It has a range of -31 dB to +20 dB, and is accurate to ±1 dB. It has the same characteristics as a standard moving needle VU meter. The VU meter displays the signal voltage at the input to the 590A in dBu.

4. **Logged On.** The name of the person whose password was used to log on is displayed at this location.

5. **Numeric Readout of the VU Meter.** This is a numeric display in dBu of the reading of the VU Meter described above.

6. **Monitor Point Identification.** The monitor point identification consists of the name of the monitor point as well as the alphanumeric designation of the Model 596 rear panel connector terminal to which it is connected, and the number of the 596. The monitor point name can be assigned by the installer or system manager in terms of its location in the facility or by any other scheme which is convenient to him.

7. **20 kHz Test.** When the words '20k Test' are displayed in white letters on a green background, the 20 kHz test is enabled, and will occur for all test points so designated. When displayed in black letters on a blue background, the test is disabled.

8. **Password level Menu**. This section of the screen display is the menu, in this case, the 'Password Level Menu'. The 'F' Numbers, F1 - F10, correspond to the function keys on the keyboard which must be pressed to initiate the adjacent functions.

9. **Printer.** When the word 'Printer' is displayed in white letters on a green background, the printer function is enabled, and any selected printouts can be obtained, provided that a printer is connected to the system. When displayed in black letters on a blue background, the printer function is disabled.

10. **Day, Date, and Time.** The current day, date and time are displayed in this location. Time is kept by an accurate quartz clock which has battery backup to prevent loss of settings when power is interrupted. The time is displayed in 24-hour format.

11. **Levels and Automatic Test Time.** In this section are displayed the Listening Level, the audible frequency test level, the 20 kHz test level, and the time of the audible frequency automatic once-a -day test, and the Pink Noise test level.

Explanation of Password Level Screen (continued)

12. **Current Frequency and Level of the Test Oscillator .** The current frequency and level of the 590A on-board oscillator are displayed at this location.

13. **590A Relay Status.** There are four single-pole-double-throw relays on the 590A card. Relay 1 is set up to be used as a fault indicator. There is an R-C circuit in its driver which is connected so that it when activated it will remain in that state for about one minute. To keep it active, an activation signal must be applied once a minute. Relay 2 is used internally. It is not available for external use. Relays 3 and 4 are available for any suitable purpose in the system. The screen indication of their status can be customized in the software to display a message or status applicable to their use.

14. **590A Detector Status.** There are four level detectors on the 590A card which detect a 0 Volt or 5 Volt level. They can be used for any suitable application in the system, such as for detecting a contact closure. Their output can be utilized by the software to take any appropriate action, such as initiating a test or a warning. The screen indication of their status can be customized in the software to display a message or status applicable to their use.

PASSWORD MENU, PASSWORD FUNCTION

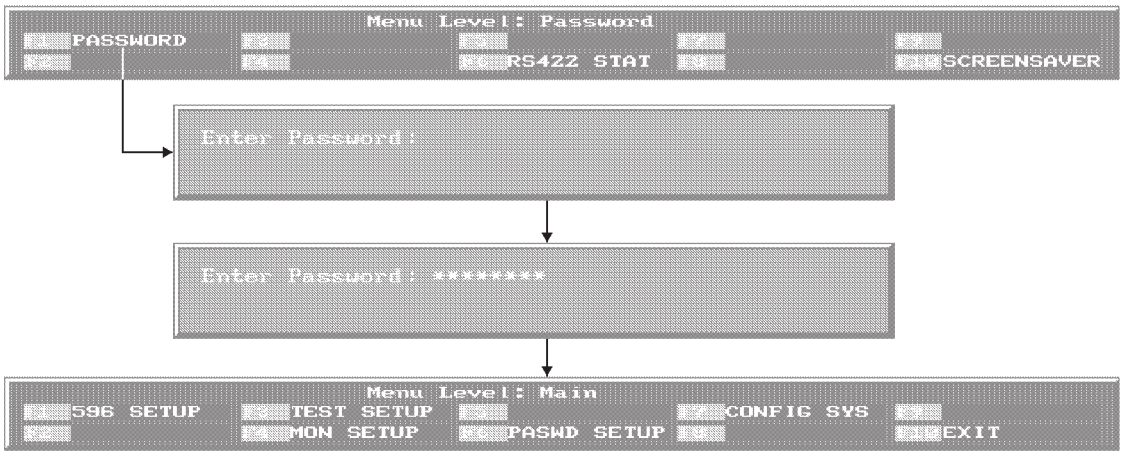

Figure 2 - Password Menu and Screen
Password Function

The 'Password' function in the Password level menu is used to enter one's personal password in order to progress through the Monitor/Test program to access additional functions and information.

To use the function, press the 'Password' function key indicated in the menu. an entry window appears on the screen with the prompt 'Enter Password :'. type your personal password, then press 'Enter'. An asterisk appears for each character typed. The actual characters do not appear in order to maintain confidentiality of your password.

If your password has been entered correctly, the Main menu will appear in place of the Password menu, as shown in Figure 2 . Your name will appear after 'Logged On:' at the left end of the Time Bar. See figure 1, item 4.

PASSWORD MENU, RS422 STATUS FUNCTION5

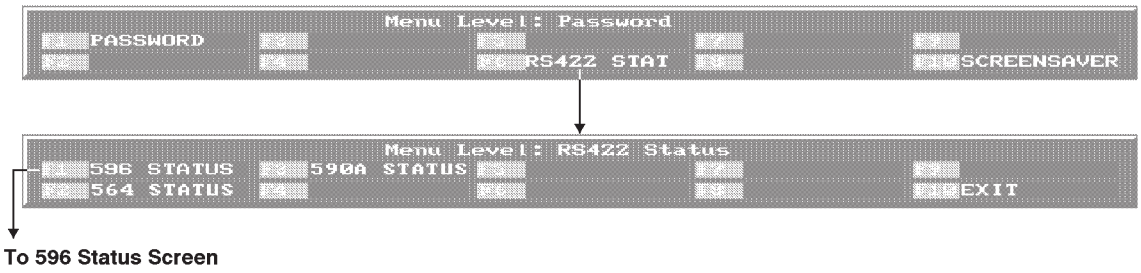

Figure 3 - Password Menu
RS422 Status Function

The ‘RS422 Status’ function provides access to the RS422 level menu and screens.To view the status of the RS422 links, press the ‘RS422 STAT’ function key shown in the Password Level menu. The RS422 level menu appears, as shown in Figure 3.

Select the desired RS422 Link from the menu, and press the corresponding function key. The status screen appears. As an example, see figure 4, the 596 status screen.

RS422 STATUS FUNCTION, 596 STATUS

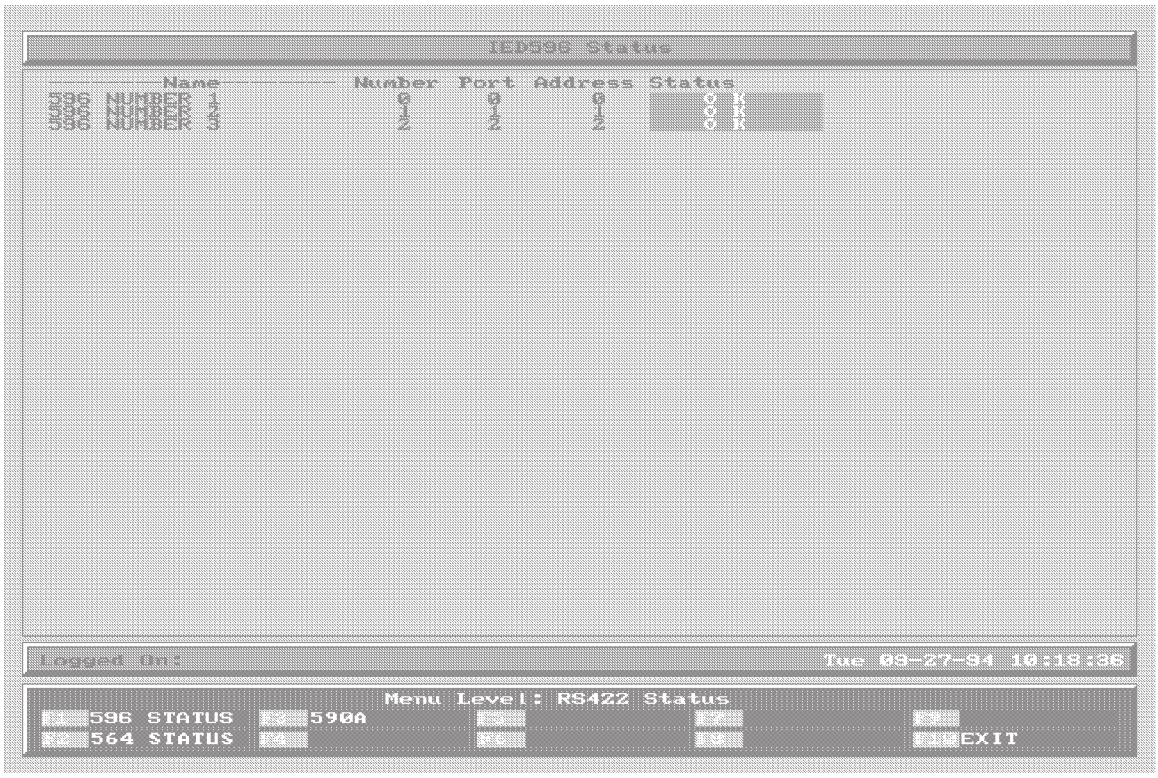

Figure 4 - RS422 Status Function Menu
596 Status Screen

The 596 Status screen displays the status of each 596 in the system. It lists the name of the 596, its number, its computer location (Port and Address), and its status ('OK' or FAULT').

RS422 STATUS FUNCTION, 564 STATUS

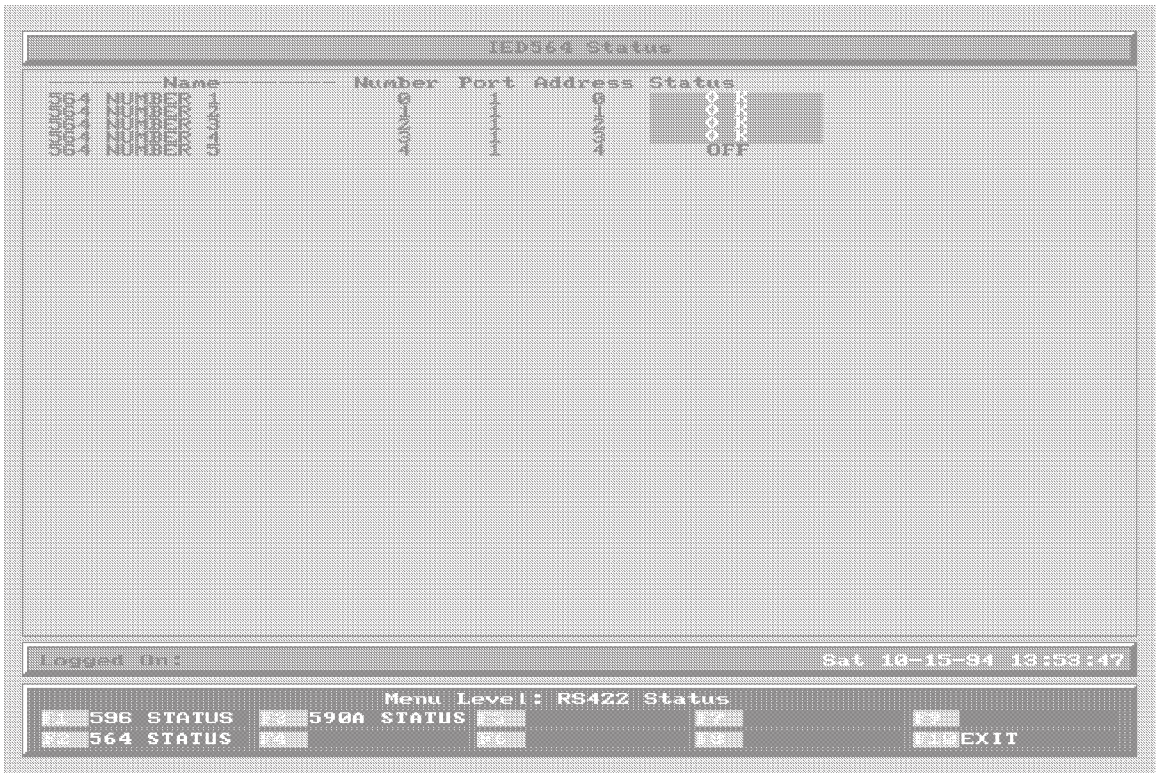

Figure 5 - RS422 Status Function Menu
564 Status Screen

The 564 Status screen displays the status of each 564 in the system. It lists the name of the 564, its number, its computer location (Port and Address), and its status ('OK' or FAULT').

RS422 STATUS FUNCTION, 590A STATUS

This function is not currently available.

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PASSWORD MENU, SCREENSAVER

When an unchanging image is left on the CRT monitor screen for long periods, it 'burns into' the screen. This leaves a permanent 'ghost' image of that screen.

The 'Screensaver' function on the Password menu is used to prevent this problem. When the 'Screensaver' function key is pressed, the screen is blanked (it goes to black), and remains so until a key is pressed. If a system fault exists, the screensaver function is disabled until the fault is cleared.

If there are no faults in the system, the screen will automatically go into screensaver mode after 10 minutes of inactivity at the keyboard.

MAIN MENU, 596 SETUP

Figure 6 - Main menu
596 Setup

The 596 Setup menu and screen is used to set up the names, test attributes, deviation limits, and coupling type of all Monitor/Test System test points. It can also designate a test point as unused, and can initiate printouts of this information.

To access the functions available through this menu, choose '596 SETUP' from the Main menu. The 596 Setup menu and screen appear. The menu and screen are described on the following page.

