



Installation and Operation Instructions

Part No. CRLIDASY001A00

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SAFETY CONSIDERATIONS

Installing, starting up, and servicing air-conditioning equipment can be hazardous due to system pressures, electrical components, and equipment location.

Only trained, qualified installers and service technicians should install, start up, and service this equipment.

When working on air-conditioning equipment, observe precautions in the literature and on tags, stickers, and labels attached to the equipment.

Follow all safety codes. Wear safety glasses and work gloves. Use care in handling equipment.

⚠ WARNING

Be sure power to equipment is shut off before performing maintenance or service.

IMPORTANT: Install the enhanced display in an indoor location only. Display is not intended for outdoor use.

INTRODUCTION

The remote enhanced display (Fig. 1) is a network access local interface with a 16-line by 40-character backlit LCD (liquid crystal diode) screen and 4 softkeys for menu driven selections below the display screen. The enhanced display allows the operator to view all key unit operating data on a single screen. The remote enhanced display offers the following:

30GX,HX (PSIO Based) and ComfortLink Series Units — The remote enhanced display supplements the standard user interface that is supplied with the 30GX and 30HX chillers. The remote enhanced display is mounted outside of the chiller control box (but inside a building) for convenient viewing and access. The standard user interface that is mounted on the chiller control box does not have to be removed to use the remote enhanced display.

48/50E Series Units — The remote enhanced display permits access to Carrier Comfort Network (CCN) controls available with the 48/50E series units. The module is designed to display unit operating data and allow for modification of configuration tables. This device is intended for temporary use for access to the rooftop software at the unit. It can also be used as a permanent control device inside a building.

⚠ CAUTION

The remote enhanced display accessory is designed for indoor use. For outdoor applications, the display must be temporarily installed, then removed immediately following its use. Failure to remove the display from an outdoor application will result in damage to display.

⚠ CAUTION

A separate transformer (provided in kit) must be used to power the remote enhanced display when used with *ComfortLink* and 48/50E series units. Permanent damage to the unit and to the accessory will result if the remote enhanced display and the controller being accessed are powered with a shared transformer.

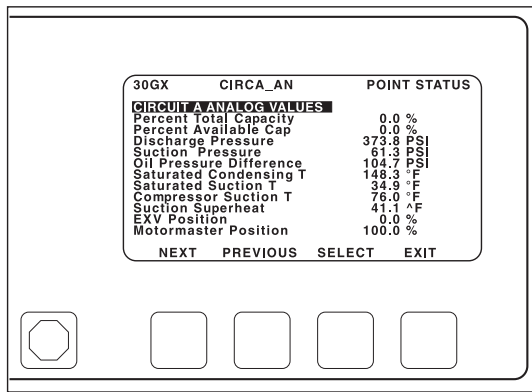


Fig. 1 — Remote Enhanced Display Screen and Keypad

PREINSTALLATION

Check each item for shipping damage. If any damage is found, file a claim with the shipping agent immediately. If any item is missing or if any part does not assemble properly, notify your Carrier representative. Table 1 lists the contents of the kit and Table 2 lists field-supplied materials that are required for installation.

Table 1 — Remote Enhanced Display Accessory Kit Contents

PART NO.	DESCRIPTION	QUANTITY
30HX400380	Remote Enhanced Display and Control Box Assembly	1
30HX500381*	Mounting Bracket	1
AL56AU215*	No. 10-32 x ³ / ₈ -in. Pan Head Sheet Metal Screws	3
CEAS221045-01 (30HX501256)	20 vac Transformer (Power Cube)	1
30HX501247	Plug Connector	1

*30HX units only.

In addition to the above parts, which are supplied with the kit, the field-supplied items shown in Table 2 are necessary to complete the installation.

Table 2 — Field-Supplied Material Requirements

DESCRIPTION	QUANTITY
¹ / ₂ -in. Flexible Conduit*	1
¹ / ₂ -in. Conduit Connectors	2
18 AWG Wire (for 24 V Control Power)*	1
3-Conductor Shielded Cable (for Communications Wiring)*	1
Electrical Connectors & Supplies	As Needed

LEGEND

AWG — American Wire Gage

*Length determined by application.

INSTALLATION

Step 1 — Connect Field Wiring to Enhanced Display

1. Locate the remote enhanced display/control box assembly. Remove the four 10-32 x ³/₈-in. machine screws that secure the enhanced display to its control box. Separate the display from the control box. See Fig. 2. Place the screws and the display in a safe location for later use.
2. The display control box offers three ⁷/₈-in. knockouts for routing the 24-v power leads and COMM cable. Remove the knockout that is most convenient for the application.

3. Attach field-supplied conduit and conduit connector to the display control box. Route power leads and COMM cable through the conduit.
4. There are 5 color-coded wires on the back of the enhanced display: yellow, brown, red, white, and black. Using good wiring practice, connect one of the field-supplied power leads to the yellow wire. Connect the remaining power lead to the brown wire. The enhanced display is rated 18 to 30 input volts, 24 vac nominal, and 7 watts. The 20 vac transformer (supplied) should be used for remote installation, 48/50E series units, and ComfortLink™ series units.
5. Connect each of the 3 conductors of a shielded communications cable (field-supplied) to the black, white, and red wires on the enhanced display. See Table 3 for approved shielded cables and Table 4 for color code recommendations.

NOTE: Connect shield at unit control box only.

6. Re-secure the display to its control box, using the four 10-32 x ³/₈-in. machine screws that were removed in Step 1.
7. For 30HX applications, using the three no. 10 x ³/₈-in. sheet metal screws provided, attach the display mounting bracket (Fig. 3) to the display control box.

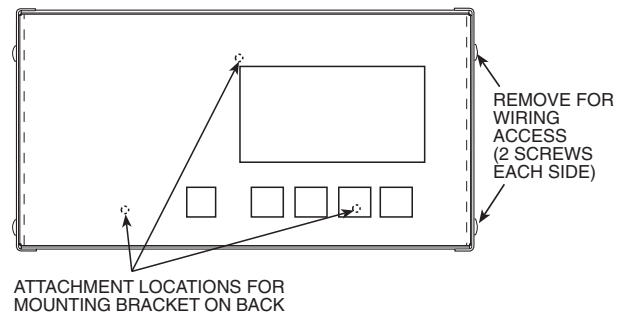


Fig. 2 — Remote Enhanced Display and Control Box Assembly

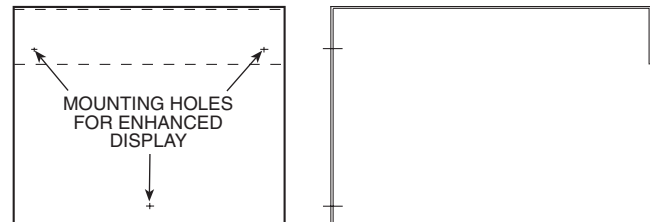


Fig. 3 — Enhanced Display Mounting Bracket

Table 3 — Approved Shielded Communication Cables

MANUFACTURER	CABLE PART NO.
Alpha	2413 or 5463
American	A22503
Belden	8772
Columbia	02525

Table 4 — Color Code Recommendations

SIGNAL TYPE	COMMUNICATION BUS CONDUCTOR INSULATION COLOR	PLUG PIN NO.
Positive (+)	RED	1
Ground	WHITE	2
Negative (-)	BLACK	3

NOTE: If a cable with a different color scheme is selected, a similar color code should be adopted for the entire network.

Step 2 — Install Wiring Between Display and Unit (*ComfortLink™ Series Units Only*)

⚠ WARNING

Be sure power to equipment is shut off before performing installation. Lock out and tag all disconnects.

Access the *ComfortLink* Series unit control box. Attach the field-supplied conduit to the control box using one of the 7/8-in. conduit connections or drill a 7/8-in. hole in the control box.

NOTE: Communication wire length should not exceed 1000 ft without using a repeater.

NOTE: Remove 3-pin connector installed on the transformer. Wirenut the transformer leads to the YEL and BRN leads from the display.

Locate the CCN screw connectors on the TB3 terminal block. See Fig. 4. Attach the communication cable wires to the screw connectors according to the list in Table 5. Connect the red wire from the enhanced display to the (+) terminal on TB3, the white wire to the (COM) terminal, and the black wire to the (-) terminal. Mount the display in a suitable indoor location. Connect shield at TB3 only.

Table 5 — ComfortLink Wire Connections

REMOTE ENHANCED DISPLAY	COMFORTLINK TB3 TERMINAL BLOCK
J1 — 1 Red	(+) terminal
J1 — 2 White	(COM) terminal
J1 — 3 Black	(-) terminal

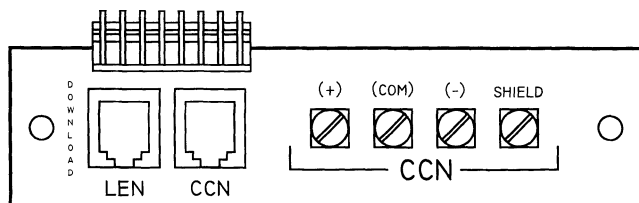


Fig. 4 — TB3 Terminal Block

Step 3 — Install Power Wiring Between Display and Chiller (30GX,HX PSIO Based Units Only)

⚠ WARNING

Be sure power to equipment is shut off before performing installation. Lock out and tag all disconnects.

- For 30HX units remove the access panel on the right-hand side of the chiller control box. Remove one of the 7/8-in. knockouts from the top of the chiller control box.

For 30GX080-176 units, open the left control box at the end of the chiller. For 30GX205-350 units, open the side control box door. Remove one of the plug buttons for a 7/8-in. knockout in the bottom of the chiller control box.

NOTE: If all of the knockouts are being used, drill a 7/8-in. opening to connect the flexible conduit to the chiller control box.

- Attach field-supplied conduit connector and conduit from the remote enhanced display box to the top (30HX) or bottom (30GX) of the chiller control box. Route the power leads and the COMM cable inside the chiller control box and down to the PSIO-1 controller. See Fig. 5.
- Remove the power connector (PWR) from the top of the PSIO-1 controller. The power connector is the one closest to the back of the chiller control box.

- Attach the remote enhanced display power leads to the PSIO-1 power connector, following the connections listed in Table 6. Connect the yellow wire from the display to pin no. 1 on the PSIO-1 power connector. Connect the brown wire from the display to pin no. 2. Ensure that the existing PSIO-1 power wires are reinstalled correctly.
- Plug the PSIO-1 power connector back into the top of the PSIO-1 controller.
- The remote enhanced display requires indoor installation. When connecting to a 30GX chiller, a separate power transformer (supplied in the accessory kit) can be used to facilitate installation of the enhanced display at an indoor location.

NOTE: See Fig. 6 for overview of typical system installation.

Step 4 — Connect Communication (COMM) Wiring to Chiller (30GX,HX PSIO Based Units Only)

- Locate the COMM1 communication connector on the top left side of the PSIO-1 controller.

IMPORTANT: Do NOT connect the enhanced display to the COMM3 connector; the display will not function correctly.

Attach the communication cable wires to the PSIO-1 communication (COMM1) connector, according to the connection diagram in Fig. 5 and list in Table 6. Connect the red wire from the enhanced display to pin no. 1 on the COMM1 connector; connect the white wire to pin no. 2, and the black wire to pin no. 3. Ensure that the existing wires in the COMM1 connector are reinstalled correctly.

