

# TS7

## 7" Touch Screen

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## INSTALLATION MANUAL

# Preface

## Purpose of this Manual

This manual provides step-by-step installation instructions and connection examples, along with basic user information for installation and ongoing use of the TS7. This manual is written for the installer of this equipment.

## Organization

The following information is contained in this manual.

<b>TS7 Introduction</b>	Provides an introduction to ELAN Home Systems' TS7, along with system features including Front panel controls, and Rear panel connections, along with a short description of each.
<b>TS7 System Design and Installation</b>	Provides a system design application overview and installation requirements for the TS7.
<b>TS7 System Connections</b>	Provides a description of the TS7 system connections and direct connections from the TS7 to other components.
<b>TS7 Setup and Programming</b>	Provides directions for initial TS7 incorporation into the system.
<b>Troubleshooting</b>	Provides troubleshooting tables to help fix common problems that may be encountered when installing the TS7.
<b>Specifications</b>	Provides equipment specifications for the TS7.

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**Items in Package:**

- TS7 Touchscreen
- TS7 White Trim Plate
- TS7 Quick Install Guide
- TS7 Reference Guide
- Ferrite Noise Suppressor
- #6 Wood Screws (x4)

## Chapter 1: Introduction

TS7 Touchscreen is a permanently installed, hardwired interface for accessing and controlling ELAN System Controllers and multiple sub-systems.

The TS7 features a 7" Active Matrix LCD with 800x480 resolution.

Programming for the TS7 resides in the System Controller and is accomplished using ELAN's configuration software.

**See the ELAN configuration Reference Guide and Integration Notes for programming and setup information for your specific system components.**

### The ELAN Story

Located in Lexington, KY, USA, ELAN Home Systems has designed innovative multi-room audio/video systems since 1989. ELAN systems were the first to integrate music, intercom and TV distribution features that used the homeowner's stereos, televisions and telephones to create the whole-house entertainment experience. These Systems allow people to move from room to room, controlling centrally located equipment with ease.

ELAN's product line includes:

- Power Amplifiers
- Multi-Zone Pre-Amps
- Intelligent Keypads
- In-Wall LCD Color Touch Panels
- Wireless LCD Color Touch Panels
- Film Interactive Touchpads
- In-Wall and In-Ceiling Speakers
- Outdoor Speakers
- A/V Controllers
- System Controllers
- Volume Controls
- Telephone-Based Intercom Controllers
- Video Switchers
- Digital Music & DVD Management Systems
- Satellite Radios
- Accessories for Home Systems Installation

## TS7 Features

7" Active Matrix LCD with an 800x480 High Resolution Touchscreen

Composite Video Input and Loop Output

Audible feedback to indicate a button press or system announcement

Programmed using ELAN's configuration software

Compatible with all current ELAN System Controllers

System and sub-system feedback

Built-in speaker and microphone for messaging features

Screen saver mode that can display photos

Removable bezel with color options (white, ivory, almond, light almond, brown, and black)

## Applications

Applications are interfaces that enable control of various sub-systems like Lighting, Security, HVAC, Media, etc. Not all systems will have all applications.

For Application configurations see the chart on page five of this manual.

## Application Configurations

Application	Included With Controller	Included with Pro App
<b>Media</b>	Unlimited ELAN A/V Controllers Unlimited Sunfire A/V Receivers Unlimited Display Devices 1 A/V Receiver (any Brand) Unlimited in-home sources	Unlimited A/V Controllers (any Brand)  Unlimited A/V Receivers (any Brand)
<b>Online Audio Content</b>	Not Available	Online Music Sources
<b>Climate</b>	2 Thermostats History	32 Thermostats
<b>Lighting</b>	16 Loads or System Scenes Unlimited g! Viewer Keypads Unlimited g! Viewer Scenes History using Graph Object	Maximum Loads/Scenes available
<b>Security</b>	1 Partition 8 Zones History	8 Partitions 256 Zones
<b>IP Camera</b>	2 IP Video Streams	16 IP Video Streams
<b>DVR</b>	Not Available	Records all Cameras
<b>Messaging</b>	1 Voicemail Box Internal Voicemail	8 Voicemail Boxes Internal and Telephone Voicemail Remote Message Retrieval Remote House Control
<b>Irrigation</b>	16 Groups (Virtual, for Demo Only) 256 Zones (Virtual, for Demo Only)	16 Groups 256 Zones
<b>Pool/Spa</b>	Virtual (For Demo Only)	All Supported Features
<b>Other</b>	Generic Serial Devices IR Devices Input/Output Devices E-Mail Text-To-Speech (except MB100) UPS	

