

System 20A

Drive-Thru Timer

Operating Instructions

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INTRODUCTION

The HME System 20A provides service time information that can be used to improve the efficiency of drive-thru service. It provides employees with immediate feedback on their speed of service, and provides management with a variety of printed reports that detail drive-thru activity.

This manual is a guideline for setup and operation of the System 20A. A list of accessories available for the timer system is provided. A simplified, step-by-step diagnostics guide is also included for routine troubleshooting.

For System 20A software version 2.0X

NOTICE: In the event of an electrical power outage, such as from a lightning storm or power generator failure, if you experience problems with your HME equipment after the electricity comes on again, unplug the AC power adapters from their electrical outlets, then plug them back in.

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I. UNDERSTANDING THE SYSTEM 20A TIMER

A. Definitions of Terms

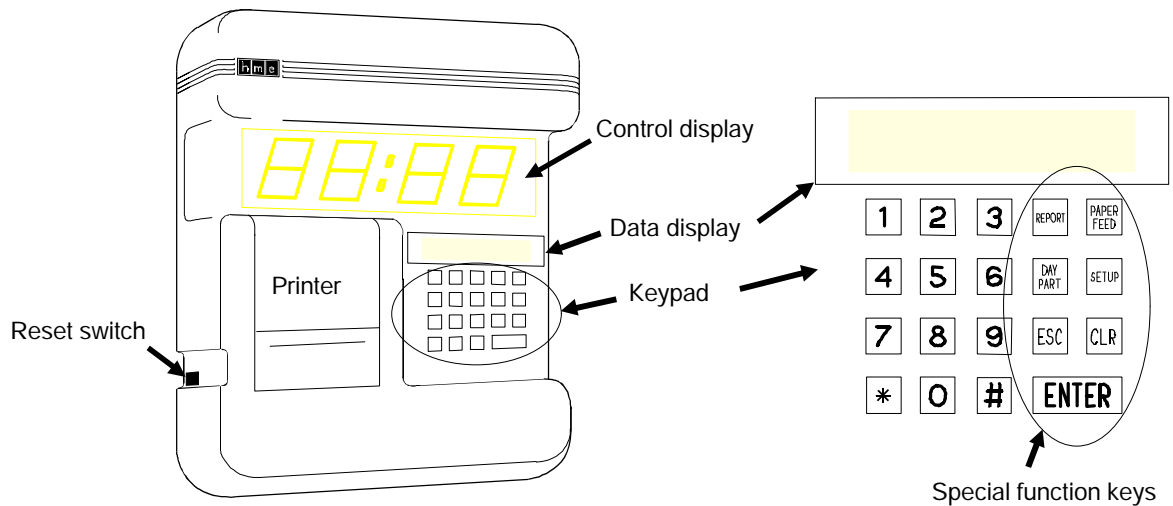


Figure 1. System 20A Control Unit

1. Equipment Definitions

Control Unit - A white, wall-mounted unit with keypad, display panels and printer. It is the main component of the system.

Control Unit Features:

Control Display - The large display on the control unit, that shows the time a vehicle is present in various places in the drive-thru area. During times of no drive-thru activity, either all zeros, certain average times or the last vehicle time can be displayed.

Data Display - A small display on the control unit, above the keypad, which shows the keypad entries when the system is being set up. The current date and time will appear on the upper line of this display during operation. The display indicates the presence of a vehicle at any of the four possible detection points with a V1, V2, V3 or V4 on the lower line of the display.

Keypad - A pad of 19 touch-sensitive keys on the control unit. The keypad has numbered keys 0 through 9 and special function keys, to enter setup information into the system and to request printed reports.

Printer - A built-in thermal printer, on the control unit, for printing reports.

Reset Switch - A switch on the left side of the control unit, for resetting the displays

Loop - An underground loop located at the menu board and/or service window. Vehicles stopping over this loop can be recorded by the system.

Remote Display - A display unit located away from the control unit, such as in the cashier booth or manager's office, showing the same type of information shown on the control display.

2. Time Measurement Definitions

Time Event - Any drive-thru event or series of events for which time is measured.

Types of time events:

Menu-Board Time - The time measured from a vehicle's arrival at the menu board or speaker post to its departure from that point.

Greeting-Delay Time - The time measured from a vehicle's arrival at the menu board or speaker post to the time the order taker begins greeting the customer through the audio system.

Queue Time - The time measured from a vehicle's departure from the menu board or speaker post to its arrival at the service window, or to its arrival at the cashier window (Scenario 3 only).

Cashier-Window Time - The time measured from a vehicle's arrival at the cashier's window to its departure from that point (Scenario 3 only).

Booth-Queue Time - The time measured from a vehicle's departure from the cashier's window to its arrival at the service window (Scenario 3 only).

Service-Window Time - The time measured from a vehicle's arrival at the service window to its departure from that point.

Total Booth Time - The time measured from a vehicle's arrival at the cashier window to its departure from the service window (Scenario 3 only).

Total Time - The time measured from a vehicle's arrival at the menu board or speaker post to its departure from the service window.

Wait-Area Time - (Scenario 3 only) The time measured from a vehicle's arrival at the wait area to its departure from the wait area.

Target Time - The ideal time (in seconds) to serve a customer. The target time can be entered into the system for comparison with actual service times. Ideally, 70% - 75% of your customers should be served within this time.

Excess Time - Time beyond the maximum amount of time a vehicle should be at a detection point, based upon time of day and business volume.

Dayparts - Up to 24 time periods that you enter into the system to break the day into service times. Dayparts are referred to by numbers 1 through 24. Each daypart number begins with whatever time you choose, and ends automatically as the next daypart begins. Some periods usually represented as dayparts are: breakfast, mid-morning, lunch, mid-afternoon, dinner, evening, late night hours and hours closed.

Detection Point - A location at which a measurement of time is taken. The four detection points typically used with the System 20A are the menu board, cashier window, service window and waiting area.

24-Hour Time - Time based on a 24-hour clock, stated from 0000 to 2359 hours. See Figure 3 on page 4 for examples.

Repeat Period - The time (in seconds) between repeating alerts that occur after a vehicle has been at a detection point beyond the excess time.

B. Detection Points

The following illustrations show the detection points where time measurements are made in each of the four drive-thru restaurant scenarios.

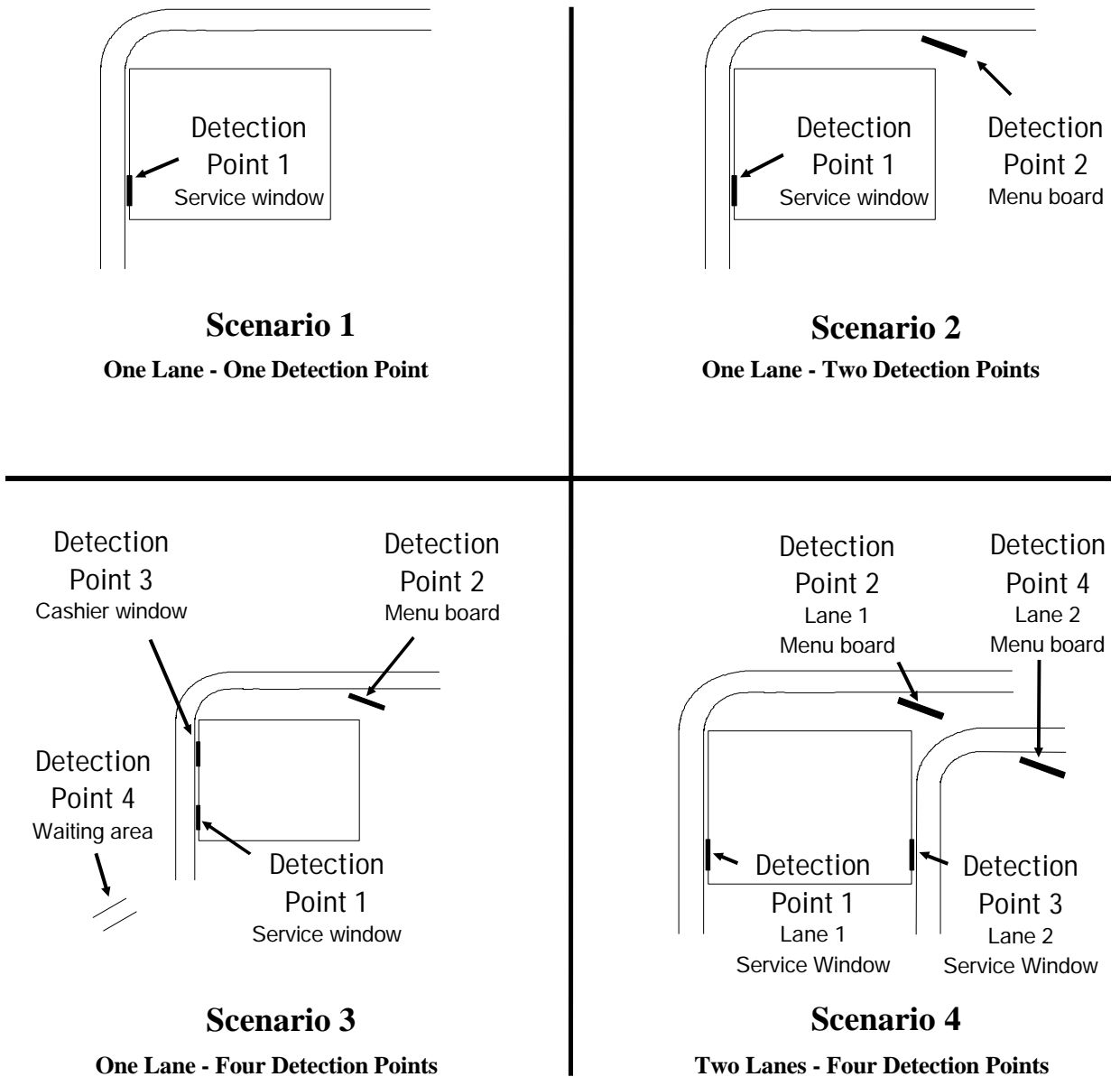


Figure 2. Detection Points

C. Time Events

Scenario 1: One Lane – One Detection Point
Scenario 2: One Lane – Two Detection Points
Scenario 3: One Lane – Four Detection Points
Scenario 4: Two Lanes – Four Detection Points

Event 1
Events 1-5
Events 1-9
Events 1-5, 10-14

	Event:	From:	Until:
L a n e 1	* 1 Service-Window Time	arrival at service window	departure from service window
	2 Greeting-Delay Time	arrival at menu board	greeting begins
	3 Menu-Board Time	arrival at menu board	departure from menu board
	4 Queue Time	departure from menu board	arrival at service window (or cashier window in Scenario 3)
	* 5 Total Time	arrival at menu board	departure from service window
	* 6 Cashier-Window Time	arrival at cashier window	departure from cashier window
	7 Booth-Queue Time	departure from cashier window	arrival at service window
	8 Total Booth Time	arrival at cashier window	departure from service window
	9 Wait-Area Time	arrival at wait area	departure from wait area
L a n e 2	* 10 Service-Window Time	arrival at service window	departure from service window
	11 Greeting-Delay Time	arrival at menu board	greeting begins
	12 Menu-Board Time	arrival at menu board	departure from menu board
	13 Queue Time	departure from menu board	arrival at service window
	* 14 Total Time	arrival at menu board	departure from service window

Table 1. Time Events

* Most commonly used time events

Use 24-hour time.