NOTE: COMM1 wire length cannot exceed 1000 ft without use of a repeater.

- Plug the COMM1 connector back into the top of the PSIO-1 controller. For 30HX units, replace the access panel that was previously removed from the chiller control box. For 30GX units, close control box.
- On 30HX units, position the enhanced display mounting bracket over the top of the chiller control box in the desired location. See Fig. 9. For 30GX units, mount the display in a suitable indoor location.

Step 5 — Install Wiring Between Display and Unit (48/50E Series Units Only)

⚠ WARNING

Be sure power to equipment is shut off before performing installation. Lock out and tag all disconnects.

Access 48/50E series unit control box. Refer to Fig. 7 for control board connection locations. Connect the remote enhanced display to the CCN (Carrier Comfort Network) connection as shown in Fig. 8. Use the supplied 3-pin plug connector.

NOTE: Communications wire length should not exceed 1000 ft without using a repeater.

NOTE: Remove 3-pin plug connector installed on the transformer. Wirenut the transformer leads to the YEL and BRN leads from the display. See Fig. 8.

NOTE: The CCN connection is located adjacent to the SIO connection on the control board. Be sure the correct connection is made.

IMPORTANT: Install the remote enhanced display temporarily. Display is not intended for permanent outdoor use.

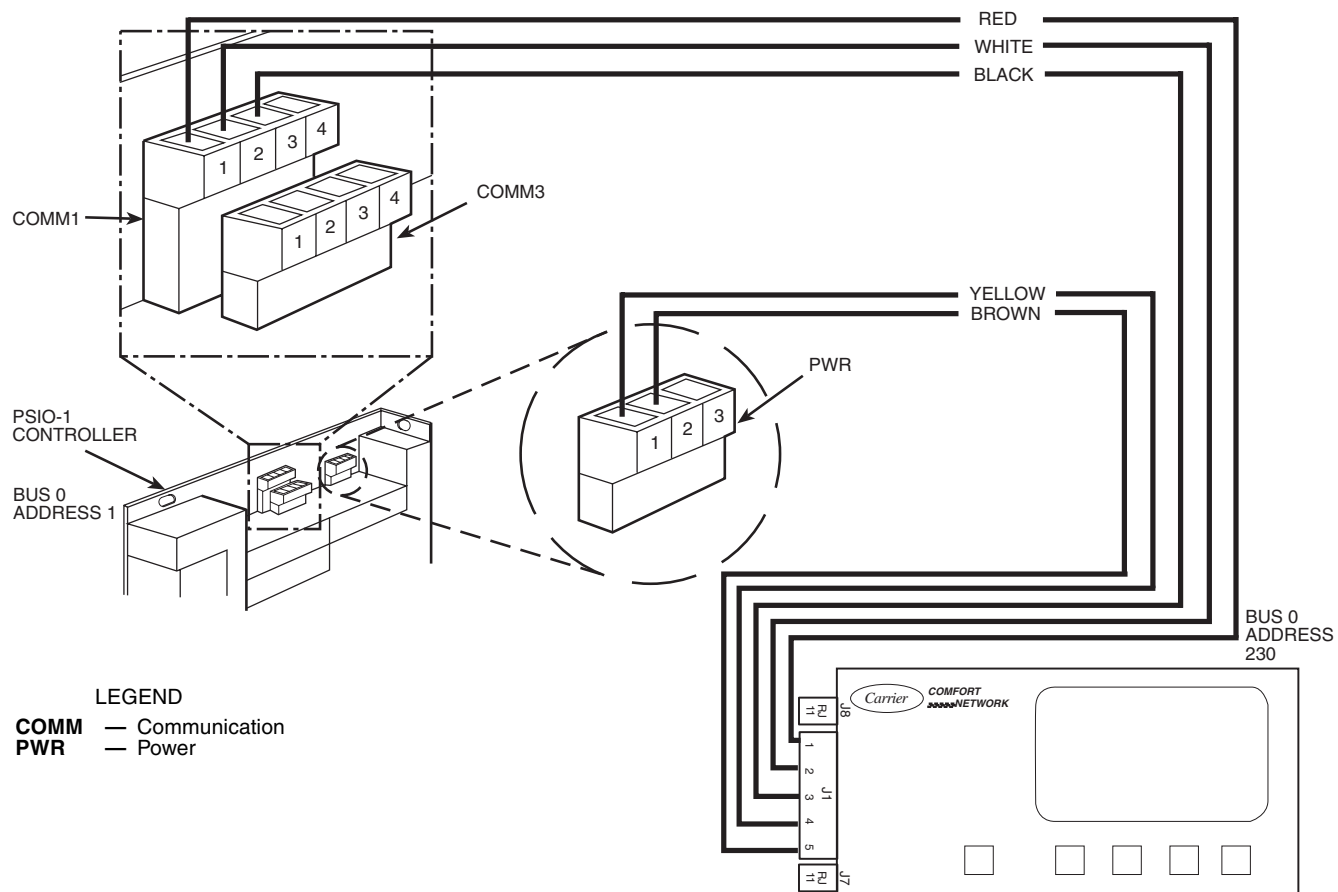


Fig. 5 — Connecting Remote Enhanced Display to PSIO-1 (30GX,HX PSIO Based Units)