596 SETUP MENU AND SCREEN

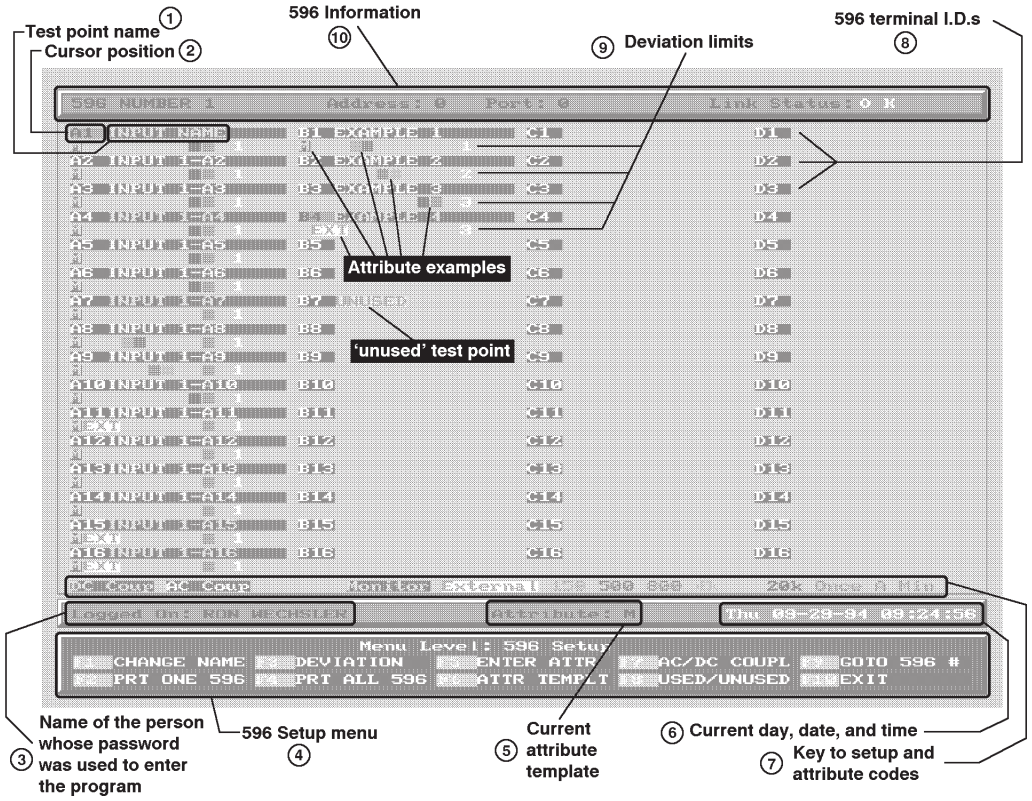

Figure 7 - 596 Setup menu and screen
'596 Setup' Function

An explanation of the 596 Setup level screen begins below. Feature numbers correspond to the reference numbers in figure 7.

Explanation of 596 Setup level screen

1. **Test point name.** This is a name assigned by the user for his/her convenience. The name is usually associated with the location or function of the hardware at the test point.

596 SETUP MENU AND SCREEN (continued)

2. **Cursor Position.** Changes in the setup or test attributes can only be made on the test point at the cursor position. The cursor position is indicated by the color of the 596 test point identifier. The identifier at the cursor location is displayed in black letters on a green background. All others are displayed in white letters on a black background. The cursor can be moved through all test points on the screen using the up and down arrow keys. The left and right arrow keys move the cursor between columns. The 'Pg Up' and 'Pg Dn' keys move between 596s (whole screenfuls).

3. **User Logged On.** The User Logged On (the name of the user whose password was entered to access the program) is shown at location 3.

4. **596 Setup Menu**. This section of the screen display is the menu, in this case, the '596 Setup Menu'. The 'F' Numbers, F1 - F10, correspond to the function keys on the keyboard which must be pressed to initiate the adjacent functions.

5. **Current Attribute Template.** The current attribute template which was selected with the 'ATTR TEMPLT' function is displayed at this location. It is the test attribute which will be toggled (enabled or disabled) when the 'ENTER ATTR' function is used.

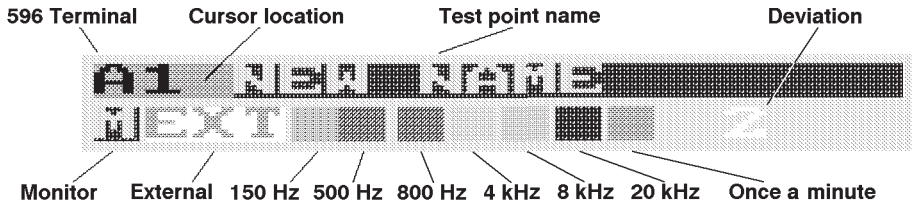

Figure 8 - Attribute and Setup Code Positions

ATTRIBUTE	COLOR CODE
Monitor	Green 'M' on black
External	Black 'EXT' on white
150 Hz	Medium green
500 Hz	Dark red
800 Hz	Purple
4 kHz	Orange
8 kHz	Light green
20 kHz	Dark blue
Once a minute	Black
Unused	Gray 'unused'

Table of test attribute color codes

596 SETUP MENU AND SCREEN (continued)

6. **Day, Date, Time.** The current day, date and time are displayed in this location. Time is kept by an accurate quartz clock which has battery backup to prevent loss of settings when power is interrupted. The time is displayed in 24-hour format.

7. **Code Key.** The code key indicates the color code of the test attributes and some setup parameters. The codes also have unique positions. Figure 8 indicates the positions of the attributes relative to the test point name. Note that all attributes cannot appear at once for the same test point. Each test point can have up to three attributes. The table (previous page) indicates the attribute color codes.

8. **596 Terminal IDs.** There are 64 terminals on the rear panel of the 596, one for each point to which it can connect. The terminals are arranged in four rows labelled A - D. Each row contains 16 terminals labelled 1 - 16. Using this numbering scheme, the fourth terminal in the second row would be B4. The screen display for 596 setup displays 64 test points or terminals. For more efficient use of the screen, the rows and columns are transposed. That is, row 'A' of the actual 596 is represented by column 'A' on the screen. However, the designators correspond exactly. A1 on the screen represents A1 on the 596.

9. **Deviation Limits.** The deviation limits are the number of dBs by which the signal level measured in a system or circuit test can differ from the level measured during a system or circuit test for that circuit. Any deviation greater than the set limit will cause a fault indication for that test point. The deviation can be set for each circuit individually at between 1 and 15 dB.

10. **596 Information.** The 596 information display consists of the number of the 596, the its computer location (its port and address), and its RS422 link status (OK, Fault).

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596 SETUP, CHANGE NAME

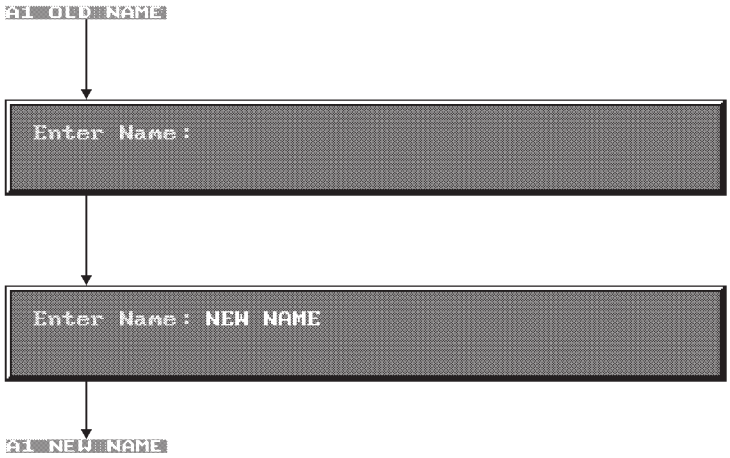

Figure 9 - 596 Setup menu and screen
Change Name

Test point names can be assigned by the user to make it easier to find or identify the desired point for monitoring or test. To enter or change the name of a test point, while in the 596 Setup menu, use the arrow keys to move the cursor (green background for 596 terminal designator) to the desired test point. Choose ‘Change Name’ from the 596 Setup menu. An entry window appears displaying the prompt ‘Enter Name:’. A name can consist of up to 15 characters and spaces. Type the desired name, then press ‘Enter’. The new name replaces the old name on the screen display. To delete a name, while in ‘Change Name’, type ‘C’, then press ‘Enter’.

596 SETUP, PRINT ONE 596

A printout of the setup data for any 596 can be obtained on demand, if desired. In order to do so, first be sure that a printer is connected to the computer's printer port, and that it is on line. Press the function key for 'Prt One 596'. A printout of the data for the currently displayed 596 will occur. To obtain a printout of the data for another 596, first use the 'Goto 596 #' function to display the desired 596, then use the 'Prt One 596' function.

596 SETUP, DEVIATION

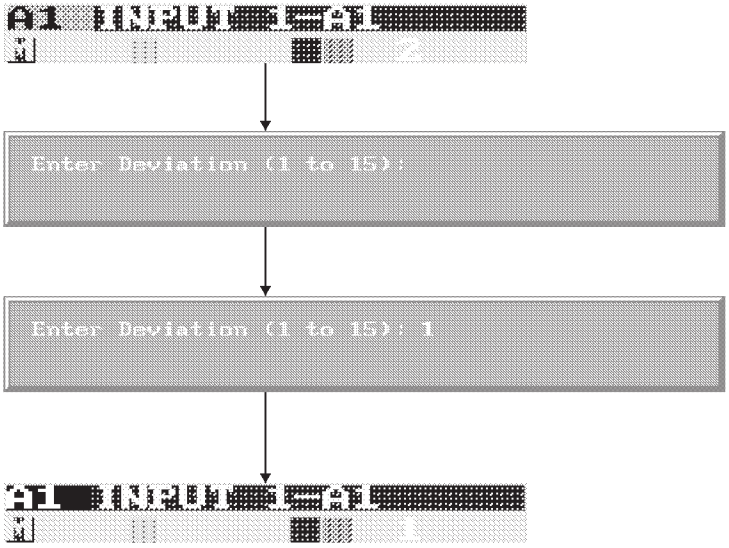

Figure 10 - 596 Setup menu and screen
Set Deviation

The 'Deviation' is the amount by which the test result of a circuit or test point differs from the value obtained when a 'Set' is run on that circuit. Test results are measured in whole numbered dB, and the deviation limit can be set up as any whole numbered dB value from 1 to 15. The deviation is set on an individual circuit basis.

To set the deviation for a circuit, use the arrow keys to move the cursor to the desired circuit, then press the function key which represents 'Deviation'. An entry window appears with the prompt 'Enter Deviation (1 to 15):'. Type the desired value, then press 'Enter'. The new value of deviation replaces the previous value.

596 SETUP, PRINT ALL 596s

A printout of 596 setup data for all 596s can be obtained on demand, if desired. In order to do so, first be sure that a printer is connected to the computer's printer port, and that it is on line. Press the function key for 'Prt All 596'. A printout of the data for all 596s will occur.

596 SETUP, ENTER ATTRIBUTE

The 'Enter Attribute' function is used to assign the currently selected Attribute Template to the circuit or test point at the cursor position. The currently selected Attribute Template is displayed in the center of the time bar. See item 5, figure 7. Each time the enter attribute function key is used, the cursor advances to the next test point.

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596 SETUP, ATTRIBUTE TEMPLATE

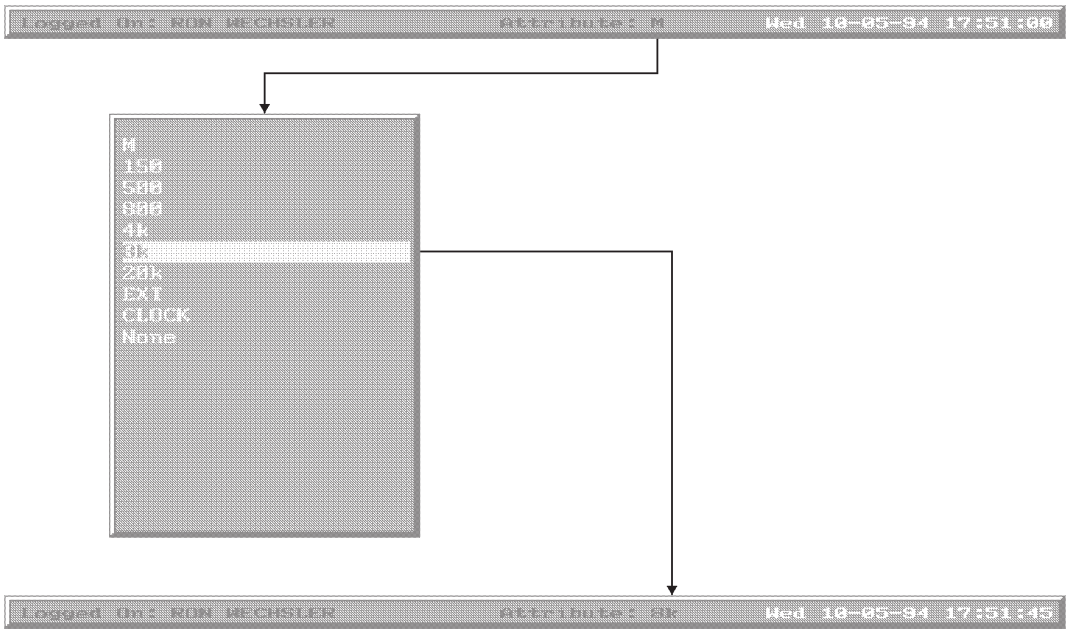

Figure 11 - 596 Setup menu and screen
Attribute Template

The ‘Attribute Template’ function is used to select the test attribute which will be assigned with the Enter Attribute function.

The current attribute template is displayed at the center of the time bar, over the menu. See item 5, figure 7. To change the template, press the ‘ATTR TEMPLT’ function key. An attribute selection window appears. Use the arrow keys to move the cursor (white background) to the desired attribute, then press ‘Enter’. The new attribute replaces the previous one in the time bar, and will be the attribute inserted when the ‘Enter Attribute’ function is used.

596 SETUP, AC/DC COUPLING

The coupling (AC or DC) of the test signal can be changed on a circuit-by-circuit basis. Since most testing involves audio or other AC signals, it is normally left in the AC coupled mode. For power supply checking it is switched to the DC coupled mode.

The current coupling mode is indicated by the color used for the test circuit name text. For AC coupling the text is yellow. for DC coupling it is green. To change the coupling, press the function key associated with 'AC/DC COUP'. The coupling and the color of the text will change immediately.

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596 SETUP, USED/UNUSED

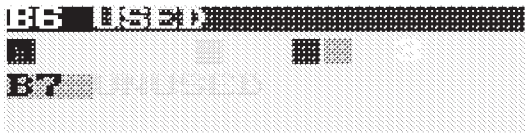

Figure 12 - 596 Setup menu and screen
Used/Unused

The ‘Used/Unused’ function is provided for the purpose of removing a test point from service, or for restoring it to service. Normally, when a test point is given a name and test attributes, it is in service.

To remove a point from service, move the cursor to the desired test point using the arrow keys, then press the function key associated with ‘USED UNUSED’. The name text changes to medium gray, the blue background disappears, and all test attributes disappear.

To restore a test point to service, move the cursor to the desired test point using the arrow keys, then press the function key associated with ‘USED UNUSED’. The name text changes to its previous color (yellow or green, depending upon coupling), the blue background reappears, as do the test attributes.

