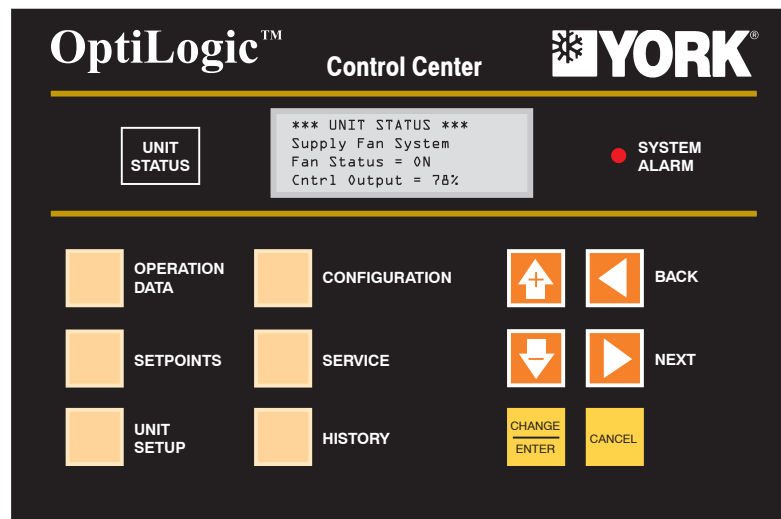


SECTION 6 – MENU NAVIGATION AND DISPLAY DESCRIPTIONS



LD06581

OPTILOGIC™ CONTROL CENTER

The OptiLogic Control Center (OCC) is used to commission, monitor, and troubleshoot the rooftop unit. It provides access to operational data, setpoint programming, and access to past “history” information that record unit parameters on safety shutdowns.

The OCC is installed in the control cabinet of the rooftop unit.

The OCC keypad is a flexible membrane style keypad and has a 4 line by 20 character LCD backlit display. The backlighting will energize when any button is pressed and will be delayed to shut off 15 minutes after the last button has been pressed.

The keypad consists of thirteen keys, divided into two groups, **Function keys** and **Navigation keys**. The seven function keys are Unit Status, Operation Data, Setpoints, Unit Setup, Configuration, Service, and History. The six navigation keys will be Up Arrow (↑) {increase}, Down Arrow (↓) {decrease}, Back (<), Next (>), Change/Enter, and Cancel.

NAVIGATING THE MENUS

The primary means of navigation for the menus is performed with the Back (<) and Next (>) keys. Pressing the Back (<) and Next (>) keys will change the display to the previous or next display item, respectively. The entire menu is navigable using just the Back (<) and Next (>) keys exclusively. However, to facilitate navigation, The Function keys, mentioned in the previous paragraphs, allow the user to jump directly to the associated menu items without scrolling through every menu display.

HISTORY MENU NAVIGATION

The OptiLogic Control Panel stores a maximum of 12 history “snapshots”. These snapshots are the unit parameters and setpoints stored in memory at the time the unit shut down on a fault. In the History menu, the navigation of the menu is performed with the Up Arrow (↑) {increase} and Down Arrow (↓) {decrease} to navigate through the data points stored in that History “snapshot”. The Back (<) and Next (>) keys are still used to move through twelve History snapshots.

“UNIT STATUS” NAVIGATION

The Unit Status key (or menu item) will move the display to the first display item of the Unit Status group. The Unit Status group of display items gives the user access to information pertaining to the units’ current operating status. The Unit Status group of display items will be view only and require no password. An exception to this statement is the entry of time and date. Time and date are entered in the Unit Status group and require a Level 1 password.

The OptiLogic Control Center display has four lines of which to display data, from top to bottom. The first line will always show the Function Key group currently being accessed. The following table shows the Function Key and the respective First Line Text that will be displayed.

FUNCTION KEY	FIRST LINE TEXT
UNIT STATUS	*** UNIT STATUS ***
OPERATION DATA **	OPERATION DATA **
*** SETPOINTS ***	SETPOINTS
SETUP*** UNIT SETUP ***	UNIT
CONFIGURATION	** CONFIGURATION **
SERVICE	*** SERVICE ***

Starting with the first display item, the Unit Status display items are shown below. The values in parentheses are the possible displays.

```
*** UNIT STATUS ***
General Unit Status
Unit Type = VAV
Status = NORMAL
```

Line 2 General Unit Status
 Line 3 Unit Type = VAV (CV, VAV, Flexsys)
 Line 4 Status = NORMAL (TROUBLE, ALARM)

Unit Type will be determined from the "Unit Type" configuration setting under the Configuration menu and can be programmed for either VAV (variable air volume unit), CV (constant volume unit), or Flexsys.

