SURVIVOR® IQ L-Series

LCD Remote Displays

Models L20 and L30

Installation Manual

RICE LAKE WEIGHING SYSTEMS

Industrial Solutions on a Global Scale®

ISO 9001 REGISTERED

43546

Contents

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About This Manual

This manual is intended for use by service technicians responsible for installing and servicing the L-Series LCD remote displays. Installation procedures are presented in the order likely to be followed by the installer: pre-installation setup, configuration, on-site installation.

This manual applies to units using Version 1.1 of the L-Series remote display software.

Warning *Most procedures described in this manual require work inside the remote display enclosure. These procedures are to be performed by qualified service personnel only.*

Authorized distributors and their employees can view or download this manual from the Rice Lake Weighing Systems distributor site at www.rlws.com.

1.0 Introduction

The L-Series LCD remote displays provide high-visibility, six-digit display capability for use in a wide variety of applications. This manual provides installation and configuration instructions for the L20 (2-inch) and L30 (3-inch) LCD remote displays.

The L-Series remote displays are designed to work with most digital weight indicators using 20 mA current loop or RS-232 communications. The AutoLink™ learn mode function allows the L-Series displays to automatically determine the data rate and format sent by the attached indicator.

Fluorescent backlighting for improved visibility is standard on all L-Series models. Optional features include time and temperature display.

Optional Features

Table 1-1 lists the optional features available for the L-Series remote displays. Units can be ordered from the factory with these options already installed, or the options can be separately ordered and installed into existing L-Series displays.

Option	Model	PN
Time	All	43522
Temperature	All	43412

Table 1-1. Options for L-Series Remote Displays

2.0 Pre-Installation Setup

The L-Series remote displays should be set up, configured, and tested before delivery to the installation site.

This section describes RS-232 and 20 mA current loop indicator connections. Once pre-installation setup is complete, go to Section 3.0 for information about configuring the remote display.

⚠ Caution *Use a wrist strap to ground yourself and protect components from electrostatic discharge (ESD) when handling chips and working inside the remote display enclosure.*

2.1 Indicator Connections

To connect the communications cable to the remote display, do the following:

1. Disconnect power and open the remote display enclosure.
2. For Model L30, turn the retaining screws and lower the hinged LCD display mounting panel. For the Model L20, remove the two nuts from the hinged LCD display mounting panel, then lower the panel.
3. Loosen the serial cable cord grip and push only enough communications cable into the enclosure to allow attachment at the terminal block.
4. Strip 1/4 inch (.65 cm) of insulation from the serial cable ends.
5. Make cable connections for RS-232 or 20 mA current loop communications as described in Sections 2.1.1 or 2.1.2, below.
6. For RS-232 connections, remove jumper JMP1 on the CPU board (see Figure 2-1).
7. Remove any excess cable from inside the enclosure, then tighten the serial cable cord grip.

The DIP switches on the remote display CPU board should be set and the remote display configuration verified before sealing the display enclosure. DIP switch configuration is described in Section 3.0.

A loop-back self-test can be used to test the function of the remote display serial port. See Section 5.4 on page 16 for information about the loop-back self-test.

2.1.1 RS-232

Figure 2-2 on page 3 shows the connections required for RS-232 communications to the remote display. See the manual for your indicator to determine the indicator pin assignments for RS-232 communications.

2.1.2 20 mA Current Loop

Figures 2-3 and 2-4 show the connections required for passive or active 20 mA current loop communications to the remote display. See the manual for your indicator to determine the indicator pin assignments for 20 mA communications.