596 SETUP, GO TO 596

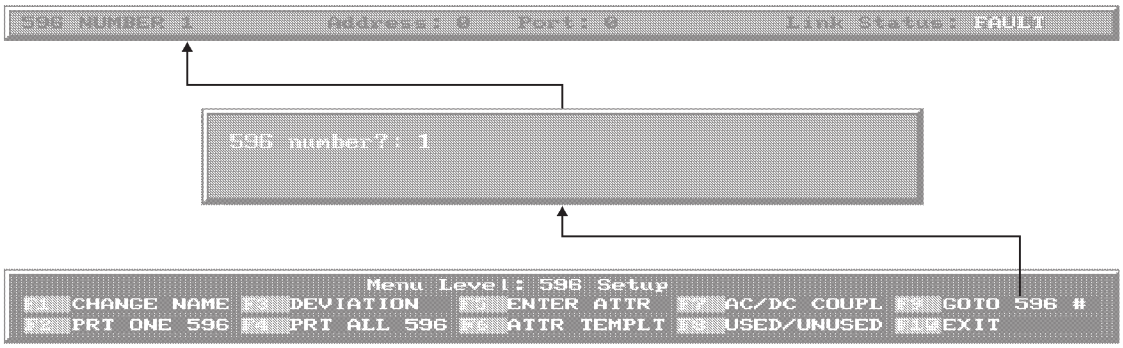

Figure 13 - 596 Setup menu and screen
Select 596 to Display and Edit

The 596 Setup screen displays information relating to one 596. In systems with more than one 596 it is necessary to select the 596 which is displayed. The 'GOTO 596 #' function is provided for this purpose.

To change the 596 for which information is displayed, press the function key associated with the 'GOTO 596 #' function. An entry window appears with the prompt '596 number?:'. Type the number of the desired 596, then press 'Enter'. The data for the selected 596 appears on the screen.

Alternatively, use the 'Pg Up' and 'Pg Dn' keys to page through the 596 displays, one at a time.

596 SETUP, EXIT

To leave the '596 Setup' menu and screen and return to the Main menu and screen, press the function key associated with the 'EXIT' function.

MAIN MENU, TEST SETUP

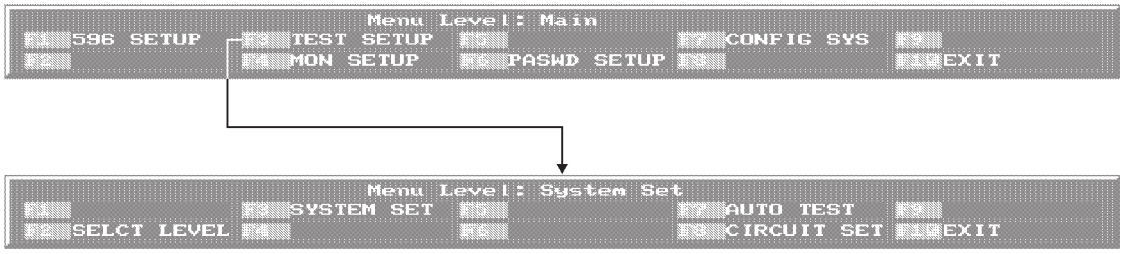

Figure 14 - Main Menu
Test Setup

The ‘Test Setup’ function in the Main menu is used to gain access to the ‘System Set’ menu. The ‘System Set’ menu provides functions which set up the test levels the automatic test time, and perform a system or circuit set, the functions which generate the reference test results against which future system or circuit tests are measured.

To reach the ‘System Set’ menu, from the Main menu press the function key associated with the ‘Test Setup’ function. The ‘System Set’ menu appears.

SYSTEM SET MENU, SELECT TEST LEVELS

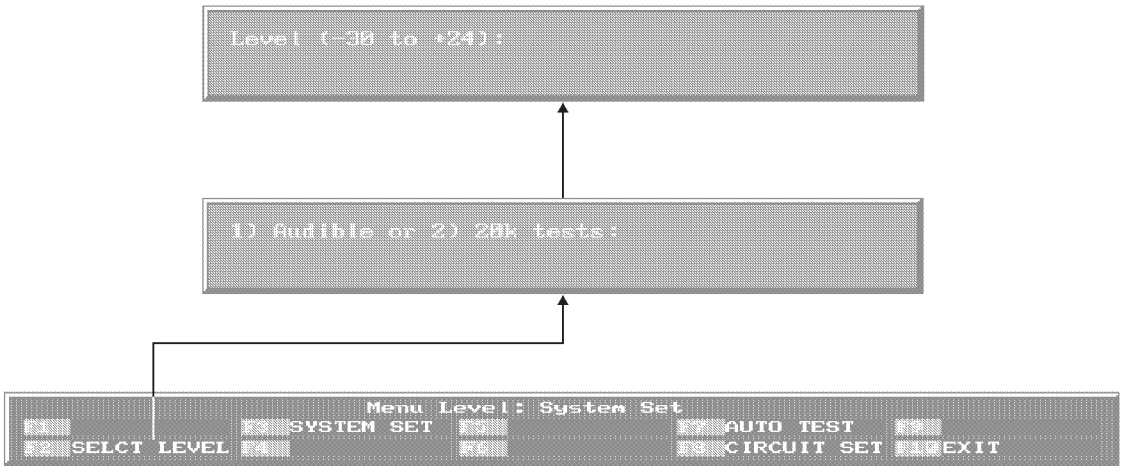

Figure 15 - System Set Menu
Select Set and Test Levels

The 'Select Level' function is used to choose the level at which Sets and Tests are run. The audible frequency and the 20 kHz levels are chosen separately.

To choose a level, press the function key associated with the 'SELCT LEVEL' function in the System Set menu. An entry window appears with the prompt '1) Audible or 2) 20k tests :'. Type a 1 or a 2, corresponding to the level to be entered, then press the 'Enter' key. A new entry window appears with the prompt 'Level (–30 to +24):', meaning enter a level between –30 dB and +24 dB. Type the desired level, then press 'Enter'. The new value appears in the levels block at the lower right of the screen. See figure 1, item 10.

SYSTEM SET MENU, SYSTEM SET

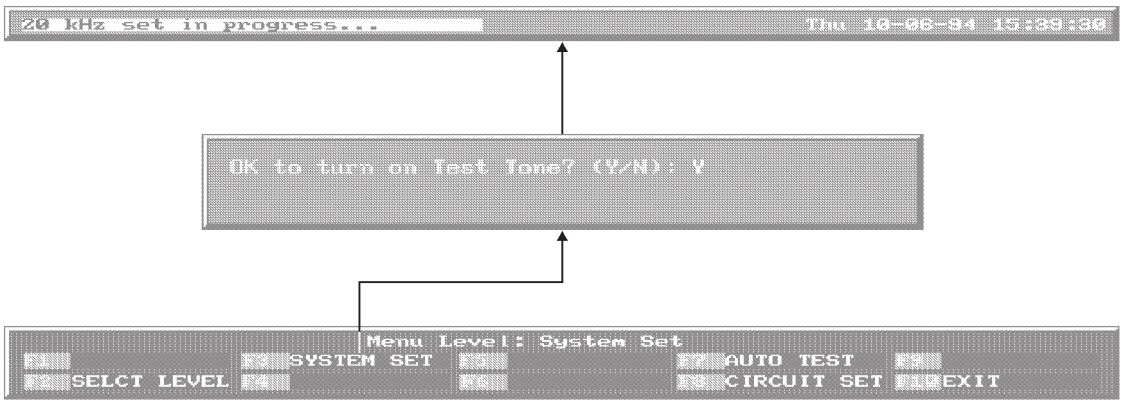

Figure 16 - System Set Menu
System Set

A 'System Set' is a test of all circuits which have been set up to be tested, done under the specified conditions and at the specified levels. It usually done at a time when all circuits are known to be in good working order. The results are stored in non-volatile memory, and are used as a standard of comparison for future periodic or on-demand tests. Test results for any circuit which fall outside the deviation limits specified will cause an indication of a fault.

To perform a System Set, press the function key associated with the 'System Set' function in the 'System Set' menu. Since in a system set audible tones are introduced throughout the system, and the system becomes busy during the procedure, a confirmation window appears first asking 'OK to turn on Test Tone? (Y/N) :'. Type 'Y' to continue, or 'N' to abort the system set. As the System Set is progressing, the test frequency is indicated on the left end of the time bar (see figure 16, and figure 1, item 9) and the oscillator frequency and level are shown in the 590A oscillator status box.

SYSTEM SET MENU, AUTO TEST

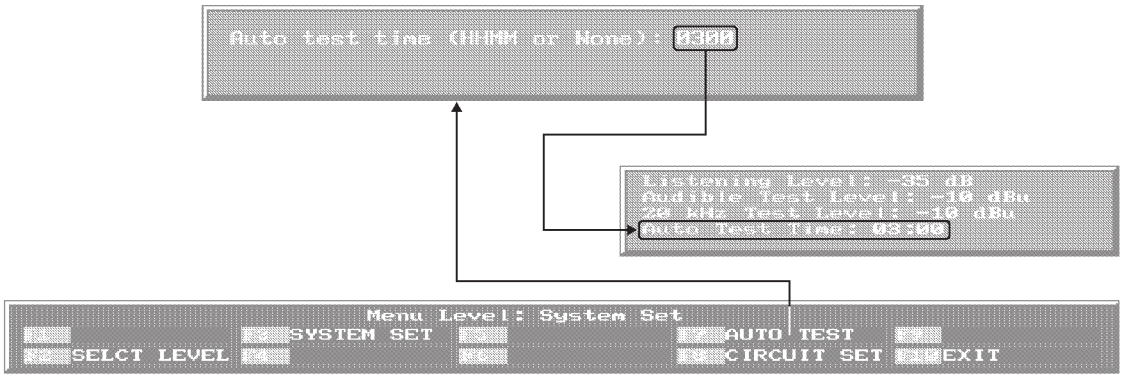

Figure 17 - System Set Menu
Automatic Test Time

The Automatic System Test performs an audible frequency test of all designated test points once every twenty-four hours, if set up to do so. The 'AUTO TEST' function is used to select a time. Since the test introduces audible tones throughout the system and causes the system to be busy, a time is usually chosen in which the system is not normally used. If no time is designated for the test, then the test will not occur.

To choose a time for the Automatic Test, press the function key associated with the 'AUTO TEST' function in the System Set menu. An entry window appears with the prompt 'Auto test time (HHMM or None) :'. Type the desired time using 24-hour format and a leading zero for times less than 10:00. Press the 'Enter' key to complete the entry. Do not type the colon. It is put in automatically. For example, 2 am would be entered as '0200'. 2 pm would be entered as 1400. If no automatic test is to be performed, type 'none'. The automatic test time is displayed toward the lower right of the screen. See figure 17, and figure 1, item 10.

SYSTEM SET MENU, CIRCUIT SET

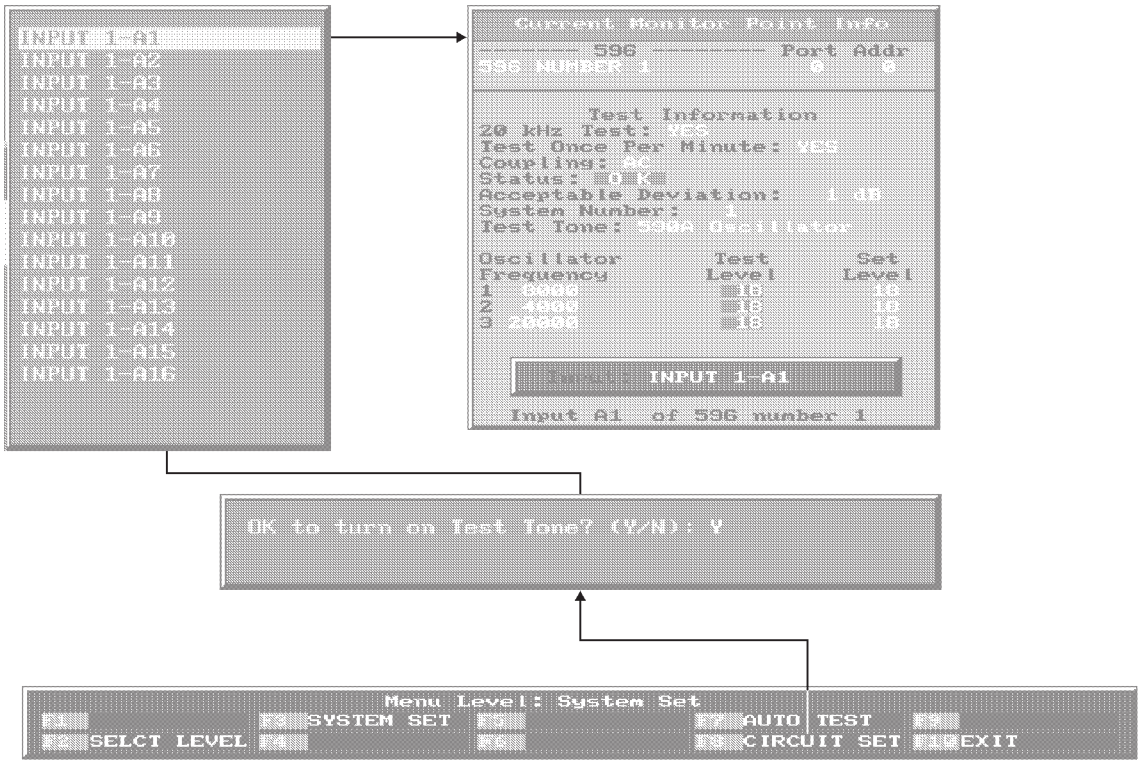

Figure 18 - System Set Menu
Circuit Set

A ‘Circuit Set’ is a test of a circuit which has been set up to be tested, done under the specified conditions and at the specified levels. It usually done at a time when the circuit is known to be in good working order. The results are stored in non-volatile memory, and are used as a standard of comparison for future periodic or on-demand tests. Test results for any circuit which falls outside the deviation limits specified will cause an indication of a fault.

To perform a Circuit Set, press the function key associated with the ‘Circuit Set’ function in the ‘System Set’ menu. Since in a circuit set audible tones are introduced into the system, and the system becomes busy during the procedure, a confirmation window appears first asking ‘OK to turn on Test Tone? (Y/N) :’. Type ‘Y’ to continue, or ‘N’ to abort the circuit set. A selection list window appears, displaying up to 18 circuits. Use the up and down arrow keys and the ‘Pg Up’ and ‘Pg Dn’ keys to move the cursor (yellow bar) to the desired circuit. The ‘Home’ key moves the cursor to the beginning of the list, and the ‘End’ key moves it to the end of the list. When the cursor is at the desired circuit, press ‘Enter’. This starts the test. As the Circuit Set is progressing, the information regarding the test and the test point is displayed in the ‘Current Monitor Point Info’ box (see figure 18, and figure 1, item 1.

SYSTEM SET MENU, EXIT

To leave the ‘System Set’ menu and screen and return to the Main menu and screen, press the function key associated with the ‘EXIT’ function.

