



Traffic Products and Warning Systems

NTC-17E

INSTRUCTION MANUAL

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Part No. NTC-17E

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HOW TO USE THIS MANUAL

This manual is set up by order of commands. If you are looking for instructions on how to enter a specific command refer to the table of contents for the page number. The command is initiated by pressing the keys in the order they are shown in the “Entry Sequence”.

The end result of a command is described in each section under “Result”. A “Remarks” section is included and provides information concerning each command. An example is provided for each command. In the example you will find the keypad entries and the expected response from the entry as shown on the display.

If you have problems, call our Technical Support at 1-800-227-1734—any questions/comments are welcome.

NTC-17E FEATURES

- Non-Volatile Memory - retains program data for life of clock
- 1,2, or 4 Relay Outputs rated at 16A 28VDC, 16A 230VAC
- Display Assisted Programming - display provides key word for each entry for quick and easy programming
- 250 Program Steps - steps may be split in any manner between programs up to a combined total of 250
- 36 Exception Periods - Start and End date(s) are designated to run an Alternate Program schedule
- 36 Exception Programs - (1-36) – Each of the 36 program schedules will run during dates specified by an Exception Period
- User Programmable Momentary Outputs - (1-255 Seconds) - Once programmed with a momentary output, no off step is required
- 7 Day Capacitive Backup - Time and date are maintained during 7 days of power loss
- Automatic Daylight Savings Time Compensation - user programmable via keypad
- Automatic Leap Year Compensation
- Unit to Unit Transfer of: 1) Everything or 2) Time & Date only
- Password Protected (User optional via keypad)
- 2 Line X 16 Character Alpha Numeric Lighted Liquid Crystal Display - display light goes out after 2 minutes of inaction at the keypad and comes on when any key is pressed
- Initial Timing Accuracy on 12V DC operation and on Backup +/-0.002% at 26 Deg C, + .04 PPM/Deg C°
- Synchronous Timing on AC Power
- Used with ELTEC’s NTC-17E DLPro Software, the user has the ability to communicate directly to the NTC-17E, the user can upload data, download data, and set time and date from the PC.
- 1-800-227-1734 for Technical Support



NTC-17E GENERAL DESCRIPTION AND THEORY OF OPERATION

The NTC-17E utilizes solid state technology. It is designed to operate relay outputs on a weekly schedule. It is a 365 day multi - year programmable Time Switch. The NTC-17E maintains time and date during power outages for up to 7 Days with its rechargeable capacitive backup system. Due to its non-volatile memory, program information will be kept during power off conditions for the life of the clock. Even if the NTC-17E has been on a shelf without power for a week, a year, or several years, you only need to re-enter the current Time and Date. The NTC-17E will then search through its memory and begin running the step that is required at that time and date according to your schedule.

The NTC-17E excels in applications where multiple daily operations are required on a weekly schedule. The NTC-17E has 250 program steps. A step contains information that instructs the NTC-17E to activate or deactivate a relay, or several relays, on a time and date basis. Each step can store a TIME, ANY COMBINATION OF DAYS, RELAY ACTION and a PROGRAM NUMBER. A group of steps make up a weekly schedule. A Program Record card is provided on page 16 of this manual. It is advisable to write down your schedule before programming begins.

The display of the NTC-17E provides a key word for each entry during the programming process. This key word will guide the user through each command. Once the required information is entered, the display advances to the next required entry, or returns to scrolling of DST TIME, DAY/DATE, RELAY STATUS, and PROGRAM # if all required information for that command has been entered. The Display Assisted Programming makes programming the NTC-17E quick and easy. The NTC-17E allows for “type-over” during the entry process for error correction. Steps do not have to be entered in order. The NTC-17E searches its memory constantly and executes any step programmed for that time. Each step can be reviewed and/or edited without disturbing the operation of the clock.

Time can be set to the minute. On AC clocks timing is referenced from the 60Hz frequency of the input power. Quartz crystal accuracy of .002% +.04 PPM/Deg C° is maintained during power failure or in 12VDC operation.

The dual mode transfer feature, allows ALL information or ONLY time and date to be copied to another NTC-17E. One NTC-17E can be programmed as a master and then transferred to another NTC-17E. The ability to transfer only time and date provides a means of quick clock to clock synchronization.

