L-854 Radio Control Equipment

RCE, Type I, Style A

Spare Parts List

SP-3002, Rev. v2.4.0, 2026-03-11

ADB SAFEGATE

A.0 Disclaimer / Standard Warranty

CE certification

The equipment listed as CE certified means that the product complies with the essential requirements concerning safety and hygiene. The European directives that have been taken into consideration in the design are available on written request to ADB SAFEGATE.

ETL certification

The equipment listed as ETL certified means that the product complies with the essential requirements concerning safety and C22.2 No.180:13 (R2018) regulations. The CSA directives that have been taken into consideration in the design are available on written request to ADB SAFEGATE.

All Products Guarantee

ADB SAFEGATE will correct by repair or replacement per the applicable guarantee below, at its option, equipment or parts which fail because of mechanical, electrical or physical defects, provided that the goods have been properly handled and stored prior to installation, properly installed and properly operated after installation, and provided further that Buyer gives ADB SAFEGATE written notice of such defects after delivery of the goods to Buyer. Refer to the Safety section for more information on Material Handling Precautions and Storage precautions that must be followed.

ADB SAFEGATE reserves the right to examine goods upon which a claim is made. Said goods must be presented in the same condition as when the defect therein was discovered. ADB SAFEGATE furthers reserves the right to require the return of such goods to establish any claim.

ADB SAFEGATE's obligation under this guarantee is limited to making repair or replacement within a reasonable time after receipt of such written notice and does not include any other costs such as the cost of removal of defective part, installation of repaired product, labor or consequential damages of any kind, the exclusive remedy being to require such new parts to be furnished.

ADB SAFEGATE's liability under no circumstances will exceed the contract price of goods claimed to be defective. Any returns under this guarantee are to be on a transportation charges prepaid basis. For products not manufactured by, but sold by ADB SAFEGATE, warranty is limited to that extended by the original manufacturer. This is ADB SAFEGATE's sole guarantee and warranty with respect to the goods; there are no express warranties or warranties of fitness for any particular purpose or any implied warranties of fitness for any particular purpose or any implied warranties other than those made expressly herein. All such warranties being expressly disclaimed.

Standard Products Guarantee

Products manufactured by ADB SAFEGATE are guaranteed against mechanical, electrical, and physical defects (excluding lamps) which may occur during proper and normal use for a period of two years from the date of ex-works delivery, and are guaranteed to be merchantable and fit for the ordinary purposes for which such products are made.

Note

See your applicable sales agreement for a complete warranty description.

Replaced or repaired equipment under warranty falls into the warranty of the original delivery. No new warranty period is started for these replaced or repaired products.

FAA Certified products manufactured by ADB SAFEGATE

ADB SAFEGATE L858 Airfield Guidance Signs are warranted against mechanical and physical defects in design or manufacture for a period of 2 years from date of installation, per FAA AC 150/5345-44 (applicable edition).

ADB SAFEGATE LED products (with the exception of obstruction lighting) are warranted against electrical defects in design or manufacture of the LED or LED specific circuitry for a period of 4 years from date of installation, per FAA EB67 (applicable edition). These FAA certified constant current (series) powered LED products must be installed, interfaced and powered with and through products certified under the FAA Airfield Lighting Equipment Program (ALECP) to be included in this 4 (four) year warranty. This includes, but is not limited to, interface with products such as Base Cans, Isolation Transformers, Connectors, Wiring, and Constant Current Regulators.

Note

See your sales order contract for a complete warranty description.

Replaced or repaired equipment under warranty falls into the warranty of the original delivery. No new warranty period is started for these replaced or repaired products.

Liability

WARNING

Use of the equipment in ways other than described in the catalog leaflet and the manual may result in personal injury, death, or property and equipment damage. Use this equipment only as described in the manual.

ADB SAFEGATE cannot be held responsible for injuries or damages resulting from non-standard, unintended uses of its equipment. The equipment is designed and intended only for the purpose described in the manual. Uses not described in the manual are considered unintended uses and may result in serious personal injury, death or property damage.

