



Manufacturer:	ELAN Home Systems
Model Number(s):	TS2, TS2L
Software Versions:	Automation Controller - 5.0 build 637 or later ELAN SC1 - 1.0.4.1 ELAN TS2 - 1.6.0.2 or newer g!Tools 7.2.338 or later
Document Revision Date:	8/17/2015

## Overview and Supported Features

- TS2 keypads communicate on a dedicated VIANET bus to provide a compact **single zone** two-way user interface for an ELAN g! System.
- ELAN g!SC Controllers (gSC2 and gSC10) require an ELAN SC1 serial controller (RS-232- to- VIANET) to communicate with the keypads.
- ELAN HC series controllers (HC4, HC6, HC8 and HC12) have a VIANET jack built in and do not require the SC1.
- Up to 32 keypads can be connected on a single VIANET bus.

**Note:** When utilized, the SC1 must be connected to a **serial port** on the system controller. It is **NOT** compatible with SerialBricks, Global Cache ports, or Moxa ports. The SC1 must also be using the firmware version shown above (or newer).

Refer to the **TS2 Installation Manual** for detailed installation diagrams and power requirements:

[http://www.elanportal.com/supportdocs/catalog/TS2\\_Manual\\_RevD\\_9901068.pdf](http://www.elanportal.com/supportdocs/catalog/TS2_Manual_RevD_9901068.pdf)

### TS2 Quick Reference Installation Guide:

<http://www.elanportal.com/supportdocs/catalog/TS2%20QUICK%20INSTALL%20GUIDE%209901052%20RevA.pdf>

The TS2 has the ability to control a **Single Zone** of a multi-room g! System. It does not have the capabilities to control multiple zones like other g! User Interfaces.

## **TS2 Keypads support the following features:**

**System Mode Control:** The home interface may be optionally configured to provide System Mode Status and Control.

**Basic Time & Weather information:** The Home interface may be optionally configured to display Time and basic Weather information.

**Lighting Control:** The Lighting interface displays a custom lighting keypad for 2-way control of Scenes or Lighting Loads.

**Security Control:** The Security interface displays status of *one Partition* and a keypad to Arm/Disarm it.

**Climate Control:** The Climate interface displays status of *one Climate Zone* and provides Mode, Fan, and Set Point adjustments.

**Media Control:** The Media interface displays status of *one Media Zone* and provides controls for Power, Source, Volume, Mute, and basic Source control. The interface provides metadata feedback (no cover art at this time) for supported two-way devices or customizable single or multi-page interfaces for one-way device control. See limitations below.

## **TS2 Keypads DO NOT support the following features:**

**Various Custom Controls:** Not all custom controls are supported on the TS2 interface. The result of this may be limited source control of various 3<sup>rd</sup> party AV sources.

**Multiple AV Zones:** TS2s will support ONE Audio/Video Zone. They will not control multiple zones like other g! User Interfaces.

**Multiple Security Partitions:** TS2s display status for ONE Security Partition and the ability to Arm/Disarm that partition. Multiple Partitions cannot be controlled with TS2s.

**Multiple Climate Zones:** TS2s provide control of ONE Climate zone. Multiple Climate Zones cannot be controlled.

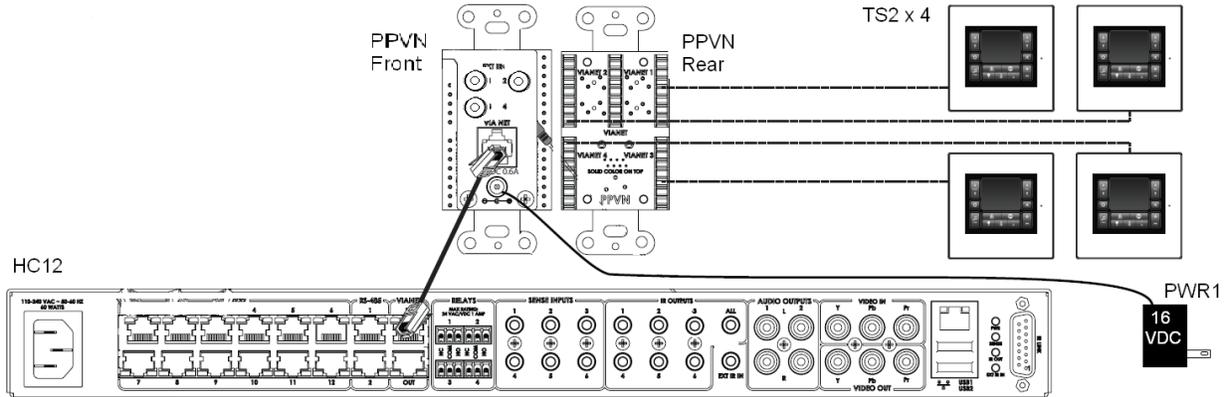
***Any feature not listed as Supported is NOT Supported.***

