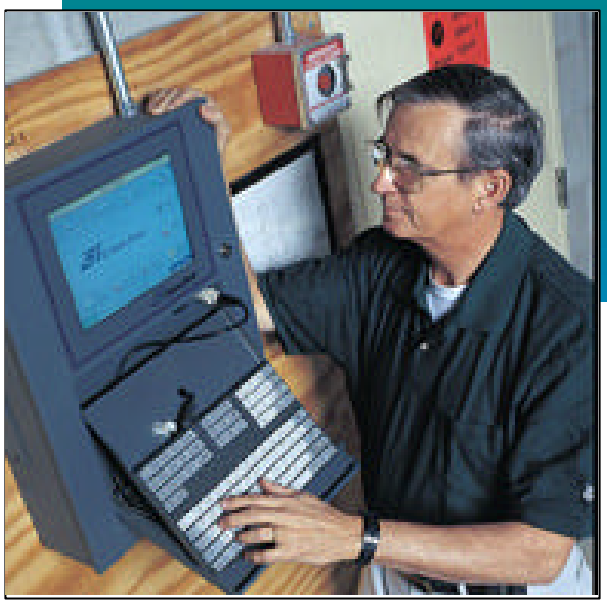
Com-Trol ADV-6000
Advantage 6000- Graphical User Interface
Users Manual



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INTRODUCTION

The Com-Trol 6000 Advantage is a graphical user interface (GUI) for the MCS-4000 line of controllers, when it takes the place of the COM-5002 (5K) communication interface. In addition to the functions provided by the 5K, it presents a color animated interface, with a touch screen that allows the ability to easily understand and access the control system. By touching the screen, the user can select the desired information and move through the screens with ease. Presenting the information in graphical/picture format makes understanding the current status of the various controlled devices very user friendly.

HARDWARE

The 6000 is built around an industrial solid state drive computer, interfaced to a color touch screen display, and packaged for wall mounting. It comes standard with high speed modem or can be interfaced with the facilities LAN via an Ethernet card.

INSTALLATION

- Mount the 6000 and it's battery back-up unit in a desirable location. Recommend mounting in area that will best serve the intended user.
- Connect 120 volt power to the battery back-up & surge suppression unit
- Connect 120 volt power from the battery back-up unit to the 6000
- Connect the RS-485 Global Bus from the 6000 to the closest MCS-4000 (daisy chain additional MCS-4000/4500 controllers)
- Hook up the incoming phone line into the phone line surge suppressor (built into the battery back-up unit)
- Connect the phone line from the phone line surge suppressor to the RJ-11 phone jack or directly to the modem located inside the 6000
- The installation is complete

The most important decision in installation is where to mount the unit. There are several obvious choices; machine room, front office area, or somewhere in between. If the 4000s have displays, placing the 6000 in the machine room is somewhat redundant and often inaccessible to the intended user. In this case, you may want to opt for a location more accessible to store personnel, either at the service booth or perhaps somewhere outside the machine room. The 6000 is password protected, unauthorized users will have a "view only" status.

If the mounting location is going to exceed 100 degrees F, then the 6000 must be mounted elsewhere. Note: Multiple 6000s may be linked together, giving access to the system at various locations, such as the customer service booth and machine room.

SOFTWARE

All software necessary for the operation of the 6000 is included, and comes pre-installed. The remote software, Ezcom for Windows, duplicates the operation of the 6000 at the remote site.

NOTE: For proper operation at the remote site, a computer with the following specifications is required:

486/25
4 meg ram
Hard drive w/ 10 megs free space
28.8 or 36.4 K-baud modem
High speed serial port (16550's)
Vesa video support
25-pin printer port

The basic design of the software is built around a template approach. The templates determine what is displayed on each screen. Screens may be changed by using a text editor to modify or create a new template.

The major feature of the 6000 is that it needs no special knowledge of the installation. It asks the 4000s for certain information and based solely upon their response; it builds the appropriate screens automatically. For example, when you view the compressor status screen it asks the selected 4000 for information about compressor 1, then compressor 2, then compressor 3, etc., until it receives a response that says, “no exist”. The 6000 then knows how many compressors are present, if they have unloaders or not, if they are variable speed, etc., and it builds the appropriate graphical screen. This same process is used throughout the system. So the same software package will work on every installation.

The only place where special knowledge and custom drawings/pictures must be created is if a store floor plan/case map is desired. These drawings can be created by either the end user, or by Com-Trol for an additional fee, or by using Com-Trol’s EZDRAW program. See Ezdraw User Manual.

The 6000 provides an Auto Back-up and Reload feature. Every night at 3 AM, each 4000 has it’s program pulled back into the 6K and stored on disk. This will keep a current copy of the 4K programs on site at all times. The 6K also continuously polls each 4K and looks to see if a valid program is in place. This is based upon the first five task positions having a valid task; if the task information is not present, it will then reload the latest pullback program for that 4K automatically (within 10 minutes).

Help is provided on each screen, much like the 4000. Simply touch the Help button at the lower left of the screen and the appropriate Help information will appear. The user may customize the Help information, if desired, it requires a simple text editor and some basic knowledge of the Help file structure.

The 6000 provides data logging of up to 250 specified MCS-4000 inputs, outputs, and control parameters. Each logged item can have its logging interval set from 1 minute to 24 hours, as well as its upper and lower limits.

Graphing of logged data is provided both on the 6K on site and at the remote location. Up to 4 analog values and 4 digital values can be viewed on a graph at one time. The 6000 also provides both fixed and auto-scaling. See Graphing section for additional information.

The 6000 polls all 4Ks for alarms and performs local and remote notification as programmed in the 4000s. Like the COM-5002, it supports alarm dial-out to modems/printers, fax machines, and digital pagers as well as local alarm buzzers and lights. **Note**: local alarm outputs and inputs must be provided on the 4000 I/O boards, unlike the 5000 which has built-in hardware I/O for local alarming.

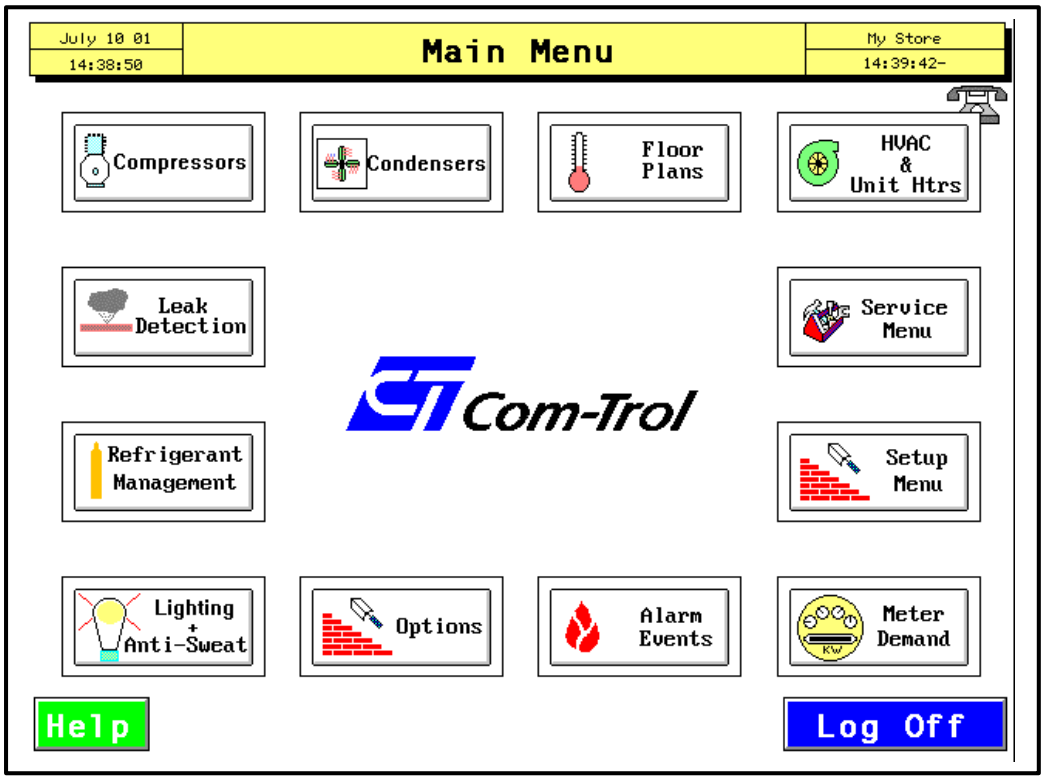
The 6000 also supports the passing of 4K data between controllers, such as ambient temperature, heat reclaim signals, etc. This is referred to as “Global Passing”, a feature Com-Trol that has been available since the invention of the 6000 in 1995.

The 6000 will provide utility meter data through the PMA (pulse meter adapter), just like the 5000.

The following section will present the standard screens, and discuss their operation and function.

Main Menu

This screen is used as the starting point to access the various operational areas of the system. When powered up, the 6000 will automatically go to this screen. A customer logo can be displayed on this screen (Com-Trol logo is the default).



The date and time of the 6000 are always displayed at the upper left, the site name at the upper right, the time of the next alarm dial-out below it, and the screen name in the middle of the upper banner.

The buttons surrounding the logo lead to other screens when touched. A short description of each button follows:

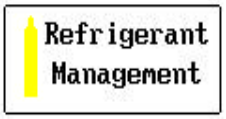
Leads to the compressor selection screen where each compressor task is represented by it's own icon/button.

Leads to the condenser selection screen where each condenser task is represented by it's own icon/button.

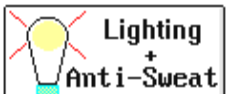
Presents either a floor plan of the installation with case/temp/defr circuits identified, or a list of all the temp/defr circuits, either of which lead to further screens.

Leads to the HVAC & Unit Heater selection screen where each task is represented by it's own icon/button; with Central HVAC and RTU tasks on the top half of the screen and Unit Heaters/Exhaust Fans on the bottom.

Leads user to the Infrared leak detector selection screen where each zone being sampled has it's own icon/button.



Leads user to the Refrigerant Management selection screen where each refrigerant charging scale is represented by it's own icon/button.



Leads user to the Lighting & Anti-sweat selection screen; with lighting tasks on the top half of the screen and Anti-sweat tasks on the bottom.

Leads user to Option tasks for all the on-line controllers. The tasks are color coded by controller.

Presents a list of up to the last 200 alarm events and their status.

Displays a screen for the first electrical meter with appropriate utility information. Other meters (up to 8; requires PMA hardware) can be accessed from there.

Allows the user (most items password protected) to perform various operations such as:

- Pull back & restore data files (MCS-4000 Boxes)
- View list/status of I/O boards
- Access Inverters (if networked back to Com-Trol w/4500 board)
- Access Service notes & Who/When files

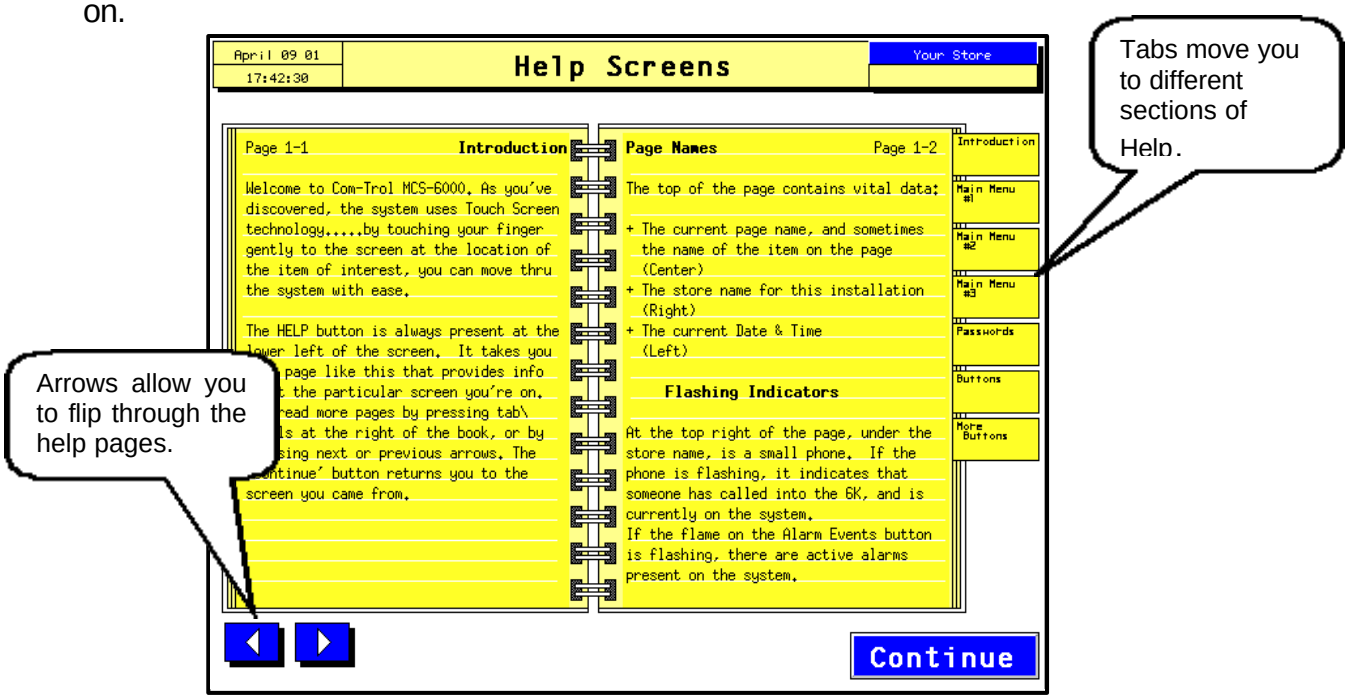
Allows the user to access/alter (most items password protected) various operations & setup procedures such as:

- "Installers Check list"
- Alarm dial-out/notification (Phones)
- Store Hours
- Holiday Schedules
- Global Transfers
- Etc.

Note: at the remote location a mouse is used in place of the touch screen (unless the customer chooses to purchase a 6000 for remote use as well).

Help - **HELP**

A help button is provided at the lower left of each screen. Pressing this button will display a help screen that has the appropriate help information for the screen you are on.

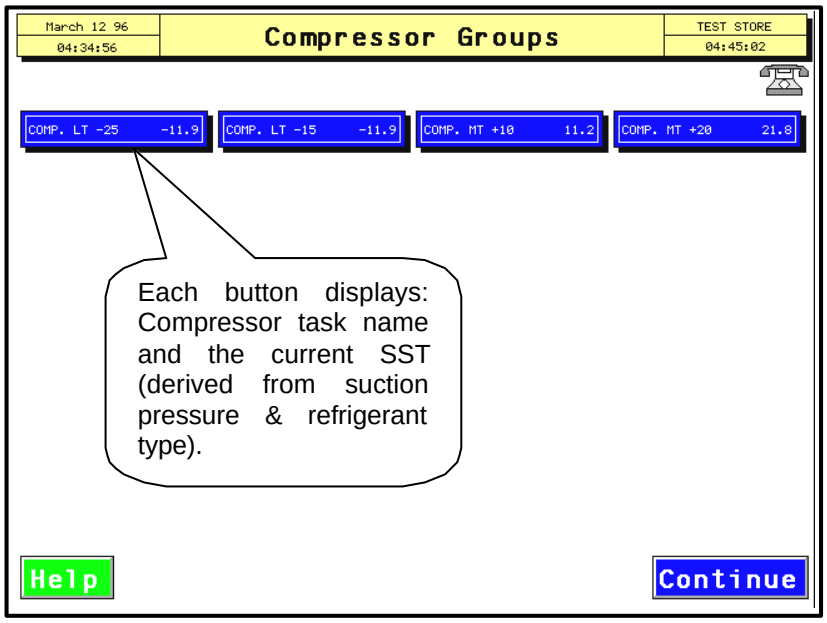


We will now proceed through each of the Main Menu buttons/choices, providing sample screens for each.

Compressors - **COMPRESSORS**

When you touch the "Compressors" button, you will be presented with a screen that lists all the compressor tasks within the 4000 controllers (this example has four).

Press the desired compressor button to access the current status.



The following example shows three compressors:

- First compressor is variable speed (represented by “small calculator”).
- Second compressor has one unloader (represented by two pistons or two stages of capacity control).
- Third compressor is standard compressor. Although it may be the largest compressor on the rack, it only has one stage of capacity.

The on/off state is indicated by animation of the pistons moving up and down. The color of the piston indicates the following:

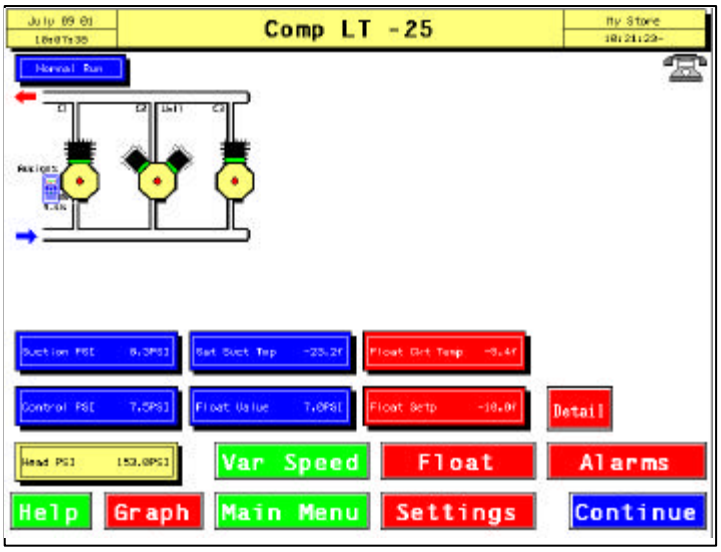
Green - normal

White - digital input indicates a mismatch with the relay output

Red - indicates that the relay has been switched out of computer control

Purple - indicates that the relay has been software overridden out of the computer mode

Blue - indicates that the board-point assignment has not been made

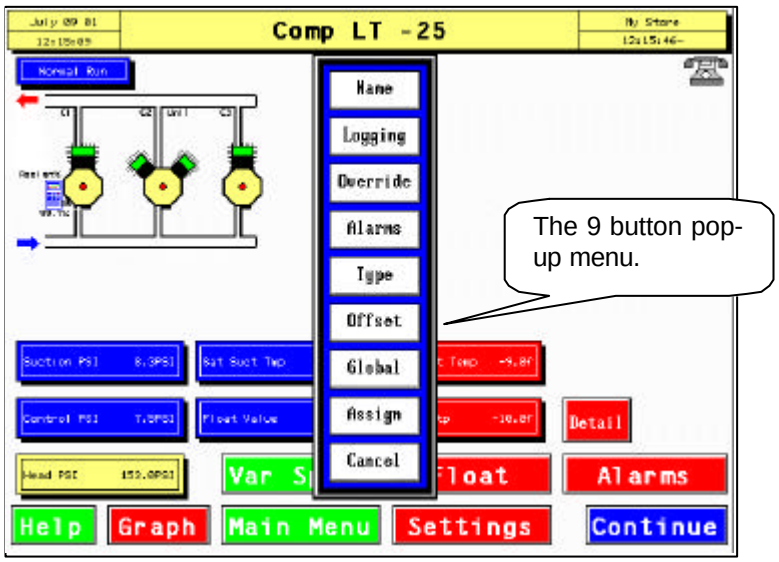


For variable speed, the accumulator value and the percent speed output is shown next to the inverter icon - the accumulator value being on the bottom and the speed on the top.

