



Instructions Manual

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A.- TOUCHGLASS Characteristics.

TG CONTROL UNIT (TOUCH-GLASS)

Computer ports:

- USB
- OPTIONAL SERIAL (RS-232)

Number of TG SENSORS controlled:

- Up to 16

Distance between TG CONTROL UNIT and TG SENSORS

- 400 mm

Dimensions:

- 100*60*25 mm

Drives:

- For Microsoft Win95, 98, NT, Milenium, XP

TG SENSORS (TOUCH-GLASS)

Dimensions:

- 28*28*1 mm

Area of detection:

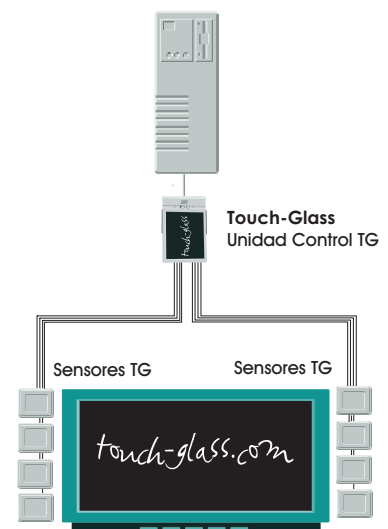
- 28*28 mm

Detection thickness:

- Below 20 mm

Applicable to:

- Any sort of non-conductive material (glass, wood, plastic, stone, fabric, leather, etc.)



C.- REQUIREMENTS TO INSTALL TOUCH-GLASS

- IBM PC compatible
- Operating system Microsoft

TOUCH-GLASS WIRELESS can operate with any multimedia program (Flash, HTML, Director, Scala, E-vision, Power Point, etc.)

NOTE: Download the Drivers 5.0 from the following address:

<http://dsistudio.com/ingles/marcoingl.htm> (updates/ downloads)

TOUCH-GLASS WIRELESS

TG CONTROL UNIT (TOUCH-GLASS WIRELESS)

Computer ports:

- USB
- OPTIONAL SERIAL (RS-232)

Number of TG SENSORS controlled:

- Up to 16

Distance between TG CONTROL UNIT and TG SENSORS

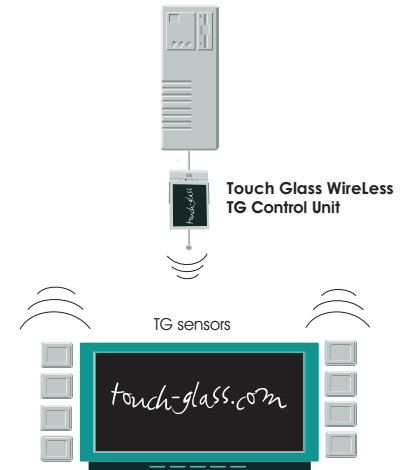
- 8 meters

Dimensions:

- 100*60*25 mm

Drives:

- For Microsoft Win95, 98, NT, Milenium, XP



TG SENSORS (TOUCH-GLASS WIRELESS)

Dimensions:

- 50*100*10 mm

Detection Area:

- 50*50 mm

Detection thickness:

- Below 20 mm

Applicable to:

- Any sort of non-conductive material (glass, wood, plastic, stone, fabric, leather, etc.)



B.- Interface Installation

- 1.- Shut down your computer and connect the USB or SERIAL cable to the computer
- 2.- Start your computer and install the TouchGlass driver.

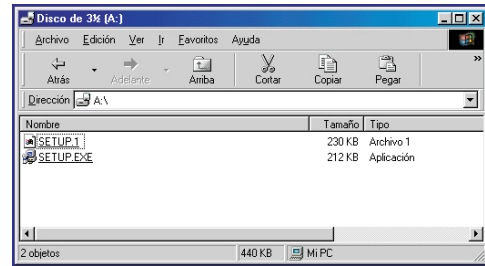


C.- Program Installation.

1º.- Insert the 3 ½ Inch Driver Disk (or download the Driver from **www.dsistudio.com**) in the Disk drive and install the "setup.exe" Program.

2º.- Follow the installation instructions.

