Naztec Operations Manual

For

Chronomax Time Switch

Version 1.x/2.x/3.x

April 2003

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1. Preface

Naztec's Chronomax is a user programmable time switch. The time switch maintains a database capable of storing user programs for operation several years into the future. These programs may be set via the keyboard, direct link, dial-up modem, or pager. It is an ideal device for operating school zone flashers, lighting systems or any other application where a set schedule of operation exists. The time switch also provides the ability to set holidays/exceptions on specific, annual, and floating events. To further enhance the operation of the time switch, the unit incorporates up to 16 different user programs each with dynamic step allocation. This form of programming maximizes flexibility and optimizes use of available non-volatile storage.

The basic idea of the time switch is to open or close a relay based upon the time of day and the specific day of the week, or a combination of days of the week. These "events" are specified in a user programmable schedule. It is this schedule that the time switch uses to determine the appropriate state of the relay. Once per minute the time switch searches for an applicable event set by the user. If an event that applies is found, the time switch then searches a database of user programmed exception periods. If the current day is within the designated exception period the relay opens regardless of the specified action. Otherwise, the relay behaves as indicated by the schedule.

2. Features

2.1 Programming

Menu Driven - The Chronomax provides complete manual free operation. The menu driven system does not require "special codes" for feature operation. The user interface provides complete access to all abilities in a friendly and intuitive form.

Prompting - All data entry screens are complete with intuitive prompting. Arrows provide indications of more screens and data is presented in standard formats.

Scheduled Events - An event is an occurrence that determines the state of a relay based upon the day and time of day. Events for relay operation are set according to the day of week and time. The selected day for operation may be a combination of days (i.e. weekday, weekend, everyday), or a specific day. Scheduled events also select the position of the output, whether it is on, off, or flashing.

Program Dates - A specific period of operation may be selected by entering two dates in MM-DD-YY format. The dates are permitted to span separations in years or even several years. This feature is available in version 2.x or higher.

Periods Exceptions - A specific period of non-operation may be selected by entering two dates in MM-DD-YY format. The dates are permitted to span separations in years or even several years.

Annual Exceptions - To allow for repeated events an annual skip feature is provided. The date is entered in a MM-DD format and is also permitted to span a separation in years.

Floating Exceptions - Exceptions can be made for events that occur on specific days of a month (i.e. Thanksgiving, fourth Thursday of November). This entry allows the user to skip up to six days following a floating event.

2.2 Electrical Specifications

Power - The Chronomax is capable of operating off of 95VAC - 135VAC at 60HZ or capable of battery operation. It requires less than 100 ma of current with both FET outputs and Relays engaged.

Power Failure - In the event of a power failure the Chronomax diverts stored power from a capacitor for clock operation. Also, re-programming is not necessary, because all program databases and vital operating information are store in an EEPROM

2.3 Physical Dimensions

The durable Chronomax unit comes packaged in a space efficient 4.0"w x 7.5"h x 2.3"d aluminum case.

3. Installation

For installation of the time switch, first remove the two screws holding the cover of the time switch. Next, lift the cover so that the mounting holes are exposed. Mount the case to the panel using the previously prepared tapped holes. Replace the cover and then screw back in place. The time switch should now be ready for operation. Now attach the AMP 206037-1, 16-pin female adapter cable to the time switch.

The time switch comes with a 24-inch long adapter cable with the following color coded wires.

Pin No.	Function	Wire Color
1	A.C. Positive	Black
2	A.C. Neutral	White
3	Chassis Ground	Green
4	Relay 1 Normally Open	Red
5	Relay 1 Normally Closed	Yellow
6	Relay 2 Common	White/Brown
7	Relay 2 Normally Open	White/Violet
10	Relay 1 Common	White/Yellow
11	D.C. Positive (+12)	White/Red
12	D.C. Negative (GND)	White/Black
13	D.C. Flash 1	Orange
14	D.C. Flash 2	Blue
16	Relay 2 Normally Closed	Violet

When using the time clock to control a school zone flasher, the power for the flasher is routed through the normally open and common contacts of the relay. This application also assumes that the power to the clock is AC and pins 1, 2, and 3 will be wired appropriately.

When using the time switch for solar power or other DC power applications, pins 13 and 14 produce the "bouncing ball effect". The outputs of these pins can be used to drive LED lamps, halogen lamps, or any DC voltage lamp up to 3 amps. One side of the lamp should be connected to the +12 DC supply and the other side of the lamp should be connected to pin 13 or pin 14. Note that the duty cycle can be controlled with a programmable entry (see Settings, Set Duty Cycle). This application assumes that the power for the clock is DC and pins 11 ands 12 will be wired appropriately. In this situation it is necessary to select the crystal setting for the clock source (see Settings, Clock Source).