# TS7 Controls and Display

Figure 1-1: TS7 Front Panel Controls and Display



**1 Zone Power Toggle / System Off**

Press to turn off or on the zone the panel is in.

Press and hold to turn the system off.

**2 Light Function**

Press to access lighting controls.

**3 Sleep Mode**

Press to put the TS7 into Sleep Mode, press and hold to power the TS7 off.

When the TS7 is off, pressing will turn the panel on.

**4 g!**

Press to access the Main Menu Functions

**5 System Information**

This area displays system information, i.e. zone selected, source selection, volume settings, etc. Information and controls for sub-systems like HVAC and Security are also displayed here.

**6 Stylus**

**7 Volume Up**

Press to increase the volume in the zone.

**8 Volume Down**

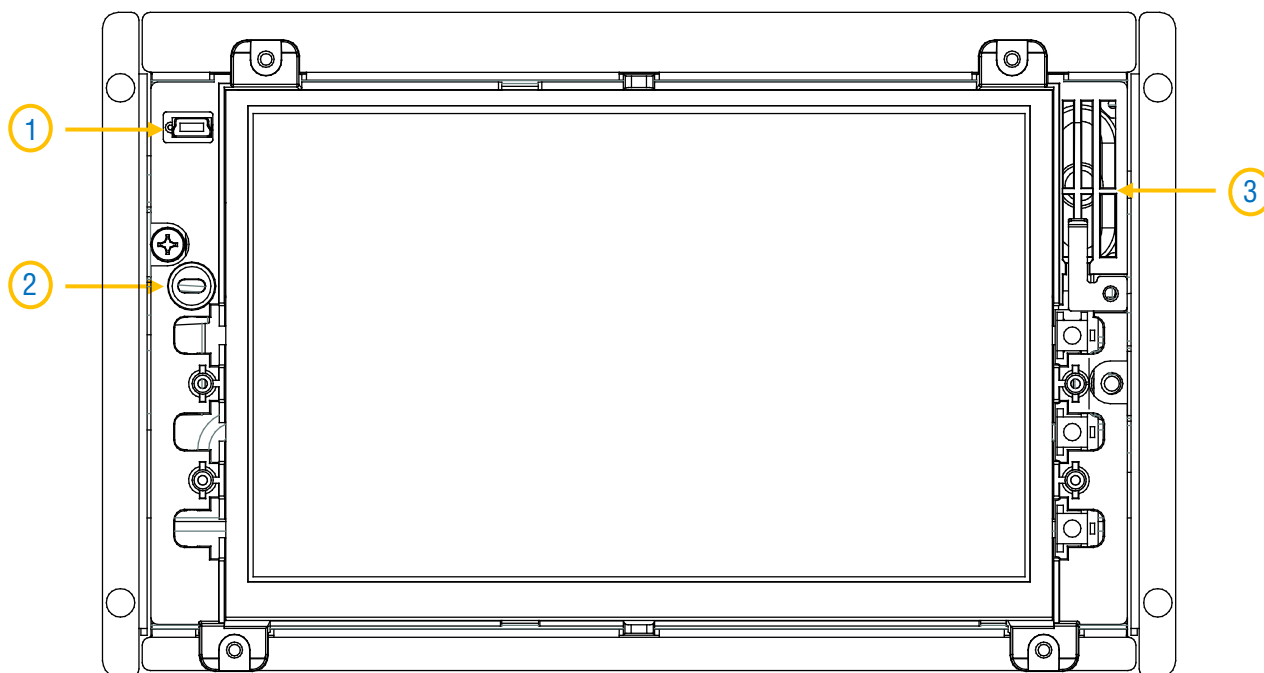
Press to decrease the volume in the zone.