The NTC-17E is password protected at the user's option. If the user chooses not to use the password feature, he can simply enter 0000 when prompted with P= and the feature will be overridden. Entering anything other than 0000 will establish that number as the password and it should be written down and placed in a safe place for later reference. The user can also use command [A] 93 to restart the password feature by entering any 4 digits (other than 0000) at the New Pword =0000 entry.

Each relay of the NTC-17E can be set for a momentary output of up to 255 seconds. Once a relay has been assigned for momentary operation, the relay is turned ON by a program step and automatically turns OFF at the end of the momentary time duration, therefore no OFF step is required.

Exception Periods are provided for any period of time that requires a schedule other than the schedule assigned to program 00. During an Exception Period program 00 will be suspended and an Exception Program will take over. There are 36 Exception Periods that are useful for scheduling holidays, summer school, early outs, special events, and summer vacation, etc.

An Exception Program is any program schedule which is different from the one assigned to program 00. It can be a truncated version of the schedule in program 00 or it can be altogether different.

Scheduling an Exception Program to run during an Exception Period is a two step process. First, through command [A] 86, Enter Steps, an Exception Program schedule must be entered and assigned to any Exception

Program number (01-36). Once the schedule has been entered, an Exception Period is assigned, command [A] 76, using the Exception Program number, a start date and an end date. A single Exception Program schedule can be assigned to any number of Exception Periods that require the same schedule. When assigning an Exception Period, simply enter the number of the Exception Program schedule that is required. A program record card for exception periods is provided on page 17.

The NTC-17E typically comes with a CPC connector installed along with a 6-15 wire 48” cable. The number of wires is dependent on clock model and features.

POWER

The NTC-17E uses 1,2, or 4 SPDT (Form C) relays rated at 16A 120 VAC or 16A 28 VDC. If a larger load requirement exists, use of interposing relays is recommended.

Note: Relay contacts are “DRY”. User must supply power to be switched to the relay contacts.

The NTC-17E is offered in 120VAC or 12VDC models.

Power connections are as follows:

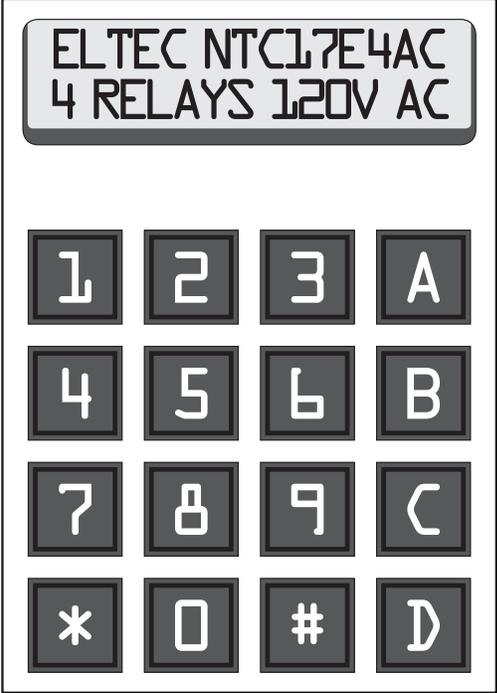
CPC PIN	WIRE COLOR	DESCRIPTION
1	Black	Line or +12VDC
2	White	Neutral or 12VDC Ground
3	Green	Chassis Ground
4	Red	Relay 1 Common
5	Yellow	Relay 1 Normally Closed
6	White/Brown	Relay 2 Common
7	White/Violet	Relay 2 Normally Open
8	Not Installed	
9	Brown	Relay 4 Common
10	White/Yellow	Relay 1 Normally Open
11	Grey	Relay 3 Common
12	Blue	Relay 3 Normally Closed
13	White/Blue	Relay 3 Normally Open
14	Orange	Relay 4 Normally Closed
15	White/Orange	Relay 4 Normally Open
16	Violet	Relay 2 Normally Closed

Note: All relays are de-energized during power outages.

KEYPAD DESCRIPTION

The NTC-17E utilizes a 16 key telephone style keypad. The NTC-17E’s Display Assisted Programming will guide you through the programming process by use of the [A] key along with a set of numbers. The information on front of the NTC-17E helps to remind you of the entry sequence required to initiate a command.

