

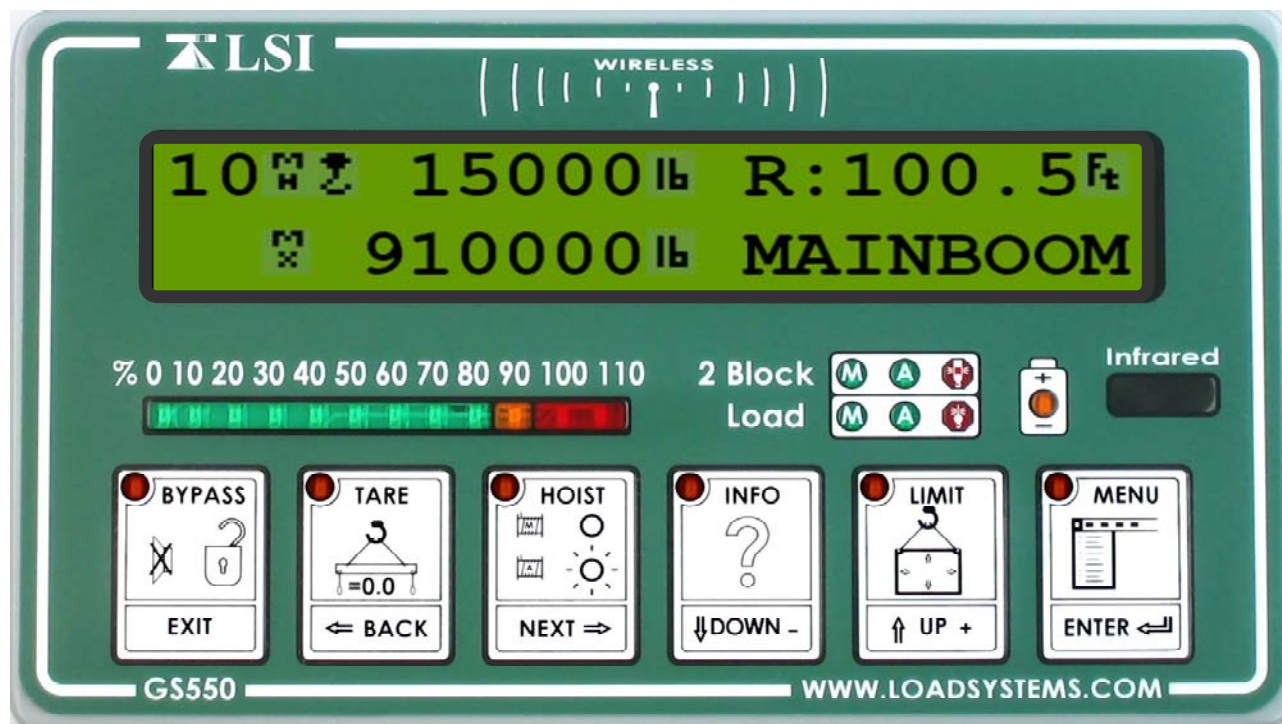


Load Systems International

User Manual

The GS550 System

Document Part Number GM550, Version 2004, Revision B



Engineered weighing solutions for crane and lifting application

Table of Contents

Introduction	5
Overview	5
Version Compatibility.....	5
Start-Up	5
Operation.....	7
Display GS550	7
Liquid Crystal Display	8
Sensor Status Lights	8
Infrared Port	8
Keypad	8
Menu System.....	11
Menu Numbers	12
Menu Navigation.....	12
Password Protection.....	13
Menu Layout	13
Parts of Line.....	14
Rated Capacity Indicators.....	14
Display Programming	15
Crane Rigging.....	15
Chart Wizard	15
Display Settings	16
Weight Units	16
Language	17
Light Intensity	17
Contrast.....	17
Backlight Mode	17
System Diagnostic.....	17
System Sensors Diagnostic.....	17
Radio Network Diagnostic.....	18
Lockout Diagnostic.....	19
Display Diagnostic	19
Digital Input Diagnostic.....	19
Installation.....	20
Display GS550	20
Mounting Bracket.....	20