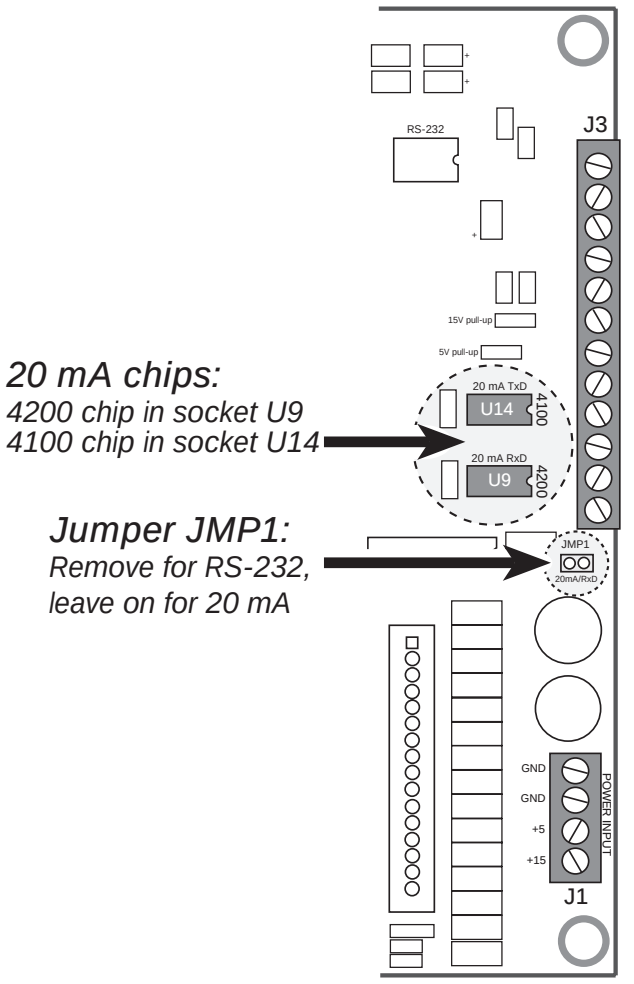


Figure 2-1. Locations of Jumper JMP1 and 20 mA Chips on Right Edge of CPU Board

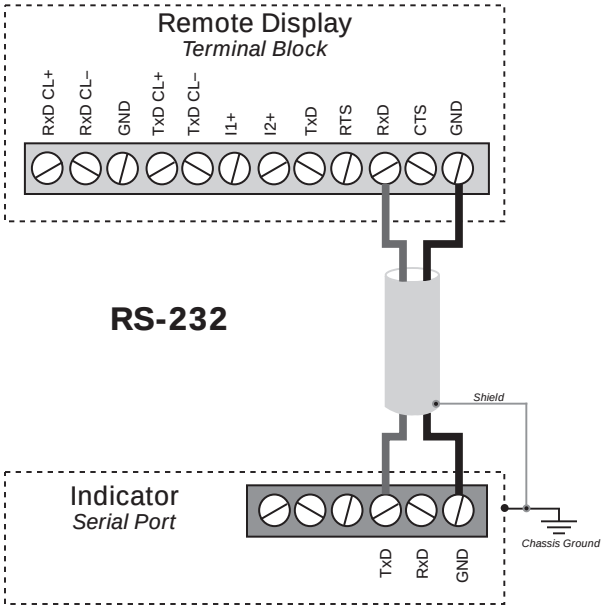


Figure 2-2. RS-232 Indicator Connections to Remote Display Terminal Block

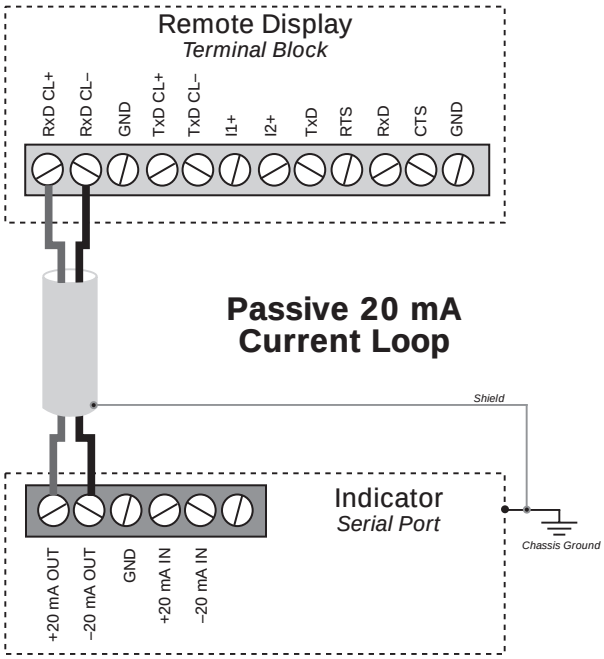
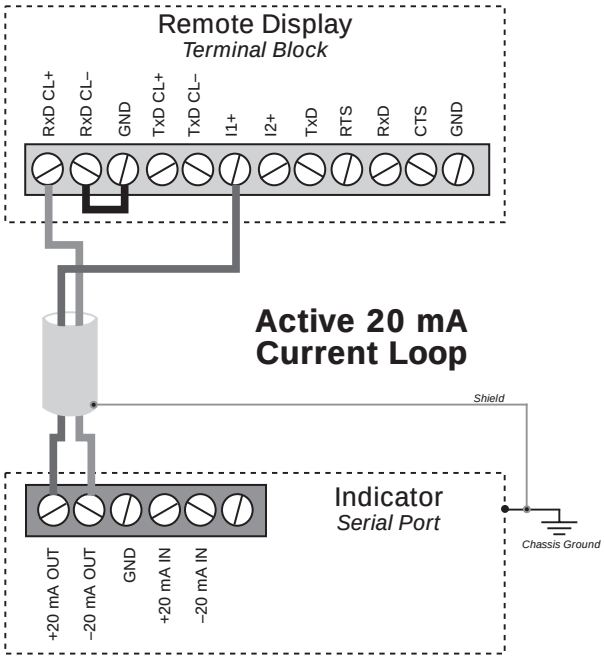


Figure 2-3. 20 mA Current Loop Connections: Passive Remote Display, Active Indicator



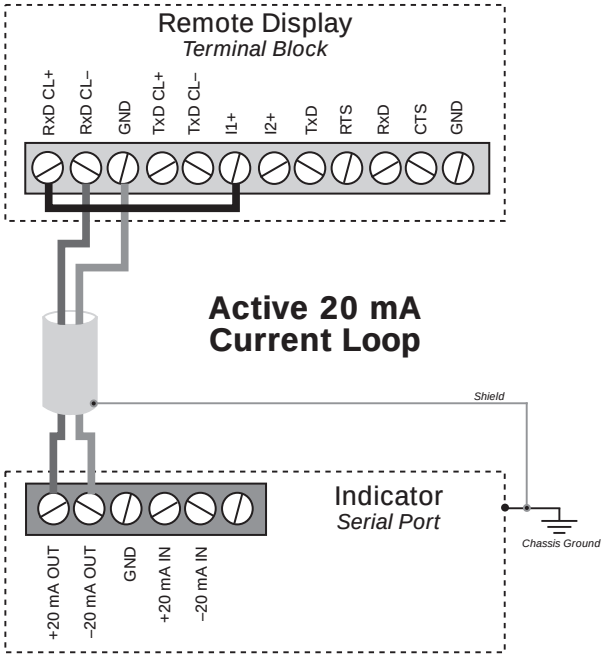


Figure 2-4. 20 mA Current Loop Connections: Active Remote Display, Passive Indicator

3.0 Configuration

The remote display and indicator should be connected, configured, and tested before delivery to the installation site. To begin configuration, ensure the remote display is powered off and open the enclosure to access the CPU board.

3.1 DIP Switch Configuration

The L-Series remote displays are configured using four banks of eight DIP switches located along the front edge of the CPU board. DIP switch settings are read only when the remote display is powered on; to change a switch setting, the unit must be powered off, then on again, for the change to take effect.

The following sections include figures and tables describing each of the DIP switch banks.

3.1.1 Serial Communications

DSW1 switches set the serial communications configuration for the remote display.

NOTE: The indicator must be configured to send continuous (streaming) data to the remote display.

Switch DSW1-1 allows data sent to the remote display to be echoed back to the indicator or relayed to another device, such as a printer or second remote display.

The parity, data bits, and baud rate settings for the remote display must match those configured for the indicator *unless learn mode (AutoLink) is used* (see Section 3.1.4 on page 5). If learn mode is enabled, switches DSW1-4 through DSW1-8 are ignored.

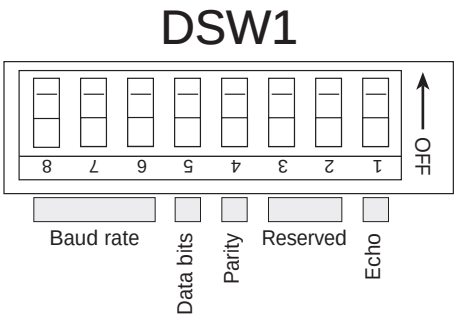


Table 3-1. DSW1 Switch Definitions

To Configure…	DSW1								
Parameter	Value	1	2	3	4	5	6	7	8
Echo	Off	OFF							
	On	ON							
Parity	Even				OFF				
	Odd				ON				
Data bits	7					OFF			
	8					ON			
Baud rate	300						OFF	OFF	OFF
	600						ON	OFF	OFF
	1200						OFF	ON	OFF
	2400						ON	ON	OFF
	4800						OFF	OFF	ON
	9600						ON	OFF	ON
	19200						OFF	ON	ON

Table 3-2. DSW1 Switch Settings

3.1.2 Primary and Secondary Units

Switches DSW2-1 through DSW2-4 set the primary and secondary annunciators for the remote display. Using these switches, the lb and kg annunciators can be assigned to designate pounds, kilograms, tons, or metric tons (megagrams). Decals included with the remote display can be used to change annunciator labeling to show tons (T), metric tons (t), or megagrams (Mg).

Actual function of the lb and kg annunciators depends on the units information included in the indicator serial stream.

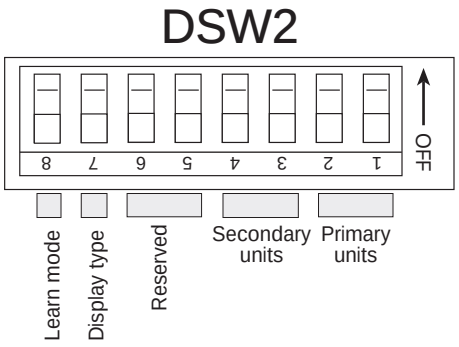


Figure 3-1. DSW2 Switch Definitions

3.1.3 Display Type

Set switch DSW2-7 on for all L-Series remote displays.