Unintended uses, includes the following actions:

- Making changes to equipment that have not been recommended or described in this manual or using parts that are not genuine ADB SAFEGATE replacement parts or accessories.
- Failing to make sure that auxiliary equipment complies with approval agency requirements, local codes, and all applicable safety standards if not in contradiction with the general rules.
- Using materials or auxiliary equipment that are inappropriate or incompatible with your ADB SAFEGATE equipment.
- Allowing unskilled personnel to perform any task on or with the equipment.

Copyright Statement

Table of Contents

List of Figures

List of Tables

1.0 L-854 Radio Control Equipment

Type I, Style A.

L -854 RCE Digital Radio Control, Air-to-ground (Type I) radio control

The ETL-Certified RCE provides unattended, all-weather, air-to-ground radio control of airport lighting systems. Simple to install, the radio controller allows the frequency (from 118.0 to 136.0MHz VHF — tunable in 25 KHz increments) to be programmed by the user. The controller is also flexible with an input power of 120 or 240V AC, ±10 percent, 50/60Hz or 12-48V DC, ±20 percent, and two independent sets of output relays that can be programmed for either individual or incremental operation. The controller also has a built-in speaker with volume control and a whip or remote antenna. For Canadian applications, the L-854 is configurable as a Type J or Type K ARCAL unit via DIP switch selection.

1.1 Introduction

L-854 Radio Control Equipment

See Figure 1 L-854 Radio Control Equipment.

This section describes the L-854 Type I Radio Control system.

Figure 1: L-854 Radio Control Equipment

The L-854 Type I Radio Control system is used for air-to-ground control of airport lighting facilities. This equipment is manufactured to FAA specification AC 150/5345-49.

L-854 Radio Control Equipment

The L-854 Radio Control, consisting of an AM receiver and a Style A decoder, is a completely self-contained system for controlling lighting functions on an airport from a remote radio transmitter. The transmitter is usually the communications transmitter in an aircraft.

The Radio Control has two sets of three output relays operated by keying the transmitter in specific sequences. Either set of relays can operates in either a cumulative fashion, or in single output mode, where only one relay in the set is on at a time. To power these relays, pilots can set their communications transmitters to the frequency to which the L-854 is tuned.

Three clicks of the mike button within five seconds powers the lighting system on the low (10) brightness setting. Five clicks of the mike button within five seconds powers the lighting system on the medium (30) brightness setting. Seven clicks of the mike button within five seconds powers the lighting system on the high (100) brightness setting. The L-854 Radio Control can be field programmed for three, five, and seven clicks to change the light settings.

The contacts of the relays in the L-854 are for control purposes only. They are rated 3 amps (inductive) and are capable of operating the coils or power relays. They are not intended to switch lighting-load currents.

1.2 Digital Radio Control

Compliance with Standards

FAA	L-854 AC 150/5345-49 (Current Edition). ETL Certified.
ICAO	Aerodrome Design Manual, Part 5 para. 3.4.6.(25 KHz only)
FCC	47 CFR, Part 15:2007 (Class A).
T/C	Transport Canada TP 312 - Aerodromes Standards and Recommended Practices.

Uses

FAA L-854, ICAO, FCC & TP 312

Provides air-to-ground (Type I) radio control of airport lighting systems.

Application

The primary function of the L-854 Radio Controller is to allow maximum utilization of airport runway lighting systems during times when the airport is unattended.

Runway or approach lighting systems may be activated and intensity controlled remotely by using the L-854 Radio Controller. This is accomplished by the simple process of keying the microphone button of the regular VHF communication transmitter in the approaching aircraft. No special airborne equipment or adapters are required. Two independent sets of output relays can be programmed for either individual or incremental operation.

The lights are activated remotely from the air and remain on for a period of 15 minutes and turn off automatically thereafter. Additional timer settings of 1, 30, 45 and 60 minutes are available. Selectable re-command enable/disable prevents setting outputs to a different state until the L-854 has timed out.