MAIN MENU, MONITOR SETUP

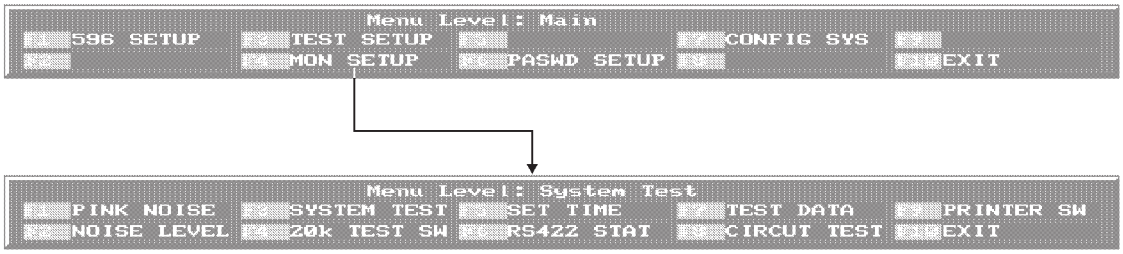

Figure 19 - Main Menu
Monitor Setup

The 'Monitor Setup' function in the Main menu is used to gain access to the 'System Test' menu. The 'System Test' menu provides functions which perform on-demand system or circuit tests, toggle the 20 kHz test and the printer switch, allow viewing and printing of the test data, set the system time, and view the status of the RS422 links.

To reach the 'System Test' menu, from the Main menu press the function key associated with the 'MON SETUP' function. The 'System Test' menu appears.

SYSTEM TEST MENU, PINK NOISE

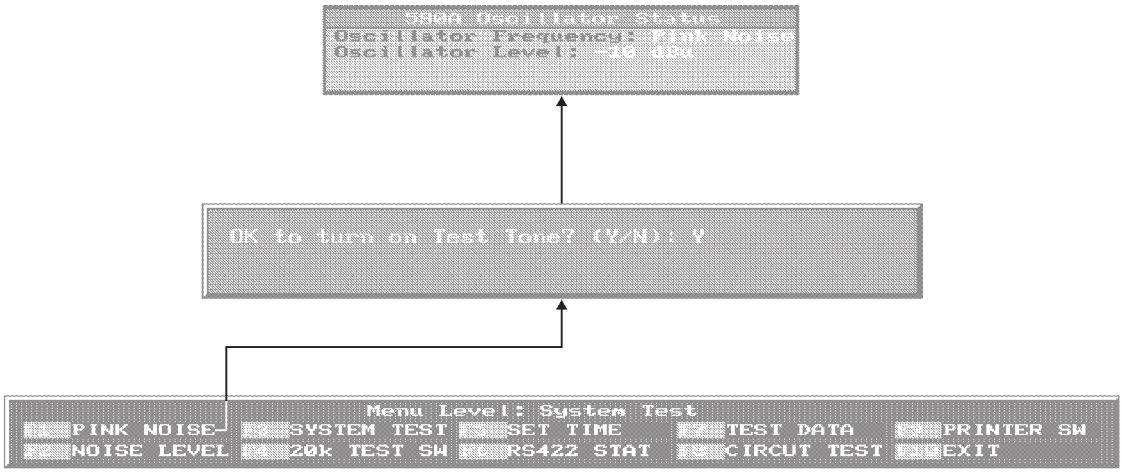

Figure 20 - System Test Menu
Pink Noise

The ‘Pink Noise’ function is used to toggle Pink Noise ‘On’ or ‘Off’. To turn ‘On’ Pink Noise, press the function key associated with the ‘Pink Noise’ function. A confirmation window appears with the prompt ‘OK to turn on Test Tone? (Y/N):’ Type ‘Y’ to turn on pink noise, or ‘N’ to return to the menu, then press ‘Enter’. When Pink Noise testing is in progress, the 590A Oscillator Frequency is indicated as ‘Pink Noise’.To end Pink Noise testing, again press the function key associated with ‘Pink Noise’, or use the ‘EXIT’ function to leave the ‘System Test’ menu level.

SYSTEM TEST MENU, NOISE LEVEL

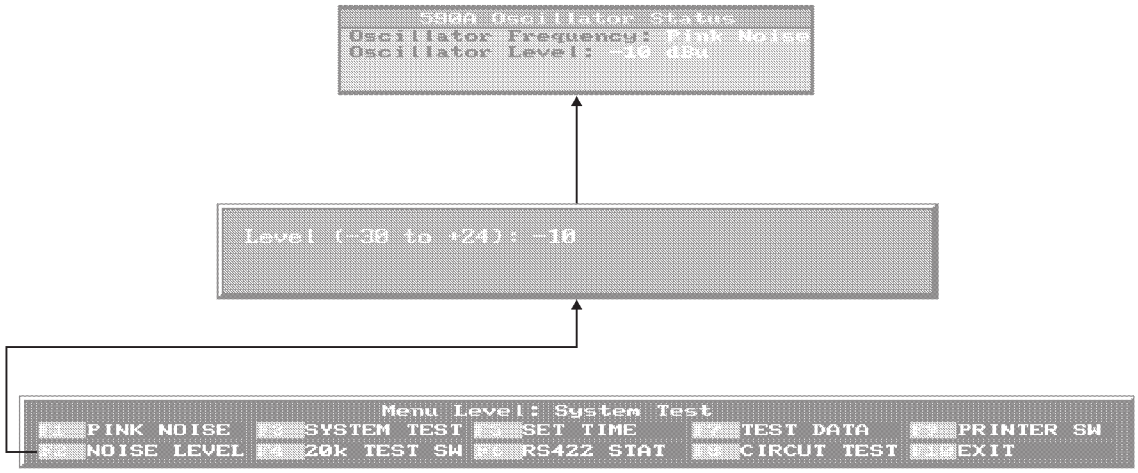

Figure 21 - System Test Menu
Noise Level

The 'Noise Level' function is used to set the level at which Pink Noise testing is performed. Any whole numbered level between –30 dB and +24 dB can be selected. To select the level for Pink Noise testing, press the function associated with the 'Noise Level' function. An enter box appears with the prompt 'Level (–30 to +24) :'. Type the desired value, then press 'Enter'. When Pink Noise testing is in progress, the chosen level will appear as the 'Oscillator Level' in the '590A Oscillator Status' box.

SYSTEM TEST MENU, SYSTEM TEST

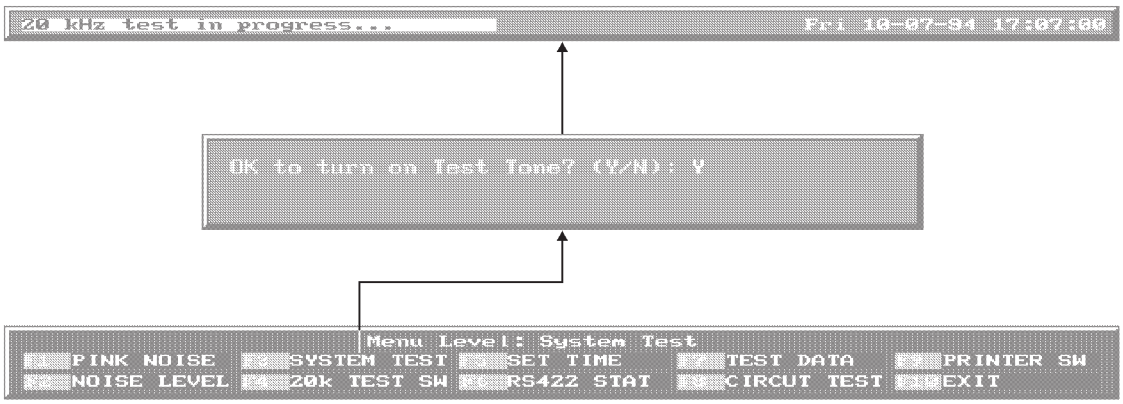

Figure 22 - System Test Menu
System Test

A ‘System Test’ is a test of all circuits which have been set up to be tested, done under the specified conditions and at the specified levels. It is usually done at a time when all circuits are known to be in good working order. The results are stored in non-volatile memory for viewing at any convenient time. They remain in memory until replaced by new test results. Test results for any circuit which fall outside the deviation limits specified will cause an indication of a fault.

To perform a System Test, press the function key associated with the ‘System Test’ function in the ‘System Test’ menu. Since in a system test audible tones are introduced throughout the system, and the system becomes busy during the procedure, a confirmation window appears first asking ‘OK to turn on Test Tone? (Y/N) :’. Type ‘Y’ to continue, or ‘N’ to abort the system set. As the System Test is progressing, the test frequency is indicated on the left end of the time bar (see figure 22, and figure 1, item 9).

SYSTEM TEST MENU, 20 kHz TEST SWITCH

Figure 23 - System Test Menu
20 kHz Test Switch

The '20 kHz Test Switch' function enables and disables the 20 kHz test. The state of the test, 'On' (enabled) or 'Off' (disabled) is controlled by the '20k TEST SW' function. When the test is enabled, the on-screen indicator of the test is displayed in white letters with a green background. When the test is disabled, the on-screen indicator is displayed in black letters. See figure 1, item 6 and figure 23.

To access the '20 kHz Test Switch' function, press the associated function key in the System Test menu. This function is a toggle. If the function is 'Off', (black letters), press the associated function key to turn it 'On'. If the function is 'On' (white letters on a green background), press the associated function key to turn it 'Off'. When the function is 'On' (enabled), it will run automatically.

SYSTEM TEST MENU, SET TIME

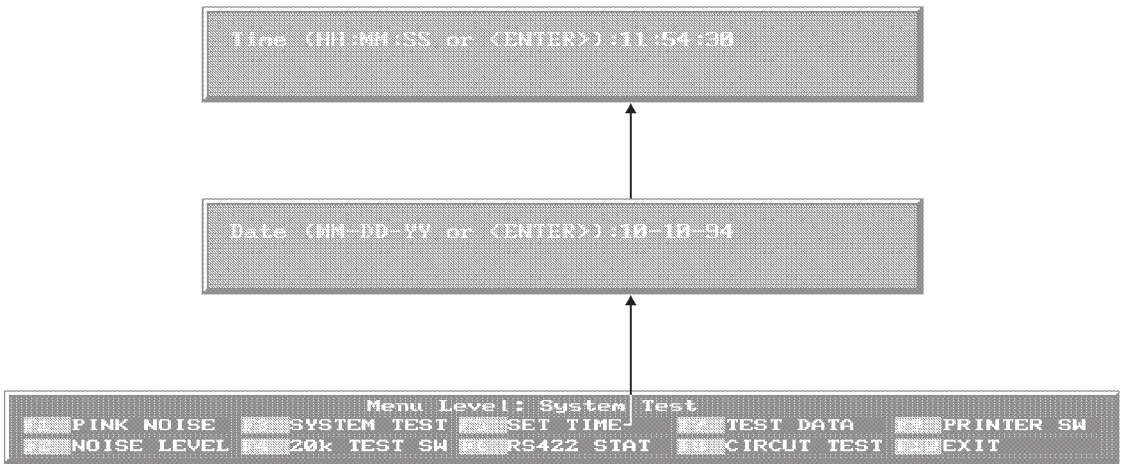

Figure 24 - System Test Menu
Set Time and Date

The system clock is an accurate quartz clock with battery backup to prevent setting loss in the event of a power failure. The time at which the automatic test occurs depends upon the system clock. The 'Set Time' function is used to set the correct date and time of the system clock.

The 'Set Time' function is accessed from the System Test menu. Press the associated function key and a date entry window appears.

To enter or change the date displayed in the time bar (see figure 1, item 10), type a new date in the format shown in the prompt. Enter one or two digits for the number of the month, a dash character (minus sign), one or two digits for the day of the month, another dash character, and the last two digits of the year, then press 'Enter'. The dash character can be found above and to the right of the 'P' (do not press the 'Shift' key), or to the right of the '6' key on the numeric keypad. It is not necessary, nor is it detrimental, to enter leading zeroes for days or months less than ten. If date is correct, date entry can be by-passed by pressing 'Enter' without first entering any date characters.

When 'Enter' is pressed, a time entry window appears. Time is entered and displayed in 24-hour format. Type one or two digits for the hour, a colon (:), one or two digits for the minutes, another colon, and one or two digits for the seconds, then press the 'Enter' key. If time is correct, time entry can be bypassed by pressing 'Enter' without first entering any time characters.

When 'Enter' is pressed after time entry or bypass, all changes are transferred to the display.

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SYSTEM TEST MENU, RS422 STATUS FUNCTION

The RS422 Status function is described on pages 5 - 8.

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SYSTEM TEST MENU, TEST DATA

Figure 25 - System Test Menu
Test Data Function

The ‘TEST DATA’ function provides access to the test data menu and screen. To enter the ‘Test Data’ menu and screen, in the System Test menu, press the function key associated with the Test Data function. The Test Data menu and screen will appear.

DATA SCREEN

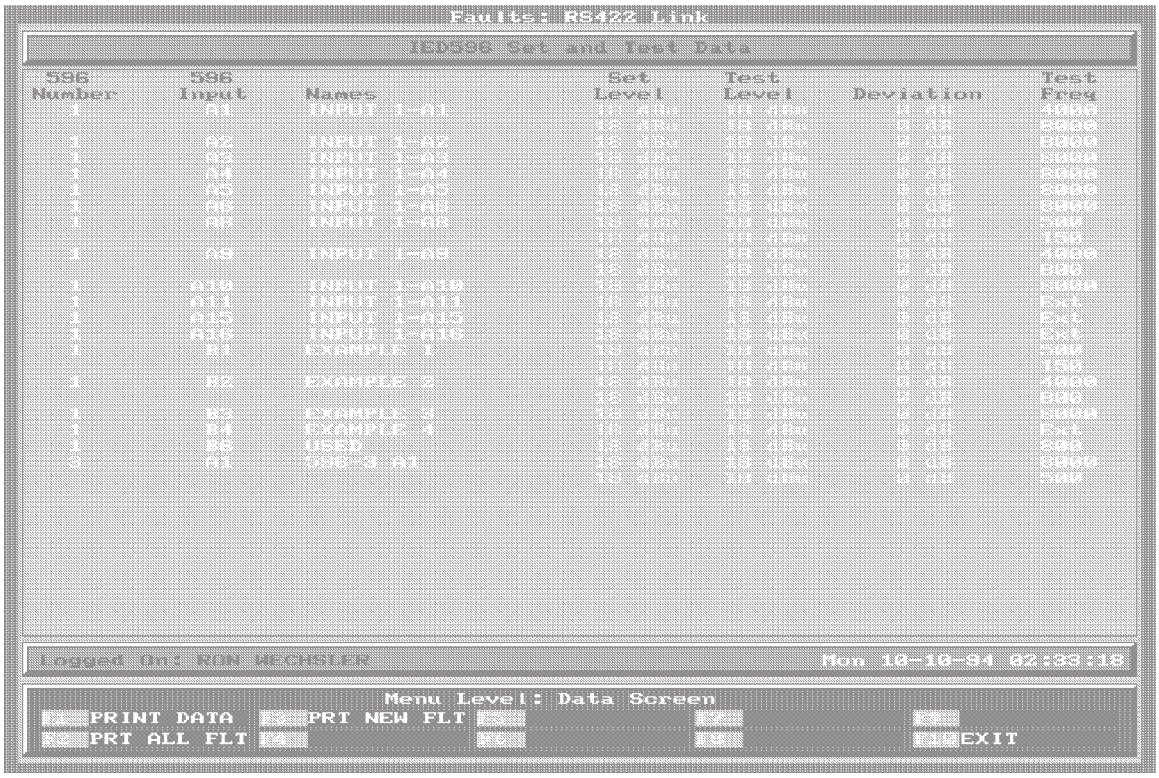

Figure 26 - Test Data Menu and Screen

The 'Data Screen' display shows set and test data for all sets and tests for all test points which have been set up. The data is presented in tabular form. Each line of data includes the 596 number, the 596 input, the name assigned to that input, the set level, the test level, the deviation between the two, and the test frequency. Where more than one frequency is used for a test point, a separate line of data is displayed for each frequency.