Antenna Position	21
Power Supply and Lockout Connection.....	22
Lockout Settings.....	23
Password Settings	25
Datasheet	27
Load Cell	28
Angle Sensors for the Boom or Jib	29
Mounting Procedure.....	29
Angle Calibration Procedure № 1: Mechanical Set-Up	30
Angle Calibration Procedure № 2: Correct with the GS550	30
Anti-Two-Block Switch GS050	31
Length Sensor Cable Reel.....	35
Maximum Boom Extension	36
Mounting the Cable Reel	36
Boom Length Calibration Procedure № 1: Mechanical Set-Up	38
Boom Length Calibration Procedure № 2: Correct with the GS550	38
Radius.....	40
Radius Verification and Adjustment.....	40
Radius Settings.....	41
Basic Radius Parameters for a Lattice Crane	42
Basic Radius Parameters for a Telescopic Boom Crane	43
Advanced Radius Parameters	44
Wireless Wind Speed Sensor GS020	45
Wireless Load Pins	47
LP011, LP015, and LP026.....	47
Load Pin Transmitter GS001	47
Load Pins, Line Riders and Compression Cells: Calibration	48
Four Point Lift.....	49
Sum Load Indication	49
Imbalance.....	49
Slack Rope	50
List and Trim Angle Sensor	51
Programming the GS550 for List and Trim Indication	52
Mounting Instructions	52
List and Trim Angle Calibration Procedure	52
Rope Payout.....	54
Rope Payout Calibration Procedure № 1: Mechanical Set-Up	54
Rope Payout Calibration Procedure № 2: Correct with the GS550	54
Rope Payout Limits	55
Data Logger	56

Recording Modes	56
Date and Time.....	57
The Sensor List.....	58
How to Add a Sensor to the GS550.....	58
How to Remove a Sensor from the GS550.....	59
Network Options	59
Listen Only Mode.....	59
Repeater	60
Wireless Sensor Update	61
Portable Download Tool	62
Installing PDA Software.....	63
Transferring Files	63
Transfer Firmware Files from a Personal Computer to the PDA	63
Transfer Firmware Files from the PDA to a GS550.....	63
Conserve GS550 Configuration When Updating Firmware	64
Transfer Data Logger Files from the GS550 to the PDA	64
Transfer Data Logger Files from the PDA to a Personal Computer	65
Trouble Shooting PDA Communication Issues	66
Data Logger Viewer.....	67
Installation on a Personal Computer.....	67
Quick Start	67
Full Report	68
Wind Report.....	68
Maintenance.....	70
Replacing Sensor Batteries	70
Replacing Anti-Two-Block Switch Batteries.....	71
Replacing a Sensor Antenna	72
Load Cells.....	73
Reading Accuracy	73
Load Testing	74
Care.....	74
Certification Notes	75
Model Numbers.....	75
FCC and IC – Instructions to the User	76
Notes for CSA Class I, Division 1 and 2 Rated Equipment	77
CE – Declaration of Conformity	78
GS550 Menu Outline	79
GS550 Menu Locator.....	81

LSI PRODUCT WARRANTY..... 83
LSI Contact Information..... 85

Introduction

Overview

The GS550 system includes the cabin mounted GS550 radio display and compatible crane mounted sensors. The GS550 creates a two-way radio network with the sensors to bring required lift data to the operator. Hoist load, boom and jib angles, boom length, wind speed and pending two-block can be detected and indicated to the operator in real time. Working load radius can be calculated and compared to a rated capacity chart (if programmed). Furthermore the GS550 can be programmed to generate warnings, alarms and lockout commands, all triggered by adjustable thresholds and limits. All these events can be recorded by the data logger with a time and date stamp. The exact operational function of the GS550 system depends on the sensor configuration used and the rated capacity charts programmed (where applicable). The GS550 includes an infrared port to facilitate software and chart updates and data logger downloads using a compatible personal digital assistant (PDA) or cell phone. Compatible sensors include the GS050 anti-two-block, the GC series load cells and GS001 series line rider and load pin transmitters, the GS010 angle sensors, the GS011 angle sensor and length transmitter and the GS020 wind speed sensor. The GS550 system is designed as an operator aide and is in no way a substitute for safe operating practice

Version Compatibility

GS series product with version 2 firmware is not compatible with GS series product with version 1 firmware. For information on upgrading GS series product from version 1 to version 2 firmwares please contact LSI.

Start-Up

The GS550 must be correctly programmed for the system sensors installed. The GS550 powers up with several green lights flashing, this indicates that the display is waking up programmed sensors and creating a radio communication link with each. Once a reliable radio communication network is established, all green lights will remain lit without flashing.