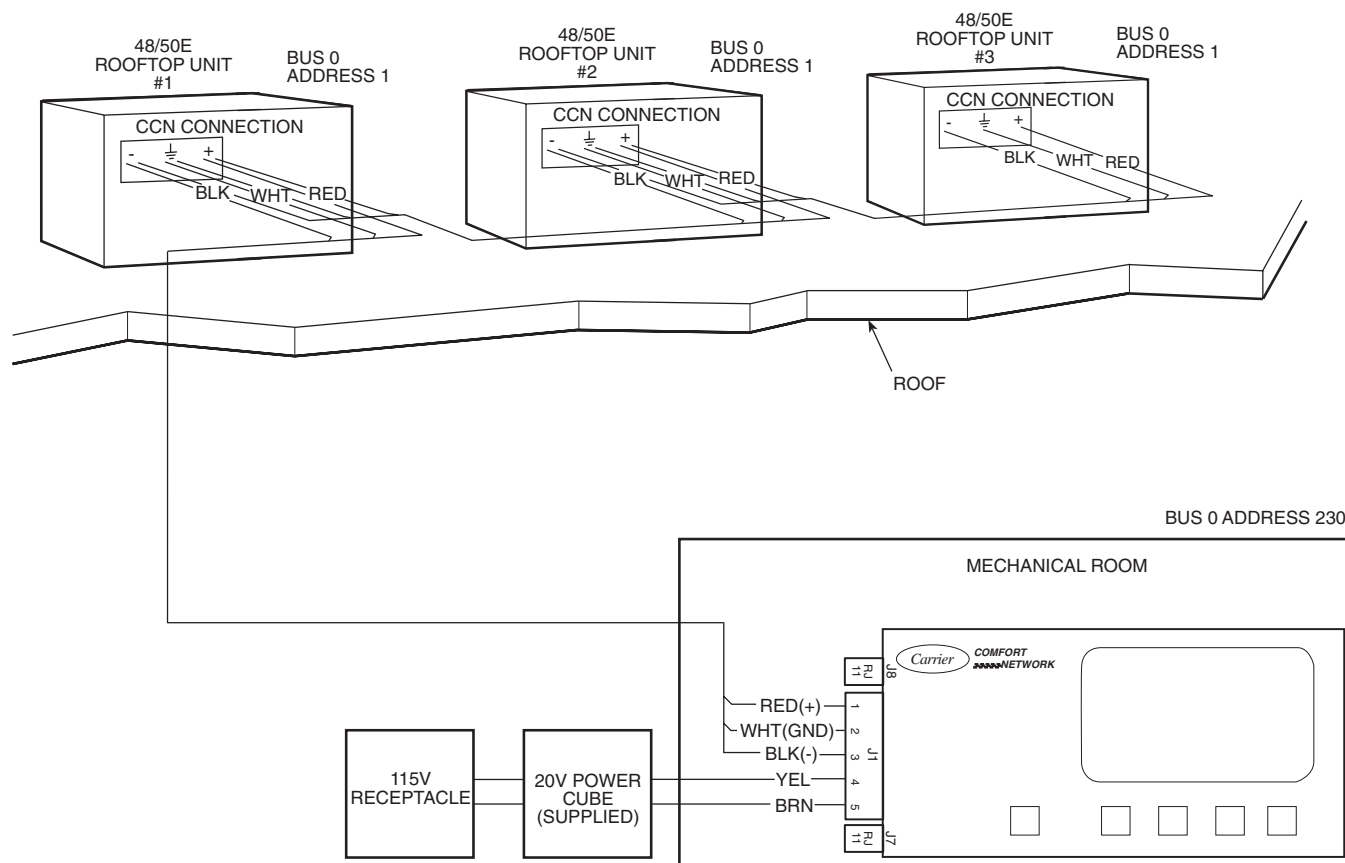


Fig. 6 — Typical Remote Enhanced Display/Rooftop Installation

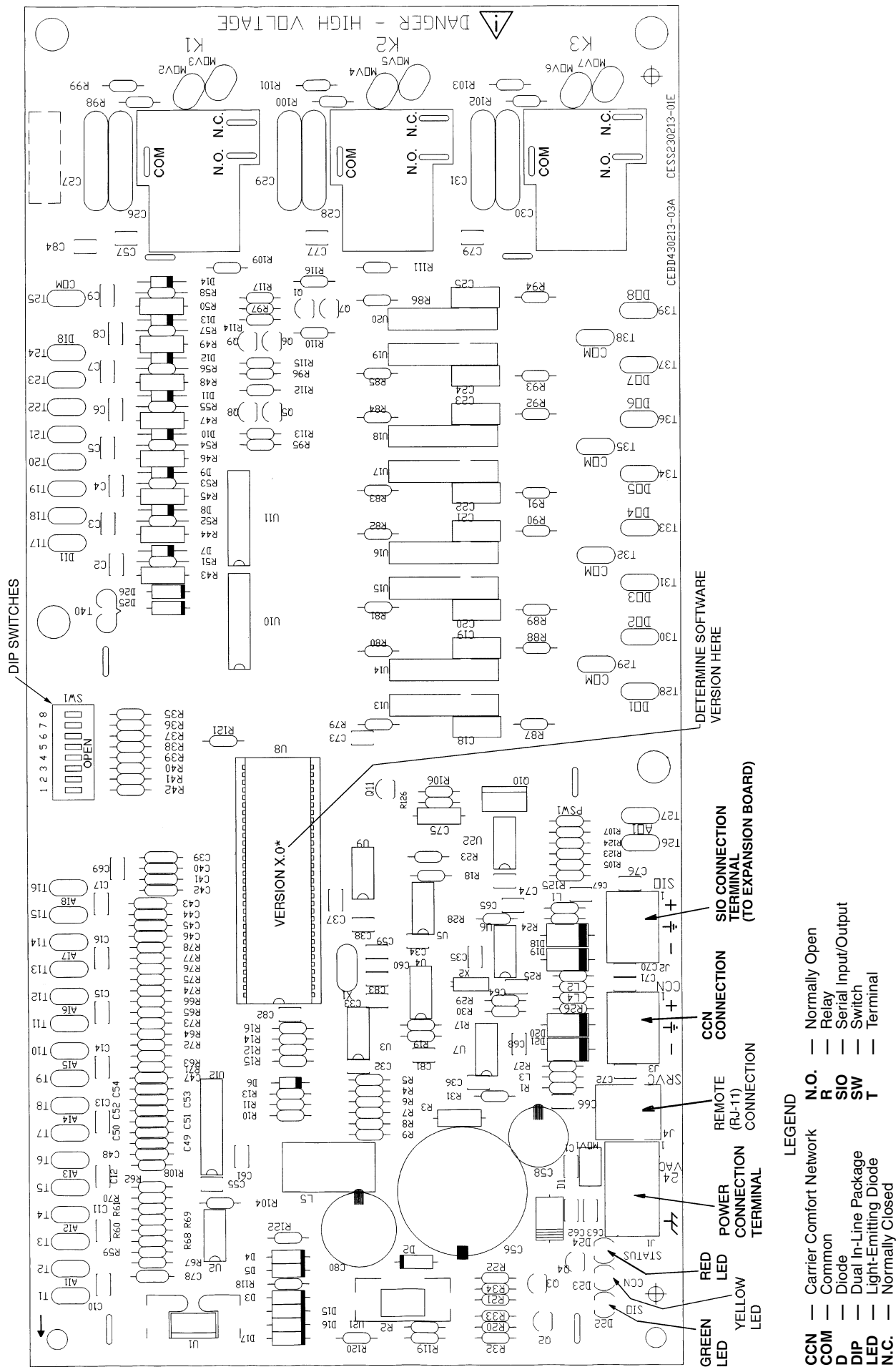


Fig. 7 — 48/50E Series Control Board Diagram

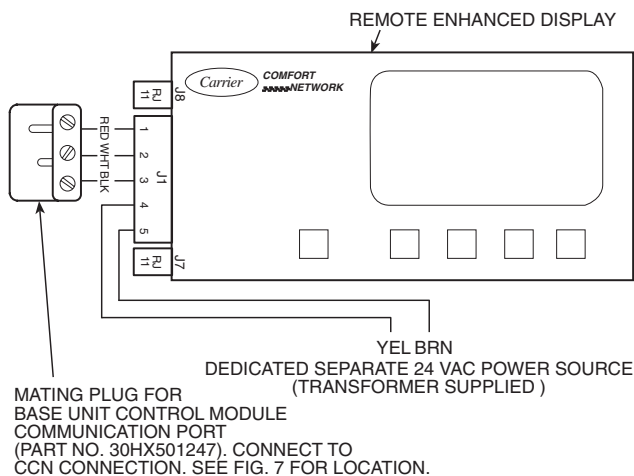


Fig. 8 — Remote Enhanced Display (48/50E Series Units)

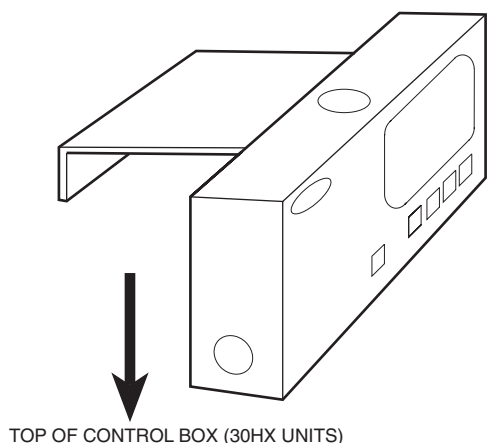


Fig. 9 — Installing Display and Bracket on Unit (30HX)

Table 6 — Wire Connections

REMOTE ENHANCED DISPLAY	CHILLER PSIO-1 CONTROLLER
J1 - 1 Red	COMM1 - 1
J1 - 2 White	COMM1 - 2
J1 - 3 Black	COMM1 - 3
J1 - 4 Yellow	PWR - 1
J1 - 5 Brown	PWR - 2

Step 6 — Power-Up and Remote Enhanced Display Configuration

1. Reconnect control power to the unit. The remote enhanced display default screen appears and displays the Carrier logo.
2. Once the default screen appears, the display is lit and the following message appears: "PRESS KEY NOW TO START SELF-TESTS."
3. Press one of the 4 menu softkeys on the display keypad and follow the on-screen instructions to complete the diagnostic tests.
4. Following a successful diagnostic test, the CHILLID screen appears. Press the **[SERVICE]** softkey to go to the password screen. The default password is 1111, but can be changed once the user is logged on. After the

password has been entered the Service menu will appear (see Fig. 10A and 10B).

5. The following steps establish the bus and address number for the remote enhanced display accessory and tell the remote enhanced display accessory where to find the Carrier Unit Controller. The bus and address number for the remote enhanced display accessory **MUST NOT** be the same as the equipment address. The Carrier Unit Controller may be set with the default factory value or may have been set up as part of a Carrier Comfort Network (CCN).
6. When the Service menu appears, use the **[NEXT]** softkey to scroll down until "CVC CONFIGURATION" is highlighted in reverse video, and press **[SELECT]**.
7. When the CVC CONFIGURATION screen appears, the BUS entry will be highlighted. Press the **[INCREASE]** or **[DECREASE]** softkey to select the appropriate bus number. Once the correct bus has been chosen, press **[ENTER]**. Next, the ADDRESS entry will be highlighted. Press the **[INCREASE]** or **[DECREASE]** softkey to select the appropriate address number. Press **[EXIT]** when finished.

NOTE: The remote enhanced display's default bus number is 0 and the default address is 1. The address **MUST** be changed so it has its own unique address on the system. Recommended setting is Bus 0 address 230.

8. When the Service menu appears, use the **[PREVIOUS]** softkey to scroll up until "ATTACH TO NETWORK DEVICE" is highlighted in reverse video and press the **[SELECT]** softkey.
9. When the ATTACH TO NETWORK DEVICE screen appears, the display will show a list that allows up to 10 controller addresses to be entered, with the first address being LOCAL. (See Fig. 11.) If the remote enhanced display is connected to a single unit select LOCAL. This will allow the remote enhanced display to reconnect to the unit after a power interruption. Press **[SELECT]** and the BUS entry will be highlighted. Use the **[INCREASE]** or **[DECREASE]** softkey to select the appropriate bus number. Once the correct bus has been chosen press **[ENTER]**. Next, the ADDRESS will become highlighted. Using the same procedure that was used for choosing the correct BUS, select the proper address. Press **[EXIT]** when finished.

NOTE: By holding either the **[INCREASE]** or **[DECREASE]** softkey in, the display will automatically scroll one number at a time until it reaches a factor of 10, and then it will increase or decrease by increments/decrements of 10 to facilitate faster selection.

NOTE: For *ComfortLink™* applications, if the unit is a stand-alone installation, the bus number will be 0, and the address number will be 1. If the unit is installed on a Carrier Comfort Network, then the bus and address (element) numbers may be different. This information can be accessed from the standard display by selecting the configuration option, pushing the down arrow key to Options 2, then pushing the down arrow key until the Target address and bus number are displayed.

NOTE: For 30GX,HX applications, if the chiller is a stand-alone installation, then the bus number will be 0, and the address number is 1. If the chiller is installed on a Carrier Comfort Network, then the bus and address (element) numbers may be different. Usually this information is written on the side of the PSIO-1 controller.

NOTE: For 48/50E series units the default bus number is 0 and the default address is 1. If multiple units are being accessed, the service tool must be used to set individual addresses for each unit.

- The remote enhanced display will now try to communicate with the selected device. If the selected device is not found on the bus, the display will reply COMMUNICATION FAILED. If the selected device is found the display will show the controller name (unless it is the first device listed in which case it will always display LOCAL). Press the **ATTACH** softkey and the remote enhanced display will upload the controller. When the remote the tables are being uploaded the message UPLOADING TABLES flashes at the bottom of the screen. It may take several minutes for the tables to load.

NOTE: The remote enhanced display can only attach to one controller at a time. If the CHILLID screen is displayed, refer to Steps 7 and 9 above and verify that the bus and address numbers in the CVC CONFIGURATION screen are different from the numbers in the ATTACH TO NETWORK DEVICE SCREEN.

- Once the uploading process is complete, the display will show the default screen for *ComfortLink*TM and 30GX,HX PSIO based applications; or for 48/50E series applications, the controller ID screen will appear showing pertinent information of the controller. See Fig. 12 and 13. The enhanced display is ready for use.

NOTE: For 30GX,HX applications, all of the information that is available through the standard display can also be accessed through the remote enhanced display.

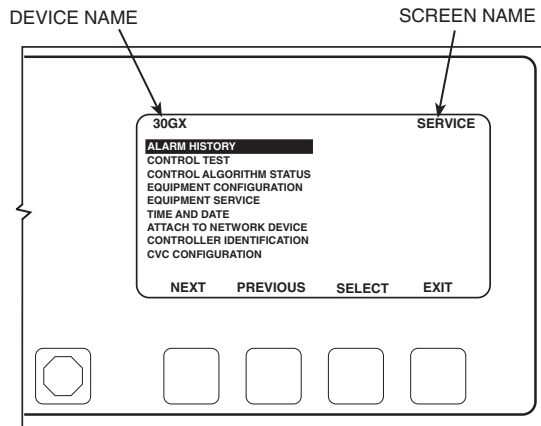


Fig. 10A — Remote Enhanced Display Service Screen, *ComfortLink* and 30GX,HX PSIO Based Units