All time entries must be made in 24-hour time.

Instead of 12 hours in the AM and 12 hours in the PM, the 24-hour clock has 24 continuous hours, from 00:00 to 23:59 hrs. The first two numbers tell the hour, and the last two numbers tell the minutes past the hour.



Figure 3.

24-Hour Time

This clock shows 7:23 AM, which is the same as 07:23 hrs in 24-hour time.

This clock shows 1:50 PM, which is the same as 13:50 hrs in 24-hour time.

D. Explanation of Reports

The system prints eight reports of drive-thru activity: **1.** Every-Car Report, **2.** Any-Hour Report, **3.** Any-Daypart Report, **4.** Any-Day Report, **5.** Any-Week Report, **6.** Any-Period Report, **7.** Any-Month Report and **8.** Year-To-Date Report.

Reports 1 through 8 can be printed "on demand," when commanded from the keypad. Reports 1 through 4 can also be set to print automatically. (See page 19, section III, E, for setting automatic printing of reports.) When a report is set to print automatically, it will always print at the designated times, every day, unless you change the automatic-print setting.

1. Every-Car Report

If selected to print "on demand," the Every-Car Report shows every customer served between the selected start and end times. If selected to print automatically, the report will print after every two customers.

It shows the time of day, the Service-Window Time and total time in seconds for each customer. Times can be shown for up to the last 49,000 customers.

When two lanes are used, the left column is for lane 1 and the right is for lane 2.

Scenario 3 reports will also show Cashier-Window Time.

2. Any-Hour Report

If selected to print "on demand," the Any-Hour Report shows drive-thru activity for any previous, one-hour period, ending with the selected hour. If selected to print automatically, the report will print after every hour.

It shows the day, date and time of day, how many customers have been served in the hour, the total number of seconds the customer waited at the drive-thru window and the average service time per customer. It also shows how many customers were served under target time, over target time, over excess time and the three longest times.

NOTE: The hour selected must have ended, or this report will not print.

Time of Day (in 24 hour time)	Service Window Time (in seconds)	Total Time (in seconds)
11:40/38/136	11:40/26/102	
11:41/58/168	11:41/4/181	

Figure 4. Sample Every-Car Report

NOTE: Reports shown are examples only. Actual reports may vary with different drive-thru scenarios.

Sun. 06/11/95 18:05 Store ID: 031891			
HOURREPORT			
Sun. 06/11/95			
17:00 Until 18:00			
SERVICE WINDOW			
# CARS SERVED	=	36	
TOTAL SECONDS	=	1387	
AVERAGE TIME	=	38.53	
# CARS UNDER TARGET	=	34	94%
# CARS OVER TARGET	=	2	6%
# CARS OVER EXCESS	=	0	0%
LONGEST TIMES =			
17:11/063 17:35/060 17:50/062			
SUMMARY HOUR REPORT			
TOTAL CARS	=	36	
TOTAL PULLOUTS	=	0	
AVE. MENU TIME	=	41.08	
AVE. GREET DELAY TIME	=	4.08	
AVE. QUEUE TIME	=	9.14	
AVE. WINDOW TIME	=	38.53	
AVE. TOTAL TIME	=	88.75	
-----End of Report-----			

Figure 5. Sample Any-Hour Report

3. Any-Daypart Report

If selected to print "on demand," the Any-Daypart Report corresponds to a daypart number that you have selected. If selected to print automatically, the daypart report will print after each daypart has ended.

It shows the day, date and times of day the daypart begins and ends. This report records the total number of customers served, total number of seconds and average service time per customer in that daypart. It also shows how many customers were served under the target time, over the target time and over the excess times (based upon target and excess times selected for this daypart).

NOTE: The daypart selected must have ended, or this report will not print.

```

Sun. 06/11/95 18:05 StoreID:031891
-----
DAYPARTCARREPORT
-----
Sun. 06/11/95 -- Sun. 06/11/95
16:00 Until 23:00

SERVICE WINDOW
-----
# CARS SERVED           =          251
TOTALSECONDS           =          9988
AVERAGE TIME          =          39.79
# CARS UNDER TARGET    =          236      94%
# CARS OVER TARGET     =           15       6%
# CARS OVER EXCESS     =           0       0%

SUMMARY DAYPART REPORT
-----
TOTAL CARS              =          251
TOTAL PULLOUTS         =           0
AVE. MENU TIME         =          41.29
AVE. GREET DELAY TIME =           4.29
AVE. QUEUE TIME        =           9.13
AVE. WINDOW TIME       =          39.79
AVE. TOTAL TIME        =          90.21

-----End of Report-----

```

Figure 6. Sample Any-Daypart Report

4. Any-Day Report

If selected to print "on demand," the Any-Day Report shows information on the total number of customers served during the selected 24 hours. If selected to print automatically, this report will print at midnight (00:00) for the previous day.

It includes average service times, and the number of customers served under and over target times, and over excess times. These totals take into consideration the changes in target and excess times for various periods throughout the day. For example, the sample report to the right shows that 94% of the customers were served under the target time at the service window. This may mean that customers were served under 30 seconds during lunch and under 90 seconds in the mid-afternoon.

NOTE: The day selected must have ended, or this report will not print.

```

Sun. 06/11/95 18:05 StoreID:031891
-----
DAYREPORT
-----
Sun. 06/11/95
00:00:00 Until 23:59:59

SERVICE WINDOW
-----
# CARS SERVED           =          611
TOTALSECONDS           =         24505
AVERAGE TIME          =          40.11
# CARS UNDER TARGET    =          572      94%
# CARS OVER TARGET     =           39       6%
# CARS OVER EXCESS     =           0       0%

SUMMARY DAYREPORT
-----
TOTAL CARS              =          611
TOTAL PULLOUTS         =           0
AVE. MENU TIME         =          40.60
AVE. GREET DELAY TIME =           3.96
AVE. QUEUE TIME        =           9.13
AVE. WINDOW TIME       =          40.11
AVE. TOTAL TIME        =          89.83

-----End of Report-----

```

Figure 7. Sample Any-Day Report

5. Any-Week Report

The Any-Week Report shows information on the total number of customers served during any seven-day period, beginning with the day selected. It shows the days, dates and times of day the week begins and ends.

When selecting this report, an option is given to also print a report for each day of the week selected.

NOTE: The selected seven-day period must have ended, or this report will not print.

This report gives a breakdown of the total number of customers served, total number of seconds and average service time per customer in that seven-day period. It also shows how many customers were served under the target time, over the target time and over the excess times.

```

Sun. 06/11/95 18:05 StoreID:031891
-----
WEEKREPORT
-----
Sun. 06/04/95 10:00
Through Mon. 06/12/95 01:59

SERVICE WINDOW
-----
# CARS SERVED           =      251
TOTAL SECONDS          =      9988
AVERAGE TIME          =      39.79
# CARS UNDER TARGET    =      236      94%
# CARS OVER TARGET     =       15      6%
# CARS OVER EXCESS     =       0      0%

SUMMARY WEEKREPORT
-----
TOTAL CARS              =      251
TOTAL PULLOUTS         =       0
AVE. MENU TIME         =      41.29
AVE. GREET DELAY TIME  =       4.29
AVE. QUEUE TIME        =       9.13
AVE. WINDOW TIME       =      39.79
AVE. TOTAL TIME        =      90.21

-----End of Report-----

```

Figure 8. Sample Any-Week Report

6. Any-Period Report

The Any-Period Report shows information on the total number of customers served during any period, beginning with the day selected. It shows the days, dates and times of day the period begins and ends.

The number of days in a report period was selected during the system setup. To change the number of days in a period, refer to page 14, section III, B, 2.

When selecting this report, an option is given to also print a separate report for each week in the selected period. Only complete weeks will print.

NOTE: The selected period must have ended, or this report will not print.

This report gives a breakdown of the total number of customers served, total number of seconds and average service time per customer in the selected period. It also shows how many customers were served under the target time, over the target time and over the excess times.

```

Sun. 06/11/95 18:05 StoreID:031891
-----
PERIOD REPORT
-----
Fri. 06/09/95 10:00
Through Mon. 06/12/95 01:59

SERVICE WINDOW
-----
# CARS SERVED           =      611
TOTAL SECONDS          =     24505
AVERAGE TIME          =      40.11
# CARS UNDER TARGET    =      572      94%
# CARS OVER TARGET     =       39      6%
# CARS OVER EXCESS     =       0      0%

SUMMARY PERIODREPORT
-----
TOTAL CARS              =      611
TOTAL PULLOUTS         =       0
AVE. MENU TIME         =      40.59
AVE. GREET DELAY TIME  =       3.96
AVE. QUEUE TIME        =       9.13
AVE. WINDOW TIME       =      40.11
AVE. TOTAL TIME        =      89.83

-----End of Report-----

```

Figure 9. Sample Any-Period Report

7. Any-Month Report

The Any-Month Report provides data on the total number of customers served during the selected month. It shows the days, dates and times of day the month begins and ends.

