"There Is No Substitute for Experience"

DOW-KEY MICROWAVE

UNIVERSAL MATRIX DRIVER
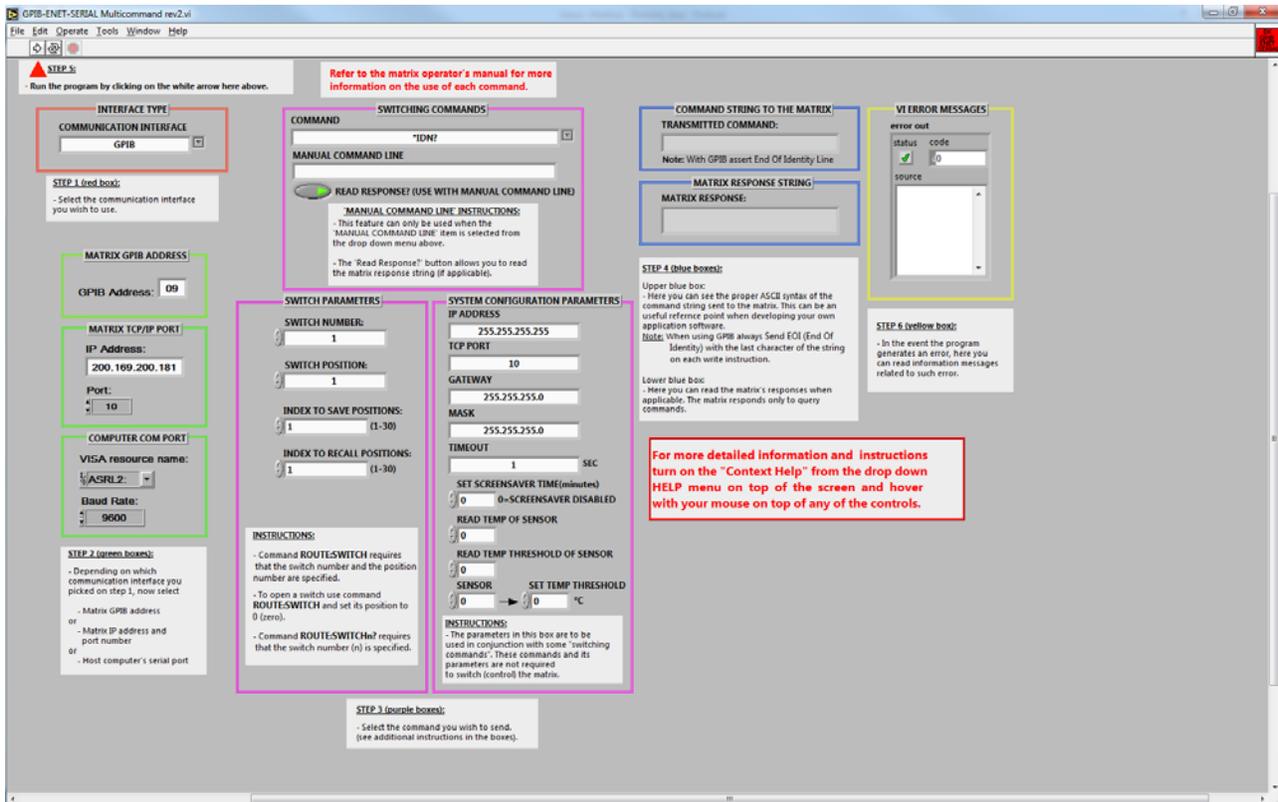
QUICK START GUIDE

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Manual Revision History

The revision history shown below lists all revisions and addendums created for this manual. The revision level increases numerically as the manual undergoes subsequent updates. Addendums are released between revisions and contain important change information that the user should incorporate immediately into the manual.   When a new revision is created, all addendum associated with the previous revision of the manual are incorporated into the new revision of the manual. Each new revision includes a revised copy of this history page.