Status is determined by:

- NORMAL - no faults have been detected
- TROUBLE - a fault that does not cause unit shutdown has been detected
- ALARM - a fault that causes the unit to be shut down has been detected

Refer to the section on Service and Troubleshooting for fault, alarm and trouble description.

```
*** UNIT STATUS ***
Date = 25-Feb-2000
Time = 12:28:05a
Day = WED
```

Line 2 Date = dd-mon-year
 Line 3 Time = hh:mm:ss a (p)
 Line 4 Day = DDD (day abbreviation)

The Date and Time are displayed and, if required, changed in this display by pressing Enter/Change and using cursor control and the Enter button to update the Date and Time parameters. A Level 1 password is required to change these parameters.

```
*** UNIT STATUS ***
Current Unit Mode
Unoccupied Standby
```

Line 2 Current Unit Mode
 Line 3 (Current unit operating mode)
 Line 4 (Blank)

Line 3 displays the one of the following operating modes:

- Occupied Standby
- Occupied Cooling
- Occupied Heating
- Unoccupied Standby
- Unoccupied Cooling
- Unoccupied Heating
- Manual Override
- Warm-up
- Sys. Start Delay
- Preoccupancy Purge
- Smoke Purge
- Emergency Shut Down
- Fault Shutdown

```
*** UNIT STATUS ***
Unit Controlled By
Thermostat
```

Line 2 Unit Controlled By
 Line 3 (Determined by inputs and Setup settings)

Line 4 (Blank)

Line 3 displays one of the following four space temperature control sources or method:

- Thermostat
- Zone Sensor
- BAS Network
- Stand Alone Control

```

*** UNIT STATUS ***
Supply Fan System
Fan Status = 0N
Cntrl Output = 78%
    
```

Line 2 Supply Fan System
 Line 3 Fan Status = ON (OFF or FAULT)
 Line 4 Cntrl Output = XXX%

```

*** UNIT STATUS ***
Hydronic Heat System
Cntrl Output = 0%
Freezestat = Normal
    
```

Line 2 Hydronic Heat System
 Line 3 Cntrl Output = XXX%
 Line 4 Freezestat = NORMAL (SAFETY TRIP)

```

*** UNIT STATUS ***
Exhaust Fan System
Fan Status = 0N
Cntrl Output = 100%
    
```

Line 2 Exhaust Fan System
 Line 3 Fan Status = ON (OFF)
 Line 4 Cntrl Output = XXX%

```

*** UNIT STATUS ***
Staged Heat System
Stages 0N = 1
Stages Avail = 3
    
```

Line 2 Staged Heat System
 Line 3 Stages ON = X
 Line 4 Stages Avail = X= 0-6

```

*** UNIT STATUS ***
Comp System #1
Status = SAFETY TRIP
Comps 0N = NONE
    
```

Line 2 Comp System #X
 Line 3 Status = NORMAL (SAFETY TRIP)
 Line 4 Comps ON = A (B, BOTH, NONE)

Display #7 repeats for compressor systems 2 and 3. If the unit is a 4-stage (2 system) unit, system 3 data will show N/A for Status and Comps ON.

```

*** UNIT STATUS ***
Economizer System
Type = Single Enth.
Status = Inactive
    
```

Line 2 Economizer System
 Line 3 Type = (Single, Dual, Outside Air) N/A
 Line 4 Status = Active (Inactive, N/A, Fault)

Line 3 displays one of the following economizer system operation configurations:

- OA Dry Bulb
- Single Enth (Single Enthalpy)
- Dual Enthalpy
- N/A (Unit is not equipped with an economizer or economizer is not enabled)

The status displayed in Line 4 indicates one of the following:

N/A - Unit is not equipped with an economizer or economizer is not enabled

Active - Economizer operation enabled and conditions are suitable

Inactive - Economizer operation enabled and conditions are not suitable

```
*** UNIT STATUS ***  
Ventilation System  
Type = Min Dampr Pos  
Status = Unocc/OFF
```

