

Installation and Operation Manual

Control Panel for Digital Clock Elapsed Time Indicator with Optional Code Blue Function



WARNING: Hazardous voltage in electrical equipment can cause severe personal injury or death. Inspection, installation, and preventive maintenance should only be performed on equipment to which power has been turned off, disconnected and electrically isolated so no accidental contact can be made with energized parts.

Electrostatic Sensitive Devices

CAUTION: This equipment contains electronic devices that are sensitive to static electric charges. To guarantee protection for the circuitry of this unit, it is required that electrostatic handling precautions be observed when installing or repairing this equipment. Any technician or other personnel working on this unit must wear a static grounding wrist strap or similar device to provide protection of sensitive components.



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IMPORTANT INSTALLATION AND WARRANTY INFORMATION

WARRANTY INFORMATION: American Time (the Manufacturer) provides a limited warranty to the Original Purchaser of this product. The Original Purchaser is the party to whom the Manufacturer issued its Sales Order, generally the Manufacturer's distributor. In order to preserve this warranty, it is important that only persons who have been properly trained and authorized by the Manufacturer service the product.

Other parties involved in the installation of this product may have also provided a warranty, which may be different than that of the Manufacturer. The Manufacturer will only be responsible to the Original Purchaser and only for the Manufacturer's own warranty. For further information regarding the Manufacturer's warranty, contact the Original Purchaser.

OWNER'S MANUAL: The owner's manual does not purport to cover all the details or variations in the equipment described, nor does it provide for every possible contingency to be met in connection with installation, operation and maintenance. All specifications subject to change without notice. Should further information be desired or should particular problems arise which are not covered sufficiently, the matter should be referred to the Installer or Original Purchaser listed below.

INSTALLER INFORMATION

COMPANY: _____ INSTALLER: _____ PHONE: _____
 ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____
 DATE INSTALLED: _____ INSTALLER'S SIGNATURE: _____

ORIGINAL PURCHASER INFORMATION

COMPANY: _____ PHONE: _____
 ADDRESS: _____ CITY: _____ STATE: _____ ZIP: _____
 PURCHASER'S PURCHASE ORDER NO: _____
 DATE PURCHASED: _____
 ATS SALES ORDER ACKNOWLEDGMENT NO.: _____
 ORIGINAL PURCHASER'S SIGNATURE: _____

NOTE: A copy of the above-completed information may be required by the Manufacturer for authorization of Warranty services.

GENERAL

Weight:ATSTCS Control Station 0.27 lb.
External Dimensions:ATSTCS Control Station 4.63"h X 4.56"w X 1.25"deep

SPECIFICATIONS

ELECTRICAL

Distance of ATSTCS from Digital Clock/Timer:..... 30-ft maximum with 22 AWG stranded wire
 with minimum 1/32" thick insulation
Code Blue Circuits: 3.0mA. max. @ 12vac/vdc-30vac/vdc

ENVIRONMENTAL

Ambient Operating Range: 10°C to 49°C (50°F to 120°F)
Recommended Storage Temperature: -30°C to 45°C (-22°F to 113°F)
 for six months maximum
Humidity:..... 85 %RH at 30°C (86°F)

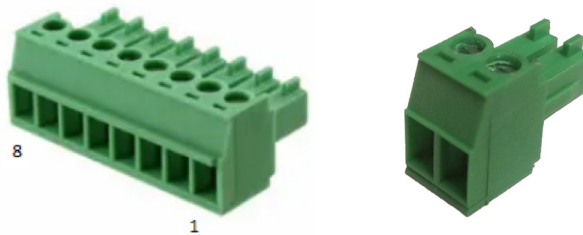
OPERATION

Modes Available:.....Incrementing timer with programmable preset value and start/stop capability
Decrementing timer with programmable preset value and start/stop capability
Code Blue incrementing timer
Control Panel for standalone non-system clock

Indications: 2 second audible alarm

CONTENTS

- (1) ATSTCS Timer Control Station
- (1) 8-pin wiring terminal plug for connection between ATSTCS and clock
- (1) 2-pin wiring terminal plug for Code Blue function



NOTE: DO NOT discard the Code Blue terminal plug if it is not going to be used. The plug should be installed in the appropriate terminal block on the clock for safekeeping in the event Code Blue function is desired later. American Time will not replace discarded or misplaced Code Blue terminal plugs.