If a fault occurs the information is sent to the printer immediately. A printout will occur if the printer is on line. Faults are easily located in the on-screen listing. They are highlighted in yellow text on a red background. Three on-demand print functions are available from the menu, and are described on pages 39 - 41.

DATA SCREEN, PRINT DATA

The ‘Print Data’ function produces a printout of all data which is displayed. To produce this printout, make sure that the printer is on line and ready, then press the function key associated with the ‘PRINT DATA’ function.

DATA SCREEN, PRINT ALL FAULTS

The 'Print All Faults' function produces a printout of all logged faults. Faults remain logged until they are cleared. To produce a printout of all faults, make sure that the printer is on line and ready, then press the function key associated with the 'PRT ALL FLT' function.

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DATA SCREEN, PRINT NEW FAULTS

When a fault occurs, the information is automatically sent to the printer. If the printer is not ready, the information is flagged for later printing as a new fault. To obtain a printout of new faults, make sure that the printer is on line and ready, then press the function key associated with the 'PRT NEW FLT' function.

SYSTEM TEST MENU, CIRCUIT TEST

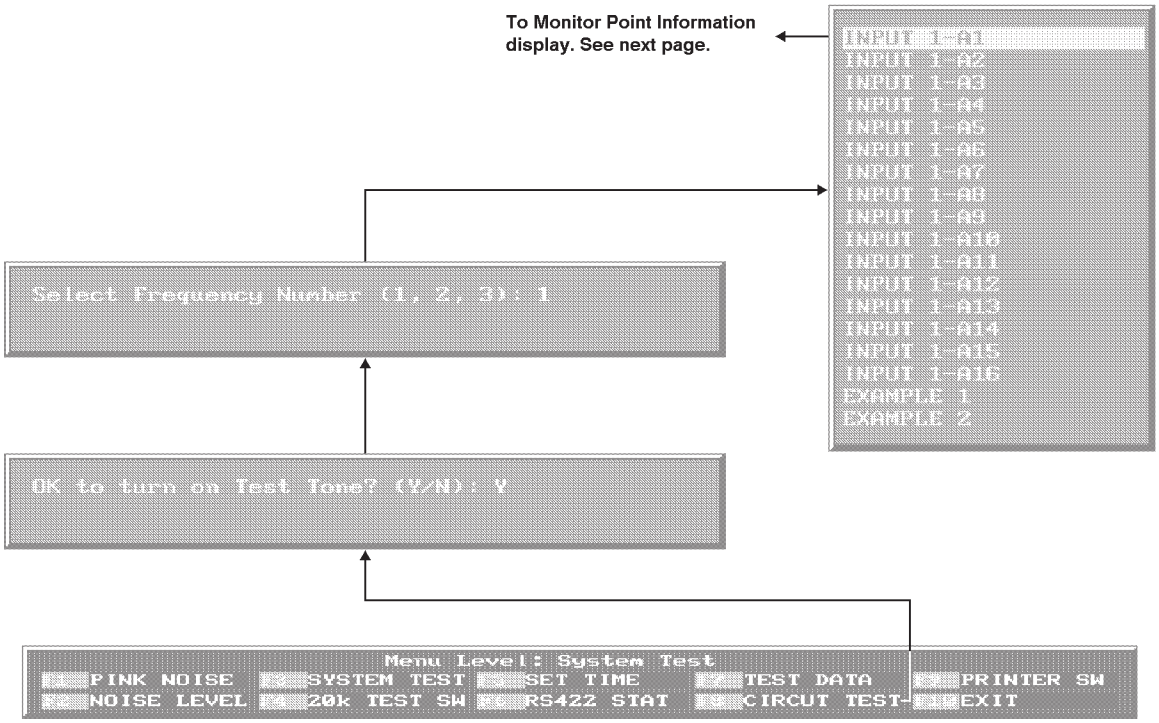

Figure 27 - System Test Menu
Circuit Test Initiation

The 'Circuit Test' function is used to perform a single frequency test on a single circuit. In any given circuit test, any circuit can be tested at any of the frequencies which have been set up for automatic testing of that circuit. The levels and allowable deviation are the same as for automatic testing.

To perform a circuit test, in the System Test menu, press the function key associated with the 'Circut Test' function. Since the test requires that test tones will be turned on and that the system will be busy during the test, a confirmation window appears with the prompt 'OK to turn on Test Tone? (Y/N) :'. Type 'Y' to continue, or 'N' to abort the test, then press 'Enter'. If 'Y' is entered, a frequency selection window appears containing the prompt 'S-elect Frequency Number (1, 2, 3):'. The numbers correspond to the test frequencies set up for the circuit which are listed by number in the 'Current Monitor Point Info' block on the screen. See figure 28 and figure 1, item 1. Type a frequency number, then press 'E-nter'. A circuit selection list window appears.

Use the up and down arrow keys to move the cursor (yellow bar) to the desired circuit, then press 'Enter'. The 'Pg Up' and 'Pg Dn' keys can be used to move through the list more quickly, if desired. After 'Enter' is pressed, testing begins in a few seconds, as

SYSTEM TEST MENU, CIRCUIT TEST (continued)

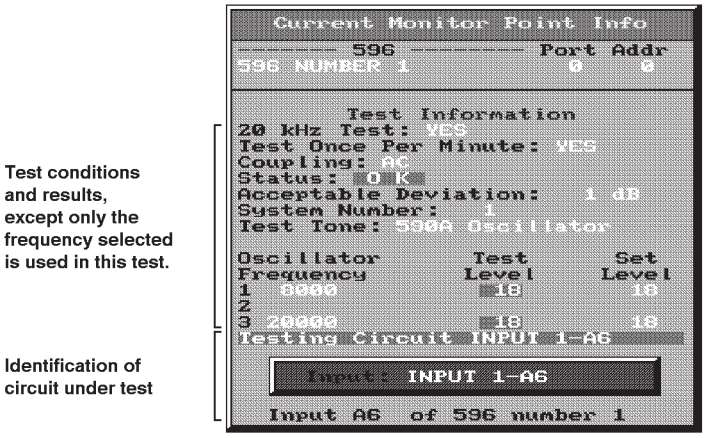

Figure 28 - System Test Menu
Circuit Test Summary and Results

indicated in the ‘Current Monitor Point Info’ block, where results are also shown. While the test is in progress, the signal level is shown on both the VU meter and the digital Meter Level indication (figure 1, items 3 and 5). The test is terminated by pressing a key, or after 10 minutes of inactivity at the keyboard.

SYSTEM TEST MENU, PRINTER SWITCH

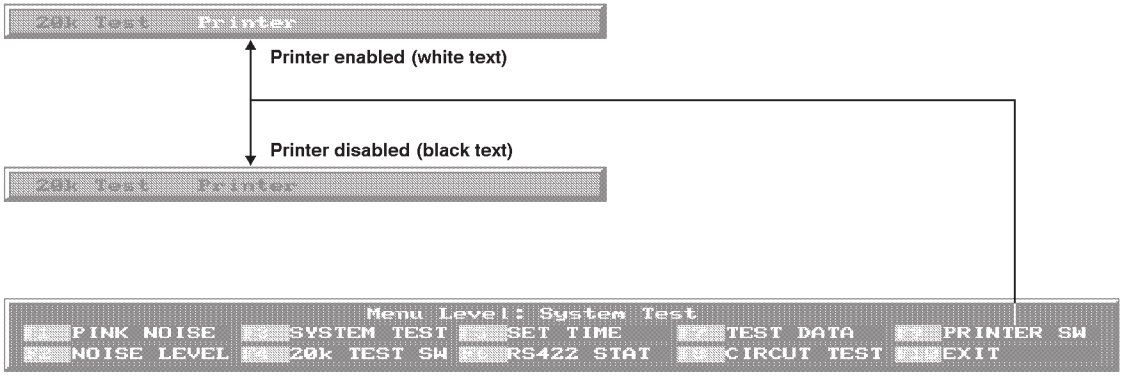

Figure 29 - System Test Menu
Printer Switch

The 'Printer Switch' function enables and disables the print function of the computer, both for automatically produced printouts such as new faults, and for on-demand printouts such as test or setup data.

There is an on-screen indication of the status of the print function. When the word 'Printer' is shown in white, the print function is enabled. When shown in black, the function is disabled. See figures 29 and figure 1, item 9.

The printer function is a toggle. To change the state of the 'Printer' function, press the function key associated with 'PRINTER SW' in the 'System Test' menu. If the function is enabled, it will be disabled. If it is disabled, it will be enabled.

SYSTEM TEST MENU, EXIT

To leave the ‘System Test’ menu and screen and return to the Main menu and screen, press the function key associated with the ‘EXIT’ function.

MAIN MENU, PASSWORD SETUP

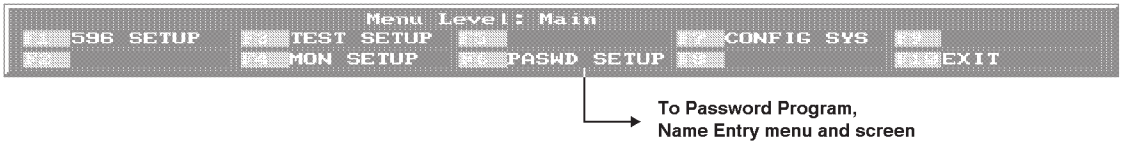

Figure 30 - Main Menu
Password Setup

The Monitor/Test System Software is password protected to provide a measure of security for the system. The purpose of the Password Setup Program is to authorize use of the program by entering names of individuals and individual passwords. Availability and use of functions or portions of the program can be tailored to individual needs.

To access the 'Password Setup Program, from the Main menu, press the function key associated with 'PASWD SETUP'. In a short time the Main menu and 'Name Entry' screen of the Password Setup Program will appear.

PASSWORD SETUP, NAME ENTRY

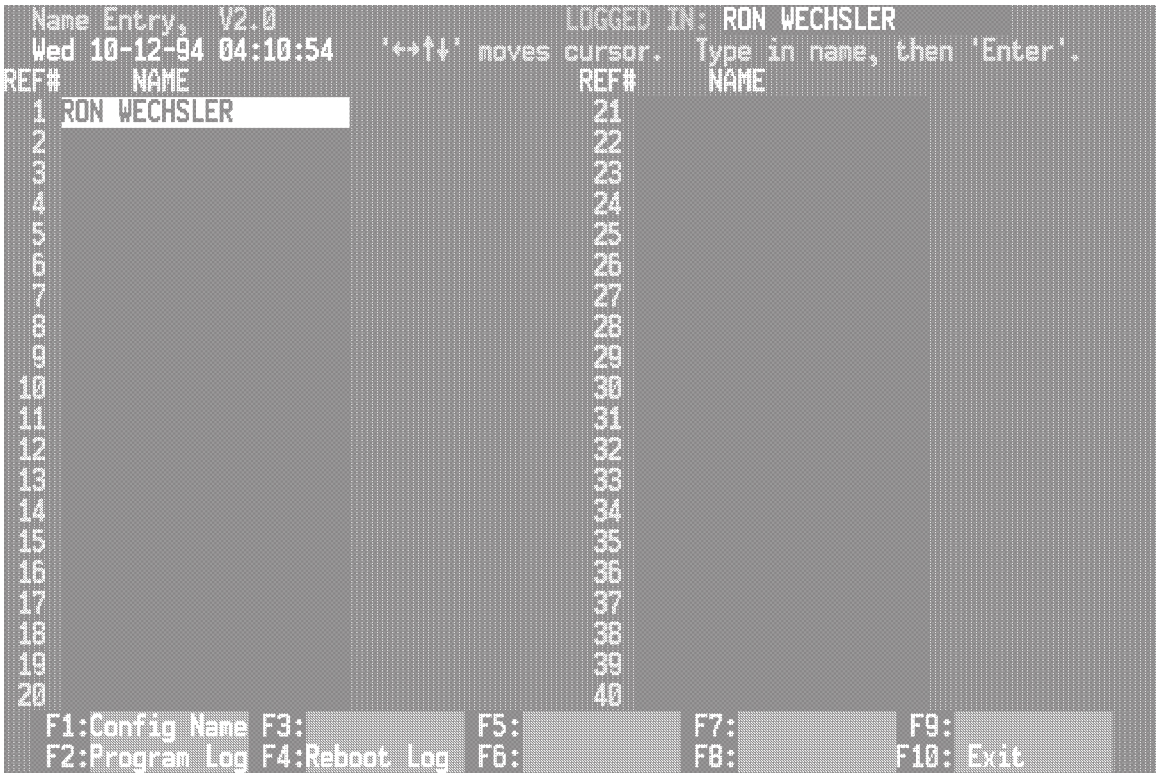

Figure 31 - Password Setup
Main Menu and Name Entry Screen

Authorized names appear on the ‘Name Entry’ screen. To add a name, use the arrow keys to move the cursor (white bar) to a blank position. type the new name, then press ‘Enter’ (note that if ‘Enter’ is not pressed, the name will not be retained). After ‘Enter’ is pressed, the cursor moves to the next Reference number position.

To remove a name from the authorized list, use the arrow keys to move the cursor to the name. Press the spacebar, then press ‘Enter’. The name is removed, however, it is also necessary to remove the password associated with it. Even though the name has been removed, the person can gain access to the program by entering his/her password. See the ‘Configure Name’ function for instructions on removing a password.