## **Installation Overview**

1. Install wiring for TS2 as described in the TS2 Installation Manual  
[http://www.elanportal.com/supportdocs/catalog/TS2\\_Manual\\_RevD\\_9901068.pdf](http://www.elanportal.com/supportdocs/catalog/TS2_Manual_RevD_9901068.pdf)
2. Connect TS2 to system controller as shown in the appropriate **Connection Diagrams**, below.
3. Verify that the TS2 firmware is up to date as listed in **Software Versions**, above.
4. Configure programming for TS2s using **g!Tools** software..
5. Test functionality.

# Wiring and Connectivity

## Application 1: HC Controller w/ PPVN Precision Panel



1. Punch down Cat-5 wires from TS2s to back of PPVN.
2. Connect Cat-5 cable from front of PPVN **VIANET** port to HC Controller's **VIANET** port.
3. Connect PWR1 Power Supply to front of PPVN

### Notes:

- Up to 4 TS2 keypads can be connected to each PPVN panel for power and VIANET communication.
- Up to 8 PPVN panels can be daisy-chained on a single SC1 converter for a total of 32 TS2 keypads maximum on the VIANET bus. Each PPVN requires its own power supply.

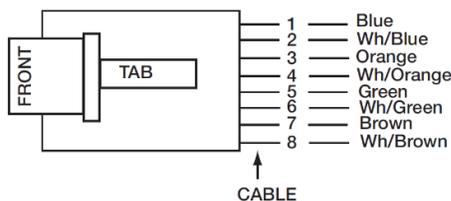
See the **PPVN Quick Reference Guide** for specific details of this application:

[http://www.elanportal.com/supportdocs/catalog/Quick\\_Install\\_Guide\\_PPVN\\_9901048\\_RevB.pdf](http://www.elanportal.com/supportdocs/catalog/Quick_Install_Guide_PPVN_9901048_RevB.pdf).

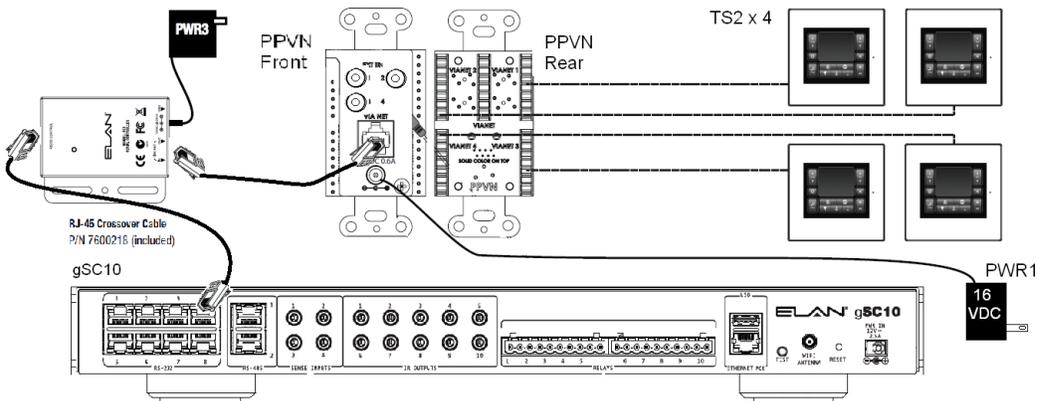
### Bill of Materials

#	Device	Manufacturer	Part Number	Protocol	Connector Type	Notes
1	TS2 Keypad	ELAN	TS2, TS2L	VIANET	RJ-45 Female	
2	PPVN Precision Panel	ELAN	PPVN	VIANET	RJ-45 Female –Front 110 Punch down - Rear	
3	16VDC x 1.5A Power Supply	ELAN	PWR1	N/A	Plug	Use 1 for each PPVN
4	Cat5 Cable	Installer	N/A	VIANET	RJ-45 Male to RJ-45 Male	Use ELAN Color Code
5	HC Series Controller: HC4, HC6, HC8, HC12	ELAN	HC4, HC6, HC8, HC12	VIANET	RJ-45 Female	