To Configure…	DSW2								
Parameter	Value	1	2	3	4	5	6	7	8
Primary units	Pounds	OFF	OFF						
	Kilograms	OFF	ON						
	Metric tons	ON	OFF						
	Tons	ON	ON						
Secondary units	Pounds			OFF	OFF				
	Kilograms			OFF	ON				
	Metric tons			ON	OFF				
	Tons			ON	ON				
Display type	Flip digit							OFF	
	LCD							ON	
Learn mode (AutoLink) enable	Off								OFF
	On								ON

Table 3-3. DSW2 Switch Settings

3.1.4 Learn Mode (AutoLink)

The L-Series remote displays incorporate a software feature called *AutoLink*. The AutoLink learn mode function examines the serial data stream sent from the attached indicator and attempts to determine the data structure and format used by the indicator.

NOTE: If learn mode is enabled, switches DSW1-4 through DSW1-8 and all DSW4 switch settings are ignored.

Use the following procedure to learn the indicator serial data stream:

1. Set DIP switch DSW2-8 on.
2. With wiring and configuration complete for both the indicator and the remote display, power on the indicator, then the remote display.
3. When the power-up self-test is complete, press the LEARN MODE switch on the underside of the display enclosure. (See page 9 for information about the self-test procedure.)
4. The display shows the message LOAD while it examines the serial data stream sent from the attached indicator. The LOAD message is shifted off the display as the data stream format is learned.
5. Next, the baud rate is shown in the format B xxx, where xxx is the learned baud rate with the zeroes removed. For example, a baud rate of 9600 is shown as B 96.
6. Once the display determines the data format being used, the message LOADED is shown.

If the display is unable to determine the data format used, an error message is shown. See Section 5.1 on page 11 for information about L-Series error messages.

NOTES:

- The learned indicator data stream format stays in the remote display memory even if the unit is powered off. Press the LEARN MODE switch only to learn a *new* indicator format.
- Learn mode may be unable to read the serial strings sent by some indicators or particular indicator configurations. If learn mode is unable to interpret the serial string, set switch DSW2-8 off and use Table 3-5 on page 8 to set DSW4 for the attached indicator.

3.1.5 Display Characteristics

Set switch DSW3-1 on to allow the remote display to update weight data without waiting for scale standstill.

Set switch DSW3-2 on to enable display of input error messages. Section 5.1 on page 11 lists the L-Series input and self-test error messages.

3.1.6 Time and Temperature Options

Switches DSW3-3 through DSW3-5 control the display of time and temperature information for units with these options installed. If these options are not installed, set switches DSW3-3 and DSW3-5 off.

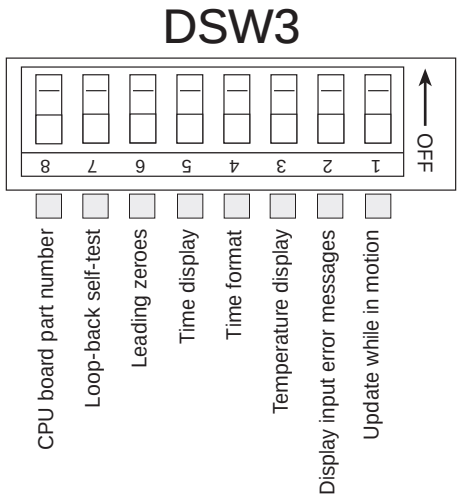


Figure 3-2. DSW3 Switch Definitions

To Configure…	DSW3								
Parameter	Value	1	2	3	4	5	6	7	8
Update while in motion	No	OFF							
	Yes	ON							
Display input error messages	No		OFF						
	Yes		ON						
Temperature display	Off			OFF					
	On			ON					
Time format	24 hour				OFF				
	12 hour				ON				
Time display	Off					OFF			
	On					ON			
Suppress leading zeroes	Off						OFF		
	On						ON		
Loop-back self-test	Off							OFF	
	On							ON	
CPU board part number	44303								OFF
	41033								ON

Table 3-4. DSW3 Switch Settings

3.1.7 Suppress Leading Zeroes

Switch DSW3-6 enables suppression of leading zeroes in weight values of less than 1. If DSW3-6 is set on, weight values of less than 1 are shown with only one zero to the left of the decimal point. For example, a weight value received as 000.432 is shown as 0.432.

If DSW3-6 is set off, the remote display shows the zero format as sent by the indicator.

3.1.8 Loop-Back Self-Test

Switch DSW3-7 enables the loop-back self-test used to check the remote display serial port. For normal operation, set this switch off. See Section 5.4 on page 16 for information about using the loop-back self-test.

3.1.9 CPU Board Part Number

Set DSW3-8 off to specify CPU board PN 44303. (The CPU board part number is printed on the CPU board, slightly above and to the right of DIP switch DSW4.)

3.1.10 Indicator Type/Serial Format

Table 3-5 on page 8 shows the DSW4 switches used to identify the serial format sent by the attached indicator *unless learn mode is used* (see Section 3.1.4 on page 5). If learn mode is enabled, the DSW4 switch settings are ignored.

NOTE: Learn mode may be unable to read the serial strings sent by some indicators or particular indicator configurations. If learn mode is unable to interpret the serial string, set switch DSW2-8 off and use Table 3-5 to set DSW4 for the attached indicator.

3.2 Setting the Clock (for Units with the Time Option Installed)

Once remote display configuration is complete and the unit powered on, set the clock by doing the following:

1. Turn the clock switch to the HRS SET position to set the hour. Hours digits count up once per second while the switch is held in the HRS SET position. Release the switch when the current hour is displayed.
2. Turn the clock switch to the MIN SET position to set the minute. Minutes digits count up once per second while the switch is held in the MIN SET position. Release the switch when the current minute is displayed.

The clock chip contains its own battery which maintains the current time when the remote display is powered off.

The current time is displayed when the weight reading received by the remote display is zero. If the temperature option is also installed and enabled, the time and temperature displays alternate.