**9 Mute Button**

Press to mute or un-mute the audio in the zone.

## Front Panel Hardware

Figure 1-2: TS7 Front Panel Hardware

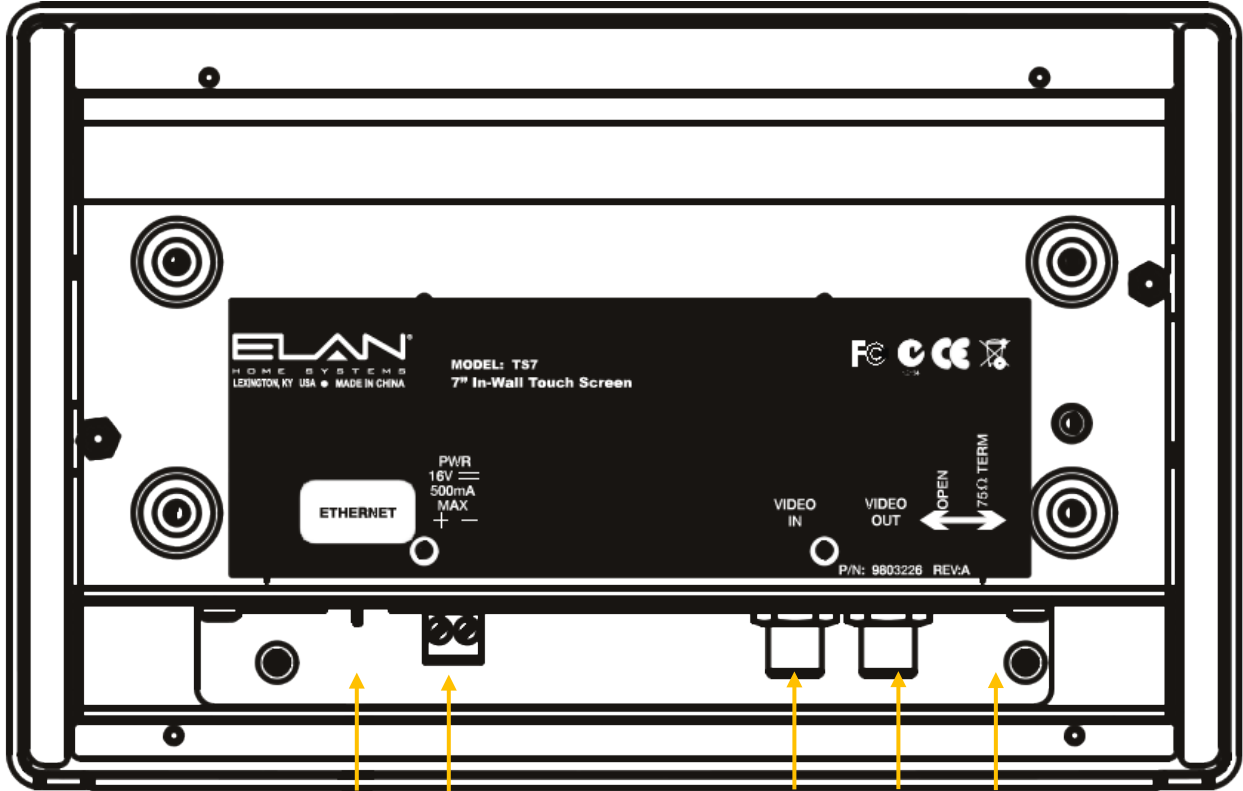


- 1 Mini USB Download Port  
(Future firmware upgrades)
- 2 Microphone
- 3 Speaker