Selectable decoder enable/disable prevents multiple relay operation during the daytime when ATC normally controls the lights.

Runway edge lighting, MALSR, or REILs are prime candidates for radio control operation.

In Canada, ARCAL systems are generally available in two forms. Type J allows connected systems to be activated at a single intensity. Type K allows three selections of connected systems and are generally used to scale the light intensity selection on connected high and medium intensity lights.

Electrical

The Receiver is a single-conversion super-heterodyne design operating at a nominal radio frequency within the VHF band 118 to 136 MHz. The sensitivity is adjustable from 1 to 30 microvolts as desired by the user, permitting a control range of 1 to 20 miles. The receiver is adjustable in steps of 25.0 KHz (0.025 MHz) between 118.0 and 136.0 MHz VHF. The Unic ,kom channel, 122.8 MHz, is a frequent choice. Decoding is accomplished by solid-state digital circuitry, which is designed to sense the presence of three, five, or seven pulses within a five-second time period. The digital circuitry determines if any of these conditions exist and affect proper output relay closures. The L-854 Radio Control Equipment complies with FCC Part 15 rules and regulations.

Input Power Requirements

Voltage	Maximum VA
12 VDC	11[1]
48 VDC	13
120 VAC	15[2]
240 VAC	18[2]

1.2.1 FCC Part 15 Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

[1] Typical standby power is 4 VA at 12 VDC for calculating solar power autonomy

[2] The optional 40 A relay will add 10 VA when energized

L-854 Radio Control Equipment

2.0 Parts

2.1 Parts Diagrams

Figure 2: RCE Display View

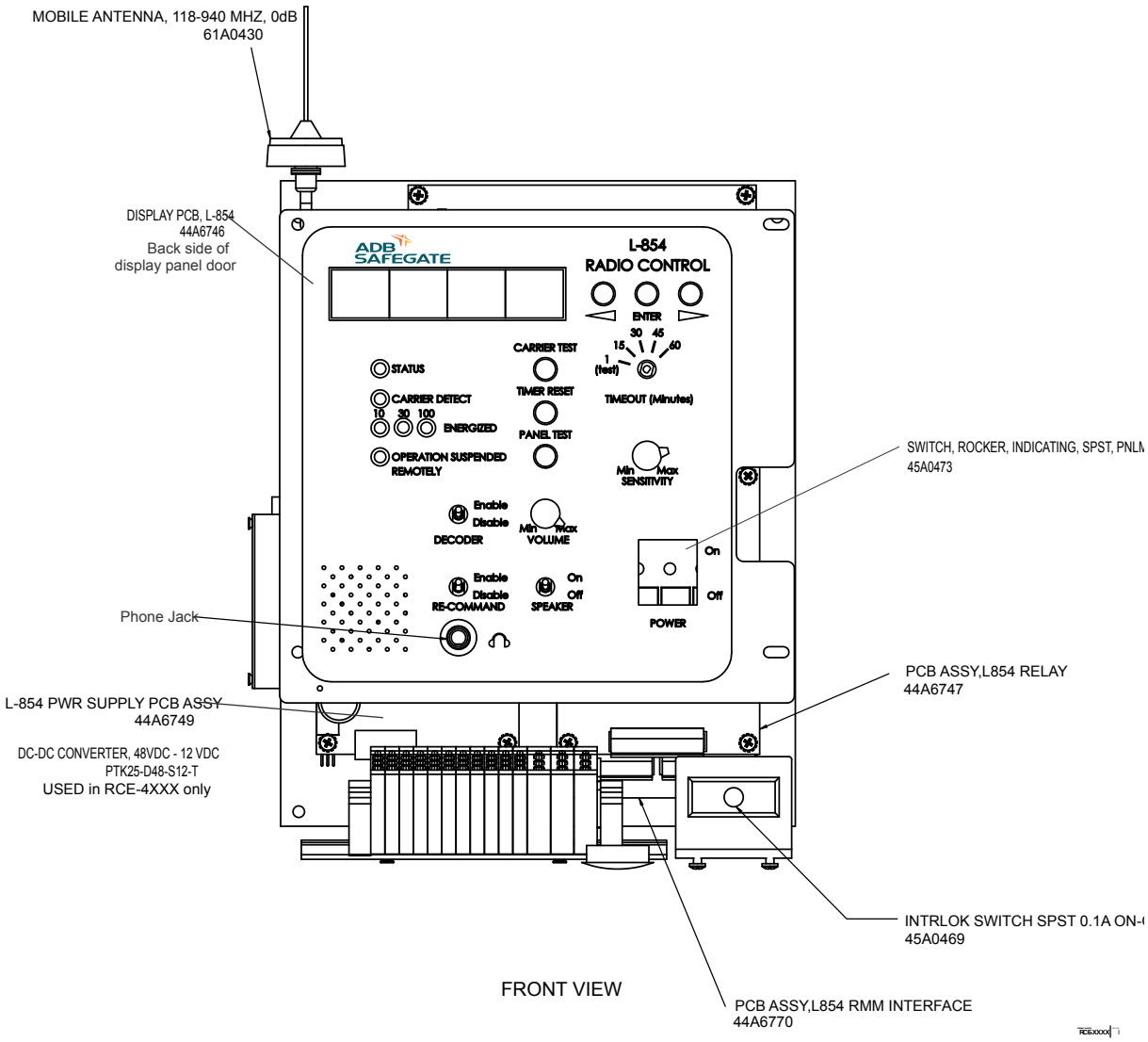
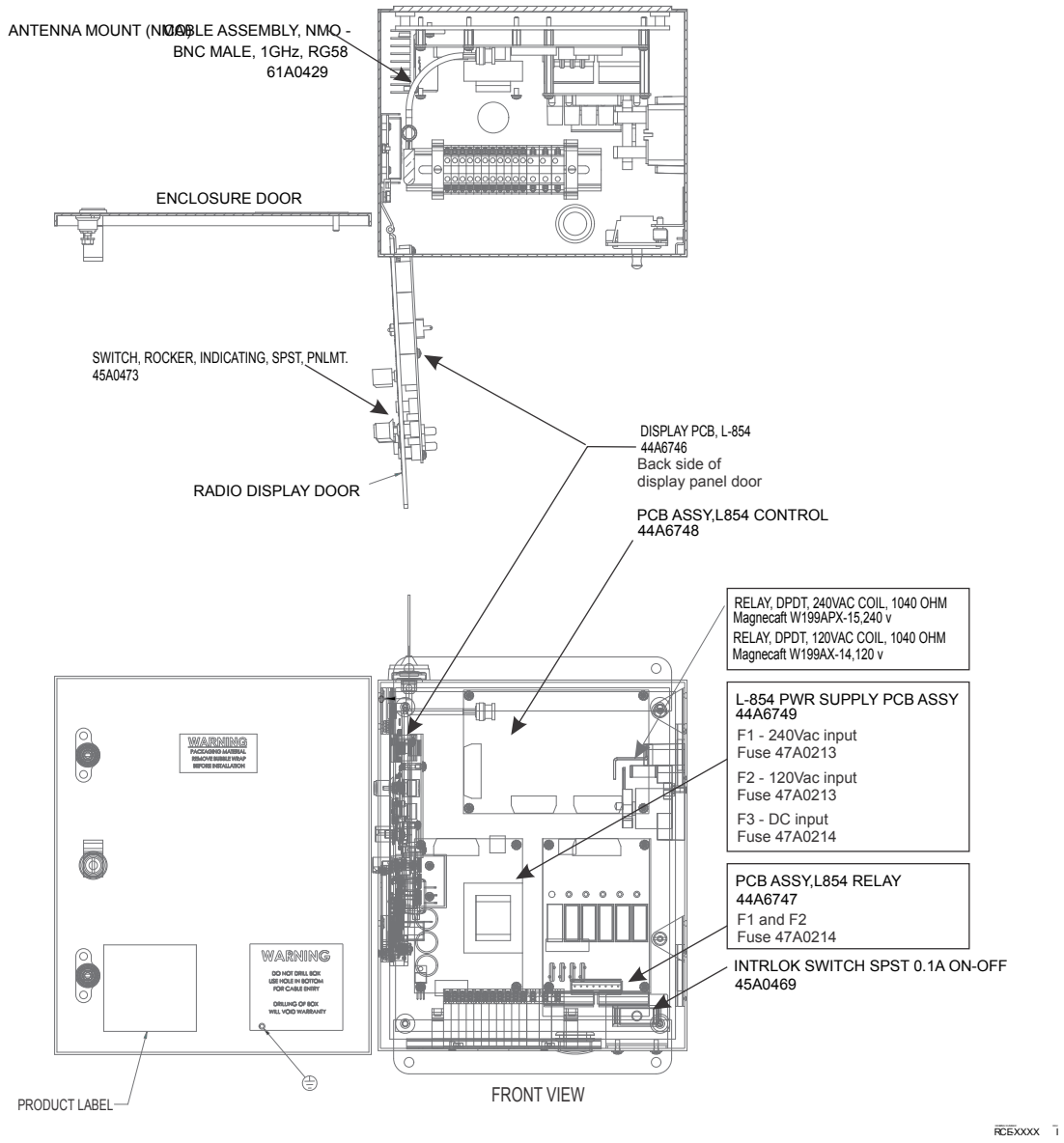