PASSWORD SETUP, CONFIGURATION

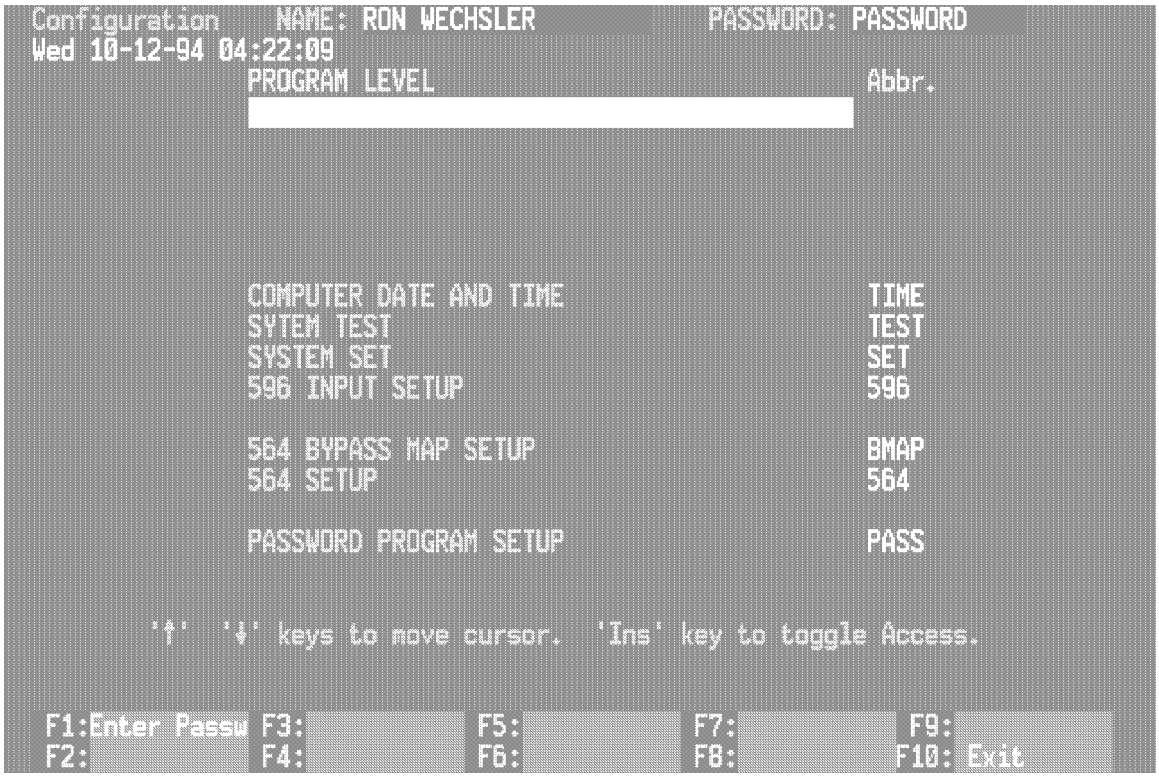

Figure 32 - Password Setup
Configuration Menu and Screen

The purpose of the 'Configure Name' function is to assign or change the password and the level of access to the Monitor/Test program functions.

Changes and entries of a given level can only be made when you have entered the Monitor/Test program using a password with higher level access. To make changes to the password or the access of a name which is already in the system, when in the 'Name Entry' screen and Password Main menu, use the arrow keys to move the cursor (white background) to the name. Press the 'Configure Name' function key. The 'Configuration' menu and screen appear. The main portion of the screen consists of a list of the program levels available. The right-hand column contains the abbreviations for these program levels. The abbreviations are used in the program log which is discussed in another section. Those program levels whose names are shown in gray have not been made available to this user. Those shown in white have been made available. The cursor position is shown with a gray background. The program level at the cursor position flashes in black letters if it has not been assigned, or in white letters if it has been assigned. When not at the cursor position, are light blue when assigned, or gray when not assigned. The assignment status of the program level at the cursor position can be changed by pressing the 'Ins' key. The cursor can be moved using the up and down arrow keys.

PASSWORD SETUP, CONFIGURATION (continued)

To enter a password for the current name, in the configuration menu press the function key associated with 'ENTER PASSW'. An entry blank will appear. Type the desired password, then press 'Enter'. To delete a password, when the entry blank appears, press the space bar, then press 'Enter'.

To change the password, press the function key associated with 'Enter Passw', type the new password, then press 'Enter'. The new password will take effect the next time the system is logged into. A password can consist of up to twelve characters.

After making the desired changes, press the function key associated with, 'Exit' to return to the Password Setup main menu.

To delete access for a name, the password for that name **must** be removed. A password will function even when the name is removed. Move the cursor to the position of the name using the arrow keys, press the function key associated with 'Configure Name', then press the function key associated with 'Enter Passw'. Press the spacebar, then press 'Enter'. The password is removed. Press the function key associated with 'Exit'.

Do not assign more than one user name the same password. If more than one name has the same password, upon entry of that password, the system will use the name and access level with the lowest reference number.

PASSWORD SETUP, PROGRAM LOG

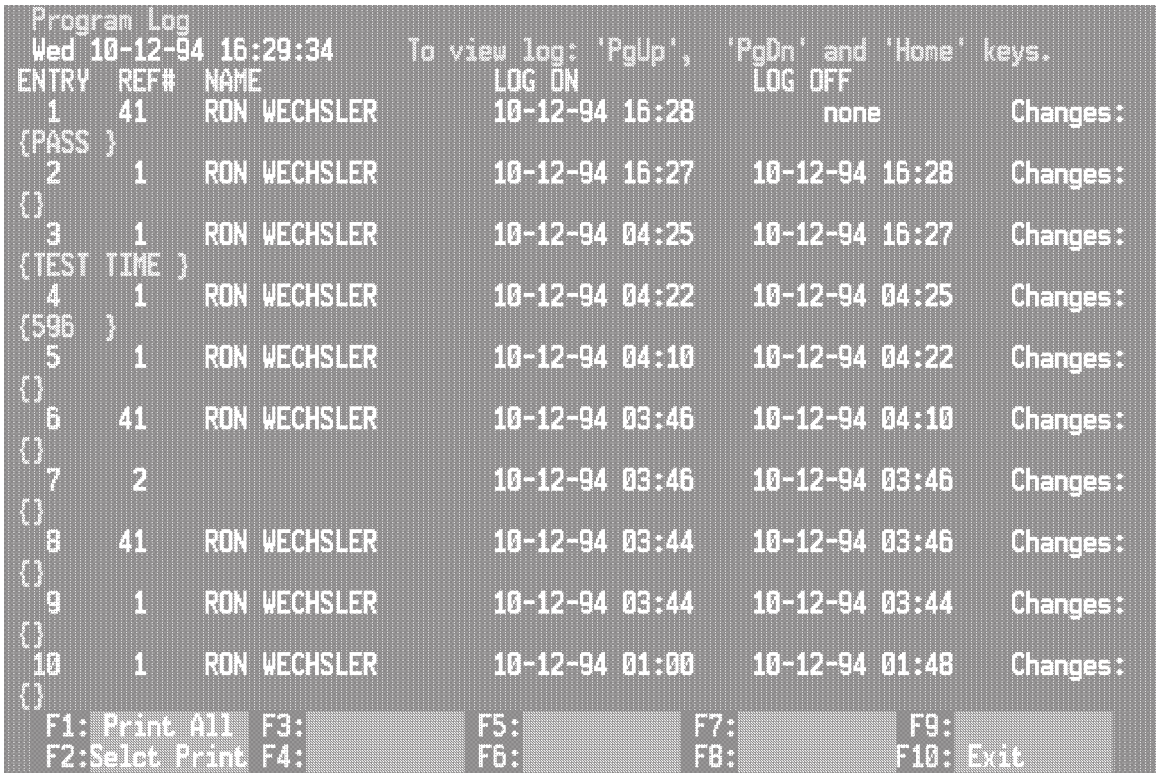

Figure 33 - Password Setup
Program Log

The Password program keeps a log of each time the Monitor/Test program is entered. The last 511 entries are retained in non-volatile memory. The log includes a record of the person whose password was used, the date and time of entry, the date and time exit, and the sections of the program in which any changes were made. Refer to figure 32 for the meaning of the abbreviations.

To access the Program Log, from the Password Setup Main menu, press the function key associated with 'Program Log'. The Program Log menu and screen appear.

The screen displays ten records at a time, with the latest entry at the beginning of the list. Use the 'Pg Dn' key to move the display toward the end of the list (older records), or the 'Pg Up' key to move toward the beginning of the list. The 'Home' key causes the display to go back to the first ten (newest) records.

The Program Log menu includes two print functions which allow full or partial printout of the log. The 'Print All' function produces a full printout of the Program Log, provided that a printer is on line and ready. The 'Selct Print' (selective printout) allows the operator to select the starting and ending records of the printout.

The 'Exit' function returns the program to the Main menu of the Password Setup program.

PASSWORD SETUP, REBOOT LOG

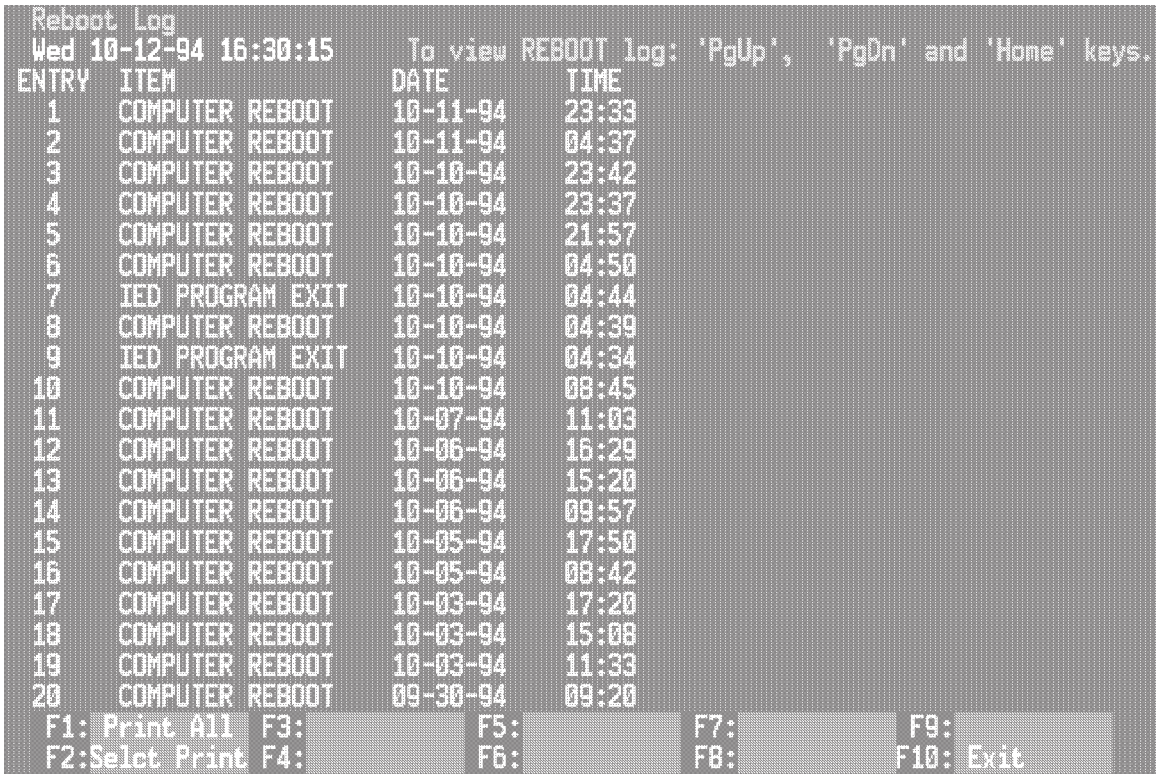

Figure 34 - Password Setup
Reboot Log

The Password program keeps a log of each time the computer is rebooted (restarted). The last 235 entries are retained in non-volatile memory. The log includes a record of the reason for the reboot, and the date and time at which it occurred. There are four reasons which the program recognizes, computer reboot (Ctrl-Alt-Del), IED program exit, MODEM interrupt, and UDAPS™ interrupt. This log is sometimes helpful for troubleshooting.

To access the Reboot log, from the Password Setup Main menu, press the function key associated with 'Reboot Log'. The reboot menu and screen appear.

The screen displays twenty records at a time, with the latest entry at the beginning of the list. Use the 'Pg Dn' key to move the display toward the end of the list (older records), or the 'Pg Up' key to move toward the beginning of the list. The 'Home' key causes the display to go back to the first ten (newest) records.

The Reboot Log menu includes two print functionswhich allow full or partial printout of the log. The 'Print All' function produces a full printout of the Reboot Log, provided that a printer is on line and ready. The 'Selct Print' (selective printout) allows the operator to select the starting and ending records of the printout.

The 'Exit' function returns the program to the Main menu of Password Setup program.

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PASSWORD SETUP, EXIT

The 'Exit' function in the Password Setup Main menu is used to leave the Password Setup program. Press the function key associated with 'Exit', and the computer returns to the Monitor/Test program Main menu.

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MAIN MENU, CONFIGURE SYSTEM

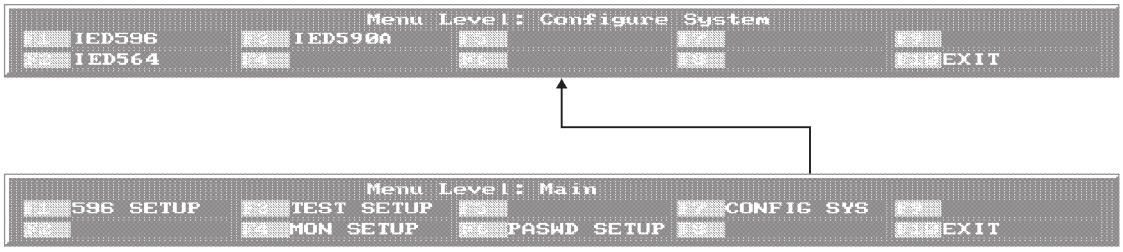

Figure 35 - Main Menu
Configure System

The 'Configure System' function provides access to the Configure System menu and screen. The Configure System menu gives access to the menus and screens for assigning computer ports, addresses, and convenience names to the 596s, 564s, and 590As, and for enabling (connecting) them. Ports and addresses must be assigned in order for the computer to communicate with these cards.

CONFIGURE SYSTEM, CONFIGURE 596

Figure 36 - Configure System Menu
Configure IED596

The 'IED596' function provides access to the Configure IED596 Menu and Screen. To use this function, while in the 'Configure System' menu, press the function key associated with the 'IED596'. The 'Configure IED596' Menu and Screen appear. See figure 37.