The mounting holes are configured as an inverted "T". The bottom two holes are 2.3125" ±.05" apart from center to center. The bottom holes are spaced an equal distance from the centerline of the chassis. The top hole is 5.75" ±.05" above the center line formed by connecting the centers of the two bottom holes. The top hole is located on the centerline of the chassis. The distance from the top hole to the top of the chassis is 3" ±.05".

3.1 Jumper Settings

The Chronomax Time Switch is available in different configurations of input power and for type of outputs. Some models include multiple options, which are user-configurable. Input options supported include 120VAC and 12VDC power. Output options are one or two relay outputs and two DC transistor outputs. It is the specific model of time switch that determines which of these features is available. This section describes the configuration of all these options.

The "standard" output configuration is one set of relay contacts. This relay output is typically transferred "on" or "off" based on the user program. It may switch AC or DC loads. Also available on some models are solid-state transistor outputs. These outputs may be only used to switch 12VDC loads of 3 amps or less. They are intended to directly switch 12VDC lamps in a flashing configuration, thereby eliminating the need for an external flasher. Whether they operate in a flashing or steady manner is user programmable.
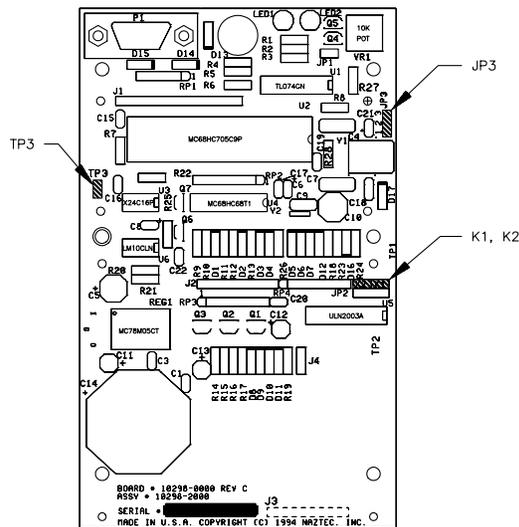
Jumpers K1 and K2 are used to configure the time switch. Their locations are shown in the figure above. Jumper positions should only be changed when power is off unless specifically directed otherwise.

K1 & K2 - Jumpers K1 and K2 activate output relays 1 and 2 respectively. If the DC flashing output option is available and enabled, these relay outputs should be disabled by removing the jumpers or not installing them across the two pins. This will prevent the relays from transferring with each flash and therefore prevent needless wear.

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4. Display and Keyboard

4.1 Menu Navigation

The intuitive menu driven approach of the Chronomax employs a simple standard method of navigation. The menu items are scrolled using the <↑> and <↓> keys. The visible menu item is then selected by pressing <**ENTR**>. A few of the menu items contain sub-menus, which are traversed in the same manor.

4.2 Symbols and Definitions

➔   Indicates that the next entry screen may be reached by continuing to cursor using the <➔> key.

⬅   Indicates that the previous entry screen may be reached by continuing to cursor using the <⬅> key.

Flashing Data   Indicates that the data just entered is not valid and must be re-entered before continuing. However, some fields allow the user to enter data in the form of all zeros in order to indicate an off state.

Flashing Cursor   Indicates that the current field may be edited using the keypad.

STT   Represents the word "start".

Data Item Field   Is the first field in schedule entries or exception entries. It indicates the number of the entry in the database.

4.3 Key Functions

For ease of use each key represents a single action. With the time switch, no combination of keys is ever necessary to accomplish a task.

<↑>   Scrolls the list upwards

<↓>   Scrolls the list downwards

<➔>   Moves to the next data field and saves data if a valid entry has been made

<⬅>   Moves to the previous data field and saves data if valid entry had been made

<**ENTR**>   Selects menu item, or saves entered data

<**PGUP**>   Loads previous schedule or exception entry (valid only in data item field)

<**PGDN**>   Loads next schedule or exception entry (valid only in data item field)

<**ESC**>   Exits to the main menu

5. Programming

5.1 Scheduled Events (version 1.x/2.x)

To arrive at the schedule entry screen, the user must select "Schedule" from the main menu list.

1	2	3	4	5*

```
02  WDY  14:30 ON →  │  ←  Prog: 1
```

1 *Data Item* – The data item field is simply a reference number that allows the user to enumerate the program steps. The field can be incremented by the <**PGUP**> or <**PGDN**> keys. Entering a numeric value followed by <ENTR> may also change it. The scheduled events do not have to be in numerical order.

