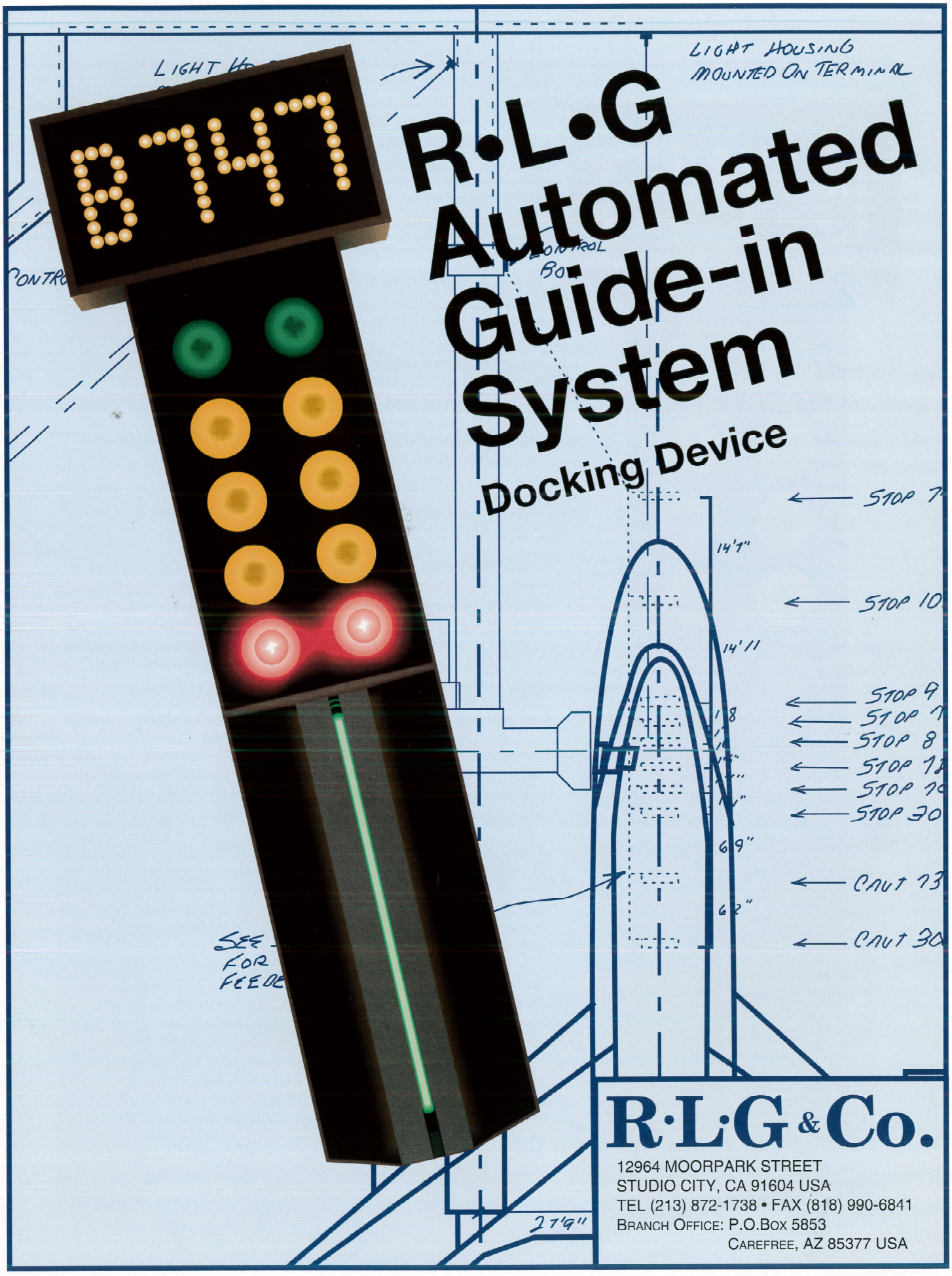
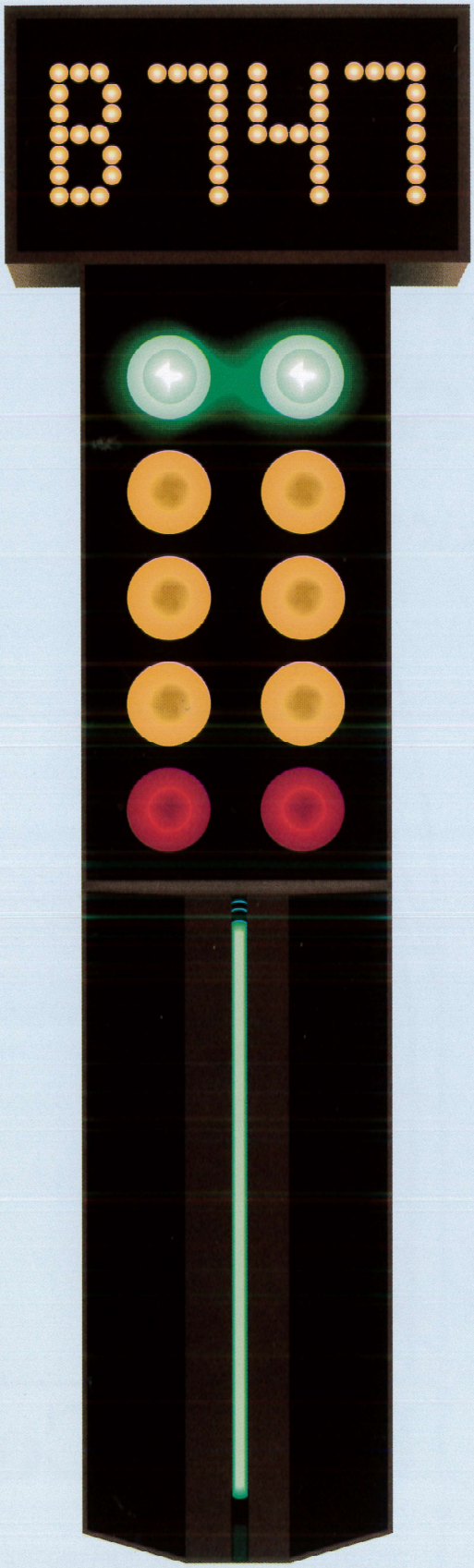


