APPLICATION NOTES

4D SYSTEMS
TURNING TECHNOLOGY INTO ART

# ViSi Genie Magic: Report Touch Inputs

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## Description

This application note provides instructions on how use Magic Touch inputs and send report to Genie Serial port.

Before getting started, the following are required:

**Hardware**

- Any 4D Systems display module powered by any of the following processors:
  - Diablo16
  - Pixxi28/44
  - Picaso
- Programming Adaptor for target display module
- uSD Card
- USB Card Reader

**Software**

- Workshop4

This application note comes with one (1) ViSi-Genie Magic project:

- magicreport.4DGenie

**Note:** Using a non-4D programming interface could damage the processor and void the warranty.

## Content

## Application Overview

This document will be demonstrating how to use Magic Touch and Magic Touch Release to send report event into Genie Serial port. This can be useful to some application that need power saving which can help them get signal from the device if it detects touch inputs.

The simple project developed in this application note demonstrates sending report to the GTX where a touch detection occurs.

## Setup Procedure

For instructions on how to launch Workshop4, how to open a **ViSi Genie** project, and how to change the target display, kindly refer to the section "**Setup Procedure**" of the application note:

- ViSi-Genie Getting Started - First Project for Diablo16 Display Modules

## Create a New Project

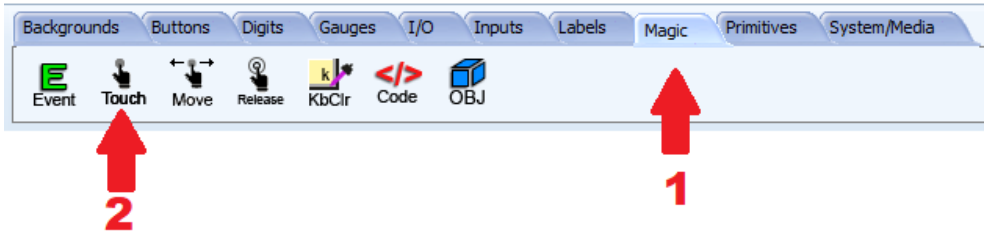
For instructions on how to create a new **ViSi Genie** project, please refer to the application note below.

- ViSi-Genie Getting Started - First Project for Diablo16 Display Modules

## Design the Project

### Adding a Magic Touch

Add a Magic Touch to the form by clicking Magic tab, and select Touch as shown below.




## Edit Magic Touch code

On Object Inspector Code properties, double click on the MagicTouch.inc to open the code editor and type the following code.

```
SendReport(REPORT_EVENT,tMagicObject,0,CurrentForm);
```

MagicTouch.inc

```
//
// Added 2/5/2020 2:30:37 PM
//
// Use 'ImageTouched' to detect 'current' object compare to values such as iWinbutton0
// to determine the object for which a touch has just been detected.
//
SendReport(REPORT_EVENT,tMagicObject,0,CurrentForm);
print("TOUCHED\n");
```

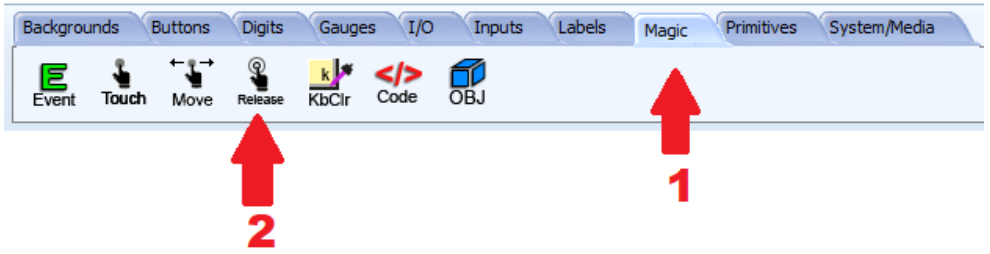
The SendReport function as discussed in section **Genie Magic Callable Function** of **Workshop4 IDE – ViSi-Genie Reference Manual**, sends a standard 6 byte report Object or Event packet to the Genie Serial Port.

```
SendReport(Id, Object Type, Object Idx, Value);
```

| | | | |
|---|---|---|---|
| **SendReport** | Sends a standard 6 byte report Object or Event packet to the Genie Serial Port | Id | Report ID, eg REPORT_EVENT |
| | | ObjectType | Object Type, eg tKnob |
| | | ObjectIdx | Object number, eg 0, 1 |
| | | Value | Value, eg 123 |

## Adding a Magic Release

Add a Magic Release to the form by clicking Magic tab, and select Release as shown below.