2 *Day of Week* - The day of week entry indicates the day or group of days that this program step will be active. The day(s) may be selected by using the <**↑**> or <**↓**> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. Additional selections are available to select a specific grouping of days.

WDY - Weekdays
WND - Weekends
EDY - Everyday
------ - Clear Entry

3 *Time* – The time field selects the time of day on which this program step will be executed. Time is entered in 24-hour format (HH:MM). <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

4 *On/Off* - The on/off action entry selects the action that will take place on the selected day(s) at the selected time. The action may be selected by using the <**↑**> or <**↓**> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

5 *Prog* - The program number field selects the program number that governs the period in which this entry will be active. The dates of activity are set under the "Program Dates" main menu item. The program number may be selected by using the <**↑**> or <**↓**> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. This feature is only available in versions 2.0 or higher.

5.2 Scheduled Events (version 3.x)

To arrive at the schedule entry screen, the user must select "Schedule" from the main menu list.

1	**2**	**3**		**4**	**5**	**6**
02	WDY	14:30 →	← Prg: A	1:X	2:Y

1 *Data Item* – The data item field is simply a reference number that allows the user to enumerate the program steps. The field can be incremented by the <**PGUP**> or <**PGDN**> keys. Entering a numeric value followed by <ENTR> may also change it. The scheduled events do not have to be in numerical order.

2 *Day of Week* - The day of week entry indicates the day or group of days that this program step will be active. The day(s) may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. Additional selections are available to select a specific grouping of days.

WDY - Weekdays
WND - Weekends
EDY - Everyday
------ - Clear Entry

3 *Time* – The time field selects the time of day on which this program step will be executed. Time is entered in 24-hour format (HH:MM). <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

4 *Prog* - The program number field selects the program letter that governs the period in which this entry will be active. The dates of activity are set under the "Program Dates" main menu item. The program letter may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

5 *Output 1 On/Off* - This action entry selects the action that will take place on the selected day(s) at the selected time for output 1. A "Y" will activate the associated output, an "N" will deactivate the associated output, and an 'X' will not change the state of the associated output. The action may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

6 *Output 2 On/Off* - This action entry selects the action that will take place on the selected day(s) at the selected time for output 2. A "Y" will activate the associated output, an "N" will deactivate the associated output, and an 'X' will not change the state of the associated output. The action may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

5.3 Program Dates (version 2.x/3.x)

To arrive at the program dates entry screen, the user must select "Program Dates" from the main menu list. This feature is available in versions 2.0 or higher.

1	**2**	**3**	**4**
02 Prog: A →		← START:09/01/98 →	← STOP:09/01/98 →

1 *Data Item* – The data item field is simply a reference number that allows the user to enumerate the program steps. The field can be incremented by the <**PGUP**> or <**PGDN**> keys. Entering a numeric value followed by <ENTR> may also change it. The scheduled events do not have to be in numerical order.

2 *Prog* - The program number/letter field selects the program to which the following stop/start dates apply. It may be selected by using the <⬆> or <⬇> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. Additional selections are available to select a specific grouping of days.

3 *Start Date* **–** The start date is the first date upon which the schedule entries associated with this program number are operational. It is entered in MM/DD/YY format. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

4 *Stop Date* **–** The stop date is the last date upon which the schedule entries associated with this program number are operational. It is entered in MM/DD/YY format. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

5.4 Period Exceptions

To arrive at the period exceptions entry screen, the user must first select "Exceptions" from the main menu list. At that point a sub-menu will appear. Select "Period" to enter period exceptions.

1	**2**	**3**
05 STT: 09/29/00 →		← STOP: 10/15/00

1 *Data Item* - The data item field is simply a reference number that allows the user to enumerate the exception entries. The field can be incremented by the <**PGUP**> or <**PGDN**> keys. Entering a numeric value followed by <ENTR> may also change it. The scheduled events do not have to be in numerical order.

2 *Start Date* **–** The start date is the first day in which the clock becomes non-operational. It is entered in MM/DD/YY format. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

3 *Stop Date* **–** The stop date is the last date upon which the clock is non-operational. It is entered in MM/DD/YY format. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

○ Entering all zeros for the start date clears the data fields.

5.5 Annual Exceptions

To arrive at the annual exceptions entry screen, the user must first select "Exceptions" from the main menu list. At that point a sub-menu will appear. Select "Annual" to enter annual exceptions.

1	**2**	**3**
05 STT: 09/29 →		← STOP: 10/15

1   *Data Item* – The data item field is simply a reference number that allows the user to enumerate the exception entries. The field can be incremented by the <**PGUP**> or <**PGDN**> keys. Entering a numeric value followed by <ENTR> may also change it. The scheduled events do not have to be in numerical order.