## TS7 Rear Panel Connections

Figure 1-3: TS7 Rear Panel Connections



**1 Ethernet Port**  
T568A (end to end) or T568B (end to end)

**2 Power Connection**  
16 AWG 2 Conductor

**3 Video Input**  
F-Connector / RG-6 or RG-59

**4 Video Loop Output**  
F-Connector / RG-6 or RG-59

**5 75 Ohm Termination Switch**  
(Factory Default is TERM)

## Chapter 2: System Design and Installation

### Planning

Before installing the TS7, it is essential to have a detailed and accurate system design. Talk with the homeowner to make sure all expectations and design goals are explored. The first step to a good design is to map the system. It is advisable to mark up a copy of the house floor plan with speaker, touchpad, touchscreen, volume control, and equipment locations etc. Make sure that all locations are decided upon before pre-wiring commences so that all necessary wiring and installation hardware is in place.

It is essential that ALL system components are accounted for prior to the pre-wire stage. After establishing design goals with the homeowner, make a detailed list of all components. Include source equipment, keypads, touchscreens, volume controls, amplifiers, communications gear, etc. Gather up any IR remote controls that may be necessary for final programming, or ensure that the IR codes for all equipment to be installed are available in the ELAN configuration software.

When planning specific in-wall installation locations for LCD touchscreens, please keep the following tips in mind:

- When properly installed, nothing should be applying contact pressure to the touchscreen except for the operator's finger or the stylus. If something is touching the touchscreen window, a false signal can be generated, causing the touchscreen to respond incorrectly.
- Avoid installation in direct sunlight or strong ultraviolet light (such as grow lamps for plants). This can degrade and discolor polyester film.
- Avoid installation over heat generating devices and/or in moist areas where condensation can form on the polyester film. Both heat and condensed moisture can affect touchscreen performance.
- Avoid installation next to thermostats. The touchscreen generates heat that can affect thermostat control and readings.
- Avoid applying any foreign objects, such as adhesive labels, glue, etc. to the touchscreen's polyester film. This can release chemicals that can discolor the clear film.
- The touchscreen/LCD assembly should not be mounted near electronics that emit radio frequencies or electromagnetic interference (such as CRT monitors, light dimmers, and some power supplies).
- Do not mount the TS7 outdoors or in areas exceeding the operating temperature range of 32° to +104°F (0° to +40°C). If the LCD display is over-heated, or its temperature reduced below the recommended minimum, the liquid crystal polymer can be damaged and the display image may not recover.

## Installation

The TS7 is designed to mount into a TS7BKT rough in bracket. The TS7BB back box can be used in conjunction with the TS7BKT in installations where a back box is desired. It can also be retrofitted into existing construction. See the TS7BKT and TS7BB documentation for additional information.

When installing the TS7 in a retrofit application, the cutout dimensions are:

7.84" W X 4.46" H.  
200mm W X 114mm H

## Pre-Wire

TS7 Touchscreens require power and Ethernet connections to function correctly. Video connections may also be required.

**Control:** Cat-5

**Power:** 2 Conductor (16 AWG)

**Video:** RG-6 or RG-59 Coaxial Cable

## Control / Power

Run Cat-5 and 2 conductor wiring from the main equipment location (head-end) to the location where the touchscreen will be installed. Make sure that provisions have been made for installation of a PPSP Power Precision Panel (typically at the headend).

Alternatively, the TS7 can be powered using a PoE adapter. Refer to the PoE Integration Note for additional details.

## Video

TS7 Touchscreens have both a Video Input and a Video Loop Output for composite video signals. Run RG-6 or RG-59 coaxial cable from the headend location (possibly a video switcher) to the location where the touch panel will be installed. Be careful not to make sharp bends when installing coax. F-to-RCA connectors will be necessary to adapt the RCA composite output of the video source (or switcher) to the F-connector of the coax run. The TS7s have female F-connectors for both Video Input and Loop Output.

When using the Loop Output to send video signals to another display be sure to set the 75 Ohm termination switch to **OPEN**.