### ELAN Cat-5 Color Code



## Application 2: gSC2 / gSC10 Controller w/ PPVN Precision Panel



1. Punch down Cat-5 wires from TS2s to back of PPVN using ELAN color code.
2. Connect Cat-5 cable from front of PPVN **VIANET** port to **VIANET IN** port of SC1.
3. Use the included RJ-45 to RJ-45 crossover cable (P/N 7600218) to connect the **RS232 CONTROL** port of the SC1 to an open serial port on gSC2 or gSC10. If you need a crossover cable longer than what has been included, see the diagram below.
4. Connect PWR1 16 VDC Power Supply to front of PPVN.
5. Connect PWR3 12 VDC Power Supply to SC1.

### Notes:

- Up to 4 TS2 keypads can be connected to each PPVN panel for power and VIANET communication.
- Up to 8 PPVN panels can be daisy-chained on a single SC1 converter for a total of 32 TS2 keypads maximum on the VIANET bus. Each PPVN requires its own power supply.
- Make absolutely sure to use the included crossover cable (P/N 7600218) where specified. The system will not work unless this is correct!

See the **SC1 Installation Manual** for specific details of this application:

[http://www.elanportal.com/supportdocs/catalog/SC1\\_Installation\\_Manual.pdf](http://www.elanportal.com/supportdocs/catalog/SC1_Installation_Manual.pdf)

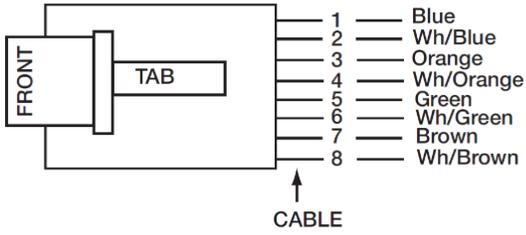
See the **PPVN Quick Reference Guide** for specific details of this application:

[http://www.elanportal.com/supportdocs/catalog/Quick\\_Install\\_Guide\\_PPVN\\_9901048\\_RevB.pdf](http://www.elanportal.com/supportdocs/catalog/Quick_Install_Guide_PPVN_9901048_RevB.pdf)

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1	TS2 Keypad	ELAN	TS2, TS2L	VIANET	RJ-45 Female	
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3	16VDC x 1.5A Power Supply	ELAN	PWR1	N/A	Plug	Use 1 for each PPVN
4	Cat-5 Cable	Installer	N/A	VIANET	RJ-45 Male to RJ-45 Male	Use ELAN Color Code
5	SC-1 Serial Controller	ELAN	SC1	VIANET RS-232	RJ-45 Female	
6	Cat-5 Crossover Cable	ELAN	7600218	RS-232	RJ-45 Male to RJ-45 Male	Included w/ SC1
7	g!SC Series Controller: gSC2, gSC10	ELAN	gSC2, gSC10	RS-232	RJ-45 Male	

## ELAN Cat-5 Color Code



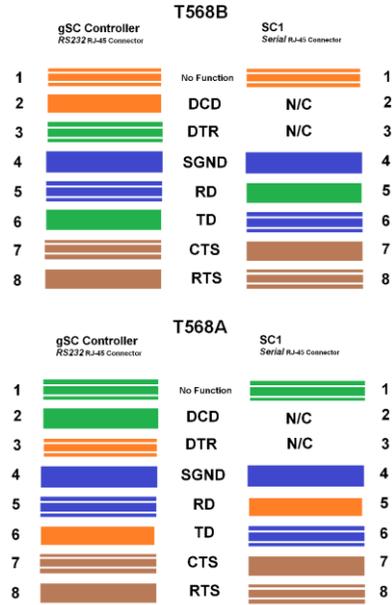
## RJ-45 Serial Crossover Cable Diagram

### Using 568B Pin Out

Function	SC Controller RS232 RJ45	RJ45 Pin#	SC1 Serial RJ45
N/C	OR/WH	1	OR/WH
DCD	Orange	2	N/C
DTR	GR/WH	3	N/C
SGND	Blue	4	Blue
RD	BL/WH	5	Green
TD	Green	6	BL/WH
CTS	BR/WH	7	Brown
RTS	Brown	8	BR/WH