Line 2 Ventilation System
Line 3 Type = (Show Current Configuration)
Line 4 Status = Unocc/OFF (Occ/ON, N/A, Fault)

Line 3 displays one of the following configurations:

- None (Line 4 Status = N/A)
- Min Dampr Pos (Minimum damper position)
- Min Airflow
- 25/75 Airflow
- Full Airflow

```
*** UNIT STATUS ***  
Filter Status  
Status = NORMAL  
RA Bypass = NORMAL
```

Line 2 Filter Status
Line 3 Status = NORMAL (REPLACE)
Line 4 RA Bypass = Normal (Replace)

```
*** UNIT STATUS ***  
Thermostat Input  
Status = Y2
```

Line 2 Thermostat Input
Line 3 Status = Y2 (Y1,W1,W2, None)
Line 4 (Blank)

```
*** UNIT STATUS ***  
Occ Input  
Status = Occ / ON
```

Line 2 Occ Input
Line 3 Status = Occ/ON* (UnOcc/OFF)
Line 4 (Blank)
* "Occ/ON" only if hard wired input between "R" & "G" at CTB1

```
*** UNIT STATUS ***  
G Input  
Status = ON
```

Line 2 G Input
Line 3 Status = ON* (OFF)
Line 4 (Blank)
* "ON" only if hard wired input between "R" & "G" at CTB1.

“OPERATION DATA” NAVIGATION

The Operation Data key (or Menu Item) will move the display to the first display item of the Operation Data group. The Operation Data group of display items will give the user access to the units’ current operating parameters. The Operation Data group of display items is view only and will require no password.

Starting with the first display item, the Operation Data display items are as follows:

```

** OPERATION DATA **
Sys 1 Compressors
Comp A = ON
Comp B = OFF
    
```

Line 2 Sys X Compressors
 Line 3 Comp A = ON (OFF, FAULT)
 Line 4 Comp B = ON (OFF, FAULT)

```

** OPERATION DATA **
Sys 1 Compressors
Suc Press = 80 psig
Dis Press = 270 psig
    
```

Line 2 Sys X Compressors
 Line 3 Suc Press = XXX PSIG (???)
 Line 4 Dis Press = XXX PSIG (???)

```

** OPERATION DATA **
Compressor Staging
Next ON = 2-B
Next OFF = N/A
    
```

Line 2 Compressor Staging
 Line 3 Next ON = X-X (N/A)
 Line 4 Next OFF = X-X (N/A)

```

** OPERATION DATA **
OA Temp = 73.4°F
OA RH = 48%
OA Enth = 26.8 btu/lb
    
```

Line 2 OA Temp= XXX°F (0.0, ???)
 Line 3 OA RH = XXX% (0.0, ???)
 Line 4 OA Enth= XX.X btu/lb (0.0)

```

** OPERATION DATA **
RA Temp = 69.6°F
RA RH = 55%
RA Enth = 26.0 btu/lb
    
```

Line 2 RA Temp= XXX°F (0.0, ???)
 Line 3 RA RH = XXX% (0.0, ???)
 Line 4 RA Enth= XX.X btu/lb (0.0)

```

** OPERATION DATA **
Supply Air Temp
Temp = 57.6°F
Setpt = 58.0°F
    
```

Line 2 Supply Air Temp
 Line 3 Temp = XXX.X°F (0.0, ???)
 Line 4 Setpt = XXX.X°F (0.0)

```

** OPERATION DATA **
Supply Duct Pressure
Press = 1.48 inwg
Setpt = 1.50 inwg
    
```

Line 2 Supply Duct Pressure
 Line 3 Press = X.XX inwg (0.0, ???)
 Line 4 Setpt = X.XX inwg (0.0, ???)

```
** OPERATION DATA **
Space Temperature
Temp = 71.2°F
Setpt = 71.0°F
```

Line 2 Space Temperature
Line 3 Temp = XX.X°F (0.0)
Line 4 Setpt = XX.X°F (0.0)

```
** OPERATION DATA **
Outside Air Damper
Flow #1= 15478 CFM
```

Line 2 Outside Air Damper
Line 3 Flow #1= XXXXX cfm (0.0)
Line 4

```
** OPERATION DATA **
Building Pressure
Press = +0.08 inwg
Setpt = +0.10 inwg
```

