

Models: LT9000 Series

Table Displays

2 by 20 character display

USER MANUAL



NOTICE

The manufacturer of the POS table display makes no representations or warranties, either expressed or implied, by or with respect to anything in this manual, and shall not be liable for any implied warranties of fitness for a particular purpose or for any indirect, special or consequential damages. Information in this document is subject to change without notice and does not represent a commitment on the part of the manufacturer.

FCC NOTICE

This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with this manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A digital device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against 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.

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FEATURES

The LT9000 family of table displays offers a wide range of high quality features and models to choice from. Listed below are the features incorporated into each table display. Not all features are available in all models. The model identification chart will assist you in selecting the model best suited to your needs.

The LT9000 family has the industry standard 9.5mm high vacuum fluorescent 5x7 pixel display.

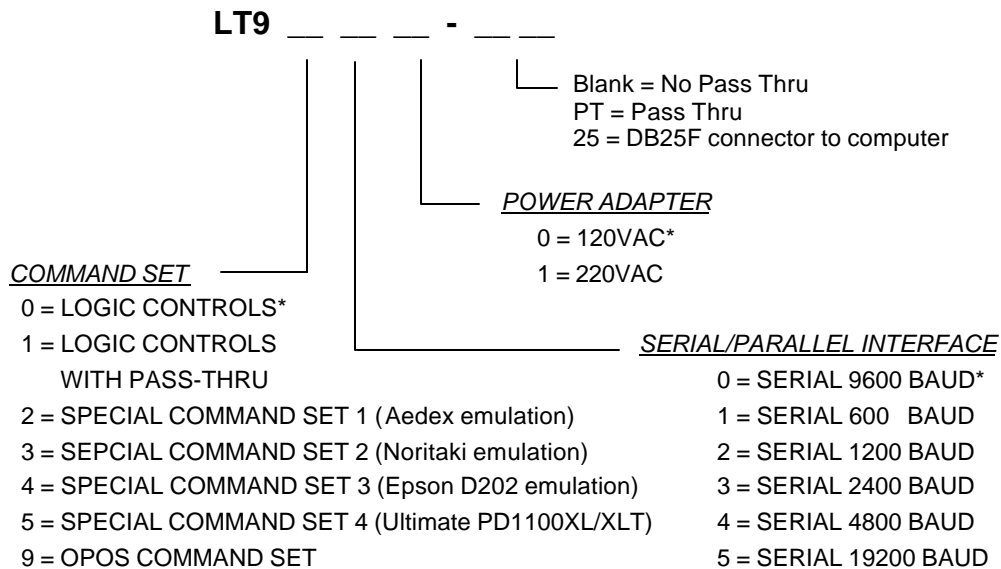
Features - All Models

- Bright blue-green fluorescent display
- Large 9.5mm character height
- Supports high speed serial protocol: up to 19,200 baud rate, 1 stop bit
- Automatic message scrolling
- Two line display with 20 characters per line
- Matched optical lens for better viewing contrast
- Ergonomic design
- Direct RS232C interface
- Long life and trouble free operation
- Simple installation
- Available with 120V or 220V Power Adapters

Features - Model dependent

- Emulation of other popular command sets
- User definable character
- True RS232C pass-thru
- Real time clock
- One time message scrolling
- Ability to disable attention code
- Ability to change attention code

MODEL IDENTIFICATION



* Default Values

** Call for description of Command Sets

CARTON CONTENTS

1. Table display, pre-assembled.
2. Interface cable, comes with a DB9F connector (to computer) and a DB9M connector (to table display) as standard equipment. Optional DB25F connector (to computer) is available.

Note: This cable is only supplied with standard serial table displays with no pass-thru function. Other interface options will have different cables.

3. Transformer adapter 120VAC to 7.5VAC (optional 220VAC).
4. Quick Installation Guide.

INSTALLATION

Your LT9000 family of table displays has been pre-assembled to make the installation as simple as possible.

Serial Interface Non-pass-thru Models Installation

1. The table display can be used in a freestanding mode or mounted to the counter with the two holes at the rear of the unit.
2. Connect the DB9M connector of the interface cable to the table display.
3. Connect the DB9F connector to the computer's serial COM1 or COM2 port.
4. Connect the female phone jack of the power adapter to the male phone jack of the interface cable.
5. Plug the power adapter into a 120VAC outlet.
6. A start up text message (LOGIC CONTROLS POS COMPONENTS) will be present for a short time. When this message disappears the cursor will be displayed at the left-most digit of the top row.