### Using 568A Pin Out

Function	SC Controller RS232 RJ45	RJ45 Pin#	SC1 RS232 RJ45
N/C	GR/WH	1	GR/WH
DCD	Green	2	N/C
DTR	OR/WH	3	N/C
SGND	Blue	4	Blue
RD	BL/WH	5	Orange
TD	Orange	6	BL/WH
CTS	BR/WH	7	Brown
RTS	Brown	8	BR/WH

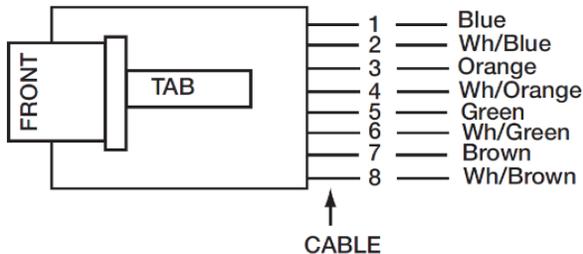




## Bill of Materials

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1	TS2 Keypad	ELAN	TS2, TS2L	VIANET	RJ-45 Female	
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3	16VDC x 1.5A Power Supply	ELAN	PWR1	N/A	Plug	Use 1 for each PPVN
4	Cat-5 Cable	Installer	N/A	VIANET	RJ-45 Male to RJ-45 Male	Use ELAN Color Code
5	Serial Controller	ELAN	SC1	VIANET RS-232	RJ-45 Female	
6	Cat-5 Crossover Cable	ELAN	7600218	RS-232	RJ-45 Male to RJ-45 Male	Included w/ SC1
	Optional: Cat-5 Standard Cable	Installer	N/A	RS-232	RJ-45 Male to RJ-45 Male	Optional: See Installation steps.
7	DB-9 to RJ-45 Null Adaptor	ELAN	HACB328 (P/N 8900599)	RS-232	RJ-45 Male to DB-9 Female Null	Use w/ Crossover Cable Assembly
	Optional: DB-9 to RJ-45 Adaptor	ELAN	HACB307 (P/N 8900598)	RS-232	RJ-45 Male to DB-9 Female	Use w/ straight-through cable assembly
8	ELAN RS-232 Adaptor	ELAN	7600219	RS-232	DB-9 Male to 3.5mm Male	Included w/ g!
9	g1 Controller	ELAN	g1	RS-232	3.5mm Female	

## ELAN Cat-5 Color Code



## RJ-45 Serial Crossover Cable Diagram

## Initial Keypad Configuration

TS2 keypads are automatically added to the system using **Configurator** software and cannot be added manually. Follow the steps below to add TS2 keypads to a g! System:

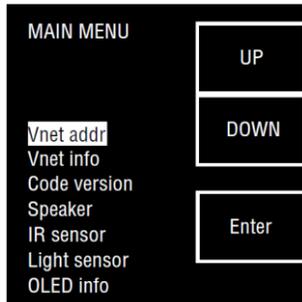
- Using the methods described above and in the various manuals, ensure that all connections are made correctly, then power up all keypads by plugging in the power supply for the PPVN. Make sure that power is applied to the system controller and SC1, if used.
- In ELAN **Configurator** software, add the SC1 (if used) as a **Communication Device** and select the COM port of the ELAN Controller that is being utilized. This is done on the **Interface Tab**.

3. The keypads should boot to a Menu with **GET ADDRESS** as an option.



If the keypad does not boot to the **GET ADDRESS** screen, then follow these steps:

- a. Press the **Service Menu** button once (located behind bezel and below Mini-USB connection and light sensor) to access the **MAIN MENU** screen.



- b. Press the **UP/DOWN** buttons to highlight **VNet addr** then press the **Enter** button.
- c. Press the **UP/DOWN** buttons to highlight **Reset addr** then press **Enter**.

