4D SYSTEMS
TURNING TECHNOLOGY INTO ART

General Migrating from GOLDELOX-SGC-GFX to GOLDELOX

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Description

This application note is dedicated to illustrating how to migrate from GOLDELOX-SGC/GOLDELOX-GFX to GOLDELOX. Before getting started, the following are required:

- Any of the following 4D Goldelox display modules:
    - uOLED-96-G2
    - uOLED-128-G2
    - uOLED-160-G2
    - uLCD-144-G2
    - uTOLED-20-G2

    other superseded modules

- 4D Programming Cable or µUSB-PA5
- Workshop 4 IDE (installed according to the installation document)

Content

Application Overview

GOLDELOX processor was previously available in two configurations, SGC and GFX.
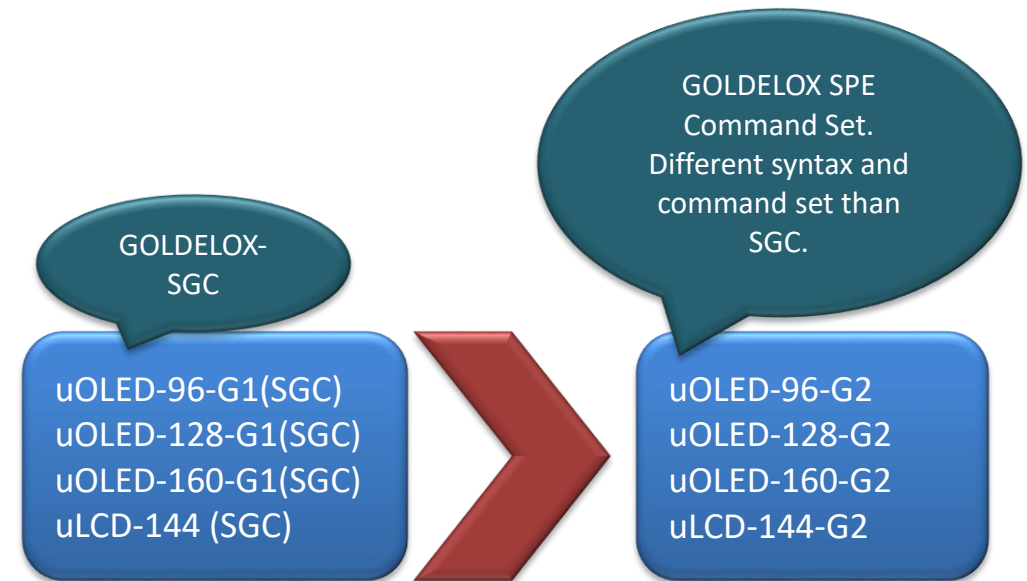
SGC Configuration:

SGC configuration makes the display module a slave device where it accepts serial commands from the host controller to operate. The last revisions of the SGC PmmC for the GOLDELOX modules were R17. The relevant command set document is GOLDELOX-SGC-COMMANDS-SIS-revX.pdf.

SGC configuration is discontinued and all the documentation and relevant firmware files and software tools are not available on our website anymore.

Existing customers who have already designed their products based on the GOLDELOX display modules configured as SGC can request SGC firmware to be installed on the 'older' products from 4D Systems.
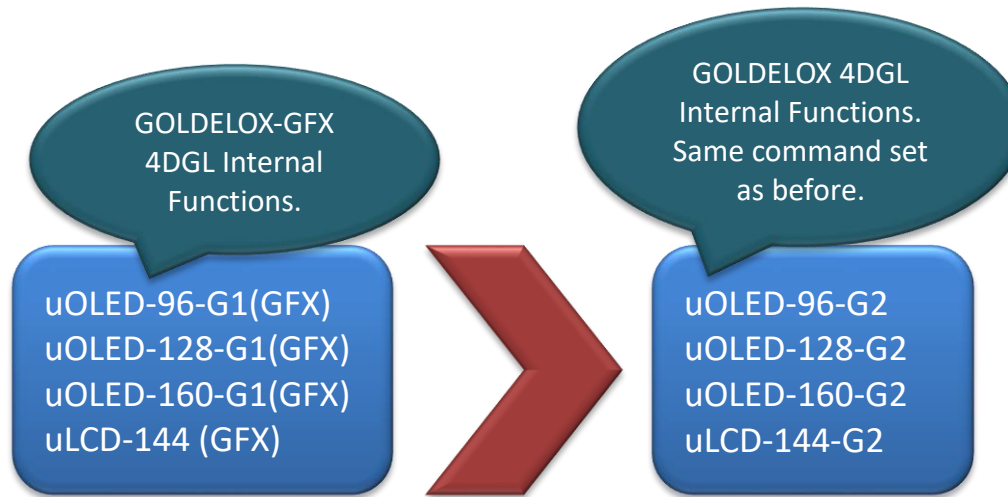
New Customers are requested to move on to the New **Serial Environment**. This again is a slave configuration but has different command set and syntax compared with its predecessor (SGC). All the latest 4D Intelligent Display Modules are configured with New **Serial Environment** by default.

Note: New Serial Environment is now a 4DGL application called SPE that loads on to the display module after loading the PmmC file. SPE stands for Serial Platform Emulator.