Serial Interface Pass-thru Models Installation

1. The table display can be used in a freestanding mode or mounted to the counter with the two holes at the rear of the unit.
2. Connect the DB9M connector of the interface cable to the table display.
3. Connect the DB25M connector to the peripheral device or a serial pass-thru terminator (optional accessory). Turn on power of the peripheral device.
4. Connect the female phone jack of the power adapter to the male phone jack of the table display cable.
5. Connect the DB9F connector to the computer's serial COM1 or COM2 port.
6. Plug the power adapter into a 120VAC outlet.
7. A start up text message (LOGIC CONTROLS POS COMPONENTS) will be present for a short time. When this message disappears the cursor will be displayed at the left-most digit of the top row.

Parallel Interface Non-pass-thru Models Installation

1. The table display can be used in a freestanding mode or mounted to the counter with the two holes at the rear of the unit.
2. Connect the DB25F connector of the interface cable to the table display.
3. Connect the DB25M connector to the computer's parallel printer port (LPT1).
4. Connect the female phone jack of the power adapter to the male phone jack of the table display cable.
5. Plug the power adapter into a 120VAC outlet.
6. A start up text message (LOGIC CONTROLS POS COMPONENTS) will be present for a short time. When this message disappears the cursor will be displayed at the left-most digit of the top row.

Parallel Interface Pass-thru Models Installation

- 1 The table display can be used in a freestanding mode or mounted to the counter with the two holes at the rear of the unit.
- 2 Connect the DB25F connector of the interface cable to the table display.
- 3 Connect the DB25F side on the DB25M/25F connector to the peripheral device or parallel pass-thru terminator (optional accessory). Turn on power of the peripheral device.
- 4 Connect the DB25M side on the DB25M/25F connector to the computer's parallel printer port (LPT1).
- 5 Connect the female phone jack of the power adapter to the male phone jack at the DB25M/25F connector.
- 6 Plug the power adapter into a 120VAC outlet.
- 7 A start up text message (LOGIC CONTROLS POS COMPONENTS) will be present for a short time. When this message disappears the cursor will be displayed at the left-most digit of the top row.

FUNCTIONAL TEST

The following test sequence will verify that your table display is working properly. Before you start this procedure, you must install the table display correctly as outlined under the INSTALLATION section. The functional test should be done under *MSDOS command prompt* by booting up the computer in DOS mode, or shell out to DOS prompt (in window95/98/ME) or COMMAND prompt (in windows NT/2000).

NOTE: The actual key entries in the text below are enclosed within quotation marks (" "). Do **not** type the quotation marks as part of your entries.

Serial Interface Table Displays Functional Test

This test procedure assumes the table display is connected to COM1 of the computer. If COM2 is being used, type COM2 where COM1 is called out.

Close all opened application programs that use the same COM port before going into DOS command prompt. Enter the following command lines to open the COM port for communication with the table display:

Type "MODE COM1 96,N,8,1" and press the ENTER key.

LT9000, LT9300, TPD3400, LT9500 and LT9900

1. Type "Echo ABCDEFGH>COM1" and press ENTER key. The display will show "ABCDEFGH" on the first line.

LT9200

1. Type "Echo !#1ABCDEFGH>COM1" and press ENTER key. The display will show "ABCDEFGH" on the first line.

LT9100-PT, LT9300-PT, LT9400-PT and LT9500-PT

1. Type "Echo ABCDEFGH>COM1" and press ENTER key. The display will show "ABCDEFGH" on the first line.
2. Type "Echo ^APASSTHRU>COM1" (^A is entered as Ctrl-A) and press ENTER key. The data will be passed through to the peripheral (e.g. a printer). These characters are not shown on the display.
3. Type "Echo !#^BNUMBER12345>COM1", (^B is entered as Ctrl-B) then press ENTER key. The display will show "NUMBER12345" on the first line.