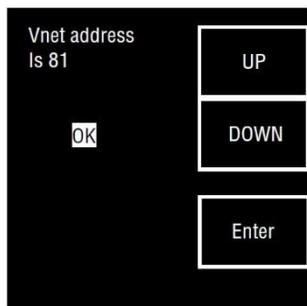


4. On the TS2 keypad, verify the **GET ADDRESS** menu item is highlighted and press the **Enter** button. The keypad will receive an address from the controller and display it at the top of the screen.



*If more than one keypad is to be installed it will be helpful to make note of the address and the physical location of the keypad to aid in selecting the correct zones in the following steps.*

5. With the **OK** menu item highlighted press **Enter**. The controller will check the keypad programming and download any required information to it. Be patient as this may take up to 5 minutes.



6. Repeat Steps 1-5 until all keypads have been added.
7. In **Configurator**, using the address noted in Step 4, identify each keypad on the **Interface Tab** and configure the desired zones, partitions, control, and backlight behavior. See **g!Tools Keypad Configuration** below.

See the **TS2 Installation Manual** for additional programming information:

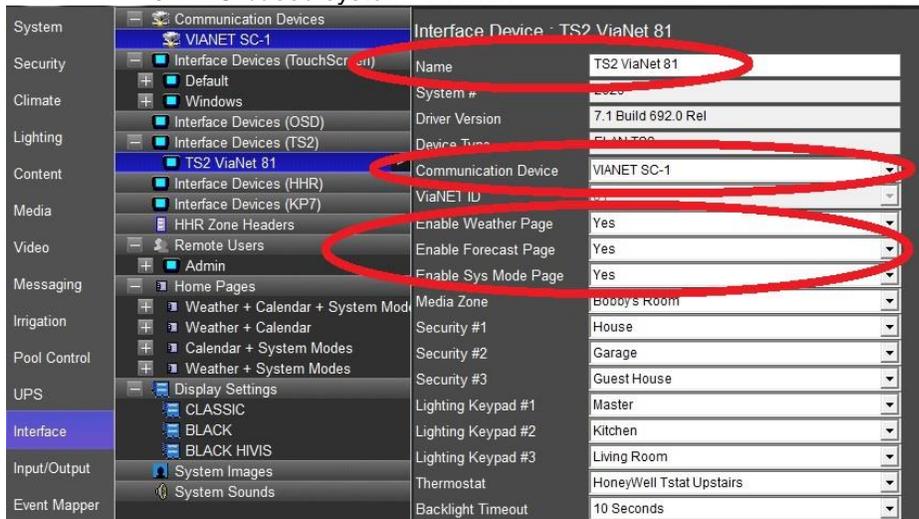
[http://www.elanportal.com/supportdocs/catalog/TS2\\_Manual\\_RevD\\_9901068.pdf](http://www.elanportal.com/supportdocs/catalog/TS2_Manual_RevD_9901068.pdf)

## g!Tools Keypad Configuration

Use ELAN **g!Tools Configurator** to finalize installation and determine the behavior of the TS2. Many of the variables for programming - **System #**, **Driver Version**, **Device Type** and **ViaNET ID** are predetermined and, therefore, do not need to be adjusted.

### Name, Communications Device, Enable Weather/Forecast/Sys Mode Pages

- **Name:** Type an identifying Name for this TS2. Ex: **TS2 ViaNet 81**.
- **Communications Device**
  - g!SC-based system: **VIANET SC-1**
  - HC-based system: **VIANET**



- **Enable Weather Page:** **Yes** or **No** to display local weather information
- **Enable Forecast Page:** **Yes** or **No** to enable local weather forecast functions
- **Enable Sys Mode Page:** **Yes** or **No** to enable the **System Mode Page**



## Selecting a Media Zone

- Configures TS2 to control one Media Zone
- Select the correctly identified TS2 – **TS2 ViaNet 81** in this example.
  - **Interface Tab -> Interface Devices (TS2) -> TS2 ViaNet 81 -> Media Zone-> Select desired Media Zone**

The screenshot shows the configuration window for the 'Interface Device : TS2 ViaNet 81'. The left sidebar lists various system categories, with 'Interface' selected. The main panel displays configuration options for the device. The 'Media Zone' dropdown menu is open, showing a list of rooms: Bobby's Room, Family Room, Living Room, Master Bedroom, Kitchen, Dining Room, and <NONE>. 'Bobby's Room' is currently selected.