Line 2 Building Pressure
Line 3 Press = +/-X.XX inwg (0.0, ???)
Line 4 Setpt = +/-X.XX inwg (0.0)

```
** OPERATION DATA **
Outside Air Damper
Flow #2= 5732 CFM
```

Line 2 Outside Air Damper
Line 3 Flow #2= XXXXX cfm (0.0)
Line 4

```
** OPERATION DATA **
Outside Air Damper
Position #1 = 34%
Min Pos = 25%
```

Line 2 Outside Air Damper
Line 3 Position # 1 = XXX%
Line 4 Min Pos = XXX%

```
** OPERATION DATA **
Outside Air Damper
TotalFlow= 21210 CFM
Setpt= 20000
```

Line 2 Outside Air Damper
Line 3 TotalFlow= XXXXX cfm (0.0)
Line 4 Setpt= XXXXX cfm (0.0)

```
** OPERATION DATA **
Outside Air Damper
Position #2= 30 %
Position #3= 35 %
```

Line 2 Outside Air Damper
Line 3 Position #2= XXX %
Line 4 Position #3= XXX %

```
** OPERATION DATA **
Demand Ventilation
Sensor= XXXX ppm
Setpt= XXXX ppm
```

Line 2 Demand Ventilation
Line 3 Sensor Value= XXXX ppm (0)
Line 4 Setpt= XXXX ppm

```

** OPERATION DATA **
Flexsys Supply Temp
Temp= XX.X °F
Setpt= XX.X °F
    
```

Line 2 Flexsys Supply Temp
 Line 3 Temp= XX.X °F (0.0)
 Line 4 Setpt= XX.X °F

```

** OPERATION DATA **
Flexsys Bypass Air
Active Byp %= XXX %
Byp % Setpt= XXX %
    
```

Line 2 Flexsys Bypass Air
 Line 3 Active Byp %= XXX % (0)
 Line 4 Byp % Setpt= XXX % (0)

```

** OPERATION DATA **
FlexRH= XXX %
Dewpoint= XX.X °F
Slab Temp= XX.X °F
    
```

Line 2 Flex RH= XXX % (0.0)
 Line 3 Dewpoint= XX.X °F
 Line 4 Slab Temp= XX.X °F (0.0)

```

** OPERATION DATA **
Rooflink
Status= Active
Smoke Purge Mode= 0
    
```

Line 2 Rooflink
 Line 3 Status= Active (Inactive)
 Line 4 Smoke Purge Mode= 0 (0-5)

```

** OPERATION DATA **
Flexsys Bypass Dmpr
Position= XXX %
    
```

Line 2 Flexsys Bypass Dmpr
 Line 3 Position= XXX % (0.0)
 Line 4

“SETPOINTS” NAVIGATION

The Setpoints key (or Menu Item) moves the display to the first display item of the Setpoints group. The Setpoints group of display items allows the user to view and modify general setpoint data. It should be noted that all setpoints show values, however, not all setpoints are used for operation based on how the unit is setup and configured. For example, zone sensor setpoint shows a value but is ignored if the unit is setup for use with a thermostat.

All of the display items of the Setpoints group can be changed. Changing setpoints under the “Setpoints” key is covered under “Changing Setpoints” in section “Parameter Descriptions and Options.” Editing setpoints requires the appropriate password entry, which is explained under the section “Passwords”.

Starting with the first display item, the Setpoints display items are as follows:

```

*** SETPOINTS ***
Unoccupied Heating
Setpoint = 60°F
    
```

- Line 2 Unoccupied Heating
- Line 3 Setpoint = XX°F
- Line 4 *(Blank)*

All the remaining displays follow the same format, and are covered in sequence and explained in the section “PARAMETER DESCRIPTION AND OPTIONS.” This format will list the setpoint description on Line 2 with “Setpoint = XXXX on Line 3. Line 4 is always blank except for Flexsys.

“UNIT SETUP” NAVIGATION

The Unit Setup key moves the display to the first item of the Unit Setup group. The Unit Setup group of display items allows the user to view and modify general Unit Setup data. All Unit Setup parameters show data, however, not all Unit Setup parameters are used for operation based on how the unit is setup and configured. For example, Reverse Acting HW Valve can be selected ON or OFF even if the heating system is configured for electric or gas heat.

Unit Setup parameters are listed in Table 21 with their associated data.

