

SCOTT PINKERTON

541-760-2536

RSCOTTPINKERTON@GMAIL.COM

Sample GUI/Application
Portfolio

Fundamentals

- Experience controlling complex systems
- Focus on reusable/portable code when applicable
- GUI's designed to provide needed interfaces for all user types: Architects, support staff, test operators.

Industrial XYZ Inkjet Characterization Engineering/Production Application

3-axis
motion
control
coordinated
with custom
printing h/w

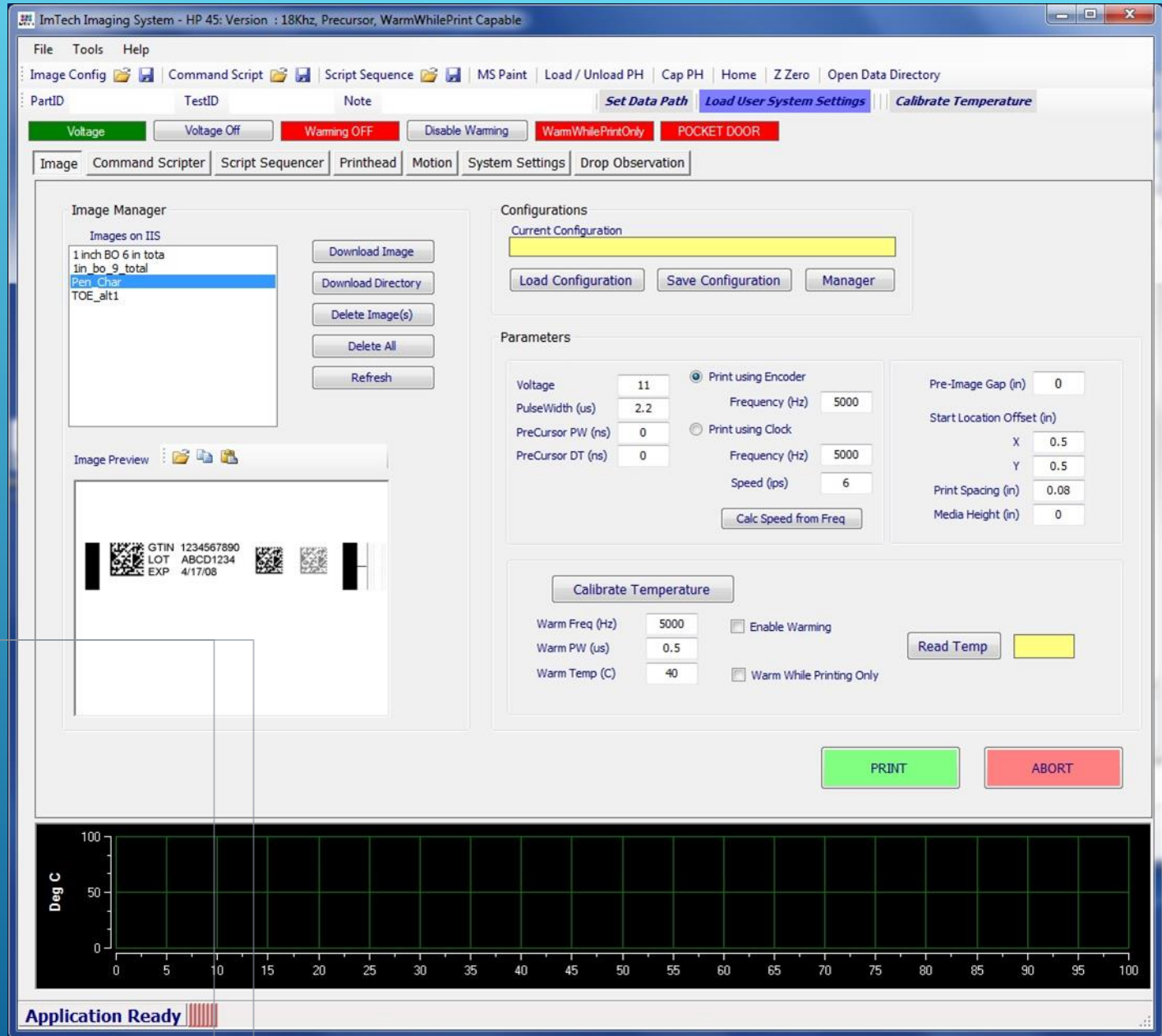
Three Levels
of System
Interfacing

1- Simple
Image Print

Select
Image

Set Print
Properties

Print It



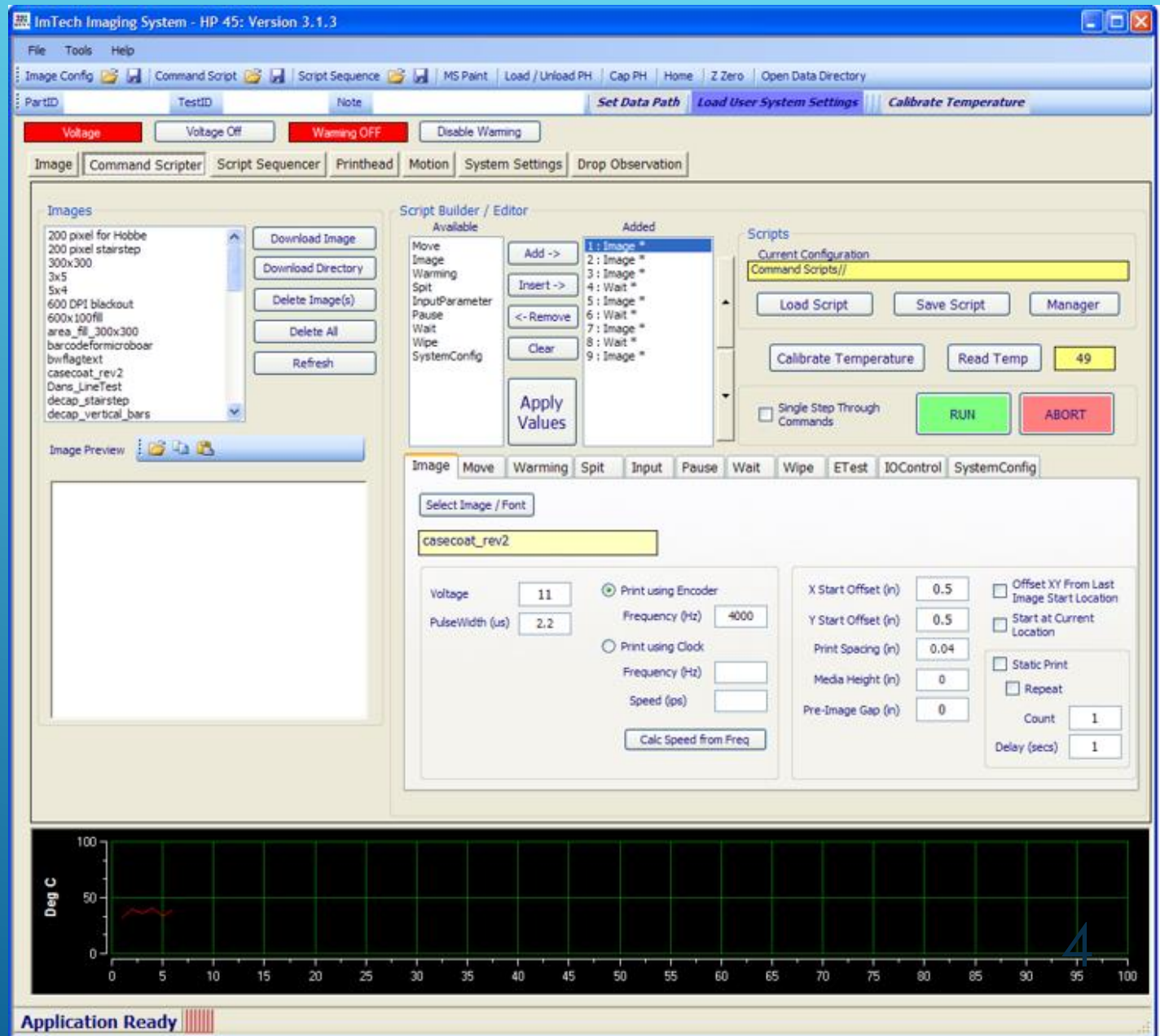
2 - Dynamic Script Builder

Add / Insert Available Commands and Configure

Re-order Commands / Edit Parameters

Save the Script and Run It

Or Load Saved Script and Run



Easily Alter Script Parameters Globally Due to Test / Architecture Requirement Changes

Apply changes to all subsequent
applicable commands

Automatically create 'Parameter Sweeps'
to easily generate performance profiles

The screenshot shows a dialog box titled "InputParameter" with a standard Windows-style title bar (blue with a close button). The dialog has a light beige background. It contains several sections of controls:

- Global Parameters:** A list of five checkboxes, each followed by a text input field:
 - ☐ Change Voltage: 10
 - ☐ Change PW: 3
 - ☐ Change Frequency: 1000
 - ☐ Change Print Spacing: 0.04
 - ☐ Change Block Warm Temperature: 40
- Parameter Sweeping:** A section with a blue header. It contains a note: "Note: Selected parameters will be 'stepped' for the duration of all added Image functions following this command (ie: 3 remaining images in Script = 3 steps)". Below the note is a table of checkboxes and input fields:

	Start	Step
<input type="checkbox"/> Inc / Dec Voltage	13	-5
<input type="checkbox"/> Inc / Dec PW	3	-2
<input type="checkbox"/> Inc / Dec Frequency	1000	500
<input type="checkbox"/> Inc / Dec Warming	35	5
- Wait For Temp Reached:** A checkbox followed by two input fields:
 - ☐ Wait For Temp Reached
 - Margin (DegC): 2
 - Timeout (secs): 10
- Buttons:** "OK" and "Abort" buttons at the bottom right.

