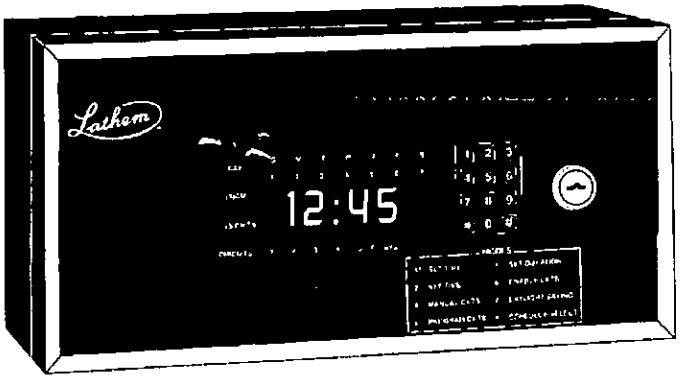
USER'S MANUAL



DWA 384-4

Lathem®

Form: OMPT9101

THIS EQUIPMENT COMPLIES WITH FCC CLASS A REQUIREMENTS PURSUANT SUBPART J OF PART 15

WARNING: 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 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 case, the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

OPERATION AND INSTALLATION MANUAL

PROGRAMMABLE SIGNALLING DEVICE

MODEL DWA 384-4

CONTENTS

Printed in USA

INTRODUCTION

Each unit consists of two printed circuit boards contained in a semi-flush or optional surface mount container (models with "-S" suffix are furnished for surface mounting). All wiring going to secondary equipment (clock, bells, etc.) connects to terminal blocks located inside the back box. The CPU display circuit board is mounted on the door assembly which has a red plexiglas front panel. LEDs, visible through the front panel, display time, day of week, signal circuit data, and user prompting information. Mounted to the front panel is a keypad, similar to a telephone keypad, which allows for entering, altering, and displaying of data. A switch, located on the back of the door assembly, prevents unauthorized data entry while in the ON position.

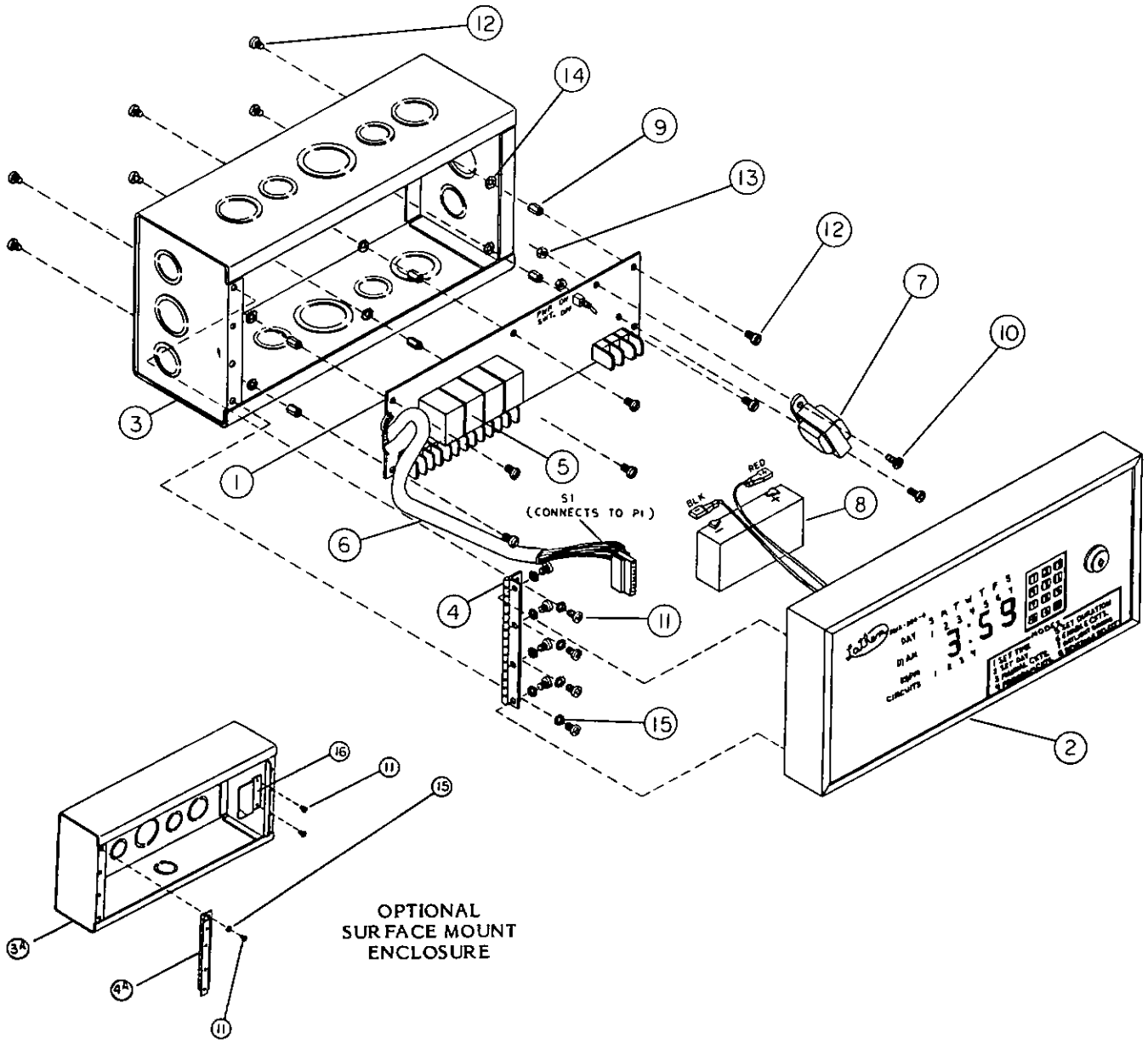
The timekeeping ability is independent of the power source frequency due to a quartz crystal time base. During A.C. power failures the unit will continue to keep time and retain data up to 7 days. A flashing colon indicates standby operation. Upon power resumption, the 6 volt battery automatically recharges with current limited to 1.5 Amperes. A power supply switch, located inside the unit, allows the user to disable all signal relays. When this switch is in the OFF position, the unit goes into standby battery operation, as indicated by the flashing colon.