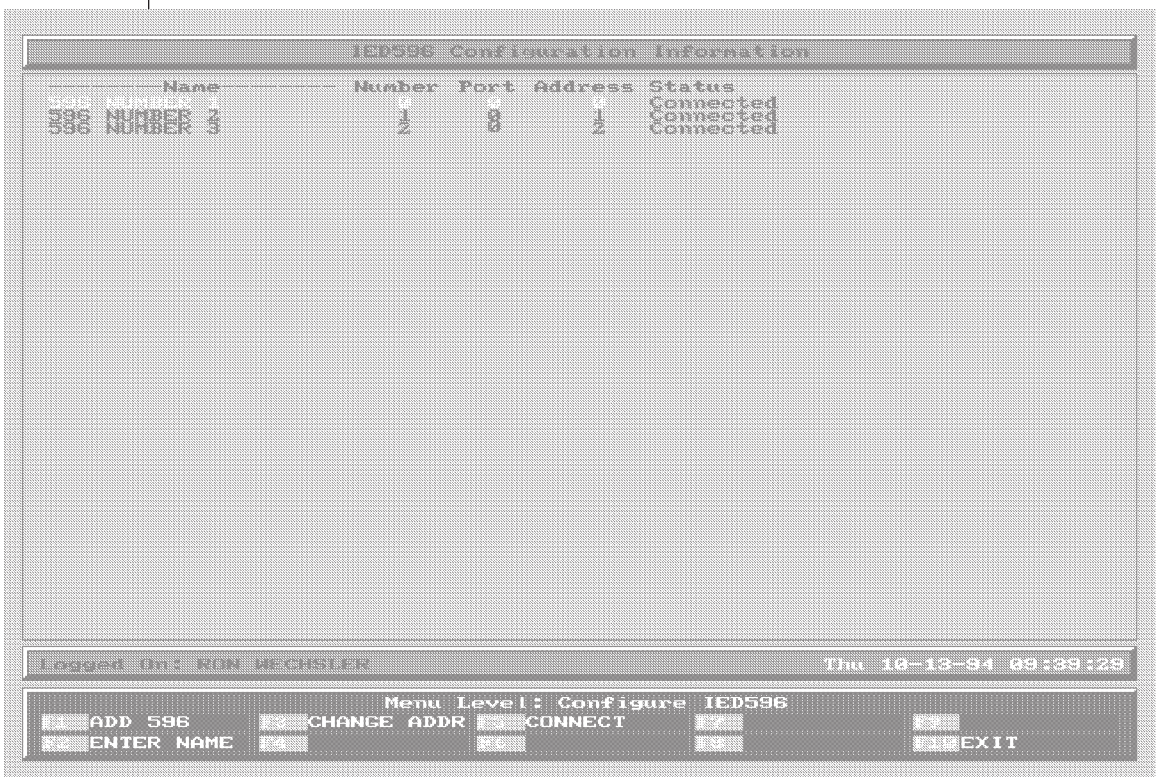

Figure 37 - Configure IED596 Menu and Screen

CONFIGURE IED596, ADD A 596

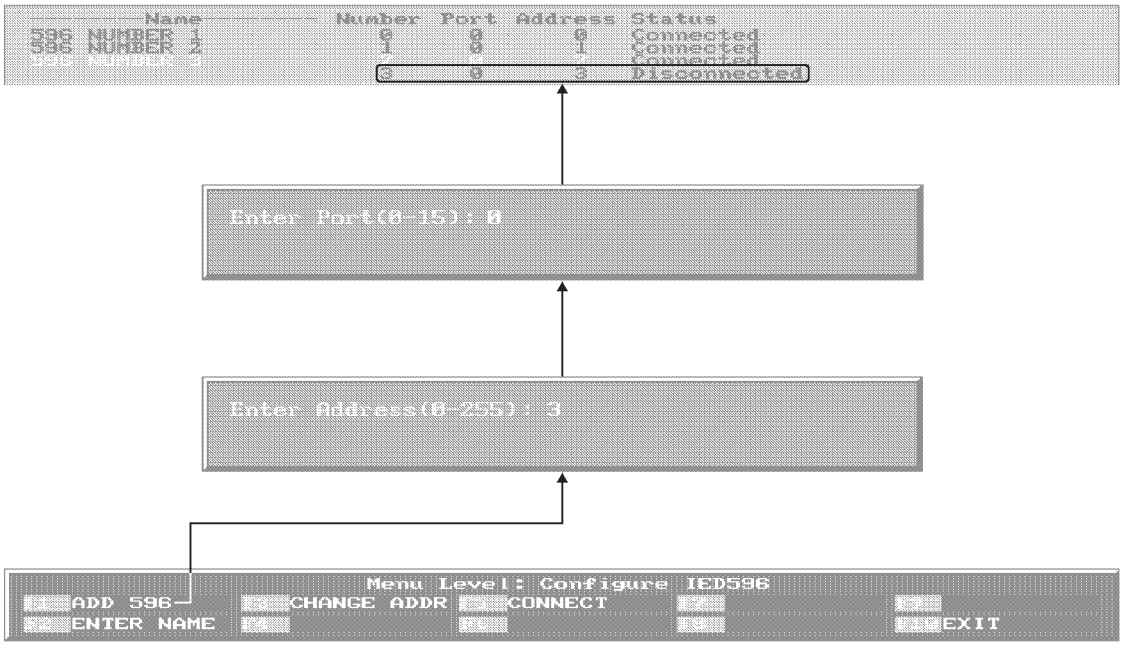

Figure 38 - Configure IED596
Add a 596

The ‘Add a 596’ function is provided for the purpose of entering the port and address of a newly added 596 card so that the computer can communicate with it.

To use this function, press the function key associated with ‘ADD 596’ in the ‘Configure IED596’ menu. An entry window appears containing the prompt ‘Enter Address(0-255) :’. The addresses of currently used 596s, if any, are displayed on the upper part of the screen. Type the desired address, then press ‘Enter’. A second entry window appears with the prompt ‘Enter Port(0-15) :’. The ports of current 596s are displayed on the upper part of the screen. Type the desired port, then press ‘Enter’. The newly assigned port and address are displayed with the other 596 data, if any, but the status is shown as ‘Disconnected’ (not enabled), and there is no entry in the Name column. Use the ‘Enter Name’ function, page 56, and the ‘Connect’ function, page 58 to complete the setup.

CONFIGURE IED596, ENTER OR CHANGE NAME

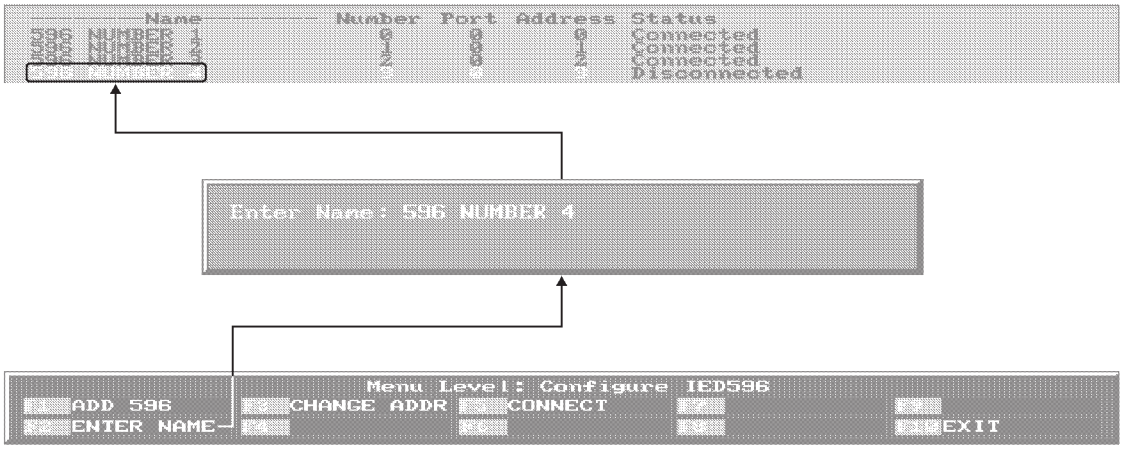

Figure 39 - Configure IED596
Enter or Change Name

The ‘Enter or Change Name’ function is used to name a 596 for convenience of the operator so that he/she can more easily recognize the area or application it serves.

First select the 596 for which the name is to be entered or changed. To do so, use the up and down arrow keys to move the cursor (text shown in yellow) to the desired 596. To access the function, in the ‘Configure IED596’ menu, press the function key associated with ‘ENTER NAME’. An entry window appears with the prompt ‘Enter Name :’. Type the desired name using up to 20 characters and/or spaces, then press ‘Enter’. The name appears in the name column of the screen display for the selected 596.

CONFIGURE IED596, CHANGE ADDRESS

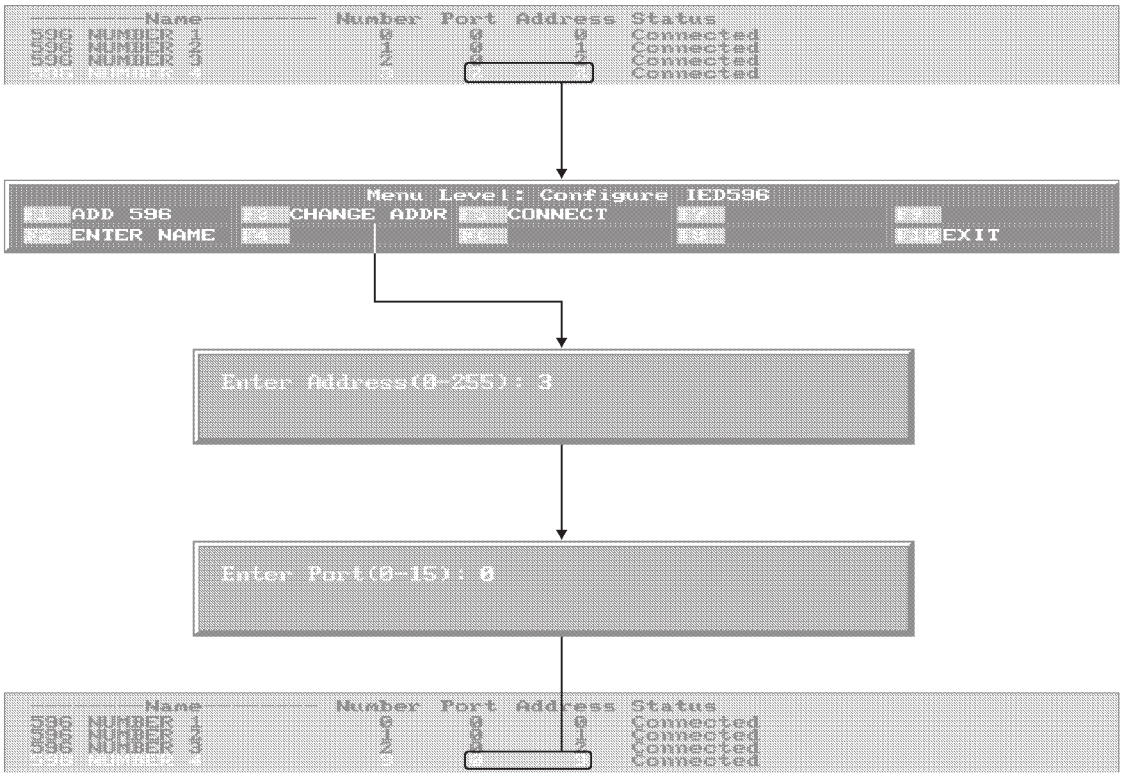

Figure 40 - Configure IED596
Change Address

When making changes in the system, it may be necessary to change the port and addresses of the 596 cards. These changes can be made easily from the 'Configure IED596' menu. To change the port and/or address of a 596 card, first move the cursor (yellow text) to the desired 596 using the up and down arrow keys. When the cursor is positioned at the desired card, press the function key associated with 'CHANGE ADDR' in the 'Configure IED596' menu.

An entry window appears containing the prompt 'Enter Address(0-255) :'. Type the desired address, then press 'Enter'. A second entry window appears containing the prompt 'Enter Port(0-15) :'. Type the desired port number, then press 'Enter'. The new port and address are displayed with the other 596 data.

CONFIGURE IED596, ENABLE/DISABLE 596

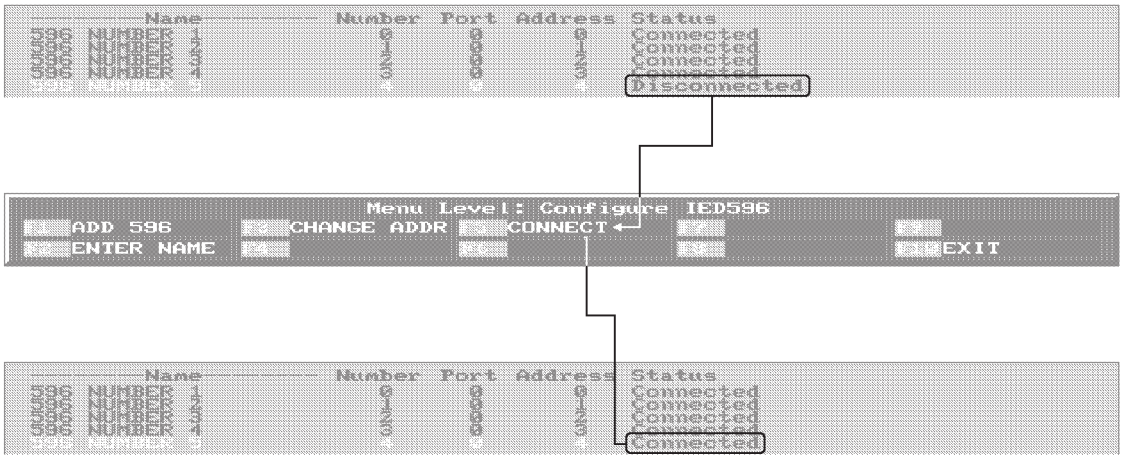

Figure 41 - Configure IED596
Enable/Disable (connect/disconnect) 596

The purpose of the 'Enable/Disable 596' function is to enable for use an installed 596 card, or to disable it. It is a toggle function. When a card is not enabled, the status on-screen will be listed as disconnected. When it is enabled, the on-screen status will be listed as connected. To change the status, first move the cursor (yellow text) to the desired 596 card using the up and down arrow keys. When the cursor is positioned, press the function key associated with 'CONNECT'. If the 596 is enabled (connected), it will be disabled (disconnected). If it is disabled (disconnected), it will be connected.

CONFIGURE IED596, EXIT

The 'Exit' function in the Configure IED596 menu is used to leave that menu and return to the Configure System menu. Press the function key associated with 'Exit', and the computer returns to the Configure System menu.

CONFIGURE SYSTEM, CONFIGURE 564

Figure 42 - Configure System Menu
Configure IED564

The 'IED564' function provides access to the Configure IED564 Menu and Screen. To use this function, while in the 'Configure System' menu, press the function key associated with the 'IED564'. The 'Configure IED564' Menu and Screen appear. See figure 43.