3 - Build Complex Test Suites

Dynamically
Sequence /
Loop Series
of Scripts

ImTech Imaging System - HP 45: Version 3.1.3

File Tools Help

Image Config Command Script Script Sequence MS Paint Load / Unload PH Cap PH Home Z Zero Open Data Directory

PartID TestID Note Set Data Path Load User System Settings Calibrate Temperature

Voltage Voltage Off Warning OFF Disable Warning

Image Command Scripter Script Sequencer Printhead Motion System Settings Drop Observation

The Script Sequencer allows Saved Command Scripts to be Sequenced

Build Script

Configurations Added

Type	Name	Repeat
garold	inputparam	1
garold	firstimage	1
garold	advance to next line	1
garold	wait5	1
garold	advance to next line	1
garold	wait30	1
garold	advance to next line	1
garold	wait60	1
garold	advance to next line	1
garold	wait120	1
garold	advance to next line	1
garold	wait180	1
garold	advance to next line	1
garold	wait300	1
garold	advance to next line	1

Double Click on a config name to open it in the Command Script Editor

Configurations

Current Configuration
Config Scripts/garold/Decap short term

Load Configuration Save Configuration Manager

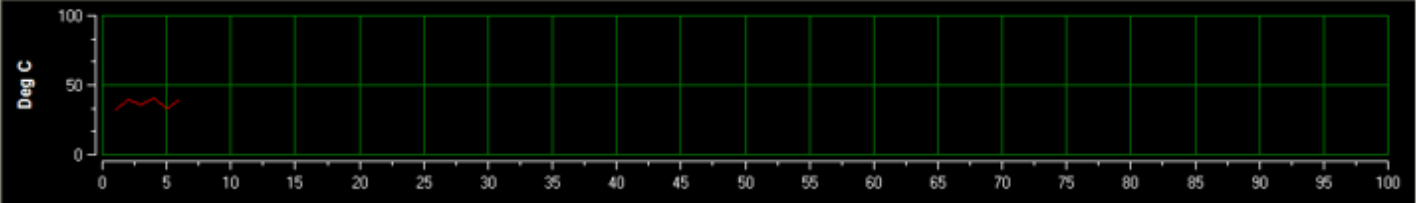
Calibrate Temperature Read Temp 49

Repeat Count 1

RUN

Abort

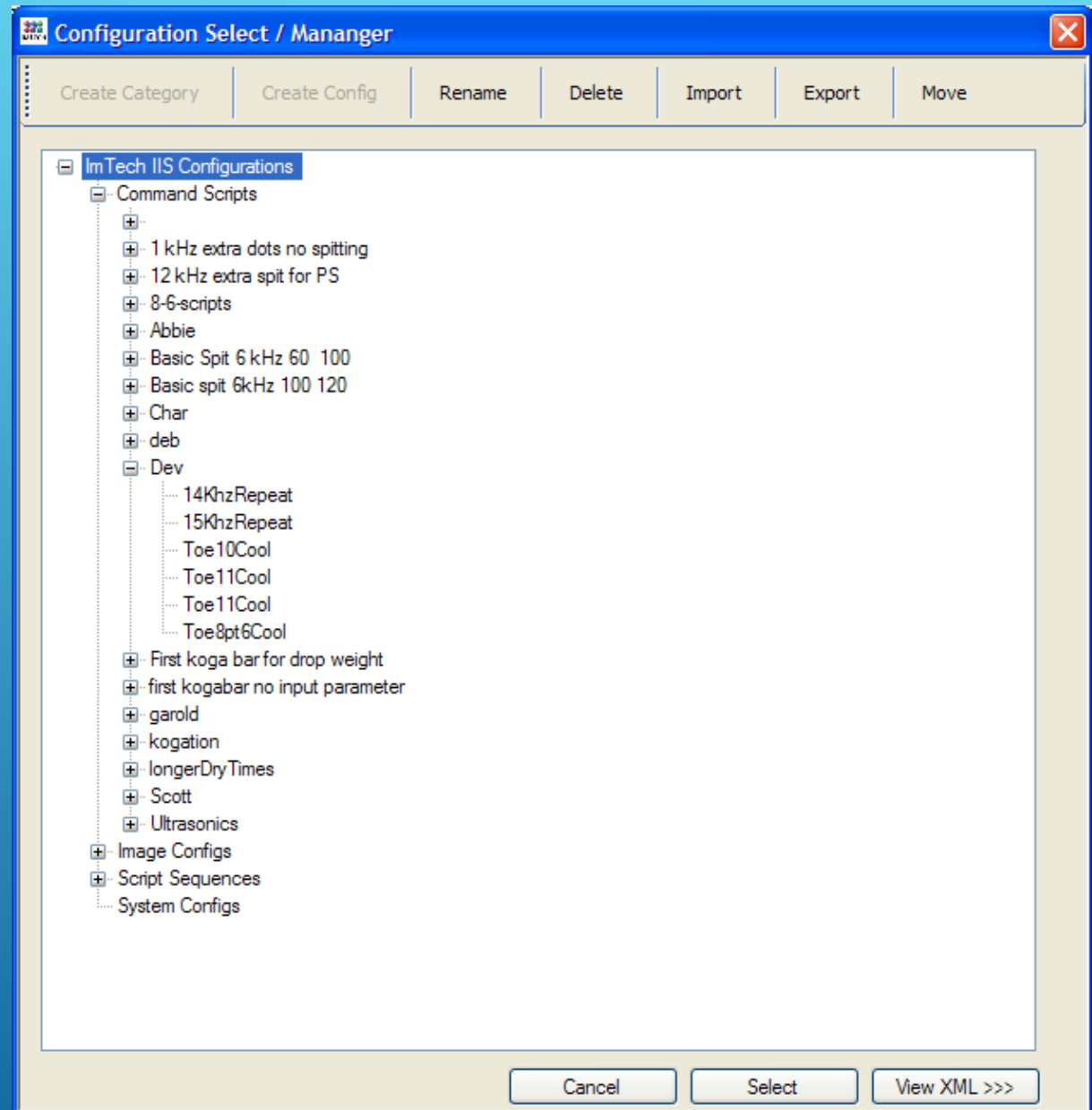
Application Ready



Manage XML Format Configurations (on this system, stored in custom MS Access Database Schema)

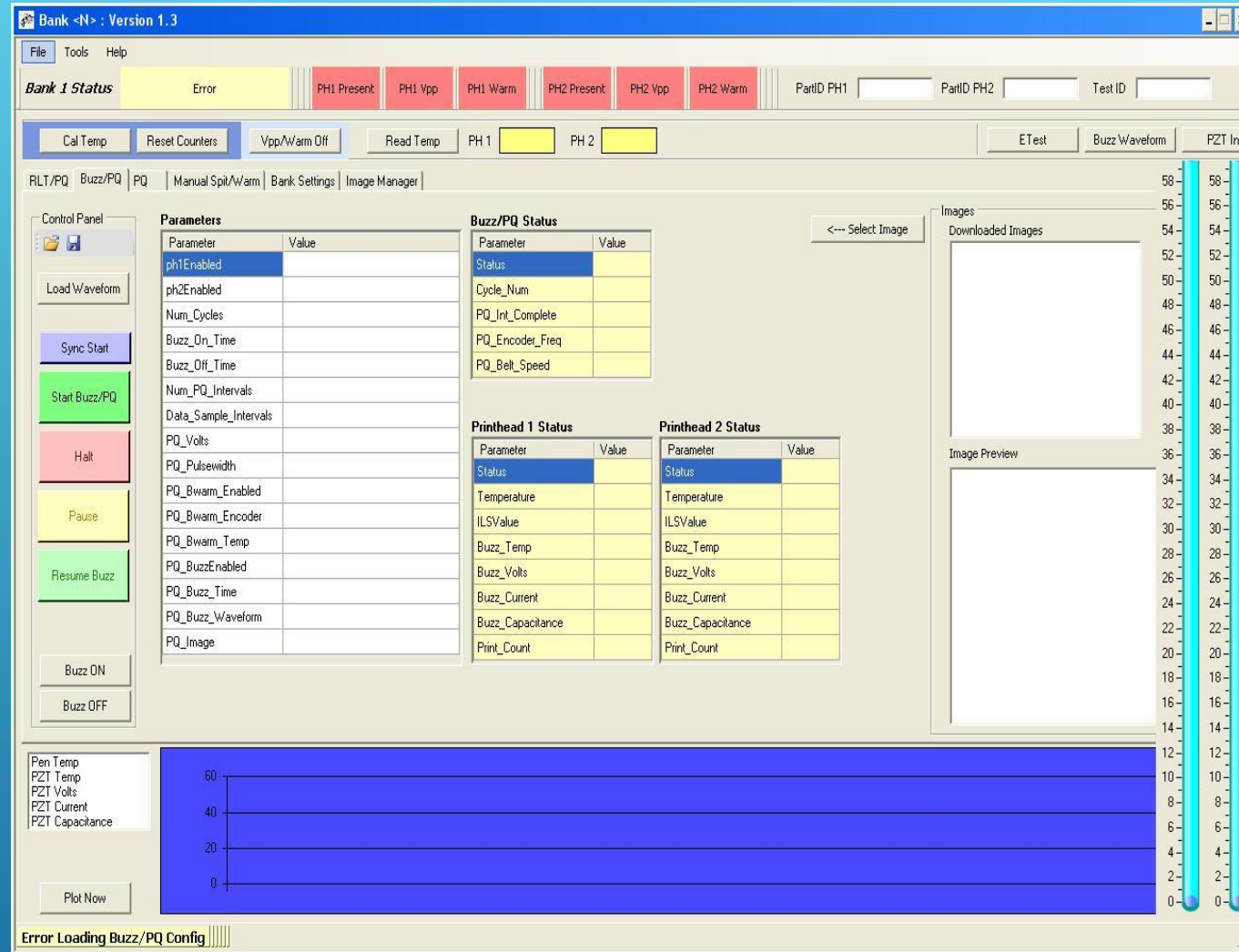
Build / Manage custom categories and script names by test type