The current mode, main setpoints, and input control values are shown in the buttons below the compressor graphic; they are updated every 6 seconds.

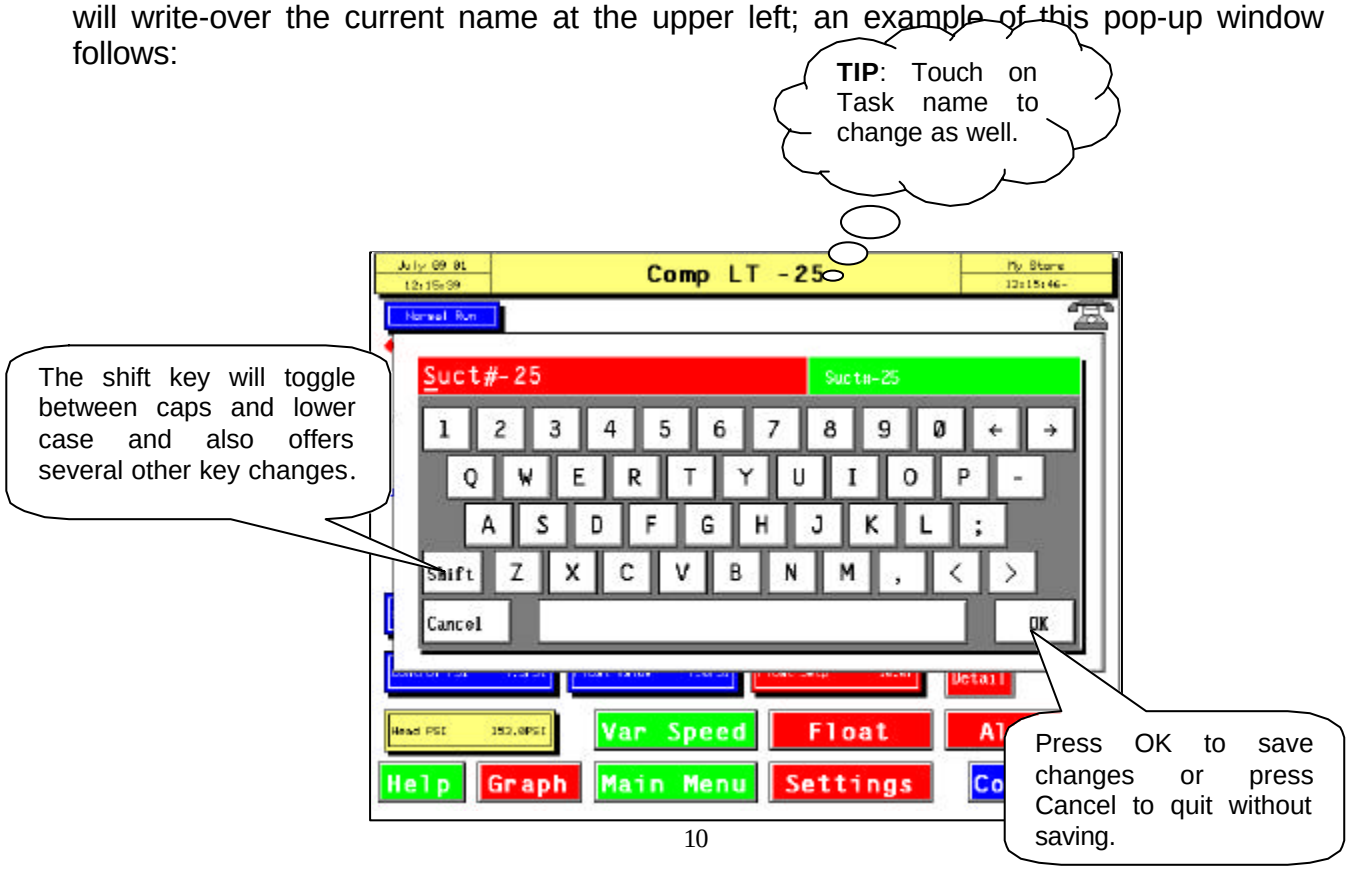
Control PSI may be adjusted on this screen by touching the button. The password pop-up may appear if a password is not currently active. If so, type in the password and press the OK button. If the password is accepted the setpoint/keypad will pop-up and you may then type in the new setpoint and press “OK” to save, “Cancel” to void the change, or “Recall” to bring back the previous setpoint.

If any input button is touched a 9 button pop-up menu will appear. “Suction PSI” is being used in the following examples:



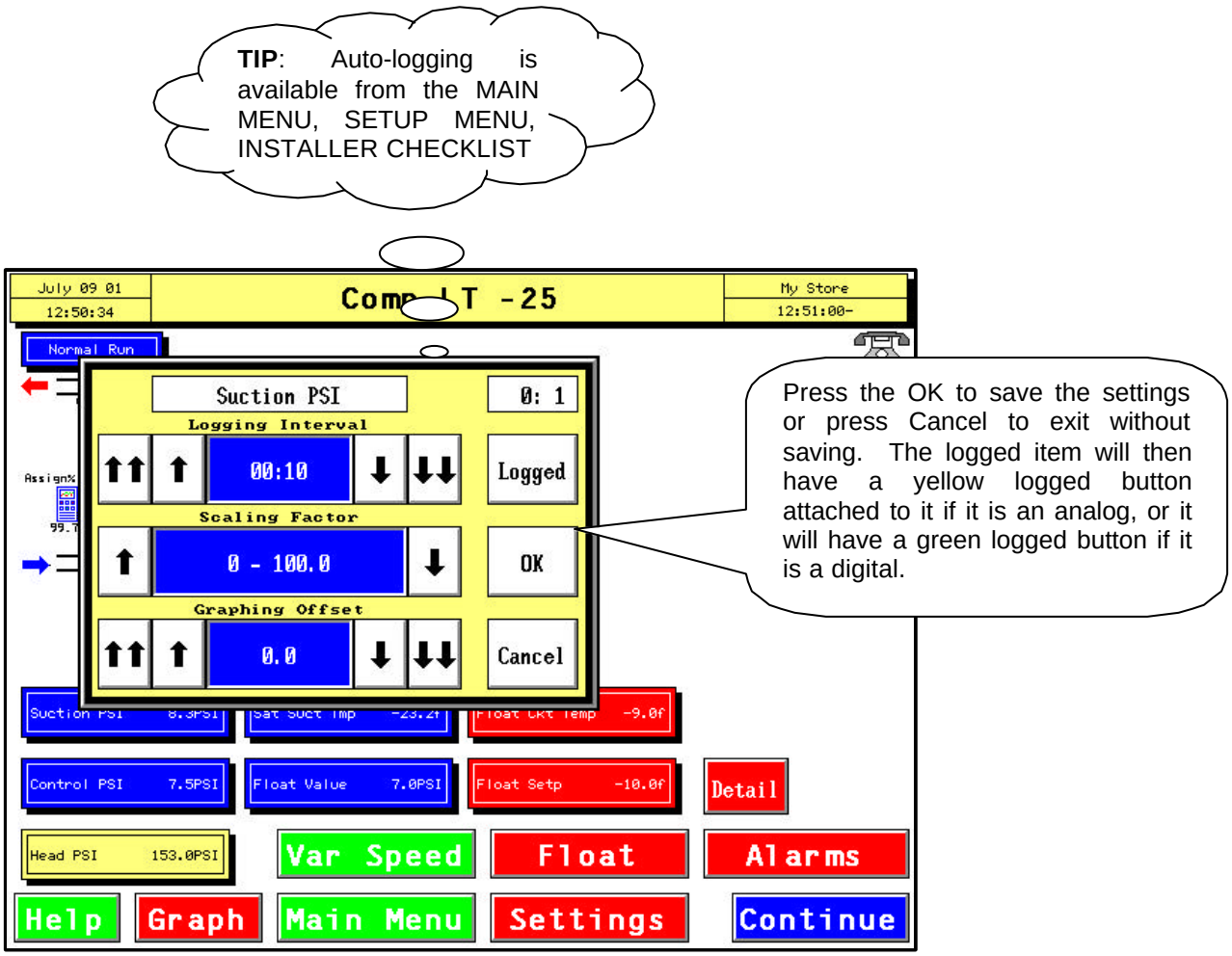
- NAME

When you touch this button another window will pop-up displaying a virtual keyboard with the current name showing at the top left and right. As you type in the new name it will write-over the current name at the upper left; an example of this pop-up window follows:



- LOGGING

Touching the logging button will pop-up a panel which allows you to select this input/item for logging as follows:



Logging Interval sets the time between samples; it defaults to 10 minutes but may be adjusted up or down by touching the arrows. The single arrow moves the value one minute at a time, the double arrows move the value in 30 minute increments.

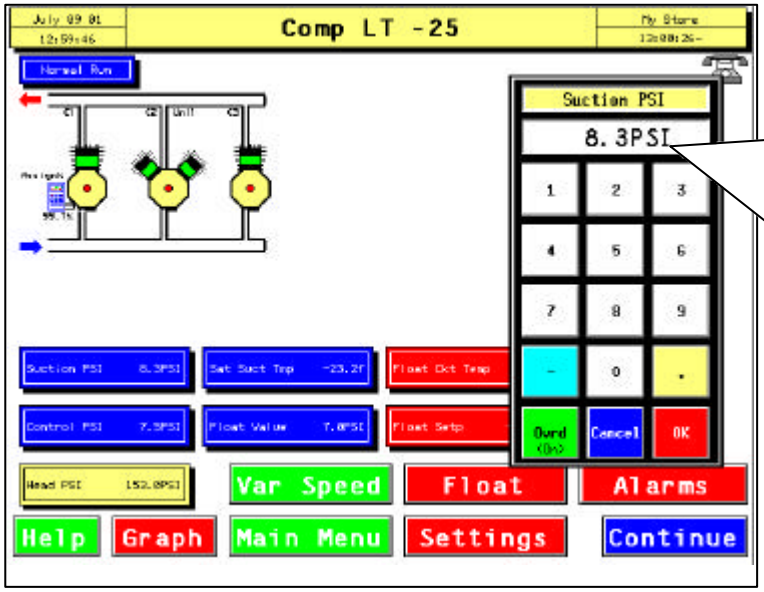
Scaling Factor sets the range/Y value of the graph. The arrows produce choices of 10, 20, 50 100, 200 and 500. There is also an automatic scaling feature.

Graphing Offset determines where the lowest value of the scale will be. The single arrows move in units of ten, the double arrows move units of 50 (with a few exceptions).

Override **- OVERRIDE**

The override button will allow the user to set an input (or output) to a manual value. When this button is touched the keypad will pop-up. An example of this screen follows:

The input name is shown in the top window with the current value below it.



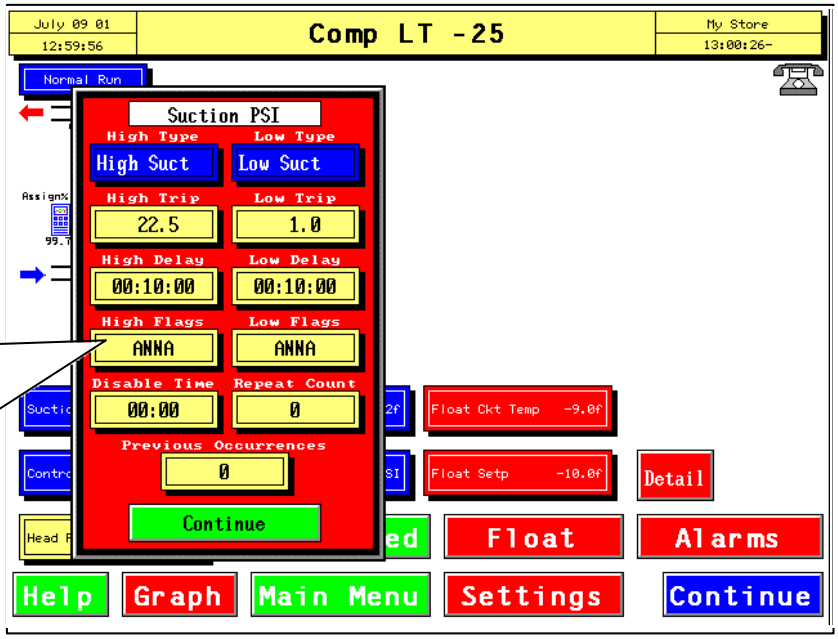
To set a manual /override value simply type in the desired value, then touch the "Ovrd" button and toggle it to (On), press OK to save the change or Cancel to void the entry.
To remove the override simply touch "Ovrd" again to change it to (Com) and press OK.

NOTE: With the exception of push button overrides, Com-Trol systems do NOT revert back software overrides every 24 hours. Any software override will stay there until it is removed.

Alarms - ALARMS

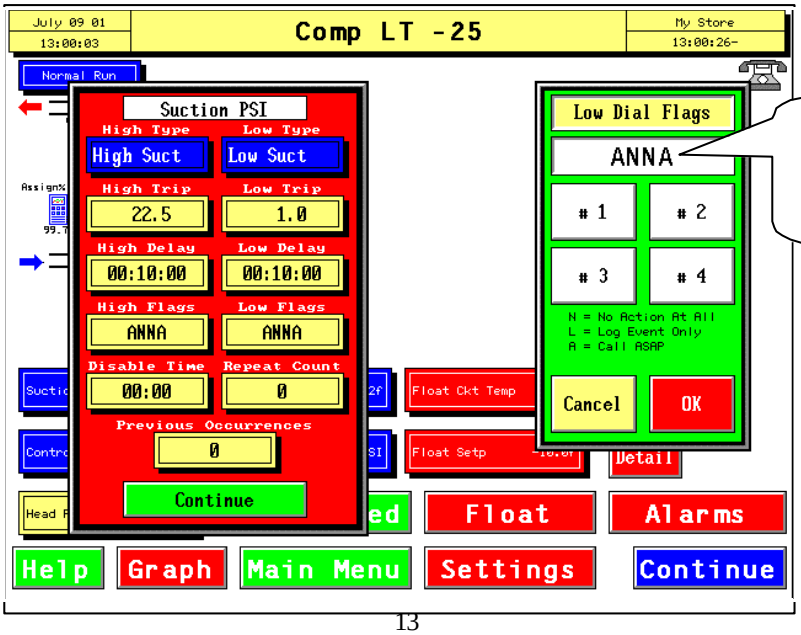
Touching the Alarms button will pop-up a panel that has all the alarm parameters for the selected input, as in following example:

The yellow buttons provide access to all the appropriate alarm settings for the selected input. If any of the value/number buttons are pressed, the keypad will pop-up next to the alarm panel to allow the change/entry to be made.

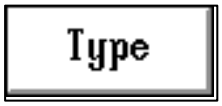


If the High or Low Flag buttons are pressed another panel will pop-up next to the alarm panel to allow the flags to be changed. An example of this screen follows:

To change the 1st dial flag touch the #1 button until the desired letter comes up. Repeat for the other flags as desired.

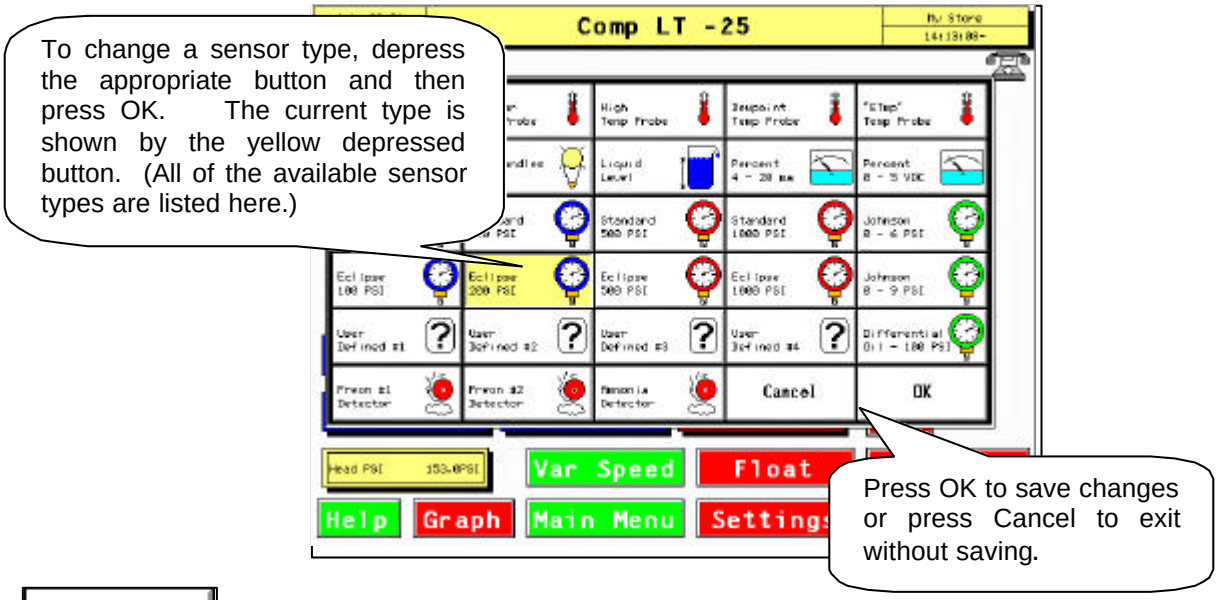


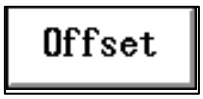
N = no alarm, do nothing
A = alarm, dial now
M = not used
L = log only



