



YOUR AC POWER SOURCE

UPC Studio Introduction



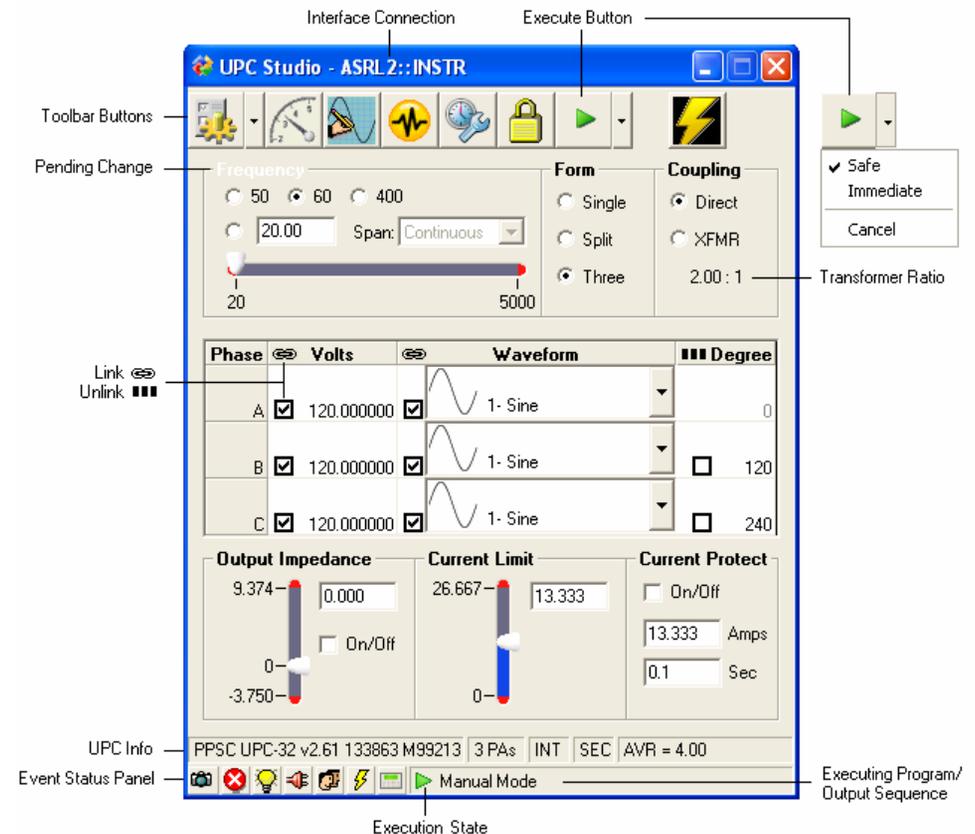
YOUR AC POWER SOURCE

Contents

- Simplified Manual Control
- UPC Metering Panel
- New Waveform Editor
- New Output Sequencer
- Offline Simulation
- Upgrading from Older Firmware
- Registration

Simplified Control Panel

- Automatically detects what configuration of Power source you are using
- UPC Studio Controls Sections:
 - Frequency
 - Form
 - Coupling
 - Volts, Waveform, Degree
 - Prog-Z, Current Limit/Protect (M99213)



The screenshot shows the UPC Studio software interface for an ASRL2::INSTR device. The interface is divided into several sections:

- Toolbar Buttons:** Located at the top left, containing icons for settings, frequency, waveform, and execution.
- Pending Change:** A label pointing to the top left of the main control area.
- Frequency:** A section with radio buttons for 50, 60, and 400 Hz, a text input for 20.00, a dropdown for Span (Continuous), and a slider from 20 to 5000.
- Form:** A section with radio buttons for Single, Split, and Three.
- Coupling:** A section with radio buttons for Direct, XFMR, and a text input for 2.00 : 1 (Transformer Ratio).
- Phase Table:** A table with columns for Phase, Volts, Waveform, and Degree.