Changing values in this group are covered in the section “PARAMETER DESCRIPTION AND OPTIONS”, under “CHANGING SETPOINTS.”

Changing of a Unit Setup parameter requires the entry of a password (see section on “Passwords”).

As with the other function groups, the description of the selected function, *** UNIT SETUP *** will be displayed on line 1 of the display. Line 2 will display one of the selected subgroups pertaining to the setpoint being viewed/changed. The table below illustrates the seven subgroups under Unit Setup.

Line 1 Display		Line 2 Display (Subgroup)
Unit Setup	1	General Setup
	2	Heat/Cool System
	3	VAV System
	4	Econo/Exhaust System
	5	Ventilation System
	6	Warm-up/Purge
	7	Clock/Scheduling

Line 3 will show the Setpoint Description, and line 4 will display “Setting = XXXX”, where XXXX is the data. Information shown in Table 21 details the information that is displayed with each item, which includes default value, value range, and password level. Shown below are two sample displays for the Unit Setup function.

DISPLAY - SUBGROUP 1

```
*** UNIT SETUP ***
General Setup
Language Option
Setting = English
```

Line 2 General Setup
 Line 3 Language Option
 Line 4 Setting = English

DISPLAY - SUBGROUP 4

```
*** UNIT SETUP ***
Econo/Exhaust System
Economizer Enable
Setting = OFF
```

Line 2 Econo/Exhaust System
 Line 3 Economizer Enable
 Line 4 Setting = OFF

All the displays follow the same format as shown above and are covered in sequence and explained in the section “PARAMETER DESCRIPTION AND OPTIONS (SETPOINTS)” . This format will list the Unit Setup Display Group on Line 2 with Description on Line 3. Line 4 displays "setting = XXXX". Table 20 details the information that is displayed with each display item of this function group which includes the text for Line 3, units used with the associated item, default value, value range, and password level.

```
*** PURGE SCHEDULE ***↓
Mon= HH:MM - HH:MM
Tue= HH:MM - HH:MM
Wed= HH:MM - HH:MM
```

```
*** UNIT SETUP ***↓
Thu= HH:MM - HH:MM
Fri= HH:MM - HH:MM
Sat= HH:MM - HH:MM
```

Pressing the DOWN key will index the bottom three lines of text as shown.

The Preoccupancy Purge schedule is used for entering the time for start and stop of Preoccupancy Purge is entered. Line 1 is “Purge Schedule”. The previous displays are used to display and change the start and start times for each day of the week and for holidays. The display is illustrated as shown above.

```
*** WEEKLY SCHEDULE ***↓
Mon= HH:MM - HH:MM
Tue= HH:MM - HH:MM
Wed= HH:MM - HH:MM
```

```
*** WEEKLY SCHEDULE ***↓
Thu= HH:MM - HH:MM
Fri= HH:MM - HH:MM
Sat= HH:MM - HH:MM
```

Pressing the DOWN key will index the bottom three lines of text as shown.

Weekly Schedule and Holiday Schedule

Navigating to the Weekly Schedule display will show the above display.

6

Pressing the Up and Down keys at this display item will navigate the display cursor down and index the display to show the additional days of the week.

In order for the internal clock/schedule to operate, it must be turned on. The clock/scheduler is turned ON or OFF under the UNIT SETUP key of the OptiLogic Control, “Clock/Scheduling Internal Clk/Sched Settings” ON – OFF.

Pressing the Change/Enter key at any of these days will prompt the user for a password (refer to section on Password). Once the password is entered, the start and stop times can be changed by indexing the digits up and down with the Up and Down keys, or moving between digits with the Back or Next keys.

The Weekly Schedule sub menu will be as follows:

Weekly Schedule

Mon = HH:MM - HH:MM
 Tue = HH:MM - HH:MM
 Wed = HH:MM - HH:MM
 Thu = HH:MM - HH:MM
 Fri = HH:MM - HH:MM
 Sat = HH:MM - HH:MM
 Sun = HH:MM - HH:MM
 Hol = HH:MM - HH:MM

Navigating to the Holiday Schedule display item will show the following:

```

** HOLIDAY SCHEDULE ** ↓
HOL 01= MMM DD
HOL 02= MMM DD
HOL 03= MMM DD
    
```

```

** HOLIDAY SCHEDULE ** ↓
HOL 14= MMM DD
HOL 15= MMM DD
HOL 16= MMM DD
    
```

Pressing the DOWN key will index the bottom three lines of text as shown.

