



TS69

TS65

TS55

TS45

TS5768

illuminITE™ TS SERIES

INSTALLATION/OWNER'S MANUAL

Car Audio Speakers

DUAL AUDIO

LOUD & CLEAR





Getting Started

Thank you for purchasing the TS Series car speakers. Although Dual has attempted to make sure all of the information contained within this manual is accurate, please be aware that any part of it is subject to change without notice.

Safety



CAUTION

This symbol is intended to alert the user to the presence of important instructions. Failure to heed these instructions can result in injury or unit damage.



CAUTION

To prevent injury and damage to the unit, please read and follow the instructions in this manual.



CAUTION

If you feel unsure about installing this system yourself, have it installed by a qualified audio technician.



CAUTION

Before installation, disconnect the battery negative (-) terminal to prevent damage to the unit, fire and/or possible injury.



CAUTION

Do not connect Amplifier or any audio source to illuminite inputs. Inputs are designed for 12 volt power source only.

Installation



CAUTION The following installation instructions are very basic. If you feel unsure about personally installing this speaker system, Dual recommends acquiring the services of a professional car audio installation center.

Before installation, please follow these guidelines:

1. Be sure to carefully read and understand the instructions before attempting to install this product.
2. For safety, disconnect the negative terminal from the battery prior to beginning the installation.
3. For easier assembly: If additional wiring is required, we recommend running all wires prior to mounting your speaker in place.
4. Use the highest quality connectors for a reliable installation and to minimize signal or power loss.
5. Use caution before you drill or cut! Be careful not to cut or drill into gas tanks, fuel lines, brake or hydraulic lines, vacuum lines or electrical wiring when working on any vehicle.
6. Never run speaker wires underneath your vehicle. Running speaker wires inside the vehicle provides the best protection from exhaust heat and environmental elements.
7. Avoid running wires over, near, or through sharp edged surfaces. We suggest you also use rubber grommets to protect any wires routed through metal, especially the firewall.
8. Do not connect audio outputs from your amp or receiver to the illuminite inputs of the speakers. This **WILL DAMAGE** the LEDs and **WILL void** your warranty.



illuminITE™

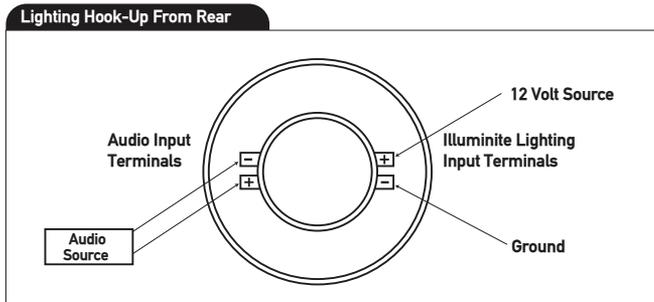
Lighting Hook-Up Recommendations

The illuminite lighting elements of your TS series products provide you with a unique custom touch to your vehicle. Dual's patent pending illuminite bulb system and control circuitry provides an extraordinary lighted-hue illumination which allows great creative opportunities for the beginner and seasoned custom installer alike. The interior of your vehicle will never sound or look ordinary again. Let your imagination take you there.

The lighting features of all illuminite products require a 12 volt DC power source to operate. The speaker has two distinct sets of input terminals. The first is labeled audio input terminals and the second is labeled illuminite lighting inputs. The inputs are clearly marked with a label positioned directly above the terminal housing. The polarity (+ and -) indicators for each set of inputs also appear on these labels.

1. Do not connect amplifier or any audio source to illuminite lighting inputs. Inputs are designed for switched 12 volt DC power source only.
2. See fig. 1a. (illustrated wiring diagram) be sure to maintain polarity. Be sure to connect to a switched 12 volt DC source. Correct connection would be the positive (+) 12 volt wire to the Positive (+) illuminite Lighting input terminal and connect the Negative (-) illuminite lighting input terminal to a good chassis ground.