This report gives a breakdown of the total number of customers served, total number of seconds and average service time per customer in that month. It also shows how many customers were served under target time, over target time and over excess times.

Sun. 06/11/95 18:05 StoreID:031891			

MONTHREPORT			

Mon. 05/01/95 10:00			
Through Thu. 06/01/95 01:59			
SERVICEWINDOW			

# CARS SERVED	=	251	
TOTAL SECONDS	=	9988	
AVERAGE TIME	=	39.79	
# CARS UNDER TARGET	=	236	94%
# CARS OVER TARGET	=	15	6%
# CARS OVER EXCESS	=	0	0%
SUMMARY MONTH REPORT			

TOTAL CARS	=	251	
TOTAL PULLOUTS	=	0	
AVE. MENU TIME	=	41.29	
AVE. GREET DELAY TIME	=	4.29	
AVE. QUEUE TIME	=	9.13	
AVE. WINDOW TIME	=	39.79	
AVE. TOTAL TIME	=	90.21	
.....End of Report.....			

Figure 10. Sample Any-Month Report

8. Year-To-Date Report

The Year-To-Date Report provides data on the total number of customers served from the beginning of the fiscal year through the last full day. It shows the days, dates and times of day the report begins and ends.

NOTE: If your timer system was setup after the first day of the current fiscal year, this report will include data from the system setup date through the last full day (yesterday).

This report gives a breakdown of the total number of customers served, total number of seconds and average service time per customer in the current fiscal year. It also shows how many customers were served under target time, over target time and over excess times.

Sun. 06/11/95 18:05 StoreID:031891			

YEAR-TO-DATEREPORT			

Sun. 01/01/95 10:00			
Through Sun. 06/11/95 01:59			
SERVICEWINDOW			

# CARS SERVED	=	611	
TOTAL SECONDS	=	24505	
AVERAGE TIME	=	40.11	
# CARS UNDER TARGET	=	572	94%
# CARS OVER TARGET	=	39	6%
# CARS OVER EXCESS	=	0	0%
SUMMARY YEAR-TO-DATEREPORT			

TOTAL CARS	=	611	
TOTAL PULLOUTS	=	0	
AVE. MENU TIME	=	40.59	
AVE. GREET DELAY TIME	=	3.96	
AVE. QUEUE TIME	=	9.13	
AVE. WINDOW TIME	=	40.11	
AVE. TOTAL TIME	=	89.83	
.....End of Report.....			

Figure 11. Sample Year-To-Date Report

E. Printer Paper

A special type of thermal paper is used for the System 20A printer. To order paper, refer to ordering details in section VI, page 39 of this manual.

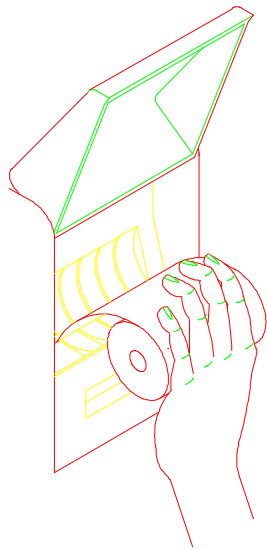


Figure 12.
Loading Printer Paper

TO LOAD PRINTER PAPER

- Remove the tape from the paper roll and unroll 2 inches of paper. Be certain there is a straight edge on the paper.
- Hold the roll in your left hand, as shown on figure 12.
- Hold the paper against the blue plastic and slide it down until it enters the paper-feed slot.
- Move the paper slightly left and right, and push it as far as possible into the slot.
- Hold the paper in place.
- Push the **PAPER FEED** key. Paper should begin to be pulled into the printer.
- Continue pushing the **PAPER FEED** key until the paper appears at the paper-cutter slot (minimum of three times).
- If paper is not being pulled into the printer, it is not properly aligned, or was not far enough into the printer.
- If the printer malfunctions, wait 30 seconds. Then press the **ESC** key repeatedly until the date and time appear on the data display, then press the **PAPER FEED** key. Pull on the paper to be certain it feeds freely.

II. ACCESSING THE SYSTEM 20A

After a system has been installed and the power supply has been plugged in, the system will be in operation. There is no ON/OFF switch on the control unit.

To control access to various functions, the System 20A provides different levels of security, using codes which must be entered through the keypad. The lowest level of access is available when the user passcode is entered. The user passcode level allows reports to be generated, but does not allow system settings to be changed. The next level of access is available when the lockout code is entered. The lockout code level allows system settings to be changed, and reports to be generated. If the system is set up with a lockout code and a blank user passcode, anyone can generate reports but only a person who knows the lockout code can change the system settings. A new system does not have a lockout code or user pass code. Refer to page 13 for instructions on setting or changing either or both of these codes. Each code can have up to seven digits.

When the System 20A is first installed and plugged in, or when it has been reset by removal of the battery, the first two messages shown on page 11 will appear on the data display. When the first message appears, enter a date (mm/dd/yy) at least one month prior to the current date, and press the **ENTER** key. Using this earlier date is necessary for the system to correctly set up the data base to properly handle any report request. The correct current date should be entered later using the system setup function shown on page 14. Some companies insist that all their stores use the same date for this entry, so be certain of such customer requirements before entering a date.

If requested, enter the current time and press the **ENTER** key. If the date and time information was entered by the system installer, the two displays requesting it will not appear. Instead, the date and time will appear on the display as shown in the third message on page 11. If this is the case, proceed with Step 1.

Step 1

If a lockout code or user passcode has already been set up, enter it now to access the system. When the key for the first digit is pressed, the display will change to show the "Lockout code:" message. As each number key is pressed, it will appear in the data display, like the example "641" code shown to the right. When all the digits of the code have been entered, press the **ENTER** key.

If no lockout code or user passcode has been set up, simply press the **ENTER** key to access the system. If you are not certain whether or not a code has been set in the memory, press the **ENTER** key. The appearance of a **WARNING** message indicates that a code is set.

If an incorrect code is entered, or if none is entered when one is required, a **WARNING** message like the one shown to the right will appear on the data display. After a few seconds, the display will return to the lockout code message and wait for entry of the proper code.

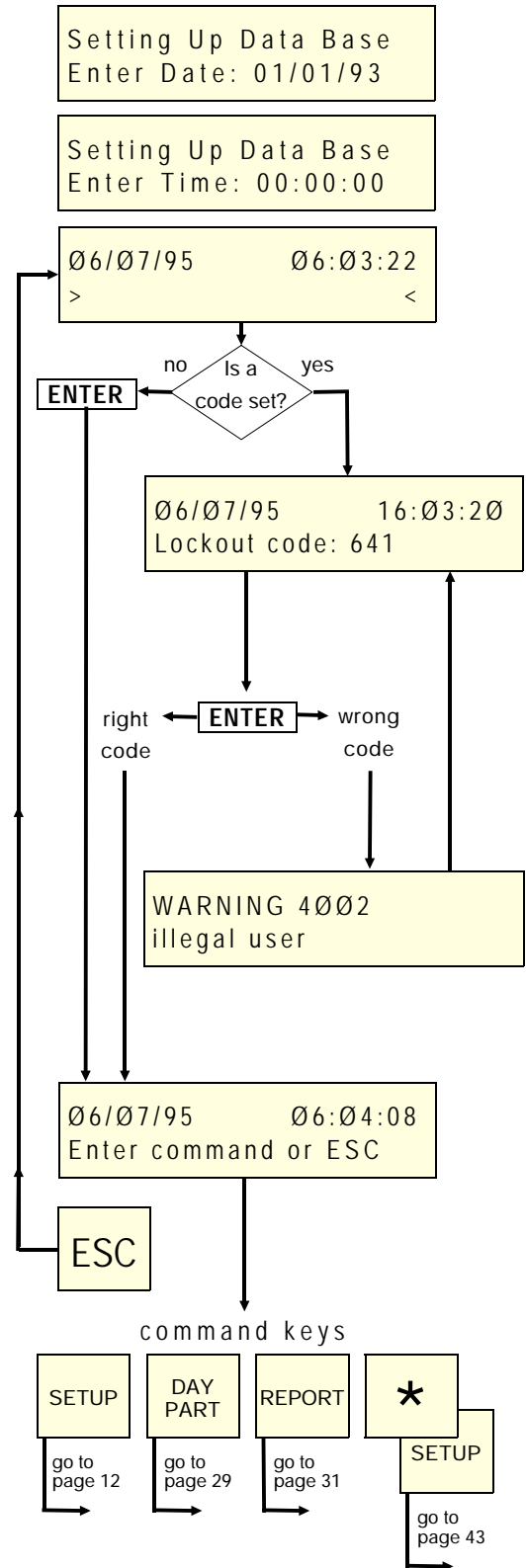
NOTE: A lockout code will allow system setups to be made. A user passcode will only allow reports to be printed.

Step 2

When the correct lockout code has been entered, the display shown to the right will appear.

To exit this display and return to the lockout condition, press the **ESC** key.

To enter the Setup, Daypart or Report mode, press the **SETUP**, **DAYPART** or **REPORT** command key and refer to the page noted. To change any of the Installer Setup information, press the ***** key, then press the **SETUP** key and refer to the page noted.



III. SETTING UP THE SYSTEM 20A

The basic System 20A setups were done at the factory or by the installer, and should NOT need to be done again. However, if it becomes necessary to reset any of the basic system settings, follow the instructions in this section.

Step 1:

Complete the instructions for lockout code entry on page 11 before going any further. If you have done this go to Step 2.

Step 2:

action

result

To enter the Timer Configuration mode, press the **SETUP** key .

WARNING: If no keys are pressed within 5 minutes, the timer will return to lockout.

NOTE: If you need to exit Timer Configuration and return to the Enter Command display, press the **ESC** key.

