# UL 452

## STANDARD FOR SAFETY

Antenna – Discharge Units

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER
REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

UL Standard for Safety for Antenna – Discharge Units, UL 452

Seventh Edition, Dated November 2, 2006

***Summary of Topics***

***This reaffirmation of ANSI/UL 452 dated August 27, 2026 is issued to update the title page to reflect the most recent designation as a Reaffirmed American National Standard (ANS). No technical changes have been made.***

Text that has been changed in any manner or impacted by ULSE's electronic publishing system is marked with a vertical line in the margin.

The requirements are substantially in accordance with Proposal(s) on this subject dated July 10, 2026.

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form by any means, electronic, mechanical photocopying, recording, or otherwise without prior permission of ULSE Inc. (ULSE).

ULSE provides this Standard "as is" without warranty of any kind, either expressed or implied, including but not limited to, the implied warranties of merchantability or fitness for any purpose.

In no event will ULSE be liable for any special, incidental, consequential, indirect or similar damages, including loss of profits, lost savings, loss of data, or any other damages arising out of the use of or the inability to use this Standard, even if ULSE or an authorized ULSE representative has been advised of the possibility of such damage. In no event shall ULSE's liability for any damage ever exceed the price paid for this Standard, regardless of the form of the claim.

Users of the electronic versions of UL's Standards for Safety agree to defend, indemnify, and hold ULSE harmless from and against any loss, expense, liability, damage, claim, or judgment (including reasonable attorney's fees) resulting from any error or deviation introduced while purchaser is storing an electronic Standard on the purchaser's computer system.

*ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.*

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

**NOVEMBER 2, 2006**
(Title Page Reprinted: August 27, 2026)



# UL 452

## Standard for Antenna – Discharge Units

First Edition – December, 1953
Second Edition – July, 1967
Third Edition – April, 1972
Fourth Edition – October, 1977
Fifth Edition – November, 1987
Sixth Edition – August, 1993

**Seventh Edition**

**November 2, 2006**

This ANSI/UL Standard for Safety consists of the Seventh Edition including revisions through August 27, 2026.

The most recent designation of ANSI/UL 452 as a Reaffirmed American National Standard (ANS) occurred on August 27, 2026. ANSI approval for a standard does not include the Cover Page, Transmittal Pages, and Title Page.

Comments or proposals for revisions on any part of the Standard may be submitted to ULSE at any time. Proposals should be submitted via a Proposal Request in the Collaborative Standards Development System (CSDS) at https://csds.ul.org.

Our Standards for Safety are copyrighted by ULSE Inc. Neither a printed nor electronic copy of a Standard should be altered in any way. All of our Standards and all copyrights, ownerships, and rights regarding those Standards shall remain the sole and exclusive property of ULSE Inc.

**© 2026 ULSE Inc. All rights reserved.**

*ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.*

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

## CONTENTS

### INTRODUCTION

1 Scope ..... 5
2 References ..... 5

### CONSTRUCTION

3 General ..... 5
4 Enclosure ..... 5
5 Protection Against Corrosion ..... 5
6 Insulating Material ..... 5
7 Current-Carrying Parts ..... 5
8 Terminals ..... 6
9 Fuses ..... 6

### PERFORMANCE

10 Internal Resistance ..... 6
11 Discharge Test ..... 7
12 Installation Test ..... 7

### MARKING

13 Details ..... 7

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

No Text on This Page

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.

## INTRODUCTION

### 1 Scope

1.1 These requirements cover antenna-discharge units for radio and television receiving equipment and amateur radio-transmitting and -receiving equipment, to be employed in accordance with the National Electrical Code, NFPA 70.

1.2 An antenna-discharge unit – hereinafter referred to as a discharge unit – as covered by these requirements consists of a gap, a fixed resistance or other discharge element, or a combination of such features, connected between each antenna lead-in terminal and a grounding terminal.

### 2 References

2.1 Any undated reference to a code or standard appearing in the requirements of this standard shall be interpreted as referring to the latest edition of that code or standard.

## CONSTRUCTION

### 3 General

3.1 A gap-type discharge unit shall have a fixed gap that is constructed so that it cannot be readily altered or adjusted in the field.

3.2 A discharge unit of other than the gap type shall be constructed so that the resistance between the antenna and ground terminals cannot be readily altered or adjusted in the field.

### 4 Enclosure

4.1 The discharge chamber of a discharge unit shall be dust tight and, if the discharge unit is intended for outdoor use, the discharge chamber shall be watertight.

4.2 A discharge unit shall have means for mounting.

### 5 Protection Against Corrosion

5.1 Iron and steel parts shall be protected against corrosion by enameling, galvanizing, plating, or an equivalent means.

### 6 Insulating Material

6.1 A base or body for the mounting or enclosing of uninsulated live parts shall be of moisture-resistant insulating material.

6.2 Material for the mounting of uninsulated live parts shall be porcelain, phenolic composition, or other material acceptable for the application. Fiber and rubber are not acceptable. A material other than the above shall be appropriately investigated.

### 7 Current-Carrying Parts

7.1 A current-carrying part shall be brass, phosphor-bronze, carbon, or other corrosion-resistant material.

ULSE INC. COPYRIGHTED MATERIAL – NOT AUTHORIZED FOR FURTHER REPRODUCTION OR DISTRIBUTION WITHOUT PERMISSION FROM ULSE INC.