LT9200-PT

1. Type "Echo !#1ABCDEFGH>COM1" and press ENTER key. The display will show "ABCDEFGH" on the first line.
2. Type "Echo PASSTHRU>COM1" and press ENTER key. The data will be passed through to the peripheral (e.g. a printer). These characters are not shown on the display.
3. Type "Echo !#1NUMBER12345>COM1", then press ENTER key. The display will show "NUMBER12345" on the first line.

Parallel Interface Table Displays Functional Test

This procedure assumes the table display is connected to the LPT1 port of the computer. If parallel port LPT2 is being used, type LPT2 where LPT1 is called out.

LT9090, LT9390, LT9490, LT9590 and LT9990

1. Type "ECHO ABCDEFGH>LPT1" and press ENTER key. The display will show "ABCDEFGH" on the first line.

LT9290

1. Type "ECHO !#1ABCEDFGH>LPT1" and press ENTER key. The display will show "ABCDEFGH" on the first line.

LT9190-PT, LT9390-PT, LT9490-PT and LT9590-PT

1. Type "ECHO ABCDEFGH>LPT1" and press ENTER key. The display will show "ABCDEFGH" on the first line.
2. Type "ECHO ^**A**PASSTHRU>LPT1" (^**A** is entered as Ctrl-A) and press ENTER key. The data will be passed through to the peripheral (e.g. a printer). These characters are not shown on the display.
3. Type "ECHO !#^**B**NUMBER12345>LPT1" (^**B** is entered as Ctrl-B), then press ENTER key. The display will show "NUMBER12345" on the first line.

LT9290-PT

1. Type "ECHO !#1ABCEDFGH>LPT1" and press ENTER key. The display will show "ABCDEFGH" on the first line.
2. Type "ECHO PASSTHRU>LPT1" and press ENTER key. The data will be passed through to the peripheral (e.g. a printer). These characters are not shown on the display.
3. Type "ECHO !#1NUMBER12345>LPT1", then press ENTER key. The display will show "NUMBER12345" on the first line.

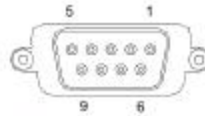
For further testing of OPOS displays (LT9900), follow the instructions in the readme.doc file after software installation.

INTERFACE CONNECTION

Serial Interface Connector Configuration

The pin out configuration for the standard serial table display is a DB9F connector. It plugs directly into the serial port of the computer.

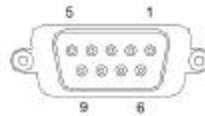
1. DCD (tied to pins 4&6)
2. NC
3. RXD from PC
4. DTR (tied to pins 1&6)
5. Ground
6. DSR (tied to pins 1&4)
7. RTS (tied to pin 8)
8. CTS (tied to pin 7)
9. NC



DB9F (to computer)

For pass-through models, the display cable comes with two connectors. The DB9F is to be connected to the computer while the DB25M is for connection to the peripheral.

1. DCD (tied to pins 4&6)
2. TXD to PC
3. RXD from PC
4. DTR (tied to pins 1&6)
5. Ground
6. DSR (tied to pins 1&4)
7. RTS (tied to pin 8)
8. CTS (tied to pin 7)
9. NC



DB9F (to computer)

1. NC
2. TXD to peripheral
3. RXD from peripheral
4. RTS
5. CTS (tied to pin 20)
6. NC
7. Ground
8. NC
- 9-19 NC
20. DTR (tied to pin 5)
- 21-25 NC



DB25M (to peripheral)

Parallel Interface Connector Configuration

All standard parallel table displays will have a DB25 male connector. It is connected to the printer port of the computer.

1. –Strobe
2. Data 0
3. Data 1
4. Data 2
5. Data 3
6. Data 4
7. Data 5
8. Data 6
9. Data 7
10. –Ack
11. Busy
- 12-17 NC
- 18-25 Ground



DB25M (to computer)

For pass-through models, the display cable comes with a dual DB25M/25F connector. The DB25M is to be connected to the computer while the DB25F is for connection to the peripheral.

1. –Strobe
2. Data 0
3. Data 1
4. Data 2
5. Data 3
6. Data 4
7. Data 5
8. Data 6
9. Data 7
10. –Ack
11. Busy
12. Paper End
13. Select
14. -Auto Feed
15. -Error
16. -Initialize Printer
17. -Select In
- 18-25. Ground



DB25M (to computer)



DB25F (to peripheral)

SOFTWARE COMMANDS

Logic Controls table displays are controlled by command codes and data from the computer. The model of table display that you have will determine which command set works with your table. Refer to the model identification chart for further information.