Indicator Type / Serial Format	DSW4							
	1	2	3	4	5	6	7	8
Accu-weigh SEP12K	OFF	OFF	ON	ON	ON	ON	ON	ON
Analogic 5316 (HB44)	ON	ON	OFF	ON	ON	ON	ON	ON
AnD AD4321, AD4323	OFF	ON	OFF	ON	ON	ON	ON	ON
Cardinal 708 scoreboard format	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
Cardinal 738	OFF	ON	ON	ON	ON	ON	ON	ON
Cardinal 738 scoreboard format	ON	ON	ON	ON	ON	OFF	ON	ON
Cardinal 748	OFF	ON	ON	OFF	ON	ON	ON	ON
Cardinal 778	ON	OFF	ON	ON	ON	OFF	ON	ON
Condec UMC1000, UMC2000	ON	OFF	OFF	ON	ON	ON	ON	ON
Doran 7000	OFF	OFF	OFF	ON	ON	ON	ON	ON
Fairbanks 90-160 Series	ON	ON	ON	OFF	ON	ON	ON	ON
Flexweigh DWM IV	OFF	OFF	ON	OFF	ON	ON	ON	ON
General Freedom I, Freedom II	ON	ON	OFF	OFF	ON	ON	ON	ON
GSE 550 default format	OFF	OFF	OFF	ON	ON	OFF	ON	ON
GSE 550 displayed data format	OFF	OFF	ON	ON	ON	OFF	ON	ON
Hardy HI2151 WC	OFF	ON	OFF	OFF	ON	ON	ON	ON
IDS	ON	OFF	OFF	OFF	ON	ON	ON	ON
Ishida (DAP-01 format)	ON	OFF	OFF	OFF	OFF	ON	ON	ON
Kubota KA-10	OFF	OFF	OFF	OFF	ON	ON	ON	ON
Mettler-Toledo, Fairbanks 9201	ON	OFF	ON	OFF	ON	ON	ON	ON
Morrison T3500	ON	ON	ON	ON	OFF	ON	ON	ON
MSI TransWeigh 6260	OFF	ON	ON	ON	OFF	ON	ON	ON
Ohaus 1-10, 1-20W	ON	OFF	ON	ON	OFF	ON	ON	ON
Ohaus 1-5S	OFF	OFF	ON	ON	OFF	ON	ON	ON
Ohaus 1150	ON	ON	OFF	ON	OFF	ON	ON	ON
Pennsylvania 3100	OFF	ON	OFF	ON	OFF	ON	ON	ON
Pennsylvania 5600	ON	OFF	OFF	ON	OFF	ON	ON	ON
Pyrel HR500K	OFF	OFF	OFF	ON	OFF	ON	ON	ON
Rice Lake Weighing Systems stream format	ON	ON	ON	ON	ON	ON	ON	ON
Streeter Amet 9000	OFF	ON	ON	OFF	OFF	ON	ON	ON
Transcell (RL-100, TI-500)	ON	OFF	ON	OFF	OFF	ON	ON	ON
Weightronix WI-110, WI-120	ON	OFF	ON	ON	ON	ON	ON	ON
Weightronix WI-125	OFF	OFF	ON	OFF	OFF	ON	ON	ON
Weightronix WI-127 (default layout 6)	ON	ON	OFF	OFF	OFF	ON	ON	ON
Western DF1000	OFF	ON	OFF	OFF	OFF	ON	ON	ON

Table 3-5. DSW4 Switch Settings

4.0 On-Site Installation

This section describes procedures for sealing the enclosure and dimensions for mounting the L-Series remote displays. Ensure that the remote display has been tested and works with the indicator before sealing and mounting the enclosure.

4.1 Sealing the Enclosure

Once pre-installation setup and configuration are complete and the remote display has been tested with the indicator, close and secure the enclosure cover.

For Model L20 remote displays, close the cover and turn the screws to secure the enclosure.

For Model L30, insert the twelve bolts and turn until all are finger-tight. Torque all bolts to 20 in-lbs, then make a second pass to ensure all bolts maintain the torque value.

4.2 Mounting the Enclosure

Figures 4-1 and 4-2 on page 10 show the enclosure dimensions, mounting hole diameters, and distances on center between mounting holes for the L-Series models.

4.3 Connecting Cables

Once the remote display is securely mounted, connect the serial communications cable to the indicator as described in the indicator manual. Last, connect the remote display power cable to the AC power supply.

4.4 Remote Display Self-Test

When the remote display is powered on, the unit goes through the following self-test procedure:

1. The remote display self-test checks the RAM and EEPROM. If an error exists, the error is shown at the end of the power-on sequence.
2. All LCD segments are turned off, on, then off again. Watch the display to determine whether any segments or annunciators are stuck on or off.
3. If no errors are found, the remote display shows the message PASS. If errors are found during the RAM and EEPROM tests, the display shows the message FAIL R (RAM error) or FAIL E (bad EEPROM or bad data in EEPROM).

   If the loop-back self-test is enabled (DIP switch 3-7 set on) and the test fails, the message FAIL S is shown, followed by one or more of the messages listed above.
4. After showing the self-test status messages, all segments are turned off once more, then the software version number is shown.

See Section 5.0 on page 11 for more information about error messages and the loop-back self-test.