Name	TS2 ViaNet 81
System #	2626
Driver Version	7.1 Build 692.0 Rel
Device Type	ELAN TS2
Communication Device	VIANET SC-1
ViaNET ID	81
Enable Weather Page	Yes
Enable Forecast Page	Yes
Enable Sys Mode Page	Yes
Media Zone	<NONE>
Security #1	<NONE>
Security #2	Family Room
Security #3	Living Room
Lighting Keypad #1	Bobby's Room
Lighting Keypad #2	Master Bedroom
Lighting Keypad #3	Kitchen
Thermostat	Dining Room
Backlight Timeout	<NONE>

## Selecting a Security Partition #1, #2, #3

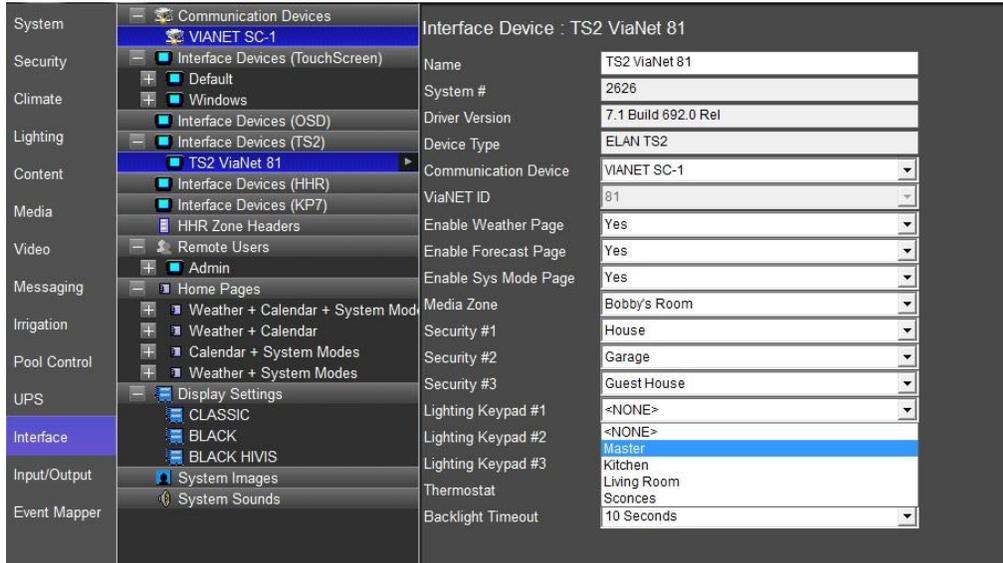
- Configures TS2 to control up to three Security Partitions
- Select the correctly identified TS2 – **TS2 ViaNet 81** in this example.
  - **Interface Tab -> Interface Devices (TS2) -> TS2 ViaNet 81 -> Security #1-> Select desired Security Partition**
  - Repeat procedure for **Security #2** and **Security #3**

The screenshot shows the configuration window for the 'Interface Device : TS2 ViaNet 81'. The left sidebar is the same as in the previous image. In the main panel, the 'Security #1' dropdown menu is open, showing a list of security partitions: Bobby's Room, Family Room, Living Room, Master Bedroom, Kitchen, Dining Room, and <NONE>. 'House' is currently selected.

Name	TS2 ViaNet 81
System #	2626
Driver Version	7.1 Build 692.0 Rel
Device Type	ELAN TS2
Communication Device	VIANET SC-1
ViaNET ID	81
Enable Weather Page	Yes
Enable Forecast Page	Yes
Enable Sys Mode Page	Yes
Media Zone	Bobby's Room
Security #1	<NONE>
Security #2	<NONE>
Security #3	House
Lighting Keypad #1	Garage
Lighting Keypad #2	<NONE>
Lighting Keypad #3	<NONE>
Thermostat	<NONE>
Backlight Timeout	10 Seconds

## Selecting a Lighting Keypad #1, #2, #3

- Configures TS2 to control up to three Lighting keypads
- Select the correctly identified TS2 – **TS2 ViaNet 81** in this example.
  - **Interface Tab -> Interface Devices (TS2) -> TS2 ViaNet 81 -> Lighting Keypad #1-> Select desired Lighting Keypad**
  - Repeat procedure for **Lighting Keypad #2** and **Lighting Keypad #3**