Easily export/import scripts and referenced images between systems



Dynamic Generation of GUI Content and Population of Internal Data Structures

- Reduce application development time by generating parameter input / data display at run-time
- Changes to three lines alters all data sets and UI at all levels
- No time wasted on form reorganization
- Maximize space using tables

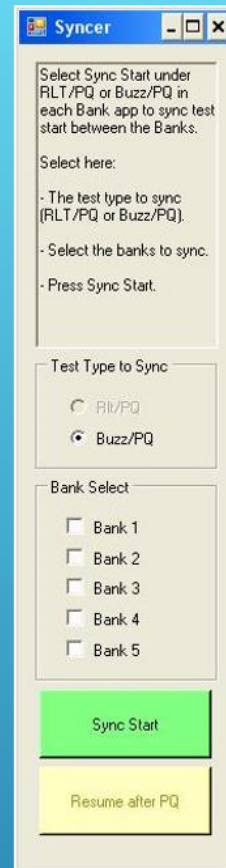
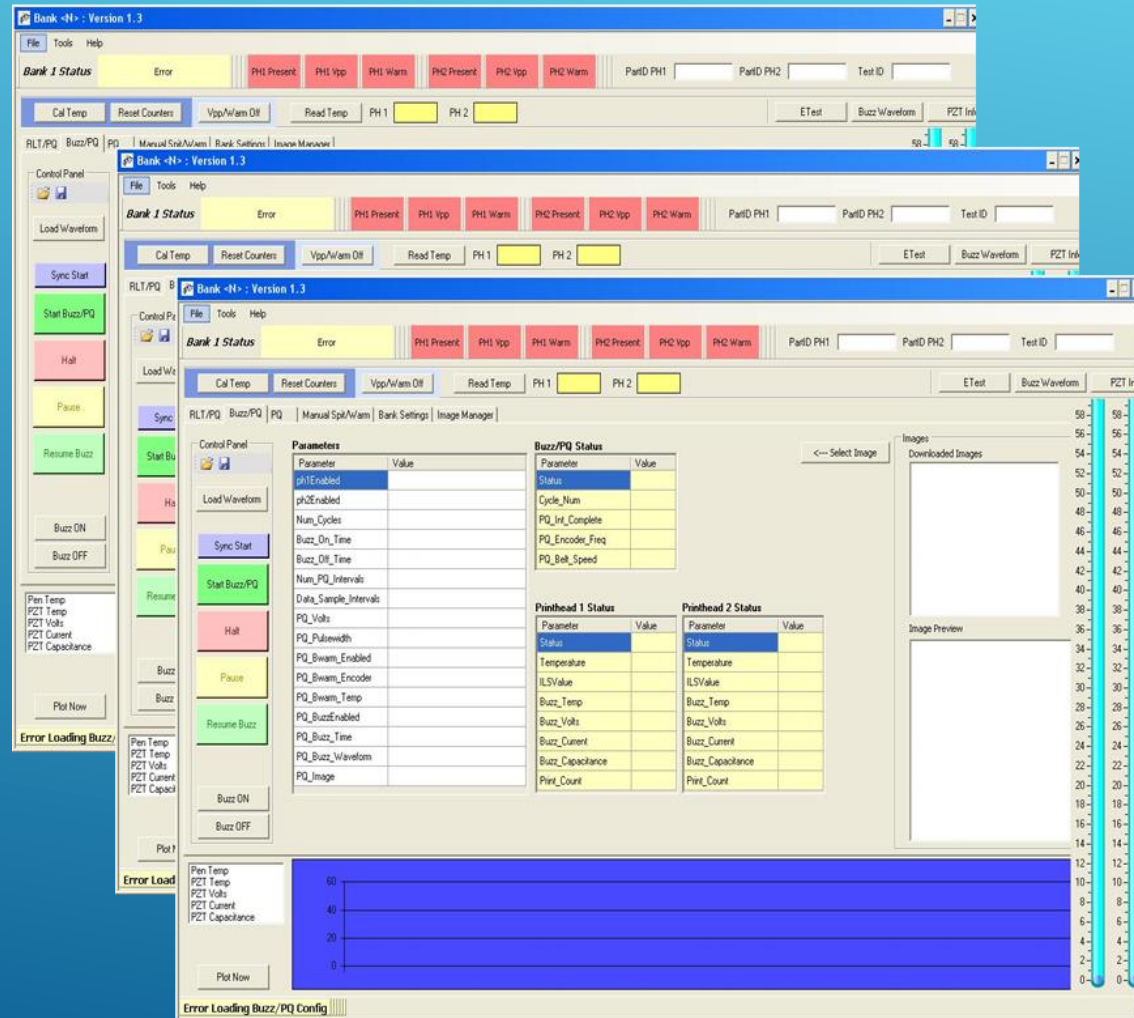


Utilize PC Processor/Windows to Provide Asynchronous Testing within a System

- Multiple Instances of Single Application 'tied' to hardware set (Bank) at run-time
- Each Bank can run completely independent