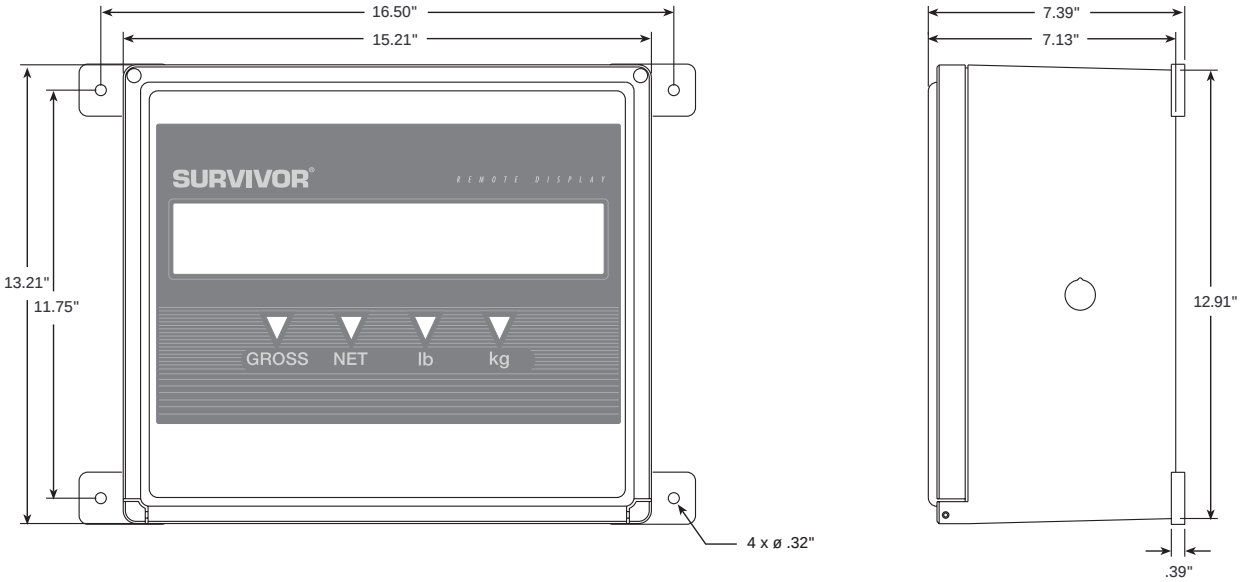


Figure 4-1. Model L20 Enclosure Dimensions

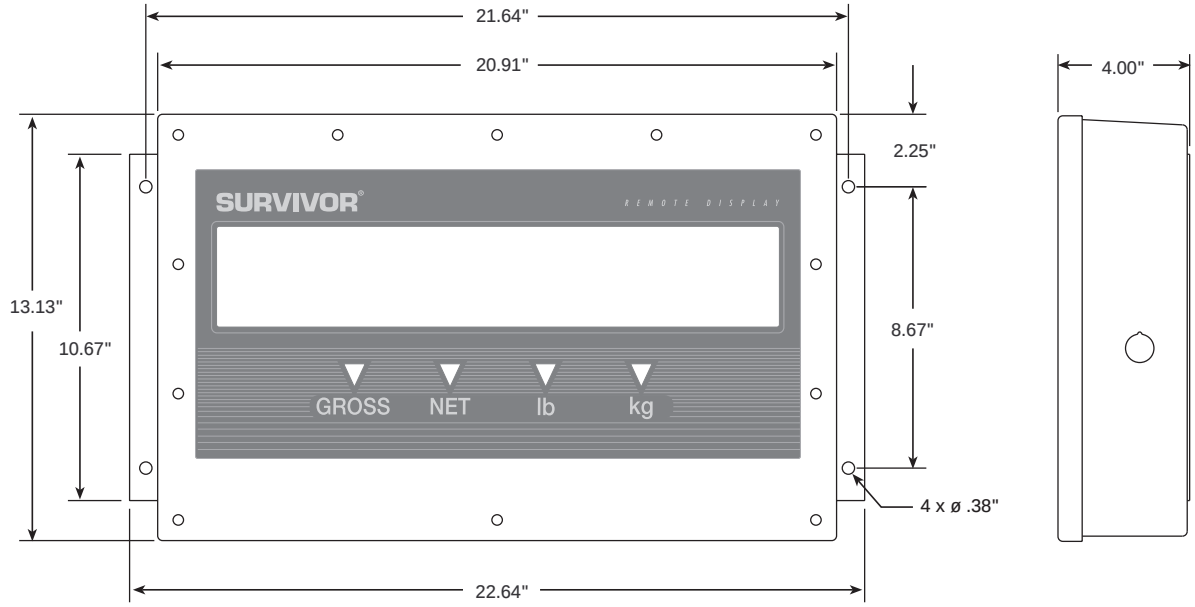


Figure 4-2. Model L30 Enclosure Dimensions

5.0 Troubleshooting and Repair

5.1 Error Messages

Table 5-1 lists error messages shown by the L-Series remote displays. The FAIL *x* messages indicate errors encountered during the power-on self-test sequence; input error messages are shown only if DIP switch DSW3-2 is set on.

Message	Meaning	Cause / Correction
CL R F	*Clock RAM failure*	Clock chip malfunctioning or not installed.
CLO ST	*Clock stopped*	Clock chip malfunctioning or not installed.
CPU	*Controller error*	Hardware error.
ER FT	*Error in serial string format*	Error in serial string format received (more than 100 characters received without a termination character).
ER TAR	*Error in tare value*	Positive, non-NTEP tare value received. Check scale platform.
FAIL E	*EEPROM failed self-test*	EEPROM portion of power-on self-test failed.
FAIL R	*RAM failed self-test*	RAM portion of power-on self-test failed.
FAIL S	*Loop-back self-test failed*	Serial port error (shown only if DSW3-7 is set on).
FE DIG	*Too few digits in serial string*	Error in serial string format received.
IIC PR	*I 2C bus error*	EEPROM or temperature probe error. Set DSW3-3 off if temperature probe not installed.
INV GN	*Invalid gross/net format*	Error in serial string format received. Remote display must be powered off, then on again to continue.
INV S	*Invalid DIP switch setting*	Check switch settings at DSW4 or enable learn mode (set DSW2-8 on). Remote display must be powered off, then on again to continue.
LCD ER	*LCD display error*	Error in LCD display configuration. Check DIP switches and board connections.
NO BAU	*Unknown baud rate*	Unable to determine indicator baud rate.
NO CLO	*Clock error*	Clock chip malfunctioning or not installed.
NO CR	*No <C/R> or <ETX> character*	No termination character received in serial string.
NO LBD	*Unknown baud rate*	Unable to determine indicator baud rate (learn mode only).
NO RDR	*Error reading serial format*	Error in serial string format received.
NO SER	*No serial communications*	Check serial connection from indicator to remote display (J10). Ensure indicator is configured for continous (streaming) output.
PASS	*Self-test sequence passed OK*	No errors on power-on self-test for RAM and EEPROM functions.
REV *xxx*	*Software revision number*	Informational message at power-on, shows software revision number (xxx).
T COLD	*Too cold!*	Sensed temperature is less than –99° (C or F).
UN STR	*Unknown serial format*	Unable to determine indicator serial string format.
UN LN2	*Unknown serial format*	Unable to determine indicator serial string format (learn mode only).

Table 5-1. Error Messages

5.2 Board Diagrams

5.2.1 CPU Board

Figure 5-1 shows the CPU board used by the L-Series remote displays.