The [A] key is the ‘ATTENTION’ key. It is used to alert the NTC-17E that you are about to “Call” a command. When a command is entered, the NTC-17E display will assist the user in responding by providing a key word for each required entry. The user needs only to key in the required data and press B. The NTC-17E display will advance to the next required entry, or return to TIME, DAY/DATE, RELAY STATUS display if all required information for that command has been entered. Below is a list of the keys and there functions.



Number Legend for Days of the Week:

Sunday	1
Monday	2
Tuesday	3
Wednesday	4
Thursday	5
Friday	6
Saturday	7
E-Day	8
W-Day	9
W-End	0

KEY FUNCTION

REMARKS

[A] ATTENTION	It is used to “Call” commands. [A] used in conjunction with another key or set of keys will “call” a command and cue for specific information to be entered in a certain sequence.
[B] ENTER	Pressing this key will cause the NTC-17E to accept information displayed.
[C] CANCEL	When a mistake is made, this key will allow user to escape. Display returns to scrolling.
[D] EXECUTE	When [D] is pressed it will execute the command that was entered.

NTC-17E PROGRAMMING INSTRUCTIONS

NOTE: All examples are given in 12 Hour Mode. 24 Hour Mode does not require AM/PM key entry.

SET TIME [A] 11

Entry Sequence:[A] 11, TIME, A or D, [B]

Example: Set system time to 8:00 AM

Steps: [A] 11 08 00 [A] [B]

Result: Display will return to scrolling. Time should read '08:00 AM'.

SET DATE [A] 21

Entry Sequence:[A] 21, Date, [B]

Example: Set system date to April 30, 2004

Steps: [A] 04 30 04 [B]

Result: Display will return to scrolling. Date should read 'Thu 04/30/04'.
The day of the week is filled in automatically.

MANUAL RELAY CONTROL [A] 31

Entry Sequence:[A] 31, Relay number(s), [B]

Example: Turn relay 1 'ON'

Steps: [A] 31 1 [B]

Result: Relay 1 will be energized. Display will return to scrolling.
Display will read 'Relays On = 1'.

Example: Turn relay 1 'OFF'

Steps: [A] 31 1 [B]

Result: Relay 1 will be de-energized. Display will return to scrolling. Display will read 'Relays On ='.

EDIT/REVIEW MOMENTARY [A] 37

Entry Sequence:[A] 37, 000 for maintained operation or 001 - 255 (seconds) for momentary output, [B]

Example: Set momentary operation for maintained operation.

Steps: [A] 37 000 [B] [C]

Result: Relay 1 will be set for maintained operations. Relay 1 will not de-energize until after it receives a command from the stored program or an [A] 31 command is received. The display returns to scrolling.

Example: Set momentary operation for 5 seconds operation.

Steps: [A] 37 005 [B] [C]

Result: Relay 1 will be set to de-energize 5 seconds after being energized. The display returns to scrolling.

Example: Set relay 1 with momentary output of 10 seconds and relay 2 for 200 seconds.

Steps: [A] 37 010 [B] 200 [B] [C]

Result: Relay 1 will be set to de-energize 10 seconds after being energized and relay 2 will be set to de-energize 200 seconds after being energized. The display returns to scrolling.

DELETE AN EXCEPTION PERIOD [A] 73

Entry Sequence: [A] 73, Exception Number, [D]

Example: Delete exception number 03.

Steps: [A] 73 03 [D]

Result: Exception 3 will be deleted. The display will return to scrolling.

DELETE ALL EXCEPTION PERIODS [A] 75

Entry Sequence: [A] 75, D

Example: Delete all exceptions in memory.

Steps: [A] 75 [D]

Result: All exceptions will be deleted from memory. The display will return to scrolling.

ENTER EXCEPTION PERIOD [A] 76

Entry Sequence: [A] 76, PGM number [B] Start Date [B] End Date [B]

Example: Program an exception period to run program 01 (holiday/no school) on Sep 6, 2004.

Steps: [A] 76 01 [B] 09 06 04 [B] 09 06 04 [B]

Result: A program exception has been entered in memory to run program 01 on Sep 6, 2004. The NTC-17E time clock will run program 1 only on Sep 6, 2004. The display will stay in the 'Enter Exception' mode until [C] is entered to cancel the next exception. The display will return to scrolling.