- TYPE

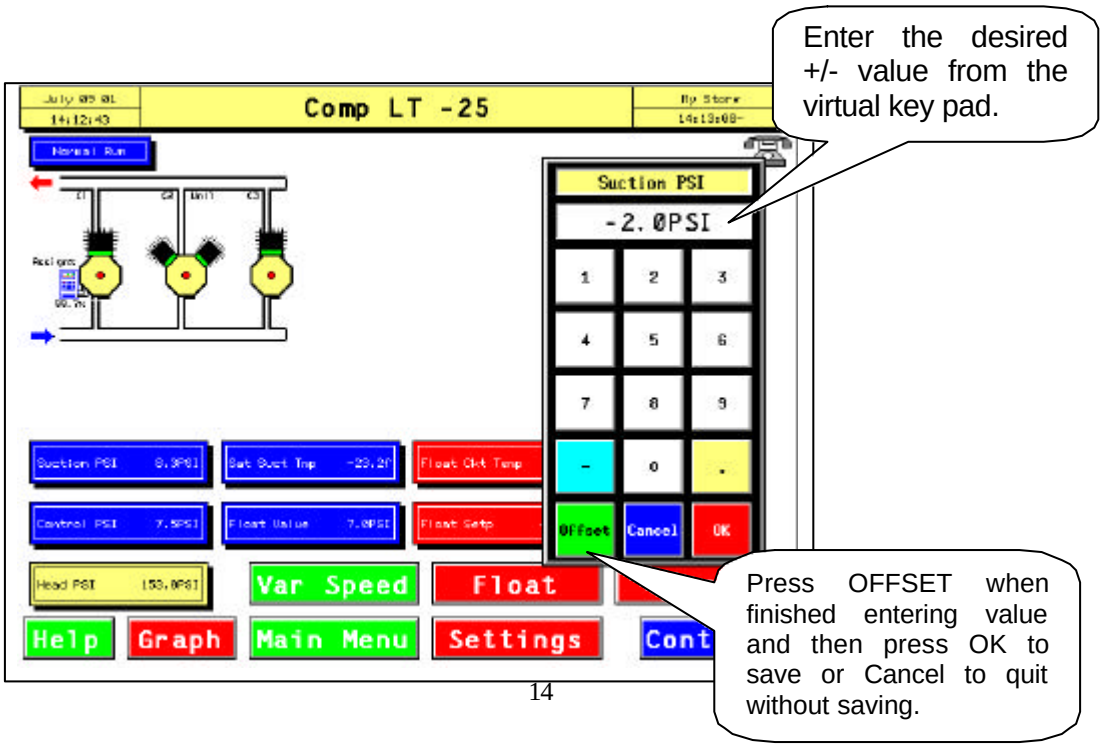
The Type button allows you to view/change the sensor type for the selected item. Pressing the button brings up the following pop-up panel:





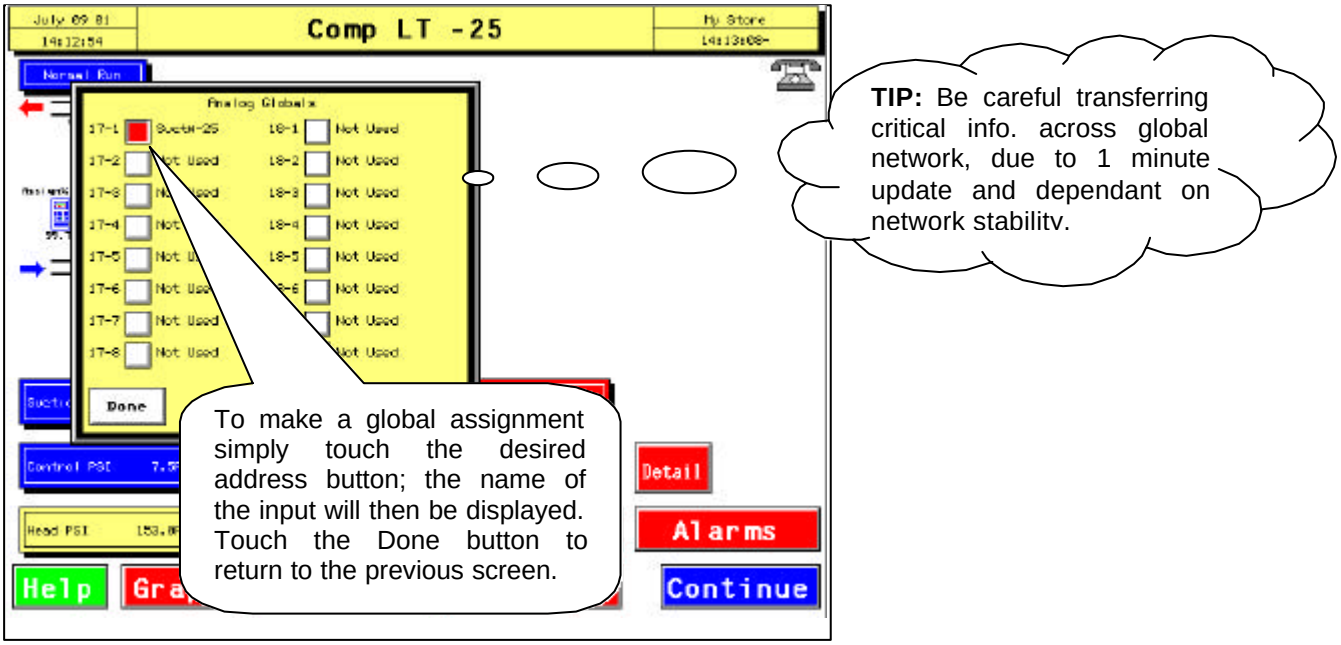
- OFFSET

This option lets you “calibrate” any input device by entering an offset value that is added to or subtracted from the input value. This is typically used to calibrate pressure transducers, temperature sensors, humidity sensors, etc.



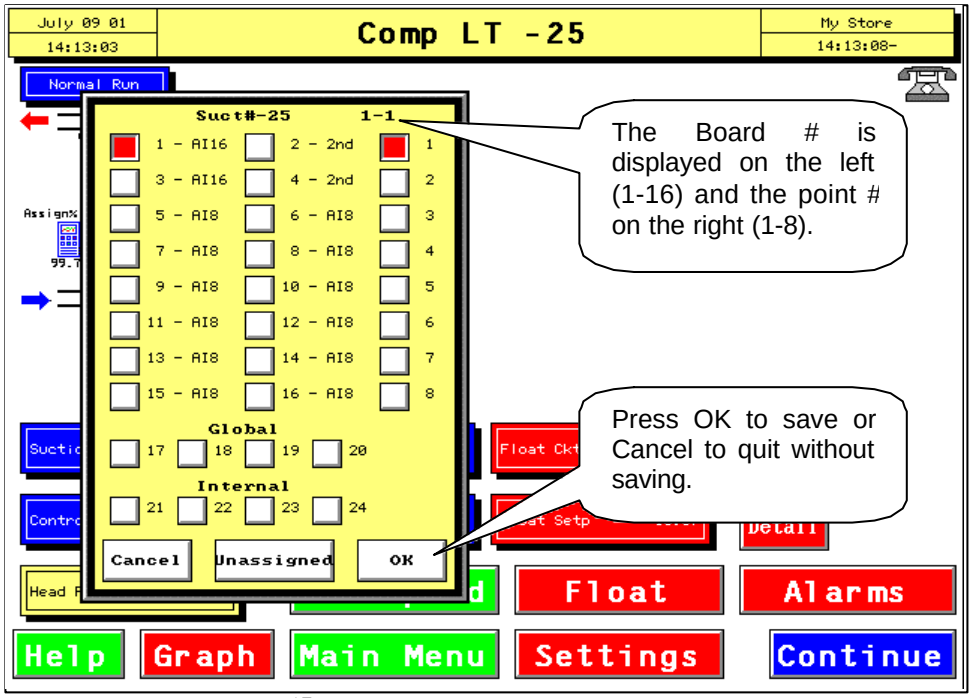
Global - GLOBAL ASSIGMENTS

The Global button will pop-up a panel that shows all of the current global assignments and allows you to assign the current input to a global address (17.1-17.8 through 18.1-18.8). Global Assignments are simply inputs/information that is passed from one MCS-4000 controller to another via the 6000.



Assign - ASSIGN

Any input or output may have its physical assignment, i.e. board and point number, changed or entered with this selection.



The buttons at the bottom of the screen are used as follows:

Pops-up Help manual; previously explained.

Displays graph of the points that have been set-up for logging (yellow *logged* button attached to them) and are selected to graph (they turn red when touched).

Returns you to the Main Menu.

Moves to a new screen displaying all setpoints and I/O associated with the task. Other buttons on the Settings screen allow you to get to Schedules, Advanced setpoints and other inputs, and task set-up Options.

Takes you back to the previous screen.

Pops-up a panel with all the temp/defrost circuits to select the primary and secondary float circuits for the Compressor group that you are on.

The Alarms button pops-up a list of the alarm history for only the MCS-4000 that the task you are on is from. (Same as the Alarm Events button on the Main Menu but sorted for just one box/controller.)

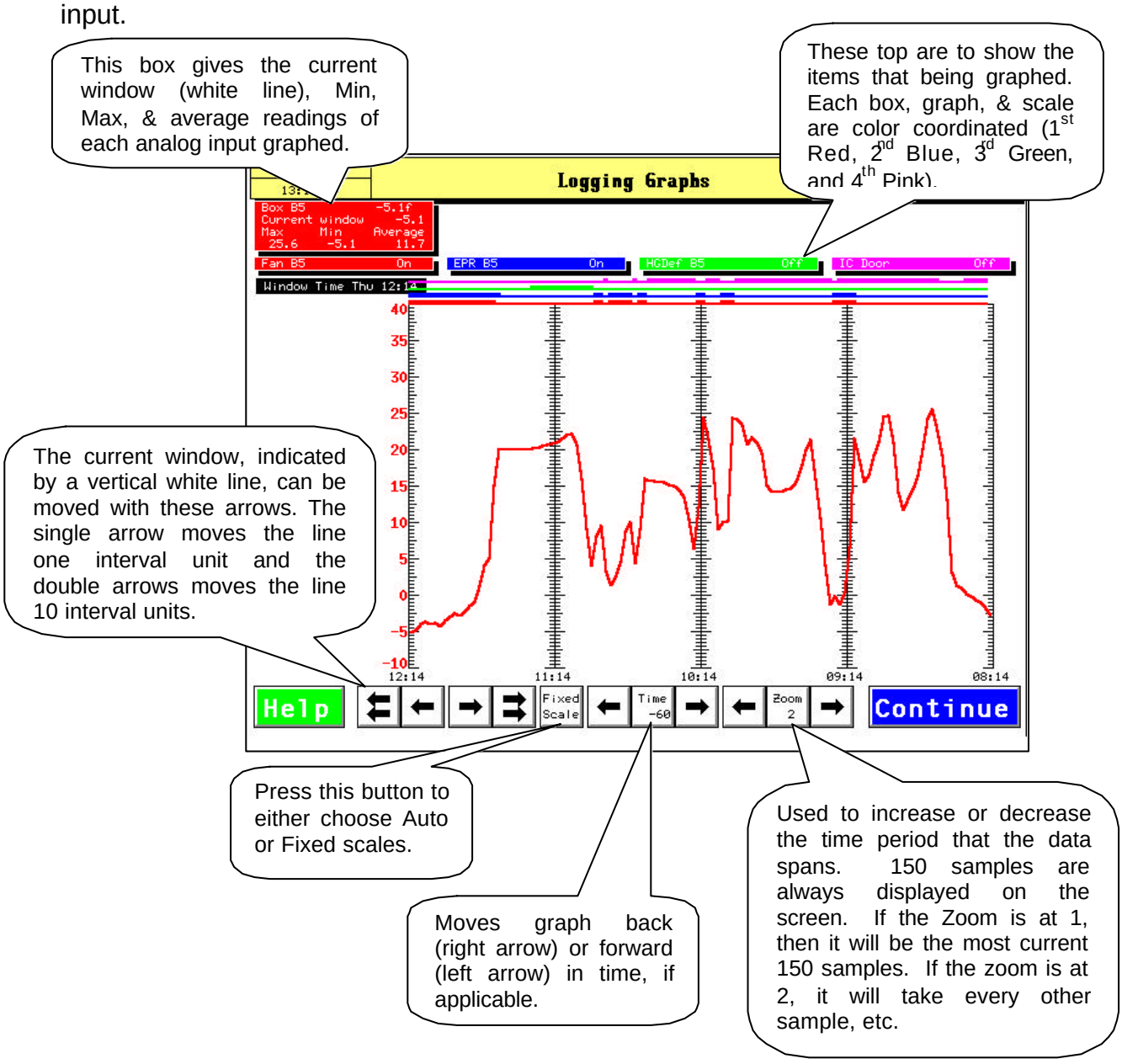
Provides additional information about the compressor(s), such as compressor size, discharge temp or oil pressure information. Press multiple times to go through all options.

We will take a closer look at these items in the following pages.

Graph - GRAPH

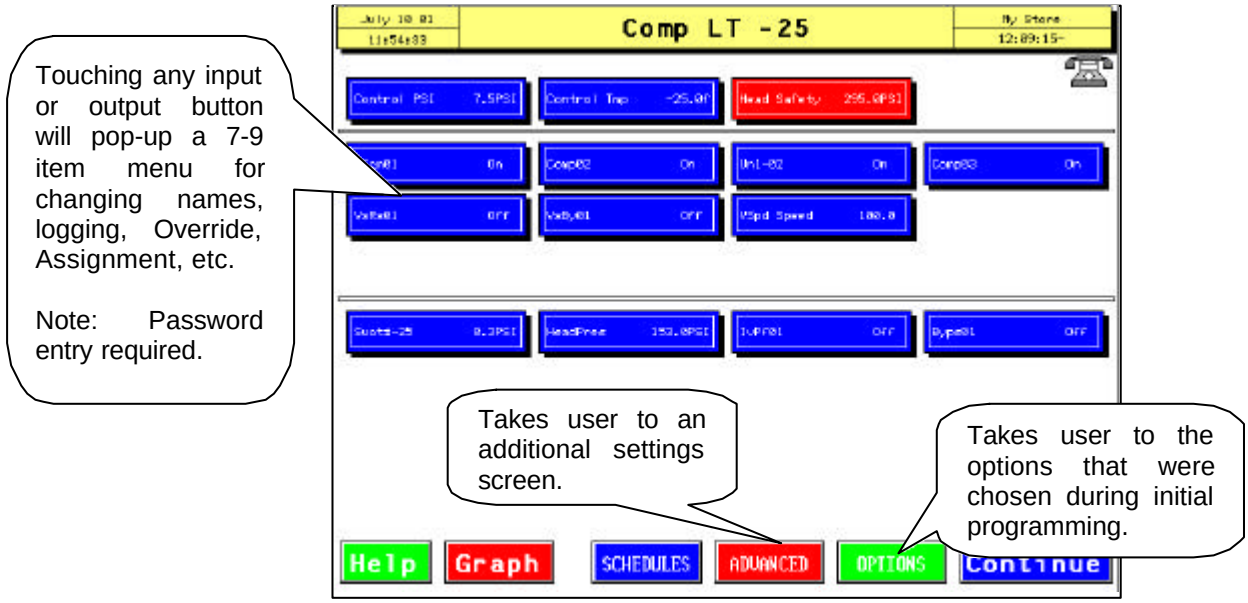
Before touching the graph button you must have selected items on the screen that have been set-up for logging (a yellow if analog, or green if digital, logged button will be attached to them) and you must touch the *Logged* button which then turn red or brown, to tag them for graphing. You may select a maximum for 4 analog inputs/outputs or calculated values and a maximum of 4 digital inputs/outputs to be graphed at any one time. Once you have selected the graphed/logged items pressing the graph button brings up a screen as illustrated.

This graph illustrates the graphing of 3 relay/digital outputs, 1 digital input and 1 analog input.



Settings - SETTINGS

The Settings button takes you to another screen which displays the primary set-points, analog inputs, relay outputs, digital inputs and analog outputs associated with the task. The following is a sample of a Settings screen:



Touching any input or output button will pop-up a 7-9 item menu for changing names, logging, Override, Assignment, etc.

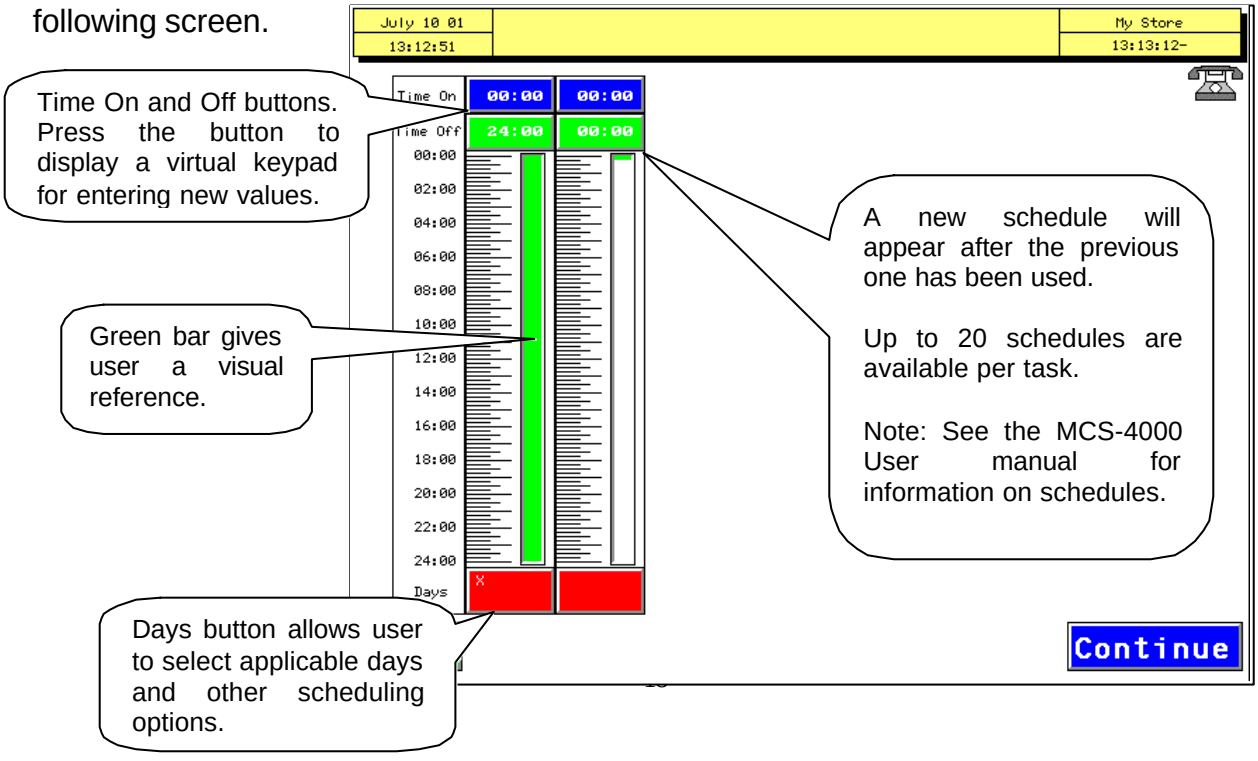
Note: Password entry required.

Takes user to an additional settings screen.

Takes user to the options that were chosen during initial programming.

SCHEDULES - SCHEDULES

If a task has associated TOD schedules, press the “Schedule” button to display the following screen.



Time On and Off buttons. Press the button to display a virtual keypad for entering new values.

Green bar gives user a visual reference.

A new schedule will appear after the previous one has been used.

Up to 20 schedules are available per task.

Note: See the MCS-4000 User manual for information on schedules.