Figure 3: RCE Interior Views



2.2 Spare Parts

Create a sufficiently large stock of spare parts to maintain the L -854 RCE Digital Radio Control in the field. Consider acquiring approximately 10% spare final assemblies (with a minimum quantity of 1) for the total amount of equipment in the field. This allows for repairs to be made in the shop. Components that are more likely to need replacement, such as PCB subassemblies should be stocked in smaller quantities. For the unit, it is highly recommended to have a least one entire unit as a spare, or for larger installations, at least 10% of the total units installed.

For the L -854 unit, see the table below for spares.

- Consider acquiring 10% spares for critical components noted as (A) in the table below. If only a small number of units are installed, consider acquiring at least 1 of each of the components noted as (A) below.
- Also consider acquiring 1% spares for parts noted as (B) in the table below. If it is important to have a robust level of spare parts on hand, and only a small number of units are installed, consider acquiring 1 of each of the components noted as (B) below.

Table 1: Spare Parts

Part Number	Description	Location	Note	Spares
44A6748	Radio Control Board	Figure 3		A
44A6749	Radio Power Supply Board	Figure 2		A
44A6747	Radio Relay Board (3A)	Figure 3		A
44A6746	Radio Display Board	Figure 2		A
45A0473	Power Switch	Figure 3		A
45A0469	Door Interlock Switch	Figure 2		A
53A0432	Relay (40A)	Wiring Diagrams	Option	
89A0286/12	20-pos Ribbon Cable	Wiring Diagrams		B
89A0284/10	14-pos Ribbon Cable	Wiring Diagrams		B
89A0285/06	16-pos Ribbon Cable	Wiring Diagrams		B
47A0213	Fuse, .5A 5mm x 20mm SLO BLO	Figure 3	3	A
47A0214	Fuse, 5A 5mm x 20mm SLO BLO	Figure 3	3	A
61A0430	Whip Antenna			B
61A0429-01	Internal Antenna Mounting Kit (with cable)			B
61A0447	Remote Antenna Cable (50 ft / 12.24m)		Option	
61A0447/100	Remote Antenna Cable (100 ft / 30.5m)		Option	
61A0448	Standard Remote Antenna (Rami AV-5)		Option	
61A0470	Heavy Duty Remote Antenna (Rami AV-1)		Option	

Appendix A: Support

Our experienced engineers are available for support and service at all times, 24 hour/7 days a week. They are part of a dynamic organization making sure the entire ADB SAFEGATE is committed to minimal disturbance for airport operations.