GOLDELOX-
SGC

uOLED-96-G1(SGC)
uOLED-128-G1(SGC)
uOLED-160-G1(SGC)
uLCD-144 (SGC)

GOLDELOX SPE
Command Set.
Different syntax and
command set than
SGC.

uOLED-96-G2
uOLED-128-G2
uOLED-160-G2
uLCD-144-G2

GFX Configuration:

GFX configuration makes the display module a standalone device where the user needs to program the module using 4DGL programming language. There has been no change in the 4DGL command set.

GOLDELOX-GFX 4DGL Internal Functions.

GOLDELOX 4DGL Internal Functions. Same command set as before.

uOLED-96-G1(GFX)
uOLED-128-G1(GFX)
uOLED-160-G1(GFX)
uLCD-144 (GFX)

uOLED-96-G2
uOLED-128-G2
uOLED-160-G2
uLCD-144-G2

Note: The form factor and the mechanicals of the uOLED-128-G2 and uOLED-160-G2 have also changed slightly from uOLED-128-G1 to uOLED-160-G1 respectively.

Setup Procedure

SGC Configuration to new Serial Environment:

If the user has been using the GOLDELOX display module in SGC configuration, it is highly recommended to move on to new Serial Environment.

> The Display Modules are **SPE READY** by default, meaning the SPE Application has been loaded to each of the modules at the 4D Systems Factory. The user can reload the **SPE** Application if required, to update the **SPE Application** on board OR to move over to the **Serial Environment** from another Workshop 4 Environment such as Designer or ViSi.

Once the chosen display module is 'SPE READY', either brand new out of the box, or programmed to have the SPE Application via the above instructions, the user can begin programming their Host of choice to communicate to the 4D Systems display module.

SPE loading procedure and complete GOLDELOX Serial Command Set are explained in the latest GOLDELOX Serial Command Set Reference Manual.

An application note written most especially for beginners is also available. Serial Goldelox Getting Started - The SPE Application.

To test the GOLDELOX display module configured for new Serial Environment, "Serial Commander" software tool could be used which should be available under the Tools menu when a project is started in Serial Environment on the 4D Workshop4 IDE.

A glimpse of the **Serial Commander** is given below.
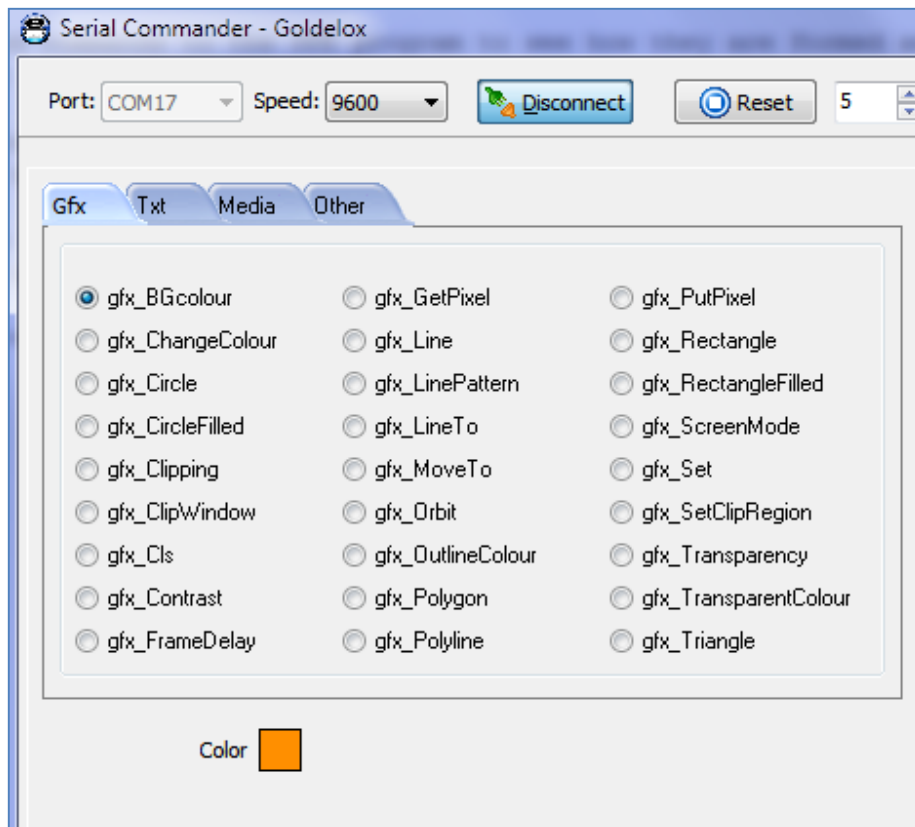
Note: A 4D Programming adaptor such as 4D Programming Cable, uUSB-CE5, uUSB-MB5 or uUSB-PA5 should be used to program the SPE or test the display module through serial commander. Any third part device can damage the on board processor.

GFX or 4DGL Configuration:

Although there has been no change in the 4DGL command set, we are not using the term "GFX" anymore.

There are two Environments, Designer and ViSi as part of the new 4D Workshop4 IDE to configure the module as a standalone device. Both environments require 4DGL programming.

GOLDELOX 4DGL Internal Functions are explained in the latest Goldelox Internal Functions Manual.

Note: ViSi reference documents are available under the DOWNLOADs tab on the 4D Workshop4 IDE product page.

Note: The base PmmC file required for any of the three Development Environments would be R24 GOLDELOX PmmC file or above which should be available under the DOWNLOADs tab on each of the display module's product page.

Proprietary Information

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