Description

The ATSTCS is a control panel which can be used to control up or down counting elapsed timer functions on American Time digital clocks. The ATSTCS can also control an optional Code Blue trigger. The elapsed timers can be started, stopped, resumed, and reset. Both timer modes have a programmable preset value. When the timer reaches the preset value, a two-second audible alarm sounds from the ATSTCS control panel.

The Code Blue up counting elapsed timer will override all other modes of operation if used.

The ATSTCS also accommodates setting clock time manually for 3-wire (3WD) clocks which are not connected to a correction circuit or are otherwise not receiving a correction. These clocks can have time set manually using the ATSTCS and will function as a free-running standalone clock.

Installation

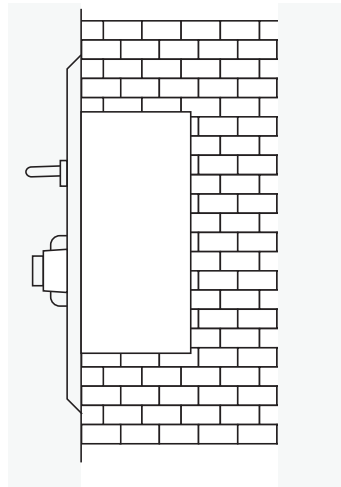
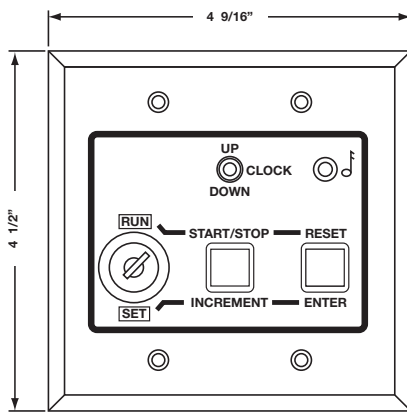
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ATSTCS Control Station





Run/Set Switch -

Set Position: This position is used to set the clock or a preset up or down counting time (Timer). It is also used to reset the Code Blue timer.

Run Position: This position is used to permit Clock/Timer to operate.



Up/Clock/Down Switch -

Up Position: This position is used to choose up counting elapsed timer mode.

Clock Position: This position is used to choose clock mode.

Down Position: This position is used to choose down counting elapsed timer mode.



Start/Stop/Increment Switch -

This button is used to start, stop, and resume timer count, when Run/Set Switch is in the Run position (Code Blue timer can only be stopped).

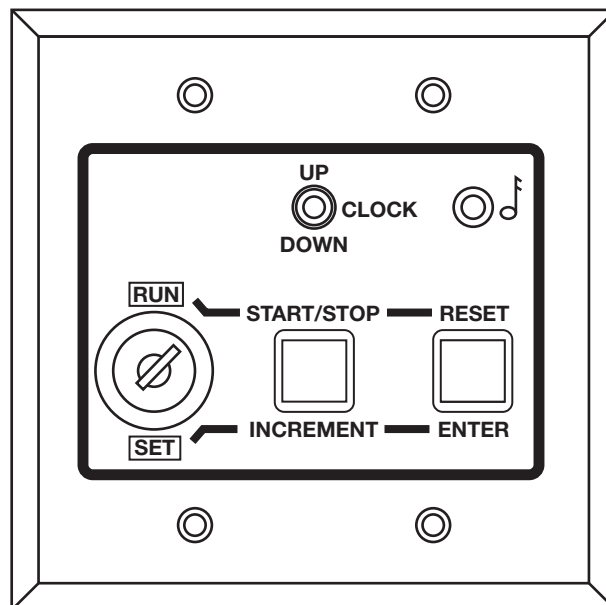
This button is also used to increment/advance the number value being set when the Run/Set Switch is in Set position.