Timer Configuration
(1-10) or Ø=Done: Ø

Step 3:

action

result

To enter any of the setups shown in Table 2 below, press the number keys to enter a number from **Ø** to **10**.

Example entry: Ø

To complete this entry and go to the next step, press the **ENTER** key, then go to the page shown in Table 2 below.

The various Timer Configurations are explained on the pages shown below.

- 1** = Printer Setup (page 17)
- 2** = System Setup (pages 14)
- 3** = Display Setup (pages 20)
- 4** = Alert Tones Setup (pages 24)
- 5** = Speaker Linking (page 28)
- 6** = Keypad Lockout Code Setup (page 13)
- 7** = Automatic Report Setup (page 26)
- 8** = Printout of the System Settings (page 19)
- 9** = Display Contrast Setup (page 18)
- 10** = User Diagnostics (page 41)

Setup Printer, Ø=None
1=Intrnal, 2=Remote:1

Table 2. Timer Configuration Numbers

A. Keypad Lockout Code Setup

To prevent unauthorized access to the System 20A, you can establish a keypad lockout code and a user passcode, each of which can be up to 7-digits. Follow the instructions below.

Step 1:	action	result
	<p>Complete the instructions on page 11. Press the SETUP, 6 and ENTER keys to get the display to the right.</p> <p>NOTE: To exit the Keypad Lockout mode and return to the Timer Configuration display, press the ESC key. (Any changes already made will be saved.)</p>	<div style="border: 1px solid black; padding: 5px;"> Change code:Ø=Done 1=Lockout, 2=User:Ø </div>

Step 2:	action	result
	<p>To enter a new keypad lockout code, or change an existing code, press 1 then ENTER.</p> <p style="text-align: center;"><i>or</i></p> <p>To enter a new user passcode, or change an existing code, press 2 then ENTER.</p> <p>If you do not want to enter a new keypad lockout code or user passcode, press the ENTER key to return to the Timer Configuration display.</p> <p>NOTE: The lockout code and user passcode can be set to two different numbers. They can both be left blank, or the user passcode alone can be left blank.</p>	<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> Keypad LockOut Lockout code: </div> <p style="text-align: center;"><i>or</i></p> <div style="border: 1px solid black; padding: 5px;"> User Access Usr Passcode: </div>

Step 3:	action	result
	<p>Use the number keys to enter a new code of up to 7-digits, then press ENTER.</p> <p style="text-align: center;">Example entry: 2457</p> <p>NOTE: If a lockout code was already entered and you no longer want a lockout code, press CLR then press ENTER.</p>	<div style="border: 1px solid black; padding: 5px;"> Timer Configuration (1--1Ø) or Ø=Done : 6 </div>

This completes the Keypad Lockout Setup. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the ESC key to return to the Enter Command display on page 11.

B. System Setup

The System Setup mode allows entry of basic information such as dates and times, used by the System 20A to generate various reports.

CAUTION: *Be certain dates entered are correct, or valuable data may be lost.*

Step 1:	action	result
---------	--------	--------

Complete the instructions on page 11. Press the SETUP, 2 and ENTER keys to get the display to the right.

System Setup
Enter Date: 06/07/95

NOTE: If you need to exit the System Setup mode and return to the Timer Configuration display, press the ESC key. (Any changes already made will be saved.)

Step 2:	action	result
---------	--------	--------

If the date is correct, press the ENTER key to go to the next display.

To change the date, press the number keys to enter the current date, then press ENTER.

System Setup
Enter Time: 06:29:15

NOTE: The date cannot be set back to a previous date.

Example entry : 06/07/95

Step 3:	action	result
---------	--------	--------

If the time is correct, press the ENTER key to go to the next display.

To change the time, press the number keys to enter the current time (in 24-hour time), then press ENTER.

System Setup
Store ID # :

Example entry : 06:29:15

NOTE: Always use 24-hour time.
For example, a time such as 15:04:08 would be the same as 3:04:08 P.M.
Refer to page 2 for explanation of 24-hour time.

If the date is set forward by more than a few days, the system will spend several seconds processing the date/time change before the store ID display is shown.

Step 4:	action	result
To enter the store ID number, press the number keys, then press ENTER .	Example entry : 247	<div style="border: 1px solid black; padding: 5px;"> System Setup Fiscal Date:01/01/95 </div>

Step 5:	entry	result
To enter the fiscal date indicating the beginning of the store's fiscal year, press the number keys for month/day/year, then press ENTER .	Example entry : 01/01/95	<div style="border: 1px solid black; padding: 5px;"> System Setup Opening Time >10:00 </div>
NOTE: If fiscal date does not apply, enter beginning of current year.		

Step 6:	entry	result
NOTE: In 24 hour store operations, to avoid combining the current day's data with the following day's data, enter the opening time as 00:00 and the closing time as 23:59. Also, set the first day-part to 00:00. Refer to page 29.		
Entering a closing time that is before the opening time tells the System 20A that the store day extends past midnight (00:00). Information collected after 00:00 is attached to the following calendar day, and combined with the next day's data.		
To enter the store Opening Time, press the number keys, then press ENTER .	Example entry : 06:00	<div style="border: 1px solid black; padding: 5px;"> System Setup Closing Time >02:00 </div>
NOTE: Use 24-hour time.		

Step 7:	entry	result
To enter the store Closing Time, press the number keys, then press ENTER .	Example entry : 23:00	<div style="border: 1px solid black; padding: 5px;"> System Setup Period Days 14min: 14 </div>

Step 8:	entry	result
<p>To enter the number of reporting Period Days in the store's standard reporting period, press the number keys, then press ENTER.</p>	<p>NOTE: These periods must be a minimum of 14 days and a maximum of 365 days, and are typically either 14, 21 or 28 days.</p>	<div style="border: 1px solid black; padding: 5px;"> Delete Time 0-3sec Enter 1=Yes, 0=No: 0 </div>
<p>Example entry : 28</p>		

Step 9:	entry	result
<p>To delete car entries with times of 3 seconds or less, press key 1. Otherwise press the 0 key.</p>	<p>To return to the Timer Configuration display, press the ENTER key.</p>	<div style="border: 1px solid black; padding: 5px;"> Timer Configuration (1--10) or 0=Done : 2 </div>

This completes the System Setup. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the ESC key to return to the Enter Command display on page 11.

C. Printer Setup

The Printer Setup mode allows the System 20A to be set up for use with its internal printer, an external, serial printer or no printer at all.

NOTE: An external, serial printer can be purchased as an accessory to the System 20A. For ordering information, see page 39. The printer cable connects to a 9-pin, RS232 connector on the top of the System 20A control unit.

Step 1:	action	result
	Complete the instructions on page 11. Press the SETUP, 1 and ENTER keys to get the display to the right.	<pre>Setup Printer, Ø= None 1=Intrnal, 2=Remote:1</pre>

NOTE: If you need to exit the Printer Setup mode and return to the Timer Configuration display, press the ESC key.

Step 2:	entry	result
	Press key 1 or 2 to indicate whether an internal or remote (external) printer will be used for System 20A printouts. Press the Ø key if no printer will be used. Then press ENTER to return to the Timer Configuration display.	<pre>Timer Configuration (1--1Ø) or Ø=Done : 1</pre>

This completes the Printer Setup. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the ESC key to return to the Enter Command display on page 11.

D. Display Contrast Setup

The Display Contrast Setup mode allows you to adjust the contrast of the data display (LCD).

Step 1:	action	result
	Complete the instructions on page 11. Press the SETUP , 9 and ENTER keys to get the display to the right.	LCD Contrast (0--9) or [=Brighter, #=Dim

Step 2:	entry	result
	<p>Press the number keys 0--9 for coarse changes (0=lightest, 9=darkest), or the * or # key for fine contrast changes. Repeat pressing the key until the desired contrast is reached.</p> <p>ESC cancels change and restores previous setting.</p> <p>Press ENTER to accept change and return to the Timer Configuration display.</p> <p>NOTE: Be careful not to make the display too light, or you may not see it.</p>	Timer Configuration (1--10) or 0=Done : 9

This completes the Display Contrast Setup. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the **ESC** key to return to the Enter Command display on page 11.

E. Printout of the System Settings

To obtain a printout of the System 20A setups you have made, for future reference, follow the instructions below. Always run printouts of the system settings report before and after any changes are made to the system setup. Compare the "before" and "after" reports to verify that the desired changes were done correctly. These printouts are also helpful when calling HME for assistance.

Step 1:	action	result
	<p>Complete the instructions on page 11. Press the SETUP, 8 and ENTER keys to get the display to the right.</p>	<div style="border: 1px solid black; padding: 5px;"> Print Setups Ø=Done (1--7) or 8 for all:Ø </div>

NOTE: If you need to exit the Print Setups mode and return to the Timer Configuration display, press the ESC key.

Step 2:	entry	result
---------	-------	--------

To select a specific setup printout, press any key, 1 through 7. Refer to the table below. To print all system setups, press the 8 key.

Settings Report
Please wait . . .

1	= Daypart Settings Report
2	= System Settings Report
3	= Display Settings Report
4	= Alert Settings Report
5	= Speaker Links Settings Report
6	= Installer Settings Report
7	= Automatic Reports Settings Report
8	= Print All Settings Reports

Print Setups Ø=Done
(1--7) or 8 for all:Ø

Table 3. System Settings Printout Numbers

Step 3:	entry	result
---------	-------	--------

If you do not want another printout, press ESC to return to the Timer Configuration display.

Timer Configuration
(1--1Ø) or Ø=Done : 8

This completes the printing of system settings. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the ESC key to return to the Enter Command display on page 11.

F. Display Setup

The display setup is for selecting the kind of data to be shown on the control unit display and any remote display units. The control unit is always designated display number 1. Each remote display unit was assigned a number, 2 through 4, by the System 20A installer at the time of installation. Only 3 remote units can be used with the System 20A.