The dwa 4-384 is equipped with four signal circuit relays. Each relay circuit can be wired to a separate wire path for controlling signal devices in separate areas of the facility. Seven schedules, each containing up to 64 events, can be programmed for circuit operation. The schedules can be combined to create up to 3 schedules with 128 event each. When seasonal schedules change, the appropriate schedule can be activated. Each of the events includes the hour and minute, the day(s) of the week, and the desired circuit(s). Each circuit can be individually set for a duration from 1 to 99 seconds.

SPECIFICATIONS

Input Voltage	115Vac (220Vac Optional)
Input Frequency	60Hz or 50Hz (Standard)
Input Power	30VA Max
Standby Power	1.2Amp, 6V Gel Cell battery (Automatically recharged)
Standby Time	7 days
Bell Circuits	10Amp, dry contact
Temperature Range	32° - 140°
Voltage Range	+/- 10%
Shipping Weight	12 pounds
Dimensions (Installed):	
Semi-Flush Mount	13 1/2" W x 6 1/2" H x 2 1/2" D
Backbox Flush	12" W x 6" H x 4" D
Surface Mount	13 1/2" W x 6 1/2" H x 4 1/2" D
Backbox Surface	13 1/2" W x 6 1/2" H x 3" D

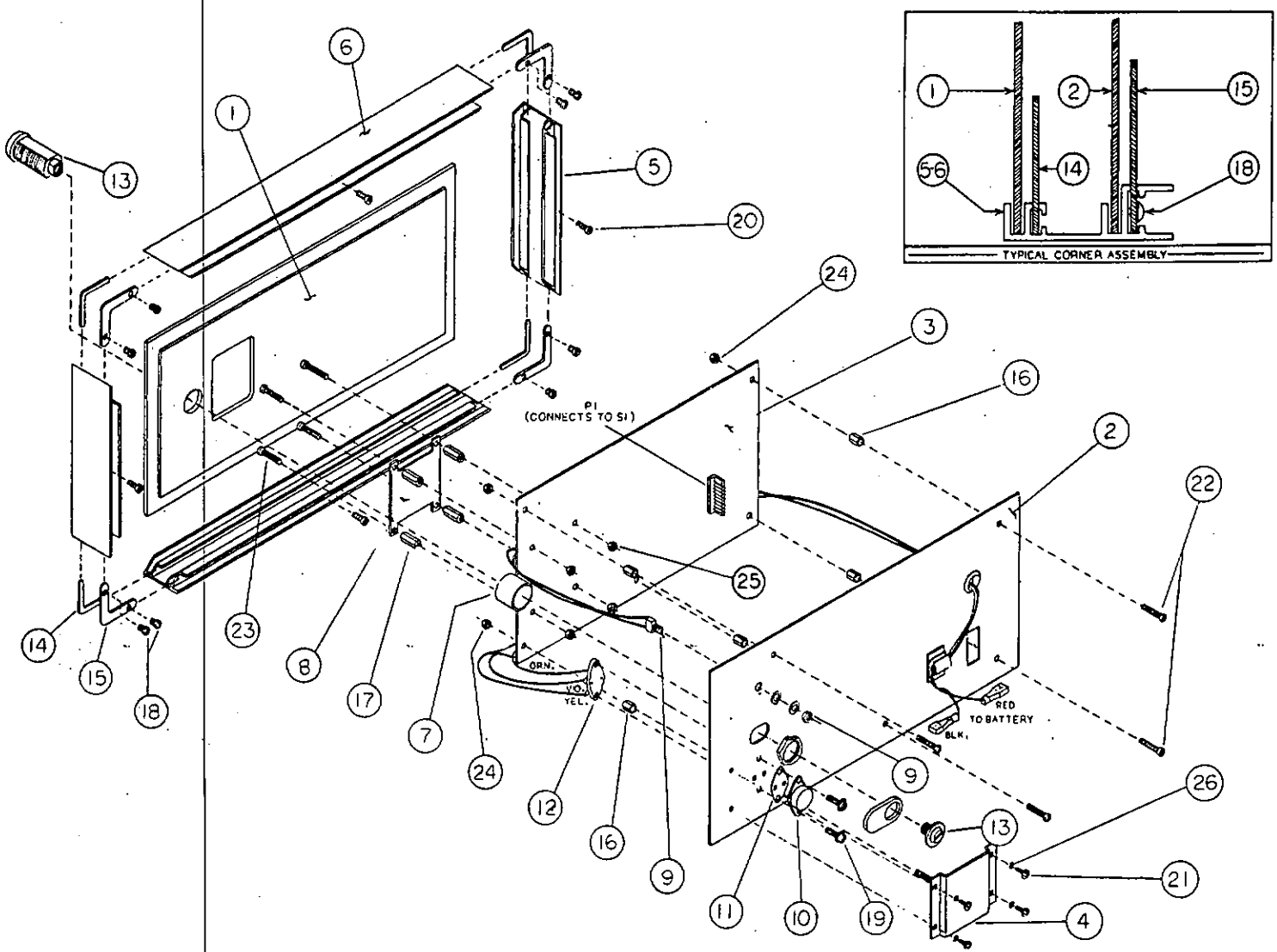
COMPLETE ASSEMBLY OF MODEL DWA 384-4



NO.	PART NO.	PART NAME
1.	DPT-4008 ASSY	Relay/Power Supply Board
2.	DPT-4010 ASSY	Door Assembly (Complete)
3.	DPT-4012	Enclosure (Semi-Flush)
3A.	DPT-4012-A	Enclosure (Surface)
4.	DWA-3306	Hinge (Semi-Flush)
4A.	DWA-3306-A	Hinge (Surface)
5.	VII-0001	Relay (Bell Circuit: 4)
6.	CAI-0003	Shielded Cable
7.	VIE-0057	Transformer
8.	NP1.2-6	Battery (6V, 1.2 AH)

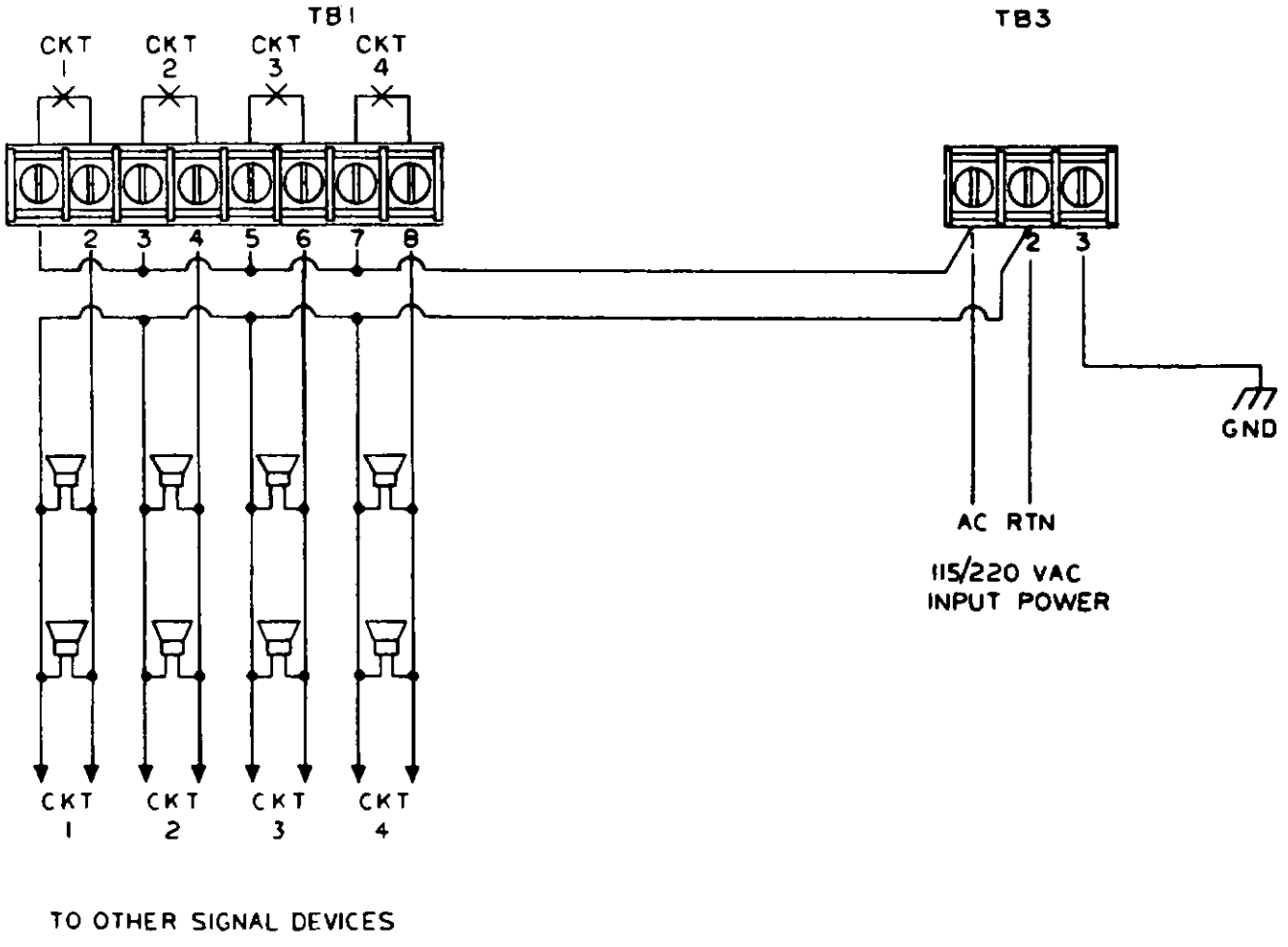
NO.	PART NO.	PART NAME
9.	AL-6950-0440	Hex Spacer (6)
10.		8-32 x 1/4 Phillips, Pan Head Machine Screw (2)
11.		6-32 x 1/4 Phillips, Pan Head Self-Tapping Screw (8)
12.		4-40 x 3/16 Slotted, Binder Head Machine Screw (12)
13.		8-32 Hex Nut (2)
14.		#4 Star-Lok (6)
15.		#6 Star-Lok (8)
16.	DPT-4030	Lock Keeper