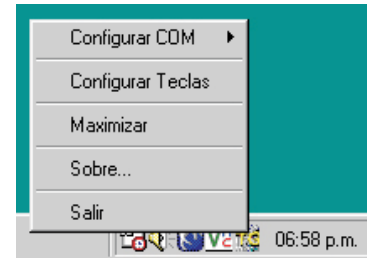
3º.- Once it is installed double click the TOUCHGLASS.exe and in the system tray a "TG" icon will appear.



D.- Set Up.

1.- Click with the right button of your mouse on the "TG" icon on your system tray.

Now you can set up all options of TOUCHGLASS .



2.- If you choose Options - **COM Configuration**, you can select The serial port where you have installed the TouchGlass Interface to.



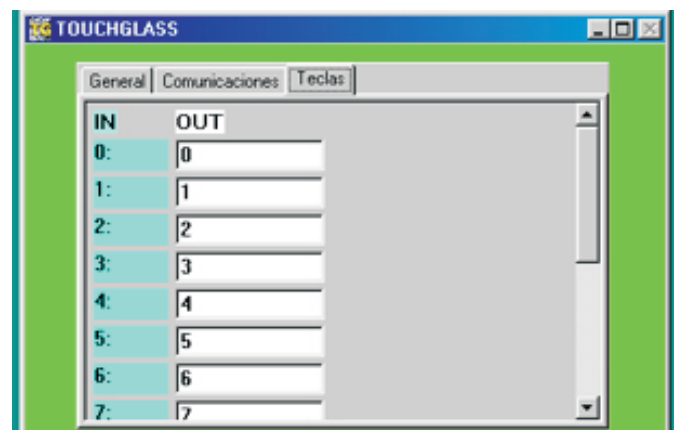
3.- If you choose Options - **Configure Keys** you can change the keys on your computer keyboard where your **sensors** are assigned to. Table 1

The standard assignation settings of the sensors are shown below.

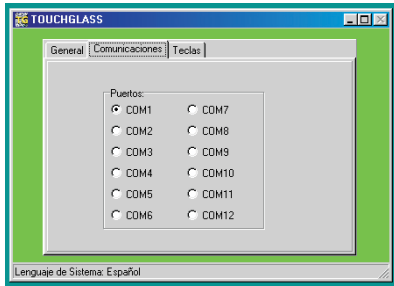
For example: You could change **sensor 11** to the key **S**.

Sensor	Equivalent Key
0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	a
11	b
12	c
13	d
14	e
15	f

Table 1



4.- Choose **Communications** and you can change the selected serial port.

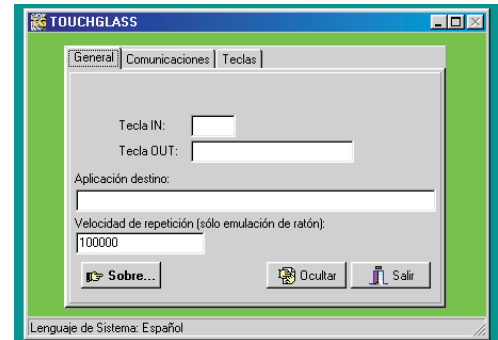


5.- Press **General** and the text of **TOUCHGLASS** gets activated. If you press one sensor of TouchGlass in **Key IN** the number of the sensor and in **Key OUT** the assigned key will appear.

If you press for example **Sensor 10** in **Key IN** appears **10** and in **Key OUT** appears **a**.

Repetition speed:

When you emulate the mouse, you can change its movements speed



E.- How does TOUCHGLASS work.

TOUCHGLASS works like an additional keyboard which is connected via your serial port. This means that sensors emulate keys and if you press them they work the same as a key on your keyboard.

To see how it works you can open any Text processing program, " work, notepad, etc.."

F. INSTALLATION:

The easy installation of TOUCH-GLASS permits its fitting in any shop window without the need of a specialist.