Step 1:	action	result
<p>Complete the instructions on page 11. Press the SETUP, 3 and ENTER keys to get the display to the right.</p>	<p>NOTE: If you need to exit the Display Setup mode and return to the Timer Configuration display, press the ESC key.</p>	<pre>DisplayConfig:Ø=Done Display # (1--4) :Ø</pre>

Step 2:	action	result
<p>To enter the number of the control display (1) or remote display (2-4) now being programmed, press the respective number key, then press ENTER.</p>	<p>Example entry : 2</p>	<pre>Display 1 Setup Time event (1--9):1</pre> <p>Scenario 2 has 5 timing events. The number of timing events varies with other scenarios.</p>

Step 3:	action	result
---------	--------	--------

To enter the time event that will be displayed on the selected display, press one of the following number keys, then press **ENTER**. (See page 4 for detailed explanation of time events.)

Flash At Target Time?
Enter 1= Yes, 0= No:1

L a n e 1	<p>1 Service-Window Time</p> <p>2 Greeting-Delay Time</p> <p>3 Menu-Board Time</p> <p>4 Queue Time</p> <p>5 Total Time</p> <p>6 Cashier-Window Time</p> <p>7 Booth-Queue Time</p> <p>8 Total Booth Time</p> <p>9 Wait-Area Time</p>
L a n e 2	<p>10 Service-Window Time</p> <p>11 Greeting-Delay Time</p> <p>12 Menu-Board Time</p> <p>13 Queue Time</p> <p>14 Total Time</p>

Table 4. Time Event Numbers

Step 4:	action	result
	To make the selected display flash after the target time has passed, press key 1. If you do not want the display to flash, press the Ø key.	
	If you pressed key 1, to complete this entry and go to the next step, press the ENTER key.	Flash target slow? Enter 1= Yes, Ø= No:1
	If you pressed the Ø key, press the ENTER key and go to Step 6.	Display 1 Setup Standby Mode (1-4):2

Step 5:	action	result
	If you pressed key 1, to select slow flashing, press key 1 again, or to select fast flashing, press the Ø key. Then press ENTER.	Flash at excess time? Enter 1= Yes, Ø= No:1

Step 6:	action	result
	To make the selected display flash after the excess time has passed, press key 1. If you do not want the display to flash, press the Ø key.	
	If you pressed key 1, to complete this entry and go to the next step, press the ENTER key.	Flash excess slow? Enter 1= Yes, Ø= No:Ø
	If you pressed the Ø key, press the ENTER key and go to Step 8.	Display 1 Setup Standby Mode (1-4):2

Step 7:	action	result
	If you pressed key 1, to select slow flashing, press key 1 again, or to select fast flashing, press the Ø key. Then press ENTER.	Display 1 Setup Standby Mode (1-4):2

Step 8:	action	result
<p>To select the type of information to be shown when no vehicle is present and the system is in standby, press one of the following keys, 1 through 4. Then press ENTER.</p>	<p>1 = average daypart time 2 = average daily time 3 = 0000 4 = last car's time</p>	<pre>Seconds Only Display Enter 1=Yes, 0=NO:0</pre>

Step 9:	action	result
<p>To display the time in seconds only on the selected display unit, press key 1 and the ENTER key. To display the time in minutes and seconds, press the 0 key, then press ENTER.</p>		<pre>DisplayConfig:0=Done Display # (1--4) :0</pre>

Step 10:	action	result
<p>If you have more than one display unit, and would like to set up another display, press the display number key. Then press ENTER and return to page 20, Step 2.</p>	<p>If you have only one display, press ENTER.</p>	<pre>Timer Configuration (1--10) or 0=Done : 3</pre>

This completes the Display Setup. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the ESC key to return to the Enter Command display on page 11.

G. Alert Tones Setup

Four alert tones are factory preset in duration, volume and pitch for the speakers in the System 20A control unit and any remote units. The tones can be changed according to your preference. Alert tones can be set up to correspond to events shown on the control display or any of the remote displays.

Step 1:	action	result
---------	--------	--------

Complete the instructions on page 11. Press the **SETUP**, **4** and **ENTER** keys to get the display to the right.

```
Alert Tones:Ø=Done
Enter Speaker (1--4):Ø
```

NOTE: To exit the Alert Tones Setup mode and return to the Timer Configuration display, press the **ESC** key.

Step 2:	action	result
---------	--------	--------

To select the speaker you would like to set up, press the respective number key, 1 through 4. Then press **ENTER**.

```
Ø= finished
Tone Event (1--5):Ø
```

NOTE: Speakers in remote units have the same numbers as the units they are in.

1 = speaker in control unit
2 - 4 = speaker in remote display

Step 3:	action	result
---------	--------	--------

To set up a tone event for the selected speaker, press one of the number keys shown below, then press **ENTER** and go to Step 4 on page 25.

```
Event#1, Speaker#1 On?:
Enter 1=Yes, Ø=No:Ø
```

1 = vehicle arrival at point
2 = under target limit
3 = over target limit
4 = over excess limit
5 = repeating alert

If you do not want to change the tone event set up for the selected speaker, press **Ø**. Then press **ENTER**.

```
Alert Tones:Ø=Done
Enter Speaker (1--4):Ø
```

If you would like to select another speaker, repeat Step 2. If not, press **Ø** to return to Timer Configuration.

Step 4:	action	result
---------	--------	--------

If you would like the selected speaker ON press the **1** key, then press **ENTER** to go to the next step.

Tone Event #1, Spkr #1
Volume Level (1--5)?:3

If you do not want the speaker on, press **Ø** and the **ENTER** key, and return to Step 3.

Step 5:	action	result
---------	--------	--------

To select tone Volume Level, press one key, **1** through **5**, then press **ENTER**.

Tone Event #1, Spkr #1
Duration (1--5 sec)?:1

1 = quietest
5 = loudest

Step 6:	action	result
---------	--------	--------

To select the tone Duration of 1 to 5 seconds, press one key, **1** through **5**, then press **ENTER** .

Tone Event #1, Spkr #1
Pitch Level (1--4)?:1

Step 7:	action	result
---------	--------	--------

To select the tone Pitch Level, press one key, **1** through **4**. Then press **ENTER**, and return to step 3.

Ø= finished
Tone Event (1-5):Ø

1 = lowest pitch
4 = highest pitch

Step 8:	action	result
---------	--------	--------

When finished setting up tone events for the selected speaker, press **Ø**, then press **ENTER**.

Alert Tones:Ø=Done
Enter Speaker (1--4):Ø

If you would like to select another speaker, repeat Step 2. If not, press **Ø**, then press **ENTER** to return to Timer Configuration.

Timer Configuration
(1--1Ø) or Ø=Done : 4

Alert Tone Setups have been completed if all timer speakers have been set up in accordance with Steps 2 through 8 above. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the ESC key to return to the Enter Command display on page 11.

H. Automatic Report Setup

To select which timer reports will be automatically printed every day, follow the instructions below.

Step 1:	action	result
	<p>Complete the instructions on page 11. Press the SETUP, 7 and ENTER keys to get the display to the right.</p>	<pre>AutoEveryCarReport Enter 1=Yes, 0=No:0</pre>

NOTE: If you need to exit the Automatic Report Setup mode and return to the Timer Configuration display, press the **ESC** key.

Step 2:	action	result
	<p>To select every-car reports to be automatically printed out, press key 1. To omit every-car reports, press the 0 key. Then press ENTER.</p>	<pre>Auto Hourly Report Enter 1=Yes, 0=No:0</pre>

NOTE: This report will print for every two cars that are served.

Step 3:	action	result
	<p>To select hourly reports to be automatically printed out, press key 1. To omit hourly reports, press the 0 key. Then press ENTER.</p>	<pre>Auto Daypart Report Enter 1=Yes, 0=No:0</pre>

NOTE: This report will print at the end of every hour the store is open.

Step 4:	action	result
<p>To select daypart reports to be automatically printed out, press key 1. To omit daypart reports, press the Ø key. Then press ENTER.</p> <p>NOTE: This report will print at the end of each daypart. Daypart setups are explained on page 29.</p>	<p>Auto Daily Report Enter 1=Yes, Ø=No:Ø</p>	

Step 5:	action	result
<p>To program daily reports to be automatically printed out, press key 1. To omit daily reports, press the Ø key. Then press ENTER.</p> <p>NOTE: This report will print at the beginning of each day, for the previous day.</p>	<p>Timer Configuration (1--1Ø) or Ø=Done : 7</p>	

This completes the Automatic Report Setup. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 11. Press the ESC key to return to the Enter Command display on page 10.

I. Link Speakers Setup

Speaker linking allows alert tones from two different timing events to be heard through one speaker. To link a speaker in one display unit (either the base unit or a programmable remote unit) to sound the alert tones for its own timing event and the timing event set up for another speaker, follow the instructions below.

- NOTE: 1 - Display setups must have been done for at least the control unit and one remote display unit in order to link speakers (See section III, F on page 20).
 2 - A setup can be done for a remote display unit, even if it does not actually exist, to associate it with a time event that you want to monitor through another existing speaker (through speaker linking).
 3 - Alert tone setups should have been done for any displays that were set up See section III, G on page 24).

Step 1:	action	result
---------	--------	--------

Complete the instructions on page 11.
 Press the **SETUP**, **5** and **ENTER** keys to get the displays to the right.

Link Speakers

NOTE: If you need to exit the Link Speakers Setup mode and return to the Timer Configuration display, press the **ESC** key..

Speaker to sound
 (1-4) or Ø=Done:Ø

Step 2:	action	result
---------	--------	--------

To select the speaker through which the alert tone sounds will actually be heard, press a key from 1 to 4. Then press **ENTER**.

...with speaker
 (1-4) or Ø=None:Ø

NOTE: Speaker 1 corresponds to the base unit. Speakers 2, 3 and 4 correspond to the three possible remote display units.

Step 3:	action	result
---------	--------	--------

To link a second speaker to the speaker selected in Step 2, press the key from 1 to 4 that corresponds to that speaker. Then press **ENTER**.

Speaker to sound
 (1-4) or Ø=Done:Ø

NOTE: This will cause all alert tones to sound through the first speaker for the time events that were set up for both speakers.

Timer Configuration
 (1--1Ø) or Ø=Done : 5

This completes the Link Speakers Setup. Other Timer Configuration settings can be selected by pressing any of the number keys shown on Table 2, page 12. Press the ESC key to return to the Enter Command display on page 11.

