P-CAD Schematic DBX Power Table Specification

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Introduction
This document describes a DBX application that allows users to place a Power Table in their Schematic design file. A Power Table is a collection of lines and text organized to easily determine the nets associated with power pins in a given schematic. A power pin is defined as component pin with its Electrical Type set to Power. This includes hidden pins (pins that are part of a component but not displayed on any symbol of that component).

Resulting power table example:

Power Table				
RefDes	Pattern	Type	GND	VCC
U1	DIP14	SN74LS00N	7	14
U2	DIP14	SN74LS00N	7	14
U3	DIP40	74LS611	20	40

User Requirements
Users want the following capabilities:
1. easily identify power pins (including hidden pins) and their nets in a schematic design
2. ability to plot/print a list of power pins and their nets with their schematic design

The Schematic Editor only partially solves these problems. It allows the user to identify power pins through the Part Properties dialog. To create a list of these pins and their nets, requires tedious manual placement by the user.

Functional Requirements
Overview
A new DBX application will be created, allowing the user to place a Power Table in their Schematic design. The Power Table program reads component, attribute and net information from an open Schematic design. That data can be selectively used to place a Power Table in that design. The user can decide which data will be contained in the table and set various output options. The following features will be supported:
1. provide the choice to create a power table using only hidden pins, or all power pins
2. provide the ability to select which components, attributes and nets will be in the table
3. allow a user defined table title
4. allow table placement options such as: Sheet Name, Origin, TextStyle, Row Spacing and Column Spacing

Command Set and User Interface
This section describes the commands and interface of the Power Table application.

Features
From the dialog below the user may perform the following operations:

- gather design info which populates the tabs with current design data
- select which components will be in the table
- select which attributes will be in the table
- select which nets will be in the table
- select table location options
- run, which places the power table in the schematic design

Having run PowerTable.exe, the user will be presented with the dialog box below:

To capture design data, the user would perform the following steps :
      1. decide to select the Hidden Pins Only option, or if left unchecked all power pins.
      2. click the Gather Design Info button, a Please wait message displays until finished.

To select which components will be in the table, there will be a Components tab see below:
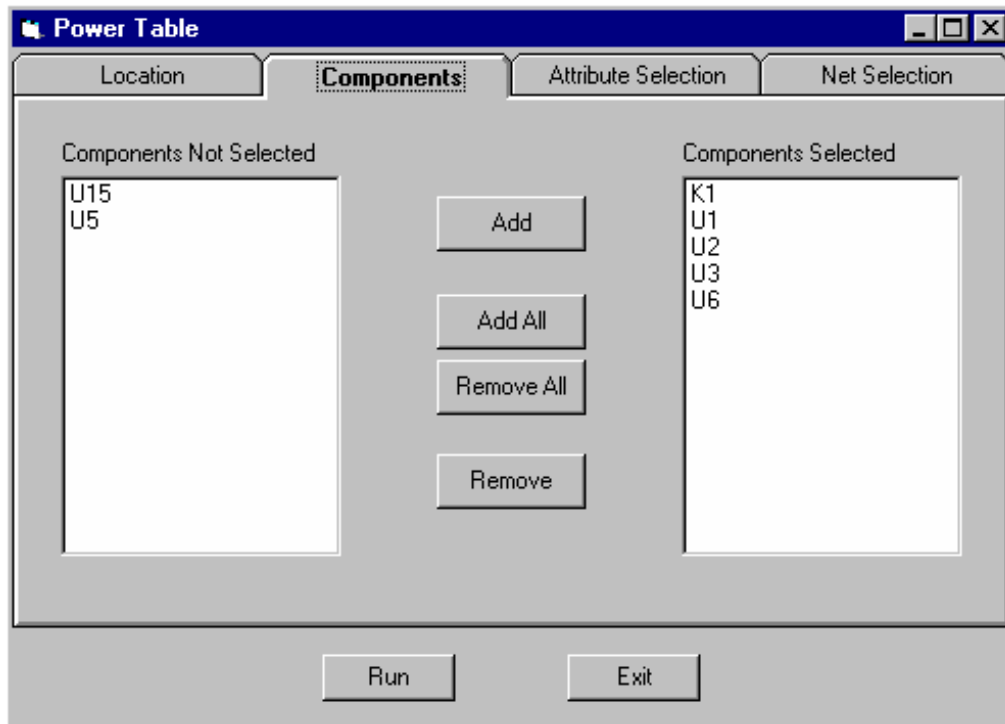
This dialog allows the selection of components by RefDes for use in the power table. Only components with power or hidden pins (depending on the option selected) will show in the list. Component ordering in the table is also established by the selected lists ordering.

The Attribute and Net tabs will behave similarly.

The Location tab provides options for table placement, see below:
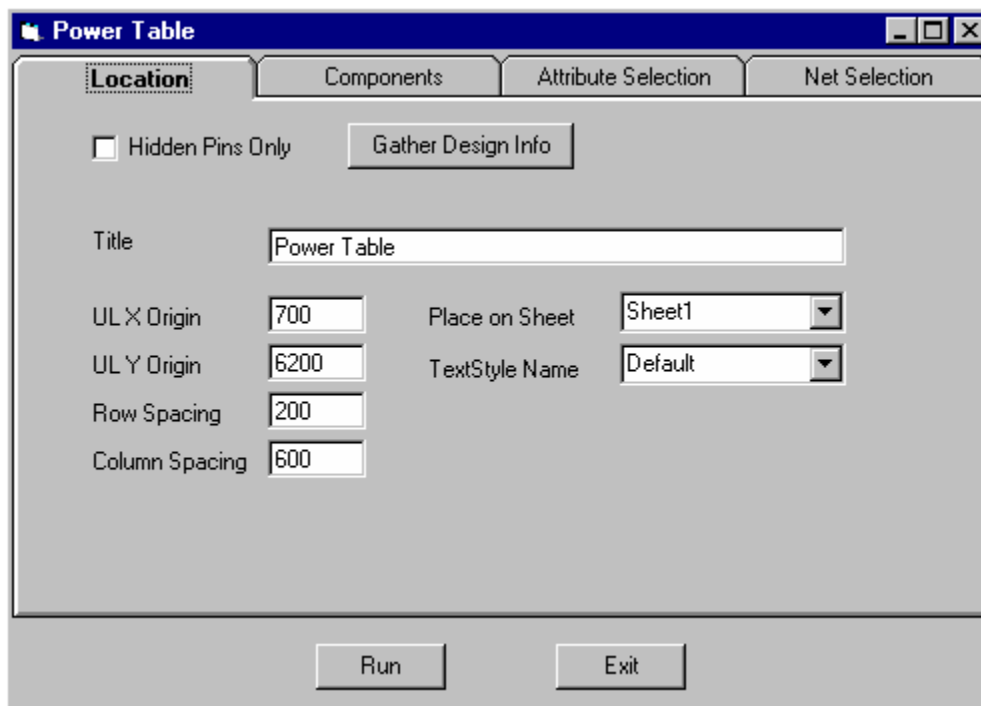
The Place on Sheet and TextStyle Name drop downs will be populated with the current designs Sheet Names and TextStyle Names. These names will be used during table placement. Origin and Spacing options will allow further control over power table location and size. A power table Title option is also provided.

Pressing the Run button will place a power table using the options and selected objects. Program will exit on completion.

Issues
1. Power Table extents are not pre-processed and therefore may extend out of the workspace.