Revision 1 (Document Number 49101-174) …………………………. June 2010

Revision 2 (Document Number 49101-174) …………………………. March 2016
- Added 'Manual Command Line' feature along with 'Read Response?' button

- Added the following new supported commands:
  - ROUTE:SAVEPOSITIONS x
  - ROUTE:RECALLPOSITIONS x
  - ROUTE:POSITIONS?
  - SET:DHCP ON
  - SET:DHCP OFF
  - GET:DHCP
  - SYST:FIRMWARE?
  - SYST:FIRMREV?
  - SYST:TEMPERATUREx?
  - SYST:TEMPTHRx?
  - SYST:TEMPTHRx y

Revision 3 (Document Number 49101-174) …………………………. January 2017

- Typo in section 1.4. Default name and location was *'C:\Program Files\GPIB-ENET-SERIAL Multicomand Rev.1'* should be *'C:\Program Files\GPIB-ENET-SERIAL Multicomand Rev.2'*

1 Getting Started

1.1 Introduction

The Dow-Key Universal Matrix Driver is a software program created with National Instruments LabView© 7.1 that provides a convenient means to control most Dow-Key RF Switch Matrix products. Excluded are:

> Matrix models that communicate via SNMP
>
> Matrix models that communicate via customer-specified controls and commands
>
> Solid State Matrix products

Be sure to read the Operator's Manual of the Matrix model you wish to control in order to understand the various matrix commands available to you.

The installation CD contains two Matrix Driver software programs: one limited to controlling matrices whose internal configuration is of the Dow-Key 4101-10x10 or CB-10x10 model designs, and another with the ability to control a wider product range. The user is encouraged to use the latter, and this Guide only addresses the second one.

The figure below shows the Installation CD's directory structure.

```
□ ⊙ DowKey driver v1 (D:)
   □ 🗀 Universal Matrix driver
      □ 🗀 10x10 Multicommand matrix
         □ 🗀 exe
              🗀 Installer
      □ 🗀 GPIB-ENET-SERIAL Multicommand
         □ 🗀 exe
              🗀 Installer
```

10x10 Multicommand matrix contains the source code for the 10x10 software program; its **exe** subdirectory contains the 10x10 software program executable; and the **Installer** subdirectory beneath **exe** contains the 10x10 software program's installer, **Setup.exe**.

GPIB-ENET-SERIAL Multicommand matrix contains the source code for the Multicommand software program; its **exe** subdirectory contains the Multicommand software program executable; and the **Installer** subdirectory beneath exe contains the Multicommand software program's installer, **Setup.exe**.

The source code can be opened with LabView© 7.1 or greater; it is provided as a reference from which users may create their own control programs. However, Dow-Key retains its copyright of the source code: the user may not redistribute the source code provided or executable software programs derived from either the source code provided or modifications thereof without Dow-Key's express permission.

1.2 Minimum System Requirements

> PC running Microsoft Windows© XP or later version or operating system
>
> 256 kb Hard Drive space
>
> 256 kb RAM
>
> CD Drive

1.3 Installation

The Dow-Key Universal Matrix Driver requires National Instruments LabView© Runtime Engine, version 7.1. If you have LabView© 7.1, you may simply copy the contents of either **exe** subdirectory to the location of your choice.

If you don't have LabView© 7.1, the installer will add the Runtime Engine to your system.

Insert the Installation CD into your PC's CD drive and navigate to:

…\Universal Matrix driver\GPIB-ENET-SERIAL Multicommand\exe\Installer

and start **Setup.exe**.

1.4 Starting the Dow-Key Universal Matrix Driver

Unless you have specified a different location, the installer will place the executable file in this default location:

C:\Program Files\GPIB-ENET-SERIAL Multicomand Rev.2

Locate and double click **GPIB-ENET-SERIAL Multicommand rev.2.exe.**

Note:

You may encounter the following error message upon execution of the Dow-Key Universal Matrix Driver:

Executable Version (7.1.1) Doesn't Match Resource File (7.1). Check Your Configuration.

This problem may be corrected by following these steps:

1. Go to **Add or Remove Programs**
2. Select **National Instruments Software** and click **Change**
3. In the **National Instruments Software** dialog window that appears select **NI LabView Run-Time Engine 7.1.1** and click **Repair**