Remarks: An exception program is exactly what the name defines, an exception to the default program (program 00). If the NTC-17E identifies an exception period and program number, it runs that program (in our example program 01) rather than the default program (program 00). An exception program can be any number except 00. An exception program can have 1 step as in a no school program or have multiple steps as in an early dismissal program. Exception programs can be defined for any number of reasons including no school, school holiday (same as no school), early dismissal, late start, sporting event, summer school schedule, et al.

Example: Program an exception period to run program 02 (early dismissal) on Nov 10, 11, and 12, 2004.

Steps: [A] 76 02 [B] 11 10 04 [B] 11 12 04 [B]

Result: A program exception has been entered in memory to run program 02 on Nov 10, 11, and 12, 2004. The NTC-17E time clock will run program 2 on Nov 10, 2004 through and including Nov 12, 2004. The display will return to scrolling.

EDIT/REVIEW EXCEPTION PERIODS [A] 77

Entry Sequence: [A] 77, Exception Number [B] Program Number [B] Date [B] Date [B]

Example: Review exception periods for all exceptions.

Steps: [A] 77 01 [B] [B] [B].

Result: The example allows the user to scroll through and review all exceptions in sequence. This is a two-part command. After entering the [A] 77 command, the screen will display ##. The user enters the exception period to be reviewed, followed by [B]. The exception number and program number is displayed. By entering [B], the start date for the exception will be displayed. Entering [B] again displays the end date for the exception will be displayed. Entering [B] one more time causes the message 'Saving Exception' to be displayed followed by the next exception number and program number. The user

continues to follow this sequence until all exceptions have been reviewed. To exit the review process the user enters [C] on the key pad. The display will return to scrolling.

Remarks:..... The user may review all exceptions, any exceptions in sequence that the user desires, or a specific exception. The user must always enter [C] on the key pad to exit the review process. To review a specific exception the user enters that exception number in the entry process rather than the '01' in the example. Exceptions are always entered as 2 digits.

Example: Edit exception 04. Exception 04 is programmed to run exception program 01 on Nov 24 and Nov 25, 2004 and the user desires to edit it so that it runs program 01 on Nov 25 and Nov 26, 2004.

Steps: [A] 77 04 [B] 11 25 04 [B] 11 26 04 [B].

Result: The start date for exception 04 has been changed to start on Nov 25, 2004 instead of Nov 24, 2004 and the end date has been changed to end on Nov 26, 2004 instead of Nov 25, 2004. After entering [B] again, the display will read 'Exception Saved' and 'Exception 05' and 'Program XX' where XX is the specified program number for exception 5. If the user only has 4 exceptions, then the display will read 'Exception Saved' and 'Exception 01' and 'Program XX' where XX is the specified program number for exception 1. The user enters [C] to exit the edit exception process. After entering [C], the display will return to scrolling.

Remarks:..... The user may edit all exceptions, any exceptions in sequence that the user desires, or a specific exception. The user must always enter [C] on the key pad to exit the edit process. To edit a specific exception the user enters that exception number in the entry process rather than the '01' in the example. Exceptions are always entered as 2 digits. Exceptions are entered by simply overtyping with the keypad. If, in any display, no data needs to be edited, simply enter [B] and the display moves to the next screen. Editing makes entering data for the next school year easier. Editing can be done at any time to reflect changes in exception period dates or to correct incorrect data.

DELETE A STEP [A] 83

Entry Sequence: [A] 83 Step Number [B]

Example: Delete step 003 from the program stored in memory of the NTC-17E.

Steps: [A] 83 003 [D]

Result: Step 3 is deleted from the program in memory. Step numbers remain the same as before the deletion. The display returns to scrolling.

Remarks:..... When a step number is deleted, it becomes available for reprogramming. If an invalid step number is chosen the display shows 'Step not defined'.

DELETE ALL STEPS [A] 85

Entry Sequence: [A] 85 D

Example: Delete all steps stored in memory.

Steps: [A] 85 [D]

Result: All steps are deleted from the memory of the NTC-17E time clock.

ENTER A STEP [A] 86

Entry Sequence:[A] 86 Program Number [B] Time and [A] or [D] [B] Relay Number for on or No Entry for Off [B] Day(s) of week [B]

Example:Enter a step into step 001 of the annual default program 00 to turn relay 1 on at 7:00 AM every weekday.

Steps:[A] 86 00 [B] 0700 [A] [B] 1 [B] 9 [B].