DOOR ASSEMBLY FOR MODEL DWA 384-4



NO.	PART NO.	PART NAME
1.	DPT-4002-1	Front Panel
2.	DPT-4004-1	Display Mask Panel
3.	DPT-4006-1 ASSY	CPU and Display Board
4.	DPT-4014	Regulator Shield
5.	DWA-3308	Door Frame (Left and Right)
6.	DWA-3310-1	Door Frame (Top and Bottom)
7.	MC-2067	Lock Barrel Spacer
8.	KEA4A-906	Keypad
9.	TT13A-9T-1/4	Keypad Security Switch
10.	LM317K	Voltage Regulator
11.	8038-3P1	Insulator
12.	8081-G4	Regulator Mount
13.	VAM-0001	Lock Assembly
14.	VIM-0014	Angle Spacer (4)
15.	VIM-0015	Angle Mounting Brace (4)

NO.	PART NO.	PART NAME
16.	AL-6950-0440	Hex Spacer (5)
17.	AL-6950-0256	Hex Spacer (4)
18.		8-32 x 1/8 Slotted, Binder Head Machine Screw (8)
19.		6-32 x 1/2 Phillips, Pan Head Machine Screw (2)
20.		6-32 x 1/4 Phillips, Fillister Head Self-Tapping Screw (4)
21.		6-32 x 3/16 Phillips, Pan Head Self-Tapping Screw (4)
22.		4-40 x 1/2 Slotted, Pan Head Machine Screw (5)
23.		2-56 x 1/2 Slotted, Pan Head Machine Screw (4)
24.		4-40 x 3/16 A.F. Hex Nut (5)
25.		2-56 x 3/16 A.F. Hex Nut (4)
26.		#6 Star-Lok (4)


TB1
CKT 1
CKT 2
CKT 3
CKT 4
2 3 4 5 6 7 8
TB3
1 2 3
GND
AC RTN
115/220 VAC
INPUT POWER
CKT 1
CKT 2
CKT 3
CKT 4
TO OTHER SIGNAL DEVICES

FINAL POWER-UP PROCEDURE

1. Wire according to the diagram shown on page 4. Be certain to install the in-line fuses, as illustrated, to prevent damage from line shorts. If line noise is suspected, filtering primary power is recommended.
2. Connect power to terminal block TB3 (refer to pages 2 and 4).
3. Set power switch, located on circuit board inside backbox, to the ON position.
4. Mate battery connectors (Red to Red, Black to Black).
5. Set security switch, located on back of door assembly, to the OFF position.