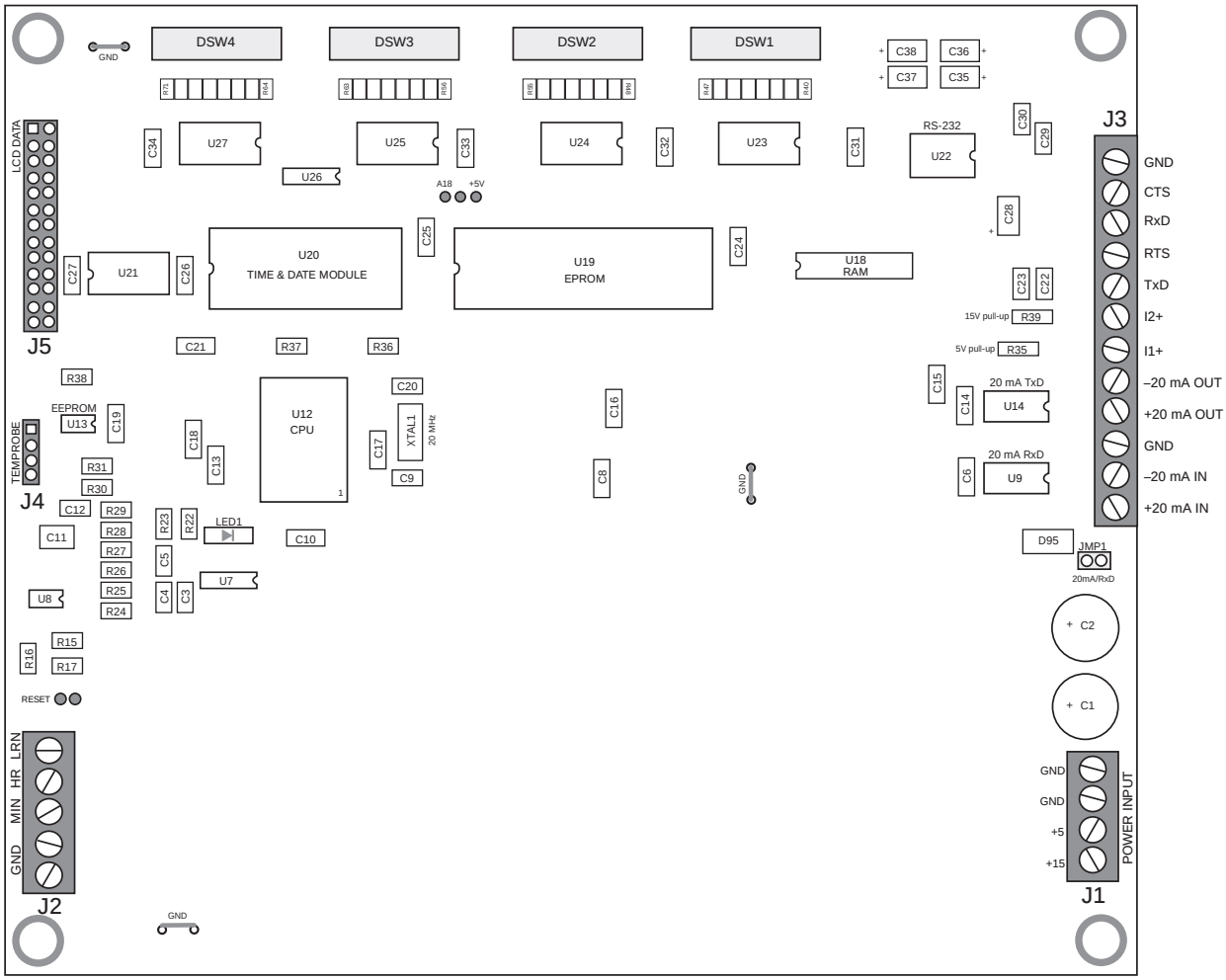


Figure 5-1. L-Series CPU Board, PN 44112

5.2.2 Power Supply Board

Figure 5-2 shows the location of the fuses on the power supply board used by the L-Series remote displays.

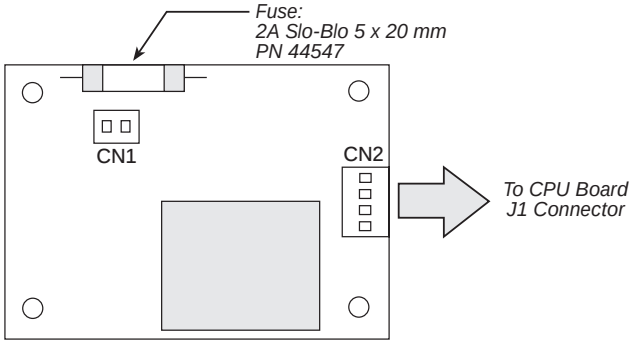


Figure 5-2. L-Series Power Supply Board, PN 44038

5.2.3 LCD Display Boards

Figure 5-5 on page 14 and Figure 5-6 on page 15 show the LCD display boards. Each remote display uses three display boards: two secondary for digits 1 and 2, 5 and 6; one primary board for digits 3 and 4. Shaded components shown in Figures 5-5 and 5-6 are used only on the primary board.

Display Board Jumper Configuration

Jumpers shown at JP1 on the LCD display board drawings are used to route clock and chip select signals beween the display boards. If a display board is replaced in the field, ensure that the jumpers on the new board are installed as shown in Figure 5-3.

Intensity Control

The primary LCD display board includes a trimpot marked *INTENSITY*. If necessary, turn the pot to adjust the contrast between light and dark areas of the LCD digits.

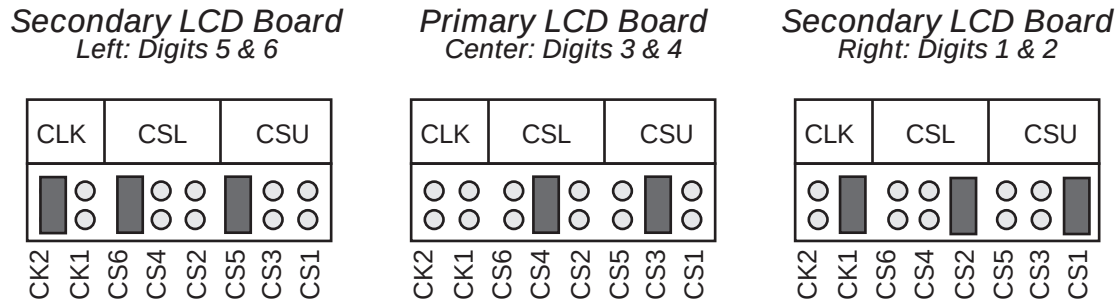


Figure 5-3. Jumper Configuration for LCD Display Boards

5.3 Backlighting Components

Figure 5-4 shows the backlighting hardware and wiring for the 230V Model L30 remote display. See Table 5-2 on page 16 for ballast, starter, and fuse replacement parts.

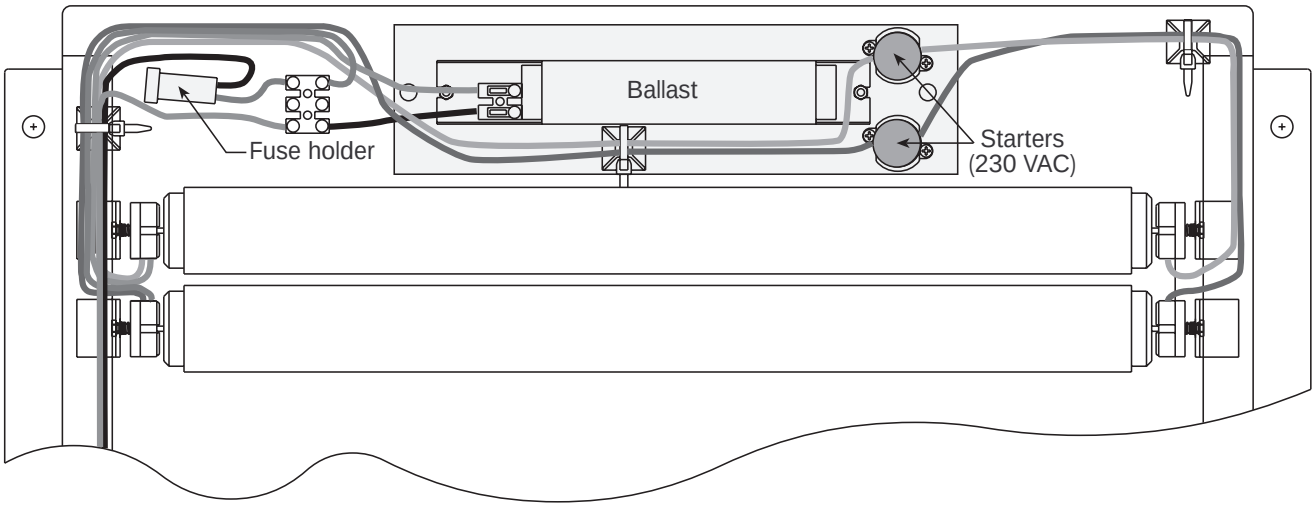


Figure 5-4. Backlighting Assembly, Showing Fuse Holder, Ballast, and Fluorescent Starters for 230 VAC L30 Display