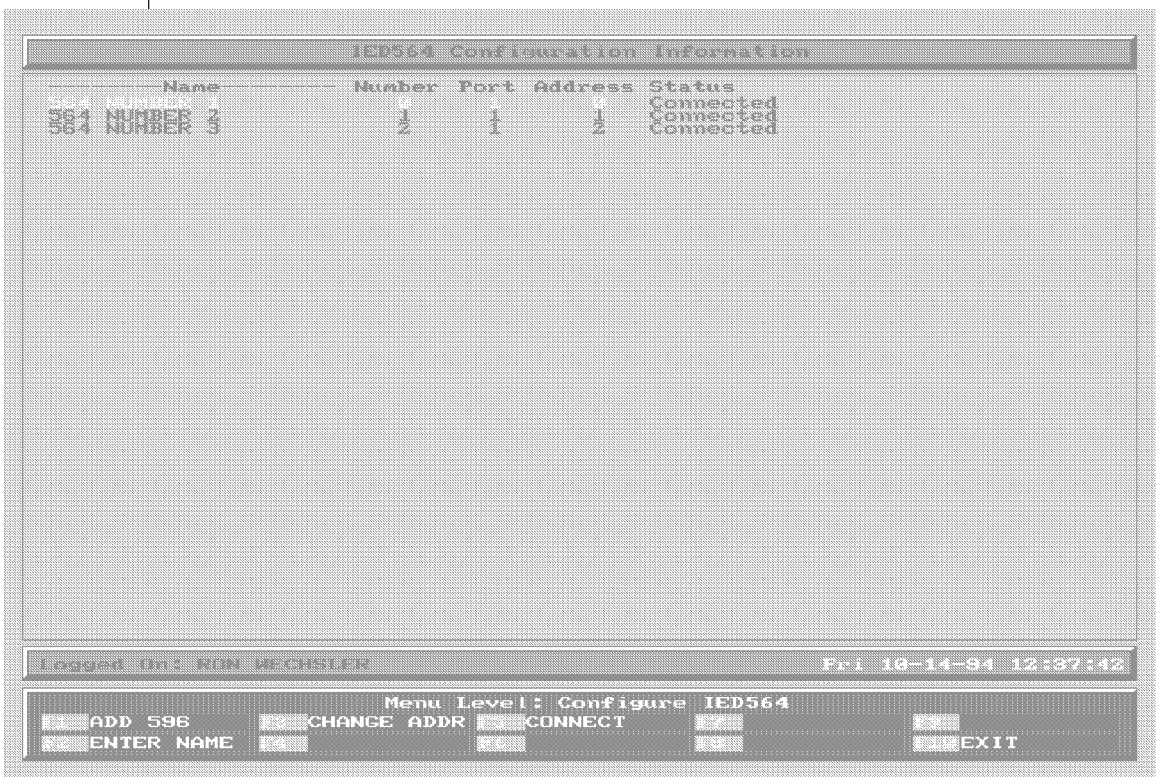

Figure 43 - Configure IED564 Menu and Screen

CONFIGURE IED564, ADD A 564

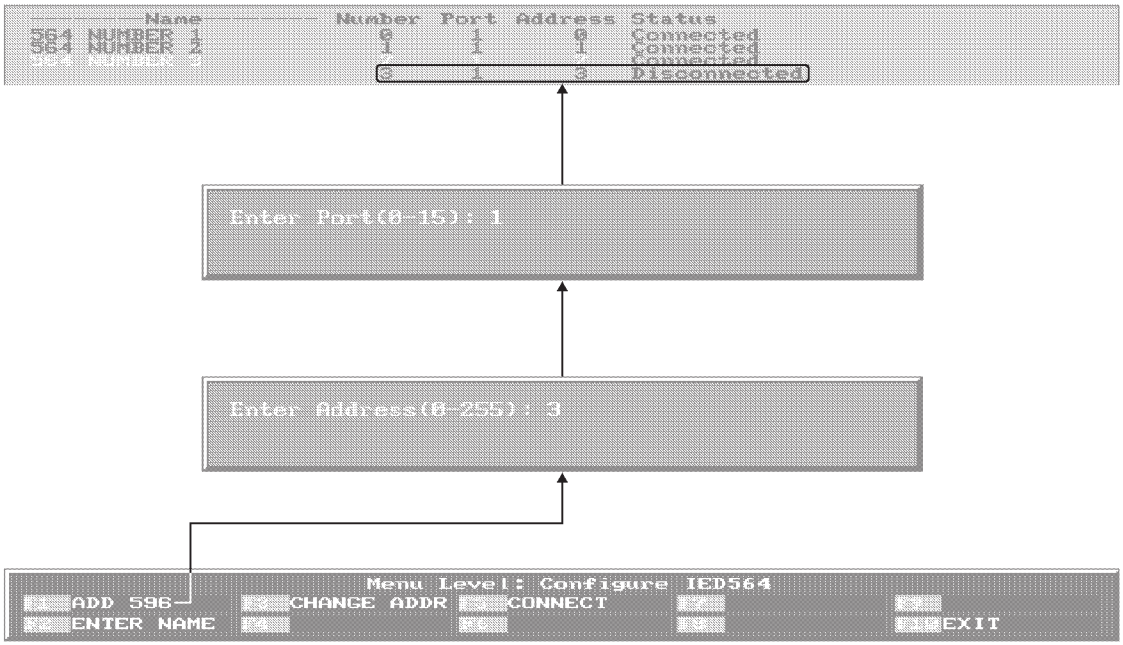

Figure 44 - Configure IED564
Add a 564

The ‘Add a 564’ function is provided for the purpose of entering the port and address of a newly added 564 card so that the computer can communicate with it.

To use this function, press the function key associated with ‘ADD 564’ in the ‘Configure IED564’ menu. An entry window appears containing the prompt ‘Enter Address(0-255) :’. The addresses of currently used 564s, if any, are displayed on the upper part of the screen. Type the desired address, then press ‘Enter’. A second entry window appears with the prompt ‘Enter Port(0-15) :’. The ports of current 564s are displayed on the upper part of the screen. Type the desired port, then press ‘Enter’. The newly assigned port and address are displayed with the other 564 data, if any, but the status is shown as ‘Disconnected’ (not enabled), and there is no entry in the Name column. Use the ‘Enter Name’ function, page 62, and the ‘Connect’ function, page 64 to complete the setup.

CONFIGURE IED564, ENTER OR CHANGE NAME

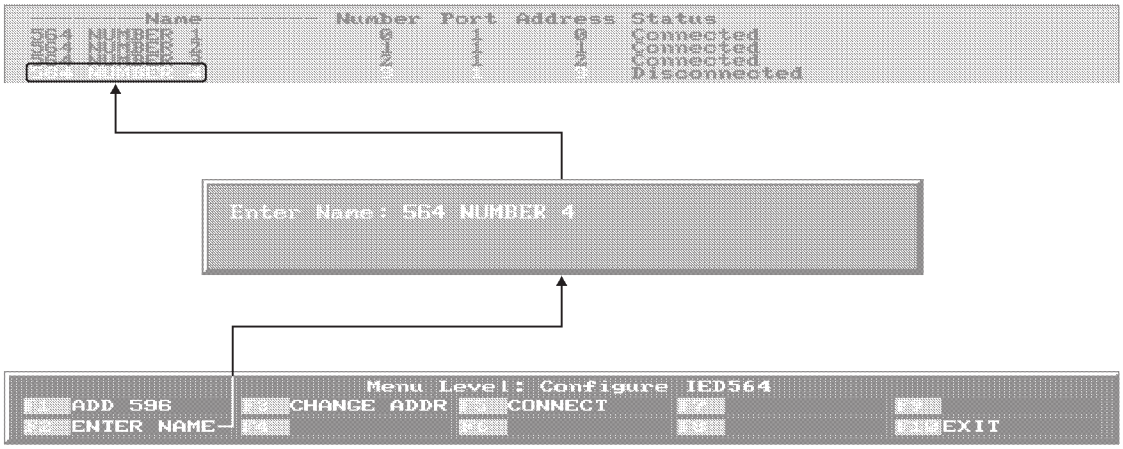

Figure 45 - Configure IED564
Enter or Change Name

The ‘Enter or Change Name’ function is used to name a 564 for convenience of the operator so that he/she can more easily recognize the area or application it serves.

First select the 564 for which the name is to be entered or changed. To do so, use the up and down arrow keys to move the cursor (text shown in yellow) to the desired 564. To access the function, in the ‘Configure IED564’ menu, press the function key associated with ‘ENTER NAME’. An entry window appears with the prompt ‘Enter Name :’. Type the desired name using up to 20 characters and/or spaces, then press ‘Enter’. The name appears in the name column of the screen display for the selected 564.

CONFIGURE IED564, CHANGE ADDRESS

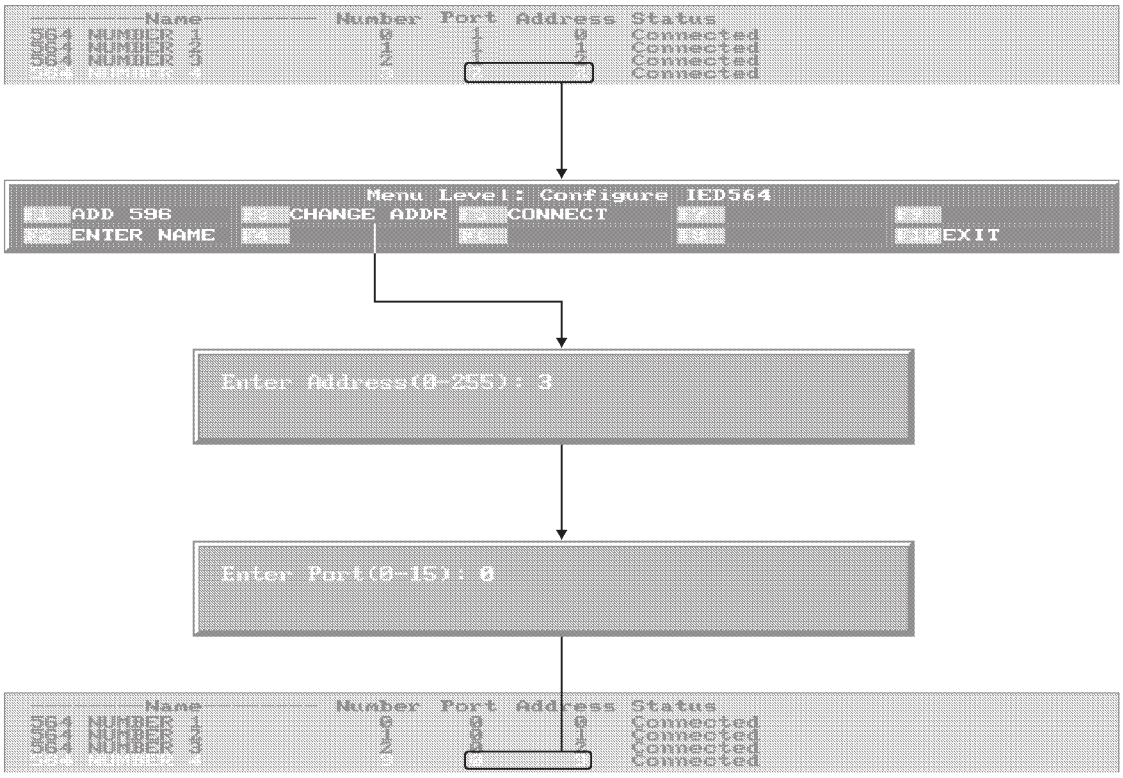

Figure 46 - Configure IED564
Change Address

When making changes in the system, it may be necessary to change the port and addresses of the 564 cards. These changes can be made easily from the ‘Configure IED564’ menu. To change the port and/or address of a 564 card, first move the cursor (yellow text) to the desired 564 using the up and down arrow keys. When the cursor is positioned at the desired card, press the function key associated with ‘CHANGE ADDR’ in the ‘Configure IED564’ menu.

An entry window appears containing the prompt ‘Enter Address(0-255) :’. Type the desired address, then press ‘Enter’. A second entry window appears containing the prompt ‘Enter Port(0-15) :’. Type the desired port number, then press ‘Enter’. The new port and address are displayed with the other 564 data.

CONFIGURE IED564, ENABLE/DISABLE 564

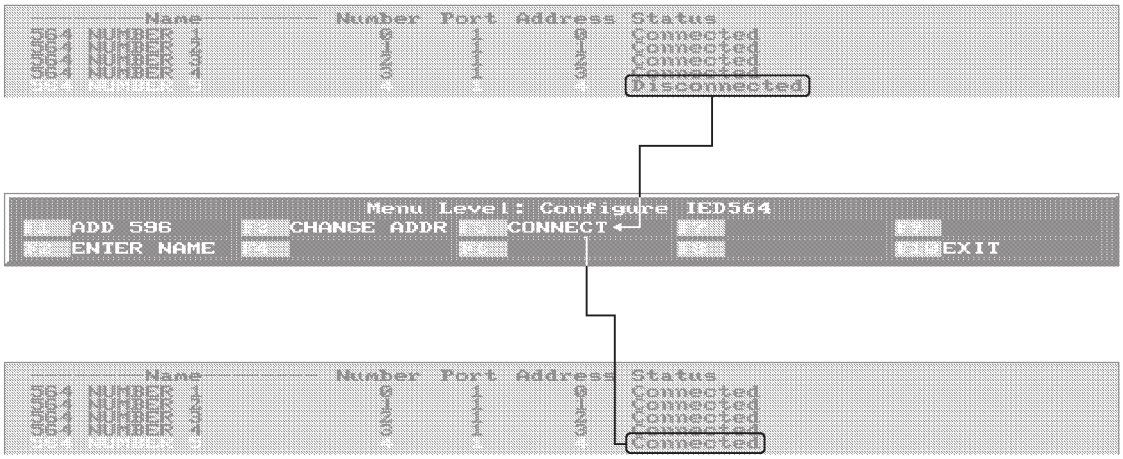

Figure 47 - Configure IED564
Enable/Disable (connect/disconnect) 564

The purpose of the 'Enable/Disable 564' function is to enable for use an installed 564 card, or to disable it. It is a toggle function. When a card is not enabled, the status on-screen will be listed as disconnected. When it is enabled, the on-screen status will be listed as connected. To change the status, first move the cursor (yellow text) to the desired 564 card using the up and down arrow keys. When the cursor is positioned, press the function key associated with 'CONNECT'. If the 564 is enabled (connected), it will be disabled (disconnected). If it is disabled (disconnected), it will be connected.

CONFIGURE IED564, EXIT

The 'Exit' function in the Configure IED564 menu is used to leave that menu and return to the Configure System menu. Press the function key associated with 'Exit', and the computer returns to the Configure System menu.

CONFIGURE SYSTEM, CONFIGURE 590A

This function is not currently available.

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