Result:The annual default program (program 00) now has step 1 defined. Step 1 will execute at 7:00 AM every day of the week and will turn relay 1 'ON' (energize relay 1). The NTC-17E will display step 2, program 00 and wait for the next step to be entered. The display will stay in the 'Enter Step' mode until [C] is entered to cancel the next step.

Remarks:.....The user may continue entering steps until all desired steps have been entered. If a relay is to be turned 'OFF', the number of the relay is left blank so that the display reads 'Relays On = '. When the last step has been entered the display will still show a new step number. The user simply enters [C] to cancel this step and to exit the 'Enter Step' mode. The user may refer to page XX for the number to enter for each day or multiple days of the week. The default program will run every day of the week unless an exception program overrides it.

Example:Enter a step into step 009 of the early dismissal program 02 to turn relay 1 off at 12:00 PM every weekday.

Steps:[A] 86 02 [B] 1200 [D] [B] [B] 9 [B]

Result:The early dismissal program (program 02 which is part of the annual program) now has step 9 defined. Step 9 will execute at 12:00 PM (Noon) every day of the week and will turn relay 1 'OFF' (de-energize relay 1). The NTC-17E will display step 10, program 02 and wait for the next step to be entered. The display will stay in the 'Enter Step' mode until [C] is entered to cancel the next step.

Remarks:.....The programming example has defined program 02 as the early dismissal program. The user may or may not use program 02 for an early dismissal program but may select a program number of their choice as long as it is not used as part of any other program. The early dismissal program (Program 02) will not run unless it is schedule to run as an exception (refer to command A 76 for entering exceptions).

EDIT/REVIEW STEPS [A] 87

Entry Sequence:[A] 87 Step Number [B] Program Number [B] Time [A] or [D] [B] Relay Number for ON or No Entry for Off [B] Day(s) of week [B]

Example:Review steps periods for all steps in the program.

Steps:[A] 87 001 [B] [B] [B].

Result:The example allows the user to scroll through and review all steps in sequence. This is a two-part command. After entering the [A] 87 command, the screen will display ###. The user enters the step number to be reviewed, followed by [B]. The step number and program number is displayed. By entering [B], the time for the step will be displayed. Entering [B] again displays the relay ON/OFF command. Entering [B] again displays the days of week that the step will execute. Entering [B] one more time causes the message 'Saving Step' to be displayed followed by the next step number and program number. The user continues to follow this sequence until all steps have been reviewed. To exit the review process the user enters [C] on the key pad. The display will return to scrolling.

Remarks:..... The user may review all steps, any steps in sequence that the user desires, or a specific step. The user must always enter [C] on the key pad to exit the review process. To review a specific step the user enters that step number in the entry process rather than the '001' in the example. Steps are always entered as 3 digits.

Example: Edit Step 04 to turn relay 1 off at 3:20 PM. Step 04 is programmed turn on relay 1 at 3:15 PM.

Steps: [A] 87 0 04 [B] 03 20 [D] [B] 1 [B] 9 [B].

Result: Step 04 has been changed to turn off relay 1 every day of the week (but not the weekend days) at 3:20 PM. Entering [B] after entering the days of the week, will cause the display to read 'Step Saved' and 'Step 005' and 'Program XX' where XX is the specified program number for the next step. If the user only has 4 steps, then the display will read 'Step Saved' and 'Step 001' and 'Program 00'. This result assumes that the first step in the user's program is step 1 of the default program, program 00. The user enters [C] to exit the edit exception process. After entering [C], the display will return to scrolling.

Remarks:..... The user may edit all steps, any step in sequence that the user desires, or a specific step. The user must always enter [C] on the key pad to exit the edit process. To edit a specific step the user enters that step number in the entry process rather than the '004' in the example. Steps are always entered as 3 digits. Steps are edited by simply overtyping with the keypad. If, in any display, no data needs to be edited, simply enter [B] and the display moves to the next screen. Editing makes entering data for the next school year easier. Editing can be done at any time to reflect changes in steps or to correct incorrect data.

RESET TO FACTORY SETTINGS [A] 90

Entry Sequence: [A] 90 [D]

Example: Reset the NTC-17E time clock to factory default settings.

Steps: [A] 90 [D]

Result: Upon execution of command [A] 90, the NTC-17E parameters are automatically set to the factory default settings and all program data is erased. The factory default settings are: 1) Password Off, 2) Time Mode set to 12 hour format, 3) All Relays set for maintained operation, 4) Daylight Savings Time (DST) ON (default DST setting is from the first Sunday in April to the last Sunday in October).