Reset/Enter Switch -

This button is used to return a timer (excluding the Code Blue timer) to the beginning of its count, when the Run/Set Switch is in Run position.

This button can also be used to select a field (i.e. format, minute digits, hour digits) when the Run/Set Switch is in Set position.



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Description

The Digital Clock/Timer can be mounted to a single or double gang box. Follow the instructions provided with the clock for mounting and installation of the Digital Clock/Timer.

CAUTION: Electric Shock Hazard! Ensure that NO electrical power is present on any wire before installation.

- 1 Make electrical connections for clock power/corrections as described in the clock installation guide.
- 2 Pull the wires from the clock to the control station. Keep these ten wires separate from the high voltage wires. See Figure 1 below.
- 3 Connect field wiring interconnecting the Clock/Timer with the ATSTCS Control Station to the appropriate terminals of the Digital Clock/Timer See wiring detail on next page.

Installation

CAUTION: Electric Shock Hazard! When making installation, route field wiring away from sharp projections, corners, and internal components.

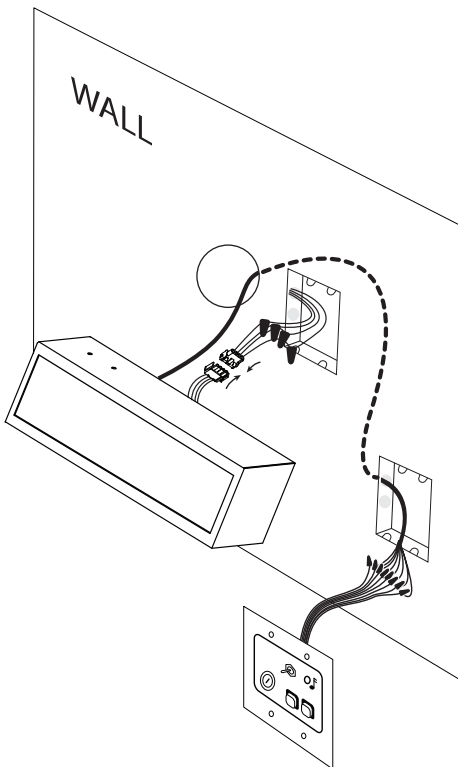
- 7 Apply power to the circuit and confirm correct operation.

Operation

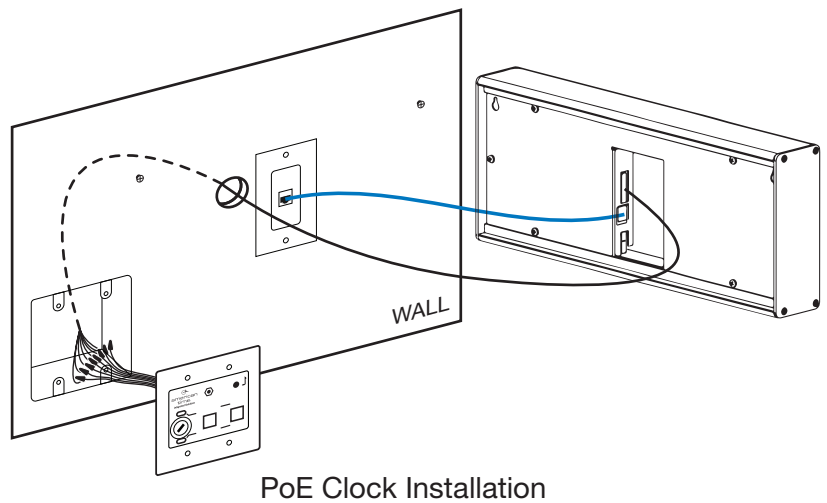
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120/220/24V Clock Installation