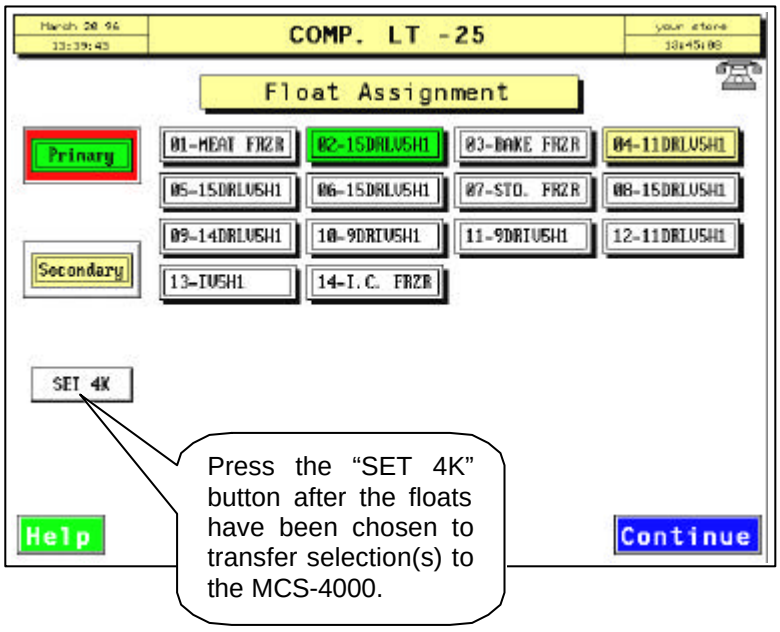
Days button allows user to select applicable days and other scheduling options.

Float **- FLOAT**

The Float button is only present in compressor tasks. Pressing it brings up a screen similar to that shown below:

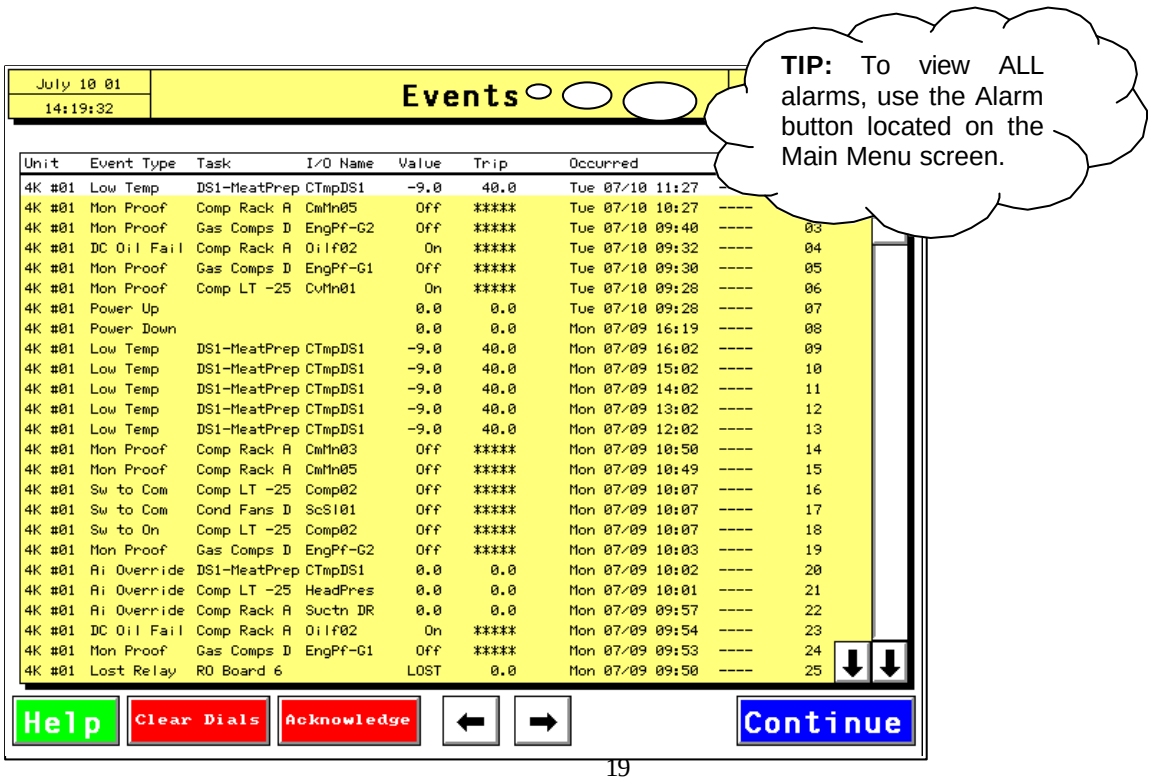
To make a float selection, press the green Primary button, then press the desired temp/defr circuit button. It will change to green also.

Next, press the yellow Secondary float button, then press the desired temp/defr circuit button. It will change to yellow.



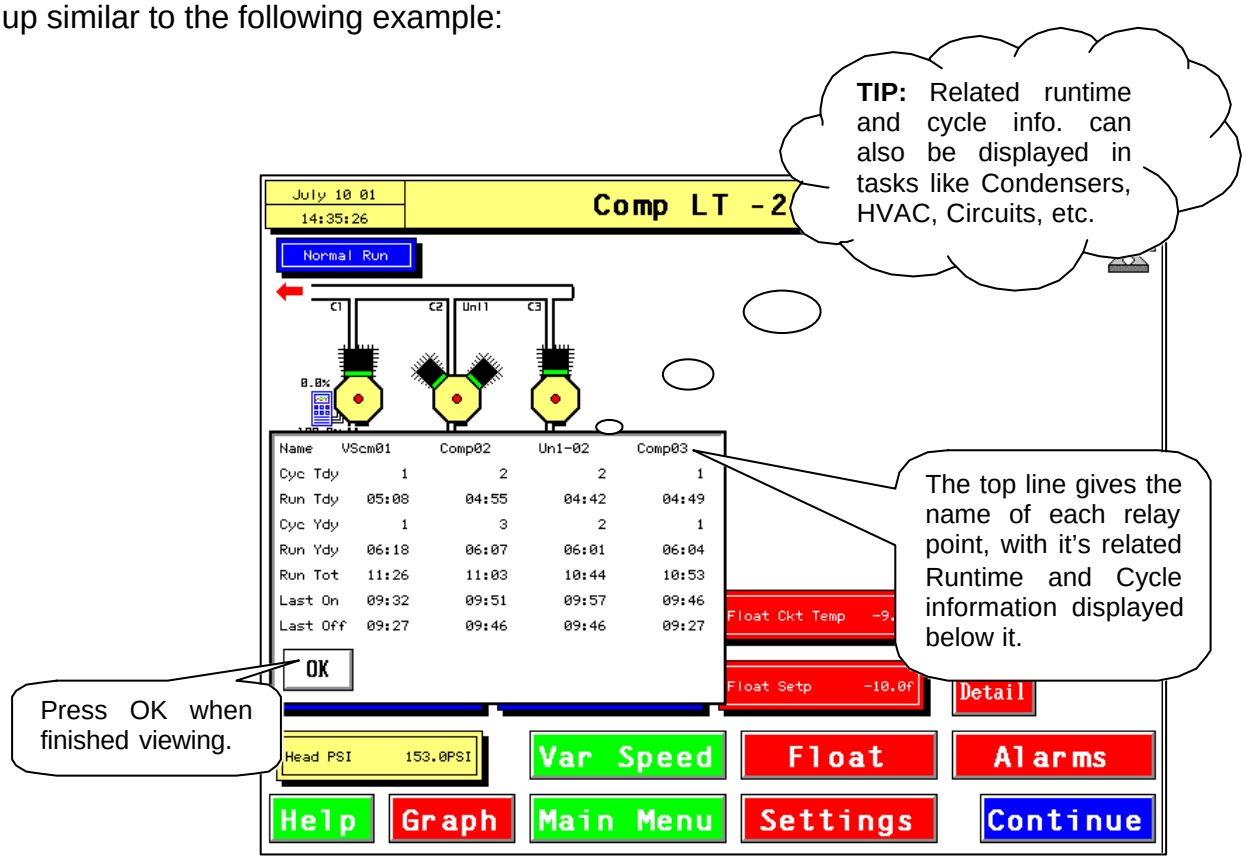
Alarms **-ALARMS**

The Alarm button inside an individual task screen, when pressed, will filter out all alarms and only display ones for that controller.



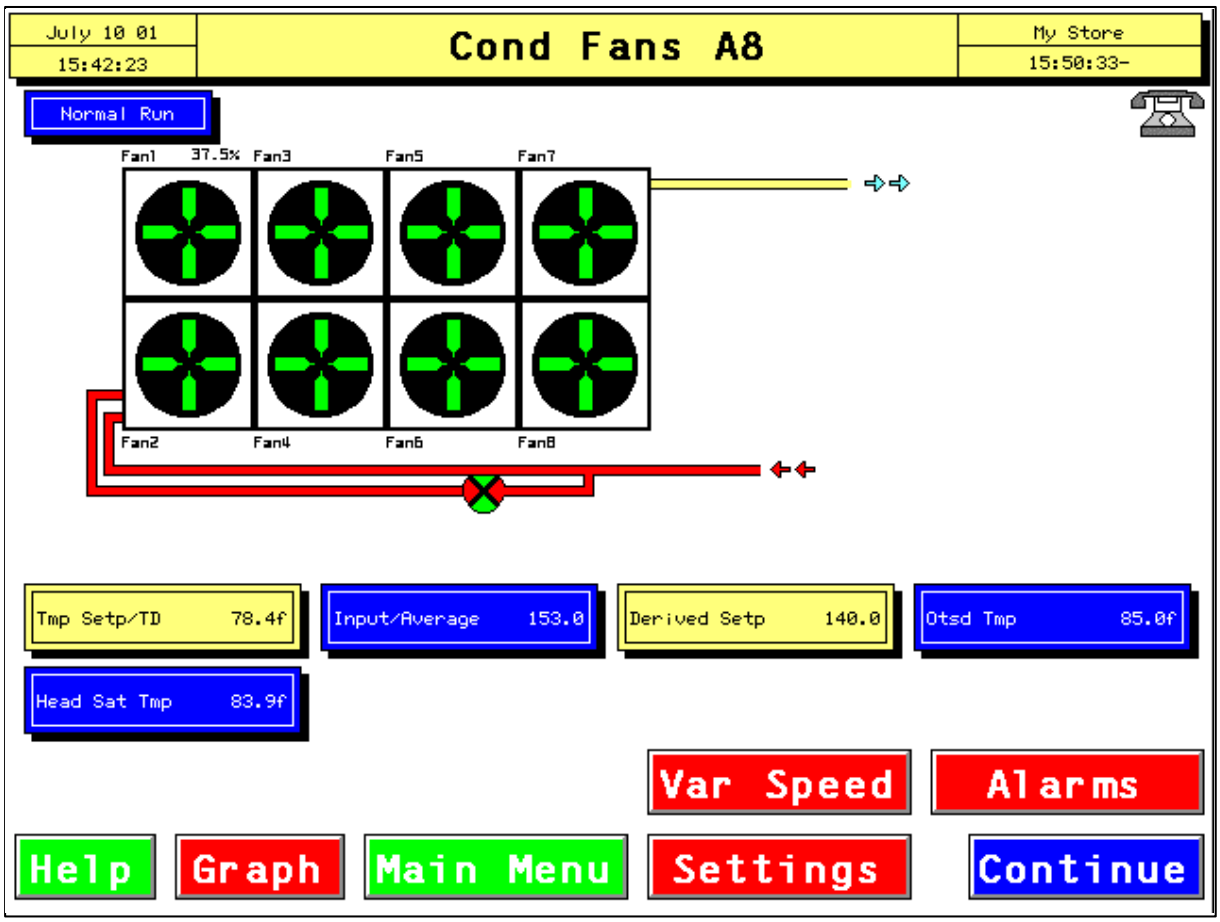
RUNTIME / CYCLE COUNT

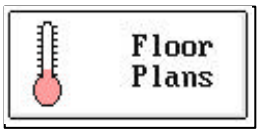
Runtime and Cycle count information is available on the Compressor screen simply by pressing on the Compressor Icon (the picture of the compressor(s)). A window will pop-up similar to the following example:



- CONDENSERS

Condenser screens and options follow the same organization/operation as the Compressor screen. Refer to Compressors section for more details.

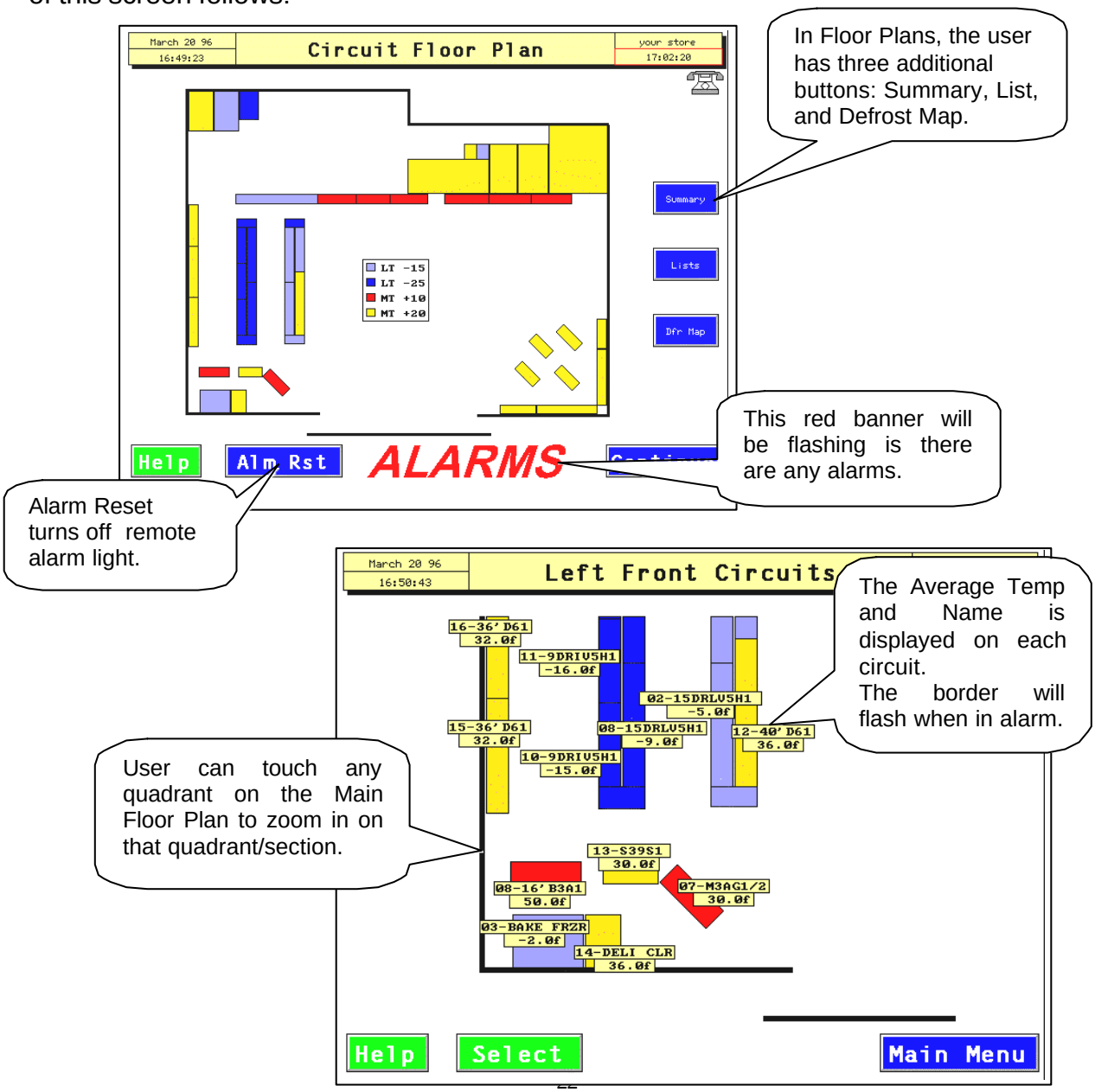




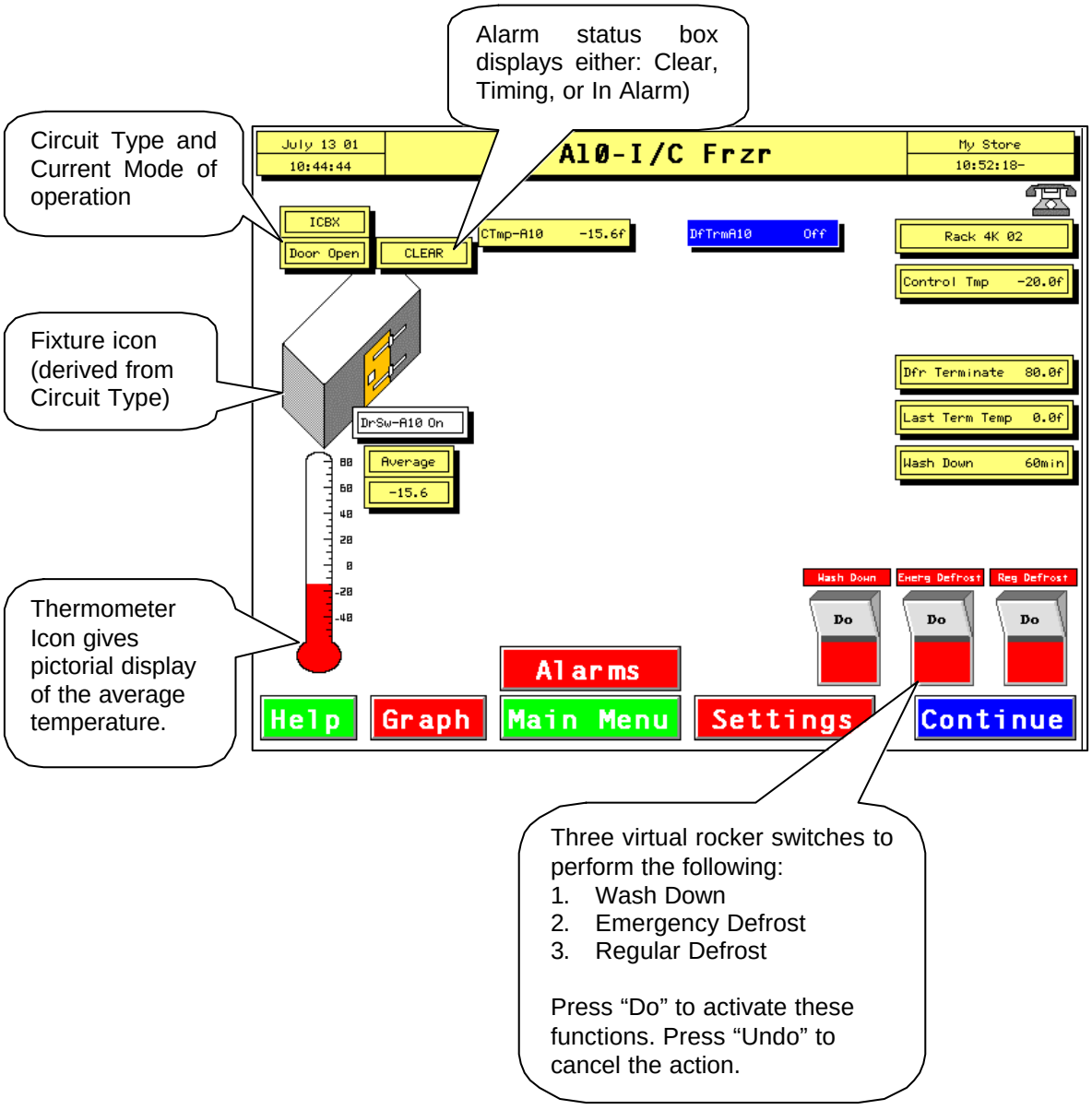
- FLOOR PLANS

Floor plan refers to Temp/Defr tasks that are displayed on a fixture/floor plan of the facility. If floor plan drawings (PCX files) are not present, the system automatically provides a list of the circuits (like compressors and condensers) from which you may select the desired task. A program titled EZDRAW is available to assist in producing the floor plan PCX drawings and the mapping of the Temp/Defr task information to them.