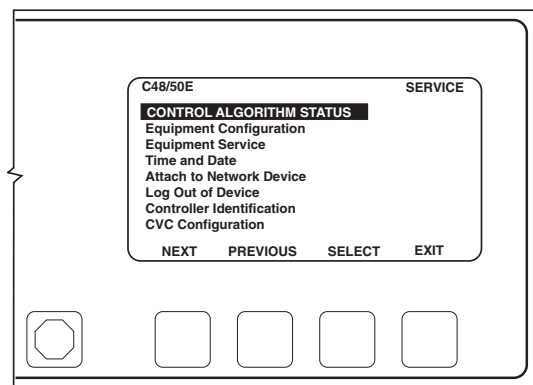


Fig. 10B — Remote Enhanced Display Service Screen, 48/50E Series Units

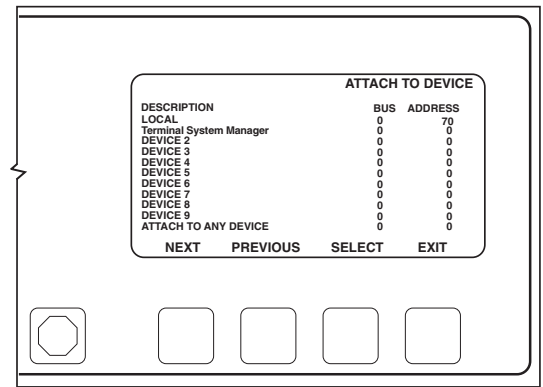


Fig. 11 — Remote Enhanced Display Attach To Device Screen

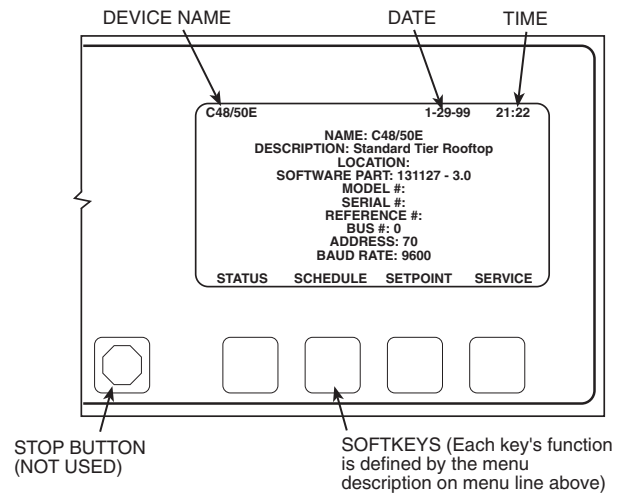


Fig. 12 — Remote Enhanced Display Controller ID Screen, 48/50E Series Units

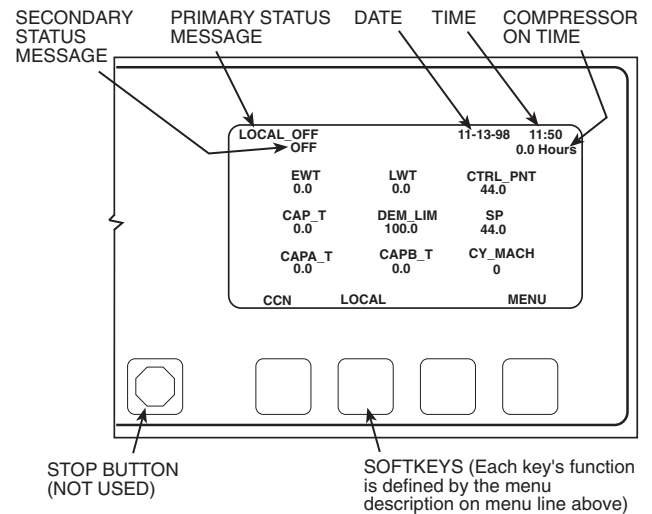


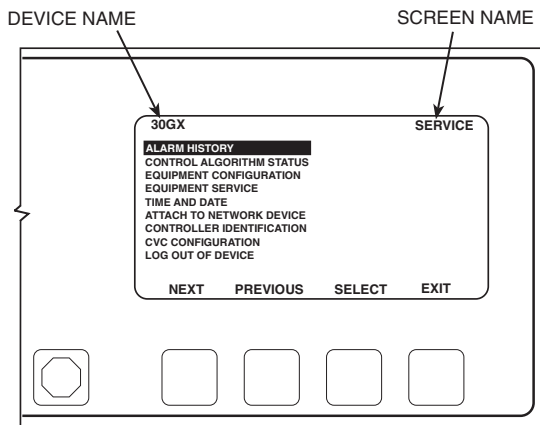
Fig. 13 — Remote Enhanced Display Default Display Screen, *ComfortLink* and 30GX,HX PSIO Based Units

REMOTE ENHANCED DISPLAY OPERATION AND MENUS

ComfortLink™ and 30GX,HX PSIO Based Applications (Fig. 14-19)

GENERAL

- The remote enhanced display will automatically revert to the default screen after 15 minutes if no softkey activity takes place (Fig. 13).
- When not in the default screen, the upper right-hand corner of the remote enhanced display always displays the name of the screen that you have entered (Fig. 14).
- The remote enhanced display may be configured in English or SI units, through the remote enhanced display configuration screen.
- Local Operation — By pressing the **LOCAL** softkey, the remote enhanced display is now in the LOCAL operation mode and the control will accept modification to programming from the remote enhanced display only. The control will use the Local Time Schedule to determine machine start and stop times.
- CCN Operation — By pressing the **CCN** softkey, the remote enhanced display is now in the CCN operation mode, and the control will accept modifications from any CCN interface or module (with the proper authority), as well as the remote enhanced display. The control will use the CCN time schedule to determine start and stop times.



**Fig. 14 — Remote Enhanced Display
Service Screen, 30GX,HX Units**

REMOTE ENHANCED DISPLAY DEFAULT SCREEN MENU ITEMS — To perform any of the operations described below, the remote enhanced display must be powered up and have successfully completed its self test.

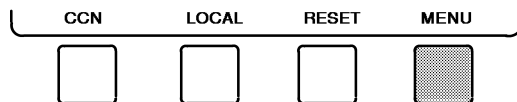
The Default screen menu selection offers four options (Status, Schedule, Setpoint, and Service). The Status menu allows for viewing of pressures, temperatures, and the status of input and output devices. The Schedule menu allows for the viewing and modification of the Local Control, CCN Control, and Ice Build time schedules. The Setpoint menu allows viewing and modification of chiller set points such as leaving-water temperature and head pressure demand limit. The Service menu can be used to revise alarm history, control test, control algorithm status, equipment configuration, time and date, attach to network, log out of device, controller identification, and CVC configurations. Figures 18 and 19 provide additional information on the menu structure.

Press the **MENU** softkey to select from the 4 options. To view or change parameters within any menu structure, use the

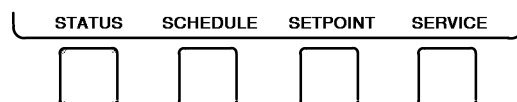
SELECT softkey to choose the desired table or item. At this point, press the softkey that corresponds to your configuration selection or press the **QUIT** softkey. If the **QUIT** softkey is depressed, the configuration will not be modified. Use the following softkeys to access and select the desired section.

MENU STRUCTURE — To perform any of the operations described below, the remote enhanced display must be powered up and have successfully completed its self test.

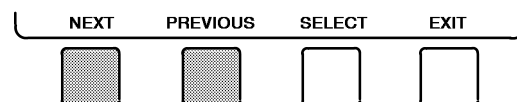
- Press **MENU** to select from the four available options.



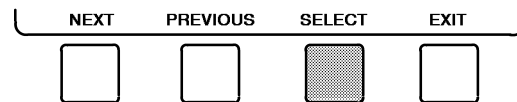
- Press the softkey that corresponds to the desired menu structure.



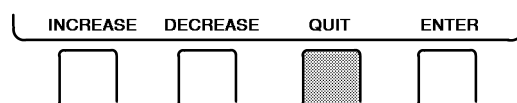
- Press **NEXT** or **PREVIOUS** to highlight the desired entry.



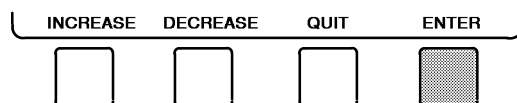
- Press **SELECT** to access the highlighted point.



- Press **QUIT** to leave the selected decision or field without saving any changes.

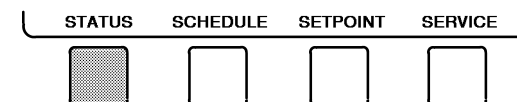


- Or, press **ENTER** to leave the selected decision or field and save changes.



TO VIEW OR CHANGE POINTS IN STATUS FUNCTION (Fig. 15) — Point Status is the actual value of all of the temperatures, pressures, relays, and operational status sensed and controlled by the remote enhanced display. Some Status points can be forced (changed) using the remote enhanced display.

- On the Menu screen, press **STATUS** to view the list of Point Status tables.



- Press **NEXT** or **PREVIOUS** to highlight the desired status table. The list of tables is:

- A_UNIT_1
- CIRCA_AN
- CIRA_DIO
- CIRCB_AN
- CIRB_DIO
- UNIT_2
- UNIT_3
- MODE_TBL

NEXT	PREVIOUS	SELECT	EXIT

- Press **SELECT** to view the desired Point Status table.

NEXT	PREVIOUS	SELECT	EXIT

- On the Point Status table press **NEXT** or **PREVIOUS** until desired point is displayed on the screen.

NEXT	PREVIOUS	SELECT	EXIT

For Discrete Points — Press **START** or **STOP**, **OFF** or **ON**, **YES** or **NO**, etc. to select the desired state.

START	STOP	RELEASE	ENTER

For Analog Points — Press **INCREASE** or **DECREASE** to select the desired value.

INCREASE	DECREASE	RELEASE	ENTER

- Press **ENTER** to register new value. If the point is forcible (adjustable) using the remote enhanced display, the new value will remain displayed.

INCREASE	DECREASE	RELEASE	ENTER

30HX
A_UNIT_1
POINT STATUS

GENERAL PARAMETERS

Control Mode LOCAL/Off

Run Status Off

Occupied Yes

CCN Enable On

CCN Chiller Start/Stop Start

Alarm State Shutdown

Current Alarm 1 35.00

Current Alarm 2 8.00

Current Alarm 3 10.00

Current Alarm 4 0.00

Current Alarm 5 0.00

NEXT PREVIOUS SELECT EXIT

Fig. 15 — Example of Point Status Screen, ComfortLink™ and 30GX,HX PSIO Based Units

Force Indication — An override value is indicated by “SUPVSR,” “SERVC,” or “BEST” flashing next to the point value on the Status table.

TO VIEW OR CHANGE TIME SCHEDULE OPERATION (Fig. 16)

- On the Menu screen, press **SCHEDULE**.

STATUS	SCHEDULE	SETPOINT	SERVICE

- Press **NEXT** or **PREVIOUS** to highlight one of the following schedules.

OCCPC01S — ICE BUILD Time Schedule

OCCPC02S — LOCAL Time Schedule

OCCPC65S — CCN Time Schedule

NEXT	PREVIOUS	SELECT	EXIT

- Press **SELECT** to access and view the time schedule.

NEXT	PREVIOUS	SELECT	EXIT

- Press **NEXT** or **PREVIOUS** to highlight the desired period or override that you wish to change.

NEXT	PREVIOUS	SELECT	EXIT

- Press **SELECT** to access the highlighted period or override.

NEXT	PREVIOUS	SELECT	EXIT

- Press **INCREASE** or **DECREASE** to change the time values. Override values are in one-hour increments, up to 4 hours.

INCREASE	DECREASE	ENTER	EXIT

- Press **ENABLE** to select days in the day-of-week fields. Press **DISABLE** to eliminate days from the period.

ENABLE	DISABLE	ENTER	EXIT

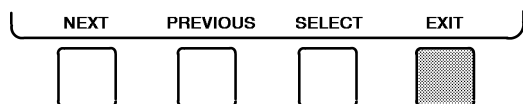
- Press **ENTER** to register the values and to move horizontally (left to right) within a period.

ENABLE	DISABLE	ENTER	EXIT

- Press **EXIT** to leave the period or override.

NEXT	PREVIOUS	SELECT	EXIT

9. Either return to Step 4 to select another period or override, or press **EXIT** again to leave the current time schedule screen and save the changes.



10. Holiday Designation (HOLIDEF table) may be found in the Service function by selecting Equipment Configuration and Holiday. You must assign the month, day, and duration for the holiday. The Broadcast function in the Brodefs table also must be enabled for holiday periods to function.