## Edit Magic Touch code

On Object Inspector Code properties, double click on the MagicTouch.inc to open the code editor and type the following code.

```
SendReport(REPORT_EVENT,tMagicObject,1,CurrentForm);
```

MagicRelease.inc

```
//
// Added 2/5/2020 2:31:46 PM
//
// Use 'ImageTouched' to detect 'current' object compare to values such as iWinbutton0
// to determine the object for which touch has just been released.
//
SendReport(REPORT_EVENT,tMagicObject,1,CurrentForm);
print("RELEASED\n");
```

## Run the Program

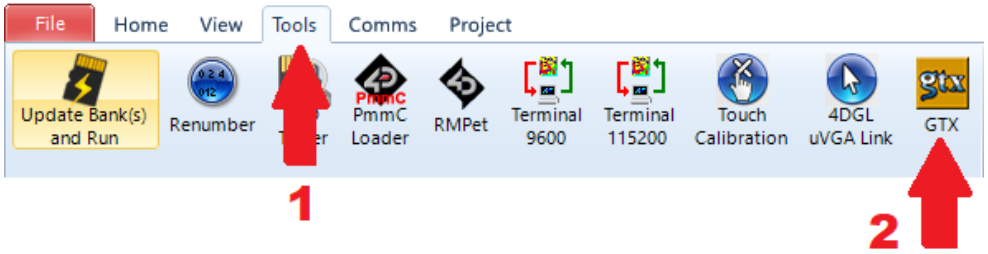
For instructions on how to save a **ViSi Genie** project, how to connect the target display to the PC, how to select the program destination, and how to compile and download a program, please refer to the section "**Run the Program**" of the application note below:

- ViSi-Genie Getting Started - First Project for Diablo16 Display Modules

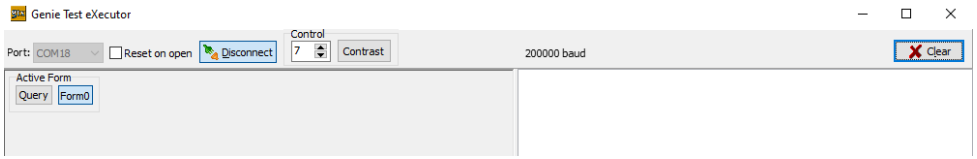
## Check Using GTX

On the Workshop4 IDE go to Tools tab, select GTX  as shown below.

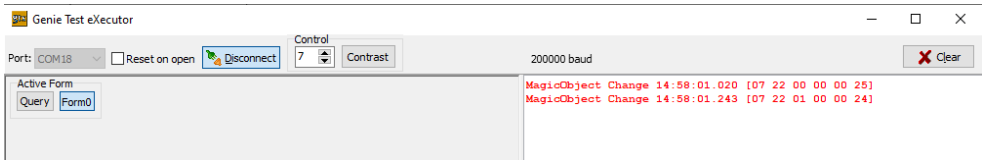


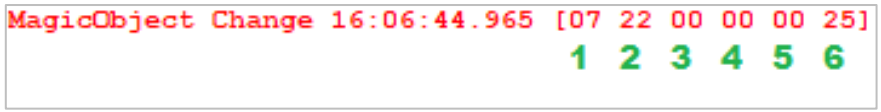



It will open the Genie Text eXecutor utility. Make sure that you select the correct port where the device is connected.




Start to touch anywhere inside the screen of the display module and you should see the send report appears on the right side of the GTX as shown below.




Where:

**1** is the Report Event

**2** is the Object ID

**3**, **4** and **5** are values

**6** is the checksum

Navigate to Form 1 and touch anywhere on the screen to check the change the report message.

## Proprietary Information



## Disclaimer of Warranties & Limitation of Liability