Pressing the Floor plan button will take you to the main floor plan/fixture layout. If any circuit is in alarm a small square will be flashing on the circuit(s) in alarm. An example of this screen follows:



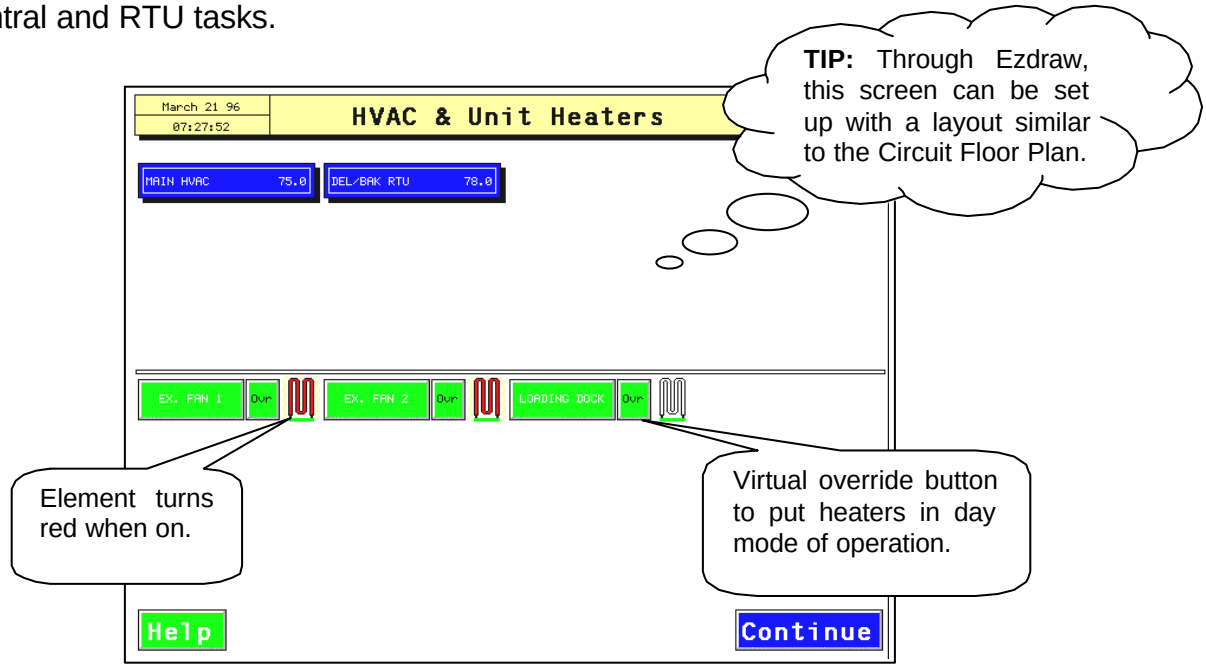
The user may then touch the desired circuit to zoom in on that circuit. An example of this screen follows: {Unique features of this screen are covered below, but the basic features (Name changes, Runtime, etc.) have been covered in the Compressor section.}



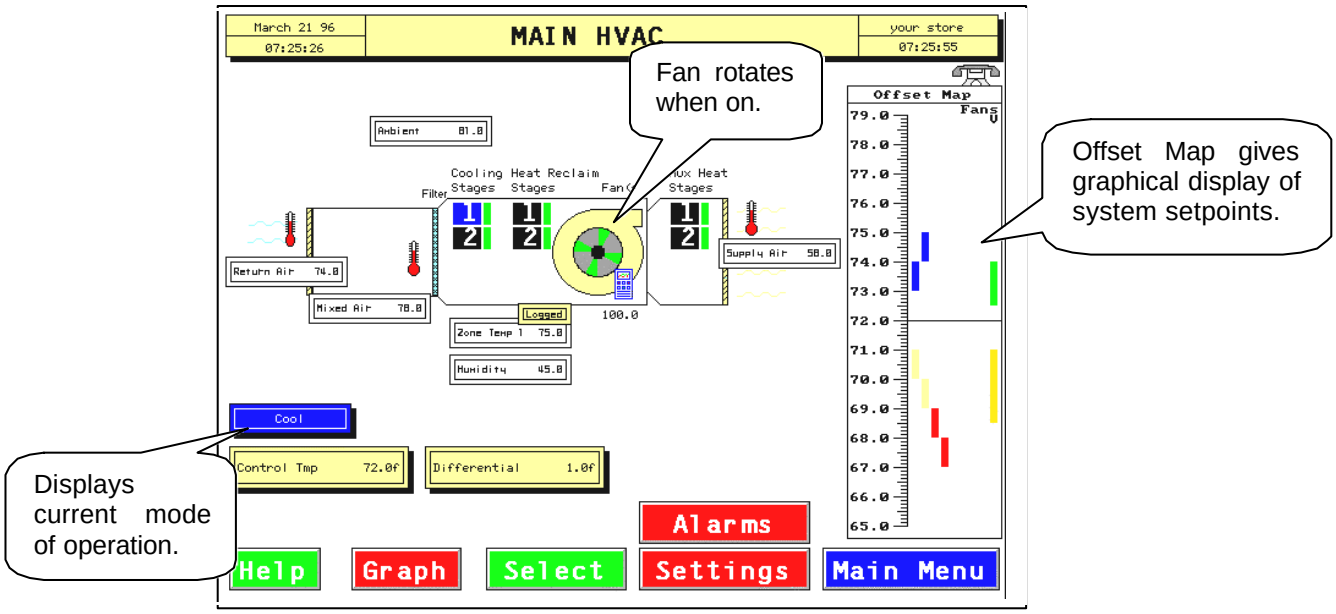
- HVAC & UNIT HEATERS

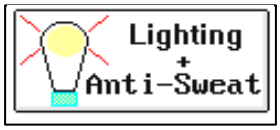
The HVAC & Unit Heater button will provide you with a split screen of all the Central or Rooftop HVAC units listed in the top portion of the screen and the Unit Heaters/ Exhaust Fans listed in the bottom half.

The Task name and Zone Temp value are displayed within the selection button for Central and RTU tasks.



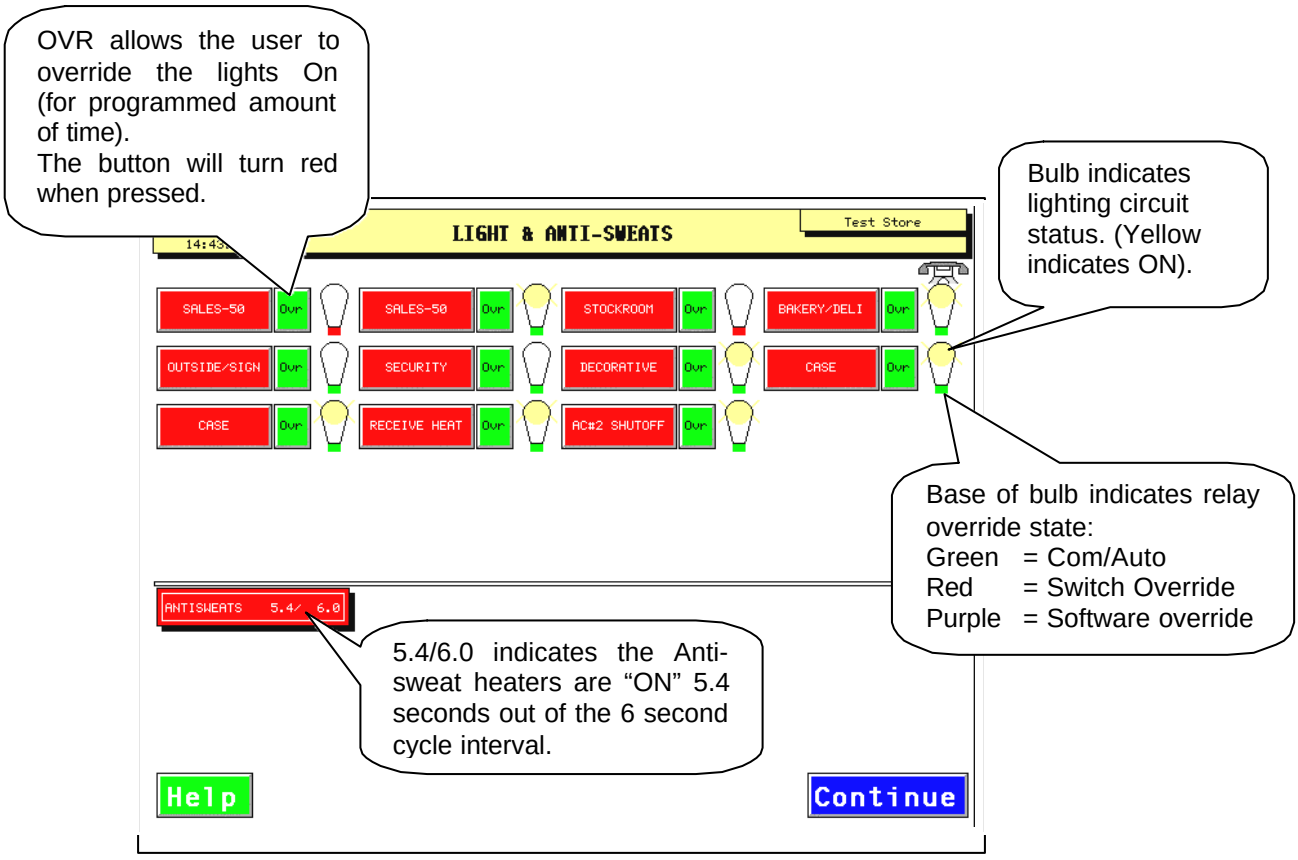
If you select a Central or Rooftop Task you will be presented with a screen similar to the following example.





- LIGHTS & ANTI-SWEATS

The Lights and Anti-Sweats button leads to another split selection screen with the Lighting tasks listed on the top half and the Anti-Sweat tasks listed on the bottom half.



If a lighting circuit or Anti-Sweat heater task were selected, a screen would be displayed listing :

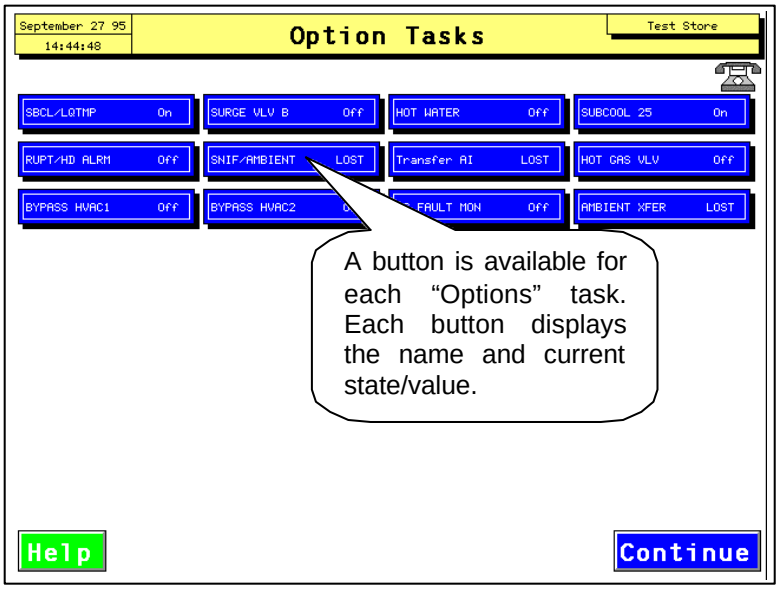
1. Set points in the top section
2. Outputs in the middle section
3. Inputs in the bottom section

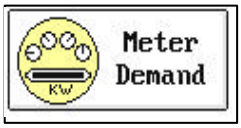
As in all other cases, touching any of the buttons will pop-up either a virtual key pad (for changing values) or the 7-9 menu pane (used to change the Name, set-up logging, perform overrides, change alarms, add offsets to analogs, change board/point assignment, etc. as previously covered).

- OPTIONS

The option button produces a screen that lists all option tasks in order (left to right) on all 4K's present in the system. The color of the buttons changes with each MCS-4000. If there are too many to fit on the screen a **More** button will be present that can be used to page down.

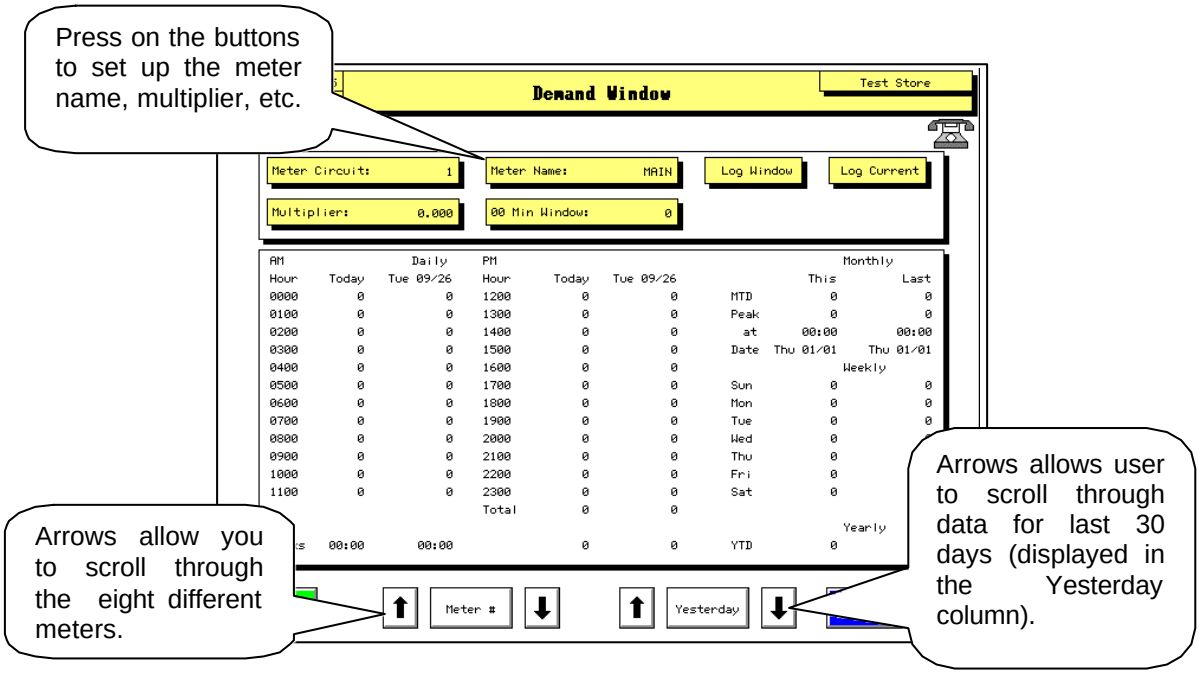
Pressing any task button leads to the standard screen which displays all set points and I/O associated with the task. A Schedules and Options button is also displayed to reach the schedules screen for the task, if applicable.





- Meter Demand

The Meters button provides access to a electrical utilities screen called Demand Window. To obtain this information, the 6000 system must contain a PMA (pulse meter adapter) and the appropriate meter pulse supplied by the Utility company. The PMA card and ADV-6000 will support up to eight meters.

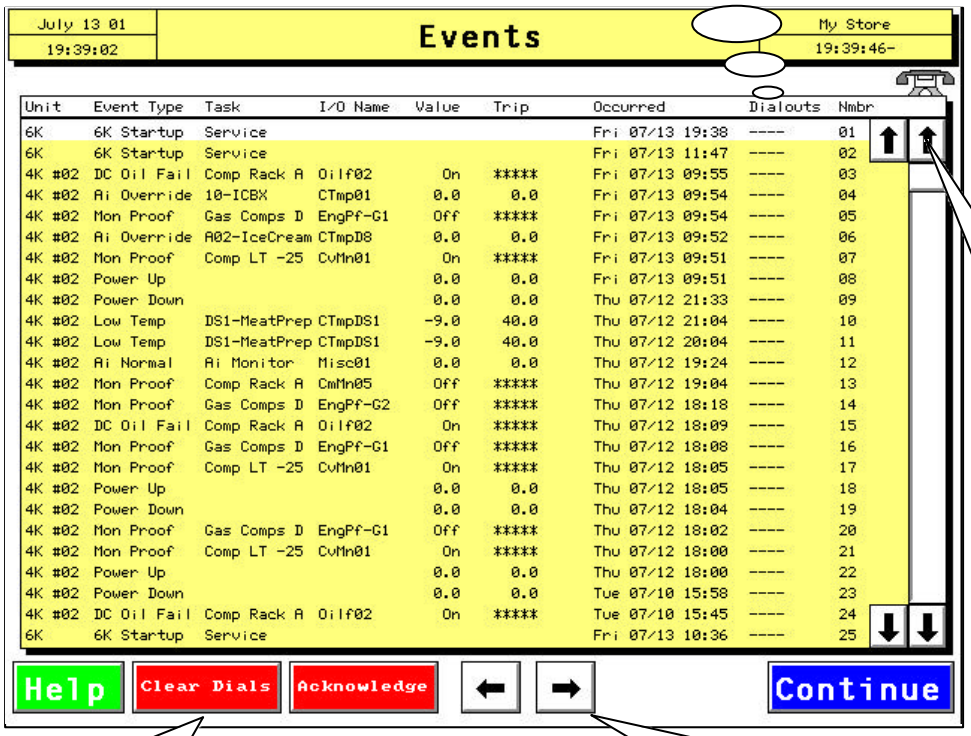


- ALARM EVENTS

The Alarm Events button provides access to a list of up to the last 200 alarms/events. The button also has a flame icon that will flash if any active alarms are present.

The newest event is listed at the top, labeled #01 at the far right and proceeds to the oldest, #200 (top to bottom). When another event occurs, it becomes the first and the oldest is pushed off the list.

TIP: The Dialouts column will display "*" for any alarm that has not yet been dialed out successfully.