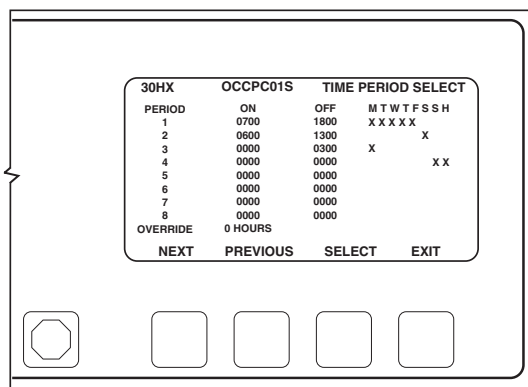
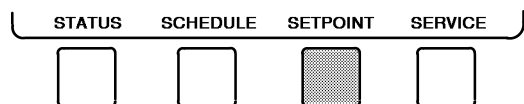


Fig. 16 — Example of Time Schedule Operation Screen, ComfortLink™ and 30GX,HX PSIO Based Units

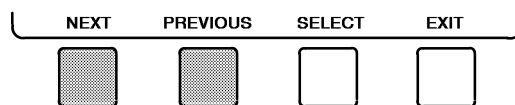
TO VIEW AND CHANGE SET POINTS (Fig. 17)

1. To view the Set Point table, at the Menu screen press **SETPOINT**.

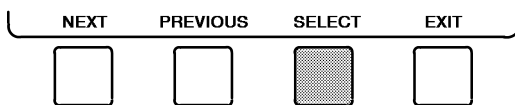


2. There are 7 types of set points on this screen: Cooling, Heating, Head Pressure, Demand Limit, Leaving Chilled Water Delta Alarm Limit, Minutes Off Time, and Motor Temperature. Only one of the chilled water set points can be active at one time, and the type of set point is activated in the Service menu.

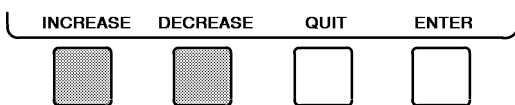
3. Press **NEXT** or **PREVIOUS** to highlight the desired set point entry.



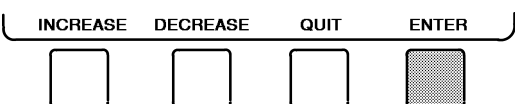
4. Press **SELECT** to modify the highlighted set point.



5. Press **INCREASE** or **DECREASE** to change the selected set point value.



6. Press **ENTER** to save the changes and return to the previous screen.



SERVICE OPERATION — See Fig. 19 for Service menu structure. See Tables 7A and 7B for further details.

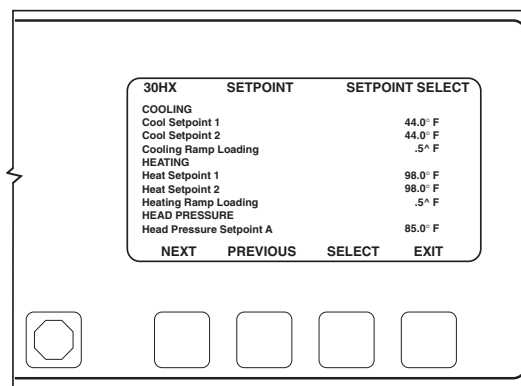
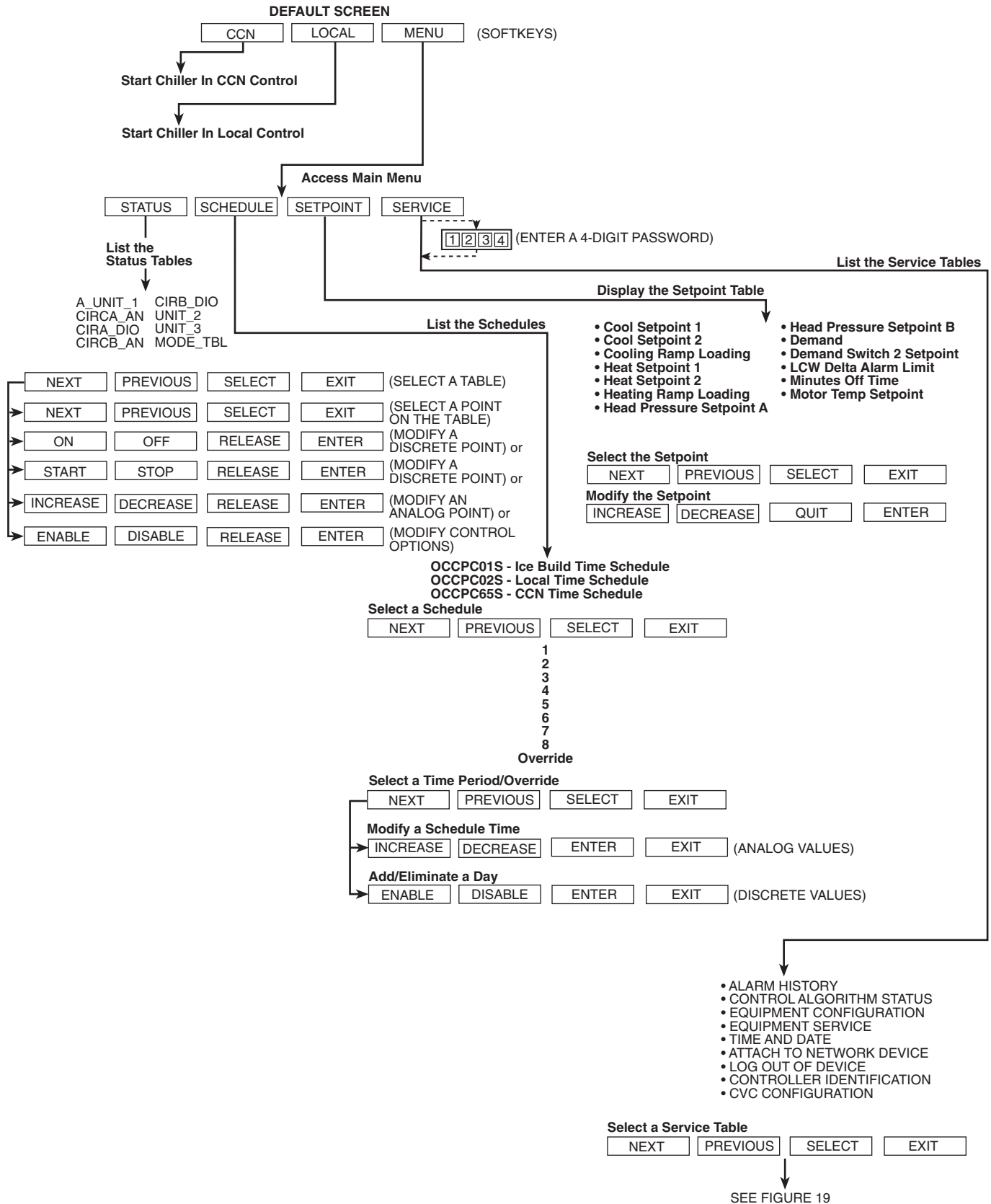
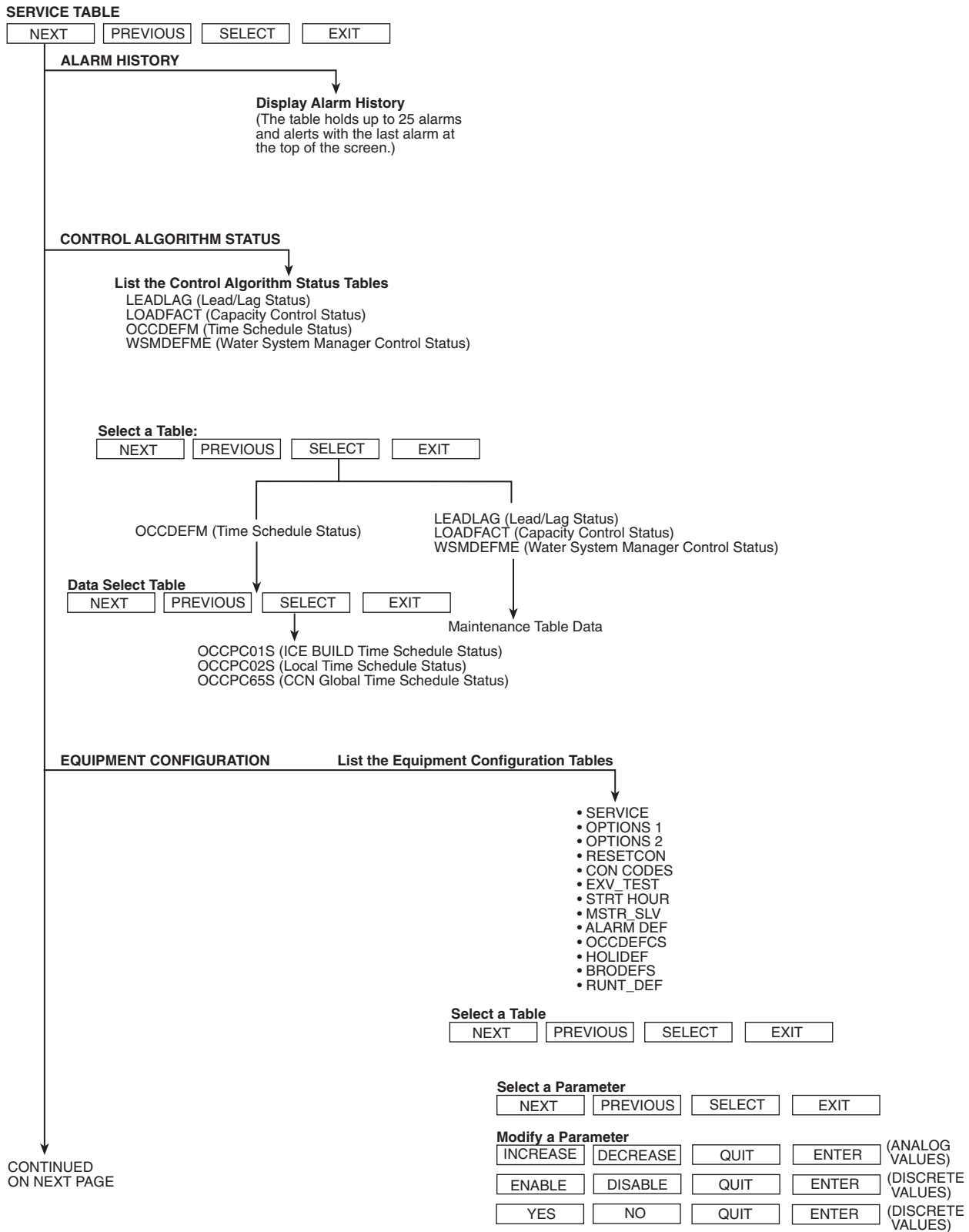