Pressing the Up and Down keys at this display item will navigate the display cursor down and index the display to show the additional holidays. Pressing the Change/Enter key at any of these holidays will prompt the user for a password. Once the password is entered, the month (MMM) and day (DD) will be changeable by pressing the Up and Down keys, or moving between months and days with the Back or Next keys.

“CONFIGURATION” NAVIGATION

The Configuration key (or Menu Item) will move the display to the first item of the Configuration group. The

Configuration group of display items will allow the user to view and change general unit Configuration data. Not all Configuration parameters will be used for operation based on how the unit is setup and configured. For example, IAQ Sensor Span will have a setting; however, it will be ignored if the IAQ Sensor Enable Unit Setup parameter is selected OFF.

Configuration parameters are listed in Table 21 with their associated data, and explained under the section titled “PARAMETER DESCRIPTION AND OPTIONS (SETPOINTS)”

As with the other function groups, the description of the selected function, **** CONFIGURATION **** will be displayed on line 1 of the display. Line 2 will display one of the selected subgroups pertaining to the setpoint being viewed/changed. The table below illustrates the four subgroups under Configuration.

```

** CONFIGURATION **
Heat/Cool System
Freezestat
Setting = OFF
    
```

Line 1 Display		Line 2 Display (Subgroup)
Configuration	1	General
	2	Heat/Cool System
	3	Excess SAT
	4	Econo/Exhaust/Vent.
	5	Duct Sensor Hi Limit
	6	Evaporator Damper

Changing setpoints is explained in the section titled “PARAMETER DESCRIPTION AND OPTIONS” under “Changing Setpoints.” Changing a Configuration setpoint requires the entry of a password at the appropriate level.

Line 3 will show the display item and Line 4 will display of that item, such as “Setting = XXX”, where XXX is the data. Information shown in Table 21 includes the text for Line 3, units used with the associated item, default value, value range, and the password level. A sample display is shown above.

DISPLAY - SUBGROUP 2

Line 2 Heat/Cool System
 Line 3 Freezestat
 Line 4 Setting = OFF

“SERVICE” NAVIGATION

The Service key will move the display to the first display item of the Service function group. The Service function group of display items will give access to service related information. The Service Function group of display items will be primarily view only.

The following parameter types can be changed. All others are display only.

- Four Airflow Measurement Station (AMS) parameters.
- Four/six compressor runtimes can be reset to zero but cannot be reset to a specific value.



Resetting the compressor run times to zero will result in that compressor running first on a call for cooling until the run time becomes equal to or greater than the other compressors.

- Four/six compressor starts
- Supply and exhaust fan runtimes can be set to zero but cannot be reset to a specific value.

When the service key is pressed, the following is displayed:

```
*** SERVICE ***
Sys 1 Comp Runtimes
Comp A = 347.1 hrs
Comp B = 368.7 hrs
```

Display shows accumulated compressor run time.

Line 2 Sys X Comp Runtimes
 Line 3 Comp A = XXXXX.X hrs
 Line 4 Comp B = XXXXX.X hrs

Display repeats for compressor systems 1, 2, and 3. If the unit is configured as a 4-compressor unit, Display 3 (Sys 3 Comp Runtimes) will show N/A for both compressors.

```
*** SERVICE ***
Sys 1 Comp Starts
Comp A = 756
Comp B = 685
```

Display shows the number of starts on each compressor.

Line 2 Sys X Comp Starts
 Line 3 Comp A = XXXXXX
 Line 4 Comp B = XXXXXX

Display repeats for compressor systems 1, 2 & 3. If the unit is configured as a 4 compressor unit, Display 3 (Sys 3 Comp starts) will show N/A for both compressors.