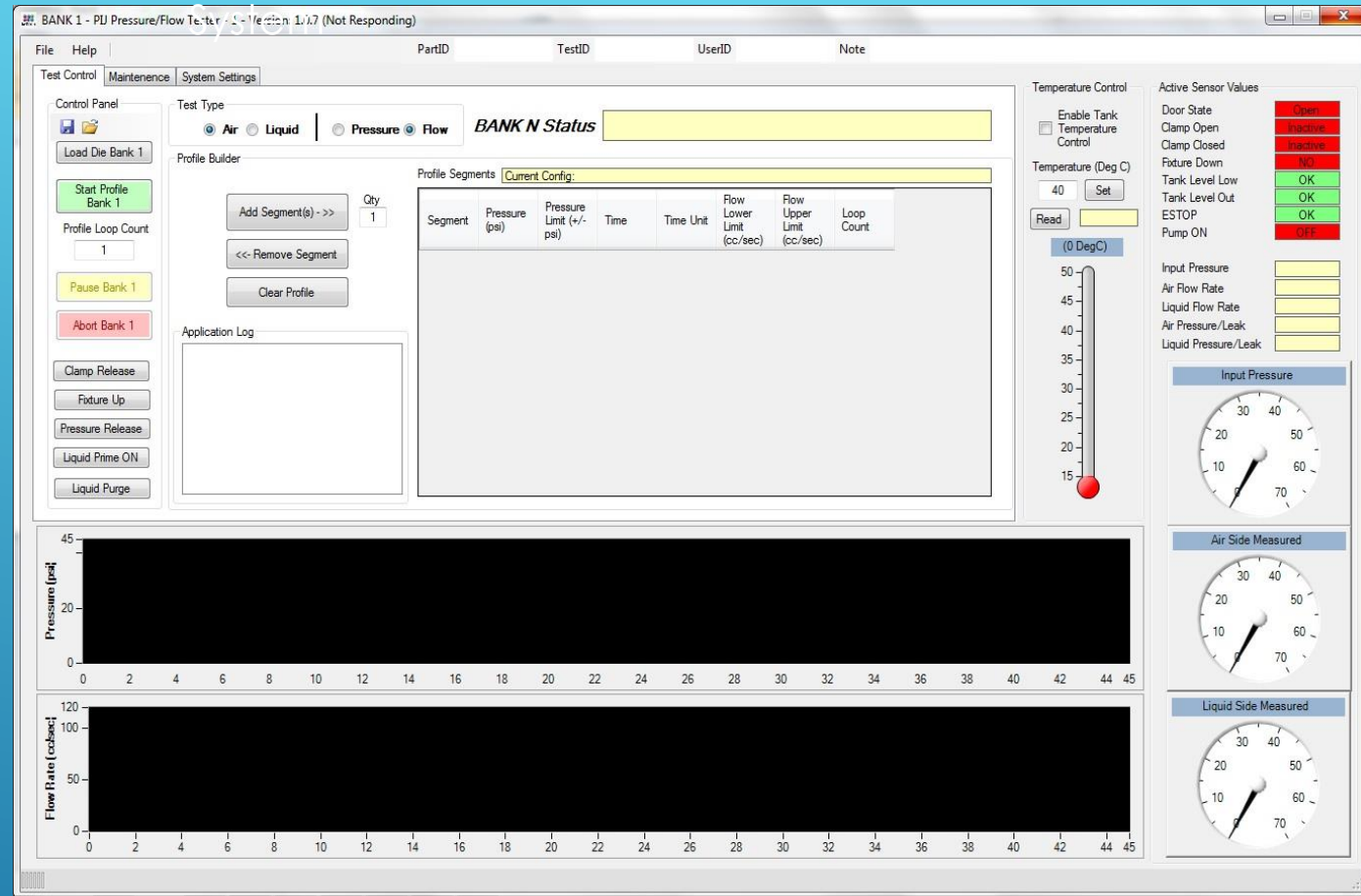
Data Acquisition using array of National Instruments hardware packages