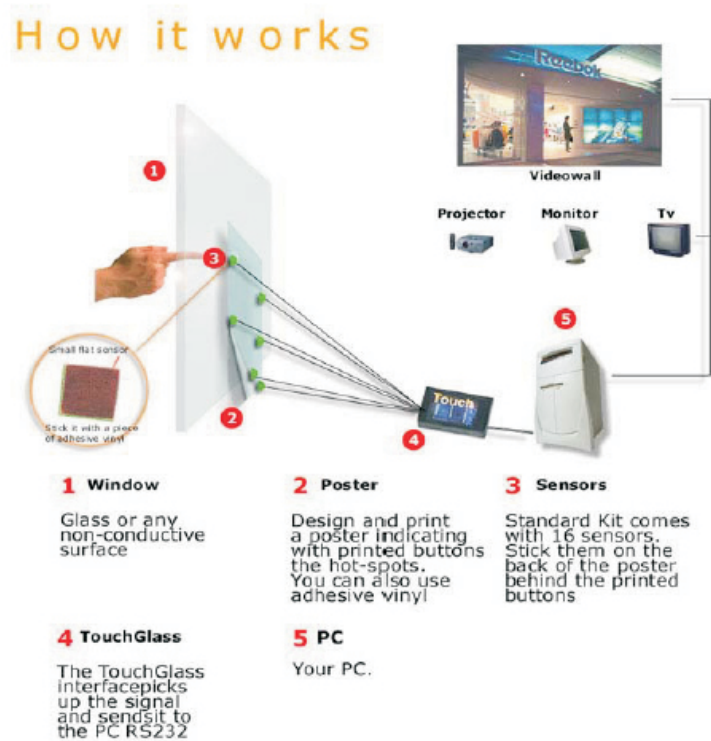
1.- A vinyl poster (sticker/decals), or any other adhesive support, is located at the back of the glass or non-conductive material, to indicate the customers where to push.

2.- Sensors are adhered on the desired points.

3.- The TG CONTROL UNIT is connected to the USB port of the computer.

4.- The TOUCH GLASS Driver is set up on the computer.

5.- The TOUCH-GLASS Multimedia application designed is set up and executed.



F.- Programs TOUCHGLASS works with

TOUCHGLASS works with any multimedia program in which you can assign keys from your keyboard to the buttons you have created.

Imagine we are creating an application for **TOUCHGLASS**. When we create a button we have to ask it to get activated when we press a key for example **1**. Pressing sensor 2 "in the standard configuration of **TOUCHGLASS** " the function which is assigned to this button will be realized.

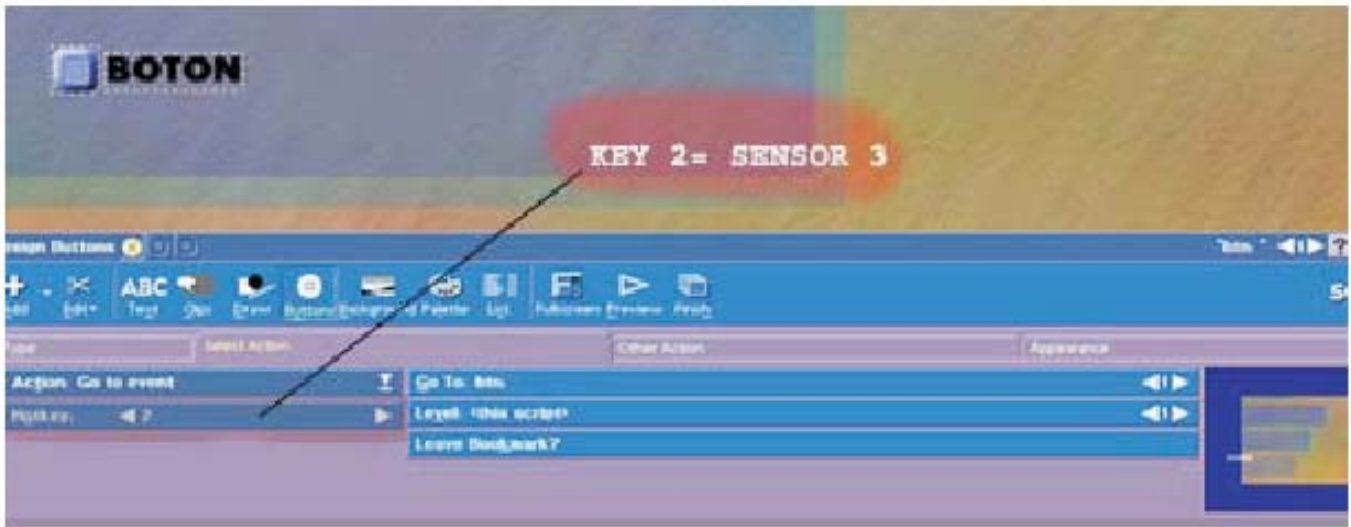
TOUCHGLASS works perfectly together with: **SCALA, EVISION, FLASH, DIRECTOR, ETC...**