IV. SETTING DAYPARTS AND TARGET TIMES

The System 20A has up to 24 possible daypart periods numbered 1 through 24. You may use as many of the dayparts as you require. The following information must be set up for each daypart. Refer to page 2.

Begin Time --This is the time-of-day, in 24-hour time, that the daypart will begin. After a daypart plan begins, it will remain in effect until a new plan is scheduled to start. Note that 00:00 is midnight, and that 00:15 is 15 minutes after midnight, etc.

Target Time --This is the desired amount of time, in seconds, for a specific time event.

Excess Time --This is the time beginning one second after the maximum acceptable time for a customer to remain at any detection point.

Repeat Period --This is how often, in seconds, a repeating alert should sound after the Excess Time has been exceeded.

Step 1:

Complete the instructions for lockout code entry on page 11 before going any further. If you have done this go to Step 2.

Step 2:

action

result

To enter the Dayparts and Targets mode, press the **DAYPART** key .

DayParts and Targets

NOTE: To exit Dayparts and Targets, press the **ESC** key.

Enter Ø if done or
Daypart # (1--24): Ø

Step 3:

action

result

Begin with number 1 for the first daypart. Then press **ENTER**.

Dayparts and Targets
BegTime (HH:MM):1Ø:ØØ

Step 4:

action

result

To enter the begin time for this daypart, press the respective number key(s), then press **ENTER**.

Timing event Ø=Done
Enter event (1-5):1

Scenario 2 has 5 timing events.
The number of timing events varies with other scenarios.

Step 5:

action

result

Enter the number of the timing event for this daypart plan, 1 through 14. (See page 4) Then press **ENTER**.

Timing Event 1
Target Time(sec): 6Ø

Step 6:

action

result

Enter the target time in seconds. Then press **ENTER**.

Timing Event 1
Excess Time(sec): 9Ø

Step 7:	action	result
	Enter the excess time in seconds. Then press ENTER .	Timing Event 1 Repeat Prd (sec): 0

Step 8:	action	result
	Enter the repeat period in seconds. Then press ENTER .	Timing Event 0=Done Enter event (1-5): 1
	NOTE: Entering 0 disables the repeating alert for the selected timing event.	Scenario 2 has 5 timing events. The number of timing events varies with other scenarios.

Step 9:	action	result
	To set up another timing event for the selected daypart, return to Step 4. If you are finished setting up the daypart, press the 0 key. Then press ENTER .	Enter 0 if done or Daypart # (1-24): 0

Step 10:	action	result
	To set up more than one daypart, return to Step 3 and enter the next daypart number. If you do not want to program more dayparts, press the 0 key. Then press ENTER .	Remove a Daypart ? Enter 1=Yes, 0=No:0

Step 11:	action	result
	To remove a daypart, press 1. Then press ENTER . If you do not want to remove a daypart, press the 0 key. Then press ENTER .	Enter 0=Done or 1-24 to remove daypart: 0

Step 12:	action	result
	Enter the number of the daypart to be removed. Then press ENTER . To remove more than one daypart, repeat this step as many times as required. When finished, press 0, then press ENTER to return to the command prompt.	06/07/95 16:04:02 Enter command or ESC
	NOTE: When removing several dayparts, remove the highest numbered daypart first, and continue down to the lowest number.	

This completes the Dayparts and Targets Setup.

V. PRINTING ON-DEMAND REPORTS

To obtain printouts of any reports, on demand, complete the steps below.

Step 1:

Complete the instructions for lockout code entry on page 11 before going any further. If you have done this go to Step 2.

Step 2:

action

result

To enter the On-Demand Reports mode, press the **REPORT** key .

On Demand Reports (1-9) or Ø = Done :Ø

NOTE: If you need to exit On-Demand Reports and return to the first display, press the **ESC** key.

REMEMBER:

The **#** key stops the printer.
The **CLR** key clears current entries.
The **ESC** key returns you to the command display.

Step 3:

action

result

To select which report you would like to print, press one of the respective number keys listed below, then press **ENTER**, and go to the step indicated in parentheses.

- 1 Every-Car Report (See page 32.)
- 2 Any-Hour Report (See page 33.)
- 3 Any-Daypart Report (See page 34.)
- 4 Any-Day Report (See page 35.)
- 5 Any-Week Report (See page 35.)
- 6 Any-Period Report (See page 36.)
- 7 Any-Month Report (See page 37.)
- 8 Year-to-Date Report (See page 37.)
- 9 Download Every-Car Report to PC (See page 38.)

NOTE: This requires a PC connection to the System 20A control unit.

If you have finished, select **Ø**.

NOTE: Remember that some reports depend on dates and times, and therefore are not available until those dates or times are past.

A. Every-Car Report

Step 1:	action	result
	<p>If you pressed the number 1 key to obtain a printout of the Every-Car Report, you should see the display shown to the right.</p>	<pre>Every Car Report Enter Date: 06/07/95</pre>
	<p>Press the number keys to enter the date of the report you want to print, then press ENTER.</p>	<pre>Every Car Report StartTime HH:MM>00:00</pre>
Step 2:	action	result
	<p>Press the number keys to enter the start time of the report you want to print, then press ENTER.</p>	<pre>Every Car Report End Time HH:MM>00:00</pre>
Step 3:	action	result
	<p>Press the number keys to enter the end time of the report you want to print, then press ENTER.</p>	<pre>Every-car Report Please Wait...</pre>
	<p>After the report has printed, return to Step 3, page 31.</p>	<pre>On Demand Reports (1-9) or 0 = Done :0</pre>

B. Any-Hour Report

Step 1:	action	result
	If you pressed the number 2 key to obtain a printout of the Any-Hour Report, you should see the display shown to the right.	Any Hour Report Enter Date :06/07/95
	Press the number keys to enter the date of the report you want to print, then press ENTER .	Any Hour Report Begin Hour (0-23): 0
	NOTE: You cannot select the current hour.	

Step 2:	action	result
	Press the number keys to enter the beginning hour of the report you want to print, then press ENTER .	Any Hour Report Please Wait...
	After the report has printed, return to Step 3, page 31.	On Demand Reports (1-9) or 0 = Done :0

C. Any-Daypart Report

Step 1:	action	result
	If you pressed the number 3 key to obtain a printout of the Any-Daypart Report, you should see the display shown to the right.	Any Daypart Report Begin Date :06/07/95
	Press the number keys to enter the beginning date of the report you want to print, then press ENTER .	Any Daypart Report End Date :06/07/95
	NOTE: Only completed dayparts will print.	

Step 2:	action	result
	Press the number keys to enter the end date of the report you want to print, then press ENTER .	Any Daypart Report EnterDaypart 1-24: 1

Step 3:	action	result
	Press the number keys to enter the daypart number of the report you want to print, then press ENTER .	Any Daypart Report Please Wait...
	After the report has printed, return to Step 3, page 31.	On Demand Reports (1-9) or 0 = Done :0

D. Any-Day Report

Step 1:	action	result
	If you pressed the number 4 key to obtain a printout of the Any Day Report, you should see the display shown to the right.	Any Day Report Enter Date: 06/07/95
	Press the number keys to enter the date of the report you want to print, then press ENTER .	Any Day Report Please Wait...
	NOTE: You cannot select the current day.	
	After the report has printed, return to Step 3, page 31.	On Demand Reports (1-9) or 0 = Done :0

E. Any-Week Report

Step 1:	action	result
	If you pressed the number 5 key to obtain a printout of the Any Week Report, you should see the display shown to the right.	Any Week Report Begin Date :06/07/95
	NOTE: The current day cannot be part of the selected week.	
	Press the number keys to enter the date of the report you want to print, then press ENTER .	Print Day Reports Too Enter 1=Yes, 0=No:0

Step 2:	action	result
	If you would like Day Reports for each day of the selected week, press the 1 key. If not, press the 0 key. Then press ENTER .	Any Week Report Please Wait...
	After the report has printed, return to Step 3, page 31.	On Demand Reports (1-9) or 0 = Done :0

F. Any-Period Report

Step 1:	action	result
	If you pressed the number 6 key to obtain a printout of the Any Period Report, you should see the display shown to the right.	Any Period Report Begin Date :06/07/95
	NOTE: The period selected cannot include the current day.	Print Week Reprts Too Enter 1=Yes, 0=No:0
	Press the number keys to enter the date of the report you want to print.	

Step 2:	action	result
	If you would like Week Reports for each complete week of the selected period, press the 1 key. If not, press the 0 key. Then press ENTER .	Any Period Report Please Wait...
	After the report has printed, return to Step 3, page 31.	On Demand Reports (1-9) or 0 = Done :0

G. Any-Month Report

Step 1:	action	result
	<p>If you pressed the number 7 key to obtain a printout of the Any Month Report, you should see the display shown to the right.</p>	<div style="border: 1px solid black; padding: 5px;"> Any Month Report Enter Month(1-12): 1 </div>
	<p>NOTE: You cannot select the current month.</p>	
	<p>Press the number keys to enter the month of the report you want to print, then presse ENTER.</p>	<div style="border: 1px solid black; padding: 5px;"> Any Month Report Please Wait... </div>
	<p>After the report has printed, return to Step 3, page 31.</p>	<div style="border: 1px solid black; padding: 5px;"> On Demand Reports (1-9) or Ø = Done :Ø </div>

H. Year-To-Date Report

Step 1:	action	result
	<p>If you pressed the number 8 key to obtain a printout of the Year-to-Date Report, you should see the display shown to the right.</p>	<div style="border: 1px solid black; padding: 5px;"> Year-to-date Report Please Wait... </div>
	<p>After the report has printed, return to Step 3, page 31.</p>	<div style="border: 1px solid black; padding: 5px;"> On Demand Reports (1-9) or Ø = Done :Ø </div>

I. Download Every-Car Report to PC

Be certain your timer is properly set up to interface with your PC, according to Appendix C, page 46.