**Note: Maximum wire run is 330 feet (100 meters).**

## Rough-In

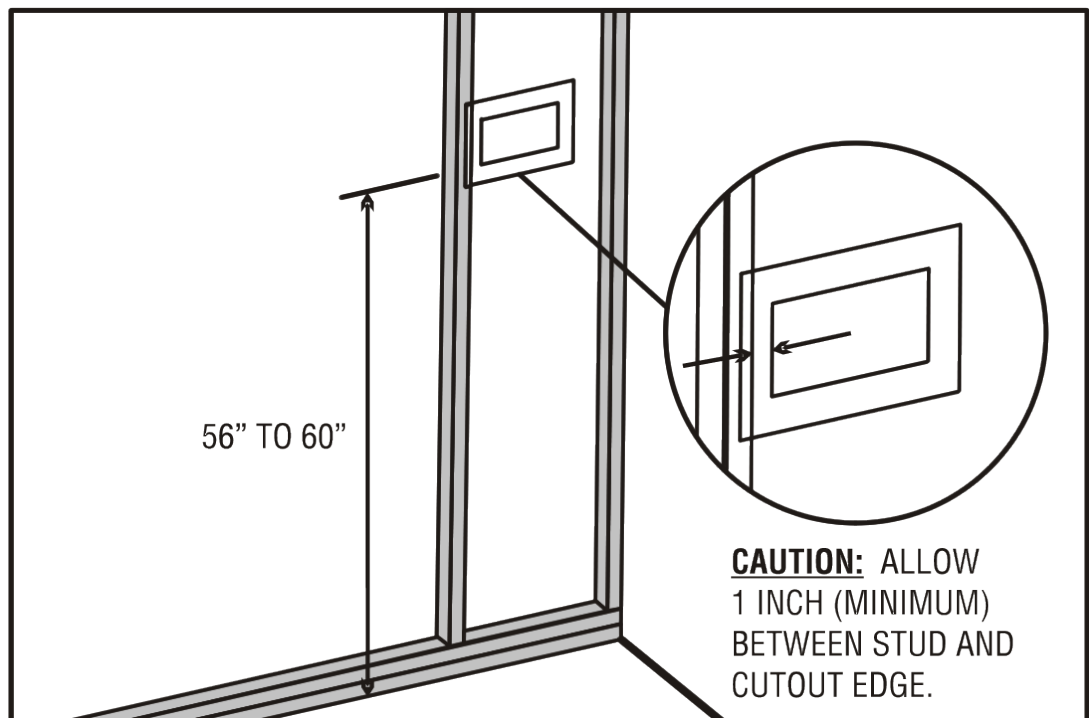
Roughing-in the TS7 requires careful attention to the design plan made previously. See System Design & Applications for a list of things to factor in to specific mounting locations before deciding exactly where to place the unit. In order to avoid Electro-Magnetic Interference (EMI), do not mount touchscreens close to light dimmers. Leave at least one stud-bay open between touchscreens and dimmers (leave more space if multiple dimmers are present). Avoid installing TS7 Touchscreens in areas that will receive direct sunlight.

**Do not mount touchscreens outdoors! Corrosion will damage them. ELAN does not warrant TS7 Touchscreens for outdoor use.**

## Mounting Height

The TS7 mounting height should be determined by the average height of the user. Typical mounting height is 56-60 inches (142-152 cm) from the floor to the bottom of the cutout. This will provide optimum viewing for the largest number of people.