EXAMPLE FOR THE ASSIGNATION OF TOUCHGLASS WITH SCALA:

1 Activate the TOUCHGLASS Driver

2 Start SCALA and realize your application

3 Assign the button:



D.- Surfaces to install the sensors to.

The **TOUCHGLASS** sensors can be installed to all non conductive (non metallic) surfaces" glass, plastic, stone, wood, etc.". Depending on the thickness the detection will be or will not be possible. With the size of the **TOUCHGLASS** sensors and using a glass surface , the detection will be possible with a max. thickness of 2 cm.

If we need to use surfaces thicker than this (3 cm) we can make the size of the sensor bigger and this will make the detection possible. It wil increse the area of detection

G.- Applications.

The possibilities of using **TOUCHGLASS** are endless. You can realize interactive kiosks so people can touch the window of a shop, tourist offices, travel agencies, etc.. and this way obtain information.

As it is possible to use the sensors on all non metallic surfaces there is a great number of places where you can use **TOUCHGLASS** For Example:

INTERACTIVE TABLES imagine a meeting where we are realizing a presentation touching especific parts of the table. **Your imagination allows you to use TOUCHGLASS in hundreds of applications.**

TOUCHGLASS is ideal for the creation of **INTERACTIVE EXHIBITS** . If the sensors are installed inside a product, information can be given through a monitor to the customers when the touch the product.

Advantages of TOUCHGLASS :

1. Promotion and services of products 24 hours a day, also when you are on holiday.
2. Used outside (sidewalk) the diffusion of products increase a lot.
3. Very simple to use, it is perfect for promotions focused on increasing sales.
4. Offers information of the preferences of the clients to the reseller.
5. Using newest technologies improves the image of your business.
5. You can easily change the information so you can promote a product perfectly.