Fig. 17 — Example of Set Point Screen, ComfortLink and 30GX,HX PSIO Based Units

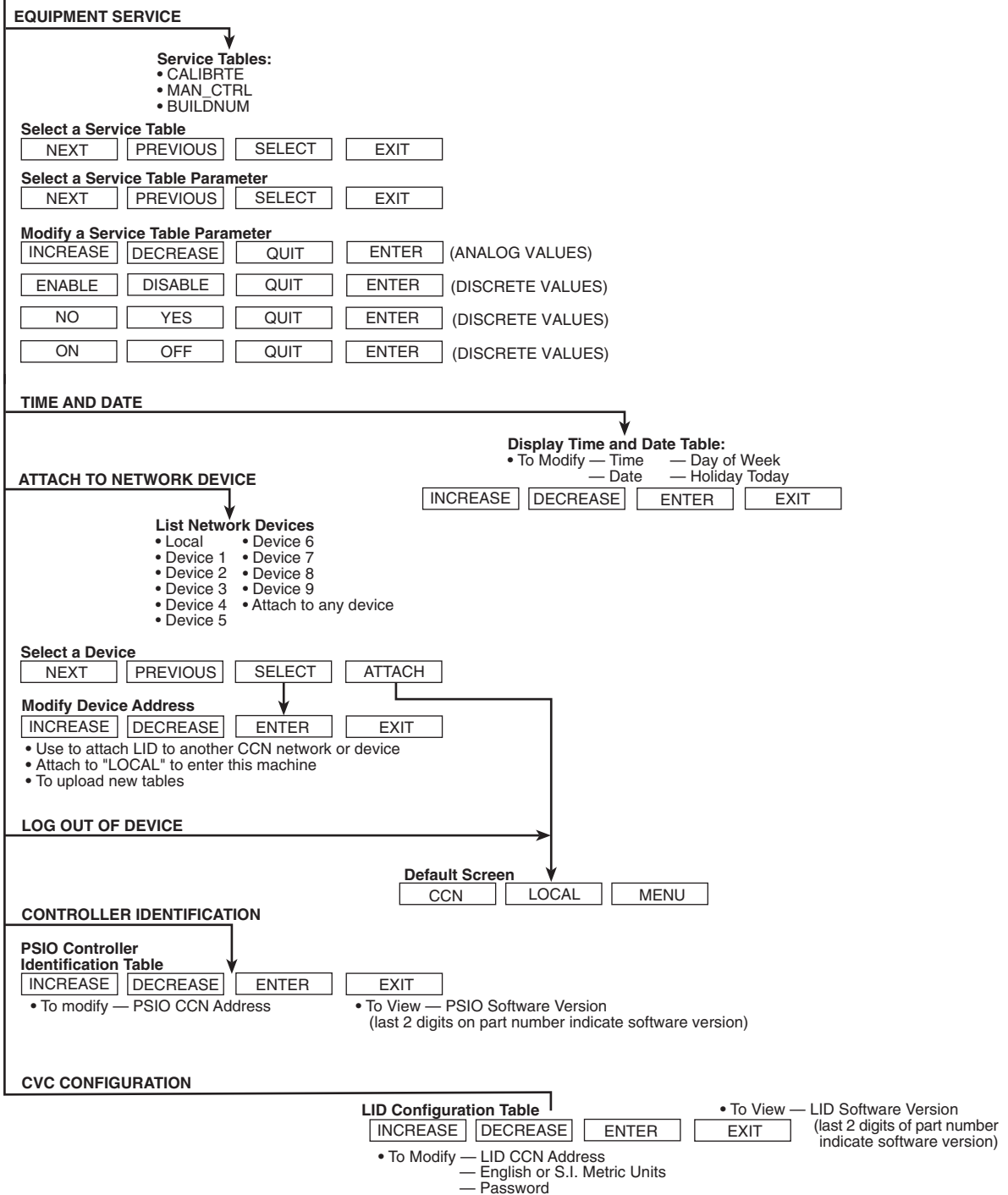


**Fig. 18 — ComfortLink™ and 30GX,HX PSIO Based Units
Remote Enhanced Display Menu Structure**



**Fig. 19 — ComfortLink™ and 30GX,HX PSIO Based Units
Service Menu Structure**

SERVICE MENU CONTINUED
FROM PREVIOUS PAGE



LEGEND

CCN — Carrier Comfort Network
CVC — Chiller Visual Controller
LID — Local Interface Device

**Fig. 19 — ComfortLink™ and 30GX,HX PSIO Based Units
Service Menu Structure (cont)**

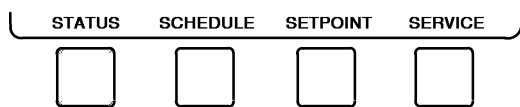
48/50E Series Applications (Fig. 20-26)

GENERAL

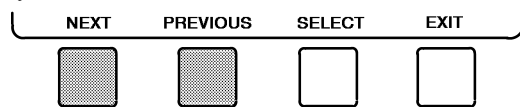
- The remote enhanced display screen automatically dims after 15 minutes if no softkey activity takes place.
- When not displaying the default screen, the upper right-hand corner of the remote enhanced display displays the screen that has been entered and the left-hand corner displays the device name.
- The remote enhanced display may be configured in English or SI units through the remote enhanced display configuration screen.

REMOTE ENHANCED DISPLAY MENU STRUCTURE — To perform any of the operations described below, the remote enhanced display must be powered up and have successfully completed its self test. The Controller ID menu selection offers four softkey options that are used to display information in the following categories: STATUS, SCHEDULE, SETPOINT, and SERVICE.

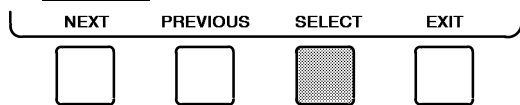
- Press the softkey that corresponds to the desired menu structure.



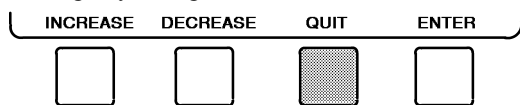
- Press **NEXT** or **PREVIOUS** to highlight the desired entry.



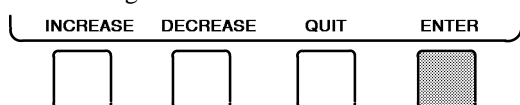
- Press **SELECT** to access the highlighted point.



- Press **QUIT** to leave the selected decision or field without saving any changes.



- Or, press **ENTER** to leave the selected decision or field and save changes.

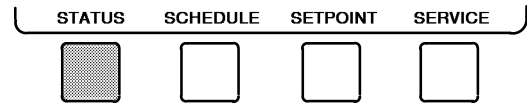


TO VIEW OR CHANGE POINTS IN STATUS FUNCTION (Fig. 20) — The Status display menu provides the following:

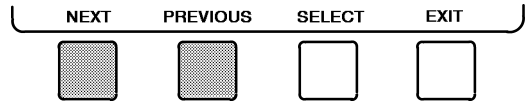
- STATUS01, STATUS02: displays temperature, economizer position, fan and filter status, and other inputs from both the base module and expansion module.
- DXCOOL: displays the status of the compressors and condenser fans.
- CV_TSTAT: displays the status of the inputs from a two-state thermostat.
- POINTS: displays the status of the modulating exhaust for VAV (variable air volume) mode and if it is a broadcast acknowledge.

To view or change a point in Status:

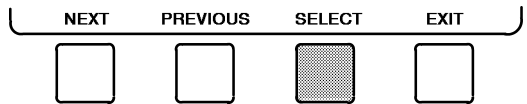
- On the Controller ID screen, press **STATUS** to view the list of Point Status tables.



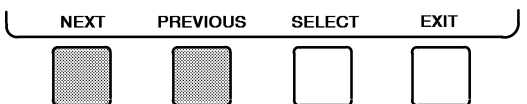
- Press **NEXT** or **PREVIOUS** to highlight the desired status table.



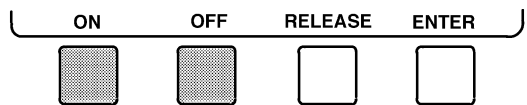
- Press **SELECT** to view the desired Point Status table.



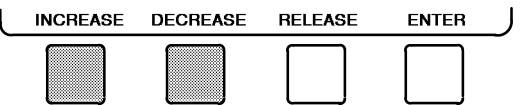
- On the Point Status table press **NEXT** or **PREVIOUS** until desired point is displayed on the screen.



For Discrete Points — Press **ON** or **OFF**, **YES** or **NO**, **DIRTY** or **CLEAN**, etc. to select the desired state.



For Analog Points — Press **INCREASE** or **DECREASE** to select the desired value.



- Press **ENTER** to register new value. If the point is forcible (adjustable) using the remote enhanced display, the new value will remain displayed.

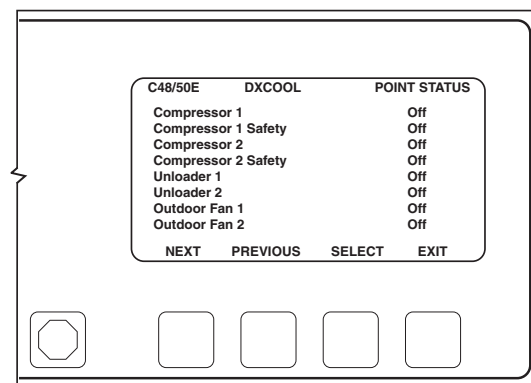
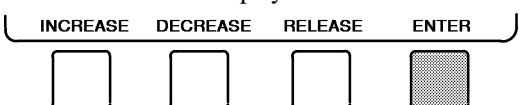


Fig. 20 — Example of Point Status Screen, 48/50E Series Units

Force Indication — An override value is indicated by “SUPVSR,” “SERVC,” or “BEST” flashing next to the point value on the Status table.

TO VIEW OR CHANGE TIME SCHEDULE OPERATION (Fig. 21) — This is where the unit occupancy schedule is programmed. Time may be entered in one-minute increments, military style, for a 24-hour operation. An “X” under the day of the week means that the time period applies to that day of the week. If an occupied time of one period overlaps an unoccupied time of another period then unit will stay in the Occupied mode until both periods are in the Unoccupied mode.

Occupied mode has priority over Unoccupied mode. For 24-hour operation the “ON” time should be 2400. Putting the “ON and “OFF” time at 0000 will result in unoccupied all the time. To modify a time schedule:

1. On the Controller ID screen, press **[SCHEDULE]**.

STATUS	SCHEDULE	SETPOINT	SERVICE
<input type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>	<input type="button" value="□"/>

2. Press **[SELECT]** to access and view the OCCPC01S (LOCAL) time schedule.

NEXT	PREVIOUS	SELECT	EXIT
<input type="button" value="□"/>	<input type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>

3. Press **[NEXT]** or **[PREVIOUS]** to highlight the desired period or override that you wish to change.

NEXT	PREVIOUS	SELECT	EXIT
<input checked="" type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>	<input type="button" value="□"/>

4. Press **[SELECT]** to access the highlighted period or override.

NEXT	PREVIOUS	SELECT	EXIT
<input type="button" value="□"/>	<input type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>

5. a. Press **[INCREASE]** or **[DECREASE]** to change the time values. Override values are in one-hour increments, up to 4 hours.

INCREASE	DECREASE	ENTER	EXIT
<input checked="" type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>	<input type="button" value="□"/>

- b. Press **[ENABLE]** to select days in the day-of-week fields. Press **[DSABLE]** to eliminate days from the period.

ENABLE	DSABLE	ENTER	EXIT
<input checked="" type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>	<input type="button" value="□"/>

6. Press **[ENTER]** to register the values and to move horizontally (left to right) within a period.

ENABLE	DSABLE	ENTER	EXIT
<input type="button" value="□"/>	<input type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>

7. Press **[EXIT]** to leave the period or override. You must **EXIT** this display for the change to get downloaded into the controller and take effect.

NEXT	PREVIOUS	SELECT	EXIT
<input type="button" value="□"/>	<input type="button" value="□"/>	<input type="button" value="□"/>	<input checked="" type="button" value="□"/>

8. Either return to Step 4 to select another period or override, or press **[EXIT]** again to leave the current time schedule screen and save the changes.

NEXT	PREVIOUS	SELECT	EXIT
<input type="button" value="□"/>	<input type="button" value="□"/>	<input type="button" value="□"/>	<input checked="" type="button" value="□"/>

9. Holiday Designation (HOLIDEF table) may be found in the Service function by selecting Equipment configuration and Holiday. You must assign the month, day, and duration for the holiday. The Broadcast function in the BRODEFS table also must be enabled for holiday periods to function.