Remarks:..... If the user is programming the NTC-17E by the key pad rather than using DLPRO 17E PC software, he/she may want to reset the NTC-17E to factory defaults to ensure the removal of any program residing in memory.

DELETE/EDIT/REVIEW DST [A] 91

Entry Sequence: [A] 91 Start Week [B] Month [B] End Week [B] Month [B]

Example: Disable Daylight Savings Time (DST).

Steps: [A] 91 0 [B] [B] [B] [B]

Result: Daylight Savings Time (DST) will be disabled and the NTC-17E will not change time when DST changes. Display returns to scrolling.

Example: Change Daylight Savings Time (DST) to start the second week of March and end the first week of November. (Valid DST for USA through 2015 as prescribed by the Energy Policy Act of 2005)

Steps: [A] 91 2 [B] 03 [B] 1 [B] 11 [B]

Result: Daylight Savings Time (DST) will be set to start on the second Sunday of the month of March and end on the first Sunday of the month of November.

DISPLAY ENCRYPTED PASSWORD [A] 92

Entry Sequence: [A] 92

Example: Display the encrypted password.

Steps: [A] 92

Result: The encrypted password will be displayed in the display as a four (4) digit number. Providing this number to Eltec allows us to decipher it and give you the password stored in the NTC-17E. The password will show for about 10 seconds then the display will return to scrolling.

Remarks: This process is only required if the user has entered a password into the NTC-17E. Most users do not use passwords. Eltec will need to validate that the user is an authorized representative of the end customer and is allowed to receive the password.

SET/EDIT PASSWORD [A] 93

Entry Sequence: [A] 93 XXXX [B] where XXXX is the 4 digit numeric password.

Example: Change the password from default (0000) to 4955.

Steps: [A] 93 4955 [B]

Result: The password will be changed to 4955. The user will have to enter the password to make any changes to the parameters stored in the NTC-17E.

Remarks: The new password will not take effect until power has been recycled or a restart ([A] 98) has been conducted. Before the user can now change the password, the old password must be entered.

Example: Change the password from 4955 to default 0000.

Steps: [A] 93 4955 0000 [B]

Result: The password will be changed to the default value 0000.

SET TIME DISPLAY MODE [A] 94

Entry Sequence: [A] 94 [D]

Example: Change the time display mode from 12 hours to 24 hours or vice versa.

Steps: [A] 94 [D]

Result: The time display mode will be changed from 12 hour display (with AM and PM) to 24 hour or vice versa.

TRANSFER TIME AND DATE [A] 96

Entry Sequence: [A] 96 [D]

Remarks: For synchronization purposes, the NTC-17E gives you the ability to transfer Time and Date only. You can also transfer ALL information to another NTC-17E (See Transfer All – A97).

Example: Transfer time and date only to another NTC-17E.

Steps: [A] 96 [D]

Result: The transferring clock will display ‘Transmitting Date/Time’ and then ‘Transfer OK’ while the receiving clock will display ‘Time Transfer OK’ once it has completely received the transfer. Both time clocks will return to scrolling.

TRANSFER ALL [A] 97

Entry Sequence: [A] 97 [D]

Remarks: All program information, date, and time will be transferred to another NTC-17E. This feature saves time in the programming process. You only need to enter your program schedule in a 'master' unit and then transfer to all other units.

Example: Transfer all program information to another NTC-17E.

Steps: [A] 97 [D]

Result: The transferring clock will display 'Transmitting takes @ 45 secs' and then 'Transfer OK' followed by 'Transmitting Date/Time and Transfer OK'. The receiving clock will display 'Receiving' followed by 'Transfer OK' once it has completely received the transfer. Both time clocks will return to scrolling.

CLOCK RESET [A] 98

Entry Sequence: [A] 98 [D]

Example: Restarts clock.

Steps: [A] 98 [D]

Result: The NTC-17E time clock will reboot and return to its programmed operational state.

Remarks: After making program changes or updating current date or time, clock reset will force acknowledgment of any change to the current operational state.

DISPLAY SOFTWARE VERSION [A] 99

Entry Sequence: [A] 99

Example: Displays the installed version of the NTC-17E software.

