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# MicroStation V8 Automation

Design Manual  
Chapter #1  
General Information

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The Office of Design presently uses three forms of programming for MicroStation V8 automation, including MicroStation Basic, Visual Basic, and MicroStation VBA (Visual Basic for Applications).

Most of the automation tools are launched from within the Geopak D&C Manager program. Geopak D&C was created as the primary drafting tool for Geopak, but it also serves as the command menu system for the Office of Design. While it is possible to launch these tools directly from MicroStation and not from within the D&C Manager program, this is not recommended. Most of the automation tools are designed to assign an additional Geopak attribute to each of the drawn elements, which will not occur if not using D&C. While the D&C is definitely linked to the automation tools, it is available as a separate download on the Geopak portion of the Office of Design website, as it may be updated on a different schedule than the automation tools.

1. **MicroStation Basic** is based on the *Basic* programming language and all MicroStation Basic macros include two files. The uncompiled .BAS file can be written with any text-editing software. The compiled .BA file includes all custom dialog boxes that were developed for the macro. The compiled .BA file cannot be edited, so changes must be made to the .BAS file, and then recompiled to create a new .BA file. Because the MicroStation Basic macros are so numerous, for inclusion on the web site they have been zipped together into a single file called **Basic.zip**.
3. **Visual Basic**, (VB), is a “stand alone” programming language, therefore VB programs are not run from within MicroStation. At this time, there are only a few VB programs that have been modified to run with MicroStation V8, but the number will probably increase over time. For inclusion on the web site, the VB programs for V8 have been zipped into a file called **Programs**.
2. **MicroStation VBA** is Visual Basic for the MicroStation Application. Each macro is saved as a single compiled file with the file extension of “.MVBA”. Because the file is compiled, it can only be edited by using the Visual Basic Editor found inside the MicroStation V8 program. The VBA macros are included on the web site in a zipped file called **VBA.zip**.

The “**RefTie**” program, used to draw the Survey Reference Tie information on the “G” series sheets in a plan set, was written for the Iowa DOT by Bentley Systems. Because the Iowa DOT contracted with Bentley Systems to write this program, it may be downloaded for use on Iowa DOT projects only, and may not be used otherwise or sold in whole or in part. For inclusion on the web site, the program and supporting files have been zipped into a single self-extracting file called **RefTie.exe**.