*Figure 2-1: TS7 Mounting Height*



# Chapter 3: System Connections

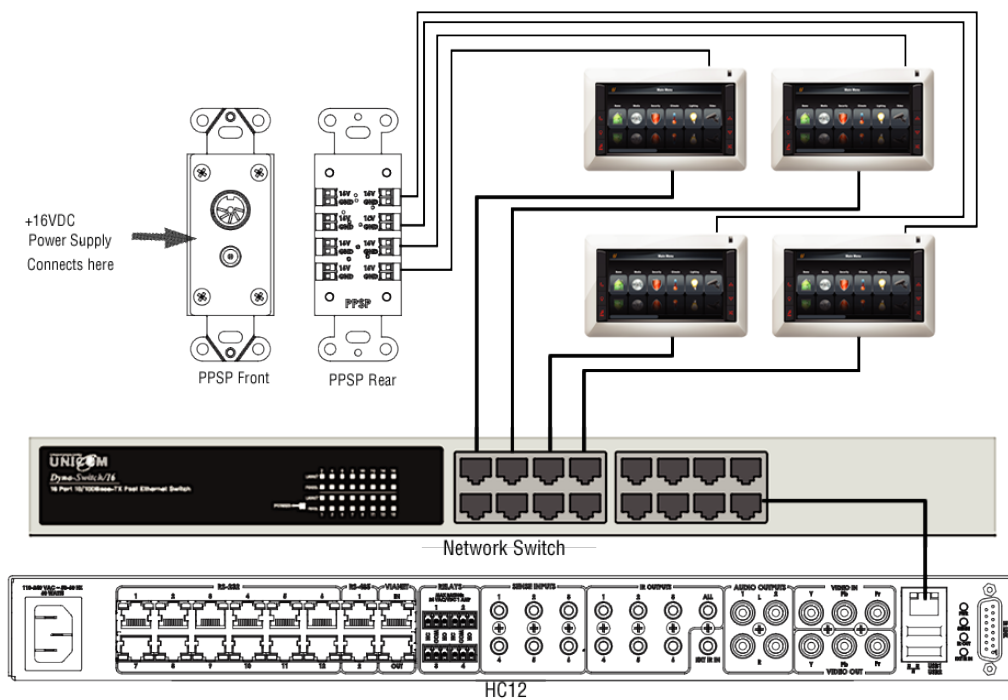
## TS7 to PPSP Connections

TS7 connection to any of the ELAN Home Controllers (HC12, HC6, etc.) is accomplished using Ethernet connections. A single Cat5 connects the TS7 to the network. 16 AWG 2 conductor connects to the PPSP Power Precision Panel.

Each PPSP will accommodate connections for up to eight TS7s. The TS7s are powered by a 16V power supply connected to the PPSP. Each PPSP requires its own 16V power supply. See the PPSP Quick Install Guide for information regarding power supplies.

The TS7 sends Ethernet messages to the Home Controller. The Home Controller then issues the proper commands for the sub-system being controlled.

Figure 3-1: TS7 Connections



## Chapter 4: Setup and Programming

The TS7 is automatically added to the system when it is powered up and the Ethernet connection is made. It will automatically import the DEFAULT touchscreen settings from the ELAN configuration software.

**See the ELAN configuration Reference Guide and Integration Notes for programming and setup information for your specific system components.**

## Troubleshooting

<i>Symptom</i>	<i>Possible Cause</i>	<i>Solution</i>
TS7 will not power up.	<ol style="list-style-type: none"> <li>1. Power supply / PPSP connected incorrectly.</li> <li>2. Power supply not functioning.</li> <li>3. AC outlet not functioning.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify power supply / PPSP connections.</li> <li>2. Verify power supply with a meter.</li> <li>3. Verify AC outlet with meter. Reset breaker if needed.</li> </ol>
TS7 powers up but displays "Disconnected from gateway."	<ol style="list-style-type: none"> <li>1. Ethernet connection has an incorrect pinout.</li> <li>2. System Controller is not powered up or is offline.</li> <li>3. TS7 has been set to a static IP address that is incompatible.</li> </ol>	<ol style="list-style-type: none"> <li>1. Verify Cat5 pinout at both ends.</li> <li>2. Verify System Controller power and Ethernet connections.</li> <li>3. Correct static IP address settings or use DHCP settings.</li> </ol>
TS7 hard buttons do not respond.	Trim bezel is not aligned properly.	Align trim bezel.
TS7 video does not display.	<ol style="list-style-type: none"> <li>1. Video connection not made or incorrect.</li> <li>2. Video switcher not functioning properly</li> <li>3. Incorrect commands programmed for video switcher</li> </ol>	<ol style="list-style-type: none"> <li>1. Correct connection.</li> <li>2. Verify video switcher functionality</li> <li>3. Verify video switcher commands</li> </ol>
TS7 video displays but is blurry..	75 Ohm termination switch set incorrectly.	Set switch correctly