Phase	Volts	Waveform	Degree
A	120.000000	1- Sine	0
B	120.000000	1- Sine	120
C	120.000000	1- Sine	240
- Output Impedance:** A section with a slider from 0 to 9.374 and a text input for 0.000.
- Current Limit:** A section with a slider from 0 to 26.667 and a text input for 13.333.
- Current Protect:** A section with a checkbox for On/Off, a text input for 13.333 Amps, and a text input for 0.1 Sec.
- UPC Info:** A status bar at the bottom showing: PPSC UPC-32 v2.61 133863 M99213 3 PA's INT SEC AVR = 4.00
- Event Status Panel:** A row of icons at the bottom left.
- Execution State:** A label pointing to the Manual Mode button at the bottom.
- Execute Button:** A green play button at the top right.
- Safe/Immediate/Cancel:** A dialog box on the right side.
- Executing Program/Output Sequence:** A label pointing to the bottom right of the interface.

Panel Toolbar

- The Toolbar provides access to many of the UPC functions:



	UPC Control
	Metering Panel
	Waveform Editor
	Output Sequencer

Panel Toolbar continued

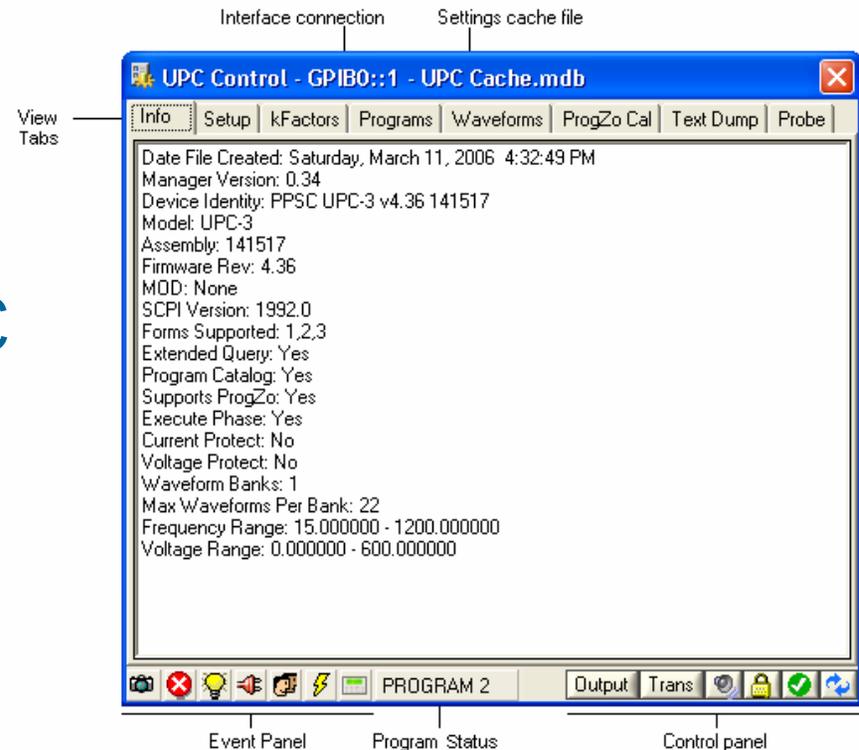
- The Toolbar provides access to many of the UPC functions:



	<p>Enable/Disable CSC</p>
	<p>Lock/Unlock UPC Front Panel</p>
	<p>Execute Panel Settings</p>
	<p>Enable/Disable Output</p>