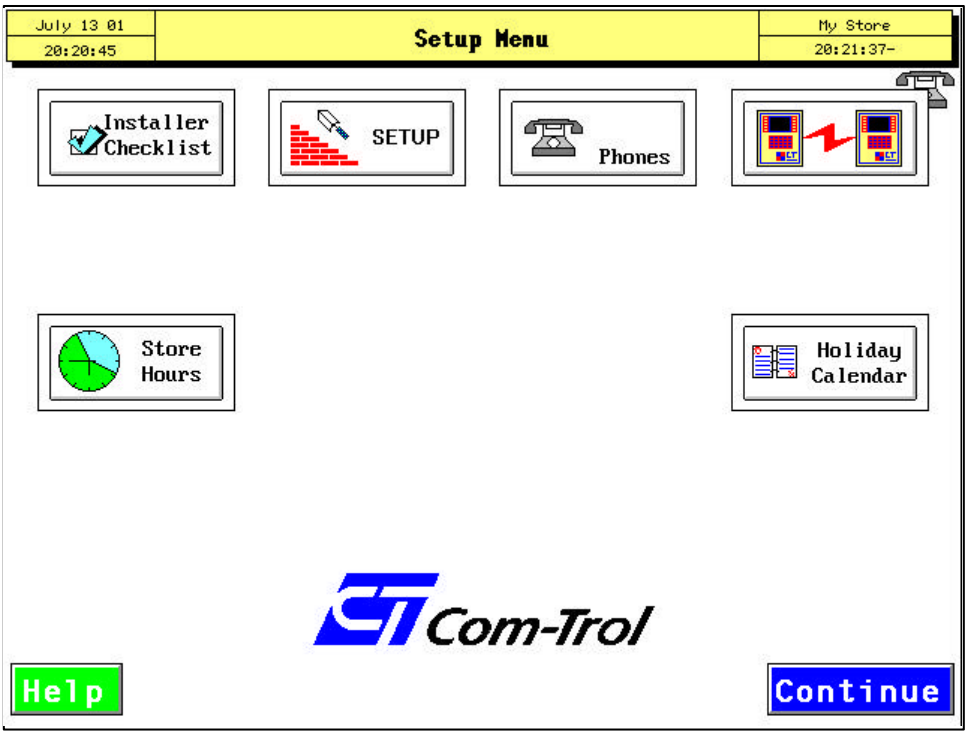
Up & Down arrow keys allows user to scroll through the last 200 alarm events.

The Clear Dials button cancels the alarm dial-out for any alarms not already successfully dialed out (requires high level password to be active before this button will appear).

Left/Right arrow keys allow user to scroll through various columns of alarm info.: Occurred , Cleared (Time alarm cleared / came out of alarm – column will not have a date/time if still in alarm), Acknowledged, point, repeat and count.

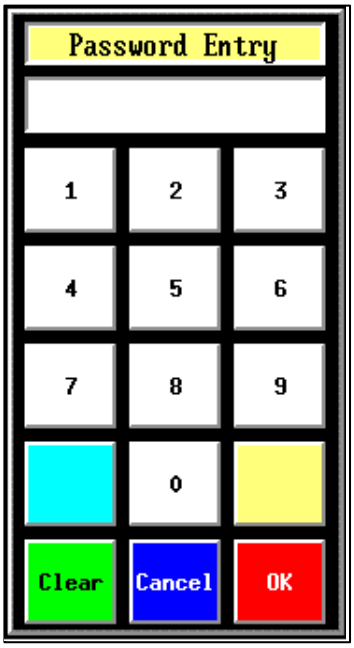
- SETUP MENU

This screen, as shown below, has six buttons to access various functions that are typically only used at start-up or for service work.



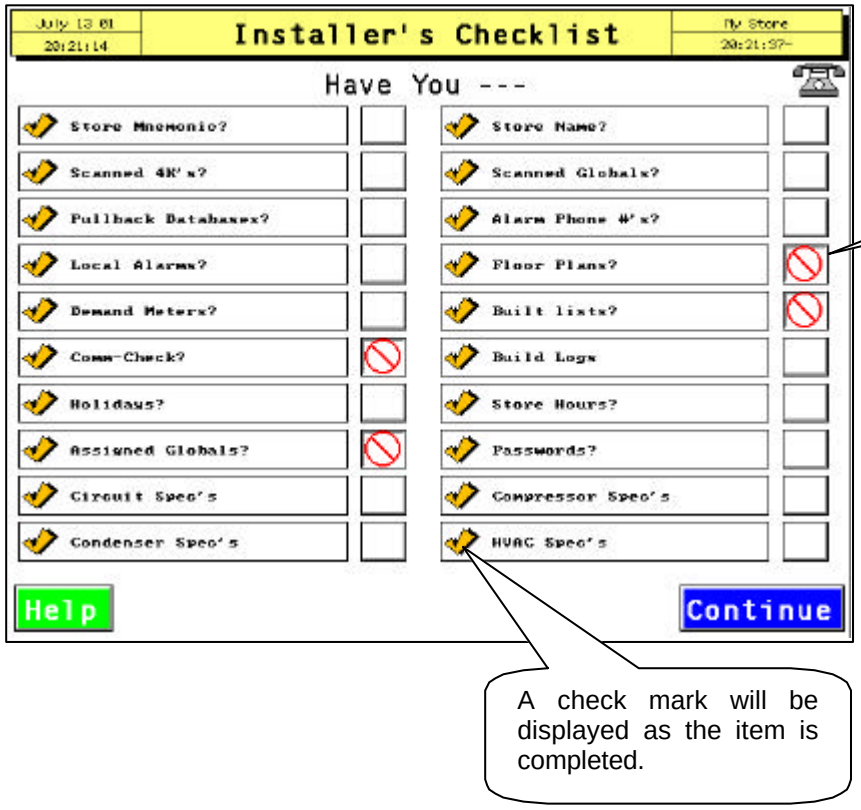
Some items will display the virtual keypad to enter your password.

Note: Passwords are customer specific and MUST be obtained from the customer NOT Com-Trol.



- INSTALLERS CHECKLIST

This screen consists of a series of questions that should be answered during the initial setup of the ADV-6000. Each question has a button to the right, if the button is pressed it will either automatically perform the necessary function, or it will take you to the appropriate screen where you can make the necessary entries.



STORE MNEMONIC*?*

This should be the first item completed on a new installation. When the button is pressed, a virtual key board will pop-up so that the customer/store ID can be entered. The mnemonic is a 5- character label that is used to build all the files that the 6000 creates and it also references for the Floor Plans.

We have standardized these names as follows: XXNNN, where the XX is two letters identifying the customer, and the NNN, three numbers identifying the facility. For example YS001 would be Your Store #001. However, this can be any 5-character name as long as the Floor Plan files use the same name (i.e.YS001flr.pcx, YS001flr.lst, etc.).

SCANNED 4K BOXES?
This should be the next operation performed. Prompts the 6000 will go out on the Global Bus and find out who's there. A banner will pop-up indicating this action taking place. Prior to taking this action, you need to make sure all MCS-4000s are properly connected to the global bus and have their address set. You can verify which boxes responded by returning to the Service Entry screen and pressing the MCS-4000 Boxes button. If all boxes/buttons are present, then you have performed a successful scan and the global bus and 4000's are working properly. If all boxes did not show-up then the bus, addressing, and/or boxes need to be checked and then the scan performed again.

PULLBACK 4K DATABASES
Automatically pulls back the program from each MCS-4000/4500 and stores it on the computer's disk drive. A banner will be displayed indicating which controller is being pulled and the progress of the pullback indicated by the green bar moving from 0 to 100%, then the banner will display the message "Pullback Successful".

Note: The 6000 will automatically pulls back the databases at 3:00 AM each day. Thus, a current copy of all the MCS-4000/4500 programs are always on site. It will automatically download the appropriate database to any MCS-4000/4500 if the program is lost ("Lost" is determined if the 1st five task positions are empty). This will also register a "Blown Box" alarm in the alarm events screen.

SETUP LOCAL ALARMS?
Displays the "Phones" screen, where the local and remote alarming are set-up (covered later under "Phones").

SETUP DEMAND METERS?
Displays the "Demand Window" screen so that you can enter the meter information, if applicable (PMA required).

CALLED FOR COMM-CHECK?
Just a reminder to have you verify that the phone line/communication to the 6000 works. **Very important to do this before you leave the job site*, especially when dialing out alarms.***

LOADED HOLIDAYS?
Displays the "Holiday Calendar" screen so that you can activate the holidays for the MCS-4000 (covered later under "Holiday Calendar").

ASSIGNED GLOBALS?
A reminder to assign globals points (used to transfer information from one controller to the other across the global network via the ADV-6000).

STORE NAME?
Pops-up the virtual keyboard to enter the Store Name (this and other information about the job site can be entered via the “Setup” screen covered later).

SCANNED GLOBALS?
This triggers the 6000 to scan for all global assignments and places them in the Globals screen.

SET ALARM PHONE #’S?
Again, takes you to the “Phones” screen so that you can set-up any alarm dial-outs required (covered under “Phones”).

FLOOR PLANS?
Just a reminder to load the floor plan files or to verify they were loaded prior to shipment (Com-Trol can build the floor plan files for the customer for a nominal charge.)

BUILT LISTS?
A list file can be created for some of the 6000 screens to speed up their operation (an actual keyboard is required for this function). The compressor, condenser, HVAC & Unit Heater, Lighting + Anti-Sweat, and Option selection screens can all have lists. Pressing an “Alt V” will trigger the 6000 to build a list for the screen you are on, a banner will pop-up indicating this is taking place. You need to press an “Alt B” to build the list for the bottom section of the screen, if it has both a top and bottom section.

Note: If the ADV-6000 is using lists, and a new task I entered or deleted from a MCS-4000/4500 program, the appropriate screens will need to have the list built again before it will appear on the ADV-6000 screen(s).

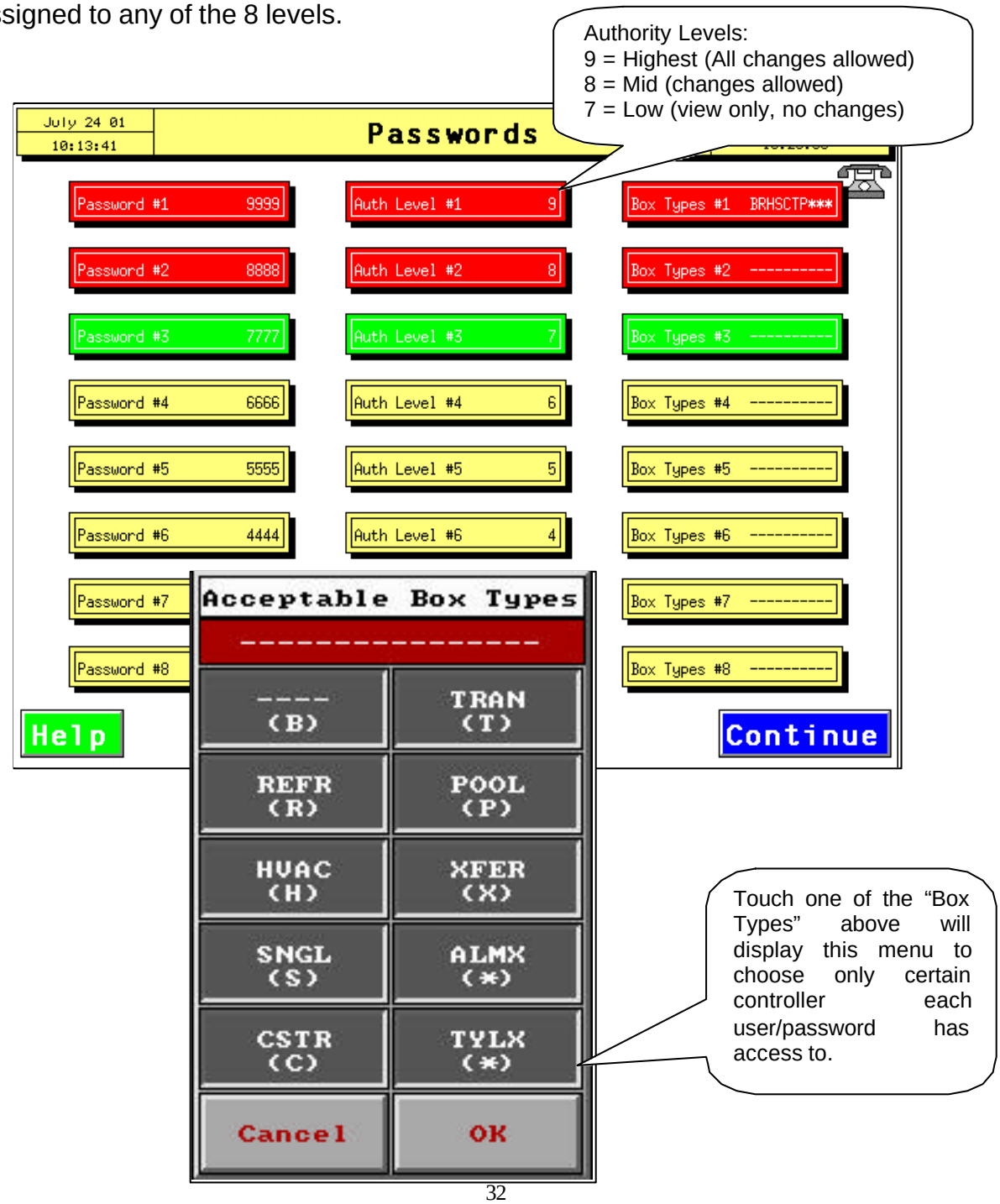
BUILD LOGS
Prompts the ADV-6000 to go out and automatically setup logging features for the most common inputs and outputs.

STORE HOURS?
Displays the “Store Hours” screen so that you can activate the MCS-4000 that you want to control the Store Hours.

SETUP PASSWORDS?

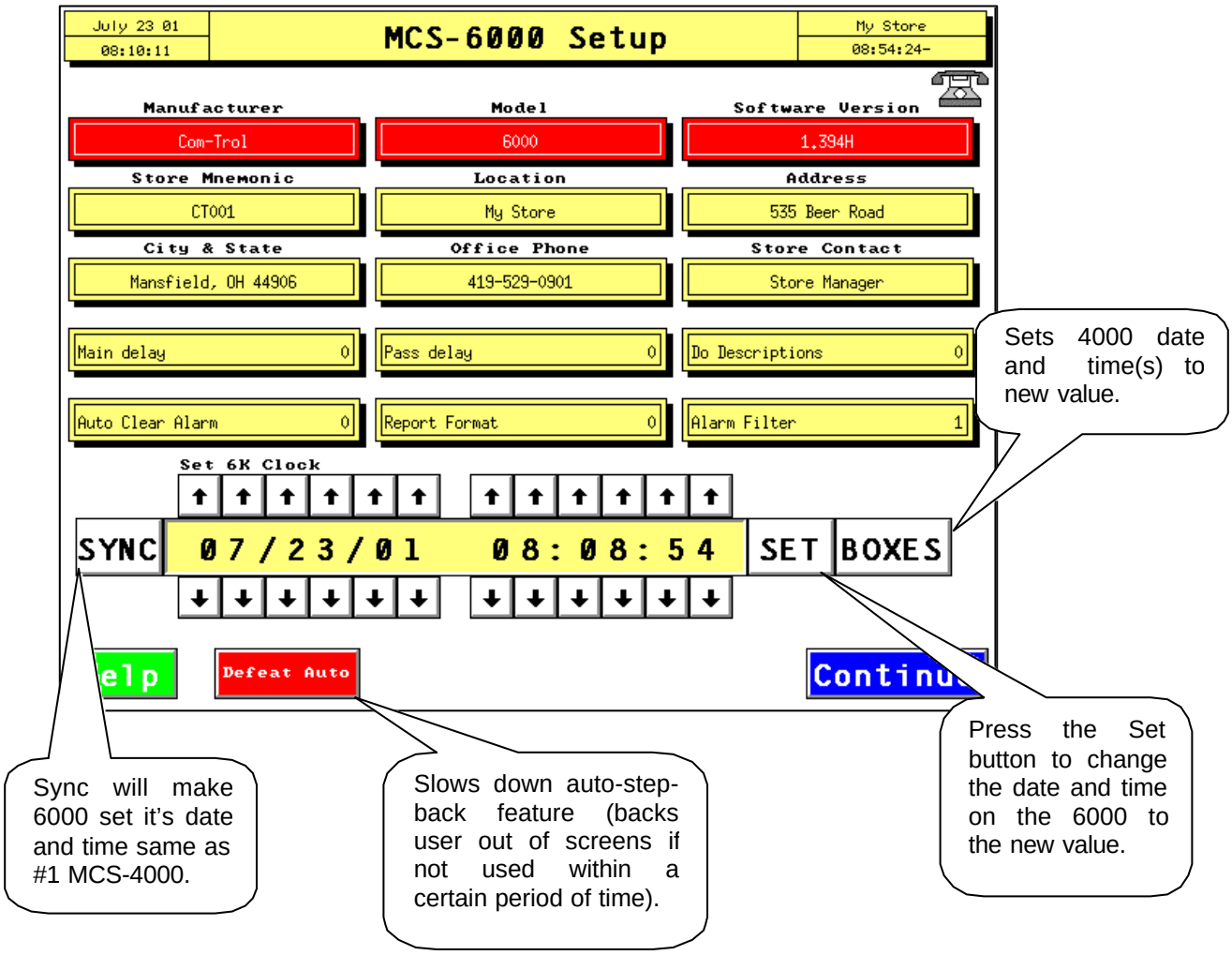
Passwords for the ADV-6000 can only be accessed through the “Installers Checklist”. To access this screen, you must enter the high level password when the Password Entry keypad pops-up.

There are 8 passwords and 8 authorization levels. Any of the 8 passwords can be assigned to any of the 8 levels.



- SETUP

The Setup button leads to the following screen titled MCS-6000 Setup. This screen provides space for the store information as well as additional set-up options not found anywhere else in the 6000.



- **MANUFACTURER-** Com-Trol (reference only)
- **MODEL -** 6000 (reference only)
- **SOFTWARE –** 6000 Software version (reference only)

- **STORE MNEMONIC -** This should be the first item completed on a new installation (under Installers Checklist). When the box is pressed a virtual key board will pop-up so that the customer/store ID can be entered. The mnemonic is a 5- character label that is used to build all the files that the 6000 creates and it also references for the Floor Plans.

  We have standardized these names as follows: XXNNN, where the XX is two letters identifying the customer, and the NNN, three numbers identifying the facility. For example YS001, would be Your Store #001. However, this can be any 5-character name, as long as the Floor Plan files use the same name (i.e.YS001flr.pcx, YS001flr.lst, etc.).

- **LOCATION, ADDRESS, CITY & STATE, OFFICE PHONE, & STORE CONTACT-** All information that pertains to the facility (reference only).

- **MAIN DELAY-** Sets a timer that determines how long the 6000 will sit on any given screen before returning to the Main Menu. It will stay on whatever screen it is left on, if set to zero.

- **PASS DELAY -** Determines how long the Password is in effect if no keys/buttons are pressed.

- **DO DESCRIPTIONS -** Tells the 6000 to deliver the two 25 character description fields in the 4000 that are present for each task when an alarm is sent to a Fax or Printer as the second line of the alarm message.