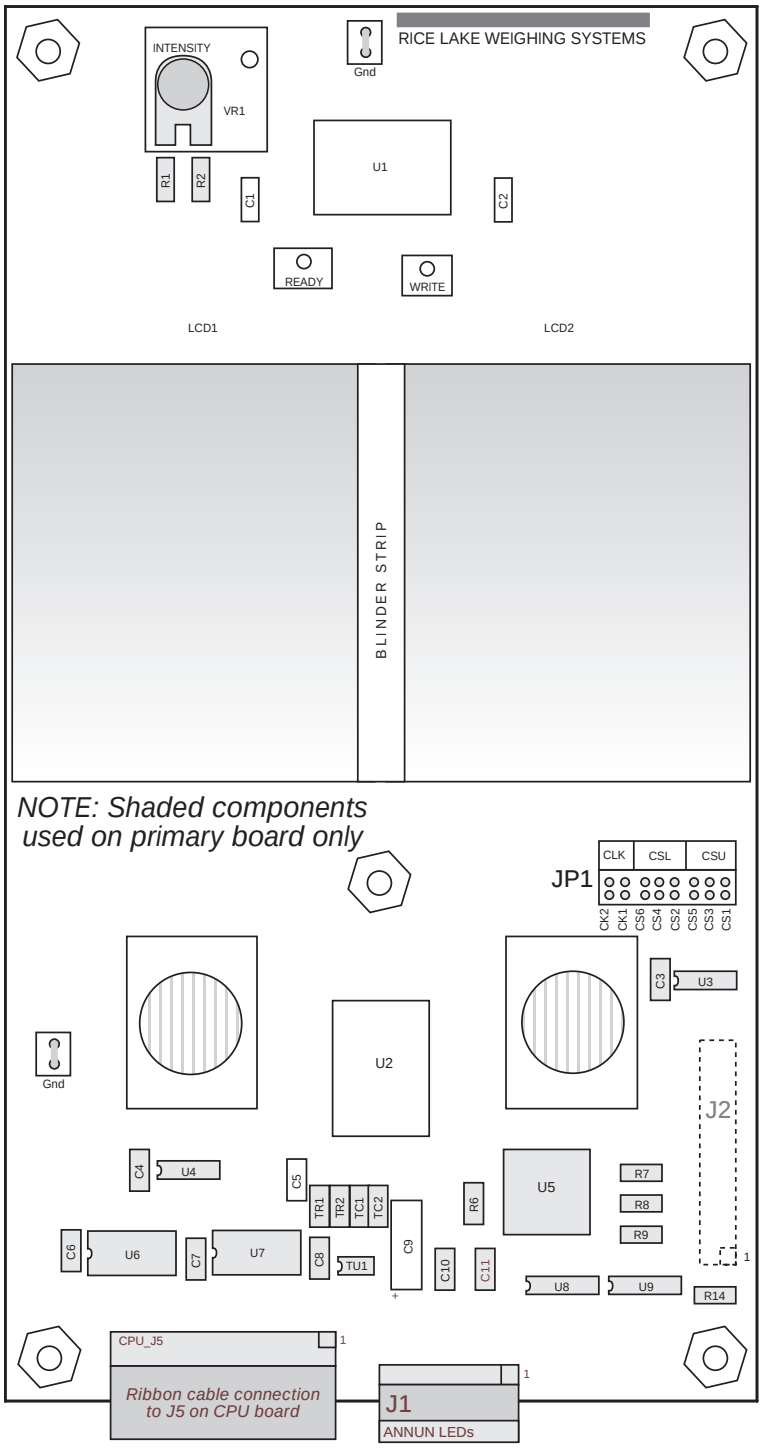


Figure 5-5. Model L20 LCD Display Boards, PNs 42697 (Primary) & 42698 (Secondary)

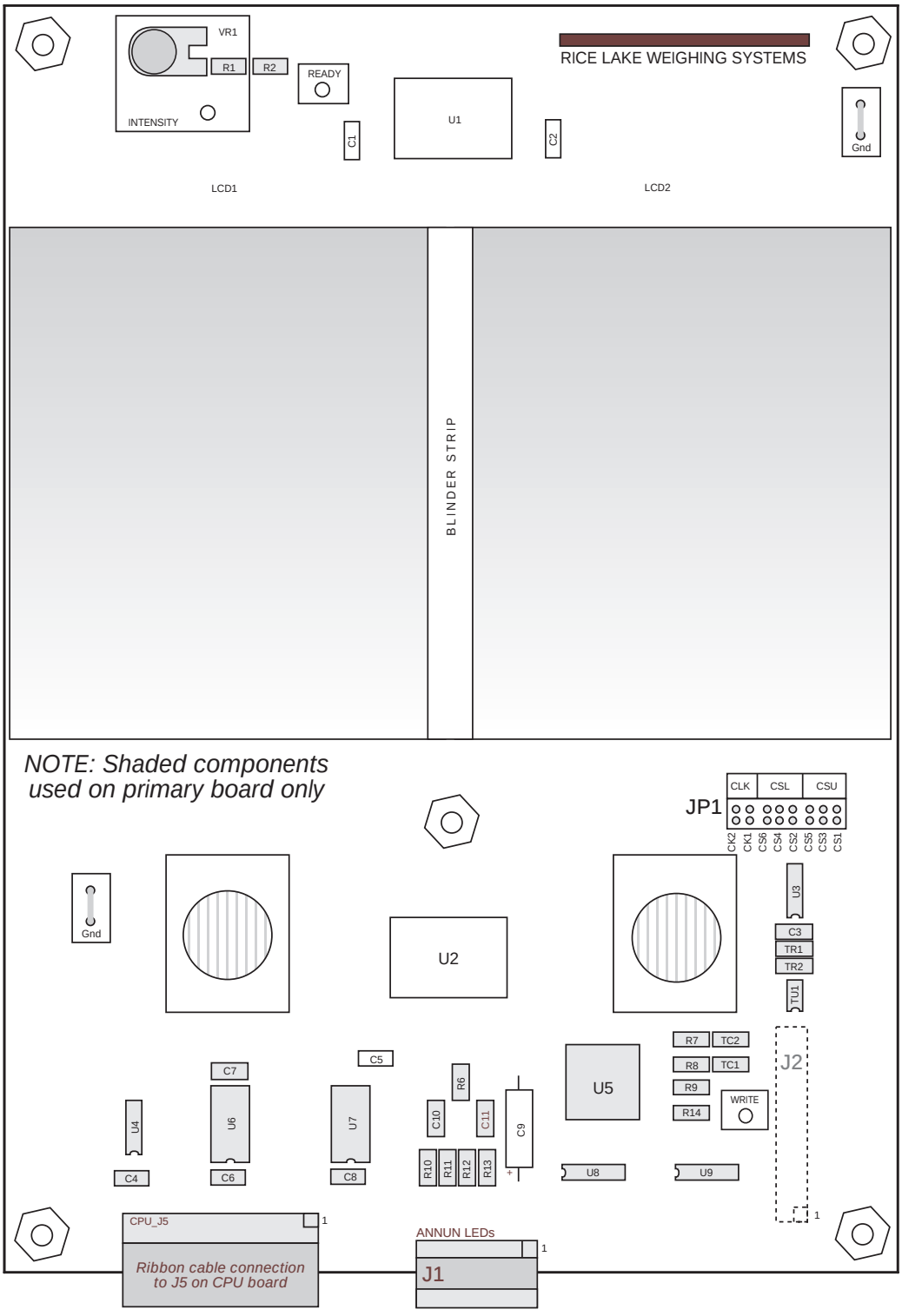


Figure 5-6. Model L30 LCD Display Boards, PNs 42700 (Primary) & 426701 (Secondary)

5.4 Loop-Back Self-Test

The L-Series remote displays provide a loop-back self-test for use in diagnosing serial communications errors. When enabled, the loop-back self-test runs as part of the power-on self-test, checking the function of the remote display serial port by sending and receiving data to itself.