PoE Clock Installation

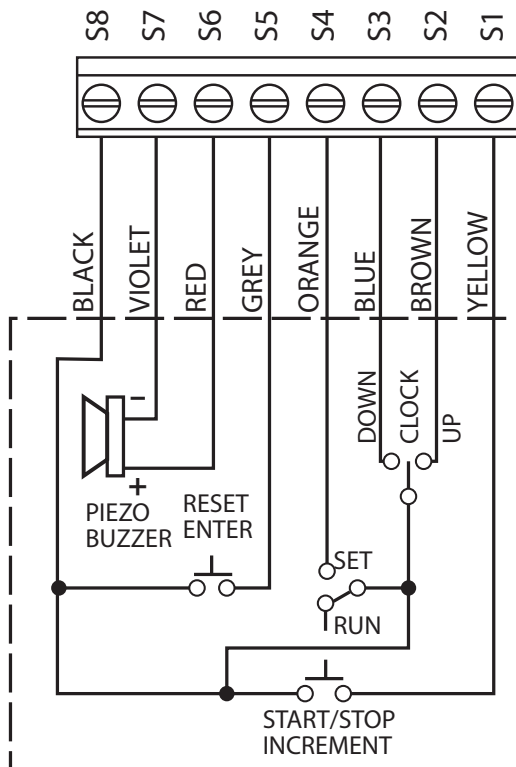
The ATSTCS Control Station can be mounted to a double gang box, 1½ inch deep or deeper. The Control Station can be mounted up to 30 feet away from the Digital Clock/Timer. The recommended minimum interconnecting field wire size is #22 AWG stranded wire. **Ensure that installation conforms to the National Electrical Code and local wiring codes.**

CAUTION: Electric Shock Hazard! Ensure that no electrical power is present on any wire before installation.

- 1 Pull interconnecting field wires into the double gang box. Ensure the wiring from the ATSTCS is routed away from the high-voltage clock wiring.
- 2 Connect field wiring interconnecting the ATSTCS Control Station with the Digital Clock/Timer to the appropriate wires of the Control Station. See wiring detail below.
- 3 Mount the Control Station to the double gang box using the machine screws provided.



ETI Station Pinout



1. START/STOP/INCREMENT – Yellow Wire
2. ETI UP – Brown Wire
3. ETI DOWN – Blue Wire
4. SET/RUN – Orange Wire
5. RESET/ENTER – Grey Wire
6. 12V – Red Wire
7. PIEZO – Violet Wire
8. GND – Black Wire

Typical wiring for the Digital Clock/Timer with Control Station

Description

Powering Up

Before applying power, place the SET/RUN switch to the RUN position and the UP/DOWN/CLOCK switch to the CLOCK position.

Apply power to the unit. The clock will run through the startup process described in the clock's instruction sheet, then go to either the corrected time if a connection is available or to an uncorrected time based off the internal real-time clock if a connection is not available or if the clock is operating without a correction protocol (standalone clocks).

Setting Time (3WD clocks only)

With the UP/DOWN/CLOCK switch still in the CLOCK position:

Set the SET/RUN switch to the SET position.

Installation

The clock will now prompt for time. The hours digits will be flashing. Press the INCREMENT switch until the desired hour is shown and then press ENTER. The minutes digits will be flashing. Press the INCREMENT switch until the desired minutes are shown and then press ENTER. Press the INCREMENT switch again to set the desired seconds and then press ENTER.

Turn the SET/RUN switch back to RUN when you want timekeeping to begin at the time you entered.

The clock will now run as a free-running clock with the manually-set time until or unless a correction is received (i.e. if the clock is configured to correct every hour and is connected to the necessary correction network/protocol, the clock will run at the manually-set time until the correction time is reached and the correction is received by the clock, at which point the clock will begin running at the corrected time).

Operation

Setting the Up Counter Preset Time

If you want to use the alarm and hold feature with the UP timer, you will need to set a preset time for the UP timer.

Set the UP/DOWN/CLOCK switch to the UP position.

Set the SET/RUN switch to the SET position. The hours digits will be flashing.