- Or Sync all Banks using Syncer App

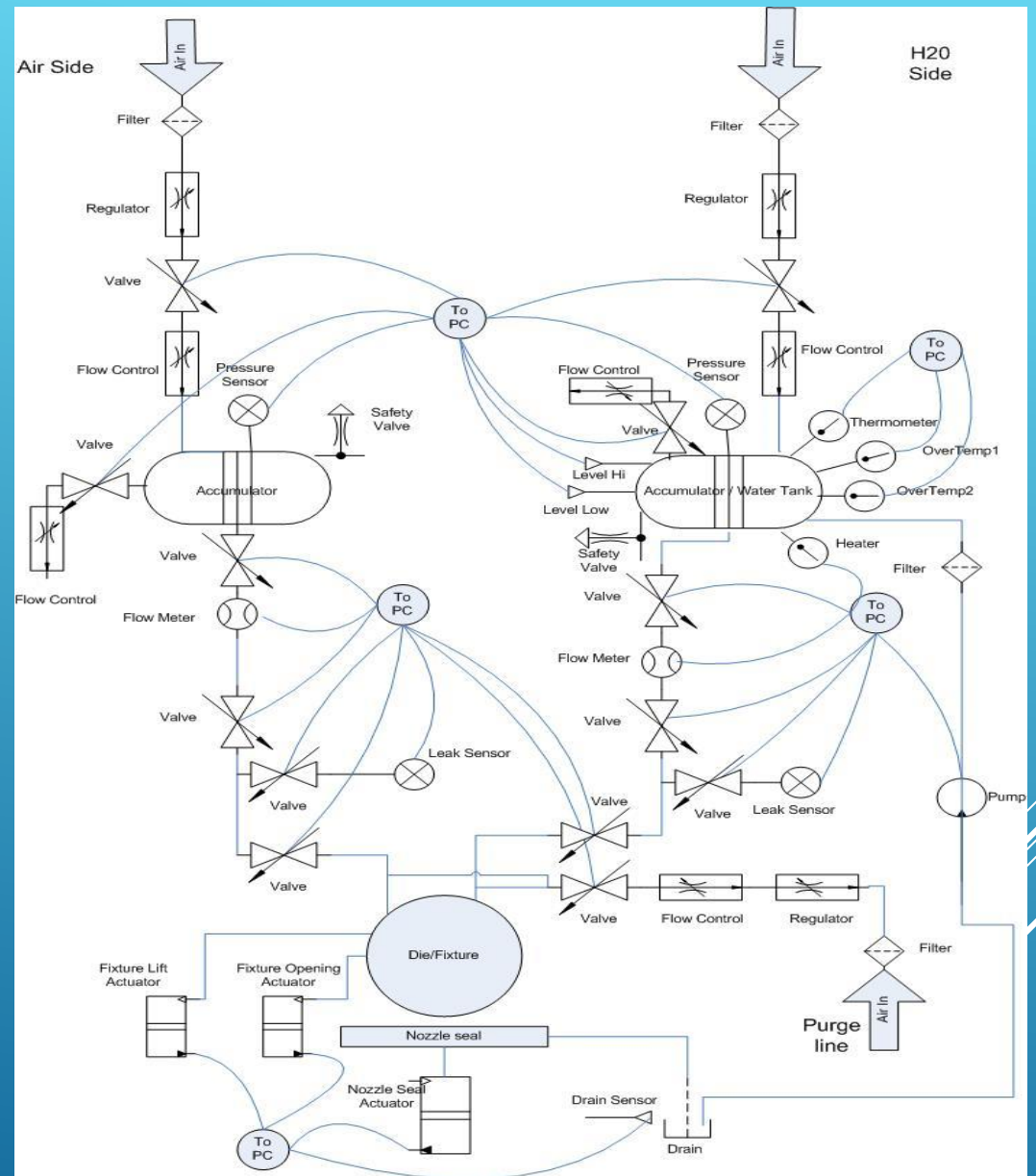


Custom Pressure/Flow Characterization

- Multi-Bank Implementation
- Precision Air/Water Pressure and Flow Control
- Precision Pressure/Flow Metering
- Custom Profile Creation using Dynamic Segment Builder
- Real-time System/Data Monitoring