ADB SAFEGATE Support

Technical Support – Global

Customers in Europe, the Middle East, Africa and Asia Pacific are more than welcome to our portal for technical support. Trained in all areas of system issues, troubleshooting, quality control and technical assistance, our highly experienced Technical support specialists are available 24 hours a day, seven days a week to provide assistance over the phone.

Europe: **+32-2-722-17-11**

China: **+86-10-8476-0106**

Middle East and Africa: **+971-4-452-7575**

In the Americas, we also offer live technical support.

Live Technical Support – Americas

If at any time you have a question or concern about your product, contact ADB SAFEGATE's US-based technical support specialists, available 24 hours a day, seven days a week, to assist you via phone.

ADB SAFEGATE Americas Technical Service & Support (US & Canada) :**+1-800-545-4157**

ADB SAFEGATE Americas Technical Service & Support (Canada): **+1-905-631-1597**

ADB SAFEGATE Americas Technical Service & Support (International): **+1-614-861-1304**. For technical service press 3 and for sales support press 4.

We can also be reached via email during regular business hours.

Airfield and Gate: **techservice.us@adbsafegate.com**

Gate: **gateservice.us@adbsafegate.com**

We look forward to working with you!

Before You Call

When you have an airfield lighting or control system problem, prior to calling, please ensure the following:

- Review the product's manual and troubleshooting guide.
- Be located with the product ready to troubleshoot.
- Have all necessary information available: airport code/company name, customer id number, contact phone number/email address, product/part number.
- Have all necessary tools that may be needed at hand.

When calling about an issue with Safedock A-VDGS, we can serve you better if you collect the following information before you call:

- Relevant information regarding the issue you are calling about, such as gate number, flight number, aircraft type and time of the event.
- What, if any, actions have been taken to resolve the issue prior to the call.
- If available, provide a CCTV recording of the incident to aid in aligning the information from the Safedock log file.

For more information, see www.adbsafegate.com, contact ADB SAFEGATE Support via email at **support@adbsafegate.com**.

A.1 ADB SAFEGATE Website

The ADB SAFEGATE website, www.adbsafegate.com, offers information regarding our airport solutions, products, company, news, links, downloads, references, contacts and more.

A.2 Recycling

A.2.1 Local Authority Recycling

The disposal of ADB SAFEGATE products is to be made at an applicable collection point for the recycling of electrical and electronic equipment. The correct disposal of equipment prevents any potential negative consequences for the environment and human health, which could otherwise be caused by inappropriate waste handling. The recycling of materials helps to conserve natural resources. For more detailed information about recycling of products, contact your local authority city office.

A.2.2 ADB SAFEGATE Recycling

ADB SAFEGATE is fully committed to environmentally-conscious manufacturing with strict monitoring of our own processes as well as supplier components and sub-contractor operations. ADB SAFEGATE offers a recycling program for our products to all customers worldwide, whether or not the products were sold within the European Union (EU).

ADB SAFEGATE products and/or specific electrical and electronic component parts which are fully removed/separated from any customer equipment and returned will be accepted for our recycling program.

All items returned must be clearly labeled as follows:

- For Restriction of Hazardous Substances (*RoHS*)/Waste Electrical and Electronic Equipment (*WEEE*) Recycling
- Sender contact information (Name, Business Address, Phone number).
- Main Unit Serial Number.

ADB SAFEGATE will continue to monitor and update according for any future requirements for *EU directives* as and when *EU member states* implement new *regulations* and or *amendments*. It is our aim to maintain our *compliance plan* and assist our customers.

Empowering the Airside Evolution

WWW.ADBSAFEGATE.COM

SMARTER. BETTER. NOW.

ADB SAFEGATE