Using the INCREMENT switch, set the desired hours for the preset time, then press ENTER. The minutes digits will now be flashing.

Set the desired minutes the same way, then press ENTER. The seconds digits will then be flashing.

Set the desired seconds the same way, then press ENTER. The display will then flash **donE**.

Set the SET/RUN switch back to the RUN position.

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Note: A preset of 00:00:00 allows the digital clock/timer to be used as a standard elapsed timer with a maximum elapsed time of 30:59:59.

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Up Counter Elapsed Time Operation

Once the desired preset value has been set, the unit is now ready to function as an UP count elapsed timer.

- ① Be sure the SET/RUN switch is in the RUN position.
- ② Set the UP/DOWN/CLOCK switch to the UP position.
- ③ Press RESET to display **00:00:00**.
- ④ Press the START/STOP switch to begin counting elapsed time.
- ⑤ Press the START/STOP switch again to stop and hold the count.
- ⑥ Press the START/STOP switch again to resume elapsed time counting.
- ⑦ To start over press RESET to display **00:00:00** again.

When the timer reaches the preset value, it will sound the audible alarm for 2 seconds and hold the time count.

During an UP count elapsed time operation, you can display any of the other time functions using the UP/DOWN/CLOCK switch as desired.

Setting the Down Counter Preset Time

If you are using the clock as a DOWN counting elapsed timer, you will need to set a preset time to count DOWN from. In this mode, the alarm and hold will occur at 00:00:00.

- ① Set the UP/DOWN/CLOCK switch to the DOWN position.
- ② Set the SET/RUN switch to the SET position. The hours digits will be flashing.
- ③ Using the INCREMENT switch, set the desired hours for the preset time, then press ENTER. The minutes digits will now be flashing.
- ④ Using the INCREMENT switch, set the desired minutes for the preset time, then press ENTER. The seconds digits will then be flashing.
- ⑤ Using the INCREMENT switch, set the desired seconds for the preset time, then press ENTER. The display will then flash **donE**.
- ⑥ Set the SET/RUN switch back to the RUN position.

Down Counter Elapsed Time Operation

Once the desired preset value has been set, the unit is now ready to function as a DOWN count elapsed timer.

- ① Set the UP/DOWN/CLOCK switch to the DOWN position.
- ② Be sure the SET/RUN switch is in the RUN position.
- ③ Press RESET to display the preset value which was set previously.
- ④ Press the START/STOP switch to begin counting down elapsed time.
- ⑤ Press the START/STOP switch again to stop and hold the count.
- ⑥ Press the START/STOP switch again to resume elapsed time counting.
- ⑦ To start over press RESET to display the preset value again.

When the timer reaches 00:00:00, the timer will stop counting and the audible alarm will sound for 2 seconds.

During a DOWN count elapsed time operation, you can display any of the other time functions using the UP/DOWN/CLOCK switch as desired.

Description

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The Code Blue feature provides an override which forces the clock into a special count up elapsed time mode. No matter which of the three normal functions is being displayed, Code Blue input will cause the unit to begin counting elapsed time from 00:00:00. All other functions of the unit continue to operate in the background during a Code Blue.

Operation

A Code Blue is initiated by applying a signal ranging from 12vac/vdc to 30vac/vdc to the K2+ and K2- terminals. See the sample wiring diagram below for more detail.

Installation

The Code Blue timer is the highest priority function of the clock/timer while in the run mode. No matter which of the 3 normal functions is being displayed, the Code Blue input will cause the clock to begin counting up elapsed time from 00:00:00.

The Code Blue timer can be stopped and the time held for viewing by pressing the START/STOP button on the ATSTCS switch panel. The Code Blue timer cannot be restarted from the switch panel.

To reset the clock back to normal operation, the RUN/SET switch must be set to the SET position momentarily and then returned to the RUN position.