## Selecting a Thermostat

- Selects a single Thermostat for each TS2
- Select the correctly identified TS2 – **TS2 ViaNet 81** in this example.
  - **Interface Tab -> Interface Devices (TS2) -> TS2 ViaNet 81 -> Thermostat-> Select desired Thermostat**



## Backlight Timeout Setting

- Controls **Backlight Timeout** values
- Select the previously identified TS2 – **TS2 ViaNet 81** in this example.
  - **Interface Tab -> Interface Devices (TS2) -> TS2 ViaNet 81 -> Backlight Timeout -> Select desired value.**

The screenshot displays a control panel interface with a sidebar on the left and a main configuration area on the right. The sidebar is organized into categories: System, Security, Climate, Lighting, Content, Media, Video, Messaging, Irrigation, Pool Control, UPS, Interface, Input/Output, and Event Mapper. The 'Interface' category is selected, showing a tree view of 'Communication Devices' with 'VIA NET SC-1' expanded to 'Interface Devices (TouchScreen)', then 'Interface Devices (TS2)', and finally 'TS2 ViaNet 81' selected.

The main configuration area is titled 'Interface Device : TS2 ViaNet 81' and contains the following settings:

Name	TS2 ViaNet 81
System #	2626
Driver Version	7.1 Build 692.0 Rel
Device Type	ELAN TS2
Communication Device	VIA NET SC-1
ViaNET ID	S1
Enable Weather Page	Yes
Enable Forecast Page	Yes
Enable Sys Mode Page	Yes
Media Zone	Bobby's Room
Security #1	House
Security #2	Garage
Security #3	Guest House
Lighting Keypad #1	Master
Lighting Keypad #2	Kitchen
Lighting Keypad #3	Living Room
Thermostat	HoneyWell Tstat Upstairs
Backlight Timeout	10 Seconds 5 Seconds 10 Seconds 30 Seconds 1 Minute 2 Minutes 5 Minutes

## g!Tools Configurator Details

The following table provides settings used in ELAN **g!Tools Configurator**. Please refer to the **Configurator Reference Guide** for specific details.

[http://www.elanportal.com/supportdocs/catalog/g\\_Configurator\\_Reference\\_6\\_2.pdf](http://www.elanportal.com/supportdocs/catalog/g_Configurator_Reference_6_2.pdf)

- <Select>** Select the appropriate item from the list (or drop-down) in **Configurator**.
- <User Defined>** Type in the desired name for the item.
- <Auto>** This field will automatically populate during configuration

Devices	Variable Name	Setting	Comments
Communication Devices	Name	<User Defined> (Example: ELAN SC1)	
	Type	Serial Port	
	Communication Type	VIANET SC1	
	Location	<User Defined> (Not Required)	
	COM Port	<Select>	
Interface Devices<Auto Discover>	Name	<User Defined> (Default: TS2 VIANET XX)	See Note#1
	Device Type	ELAN TS2	
	COM Device	<Auto> (Default: ELAN SC)	See Note #2
	VIANET ID	<Auto>	See Note #3
	Enable Weather Page	<Select>	See Note #4
	Enable Forecast Page	<Select>	See Note #4
	Enable Sys Mode Page	<Select>	See Note #4
	Media Zone	<Select>	See Note #5
	Security Partition	<Select>	See Note #5
	Lighting Keypad	<Select>	See Note #5
	Thermostat	<Select>	See Note #5
Backlight Timeout	<Select>	See Note #5	

### Notes:

1. The TS2 keypads are automatically discovered, refer to **Initial Keypad Configuration** section above
2. If not already chosen, select the COM device that refers the TS2 to the proper SC1 and COM port.
3. The TS2 keypad IDs will be addressed automatically as they are imported into the system.
4. Select **<Yes>** to enable the optional page
5. Select the desired Zone, Partition, or Behavior for each keypad

## Common Mistakes:

- Not using a null-modem connection between the controller and the SC1 (if utilized).
- Improper firmware in SC1 (if utilized). Firmware should be **1.0.3.9** or higher.
- Not waiting for all programming transfers to complete.
  - Initial transfer to newly installed TS2 keypads can take up to 5 minutes *per unit*, e.g., eight TS2 keypads ~ 40 minutes.
  - After the initial transfer, additional programming changes should occur very quickly.
  - TS2 keypads will appear to be non-functional while VIANET is transferring initial data or firmware updates but can be used normally once programming is complete.