Step 1:	action	result
	<p>If you pressed the number 9 key to download the Every-Car Report to a personal computer (PC), you should see the display shown to the right.</p>	<pre>Every Car Download Start Date :06/07/95</pre>
	<p>Press the number keys to enter the start date of the report you want to download, then press ENTER.</p>	<pre>Every Car Download Start TimeHH:MM>00:00</pre>
Step 2:	action	result
	<p>Press the number keys to enter the start time of the report you want to download, then press ENTER.</p>	<pre>Every Car Download EndDate :06/07/95</pre>
Step 3:	action	result
	<p>Press the number keys to enter the end date of the report you want to download, and press ENTER.</p>	<pre>Every Car Download EndTime HH:MM>00:00</pre>
Step 4:	action	result
	<p>Press the number keys to enter the end time of the report you want to download, then press ENTER.</p>	
	<p>NOTE: Wait until the downloading has completed, and the display to the right appears.</p>	
	<p>After the report has finished downloading to the PC, return to Step 3, page 31.</p>	<pre>On Demand Reports (1-9) or 0 = Done :0</pre>

VI. ACCESSORIES

The following accessories are available for use with the HME System 20A. They can be ordered by calling the HME Sales Department at (858) 535-6060.

1. VDB100/101 Vehicle detector board
2. DU1 or DU2 Ultrasonic vehicle detector
3. Remote display unit with 50 foot cable
4. Remote thermal printer with cable
(cable connects to 9-pin connector on top of System 20A control unit)
5. Thermal printer paper
6. RS232 computer (IBM compatible PC) serial port interface cable
(cable connects to 9-pin connector on top of System 20A control unit)

NOTE: The computer cable can be ordered from a computer hardware dealer according to the following specifications.

- The cable must have a standard 9-pin male D-sub connector at one end, and a 9-pin or 25-pin female D-sub connector at the other end.
- Pin connections for the cable wires must be as shown below.

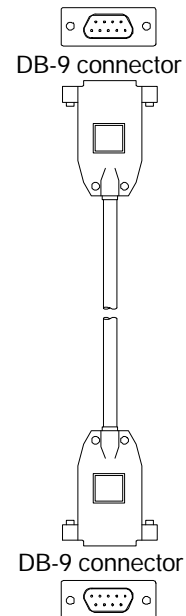
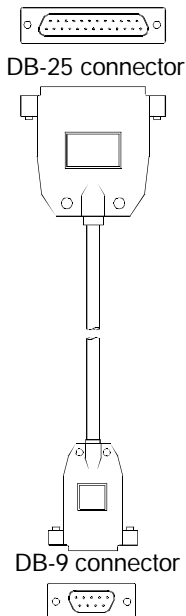
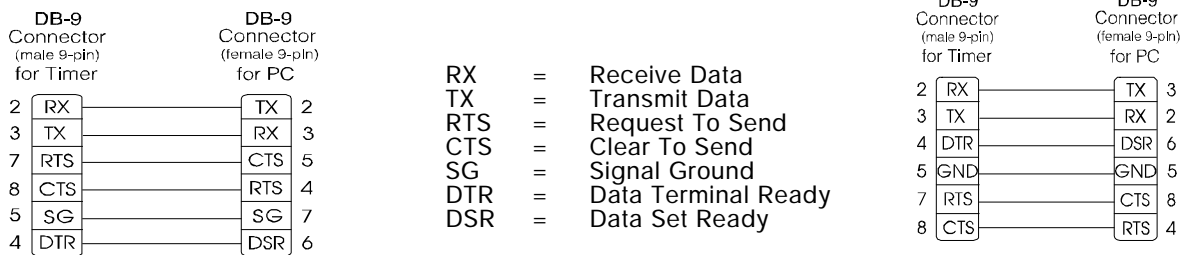


Figure 13.
RS232 cable connectors

FCC COMPLIANCE

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

APPENDIX A

User Diagnostics

A. Diagnostic Tests

Diagnostic Functions
Enter ESC or (1-7):1

Complete the instructions for lockout code entry on page 11 if a lockout code has been set in the system. If not, simply press the **ENTER** key. Then press the **SETUP** key. Press key **10** to enter the User Diagnostics setup. You should see the display above. Press one of the keys 1 through 7 to perform one of the diagnostic tests shown below.

CAUTION: Tests 6 and 7 should only be performed with the help of HME personnel or all data could be lost. For assistance, call 1-800-848-4468.

1	Printer test	Checks for correct printing of all characters
2	LCD Display test	Checks for correct display of all characters
3	Keypad test	Checks for correct function of each keypad key
4	Network test	Checks remote data displays
5	CTS DCD Comm test	Checks computer and remote printer interface
6	Continue?	Clears all saved data. Reverts to default settings
7	Update Software?	Used for updating new System 20A software

B. Special Problems

If any problem with the System 20A cannot be corrected using the following troubleshooting instructions, call HME at 1-800-848-4468. Have a copy of the system settings report available when you call.

1. Incorrect Display Data

When the system is first plugged in, the following data should appear on the large display on the control unit:

c2.01 (approximately 3 seconds), then **88:88** will stay on the large display until the date and time are entered. Then the normal data display should appear.

The following data should appear on any remote display units:

d1.10 (for approximately 3 seconds), then **88:88** (for approximately 3 seconds), then the normal data display should appear.

If these displays do not appear, press the reset switch and check wiring.

2. Processor Hangup

If the data on the displays does not change, and decimals appear on the display(s), press the reset switch.

3. Cars Not Being Detected

If cars are driving into the drive-thru lane, but no data is appearing on the System 20A displays, press the reset switch. Check operation of the vehicle detector.

4. Printer Malfunction

If the printer malfunctions, wait 30 seconds after it stops, then press the **ESC** key repeatedly until the date and time appear on the data display, then press the **PAPER FEED** key. Pull on the paper to be certain it feeds freely.

5. Low Battery Condition:

When the battery power in the System 20A control unit is low, a LOW BATTERY message will appear on the data display. If this happens, change the battery as follows.

WARNING: Do not unplug the unit from the electrical outlet, or all data may be lost.

CAUTION: Handle the battery with a clean cloth or clean hands. Do not get grease or body oil on the battery or its contacts.

- Remove the front cover from the control unit by pushing down on the two release clips on the top of the unit, and **carefully** pulling out on the cover.
- Note the positions and orientation of the connectors on the three cables at the bottom of the circuit board inside the control unit. Disconnect the three cables and set the cover aside.
- Locate the battery near the upper, left corner of the circuit board. (See Figure 14)
- If there are tie wraps over the battery, cut and remove them. They were used to hold it in place for shipping, and will not need to be replaced.
- Very carefully, pull the metal clip (See Figure 15) up slightly from the battery, just enough to remove the battery from under the clip.
- Place your fingernail under the ridge on the left side of the battery (See Figure 15) and lift it out of the control unit.

CAUTION: Do not pull the metal clip too far back. If it bends, it may not reconnect with the battery.

- Replace the battery with a Duracell DL2450 battery, or equivalent 3 volt battery. Very carefully slide it in place under the metal clip.

NOTE: Be certain the battery is inserted with the positive (+) side up (the side with the writing on it).

- Reconnect the three cables on the inside of the cover in the same positions and orientation as they were previously connected to the circuit board. Replace the cover on the control unit by aligning the tabs on the bottom of the cover in the slots on the bottom of the unit, and pressing it in at the top until the two release clips on the top of the cover snap securely in place.

LOW BATTERY

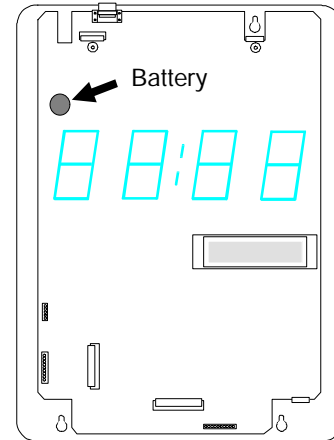


Figure 14.
Battery location inside
System 20A control unit

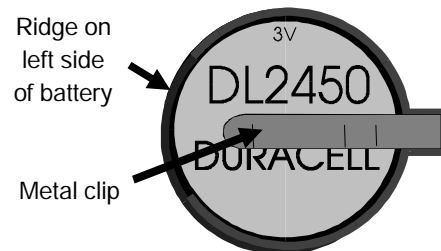


Figure 15.
System 20A battery

APPENDIX B

Installer Setup Changes

The basic System 20A setup was done by the installer, and should not require changing under normal circumstances. However, the following situations could require changes to the installer setup:

- | | | |
|------------------------|---------|--|
| Loss of data | due to: | unplugging control unit during battery failure or when battery has been removed. |
| Scenario change | due to: | <ol style="list-style-type: none"> 1. vehicle detector failure at menu board or speaker post, making it necessary to change to scenario 1, with one detection point at the service window. 2. store remodel. |

If changes to the installer setup are required, follow the steps below.

Step 1:

Complete the instructions on page 11 before going any further.

Step 2:

action

result

Press the * key, then the **SETUP** key.

Installer Sys Setup
 DThru Scenario (1--4):3

Step 3:

action

result

To select the Drive-Thru Scenario, press one of the corresponding number keys below, then press **ENTER**.

Detect Pt 1, 1= +, 2= --,
 3= Closure (DetPt 1):2

Key

- 1** = Scenario 1; single lane, 1 detection point
- 2** = Scenario 2; single lane, 2 detection points
- 3** = Scenario 3; single lane, double booth, 3 or 4 detection points
- 4** = Scenario 4; double drive-thru, 4 detection points

Step 4:

action

result

To enter the type of vehicle detector signal used at detection point 1, press one of the following number keys, then press **ENTER**.

Detection Pt 1
 DetDelayTime 0-9sec:0

Detection Types

- 1** for systems with a positive signal when a car is present
- 2** for detector systems with a negative signal when a car is present (most detector systems such as DU1, DU2, VDB100/101, etc.)
- 3** not normally used.