Operation

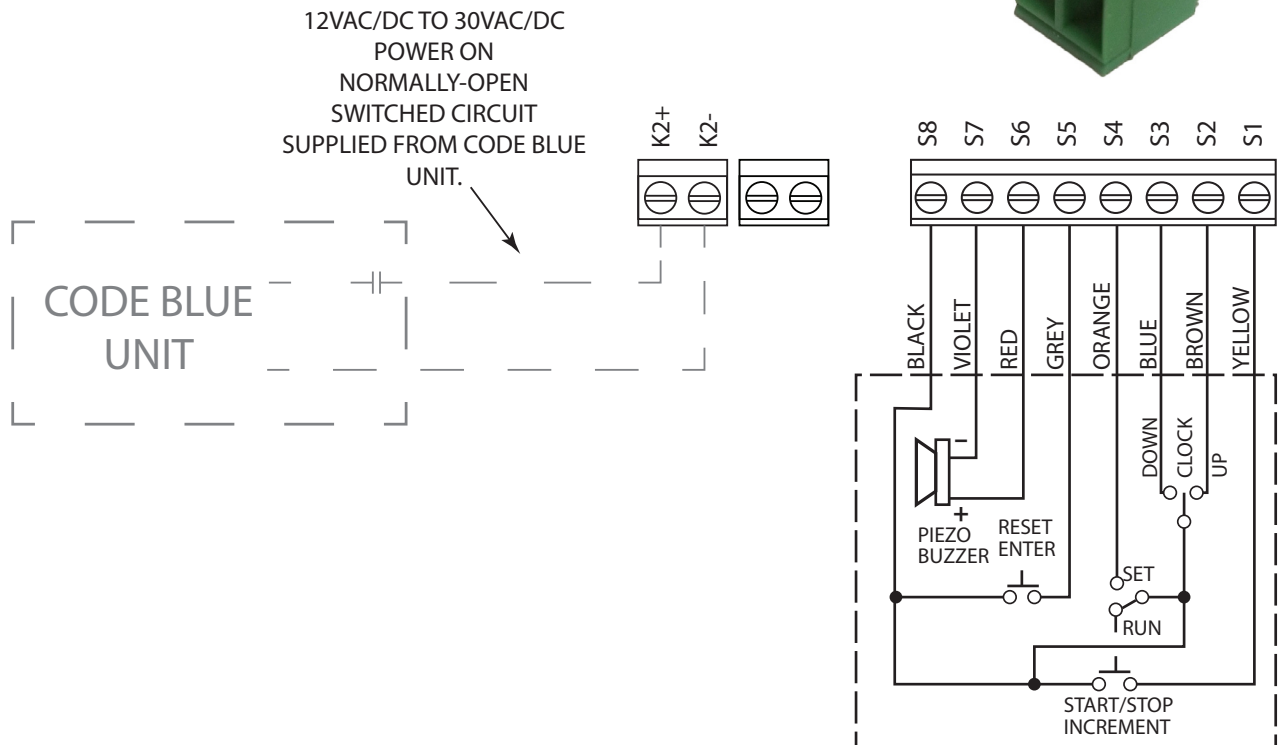
All other functions of the clock continue to operate in the background during a Code Blue. Time of day and time corrections from the SiteSync IQ system controller will not be affected. The standard count up timer and the count down timer will continue as well. However, if one of these timers is switched on for display when a Code Blue occurs, that particular timer will be reset when the clock is reset back to normal operation.

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Code Blue terminal plug



Digital Clock/Timer Code Blue wiring using Control Station
The Control Station is connected as normal.

The ATSTCS **must be** in the RUN mode for Code Blue to override.

The 12vac/vdc to 30vac/vdc signal that starts the Code Blue timer originates from equipment external to the Digital Clock/Timer. The external equipment usually employs a switch device (i.e., a relay contact) to apply this signal. That switching device is often referred to as the Code Blue contact.

The Code Blue contact does not have to open before resetting the Digital Clock/Timer back to normal operation, but must be opened before another Code Blue can occur. The transition from no voltage to applied voltage (across the K2+ and K2-terminals) initiates a Code Blue.