C48/50E		OCCUPC01S		MODIFY SCHEDULE	
PERIOD	ON	OFF	M	T	W
1	0800	1600	X	X	X
2	0000	0000	X	X	X
3	0000	0300	X	X	X
4	0000	0000	X	X	X
5	0000	0000	X	X	X
6	0000	0000	X	X	X
OVERIDE	0 HOURS				
NEXT	PREVIOUS	SELECT	EXIT		

Fig. 21 — Example of Time Schedule Operation Screen, 48/50E Series Units

TO VIEW AND CHANGE SET POINTS (Fig. 22) — The Set Point display menu is where all your set points for temperatures, minimum outside damper position modulating power exhaust, and deadband for heating/cooling are made. To view or change a set point:

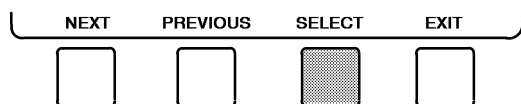
1. To view the Set Point table, at the Controller ID screen press **[SETPOINT]**.

STATUS	SCHEDULE	SETPOINT	SERVICE
<input type="button" value="□"/>	<input type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>

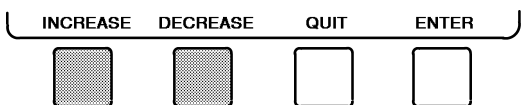
2. Press **[NEXT]** or **[PREVIOUS]** to highlight the desired set point entry.

NEXT	PREVIOUS	SELECT	EXIT
<input checked="" type="button" value="□"/>	<input checked="" type="button" value="□"/>	<input type="button" value="□"/>	<input type="button" value="□"/>

- Press **SELECT** to modify the highlighted set point.



- Press **INCREASE** or **DECREASE** to change the selected set point value.



- Press **ENTER** to save the changes and return to the previous screen. You must **EXIT** this display for the change to get downloaded into the controller and take effect.

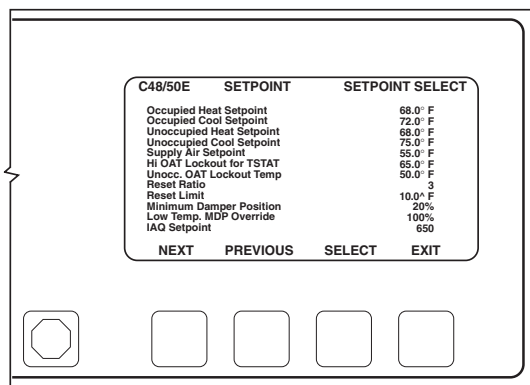
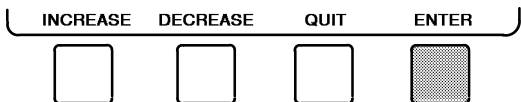


Fig. 22 — Example of Set Point Screen, 48/50E Series Units

SERVICE OPERATION (Fig. 23) — The following options are available from the Service display menus:

- Control Algorithm Status:** The ALARMLOG option activates a 5-alarm series. An asterisk indicates the alarm is active. The SUBREF display shows the algorithm set points for heating, cooling, and economizer. The SERVHIST display shows the compressor and fan run time. The SWITCH display shows the status of the DIP switch on the base unit. The MODES display shows the mode of the unit. The OCCDEFM display shows the maintenance time schedule with previous, current, and future stop/start times. The LINKDEFM display shows set points and temperatures that the unit is operating in if the Carrier Comfort Network (CCN) Digital Air Volume (DAV) system is used.
- Equipment Configuration:** The CONFIG display shows unit configuration for Variable Air Volume (VAV), Indoor Air Quality (IAQ), unit reset, etc. The ECONCTRL display shows unit configuration for economizer control. The ALARMDEFM display shows alarm routing if used with the Carrier Comfort Network. The HOLIDAY schedule shows up to 18 holiday schedules and up to 99 days each. The BRODEFS display shows broadcast options for CCN communications.
- Equipment Service:** The SERVICE display shows IAQ sensor scaling and setup, time guard override, and defrost cycle timer. The ALRMLITE display shows alarm lighting options (expansion module required).

- Time and Date:** Display sets remote enhanced display controller time and date.
- Attach To Network Device:** See Step 6 — Power-Up and Remote Enhanced Display Configuration section on page 6 for details.
- Log Out Of Device:** This logs you out of the SERVICE menu on the remote enhanced display.
- Controller Identification:** This display is where you change the controller address and baud rate. *The BAUD RATE must be 9600 to communicate on the CCN bus. Do NOT change this configuration.*
- CVC Configuration:** This display is where the address, password, and baud rate can be changed on the remote enhanced display. *If there is more than one remote enhanced display on the same bus, they must have a different address.*

See Fig. 26 for an overview of the Service menus.

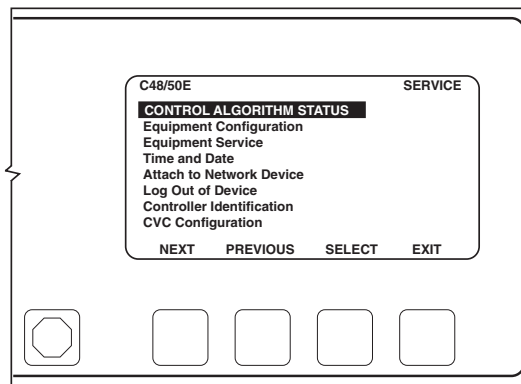


Fig. 23 — Remote Enhanced Display Service Screen, 48/50E Series Units

To Access the Service Screens — You must enter a password whenever you access the Service menu screens.

- From the Controller ID screen, press the **SERVICE** softkey. The softkeys correspond to the numerals 1, 2, 3, and 4.
- Press the 4 digits of your password, one at a time. As you enter each digit, an asterisk appears.

NOTE: The default password is 1-1-1-1. If the password is incorrect, an error message is displayed. If this occurs, return to Step 1 and try to access the Service screens again. If the password is correct, the remote enhanced display screen displays the Service table. See Fig. 23.

To Change the Password — The password may be changed from the CVC CONFIGURATION screen.

- Press the **SERVICE** softkeys. Enter your password and highlight **CVC CONFIGURATION**. Press the **SELECT** softkey. Only the last 5 entries on the CVC CONFIGURATION screen can be changed: **BUS #** (number), **ADDRESS #**, **BAUD RATE**, **US IMP/METRIC**, and **PASSWORD**.
- Use the **ENTER** softkey to scroll to **PASSWORD**. The first digit of the password is highlighted on the remote enhanced display screen.
- To change the digit, press the **INCREASE** or **DECREASE** softkey. When you see the digit you want, press the **ENTER** softkey.
- The next digit is highlighted. Change it and the third and fourth digits in the same way you changed the first digit.
- After the last digit is changed, the remote enhanced display goes to the **BUS** variable. Press the **EXIT** softkey to leave that screen and return to the **SERVICE** menu.

To Change the Remote Enhanced Display from English to Metric Units — By default, the remote enhanced display displays information in English units. To change to metric units, access the remote enhanced display CONFIGURATION screen:

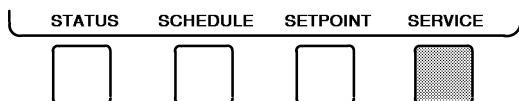
1. Press the **[SERVICE]** softkeys. Enter your password and highlight **CVC CONFIGURATION**. Press the **[SELECT]** softkey.
2. Use the **[ENTER]** softkey to scroll to **US IMP/METRIC**.
3. Press the softkeys that corresponds to the units you want displayed on the remote enhanced display (e.g., **[US]** or **[METRIC]**).

To Schedule Holidays (Fig. 24) — The time schedules may be configured for special operation during a holiday period. When modifying a time period, an “H” at the end of the days of the week field signifies that the period is a holiday. (See Fig. 21.)

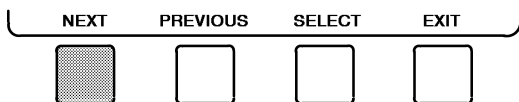
The CCN broadcast function must be activated for the holidays configured in the HOLIDEF table to work properly. Access the BRODEFS table from the EQUIPMENT CONFIGURATION screen and press **[ENABLE]** to activate the holiday schedule. If the unit is connected to a CCN network, only one unit or CCN device can be configured as the broadcast device. The device configured as the broadcaster is responsible for transmitting holiday, time, and daylight savings time dates throughout the network.

To view or change the holiday periods for up to 18 different holidays, do the following:

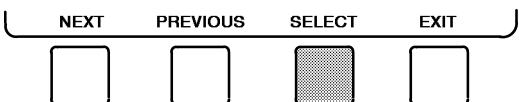
1. At the controller ID screen, press **[SERVICE]** to access the SERVICE menu.



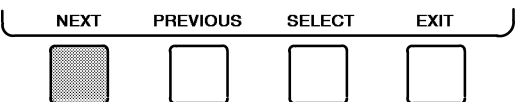
2. If not logged on, follow the instructions for entering your password. See the section, To Access the Service Screens, page 16. Once logged on, press **[NEXT]** until EQUIPMENT CONFIGURATION is highlighted.



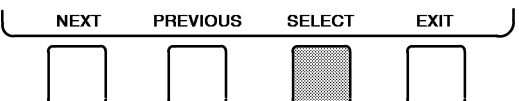
3. Press **[SELECT]** to access the EQUIPMENT CONFIGURATION screen.



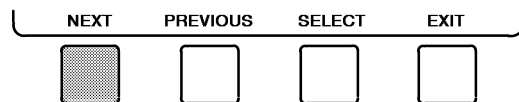
4. Press **[NEXT]** until HOLIDAYS is highlighted. This is the screen that allows you to define holidays.



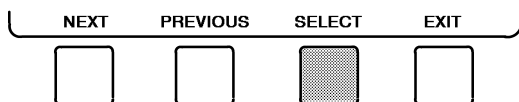
5. Press **[SELECT]** to view a screen that lists 18 holiday periods.



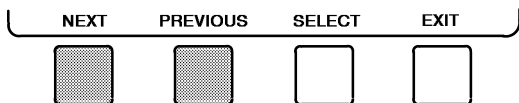
6. Press **[NEXT]** to highlight the holiday period you wish to view or change. Each period represents one holiday, starting on a specific date and lasting up to 99 days.



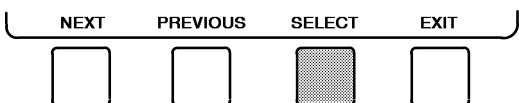
7. Press **[SELECT]** to access the holiday period. The screen now shows the holiday start month and day, and how many days the holiday period will last.



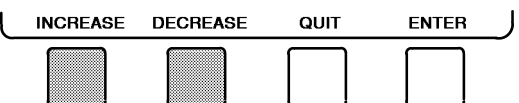
8. Press **[NEXT]** or **[PREVIOUS]** to highlight the month, day, or duration.



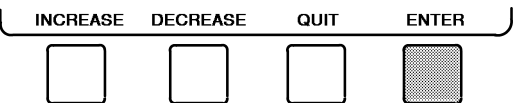
9. Press **[SELECT]** to select the month, day, or duration you wish to modify.