Steps: [A] 99

Result: The NTC-17E time clock will display the version of installed software. The display will return to scrolling.

FCC NOTICE

This equipment generates, uses and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to subpart J of part 15 of the FCC Rules, which are designed to provide reasonable protection against such interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which the user at his own expense will be required to correct the interference.

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LIMITED WARRANTY

Electrotechnics Corporation (ELTEC) warrants this device to be free of defects in material and workmanship for a period of 25 months from date of purchase by original purchaser. Additionally, the capacitor device utilized in the NTC-17E Time Switch for back-up power requirements is warranted for a total of five (5) years. ELTEC will repair or replace any unit returned prepaid to us within the qualifications above so long as there is no evidence that the unit has been misused, abused, damaged by input over-voltage, output overloads, lightning or water or altered in any manner without the expressed written permission of ELTEC. ELTEC disclaims any warranties expressed or implied, including warranties or merchantability and/or fitness for a particular purpose. In no event shall ELTEC be held liable for incidental or consequential damages. Warranty repairs will be handled during normal working hours and returned prepaid by surface transportation. Units requiring warranty service may be shipped prepaid to:

ELECTROTECHNICS CORPORATION
Customer Service Department
1310 Commerce St.
Marshall, TX 75672

Products under warranty or for repair may be returned for replacement or repair by following these steps:

- 1) Before returning any items, contact ELTEC's Technical Support staff to receive RMA #.
- 2) Fill out the Return Material Authorization form in its entirety.
- 3) Place the RMA form in the box with the item(s).
- 4) Return the authorized item(s) per shipping instructions seen below.

Shipping instructions:

- 1) Make sure you include all item(s).
- 2) Pack item(s) carefully to avoid damage in transit.
- 3) Place the RMA sheet in box; (we recommend you make a copy for your records).
- 4) Label each box with the valid RMA # on the outside. It must be recognizable.

ELTEC Technical Support - 800-227-1734.



NTC-17E Programming Summary

Set Time and Date

A 11: Sets time **HH:MM**, push **A** for AM or **D** for PM; push **B**.

A 21: Sets date **MM:DD:YY**; push **B**.

Test Relay Function

A 31: Manual relay control.

Push **A 31 1 B** to turn relay on.

Push **A 31 1 B** to turn relay off.

Clear Extra Steps

Push **A 85** then **D** to delete any steps in the clock.

Push **A 86**. It should take you to the first available step.

Entering Standard Schedule Flash Intervals

For the standard school schedule, PGM 00 will be used for all flash intervals.

The display will show **Step 001**.

Below that, it will show **PGM 00**; push **B** to continue.

The display will show **HH:MM**; enter the “Start Time” for the flashing interval (e.g. 07:00 AM).

Push **A** for “AM” or **D** for “PM” then push **B**.

Next, the display will show **RELAYS ON =**.

Enter **1** for “Relay On” then push **B**.

Next, the display will show **DAYS =**.

Push **9** to select “Monday thru Friday” then push **B**.

(1 = Sun., 2 = Mon., etc.)

Step one will be saved

The display will show **Step 002**.

Below that, it will show **PGM 00**; push **B** to continue.

The display will show **HH:MM**; enter the “Stop Time” for the flashing interval (e.g. 08:30 AM).

Push **A** for “AM” or **D** for “PM” then push **B**.

Next, the display will show **RELAYS ON =**.

Leave the field blank for “Relay Off” and push **B**.

Next, the display will show **DAYS =**.

Push **9** to select “Monday thru Friday” then push **B**.

Step two will be saved completing the first flash interval.

The display will show **Step 003**.

Below that, it will show **PGM 00**; push **B** to continue.

The display will show **HH:MM**; enter the “Start Time” for the flashing interval (e.g. 02:00 PM).

Push **A** for “AM” or **D** for “PM” then push **B**.

Next, the display will show **RELAYS ON =**.

Enter **1** for “Relay On” then push **B**.

Next, the display will show **DAYS =**.

Push **9** to select “Monday thru Friday” then push **B**.

Step three will be saved

The display will show **Step 004**.

Below that, it will show **PGM 00**; push **B** to continue.

The display will show **HH:MM**; enter the “Stop Time” for the flashing interval (e.g. 4:00 PM).

Push **A** for “AM” or **D** for “PM” then push **B**.

Next, the display will show **RELAYS ON =**.