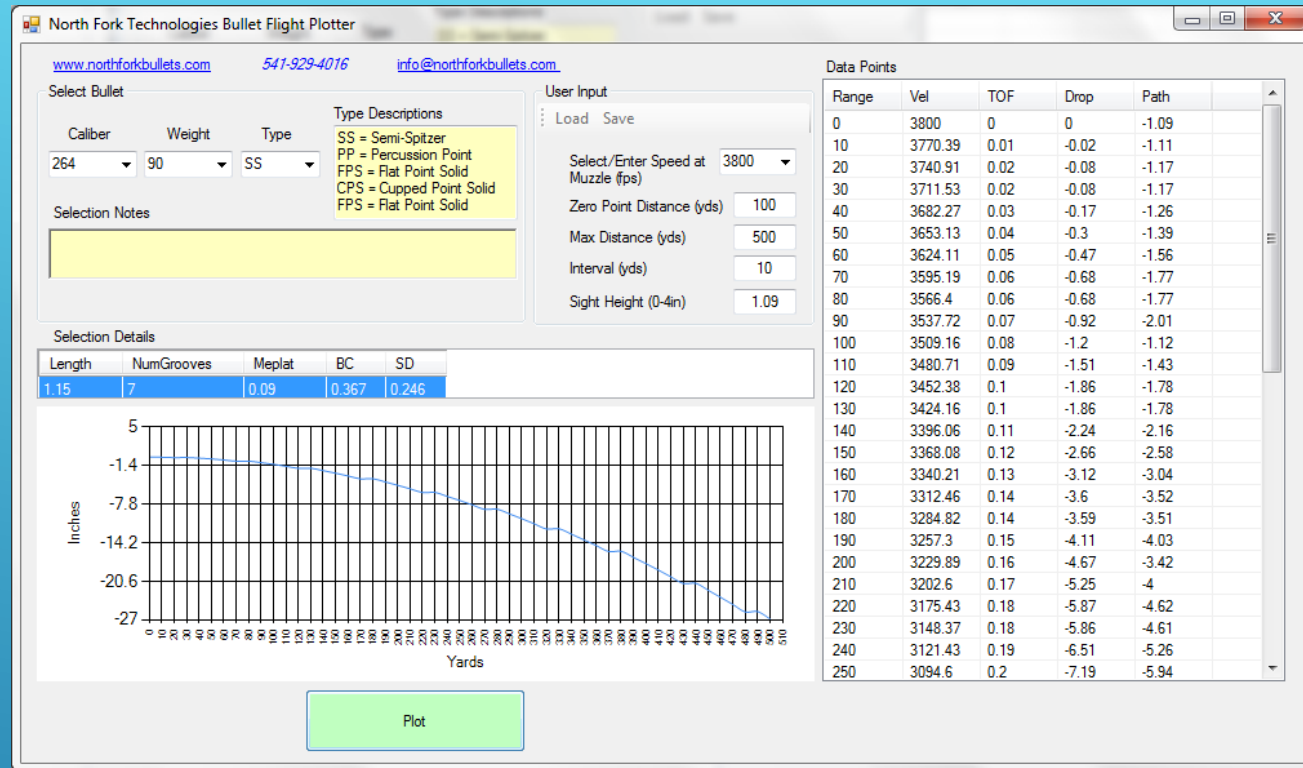


Complex Visio Diagram System Design



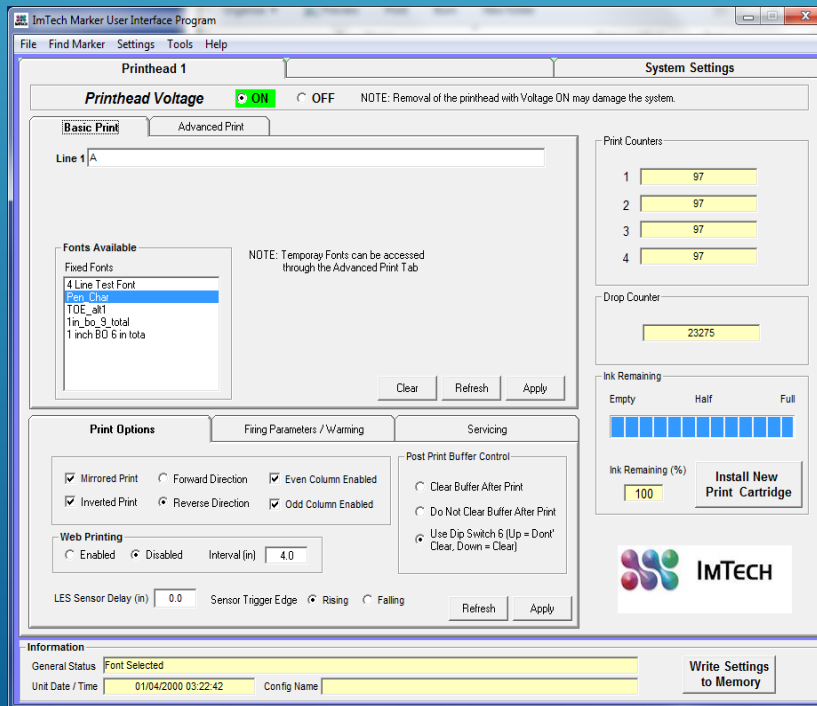
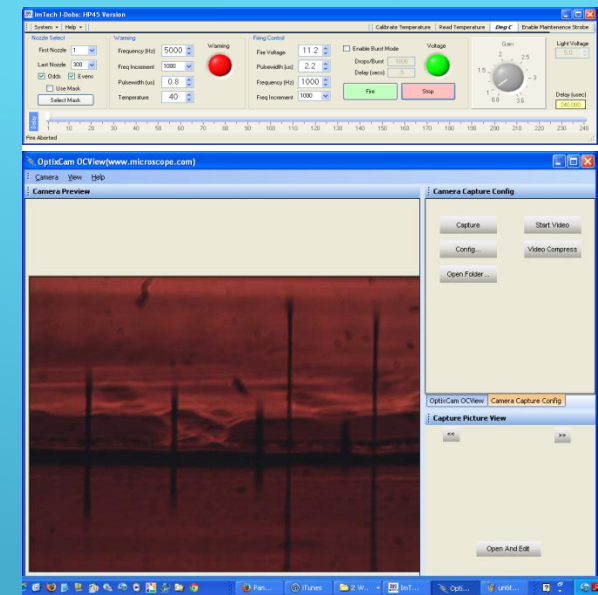
Application using C#

- Full C# Winforms Application
- Utilizes SQL Server, Control Databinding and SQL Querying



Other Inkjet System Examples

- Vision Systems
- Gravimetric Drop Volume Tool
- Marking and Coding Industry System Control Applications



HOPEFULLY THIS PROVIDES A SAMPLE REPRESENTATION OF MY
SKILLS AND EXPERIENCE

Thank you for your time and consideration

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