10. Press **[INCREASE]** or **[DECREASE]** to change the selected item.



11. Press **[ENTER]** to save the changes.



12. Press **[EXIT]** to return to the previous menu. You must **EXIT** this display for the change to get downloaded into the controller and take effect.

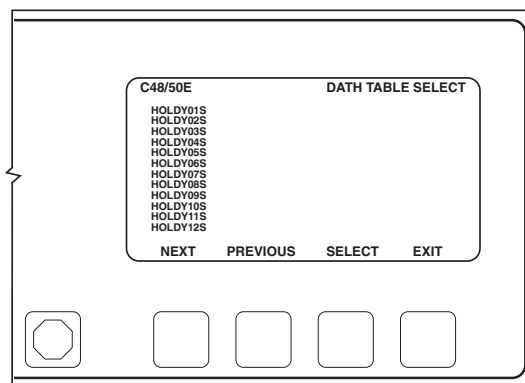
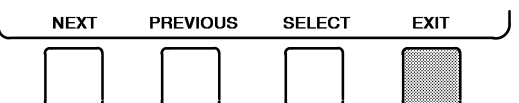


Fig. 24 — Example of Holiday Schedule Display, 48/50E Series Units

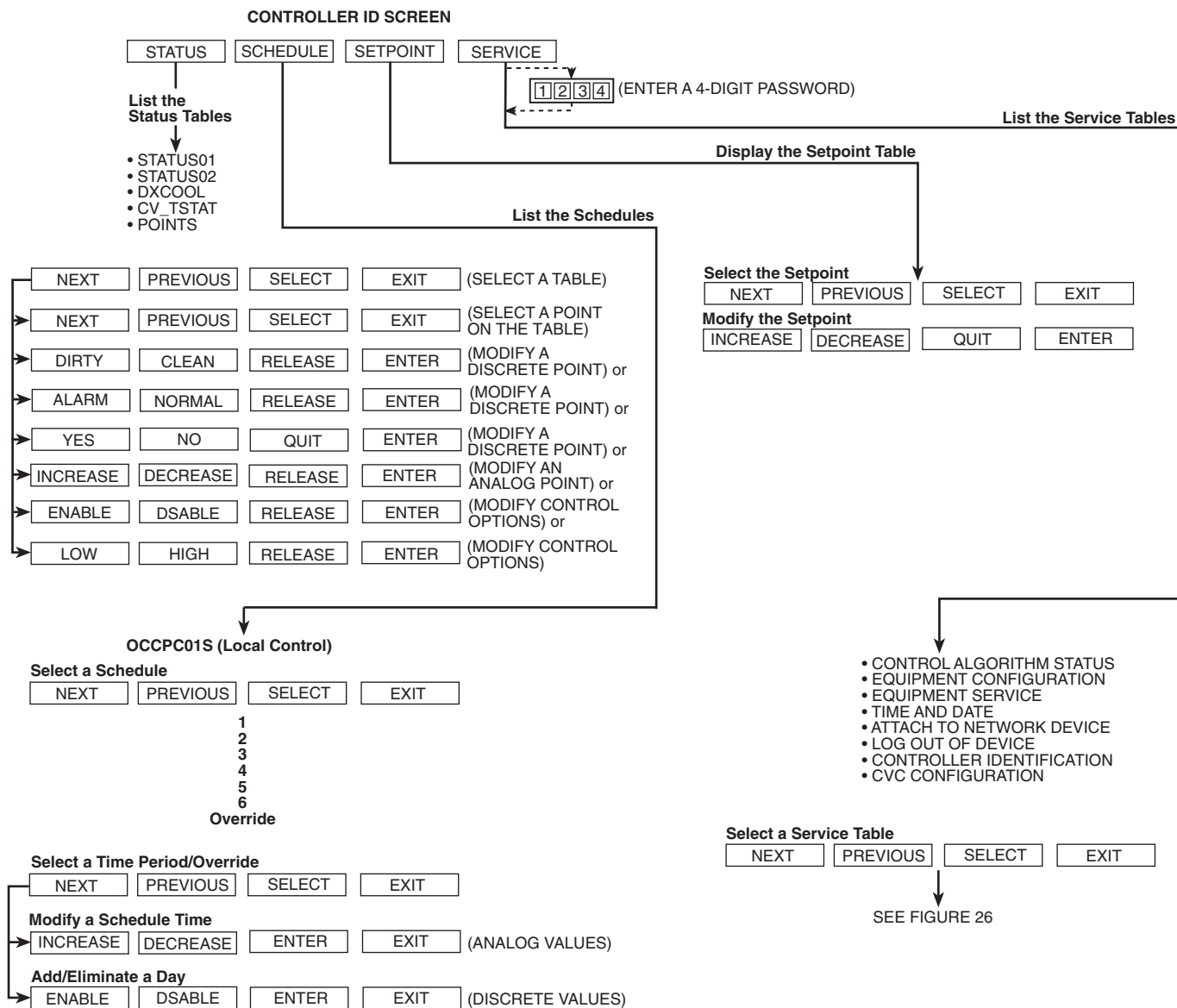


Fig. 25 — 48/50E Series Remote Enhanced Display Menu Structure

SERVICE TABLE

NEXT	PREVIOUS	SELECT	EXIT
------	----------	--------	------

CONTROL ALGORITHM STATUS

List the Control Algorithm Status Tables

- ALARMLOG – Alarm Log
- SUBREF – Algorithm Setpoints
- SERVHIST – Compressor/Fan Run Time
- SWITCH – DIP Switch Status
- MODES – Unit Mode
- OCCDEFM – Time Schedule Status
- LINKDEFM – CCN/DAV System Setpoint

Select a Table

NEXT	PREVIOUS	SELECT	EXIT
------	----------	--------	------

EQUIPMENT CONFIGURATION

List the Equipment Configuration Tables

- CONFIG – Unit Configuration
- ECONCTRL – Economizer Control
- ALARMDEF – Alarm Routing
- HOLIDEF – Holiday Schedule
- BRODEFS – Broadcast Option (CCN)

Select a Table

NEXT	PREVIOUS	SELECT	EXIT
------	----------	--------	------

Select CONFIG (Displays CONFIG Parameters)

- IAQ Option
- Schedule Number
- Unit Shutdown/Restart
- Timeover Limits

Select a CONFIG Parameter

NEXT	PREVIOUS	SELECT	EXIT
------	----------	--------	------

Modify Configuration

INCREASE	DECREASE	QUIT	ENTER	(ANALOG VALUES)
ENABLE	DSABLE	QUIT	ENTER	(DISCRETE VALUES)
YES	NO	QUIT	ENTER	(DISCRETE VALUES)
HIGH	LOW	QUIT	ENTER	(DISCRETE VALUES)

Select Any Other Equipment Configuration Table (BRODEFS, HOLIDEF, etc.)

Select a Parameter

NEXT	PREVIOUS	SELECT	EXIT
------	----------	--------	------

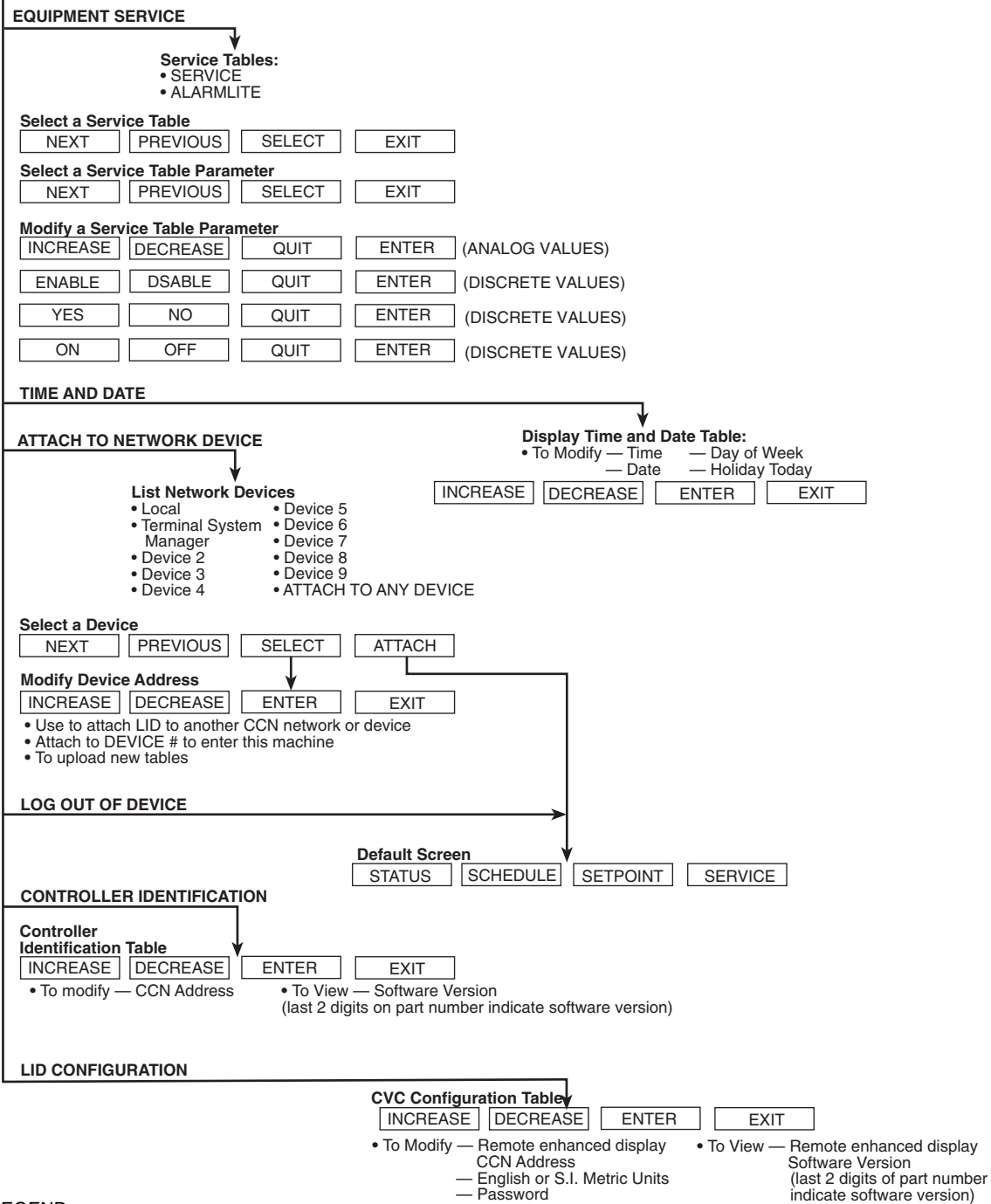
Modify a Parameter

INCREASE	DECREASE	QUIT	ENTER	(ANALOG VALUES)
1	0	QUIT	ENTER	(DISCRETE VALUES)
YES	NO	QUIT	ENTER	(DISCRETE VALUES)

CONTINUED
ON NEXT PAGE

Fig. 26 — 48/50E Series Service Menu Structure

SERVICE MENU CONTINUED
FROM PREVIOUS PAGE



LEGEND

CCN — Carrier Comfort Network
CVC — Chiller Visual Controller
DAV — Digital Air Volume
DIP — Dual In-Line Package
IAQ — Indoor-Air Quality

Fig. 26 — 48/50E Series Service Menu Structure (cont)