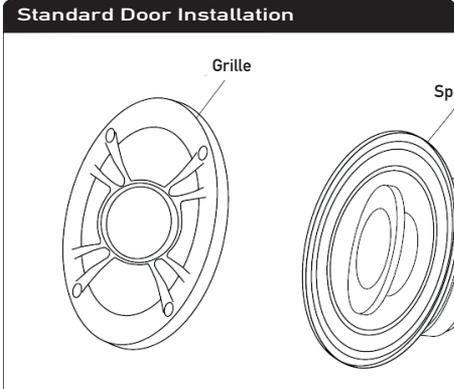
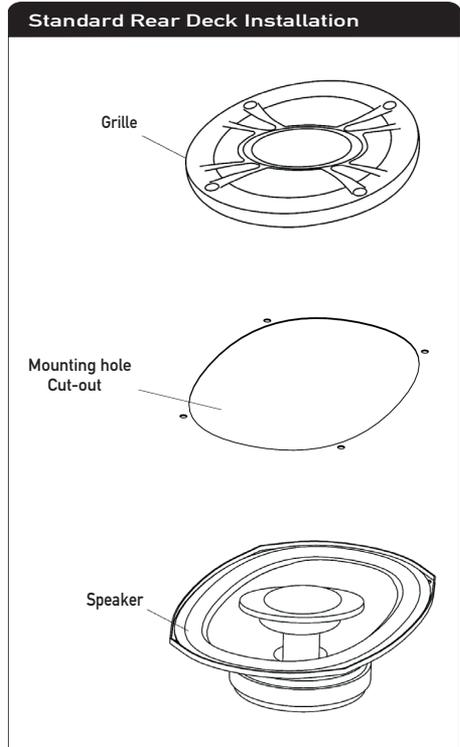
Fig 1a



Notice: The illuminite series LED illumination elements are not removable. There are no serviceable parts inside or attached to the speaker assembly. The illuminite series products are sensitive electronic devices. Removal or tampering with any part or portion of the speaker and/or its assemblies will damage the product and void the limited warranty.

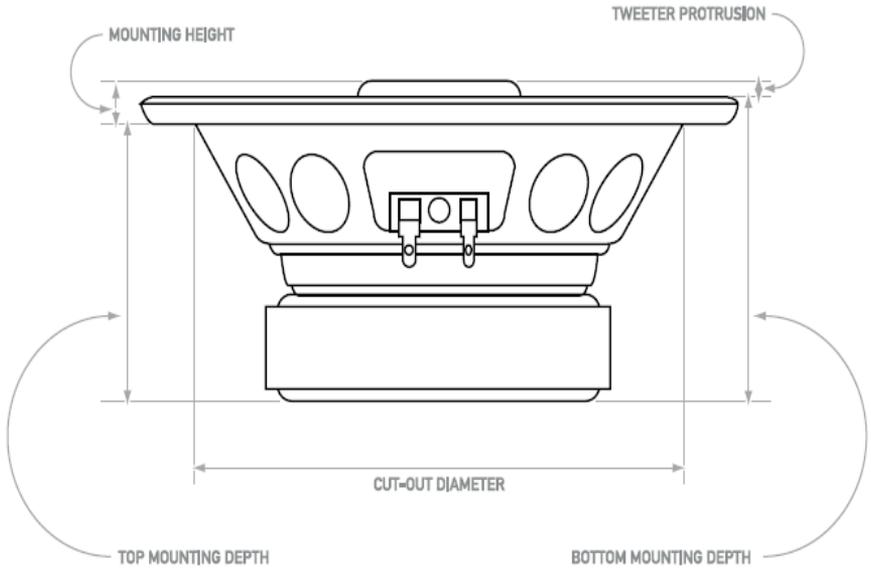
Mounting

1. Determine where the speakers will be mounted. Make sure the area is large enough for the speaker to mount evenly. Also ensure the mounting location is deep enough for the speaker to fit.
2. Refer to the specification chart to determine the proper diameter hole to cut for your speaker model.
3. If supplied, use the plastic mounting ring as a template to mark the locations for the mounting screws. Drill the holes with a 3/32" bit.
4. Be sure to observe proper polarity when connecting the wires. The speaker's positive terminal is indicated with a "+" symbol.
5. Fit the speaker to the hole cut-out. Mount the speaker using the supplied screws. If the speaker grill is to be used, insert 4 screws into the grill holes, and then mount the speaker.