PREVIEW

Step 1.	Press (#)	Press the (#) key to indicate that a mode selection follows.
Step 2.	Select (1) - (8)	Press the number key that corresponds to the desired mode:
		(1) Set Time
		(2) Set Day
		(3) Manual Circuits
		(4) Program Circuits
		(5) Set Circuit Duration
		(6) Enable Circuits
		(7) Daylight Saving
		(8) Schedule Select
Step 3.	Press (#)	Press the (#) key to enter the selected mode.
NOTE:	Abort Key (*)	Press the (*) key while programming to abort the current instructions and return to the normal operating mode.

REFER TO THE FOLLOWING PAGES FOR A DESCRIPTION OF EACH MODE.

MODE 1 SET TIME Security switch must be OFF to access.

This mode will allow the altering of the time display. The user must enter hours, minutes, and AM/PM. Seconds are set to zero upon final entry. At initial power-up, the time initializes to 11:11 AM.

The key sequence is as follows:

Step 1.	Press (#)(1)(#)	Select SET TIME mode 1. The screen will display a cursor followed by three zeros, "_0:00". The AM/PM indicator will blank and the colon become fixed (not flashing).
Step 2.	Enter Time	Enter all four digits of the current time (hour and minute) using leading zeros. For example, if the time is less than 10:00, enter (0) as the first digit [at 9:30 enter (0)(9)(3)(0)]. Enter each digit noting the cursor position marking the next digit to be entered, until all four digits have been entered. At this time, the AM/PM indicators will light.
Step 3.	Select AM/PM	Press the (0) key to select PM and extinguish the AM indicator. Press the (1) key to select AM and extinguish the PM indicator. Failure to select either AM or PM will cause the unit to default to AM.
IMPORTANT		NOTE: Check to be sure that the correct time is displayed before continuing, if not, press any number key and continue at step 2 above. To abort Set Time mode without entering new data, press the (*) key before continuing to step 4.
Step 4.	Press (#)	Press the (#) to enter the new time at zero seconds. The screen will display the new time and blink the colon, ':' (at 1 Hz rate) located between the hour and minute display.

EXAMPLE: Set the time to 2:45 PM:

[#][1][#] [0][2][4][5] [0][#]

MODE 2 SET DAY Security switch must be OFF to access.

This mode is used to enter the day of the week. The seven LEDs above the time display indicate the current day of the week. Each LED represents a day of the week, Sunday (1) through Saturday (7). At initial power-up, the day initializes to a non-selected condition. A day must be selected for automatic signal operation.

The key sequence is as follows:

Step 1.	Press (#)(2)(#)	Select SET DAY mode 2. All seven LEDs, indicating the days of the week Sunday (1) through Saturday (7) will light.
Step 2.	Select (1) - (7)	Any key entry of (1) to (7) will light the corresponding LED and extinguish the remaining six. A key entry of (8), (9), or (0) will relight all seven LEDs for reentry.
Step 3.	Press (#)	Press the (#) key to enter the day of the week into memory. The unit will return to normal time display, with the LED for the selected day lit.

EXAMPLE: Set clock day to Tuesday:

[*] [#][2][#] [3][#]

MODE 3 MANUAL CIRCUITS

Any signal circuit can be manually activated using mode 3. The security switch may be ON for manual signal control.

The key sequence is as follows:

Step 1.	Press (#)(3)(#)	Select MANUAL CIRCUITS mode 3. The circuit LEDs below the time display will light.
Step 2.	Select (1) - (4)	This step is not necessary if all circuits are to be operated. Select circuits by pressing each key corresponding to the circuit number (1) through (4). The circuit LEDs will light upon their selection. Press (0) to extinguish all circuit LEDs for reselection.
Step 3.	Press (#)	Press the (#) key to activate the selected circuits. Operation of the circuits will be indicated by the blinking of the corresponding circuit LEDs. If circuit reselection is desired, repeat step 2.
Step 4.	Press (*)	To exit Manual Circuits mode and return to normal clock operation.

EXAMPLE: Signal circuits 1 and 4 manually: [*] [#][3][#] [1][4][#] (Hold) [*]

MODE 4 PROGRAM CIRCUITS Security Switch must be OFF to access.

The schedules can be edited and reviewed in this mode. Events need not be entered chronologically, however bell schedules are reviewed chronologically backward or forward.