2 *Start Date* **-** The start date is the first date upon which the clock is non-operational. It is entered in MM/DD format. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

3 *Stop Date* **-** The stop date is the last date upon which the clock is non-operational. It is entered in MM/DD format. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

○ Entering all zeros for the start date clears the data fields.

5.6 Floating Exceptions

To arrive at the floating exceptions entry screen, the user must first select "Exceptions" from the main menu list. At that point a sub-menu will appear. Select "Floating" to enter floating exceptions.

1	**2**	**3**	**4**	**5**

12 Month : 11 →	← Day : Thu = 4 →	← LENGTH : 2

1 *Data Item* - The data item field is simply a reference number that allows the user to enumerate the exception entries. The field can be incremented by the <**PGUP**> or <**PGDN**> keys. Entering a numeric value followed by <ENTR> may also change it. The scheduled events do not have to be in numerical order.

2 *Month* **–** The month field numerically (1-12) selects the month that contains the first day of non-operation. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

3 *Day of Week* - The day of week field selects the day that is the first day of non-operation. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

4 *Occurrence* - The occurrence field selects which occurrence of the selected day begins the period of non-operation. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. The occurrence may be selected as 1-4 or L, the last occurrence of that day

5 *Length* - The length field allows the user to select how many days to be non-operational after the selected day. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. The length may range from 0 to 6 days following the floating event.

○ Entering zero for the month clears the data fields.

6. Settings

6.1 Time of Day

1

Time- 12:30

1 *Time* – The time is entered in 24-hour (HH:MM) format. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

6.2 Date

1

Date - 01/11/00

1 *Date* **–** The date is entered in MM/DD/YY format. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

6.3 Day of Week

1

Day - Sun

1 *Day* - The day of week may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

6.4 Daylight Savings

1   **2**   **3**   **4**

S MM = 04 Sun = 1 →	← F MM = 10 Sun = L

1 *Spring Month* **–** The spring month is numerically entered (1-12). <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

2 *Occurrence* - The occurrence field selects which Sunday spring daylight savings will become active. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. The occurrence may be selected as 1-4 or L, the last occurrence of that day.

3 *Fall Month* **–** The fall month is numerically entered (1-12). <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

4   *Occurrence* - The occurrence field selects which Sunday fall daylight savings will become active. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current

selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving. The occurrence may be selected as 1-4 or L, the last occurrence of that day.

6.5 Set Duty Cycle

1

Cycle - 45%

1 *Cycle* – The duty cycle selects the rate at which the outputs flash. DC time switches may select a value from 40%-50%, while AC time clocks must be set to 00%. It is numerically entered. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

6.6 Comm Setup

1	**2**	**3**
ID : 0117 →	← Baud: 9600 →	← Comm Tmr 3.5 →

4*	**5***	**6***
← Zone : 0010 →	← Fail Time: 0020 →	← Pager: ON

1 *ID* **-** The ID number selects a unique comm address for each timeswitch. It is numerically entered. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

2 *Baud Rate* - The baud rate field selects the communications data rate. It may be selected by using the <**↑**> or <**↓**> keys. <**ENTR**> is pressed when the current selection is to be saved. Moving to another data field also saves the data. Pressing <**ESC**> will exit without saving.

3 *Comm Timer***-** The comm timer entry selects the amount of time in seconds that expires between retries. It is numerically entered. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

4 *Zone***-** The zone entry identifies the school zone to which the timeswitch belongs. This is used in radio or pager zones in which several flashers are to be activated by a single broadcast message. It is numerically entered. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving. This feature is available in version 2.0.

5 *Fail Time***-** The fail time entry selects the number of minutes to wait before defaulting to the programmed schedule. This is used as a failsafe mechanism in radio zones. It is numerically entered. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving. This feature is available in version 2.0 or higher.

6 *Pager***-** The pager entry turns on or off the pager mode. When enabled, it allows the time switch to be controlled by pager messages. It may be selected by using the <**↑**> or <**↓**> keys. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving. This feature is available in version 3.0 or higher.

6.7 Xmit Database

```
                1
        ┌─────────────────┐
        │ Dbase - Period  │
        └─────────────────┘
```

1 *DBase* - The Dbase field selects the database(s) to transmit in a clock-to-clock transmission. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be transmitted. An option to send the real-time clock is also present in the selection list. Pressing <**ESC**> will exit without saving.