R·L·G Automated Guide-in System

Docking Device

R·L·G & Co.
12964 MOORPARK STREET
STUDIO CITY, CA 91604 USA
TEL (213) 872-1738 • FAX (818) 990-6841
BRANCH OFFICE: P.O.BOX 5853
CAREFREE, AZ 85377 USA



The RLG AUTOMATED GUIDE-IN SYSTEM has been developed — 1969 — to guide in and stop aircraft in a precise position at airport terminals. New airport design generally calls for nose-in docking with precision positioning of aircraft to loading bridges and fuel pits. The RLG System is designed to this concept, and with the addition of wide-bodied aircraft, to accommodate all aircraft types on a single docking device, without error factor involved with changes in height of aircraft due to variation in gross weight. The system complies with ICAO Annex 14 recommendations.

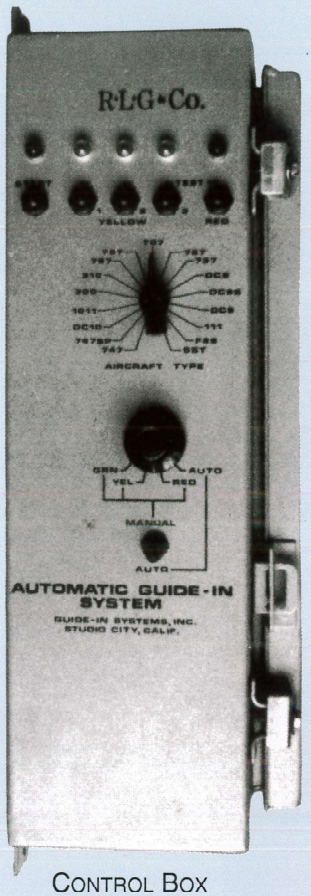
Parking tolerance to loading bridge with aircraft having pilot tubes forward of the passenger doors is extremely critical. The RLG System holds a tolerance of ± 6 inches.

The RLG System consists of a metal enclosure housing attached to the terminal building or other support precisely lined up perpendicular to and 21inches left of the aircraft J line or center line — this dimension aligns to the center of the left hand pilot seat. The bottom of the enclosure housing contains 3 neon tubes — a green tube flanked by 2 red tubes. The green tube is encased in baffles, the red tubes behind flanges so as not to be visible straight-on. When the pilot is taxiing in and can see only the green tube, the aircraft is in a correct center line position — ± 3 inches — if a line of red is visible on either side, the aircraft is off line in that direction — see illustrations.

The upper half of the enclosure housing contains digital aircraft indicators — B747, MD10, A300, etc. — up to 31 different types as required for a particular position for aircraft mix.

The incandescent lamps below the aircraft indicator are in five sets of lamps — top, green — center three, amber — bottom, red. These function as follows — green indicating ramp clear, ready for aircraft, Guide-In system has been programmed for aircraft type indicated — amber 1, 32 ft. (10M) to stop — amber 2, 16 ft. (5M) to stop — amber 3, 6 ft. (2M) to stop — red, STOP.

The control unit is turned on by activating the START switch on a control box at base of ramp. After that one command, the system is completely automatic. The red and amber lamps are activated by the aircraft as its nose wheel passes over induction loops in the ramp. These loops are turns of wires in ¼ inch wide by 1½ inch deep saw cuts in a rectangular configuration 1 foot by 6 feet. The wires are covered with epoxy — voltage less than 5 volts. Since aircraft are different dimensions nose wheel to passenger doors, separate sets of loops required for different types. However, where apron drive loading bridges are available and fueling pits are flexible, it is possible to accommodate various types of aircraft with common loops.