The key sequence is as follows:

Step 1.	Press (#)(4)(#)	Select PROGRAM CIRCUITS mode 4. A "1" will appear on the display indicating schedule 1 selection.
Step 2.	Select Schedule	Select (1)-(7) corresponding to the desired schedule.
Step 3.	Press (#)	Enter schedule selected in step 2. If data has previously been entered for this schedule, the first event will display on screen, showing the time, AM or PM, day(s) of week, and the circuit(s). If no data has been entered, the time will have a cursor in the left digit and three zeros following.
Step 4.	OPTIONS	Three options are available: (a) Data Entry, (b) Schedule Scanning, or (c) Editing Existing Schedule as follows:

(a) Data Entry

Step 1.	Press (6)	Only when the clock displays a cursor followed by three zeros can new data be entered. If previous data has been entered and a scheduled event is displayed on the screen, press the (6) key to display a new entry position (cursor followed by three zeros).
Step 2.	Enter Time	Enter all four digits of the time (hour and minute) using leading zeros. If the time is less than 10:00, enter (0) as the first digit [Example: for 9:30 enter (0)(9)(3)(0)]. Enter all four digits, noting the cursor position marking the next digit to be entered. After all four digits are entered, the AM/PM LEDs will light.
Step 3.	Select AM/PM	Press (0) to select PM or (1) to select AM. The other number keys are not active. No selection will enter both AM and PM and result in a bell signal at that time both AM and PM (twice a day).
IMPORTANT		NOTE: Check to be sure that the desired time is displayed before continuing. If not, press any number key and continue at step 2 above.
Step 4.	Press (#)	Enter the time data by pressing (#). All seven day LEDs will light.
Step 5.	Select Days	Any key from (1) to (7) will select its respective day for bell actuation. Press (8), (9), or (0) to relight all 7 LEDs. If a day selection is not made, the next (#) key will select "every day".
Step 6.	Press (#)	Enter the day selection by pressing the (#) key. The four circuit LEDs will light.

(a) Data Entry - Continued

Step 7.	Select Circuits	Skip this step if all circuits are to be selected. Any numeric key between (1) and (4) will select its respective circuit and extinguish all other circuit lights. Pressing (0) will extinguish all circuit lights. After the correct circuits are selected, proceed to step 8.
Step 8.	Press (#)	Enter the signal data by pressing the (#) key. All data entered in steps 2 through 7 above will be stored. At this time, the next display will be a cursor followed by three zeros for new entry. The process may be repeated from step 2 if more entries are required. If this was the 64th entry, no more data can be entered and pressing the (#) key will result in the display of the last entry.
Step 9.	Press (#)	To exit from Data Entry press the (#) key while "_0:00" is displayed. Pressing (#) displays the last edited or reviewed event for additional editing or reviewing of the schedule.
Press (*) to exit Mode 4		To exit from PROGRAM CIRCUITS , press the abort key (*).

EXAMPLE: Program an event on schedule 3 at 4:25PM, Mon/Wed/Fri,Circuits 1&2:

[*] [#][4][#] [3][#] [6] [0][4][2][5] [0][#] [2][4][6][#] [1][2][#] [*]

(b) Scanning Existing Schedule

KEY (3)	Scan Backward	Press the (3) key to view the previous event in the schedule. Repeatedly press the (3) key to scan, in reverse chronological order, to the first event of the day.
KEY (#)	Scan Forward	Press the (#) key to view the next event in the schedule. Repeatedly press the (#) key to scan forward, in chronological order, to the last event of the day. Note that all entries that were input as both AM and PM will be shown at the end of the schedule after the PM entries.
KEY (9)	First Event	Press the (9) key to view the first event of the day.

EXAMPLE: Review signals for Schedule 1:

[*] [#][4][#] [1][#] then Scan forward [#][#]... [#] or Scan backward [3][3]...[3] [*]

(c) Editing Existing Schedule

KEY(1) Erase Event — To erase an event, scan through the schedule, using the (#) and (3) keys, until the event to be erased is displayed, then press (1). The event will be cleared from memory and "_0:00" will display. A new entry can be added if desired. If (1) is pressed with "_0:00" displayed, operation resumes at data entry step 2.

EXAMPLE: Erase a single event in schedule 1:

[*] [#][4][#] [1][#] [#][#] ... [#] scan to event [1] [*]

KEY (4) Erase Schedule — Pressing the (4) key will display "-- --". This is a warning that the schedule is about to be erased. Pressing the (#) key will cause all data in that schedule to be erased and result in a display of "_0:00" for new data entry. To avoid clearing of entire schedule, press any key other than (#) key while "-- --" is displayed.

EXAMPLE: Erase all events in schedule 2.

[*] [#][4][#] [2][#] [4][#] [*]

KEY (6) New Entry — Pressing the (6) key will display "_0:00" for new data to be entered (unless a total of 64 events have been entered). Proceed as described in Data Entry step 4.

EXAMPLE: Make a new data entry on schedule 2.

[*] [#][4][#] [2][#] [6] then follow data entry section a.

MODE 5 **SET DURATION** Security Switch must be OFF to access.

This mode is used to enter the signal duration (in seconds) for each circuit. At power up, all circuit durations default to 5 seconds.