Mounting



The diagram featured above is to be used in conjunction with the specifications matrix guide below:

	Grill Dimensions (HxWxD) or (HxDiameter)	Top-Mounting Depth	Bottom-Mounting Depth	Mounting Depth	Tweeter Protrusion	Cut-out Diameter	Sensitivity (dB)	Frequency Response	Recommended Power (watts RMS)	Peak Power Handling (watts PP)	Impedance
Fractional Inches											
TS69	10 7/16" x 7 11/16" x 3/4"	3 11/16"	3 7/8"	9/16"	11/16"	5 7/8" x 9 1/4"	89	58Hz - 20kHz	50	150	4
TS65	7" x 13/16"	2 7/8"	3 1/2"	7/8"	9/16"	5 7/16"	88	65Hz - 20kHz	50	140	4
TS55	6 3/16" x 9/16"	2 5/16"	2 7/16"	5/8"	1/2"	4 5/8"	89	90Hz - 20kHz	50	135	4
TS45	5 1/4" x 5/16"	1 3/4"	1 15/16"	7/16"	5/16"	3 11/16"	89	100Hz - 20kHz	40	120	4
TS768	9 5/16" x 6 11/16" x 1/2"	2 3/4"	2 15/16"	7/16"	1/4"	5 3/16" x 7 1/2"	89	63Hz - 20kHz	50	150	4



Limited One Year Warranty

This warranty gives you specific legal rights. You may also have other rights which vary from state to state.

Dual Electronics Corp. warrants this product to the original purchaser to be free from defects in material and workmanship for a period of one year from the date of the original purchase.

Dual Electronics Corp. agrees, at our option, during the warranty period, to repair any defect in material or workmanship or to furnish an equal new, renewed or comparable product (whichever is deemed necessary) in exchange without charges, subject to verification of the defect or malfunction and proof of the date of purchase. Subsequent replacement products are warranted for the balance of the original warranty period.

Who is covered? This warranty is extended to the original retail purchaser for products purchased and used in the U.S.A.

What is covered? This warranty covers all defects in material and workmanship in this product. The following are not covered: installation/removal costs, damage resulting from accident, misuse, abuse, neglect, product modification, improper installation, incorrect line voltage, unauthorized repair or failure to follow instructions supplied with the product, or damage occurring during return shipment of the product.

What to do?

1. Before you call for service, check the troubleshooting guide in your owner's manual. A slight adjustment of any custom controls or connections discussed in your instruction booklet may save you a service call.
2. If you require service during the warranty period, you must carefully pack the product (preferably in the original package) and ship it by prepaid transportation with a copy of the original receipt from the retailer to an authorized service center.
3. Please describe your problem in writing and include your name, a return UPS shipping address (P.O. Box not acceptable), and a daytime phone number with your shipment.
4. For more information and for the location of the nearest authorized service center please contact us by one of the following methods:

Call us toll-free at 1-866-382-5476
E-mail us at cs@dualav.com

Exclusion of Certain Damages: This warranty is exclusive and in lieu of any and all other warranties, expressed or implied, including without limitation the implied warranties of merchantability and fitness for a particular purpose and any obligation, liability, right, claim or remedy in contract or tort, whether or not arising from the company's negligence, actual or imputed. No person or representative is authorized to assume for the company any other liability in connection with the sale of this product. In no event shall the company be liable for indirect, incidental or consequential damages.



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