Travel Agencies

Banks

Fashion

Insurances

Tourist Offices

Car dealers

Computer Shops

Music Shops

Sports

Real Estate

Pharmacies

Photography

City Halls

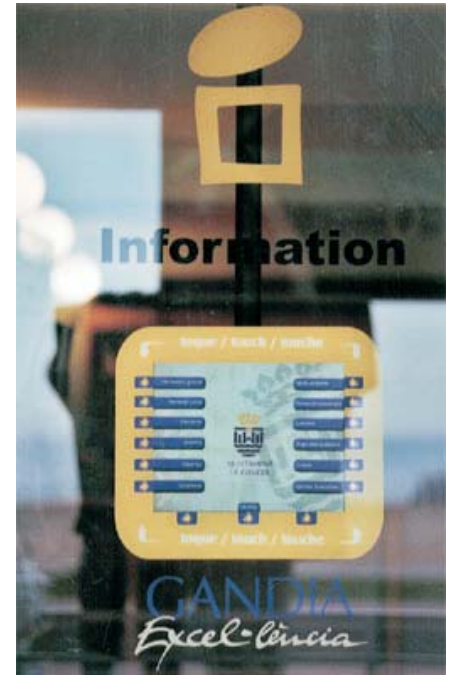
Big Surfaces

Fairs

Stands

Hotels

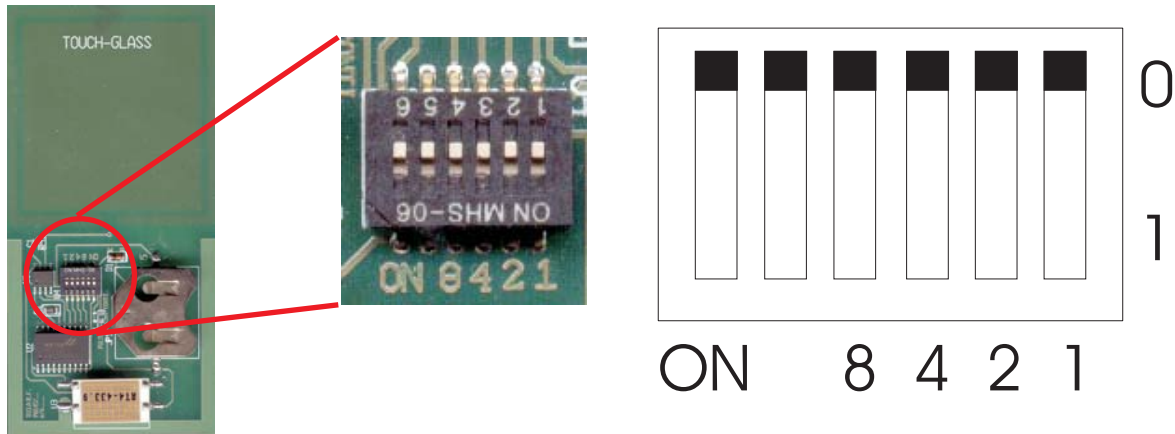
Expositions



H.- Wireless sensor configuration

Setting up the number of the Sensor:

The configuration of the numbers of the sensors is through the small switches that are on the surface of the sensors.



The switches for the configuration of the number are: 8, 4, 2, and 1. The switches have two positions 0 and 1. The configuration is binary, each switch must be set in 0 or 1 to get the chosen number. The configuration belongs to the following figure:

KEY N°	SWITCH POSITION			
	8	4	2	1
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1
A	1	0	1	0
B	1	0	1	1
C	1	1	0	0
D	1	1	0	1
E	1	1	1	0
F	1	1	1	1

Setting up the Sensor:

The power must be turned off on the sensor when it is not being used. It has a switch on it that allows the power to be turned off if the switch is ON.

To run the sensor, set the switch to the ON mode, position 1, see figure 1

The requirements for the right function of the sensors are as follow:

The sensor must be stuck to the surface, in an upright position if possible.
The separation between the sensors must be around 10 cmts, so that there will not be any interference between them
The distance between the unit control and the sensors cannot be more than 6 mts.
The antenna must be in an upright position away from radios, mobiles, etc.

To set up the sensors, please follow the steps above:

1. Stuck the sensor to the glass, or any other surface.
2. Put the battery, to feed the sensor, in the right position. the + sign of the battery must be up.
3. Set the switch to the ON mode, position 1.

This order in the installation is needed for a proper calibration of the capacitive sensor because it adjusts itself to the surface where its stuck.

NOTE: Download the Drivers 5.0 from the following address:
<http://dsistudio.com/ingles/marcoingl.htm> (updates/ downloads)

I.- Appendix

SET UP EXAMPLE

Key of Touchglass(IN) Function of keyboard Nomenclature(Out)

0 Up [Up]
1 Down [Down]
2 Right [Right]
3 Left [Left]
4 Left Mouse Button LeftButton (function of mouse)
5
6
7 Enter [Enter]
8 Delete [Delete]
9 Accede to Menus* {&[a]}
A Escape or exit menus [Escape]
B F1 [F1] Same for all, changing the subindication
C
D Space Bar [Space]4
E
F

NOTE: When we are using brackets in the nomenclature, we are physically referring to the keys of the keyboard; if we don't put the brackets we are referring to mouse functions.

EXAMPLE

If the key of the Touch(in): 0, and we put for the nomenclature(Out) : Up what happens is, that pressing the 0-Key we are moving pixel to pixel on the screen till we press again the 0-Key.

If the key of the Touch(in): 0, and we put for the nomenclature(Out) : [Up] what happens is, that we are moving space to space through the application we are using (if it is a word processing program) or file to file (if it is a file explorer) etc.

* { = Group starts. *
* } = Group ends. *
* [= Key starts. *
*] = Key ends. * e.j : {&[a]}
* ^ = Control in a group. *
* ! = Shift in a group. *
* & = Alt in a group. *