Note: These two files can be edited/customized from the 6000 or from remote and loaded onsite into the 6000. There are four files “ALM1.BAN”, “ALM2.BAN”, ALM3.BAN”, “ALM4.BAN” (short for Alarm Banner) stored under the C:\DEFNZ directory on the 6000. Each Alarm Banner is associated to alarm groups 1-4.

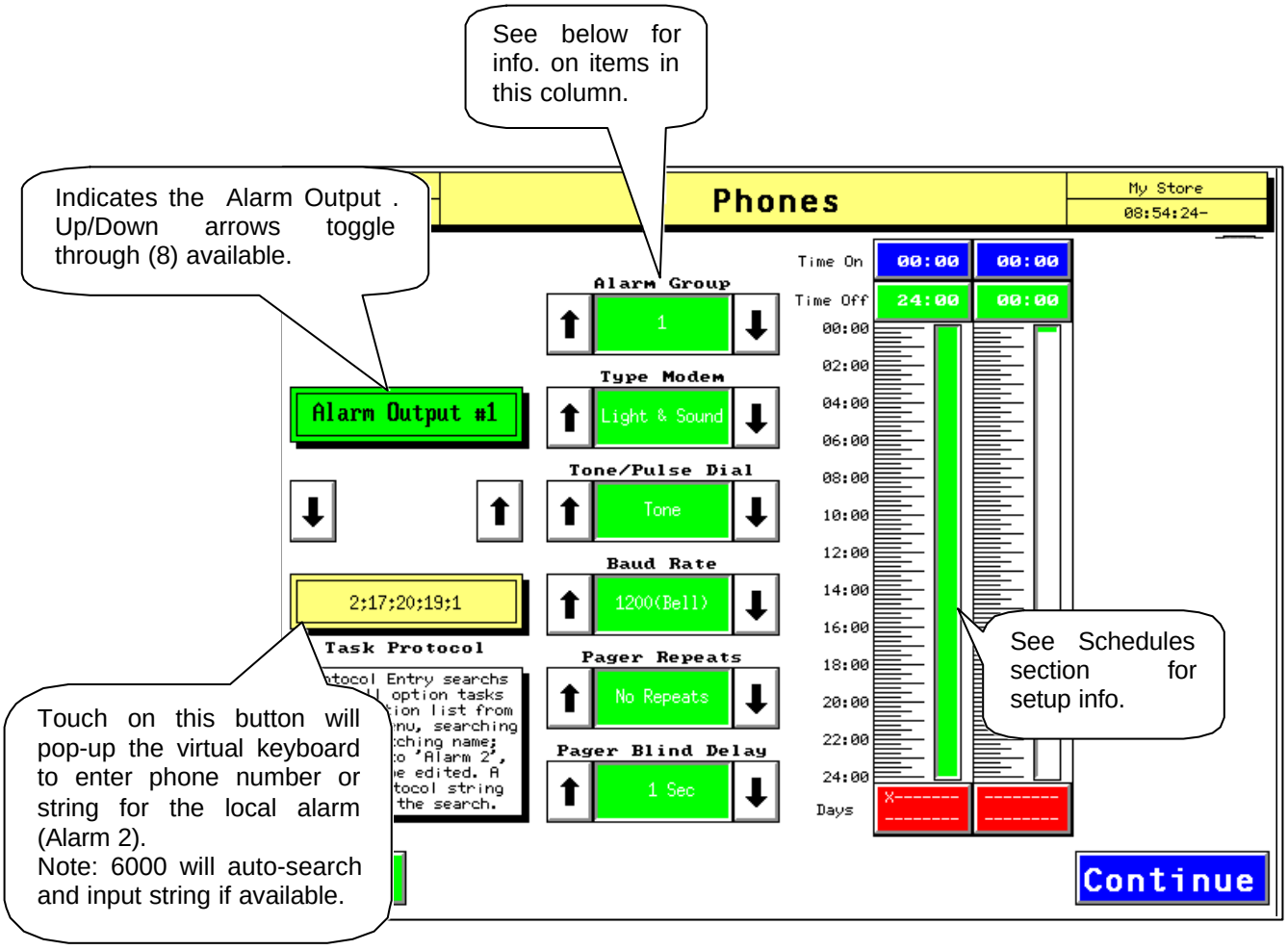
- **AUTO CLEAR ALARM –** Turns off alarm light when alarms have cleared or come out of alarm condition.

- **REPORT FORMAT –** Toggles alarm reporting format from ADV-6000 style to 5000 style (only used by certain monitoring companies that are setup for one style only).

- **ALARM FILTER –** Filters out equipment related alarms (i.e. Power up & down, 6K Service, Blown Box, etc.) All equipment related alarms are still stored inside the system and can be displayed at any time, by toggling this feature back to default (“0”). This feature “hides” these types of alarms from the store personnel, as they probably do not need to view them and cause confusion.

- PHONES

This screen allows the user to set-up both alarm dial outs and the local alarms. There are up to (8) different locations alarms can be sent to with any number of combinations.



- **ALARM GROUP -** Displays which Alarm Group this number is associated with. There are (4) possible alarm groups that can be set-up for each alarm in the 4K (default ANNA). The up/down arrows toggle the numbers from 1 to 4.

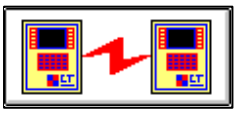
- **TYPE MODEM -** Sets the type of alarm output you desire. The choices are;
  - Light & sound (local alarm via relays - requires protocol string for the appropriate points; or Alarm 2 name)
  - STD Modem (sending alarm to a remote printer/modem)
  - Printer (local printer direct connected)
  - Fax (sending alarms to a fax machine)
  - Smart Modem (not implemented)
  - Pager (send alarm notification to a digital pager)

- **TONE / PULSE DIAL -** Sets the dial-out for tone or pulse dialing (old rotary phones).

- **BAUD RATE -** Sets the dial-out baud rate for STD Modem or Printer. **Note:** A slower baud(i.e. 1200-2400) is usually more reliable than the faster rates.

- **PAGER REPEATS –** (For Pagers only) sets the number of times you want to send each alarm to the pager. Pagers don't provide any handshake, so there is no way to determine if the alarm got through to the pager or not.

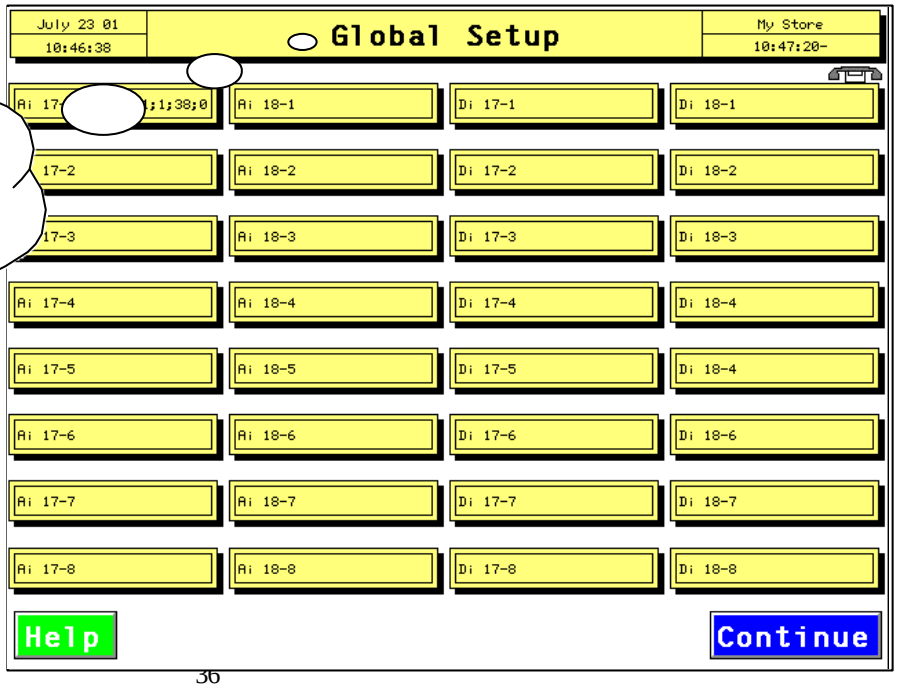
- **PAGER BLIND DELAY –** (For Pagers only) sets the time delay from the time of dialing until sending the alarm to the pager. The delay can be set from 1-30 seconds.

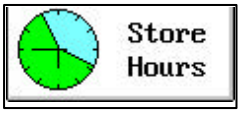


- GLOBAL SETUP

This screen allows the user to enter the protocol strings necessary for passing data between MCS-4000's.

TIP: "Scan Globals" under the Installers Checklist automatically makes these entries based on the 4000/4500 programs.



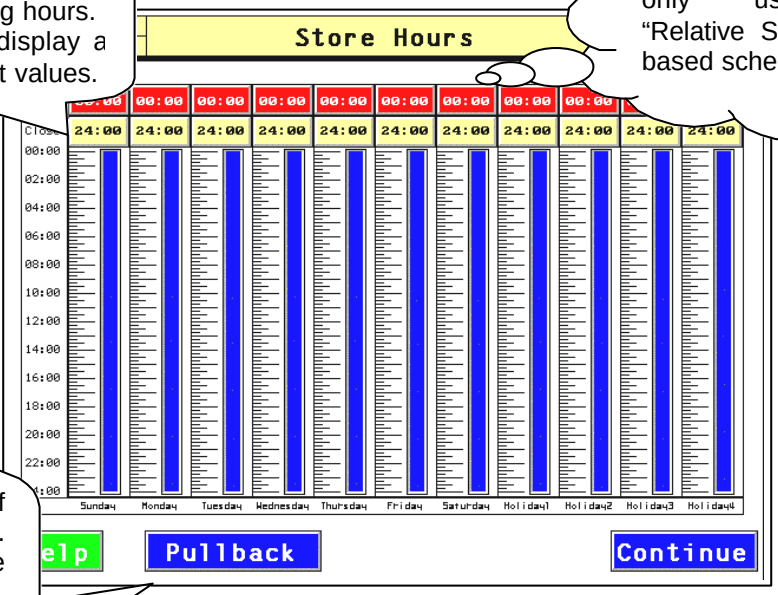


- STORE HOURS

The Store Hours button will lead you to a selection screen with the 7 days of the week store schedule and the 4 Holiday types schedule.

Red Boxes = Opening hours.
Yellow boxes =Closing hours.
Touch on a box to display a virtual keypad to input values.

TIP: These times are only used for "Relative Store Hour" based schedules.



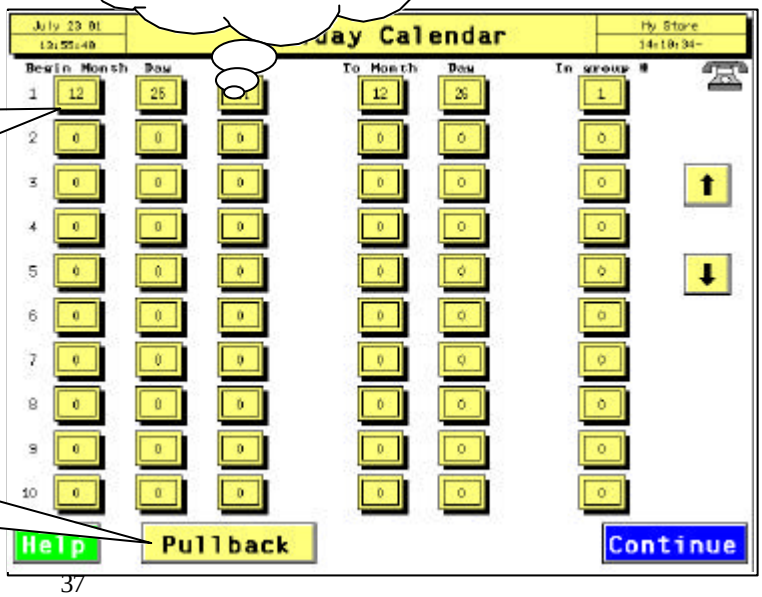
Pullback displays a list of the 4000 controllers. Choose one that the store hours will be based off of. All other 4000/4500's will have the same store hours.

- HOLIDAY CALENDAR

Displays the Holiday Calendar entry screen.

TIP: Use "80" for holidays that fall on the same day every year.

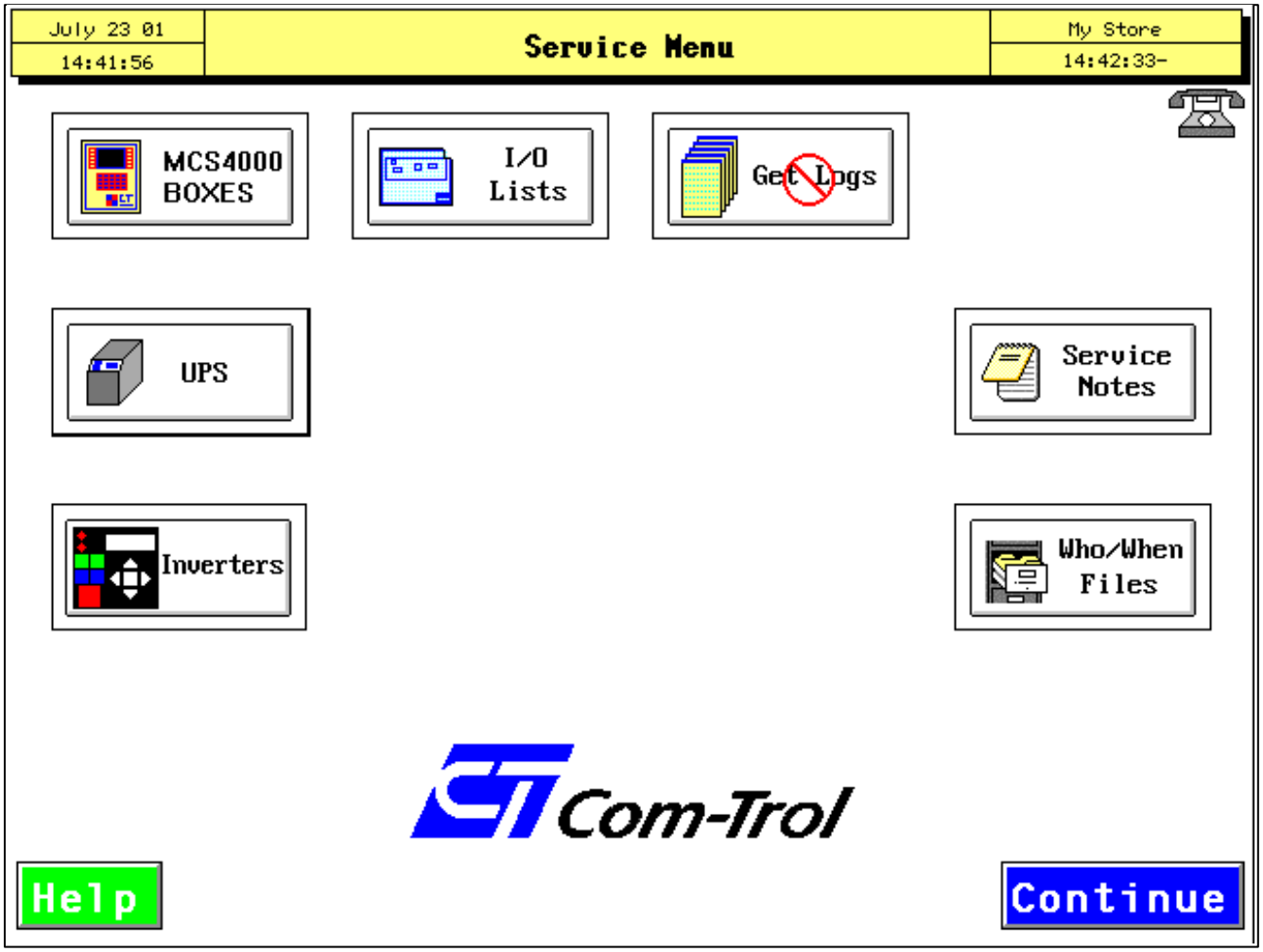
Press the yellow buttons to display a virtual keypad for making changes.
See the MCS-4000 User manual for details on Holiday Schedules.



Pullback works same as in Store Hours above.

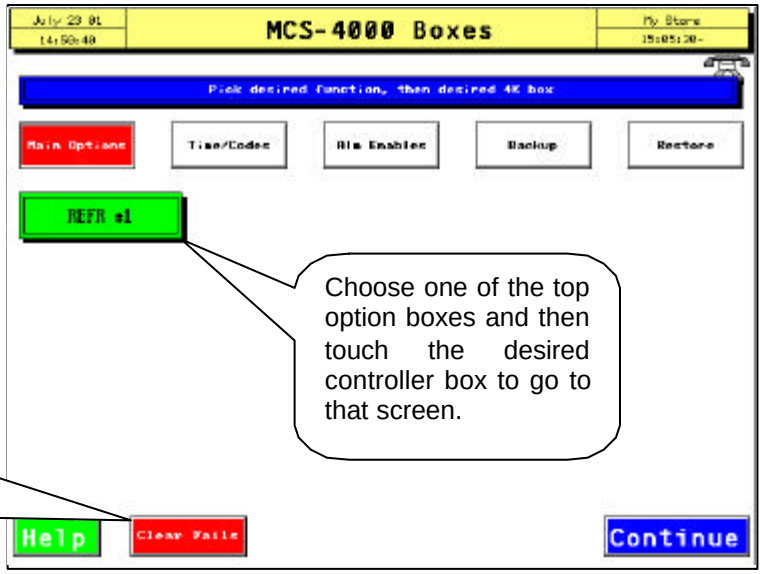
SERVICE MENU

This screen, as shown below, has seven buttons to access various functions that are typically only used at start-up or for service work.



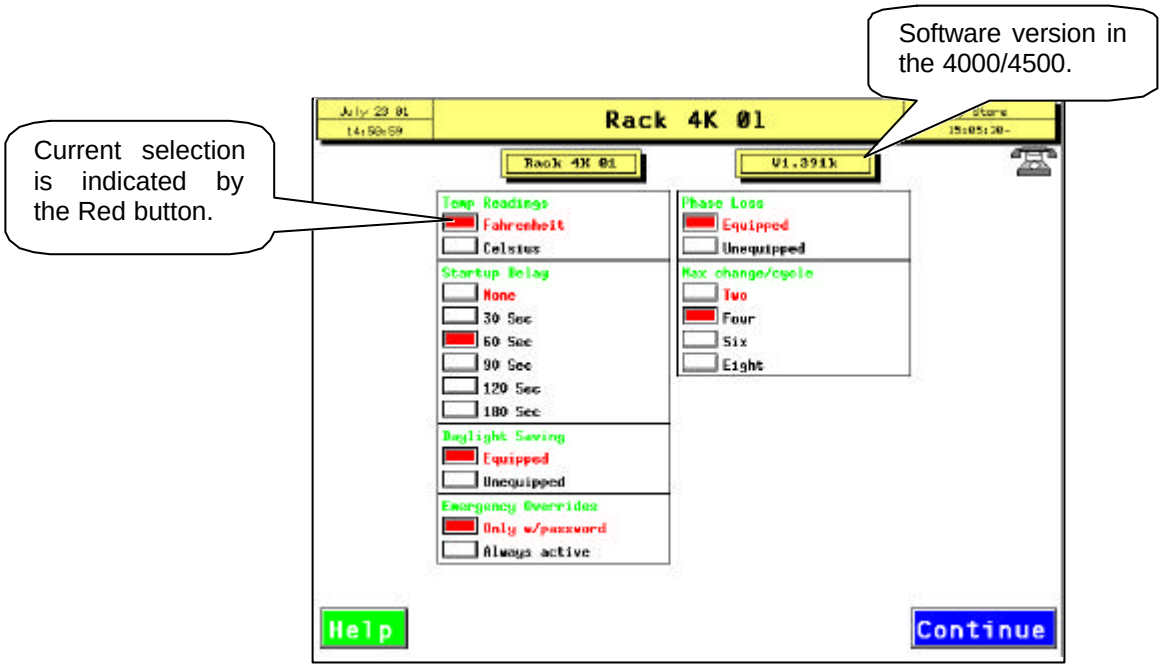
- MCS-4000 BOXES

Displays a selection screen with all the available MCS-4000/4500's indicated in green buttons.