6.8 Clock Source (version 1.x)

```
                1
        ┌─────────────────┐
        │ Source - Auto   │
        └─────────────────┘
```

1 *Source* - The clock source chooses the time reference for the unit. It should always be set for "Auto" in the field. When in the "Auto" mode, the clock will use the AC line 60Hz if present; else it will automatically use the crystal. When in "Xtal" mode, the clock will always use the crystal reference. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be transmitted. An option to send the real-time clock is also present in the selection list. Pressing <**ESC**> will exit without saving.

6.9 Clock Parameters (version 2.x/3.x)

```
             1          2
        ┌─────────────────────┐
        │ Src - AUT  Safe: Off│
        └─────────────────────┘
```

1 *Source* - The clock source chooses the time reference for the unit. It should always be set for "AUT" in the field. When in the "AUT" mode, the clock will use the AC line 60Hz if present; else it will automatically use the crystal. When in "XTL" mode, the clock will always use the crystal reference. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be transmitted. An option to send the real-time clock is also present in the selection list. Pressing <**ESC**> will exit without saving.

2 *Safe* - The fail-safe option allows the user to reverse the action of the relay such that it is energized when the clock output is inactive, and de-energized when the output is active. This allows the user to operate the relay in a fail-safe mode, so that should the clock cease to operate the relay would fall to the non-energized state, thus activating the output. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be transmitted. An option to send the real-time clock is also present in the selection list. Pressing <**ESC**> will exit without saving.

6.10 Manual Flash (version 1.x/2.x)

```
                1
        ┌─────────────────┐
        │ Flash - Off     │
        └─────────────────┘
```

---

1 *On/Off* - The manual flash option will turn on/off flashing. The manual flash is overridden by the occurrence of a programmed step or an exception period. It may be selected by using the < ↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

6.11 Manual Flash (version 3.x)

```
              1       2
  Flash -    1:N    2:N
```

1 *Output 1 On/Off* - This entry will turn on/off output 1. If the time switch duty cycle is set to other than 00%, then turning on either output will cause both outputs to flash. The manual flash is overridden by the occurrence of a programmed step or an exception period. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

2 *Output 2 On/Off* - This entry will turn on/off output 2. If the time switch duty cycle is set to other than 00%, then turning on either output will cause both outputs to flash. The manual flash is overridden by the occurrence of a programmed step or an exception period. It may be selected by using the <↑> or <↓> keys. <**ENTR**> is pressed when the current selection is to be saved. Pressing <**ESC**> will exit without saving.

6.12 Memory Reset

```
             1
  Clear - Period
```

1 *Database* - The database entry selects the database(s) that will be cleared. It may be selected by using the <↑> or <↓> keys. When <ENTR> is pressed the currently selected database will be erased. Pressing <**ESC**> will exit without erasing.

7. Status Screens

7.1 Time of Day and Setting (1.x/2.x)

```
        1        2
   ┌─────────────────────┐
   │ SUN    12:45    OFF │
   └─────────────────────┘
```

1 *Time & Day* **–** This field displays the current day of the week, and time in 24-hour format.

2 *Output State* - This field displays the state of each of the outputs.

7.2 Time of Day and Setting (3.x)

```
     1            2                3
   ┌────────────────────────┬──────────────┐
   │ SUN   12:34  1Y 2N →   │ ← AltSch:Off │
   └────────────────────────┴──────────────┘
```

1 *Time & Day* **–** This field displays the current day of the week, and time in 24-hour format.

2 *Output States* - This field displays the state of each of the outputs.

3 *Alt Sched Status* **–** This field displays the status of the alternate schedule, whether it is on or off. Using the <←> and <→> keys, you may move between these two screens. This feature is available only in version 3.1 or higher.

7.3 Clock Version

The clock version screen displays the name of the clock and the version number of the firmware. This screen is reached by first going to the main status display. The main status display is selected by pressing the "Main Disp" key from any screen in the time switch. From the main status display the "Main Disp" key is then pressed to arrive at the clock version screen. The "Main Disp" may then be toggled to flip back and forth between the two screens.

8. Data Transmission

8.1 Clock-to-Clock

A successful transmission of all time switch schedules or the real-time clock may be accomplished through the following steps.

1 Set the baud rate on each clock to the same value.

2 Securely connect the provided transfer cables.

3 Go to the "Xmit Database" menu item and select it. Then select the database you wish to transmit or the real-time clock. The "Misc." option refers to the clock source, duty cycle, etc.

4 During transmission the "Comm Activated" message will appear on the screen. The transmission is complete when the message disappears.

8.2 PC-to-Clock

1 Insure that the baud rate in the computer software and the time switch baud rate match.

2 Insure that the software and the time switch have matching ID numbers selected.

3 Properly secure the transfer cable between the time switch and the computer.

4 Initiate transfer with the computer software.