Step 1.	Press (#)(5)(#)	Select SET DURATION mode 5. The screen will display '1', identifying circuit 1, followed by a dash, '-', followed by two digits indicating the current signal duration for the displayed circuit.
Step 2.	Select Circuit	Repeatedly press (#) until the desired circuit is displayed.
Step 3.	Set Duration	Enter the duration (01) through (99), using leading zeros.
Step 4.	Continue	If desired, press the (#) key to advance to the next circuit.
Step 5.	Press (*)	To exit SET DURATION mode, press (*).

EXAMPLE: Set circuit 3 duration for 10 seconds:

[*] [#][5][#] [#][#] [1][0][#] [*]

MODE 6 ENABLE CIRCUITS Security switch must be OFF to access.

Circuits can be enabled or disabled in mode 6. Disable circuits so they will not signal during holidays, while output devices are being serviced, etc. All circuits are enabled at power-up.

The key sequence is as follows:

Step 1.	Press (#)(6)(#)	Select ENABLE CIRCUITS mode 6. The circuit indicator LEDs, located beneath the blanked time, will light.
Step 2.	Select (0) - (4)	Select the circuits to be enabled. Press (0) to extinguish all circuit LEDs (disable all circuits) or for reselection purposes. When the all circuits to be enabled are lit, continue to step 3.
Step 3.	Press (#)	Enter the selection by pressing the (#) key. The normal time will be displayed with the enabled circuits lit.

EXAMPLE: Enable circuits 1 and 2:

[*] [#][6][#] [1][2][#] [*]

MODE 7 DAYLIGHT SAVING Security switch must be OFF to access.

The unit can be set forward or backward one hour on the following Sunday at 2:00AM using mode 7. The digital display will reset at that time.

The key sequence is as follows:

Step 1.	Press (#)(7)(#)	Select DAYLIGHT SAVING mode 7. This will display a "0" and "1". NOTE: If daylight saving had been previously activated, either a "0" or "1" would display, indicating the prior selection.
Step 2.	Select (0) or (1)	Press (0) to set the unit back or (1) to set them forward on the following Sunday morning. Any other numeric selection will illuminate both the "0" and "1" for reselection. If a selection is not made, the daylight saving change is aborted and no correction will take place.
Step 3.	Press (#)	Press (#) to enter the daylight saving selection. The display will return to normal time with the Mode 7 LED lit. This LED will extinguish after the time change occurs at 2:00AM Sunday morning.

EXAMPLE: Advance clocks forward on the following Sunday:

[*] [#][7][#] [1] [#]

MODE 8 SCHEDULE SELECT Security switch must be OFF to access.

One of the single 64 event signal schedules or combined 128 event signal schedules can be activated in mode 8. At power-up, schedule 1 is automatically activated.

The key sequence is a follows:

Step 1.	Press (#)(8)(#)	Select SCHEDULE SELECT mode 8. The current schedule number (0-9) will display on the screen.
Step 2.	Select (0)-(9)	Select the desired schedule to be made active. Schedules 1 through 7 are individual schedules. Schedule 0 activates both schedules 1 and 2, schedule 8 activates both schedules 3 and 4, and schedule 9 activates both schedules 5 and 6. Refer to the table below. The selected schedule will display upon pressing the schedule key. When the desired schedule is displayed, continue to step 3.
Step 3.	Press (#)	Enter the selection by pressing the (#) key. The normal time will be displayed and signal control will resume with the selected schedule.

EXAMPLE: Activate schedule 2:

[*] [#][8][#] [2][#]

MODE 8 SELECTION	ACTIVE SCHEDULE(S)	MAX. # OF EVENTS
1	1	64
2	2	64
3	3	64
4	4	64
5	5	64
6	6	64
7	7	64
0	1 & 2	128
8	3 & 4	128
9	5 & 6	128

LATHEM ONE YEAR LIMITED WARRANTY

This Lathem product is warranted against defects in material and workmanship for a period of one year from date of original purchase. The conditions of this warranty and the extent of the responsibility of Lathem Time Corporation ("Lathem") under this warranty are as follows:

1 This warranty will become void when service, performed by anyone other than an approved Lathem warranty service dealer, results in damage to the product.

2 This warranty does not apply to any product which has been subject to abuse, neglect or accident, or which has had the serial number altered or removed, or which has been connected, installed, adjusted of repaired other than in accordance with instructions furnished by Lathem.

3 This warranty does not cover dealer labor cost for removing and reinstalling the machine for repair, or any expendable parts that are readily replaced due to normal use.

4 The sole responsibility of Lathem under this warranty shall be limited to repair of this product, or replacement thereof, at the sole discretion of Lathem.

5 If it becomes necessary to send the product or any defective part to Lathem of any authorized service dealer, the product must be shipped in its original carton or equivalent, fully insured, with shipping charges prepaid. Lathem will not assume any responsibility for any loss of damage incurred in shipping.