Leave the field blank for “Relay Off” and push **B**.

Next, the display will show **DAYS =**.

Push **9** to select “Monday thru Friday” then push **B**.

Step four will be saved completing the second flash interval.

Repeat steps for all required intervals.

Push **A 87** to edit or review steps. When **###** shows, enter step number and push **B**. Continue to push **B** to step thru screens to see the data.

Entering Holiday/No School Exceptions

For holidays and no school days, use PGM 01 for which no On/Off intervals are programmed. Enter the exception date or range of dates for each holiday and no school day(s).

Push **A 76**.

The display will show **Exception 01**

Below that, it will show **PGM ##**; push **01** then **B**.

Enter a “Start Date” (e.g. Labor Day would be **09 02 13**) then push **B**.

Enter an “End Date” (e.g. **09 02 13**) then push **B**.

Exception one will be saved.

For longer holidays, you would enter the first day that you **don’t** want the lights to flash and then the last day you **don’t** want the lights to flash.

Push **A 76**.

The display will show **Exception 02**

Below that, it will show **PGM ##**; push **01** then **B**.

Enter a "Start Date" (e.g. First day of Christmas holiday would be **12 24 13**) then push **B**.

Enter an "End Date" (e.g. **01 03 14**) then push **B**.

Exception two will be saved.

Entering Exception Schedule Flash Intervals

For alternate school schedules, the On/Off flash intervals are entered under PGM 02, 03, etc. and then scheduled to run on specific days using an exception. For example, to program an early dismissal, enter the On/Off intervals under PGM 02.

Push **A 86**. It should take you to the first available step.

The display will show **Step 005**.

Below that enter a **PGM ##** such as **02**; push **B** to continue.

The display will show **HH:MM**; enter the "Start Time" for the flashing interval. (e.g. 07:00 AM)

Push **A** for "AM" or **D** for "PM" then push **B**.

Next, the display will show **RELAYS ON =**.

Enter **1** for "Relay On" then push **B**.

Next, the display will show **DAYS =**.

Push **9** to select "Monday thru Friday" then push **B**.

(1 = Sun., 2 = Mon., etc.)

Step five will be saved.

The display will show **Step 006**.

Below that, it will show **PGM 02**; push **B** to continue.

The display will show **HH:MM**; enter the "Stop Time" for the flashing interval. (e.g. 08:30 AM)

Push **A** for "AM" or **D** for "PM" then push **B**.

Next, the display will show **RELAYS ON =**.

Leave the field blank for "Relay Off" and push **B**.

Next, the display will show **DAYS =**.

Push **9** to select "Monday thru Friday" then push **B**.

Step six will be saved.

The display will show **Step 007**.

Below that enter a **PGM ##** such as **02**; push **B** to continue.

The display will show **HH:MM**; enter the "Start Time" for the flashing interval. (e.g. 11:30 PM)

Push **A** for "AM" or **D** for "PM" then push **B**.

Next, the display will show **RELAYS ON =**.

Enter **1** for "Relay On" then push **B**.

Next, the display will show **DAYS =**.

Push **9** to select "Monday thru Friday" then push **B**.

Step seven will be saved.

The display will show **Step 008**.

Below that, it will show **PGM 02**; push **B** to continue.

The display will show **HH:MM**; enter the "Stop Time" for the flashing interval. (e.g. 12:30 PM)

Push **A** for "AM" or **D** for "PM" then push **B**.

Next, the display will show **RELAYS ON =**.

Leave the field blank for "Relay Off" and push **B**.

Next, the display will show **DAYS =**.

Push **9** to select "Monday thru Friday" then push **B**.

Step eight will be saved.

Entering Early Dismissal Exceptions

Push **A 76**.

The display will show **Exception 03**

Below that, it will show **PGM ##**; push **02** then **B**.

Enter a "Start Date" (e.g. Early dismissal for Christmas holiday would be **12 23 13**) then push **B**.

Enter an "End Date" (e.g. **12 23 13**) then push **B**.

Exception three will be saved.

To Change Daylight Saving Time

Push **A 91**.

The display will show **Start Week = 1**.

Change to a **2** then push **B**.

Next, the display will show **Start Month = 04**.

Change to **03** then push **B**.

The display will show **End Week = 5**.

Change to **1** then push **B**.

Next, the display will show **End Month = 10**.

Change to **11** then push **B**.

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