This process may take up to one minute. The delay is created by the battery management function and does not affect system security. If an anti-two-block switch detects a pending two-block event, if a load cell detects a change in load, or if an angle sensor detects a change in angle, the appropriate radio link will be established in less than 0.1 seconds. To immediately wake-up a load cell, lift the hook with a load; to immediately wake up an angle sensor, change the boom angle.

In special conditions of lockout created by a missing sensor, you may bypass that sensor until the next display power up by pressing bypass for 10 seconds. That sensor green light should stop flashing and then turn off.

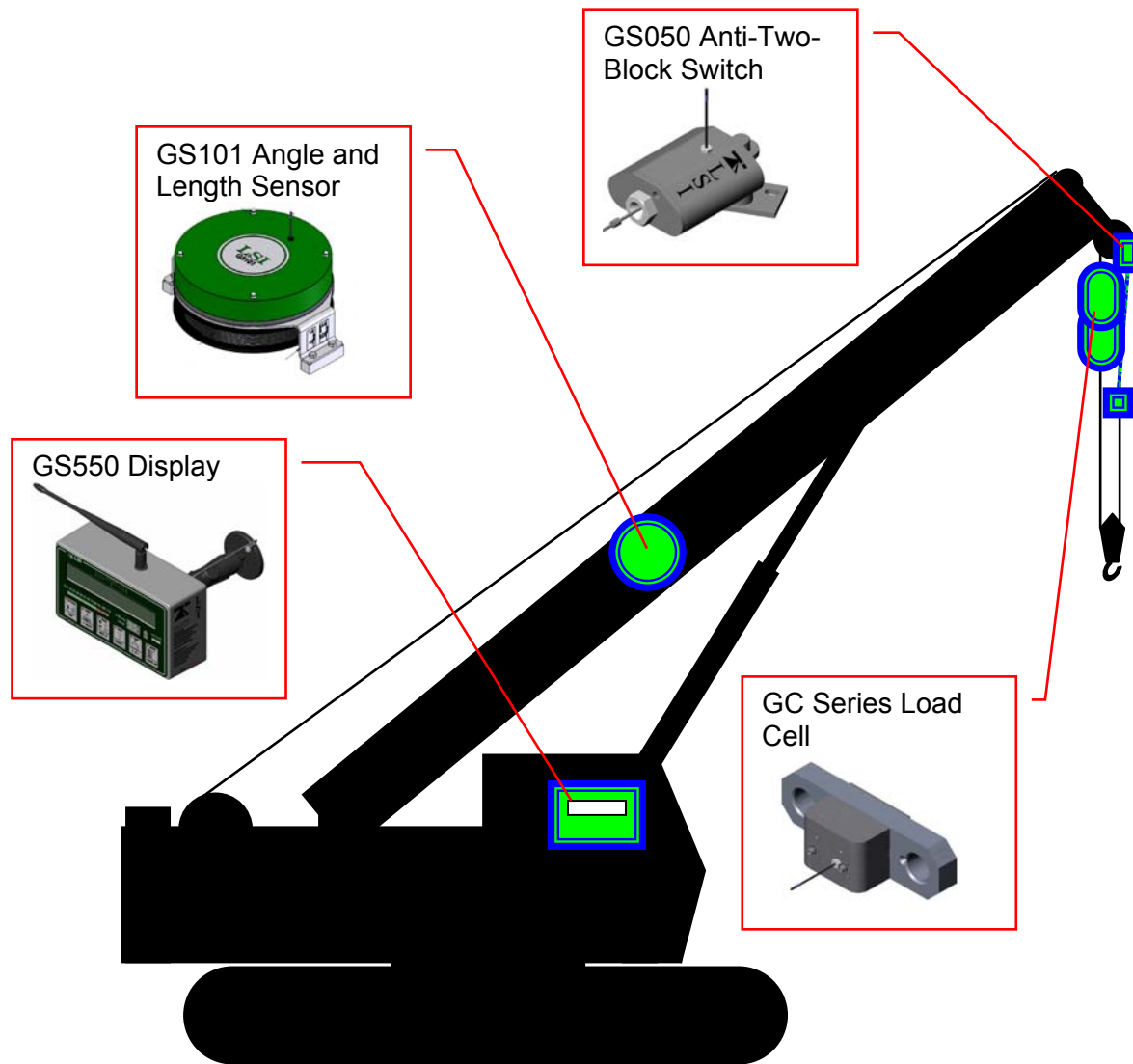


Figure: Key components in a typical system