6 WARRANTY DISCLAIMER: LIMITATION OF LIABILITY. EXCEPT IN ONLY THE LIMITED EXPRESS WARRANTY SET FORTH ABOVE, THERE ARE NO WARRANTIES, EXPRESSED OF IMPLIED, REGARDING THIS PRODUCT. LATHEM SPECIFICALLY DISCLAIMS THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT WILL LATHEM BE LIABLE FOR ANY DIRECT, SPECIAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF OR IN CONNECTION WITH THE DELIVERY, USE OR INABILITY TO USE, OR PERFORMANCE OF THIS PRODUCT.

7 Proof of date of purchase will be required for warranty service on this product.

8 THIS WARRANTY GRANTS SPECIFIC LEGAL RIGHTS. ADDITIONAL LEGAL RIGHTS, WHICH VARY FROM STATE TO STATE, MAY ALSO APPLY.

9 Should any difficulties arise with the performance of this product during warranty, or with any Lathem authorized service centers, contact:

Lathem®
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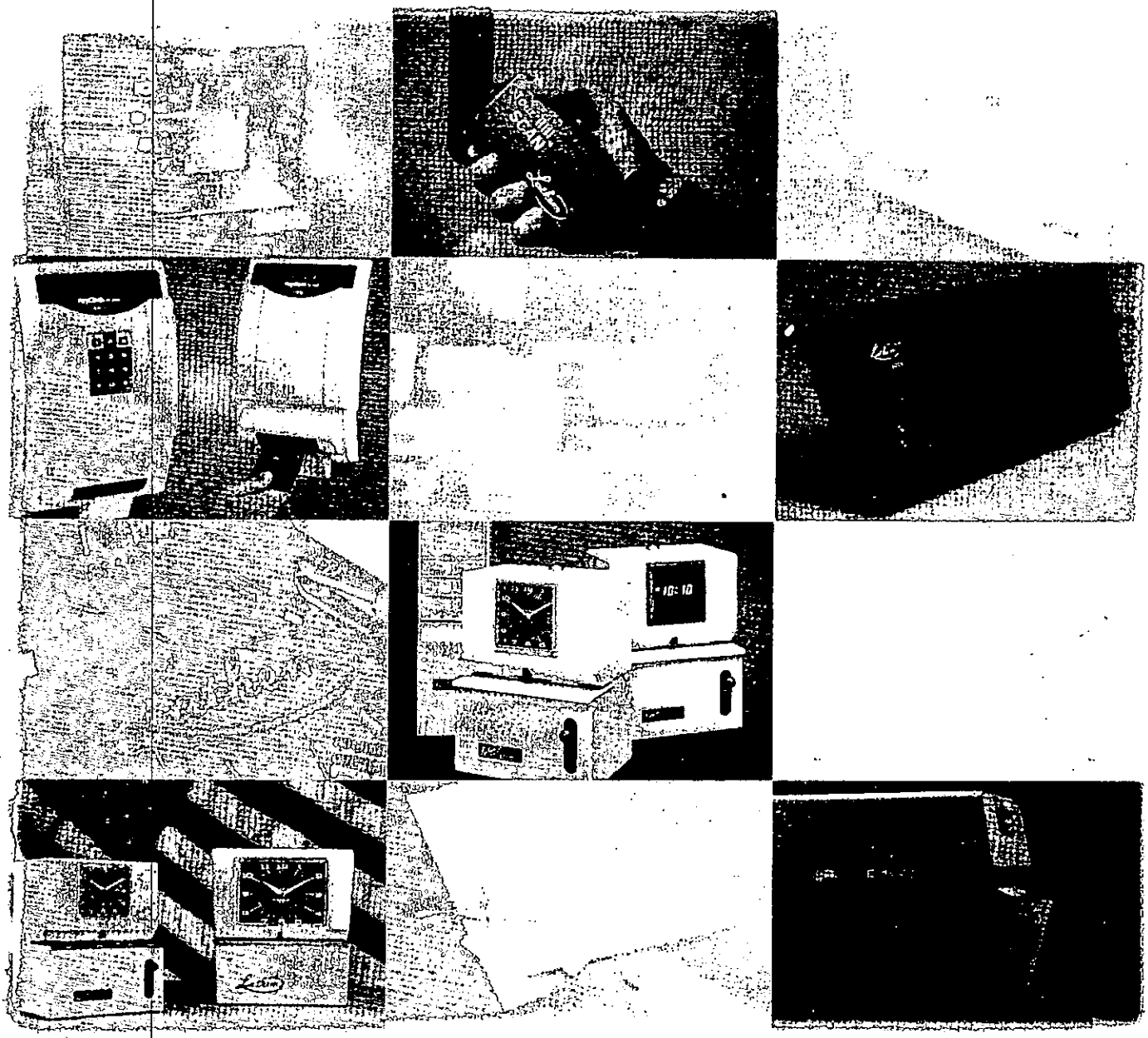

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