Step 5:	action	result
	<p>To select a detection delay time of 1, 2, 3 or 4 seconds at detection point 1, press the number key, then press ENTER. For a 0 second delay time, press the ENTER key to select the default and continue.</p> <p>NOTE: Not all detection points are used in every scenario. Press ENTER to skip any detection point not being used. Refer to pages 3 and 4.</p>	<div style="border: 1px solid black; padding: 5px;">Pt 2, 0=Off,1=+,2=-,3=Closure (DetPt2):2</div>
Step 6:	action	result
	<p>To enter the type of vehicle detector signal used at detection point 2, press one of the following number keys, then press ENTER. Refer to detection types listed under Step 4.</p>	<div style="border: 1px solid black; padding: 5px;">Detection Pt 2 DetDelayTime0-9sec:2</div>
Step 7:	action	result
	<p>To select a detection delay time of 0, 1, 3 or 4 seconds at detection point 2, press the number key, then press ENTER. For a 2 second delay time, press the ENTER key to select the default and continue.</p>	<div style="border: 1px solid black; padding: 5px;">Pt 3, 0=Off,1=+,2=-,3=Closure (DetPt3):2</div>
Step 8:	action	result
	<p>To enter the type of vehicle detector signal used at detection point 3, press one of the following number keys, then press ENTER. Refer to detection types listed under Step 4.</p>	<div style="border: 1px solid black; padding: 5px;">Detection Pt 3 DetDelayTime0-9sec:0</div>
Step 9:	action	result
	<p>To select a detection delay time of 1, 2, 3 or 4 seconds at detection point 3, press the number key, then press ENTER. For a 0 second delay time, press the ENTER key to select the default and continue.</p>	<div style="border: 1px solid black; padding: 5px;">Pt 4, 0=Off,1=+,2=-,3=Closure (DetPt4):2</div>
Step 10:	action	result
	<p>To enter the type of vehicle detector signal used at detection point 4, press one of the following number keys, then press ENTER. Refer to detection types listed under Step 4.</p>	<div style="border: 1px solid black; padding: 5px;">Detection Pt 4 DetDelayTime0-9sec:2</div>

Step 11:	action	result
	<p>To select a detection delay time of 0, 1, 3 or 4 seconds at detection point 4, press the number key, then press ENTER. For a 2 second delay time, press the ENTER key to select the default and continue.</p>	<pre>Audio Lane1 On Y/N? Enter 1=Yes, 0=No:0</pre>
Step 12:	action	result
	<p>If you want to measure the greeting delay time in lane 1, press key 1, then press ENTER. If not, press the 0 key, then press ENTER.</p>	<pre>Audio Lane2 On Y/N? Enter 1=Yes, 0=No:1</pre>
Step 13:	action	result
	<p>(Scenario 4 only.) If you want to measure the greeting delay time in lane 2, press ENTER. If not, press the 0 key, then press ENTER.</p>	<pre>Pullout Time Setting Que Max (0-180s):120</pre>
Step 14:	action	result
	<p>To leave the queue pullout time at 120 seconds, press ENTER. To change the que pullout time, press the number keys, then press ENTER.</p> <p>NOTE: To account for pullouts, the system will discard the times for a vehicle if the conditions described in both Steps 14 and 15 are met. If a car does not arrive at the service window within 120 seconds (or whatever other queue pullout time you selected) after leaving the menu board; and if a car does not arrive at the service window within 60 seconds (or whatever other service window time you selected) after the last car left.</p>	<pre>Pullout Time Setting Serv Window Idle:60</pre>
Step 15:	action	result
	<p>To leave the service pullout time at 60 seconds, press ENTER. To change it, press the number keys, then press ENTER.</p>	<pre>06/07/95 16:04:02 Enter command or ESC</pre>

This completes the Installer System Setup.

APPENDIX C

PC Interface Setup

To interface the System 20A with a personal computer serial port, you must have an RS232 interface cable. If you do not, see page 39 for ordering information, or it can be purchased at most computer stores. The cable must be connected to the 9-pin connector on top of the System 20A control unit, and to the RS232 serial port on the PC.

For detailed PC interface information, the **System 20A Serial Control Interface Description**, HME part number 400268 can be ordered by calling the number below.

If you have any questions, please contact HME at 1-800-848-4468.

APPENDIX D

Software Version 2.0X

Menu Reference for System 20A

START UP FROM NEW BATTERY

Setting Up DataBase

Enter Date: 03/18/95

Enter Time: 00/00/00

Preparing Data

LOCKOUT CODE

05/31/95 06:01:22

Lockout code:

Warning 4002

Illegal User

COMMAND FUNCTIONS

05/31/95 06:04:08

Enter command or ESC

SETUP

Timer Configuration

(1-10) or 0=Done:0

1 Setup Printer,0=None
1=Intrnal,2=Remote:1

2 System Setup
Enter Date: 05/31/95
Enter Time: 06:29:15
Store ID # :
Fiscal Date:01/01/95
Opening Time >10:00
Closing Time >02:00
PeriodDays 14min: 14

Delete Time 0-3sec
Enter 1=Yes, 0=No:1

3 DisplayConfig:0=Done
Display # (1-4) :0

Display 1 Setup
Time event (1-9):9

Flash At TargetTime?
Enter 1=Yes, 0=No:1

Flash Target Slow?
Enter 1=Yes, 0=No:1

Flash At ExcessTime?
Enter 1=Yes, 0=No:1

Flash Excess Slow?
Enter 1=Yes, 0=No:0

Display 1 Setup 1 Avg daypart
Standby Mode (1-4):2 2 Avg daily
3 Zeros
Seconds Only Display 4 Last car
Enter 1=Yes, 0=No:0

4 Alert Tones:0=Done
Enter Speaker(1-4):0

0=finished 1 Arrives
Tone Event (1-5) :0 2 Under Tar
3 Over Tar
Event#3, Spkr#1 On?: 4 Over Exce
Enter 1=Yes, 0=No:1 5 Repeating Alert

ToneEvent # 3,Spkr#1
Volume Level(1-5)?:3

ToneEvent # 3,Spkr#1
Duration(1-5 sec)?:4

ToneEvent # 3,Spkr#1
Pitch Level (1-4)?:1

5 Link Speakers
 Speaker to sound
 (1-4)or 0=Done:0
 ...with speaker
 (1-4)or0=None:0

6 Change codes:0=Done
 1=Lockout,2=User:0
 If 1: Keypad LockOut
 Lockout code:
 If 2: User Access
 Usr Passcode:

7 AutoEveryCarReport
 Enter 1=Yes, 0=No:0
 Auto Hourly Report
 Enter 1=Yes, 0=No:1
 AutoDaypart Report
 Enter 1=Yes, 0=No:1
 Auto Daily Report
 Enter 1=Yes, 0=No:1

8 Print Setups 0=Done
 (1-7) or 8 for all:0
 Settings Report
 Please Wait...
 Warning 5000:
 Printer Malfunction
 Warning 5001:
 Check Print Setting

9 LCD Contrast(0-9)
 or * = Brighter,# = Dim

10 Diagnostic Functions
 Enter ESC or (1-7):0
 1 Printer Test...
 Press Enter to stop

2 LCD Display Test
 Press ENTER to stop

3 Keypad Test: Press
 ENTER-ENTER to stop

4 Network Test in prog
 Press ENTER to stop

5 CommCTS DCD
 < >

6 Reset the System?
 Enter 1=Yes, 0=No:1
 This will destroy
 all data...
 Continue?
 Enter 1=Yes, 0=No:0

7 Update Software?
 Enter 1=Yes, 0=No:0

REPORT

On Demand Reports
 (1-9) or 0 = Done :0

1 Every Car Report
 Enter Date :05/31/95
 StartTimeHH:MM>00:00
 End Time HH:MM>00:00
 Warning 4013:
 Invalid start time

2 Any Hour Report
 Enter Date :05/31/95
 Begin Hour (0-23): 0

3 Any Daypart Report
 Begin Date :05/31/95
 End Date :05/31/95
 EnterDaypart 1-24: 1
 Warning 4022:
 Input Error

4 Any Day Report
 Enter Date :05/31/95

Warning 4008:
Cannot Rpt Curr Day

Warning 4005:
Later than curr date

5 Any Week Report
Begin Date :05/31/95

PrintDay Reports Too
Enter 1=Yes, 0=No:0

Warning 4012:
BeginDate<7 day ago
BeginDate->End <7

6 Any Period Report
Begin Date :05/31/95

PrintWeek Reprts Too
Enter 1=Yes, 0=No:0

Warning 4011:
For BeginDate select
Period > current dat

7 Any Month Report
Enter Month(1-12): 1

Warning 4003:
Invalid Begin Date

8 Year-to-date Reports
Please Wait...
Warning 4020:
No data available
for this report

9 Every Car Download
StartDate:05/31/95
StartTimeHH:MM>00:00
EndDate:05/31/95
EndTime HH:MM>00:00

Warning 4013:
Invalid Start Time

DAYPART

DayParts and Targets

Enter 0 if done or
Daypart #(1-24): 0

Dayparts and Targets
BegTime(HH:MM):10:00

Timing event 1
Target Time(sec): 60

Timing event 1
Excess Time(sec): 75

Timing event 1
Repeat Prd (sec):0

Remove a Daypart ?
Enter 1=Yes, 0=No:0

Enter 0=Done or 1-24
to remove daypart: 1

*** SETUP**

Installer Sys Setup
DThruScenario(1-4):3

DetectPt 1, 1=+,2=-,
3=Closure (DetPt1):2

Detection Pt 1
DetDelayTime0-9sec:4

Pt 2, 0=Off,1=+,2=-,
3=closure (DetPt2):2

Detection Pt 2
DetDelayTime0-9sec:4

Pt 3, 0=Off,1=+,2=-,
3=Closure (DetPt3):0

Detection Pt 3
DetDelayTime0-9sec:0

Pt 4, 0=Off,1=+,2=-,
3=Closure (DetPt4):2

Detection Pt 4
DetDelatTime0-9sec:4

Audio Lane1 On Y/N?
Enter 1=Yes, 0=No:1

Audio Lane2 On Y/N?
Enter 1=Yes, 0=No:1

Pullout Time Setting
Que Max (0-180s):90

Pullout Time Setting
Serv Window Idle: 60