This display shows accumulated fan run times for the supply and exhaust fans

```
*** SERVICE ***
Fan Runtimes
Supply = 1258.3 hrs
Exhaust = 948.2 hrs
```

Line 2 Fan Runtimes
 Line 3 Supply = XXXXX.X hrs
 Line 4 Exhaust = XXXXX.X hrs

This display shows the lockout status of cooling or heating as compared to the “lockout” setpoints under the Unit Setup key.

```
*** SERVICE ***
OAT Lockouts
Cooling = NO
Heating = NO
```

Line 2 OAT Lockouts
 Line 3 Cooling = NO (YES)
 Line 4 Heating = NO (YES)

This display indicates whether the economizer (if applicable) is active, as compared to the setpoint programmed under the Outside Air Enthalpy setpoint under the “Setpoint” key.

```
*** SERVICE ***  
Economizer Activity  
Active = N0  
SAT Setpt = 60°F
```

Line 2 Economizer Activity
Line 3 Active = NO (YES)
Line 4 SAT Setpt = XX°F

- Active = NO: Economizer installed, enabled and conditions are not suitable

or

No Economizer installed

- Active = YES: Economizer installed, enabled and conditions are suitable

SAT Setpt indicates the current SAT (supply air temperature) setpoint that the economizer will try to maintain when outside air conditions are suitable for free cooling/economizer operation.

Display shows which mode of operation the unit is in.

```
*** SERVICE ***  
Modes Enable  
Cooling = YES  
Heating = N0
```

Line 2 Modes Enabled
Line 3 Cooling = NO (YES)
Line 4 Heating = NO (YES)

This display shows the status of the “compressor safety chain” which consists of a low-pressure switch, high-pressure switch, and compressor overload for each refrigerant circuit. If any of the safeties are opened, the display will show the respective system and display as follows:

```
*** SERVICE ***  
Sys X Safety Chain  
Status = Tripped
```

Line 2 Sys X Safety Chain (1,2,3)
Line 3 Status = Tripped (NORMAL)
Line 4 (Blank)

This display shows the entry made by the Air Balancer if a manual air balance is done.

```
*** SERVICE ***  
AMS#1  
Balancer Calculated  
Airflow = 9000 cfm
```

Line 2 AMS #1
Line 3 Balancer Calculated
Line 4 Airflow= XXXXX cfm

The Line 4 value is entered as the result of an airflow balancer’s measurement of the unit airflow. A default value of “1” will be shown whether or not this function is used. Editing the value requires the entry of a password of the appropriate level. This function is described under Units Sequence and Operation and PARAMETER DESCRIPTION AND OPTIONS.

This display shows the entry made by the Air Balancer if a manual air balance is done.

```

*** SERVICE ***
AMS#1 Controller
Measured Airflow
at balance =9000cfm
    
```

Line 2 AMS #1 Controller
 Line 3 Measured Airflow
 Line 4 at balance= XXXXX cfm

The Line 4 value is entered as a part of the airflow balancer's calibration of the Airflow Measurement Station #1. A default value will be shown whether or not this function is used. Editing the value requires the entry of a password of the appropriate level. This function is described under Units Sequence and Operation and PARAMETER DESCRIPTION AND OPTIONS.

```

*** SERVICE ***
Economizer Tunins
Prop Band = 40°F
Intes Time = 45 sec
    
```

Line 2 Economizer Tunins
 Line 3 Prop Band = XX°F
 Line 4 Intes Time = XX sec

This display indicates the software revision

```

*** SERVICE ***
Application
Revision # = 1.63
    
```

Line 2 Application
 Line 3 Revision #= X.X
 Line 4 Blank

“HISTORY” NAVIGATION

The History function group will display unit error histories and will be used to troubleshoot and diagnose equipment problems and/or failures (faults). The display items for the History function group are arranged differently than the other function groups. The History function group contains twelve (12) History items. Each History item has a description of the problem as well as a list of the unit operating parameters (snap shot data) when the problem occurred.

Pressing the History key will move the display to the first History item in the History function group. The display will show ***** HISTORY XX ***** on the top line of the display. XX refers to a number 1 through 12 to list the number of the fault in the memory buffer.

History Displays

```

*** HISTORY 01 ***
Comp Safety L/O
TROUBLE - ACTIVE
06-Mar-2000 02:10:AM
    
```

- Line 2 Fault Description (Fault Name)
- Line 3 Priority – Status (Alarm, Trouble, None) – (Clear, Active)
- Line 4 Date/Time (Fault Occurred)

Pressing the Back (<) and Next (>) keys will navigate the display between the twelve History items.