If the Code Blue contact opens and closes again before the Digital Clock/Timer is reset back to normal operation, the Code Blue timer will start over from 00:00:00.

If a power failure occurs during a Code Blue and the back up battery is in place, and the Code Blue contact is still closed when the power returns, the Code Blue timer will start over from 00:00:00.

If a power failure occurs during a Code Blue after the Code Blue timer has been stopped for viewing, and the Code Blue contact is still closed when the power returns, the Code Blue timer will start over from 00:00:00. If the Code Blue contact is open when the power returns, the clock will return to its internal accurate time.

Cleaning

Occasionally the Digital Clock/Timer and the Control Station will need to be cleaned. Dampen a soft, nonabrasive cloth with alcohol or a mild detergent. **Do not use abrasives or solvents!** Gently wipe the exteriors of the units with the cloth.

System Maintenance

The Digital Clock/Timer and ATSTCS Control Station have been manufactured for years of dependable, reliable use. However, to assure the reliability of this product, it is recommended that the Digital Clock/Timer be tested at least every six (6) months with the Control Station and Code Blue contact for operation in accordance with wiring configurations used.

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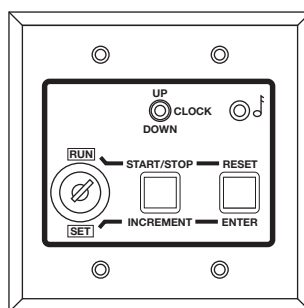
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Appendix 1

Operator's Flowchart

To Set Time (3WD Clocks Only)	To Set UP Counter Preset	To Set DOWN Counter Preset
<p>UP/CLOCK/DOWN switch in CLOCK position</p> <p>SET/RUN switch in SET position</p> <p>Clock display 24Hr or 12Hr</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Clock displays flashing hours digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Clock displays flashing minutes digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Clock displays flashing seconds digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Place SET/RUN switch in RUN position</p>	<p>UP/CLOCK/DOWN switch in UP position</p> <p>SET/RUN switch in SET position</p> <p>Clock displays flashing hours digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Clock displays flashing minutes digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Clock displays flashing seconds digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Display shows DONE</p> <p>Place SET/RUN switch in RUN position</p>	<p>UP/CLOCK/DOWN switch in DOWN position</p> <p>SET/RUN switch in SET position</p> <p>Clock displays flashing hours digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Clock displays flashing minutes digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Clock displays flashing seconds digits</p> <p>Push INCREMENT to change</p> <p>Push ENTER</p> <p>Display shows DONE</p> <p>Place SET/RUN switch in RUN position</p>
<p>To Use as a Clock</p>	<p>To Use UP Counter</p>	<p>To Use DOWN Counter</p>
<p>Place SET/RUN switch in RUN position</p> <p>UP/CLOCK/DOWN switch in CLOCK position</p> <p>Code Blue Operation</p> <p>SET/RUN switch MUST be in RUN position</p> <p>To stop and hold code blue time for viewing, press START/STOP</p> <p>To Reset Clock/Timer to Normal Operation</p> <p>Place SET/RUN switch momentarily in SET position and return switch to RUN position</p>	<p>UP/CLOCK/DOWN switch in UP position</p> <p>Place SET/RUN switch in RUN position</p> <p>Place RESET to display 00:00:00</p> <p>Place START/STOP to Begin</p> <p>Place START/STOP to Hold</p> <p>Place START/STOP to begin again</p> <p>Alarm will sound when preset time is reached</p> <p>Press RESET to reset counter</p>	<p>UP/CLOCK/DOWN switch in DOWN position</p> <p>Place SET/RUN switch in RUN position</p> <p>Place RESET to display preset time</p> <p>Place START/STOP to Begin</p> <p>Place START/STOP to Hold</p> <p>Place START/STOP to begin again</p> <p>Alarm will sound 00:00:00 is reached</p> <p>Press RESET to reset counter</p>



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