## Specifications

<b>Viewing Angle</b>	<i>50°up, 60° down, 65° left/right</i>
<b>Operating Temperature</b>	<i>32°F-104°F / 0°C-40°C</i>
<b>Wiring Requirements</b>	<i>Cat5, 16-18 AWG 2-wire, RG59 or RG6</i>
<b>Display</b>	
<b>Type</b>	<i>7" High Resolution Color LCD Touchscreen</i>
<b>Colors</b>	<i>65K</i>
<b>Resolution</b>	<i>800 pixels (W) x 480 pixels (H)</i>
<b>Connectors</b>	
<b>Ethernet Port</b>	RJ-45
<b>Download Port</b>	Mini USB
<b>Power</b>	2-position screw terminal
<b>Video In/Out</b>	"F" Connections
<b>Power</b>	
<b>DC Power Requirements</b>	16VDC
<b>Current Draw</b>	350mA
<b>Dimensions (w/front bezel)</b>	
<b>In.</b>	8.59 W x 5.46 H x 2.58 D
<b>mm.</b>	218 W x 139 H x 66 D
<b>Dimensions (w/o front bezel)</b>	
<b>In.</b>	8.35 W x 5.16 H x 2.28 D
<b>mm.</b>	212 W x 131 H x 58 D
<b>Weight (w/o packaging)</b>	
<b>lbs.</b>	2.25
<b>Kg.</b>	1.02
<b>Weight (w/packaging)</b>	
<b>lbs.</b>	3.2
<b>Kg.</b>	1.45



## Limited Warranty

ELAN HOME SYSTEMS L.L.C. (ELAN) warrants the TS7 to be free from defects in materials and workmanship for the period of two years (2 years) from date of purchase. If within the applicable warranty period above purchaser discovers that such item was not as warranted above and promptly notifies ELAN in writing, ELAN shall repair or replace the item at the company's option. This warranty shall not apply (a) to equipment not manufactured by ELAN, (b) to equipment which shall have been installed by other than an ELAN authorized installer, (c) to installed equipment which is not installed to ELAN's specifications, (d) to equipment which shall have been repaired or altered by others than ELAN, (e) to equipment which shall have been subjected to negligence, accident, or damage by circumstances beyond ELAN's control, including, but not limited to, lightning, flood, electrical surge, tornado, earthquake, or other catastrophic events beyond ELAN's control, or to improper operation, maintenance or storage, or to other than normal use of service. With respect to equipment sold by, but not manufactured by ELAN, the warranty obligations of ELAN shall in all respects conform to the warranty actually extended to ELAN by its supplier. The foregoing warranties do not cover reimbursement for labor, transportation, removal, installation or other expenses which may be incurred in connection with repair or replacement.

Except as may be expressly provided and authorized in writing by ELAN, ELAN shall not be subject to any other obligations or liabilities whatsoever with respect to equipment manufactured by ELAN or services rendered by ELAN.

THE FOREGOING WARRANTIES ARE EXCLUSIVE AND IN LIEU OF ALL OTHER EXPRESSED AND IMPLIED WARRANTIES EXCEPT WARRANTIES OF TITLE, INCLUDING BUT NOT LIMITED TO IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

### ATTENTION: TO OUR VALUED CONSUMERS

To ensure that consumers obtain quality pre-sale and after-sale support and service, ELAN Home Systems products are sold exclusively through authorized dealers. ELAN products are not sold online. The warranties on ELAN products are NOT VALID if the products have been purchased from an unauthorized dealer or an online E-tailer. To determine if your ELAN reseller is authorized, please contact ELAN Home Systems at (859) 269-7760.

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