For Logic Controls Command Sets, call 516.248.0400 or e-mail: support@logiccontrols.com

HARDWARE CONFIGURATION

Serial table displays were factory configured for serial RS232C interface using the following protocol:

- 9600 Baud Rate
- 8 Data Bits
- 1 Stop Bit
- No Parity

Other optional baud rates are available with factory settings. Refer to the model identification chart for further information.

DISPLAY CHARACTER CODES

| | | | | | | | | | | | | |
|----------|-----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|
| | D7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | D6 | 0 | 0 | 0 | 0 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| | D5 | 0 | 0 | 1 | 1 | 0 | 0 | 1 | 1 | 1 | 1 | 1 |
| | D4 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 0 | 1 | 1 |
| D | D | D | D | | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3 | 2 | 1 | 0 | | | DP | SP | 0 | @ | P | ' | p |
| 0 | 0 | 0 | 0 | 0 | | DC 1 | ! | 1 | A | Q | a | q |
| 0 | 0 | 1 | 0 | 1 | | DC 2 | " | 2 | B | R | b | r |
| 0 | 0 | 1 | 1 | 2 | DL | DC 3 | # | 3 | C | S | c | s |
| 0 | 1 | 0 | 0 | 3 | DI M | DC 4 | \$ | 4 | D | T | d | t |
| 0 | 1 | 0 | 1 | 4 | MS | | % | 5 | E | U | e | u |
| 0 | 1 | 1 | 0 | 5 | | | & | 6 | F | V | f | v |
| 0 | 1 | 1 | 1 | 6 | | | ' | 7 | G | W | g | w |
| 1 | 0 | 0 | 0 | 7 | BS | | (| 8 | H | X | h | x |
| 1 | 0 | 0 | 1 | 8 | HT | |) | 9 | I | Y | i | y |
| 1 | 0 | 1 | 0 | 9 | LF | | * | : | J | Z | j | z |
| 1 | 0 | 1 | 1 | A | | | + | ; | K | [| k | { |
| 1 | 1 | 0 | 0 | B | CR | | , | < | L | \ | l | |
| 1 | 1 | 0 | 1 | C | | | - | = | M |] | m | } |
| 1 | 1 | 1 | 0 | D | | | . | > | N | ^ | n | ~ |
| 1 | 1 | 1 | 1 | E | | RS T | / | ? | O | _ | o | |

GENERAL SPECIFICATIONS

OPTICAL:

| | |
|----------------------|-----------------------|
| Number of rows | 2 |
| Number of digits/row | 20 |
| Dot matrix | 5 x 7 |
| Digit height) | 0.347in. (9.5mm) |
| Digit width | 0.244in. (6.2mm) |
| Character config. | ASCII |
| Brightness (typical) | 900 cd/m ² |
| Display color | Blue-Green |
| MTBF (hours) | 300,000 |

MECHANICAL:

| | |
|------------------------|---------|
| Weight | 1.2 lb. |
| Dimensions (in inches) | |
| Width | 8.90 |
| Depth | 4.12 |
| Height | 4.10 |

ELECTRICAL:

| | |
|----------------------|-------------------------------------|
| Adapter input power | 120VAC, 60Hz; optional 220VAC, 50Hz |
| Adapter output power | 7.5VAC, 1000mA |

ENVIRONMENTAL:

| | |
|--------------------------|---------------------|
| Operating temperature | 0 to +50 ° C |
| Storage temperature | -20 to +70 ° C |
| Relative Humidity | 80%, non-condensing |
| Vibration (10 to 55 Hz.) | 4G's |
| Shock | 40G's |

CABLES & CONNECTORS:

Standard

| | |
|-----------------|---|
| Interface cable | DB9 (male) – to display DB9 (female) – to computer Phone jack (male) – to power adapter |
|-----------------|---|

Pass-thru

| | |
|-----------------|---|
| Interface cable | DB9 (male) – to display DB9 (female) – to computer DB25 (male) – to peripheral Phone jack (male) |
|-----------------|---|

Power adapter

| |
|---------------------|
| Phone jack (female) |
|---------------------|