To perform the loop-back self-test, do the following:

1. Disconnect power to the remote display.
2. Open the remote display enclosure cover and the LCD display mounting panel to access the serial communications terminal block.
3. Disconnect any indicator wiring.
4. Connect jumpers to the terminal block as shown in Figure 5-7. Wire the terminal block only for the type of communications you are using (RS-232 or 20 mA), not both.

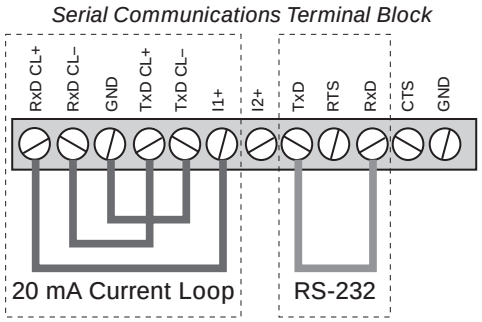


Figure 5-7. Terminal Block Connections for Loop-Back Self-Test

5. Set DIP switch DSW3-7 on to enable the loop-back self-test.
6. Return the display mounting panel to operating position, close the cover, and set the remote display upright.
7. Connect power to the remote display. The loop-back self-test runs as part of the power-on self-test:
   - If all portions of the power-on self-test are good, the message PASS is shown.
   - If the loop-back self-test fails, the message FAIL S is shown, followed by one or more other messages. If the loop-back self-test fails but all other tests are good, the display will show the message FAIL S, then PASS.

If the loop-back self-test fails, the serial port is not functional. Be sure to check the following when troubleshooting the serial port:

- For 20 mA communications, ensure that 20 mA chips are installed correctly and the jumper at JMP1 is on. See Figure 2-1 on page 2 for component locations.
- For RS-232 communications, ensure that jumper JMP1 is off.
- Check continuity of wires between connector J3 on the CPU board and the serial communications terminal block.

5.5 Replacement Parts

Table 5-2 lists selected replacement parts for the L-Series remote displays. Part numbers for L-Series optional features are listed in Section 1.0.

Description	Model	PN
CPU board	All	44112
EPROM	All	43619
Power supply board	All	44038
Power supply fuse (2A Slo-Blo, 5 x 20 mm)	All	44547
Power cord assembly	115 VAC	44181
	230 VAC	46750
Learn mode switch assembly	All	42646
Learn mode switch cover	All	15895
Breather vent	L30	42865
Primary LCD display board (2”)	L20	42697
Secondary LCD display board (2”)		42698
Primary LCD display board (3”)	L30	42700
Secondary LCD display board (3”)		42701
Annunciator assembly	All	44331
Blinder strip	L20	41327
	L30	44760
Cover gasket	L30	43547
Cover sealing washers	L30	44676
Overlay	L20	44010
	L30	44142
Backlighting fuse 500 mA, fast-acting, 5 x 20 mm 800 mA, Slo-Blo, 5 x 20 mm	 L20 L30	 16443 33169
Ballast assembly (115 VAC models)	L20	44756
	L30	46052
Ballast assembly (230 VAC models)	L20	46419
	L30	46412
Fluorescent starter	230 VAC	46413

Table 5-2. Selected Replacement Parts

6.0 Specifications

Power

Line Voltages 115 or 230 VAC (+10% / –15%)
Frequency 50 or 60 Hz
Power Consumption (115 VAC models)
- Model L20 70 W / 600 mA
- Model L30 115 W / 1 A

Digital Specifications

Microcomputer AMD 80C188ES microcontroller

Serial Communications

Type 20 mA current loop (active or passive) and RS-232 standard
Data Stream 7 or 8 data bits; 1 start bit; 1 or 2 stop bits; even, odd, or no parity
Data Rate 19200, 9600, 4800, 2400, 1200, 600, 300 bps.

Display

Digits 6, each with decimal point capability
Annunciators Gross, Net, Lb, Kg

Optional Features

Time (12/24 hour selectable)
Temperature (displays °C and °F)

Environmental

Operating Temperature –10°C to +40°C
Storage Temperature –10°C to +50°C
Humidity Can be used in washdown environment

Enclosure

All-steel NEMA 4 (Model L30) or FRP (L20)
Overall Dimensions
- Model L20 15.21" W x 13.21" H x 7.39" D
  38.6 cm W x 33.6 cm H x 45.0 cm D
- Model L30 22.64" W x 13.13" H x 4.00" D
  57.5 cm W x 33.35 cm H x 35.48 cm D

Weight

- Model L20 14.8 lb (6.7 Kg)
- Model L30 31.0 lb (14.1 Kg)

L-Series Remote Displays Limited Warranty

Rice Lake Weighing Systems (RLWS) warrants that all RLWS equipment and systems properly installed by a Distributor or Original Equipment Manufacturer (OEM) will operate per written specifications as confirmed by the Distributor/OEM and accepted by RLWS. All systems and components are warranted against defects in materials and workmanship for one year.

RLWS warrants that the equipment sold hereunder will conform to the current written specifications authorized by RLWS. RLWS warrants the equipment against faulty workmanship and defective materials. If any equipment fails to conform to these warranties, RLWS will, at its option, repair or replace such goods returned within the warranty period subject to the following conditions:

- Upon discovery by Buyer of such nonconformity, RLWS will be given prompt written notice with a detailed explanation of the alleged deficiencies.
- Individual electronic components returned to RLWS for warranty purposes must be packaged to prevent electrostatic discharge (ESD) damage in shipment. Packaging requirements are listed in a publication, "Protecting Your Components From Static Damage in Shipment," available from RLWS Equipment Return Department.
- Examination of such equipment by RLWS confirms that the nonconformity actually exists, and was not caused by accident, misuse, neglect, alteration, improper installation, improper repair or improper testing; RLWS shall be the sole judge of all alleged non-conformities.
- Such equipment has not been modified, altered, or changed by any person other than RLWS or its duly authorized repair agents.
- RLWS will have a reasonable time to repair or replace the defective equipment. Buyer is responsible for shipping charges both ways.
- In no event will RLWS be responsible for travel time or on-location repairs, including assembly or disassembly of equipment, nor will RLWS be liable for the cost of any repairs made by others.

THESE WARRANTIES EXCLUDE ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. NEITHER RLWS NOR DISTRIBUTOR WILL, IN ANY EVENT, BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

RLWS AND BUYER AGREE THAT RLWS'S SOLE AND EXCLUSIVE LIABILITY HEREUNDER IS LIMITED TO REPAIR OR REPLACEMENT OF SUCH GOODS. IN ACCEPTING THIS WARRANTY, THE BUYER WAIVES ANY AND ALL OTHER CLAIMS TO WARRANTY.

SHOULD THE SELLER BE OTHER THAN RLWS, THE BUYER AGREES TO LOOK ONLY TO THE SELLER FOR WARRANTY CLAIMS.

No terms, conditions, understanding, or agreements purporting to modify the terms of this warranty shall have any legal effect unless made in writing and signed by a corporate officer of RLWS and the Buyer.

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