

Release GC-CAM Edit v9.4 Notes

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New Features

GC-Basic support for COM objects - Product Application Extension

Graphicode GC-Basic platform already exposes many objects, methods and properties for developers to write applications and functionality for GC-Powerplatform products. GC Basic now provides support for COM objects, allowing developers to take full advantage of existing GC-Basic functionality and flexible, powerful COM objects developed by any developer in any programming language supporting COM objects.

In order to better integrate GC-Basic scripts (including those utilizing a COM object) a new method has been developed to allow developers and users to add new menu items, sub-menu items, and toolbar buttons (with tooltips) directly to the GraphiCode application. This is achieved through an XML configuration file that can be added to the GraphiCode application during installation of the developer's application. See Appendix 1 for an example XML file.

Thus developer can have their own way of licensing their products through their COM objects and write batch files for custom installation that might includes calling GC-power platform standard installation, doing COM registration, adding XML menu configuration file and GC-Basic scripts into application directory.

Select This Net / Unselect This Net

A right click option has been added to allow the selection of a net that is currently under the crosshair. The result is the equivalent of the Select Connected (with Nets activated) in a single action. If a netlist has not been extracted for the data all nets are defined as Net Zero and so, if a feature sits on Net Zero, a warning message is displayed asking if you wish to continue. If the function is then run, be aware that the result may be all data selected.

The corresponding Unselect This Net is also available via the right click pop-up menu.

Enhanced Features

Improved internal structure for polygon handling

The structure for internally storing polygon information has been overhauled to allow more definitive information regarding polygon start and end locations as defined in an imported Gerber file.

Items fixed since v9.3.2

This list is customer reported issues fixed for this release.

- #4406 Fixed netlist failure due to multiple coincident polygons created to form plane fill area.
- #4404 Fixed an issue where an incorrect padstack was being created for blind bottom side drill files when the co-incident with a topside pad.
- #4403 Netlist failure fixed caused by same data construction as in Track #4406.
- #4402 Create a COM object access methodology via GC-Basic.
- #4401 Netlist failure resolved due to fix handling coincident polygon lines.
- #4400 Fixed crash loading ODB++ file. The ODB++ file specified an angle greater than 360 degrees. Result now displayed as per Valor Viewer.
- #4399 Updated polygon import process from Gerber data to produce the correct result. Previously the image was being displayed incorrectly.

Appendix A

Menu Configuration XML definition file.

```
<?xml version="1.0" encoding="utf-8"?>
<xs:schema attributeFormDefault="unqualified" elementFormDefault="qualified"
xmlns:xs="http://www.w3.org/2001/XMLSchema">
  <xs:element name="uicfg">
    <xs:complexType>
      <xs:sequence>
        <xs:element name="version" type="xs:decimal" />
        <xs:element name="commands">
          <xs:complexType>
            <xs:sequence>
              <xs:element name="commandlist">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element maxOccurs="unbounded" name="menuitem">
                      <xs:complexType>
                        <xs:attribute name="cmdid" type="xs:unsignedShort" use="required" />
                        <xs:attribute name="name" type="xs:string" use="required" />
                        <xs:attribute name="tooltip" type="xs:string" use="required" />
                        <xs:attribute name="status" type="xs:string" use="required" />
                        <xs:attribute name="bitmap" type="xs:string" use="required" />
                        <xs:attribute name="commandcode" type="xs:string" use="required" />
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="menulist">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element maxOccurs="unbounded" name="menu">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element maxOccurs="unbounded" name="menuitem" type="xs:unsignedShort" />
                          <xs:element minOccurs="0" name="menu" type="xs:unsignedByte" />
                        </xs:sequence>
                        <xs:attribute name="id" type="xs:unsignedByte" use="required" />
                        <xs:attribute name="name" type="xs:string" use="required" />
                        <xs:attribute name="submenu" type="xs:boolean" use="required" />
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
              <xs:element name="toolbarlist">
                <xs:complexType>
                  <xs:sequence>
                    <xs:element maxOccurs="unbounded" name="toolbar">
                      <xs:complexType>
                        <xs:sequence>
                          <xs:element maxOccurs="unbounded" name="toolbaritem" type="xs:unsignedShort" />
                          <xs:attribute name="id" type="xs:string" use="required" />
                        </xs:sequence>
                      </xs:complexType>
                    </xs:element>
                  </xs:sequence>
                </xs:complexType>
              </xs:element>
            </xs:sequence>
          </xs:complexType>
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:schema>
```

```
        </xs:element>
      </xs:sequence>
    </xs:complexType>
  </xs:element>
</xs:sequence>
</xs:complexType>
</xs:element>
</xs:schema>
```

Appendix B

Menu Configuration example file.

```
<?xml version="1.0" encoding="utf-8"?>
<uicfg>
  <version>1.0</version>
  <commands>
    <commandlist>
      <menuitem cmdid="65001" name="Drill Optimizer" tooltip="Optimize drill"
status="Status Optimize drill" bitmap="a1.bmp" commandcode ="DrillOpt2.GCB"/>
      <menuitem cmdid="65002" name="Calculator" tooltip="Tooltip Cmd2"
status="Call Calculator" bitmap="a2.bmp" commandcode ="calculator.gca"/>
      <menuitem cmdid="65003" name="Impedance Calculator" tooltip="Calculate
impedance" status="Calculate impedance 3" bitmap="a3.bmp" commandcode
="ImpCal.gca"/>
      <menuitem cmdid="65004" name="StackupBuilder login" tooltip="Tooltip Cmd4"
status="Login to StackupBuilder" bitmap="a4.bmp" commandcode ="ComStackup.gca"/>
      <menuitem cmdid="65005" name="Cmd 5" tooltip="Tooltip Cmd5" status="Status
Cmd 5" bitmap="a5.bmp" commandcode ="cadxyimport.gca"/>
      <menuitem cmdid="65006" name="Cmd 6" tooltip="Tooltip Cmd6" status="Status
Cmd 6" bitmap="a6.bmp" commandcode ="a1.gca"/>
    </commandlist>
    <menulist>
      <menu id="1" name="MyMenu1" submenu="false">
        <menuitem>65001</menuitem>
        <menuitem>0</menuitem>
        <menuitem>65002</menuitem>
        <menu>3</menu>
      </menu>
      <menu id="2" name ="MyMenu2" submenu="false">
        <menuitem>65004</menuitem>
        <menuitem>0</menuitem>
        <menuitem>65006</menuitem>
      </menu>
      <menu id="3" name ="Sub" submenu="true">
        <menuitem>65003</menuitem>
        <menuitem>65005</menuitem>
      </menu>
    </menulist>

    <toolbarlist>
      <toolbar id="MyToobar1">
        <toolbaritem>65001</toolbaritem>
        <toolbaritem>65002</toolbaritem>
        <toolbaritem>65004</toolbaritem>
        <toolbaritem>65006</toolbaritem>
      </toolbar>
      <toolbar id="MyToobar2">
        <toolbaritem>65003</toolbaritem>
        <toolbaritem>65005</toolbaritem>
      </toolbar>
    </toolbarlist>
  </commands>
</uicfg>
```