CONTROL BOX

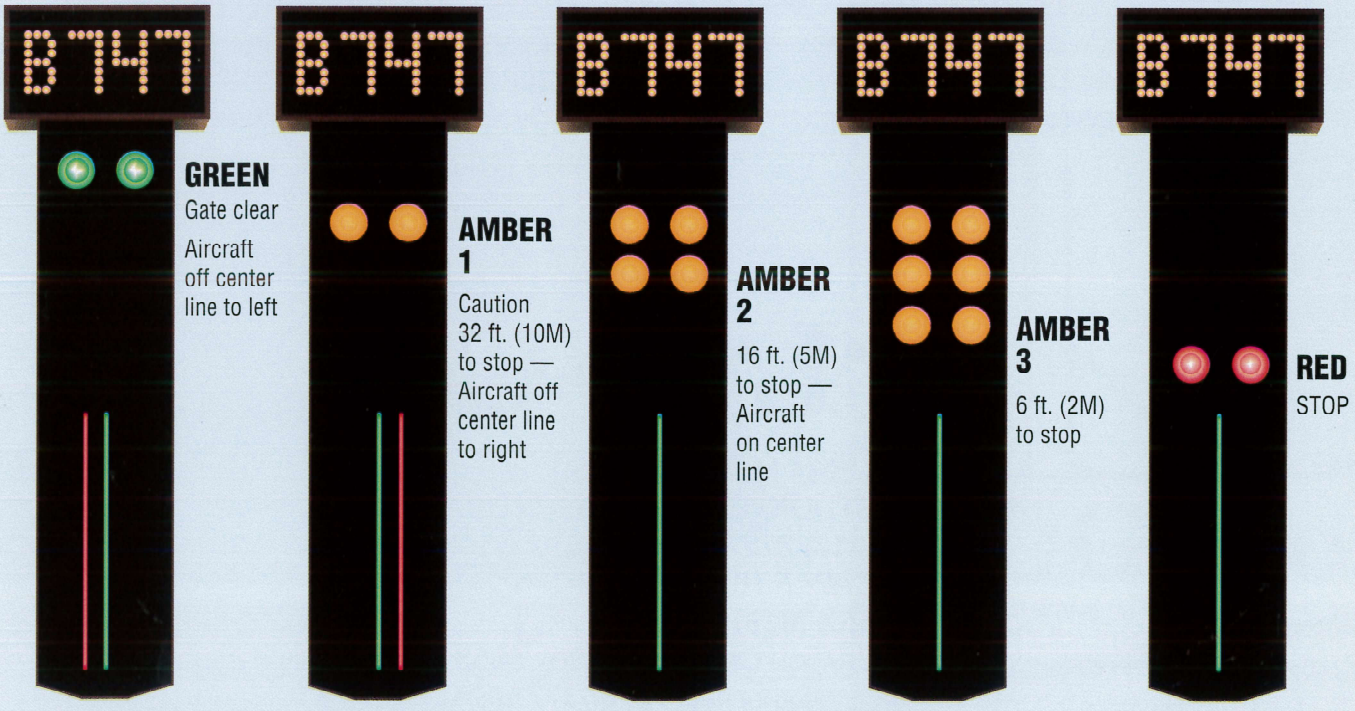
There is a selector switch on the control box with a position for each type of aircraft — up to 23 different types. In order for the ground crew to activate the START switch to indicate the readiness of the gate to receive a particular aircraft, the proper switch position must be selected. After docking, recycling is not necessary since controlling circuitry automatically deactivates the entire system approximately 10 seconds after activation of the red lamps. This lengthens the life of the electrical equipment as well as eliminating the possibility of an aircraft entering the gate with the wrong controlling loops activated.

The RLG System can accommodate two or more separate center lines with a single control box to accommodate wide/narrow body aircraft mix for maximum parking positions at adjacent gates. This can also accommodate inflexible fueling pit locations without expensive relocation of fueling pits.

An emergency stop switch is on the control box which overrides circuitry activating the red stop lights. This may be required should auxiliary vehicles obstruct the path of parking aircraft, loading bridges improperly stowed, etc. Semi-automatic and manual switches are on controller for remote or temporary parking positions. "Dead-man" switch is optional.

Additional "fail safe" devices have been incorporated. The incandescent lamps are in twos, using thermistors and reduced voltage to lengthen life of the lamps and to insure that one will burn if the other is out. Screens and shades are on light housing and aircraft indicator so that lights will not dazzle pilot. A search system is installed which de-activates the entire system should both lamps fail. Pilots are instructed that this means STOP. A printed circuit check system is included which will automatically check system controls and show condition with indicator lights on the control panel.

The RLG System is all-weather with loops cut into ramp below surface and unaffected by rain or snow. System will activate when loops in ramp are under several inches of snow or ice. All components in the control box are solid state and will operate in extreme heat or cold. The detectors meet all state, federal and international specifications on temperature requirements.



OVER 700 WORLD WIDE INSTALLATIONS

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