- MAIN OPTIONS

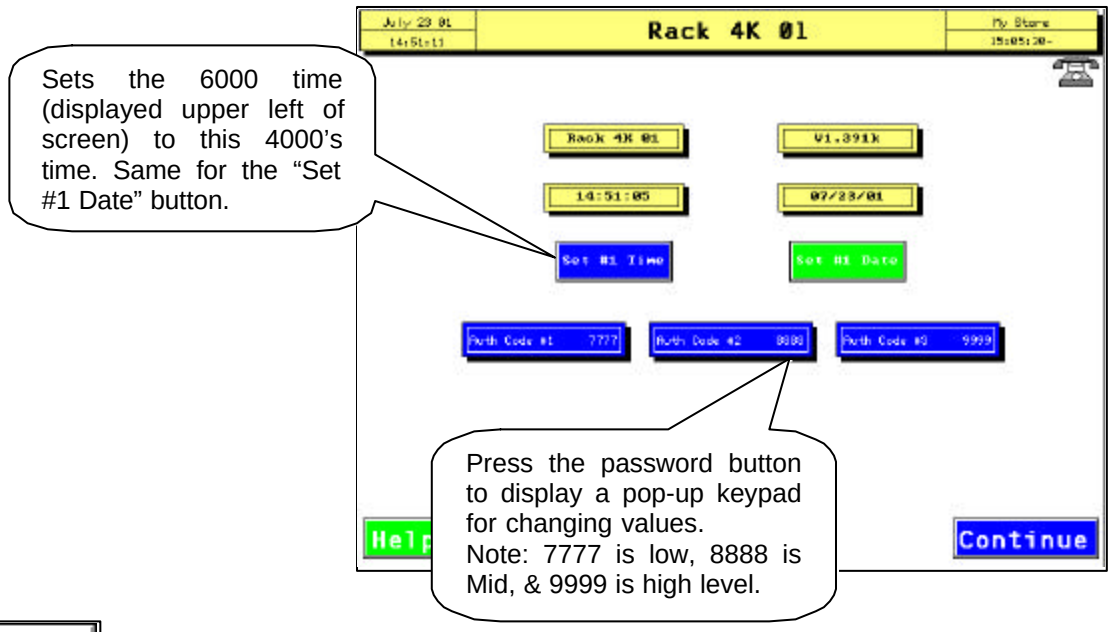
Displays a screen where the Base Options in the selected MCS-4000/4500 are shown. See the MCS-4000 Manual for explanation of the Base Options.



Time/Codes

- TIME / CODES

Displays a screen where the time and date, and passwords(codes) can be viewed/changed in the selected MCS-4000/4500.

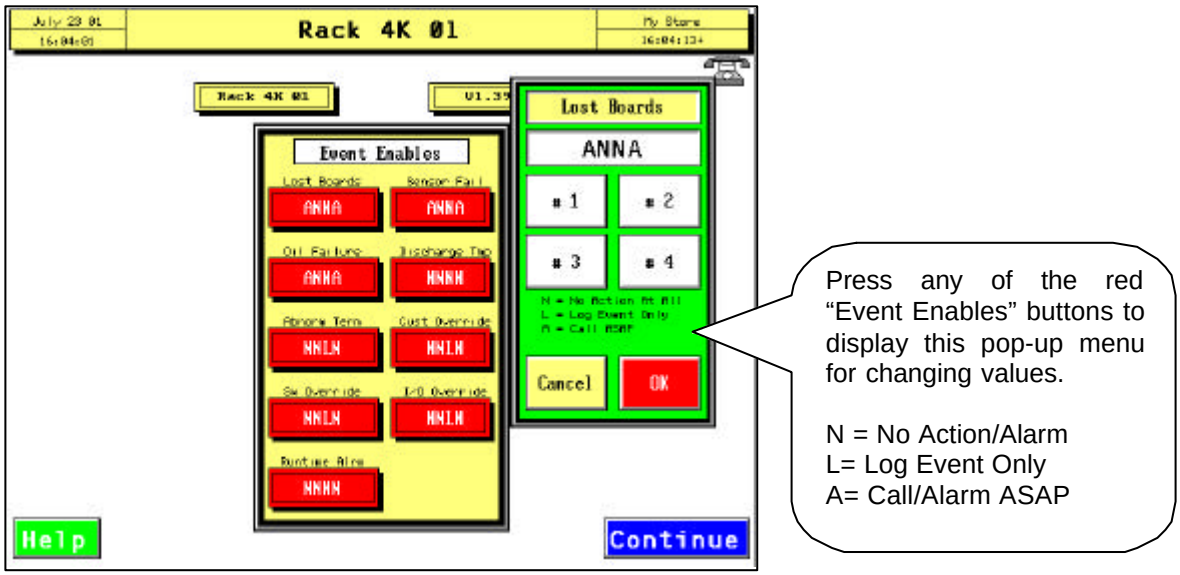


Alm Enables

- ALM ENABLES

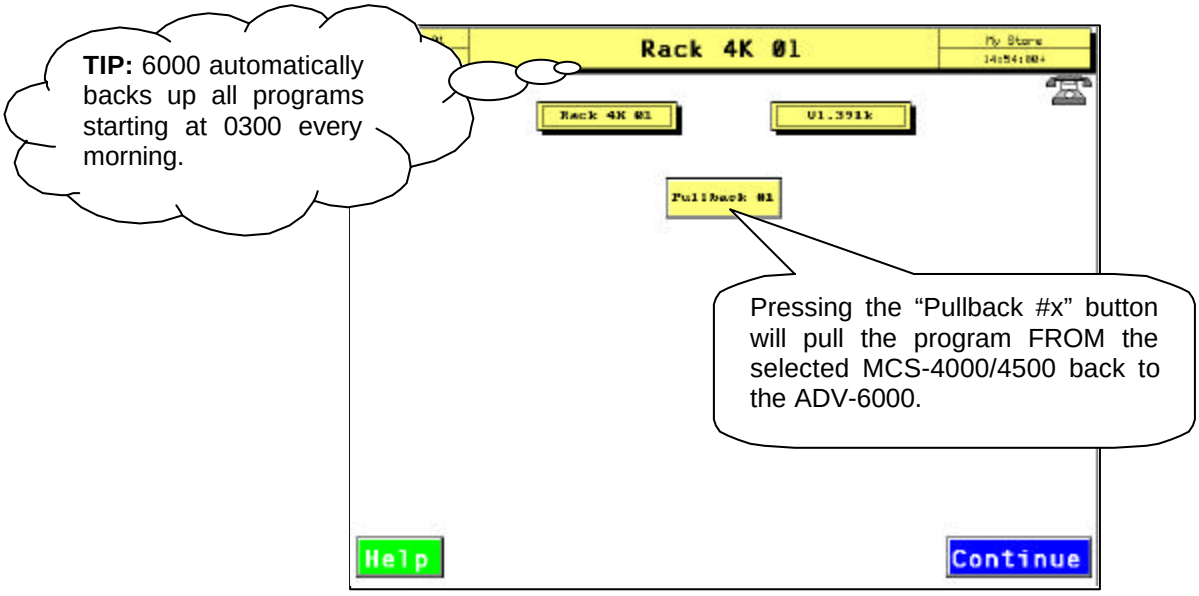
Displays the Alarm/Event Enables screen for the selected MCS-4000/4500.

(Refer to the MCS-4000 Manual for further information on the Alarm Enables function.)



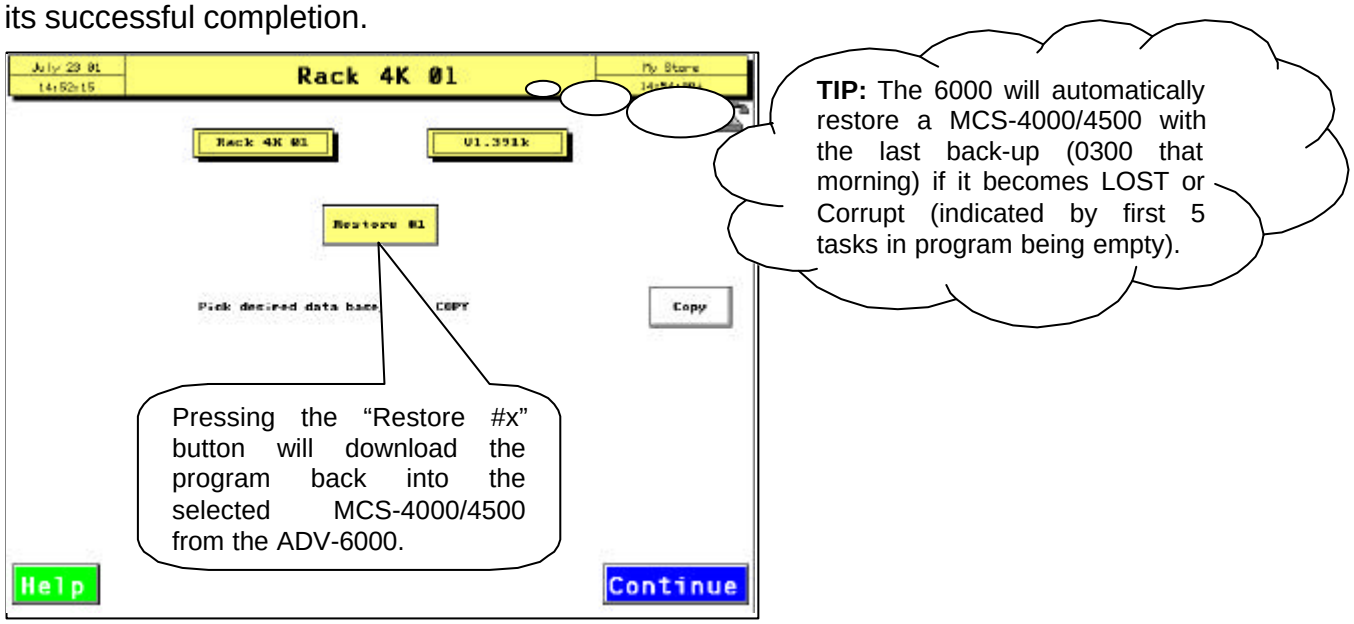
- BACKUP

Displays a screen that allows the user to pullback the selected MCS-4000/4500 program and store it on the ADV-6000's hard drive. A progress bar indicates the status of the pullback and its successful completion.



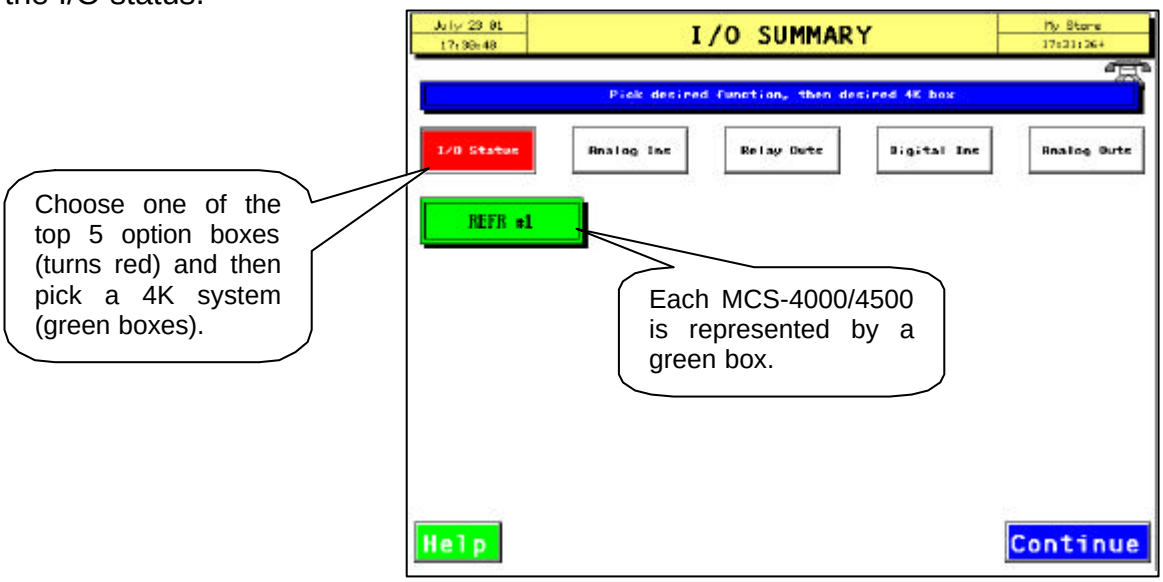
- RESTORE

Displays a screen that allows the user to restore the selected MCS-4000/4500 program from the 6000. A progress bar indicates the status of the pullback and its successful completion.



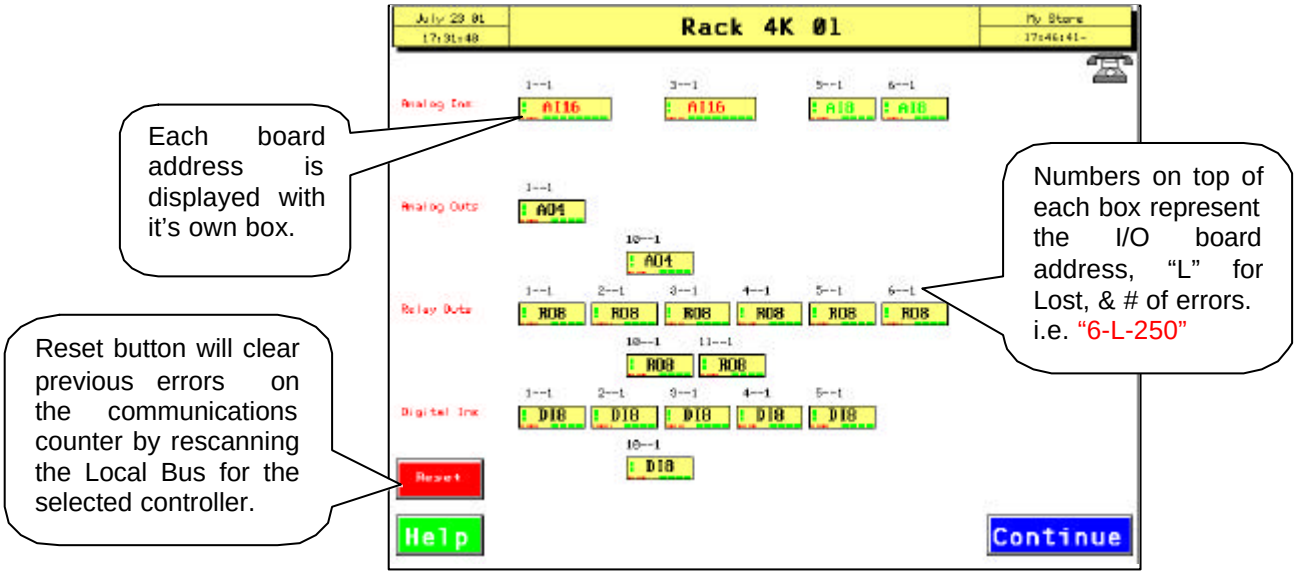
- I/O LISTS

Displays a selection screen that has 5 buttons, one for each I/O type plus one for the I/O status.



- I/O STATUS

This screen is great for trouble shooting the Local Bus (between the controllers and their I/O boards). This screen reports how many errors there have been in communicating to each I/O board (indicating possible problems like loose wires, etc.)



- UPS

The current function utilizes a MCS-4500 controller that acts as an interpreter to the Best Power UPS system. It provides a complete status of the UPS both on-site and remote, as well as alarm capabilities through the Com-Trol system.

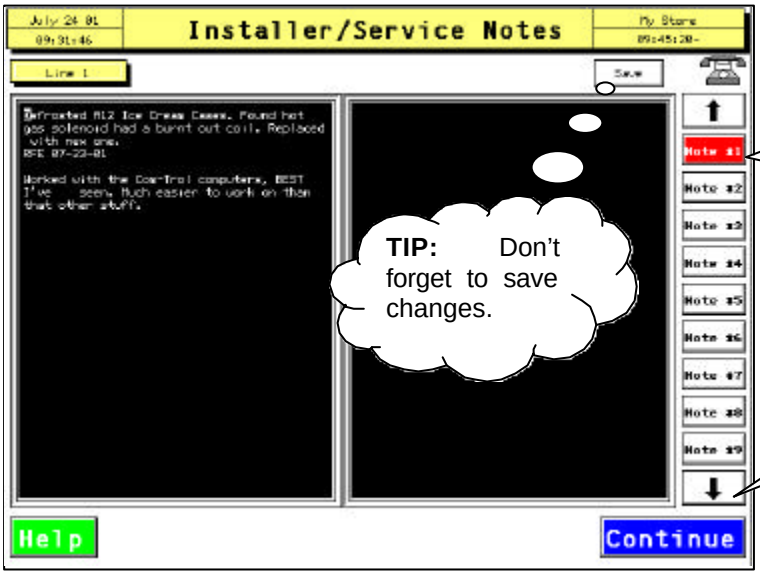
- INVERTERS

The inverters function is still under development, but will again use the MCS-4500 to act as a direct interface to a variety of inverters. The first to be supported will be the Fincor Inverter, an example of its screen is shown below, as it stands at time of writing. The 4500 will provide automatic programming, alarming, and status of the inverter through the 6000's graphic display. If there is more than one inverter present a selection screen will appear (like Compressors) allowing you to select the desired inverter to address.

The Settings, Options and Alarms buttons have the similar functions as previously covered.

- SERVICE NOTES

The Service Notes feature allows messages to be sent to the 6000 from remote and for the Notes to be entered or modified on site with a standard plug-in keyboard. This can be used as desired by the customer for service records or messages to service personnel directing their efforts, etc.



- WHO/WHEN FILES

The Who files provide a record of what password (recommend assigning passwords to specific users) was used to access the 6000 and the time and date of the access. All changes that were made are also logged using a protocol/coded format.