1.5 The Main Screen
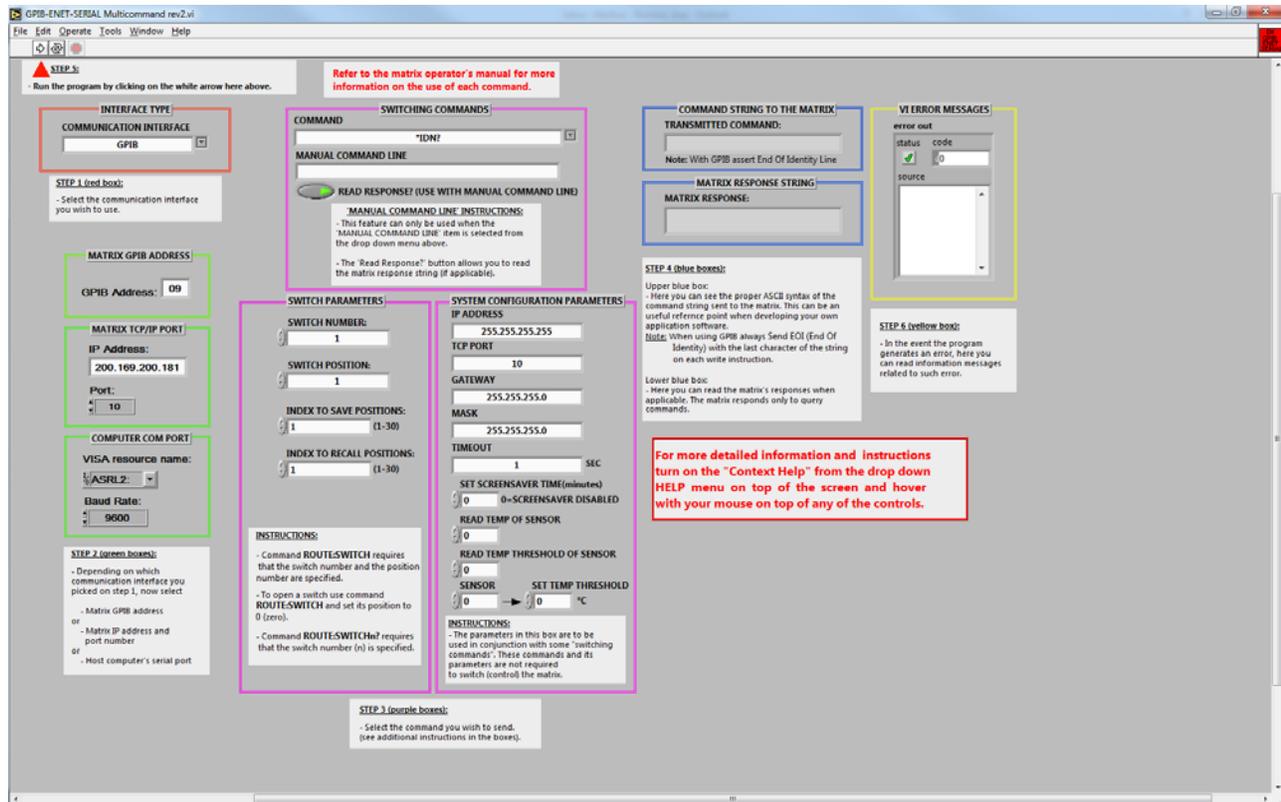
The controls on the main screen are placed within boxes, and these boxes are organized in five groups; each group is identified by the color of the border around its boxes. Furthermore, each group is associated with one of the six steps of the process by which communication with a Dow-Key Matrix product is made. Starting at the far left and working to the right:

> Step 1: **Red Box** – Select an Interface
>
> Use the drop down list to select the interface you wish to use.
>
> Step 2: **Green Boxes** – Select Interface Settings
>
> Step 3: **Magenta Boxes** – Select a Matrix Command or type your own
>
> The top box is to either select a command from the drop down menu or manually type in a command. The bottom-left box allows you to select switches and positions. Here you can also save and recall preset records. The bottom-right box has various Ethernet, screensaver, and temperature sensor settings.
>
> Step 4: **Blue Boxes** – Monitor Command Strings and Responses
>
> These boxes allow you to see the ASCII text strings sent (commands) to the matrix as well as the string that the matrix returned.
>
> Step 5: **Run Button** – Send the Command
>
> Locate the Run Button on the tool bar at the furthest upper left corner of the window: it's just above the red triangle. Clicking the Run Button causes the command selected in Step 3 to be sent to the matrix.

Step 6: **Yellow Box** – Monitor System Errors

This box let's you know when operations not specific to the matrix have resulted in failure, for example trying to open a TCP/IP connection with a matrix that isn't connected to an Ethernet port.