Table 19 shows a list of possible system faults along with the classification of the fault (illustrated in the display line 2). Display Line 3 display shows the following (see Service section for fault response details):

- None - No fault is recorder for History XX
- Alarm - A fault has been detected that results in the unit shutting down
- Trouble - A fault has been detected that does not result in the unit shutting down
- Clear - One of the following conditions has occurred:
 - A fault has been detected on an enabled sensor failed and the sensor has since been disabled
 - A fault has been detected and the cause of the fault has ceased to be present
 - The operator has taken an action, such as cycling the controller power
- Active - The fault is still current

Each History fault display will have a point’s data list associated with it. This point’s data list contains a snapshot of the operating parameters the instant the fault occurred. Once a fault is selected, the points data list can be accessed by using the Up (↑) and Down (↓) arrow keys. This will scroll through the points data list in Table 20.

The History function group shows faults in order, starting with the most recent. History 01 will be the most recent fault. No fault History is eliminated once recorded other than being “pushed off” of the end of the list by a new fault.

When a fault is written into the fault History list, the Alarm LED is turned on next to the display. The System Alarm LED will remain on as long as an Active fault is present in the History list.

Refer to the Service Section fault response details.

TABLE 19 – HISTORY FUNCTION TEXT (LINE 2)

Error Text (Line 2)	Classification (Line 3)
COR Status Fault	Alarm
Duct Sensor Fault	Alarm
Excess Duct Pressure	Alarm
HW Freeze Fault	Alarm
MSAT Sensor Fault	Alarm
SAT Sensor Fault	Alarm
Supply Fan Fault	Alarm
Sys1 Sfty Lckout #1	Alarm
Sys1 Sfty Lckout #2	Alarm
Sys2 Sfty Lckout #1	Alarm
Sys2 Sfty Lckout #2	Alarm
Sys3 Sfty Lckout #1	Alarm
Sys3 Sfty Lckout #2	Alarm
Thermostat Conflict	Alarm
Air Switch Fault	Trouble
Bad OAF Transducer	Trouble
Bldg Pressure Fault	Trouble
Cooling SAT Fault	Trouble
DischargePress Fault	Trouble
Evap Freeze Fault	Trouble
Excess Cooling Fault	Trouble
Excess Heating Fault	Trouble
F/RH Sensor Fault	Trouble
F/Slab Sensor Fault	Trouble

Error Text (Line 2)	Classification (Line 3)
Heat SAT Fault	Trouble
High Press Unload 1	Trouble
High Press Unload 2	Trouble
High Press Unload 3	Trouble
IAQ Sensor Fault	Trouble
OA Flow Sensor Fault	Trouble
OAH Sensor Fault	Trouble
OAT Sensor Fault	Trouble
RA Byp Filter Fault	Trouble
RAH Sensor Fault	Trouble
RAT Sensor Fault	Trouble
SensConsist Fault 1	Trouble
SensConsist Fault 2	Trouble
Space Control Fault	Trouble
Space Sensor Fault	Trouble
Suction Press Fault	Trouble
Sys1 Safety Trip	Trouble
Sys2 Safety Trip	Trouble
Sys3 Safety Trip	Trouble
Tstat Cooling Fault	Trouble
Tstat Heating Fault	Trouble
Unit Filter Fault	Trouble
UNT Comm Fault	Trouble

TABLE 20 – HISTORY POINTS DATA LIST

DISPLAY TEXT
Tstat Input= Y2 (Y1,W1,W2,None)
Occ Input= OCC (UNOCC)
G Input= On (Off)
Space Temp= XX.X °F
Space Tmp SP= XX.X °F
SA Temp= XX.X °F
SATempSP= XX.X °F
RA Temp= XX.X °F
RA RH= XXX%
RA Enth= XX.X btu/lb
OA Temp= XX.X °F
OA RH= XXX %
OA Enth= XX.X btu/lb
Duct Press= X.XX inwg
Duct Pr SP= X.XX inwg
Bldg Pr= X.XX inwg
Bldg Pr SP= X.XX inwg

DISPLAY TEXT
Supply Fan= On (Off)
Sfan Output= XXX% (None)
Exhaust Fan= On (Off, None)
Efan Output= XXX%
Comp 1-A= On (Off, None, L/O)
Comp 1-B= On (Off, None, L/O)
Comp 2-A= On (Off, None, L/O)
Comp 2-B= On (Off, None, L/O)
Comp 3-A= On (Off, None, L/O)
Comp 3-B= On (Off, None, L/O)
Ht Steps ON= XX
Ht Steps Avail= X
Ht Valve Out= XXX %
OA Damper Pos= XXX %
SAT SP= XXX °F