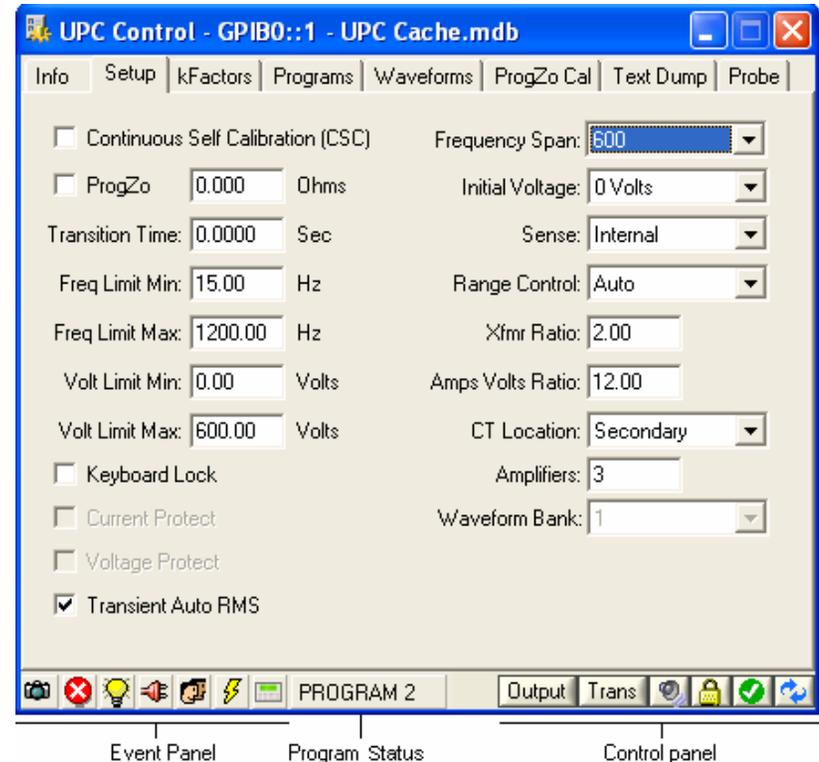
UPC Control Button

- UPC Information tab:
 - Information returns general information about the installed UPC including version number and firmware part number.



UPC Control Button continued

- UPC Setup tab:
 - Allows access to Limit values for voltage/frequency, transition time, Frequency Span(for UPC3/1), Initial Voltage, Voltage Sense, and CSC/Prog-Z functions.



UPC Control Button continued

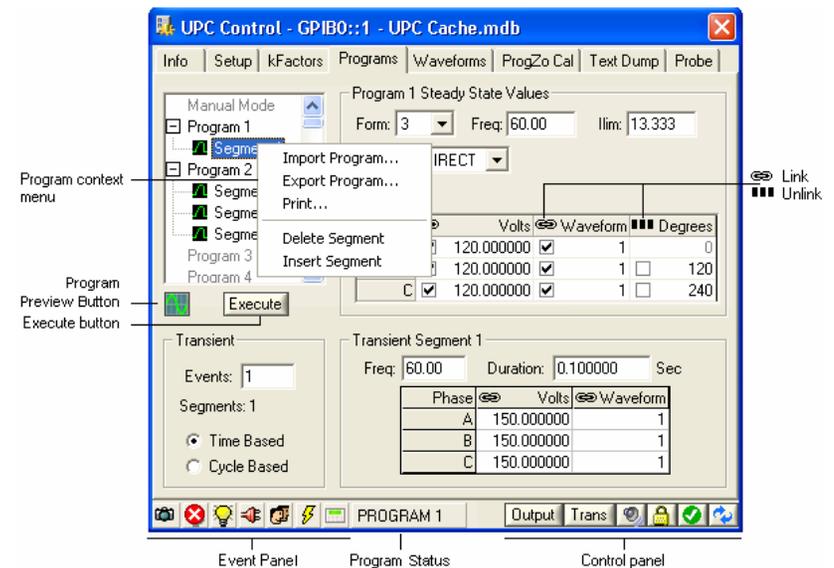
- UPC kFactors tab:
 - Allows the viewing/
editing of the kFactors
stored on the UPC.
 - kFactors may now be
stored for backup on
your PC.



Name	Form 1	Form 2	Form 3
Vint A	1.059862	1.000000	1.001455
Vint B	NaN	NaN	1.002349
Vint C	NaN	NaN	1.001987
Vext A	1.052249	1.000000	1.003245
Vext B	NaN	NaN	1.008954
Vext C	NaN	NaN	0.998970
IA	0.997823	1.000000	1.006887
IB	NaN	NaN	1.005687
IC	NaN	NaN	1.003987
Vosc A	0.991023	1.000000	0.998000
Vosc B	NaN	NaN	0.956000
Vosc C	NaN	NaN	1.000321

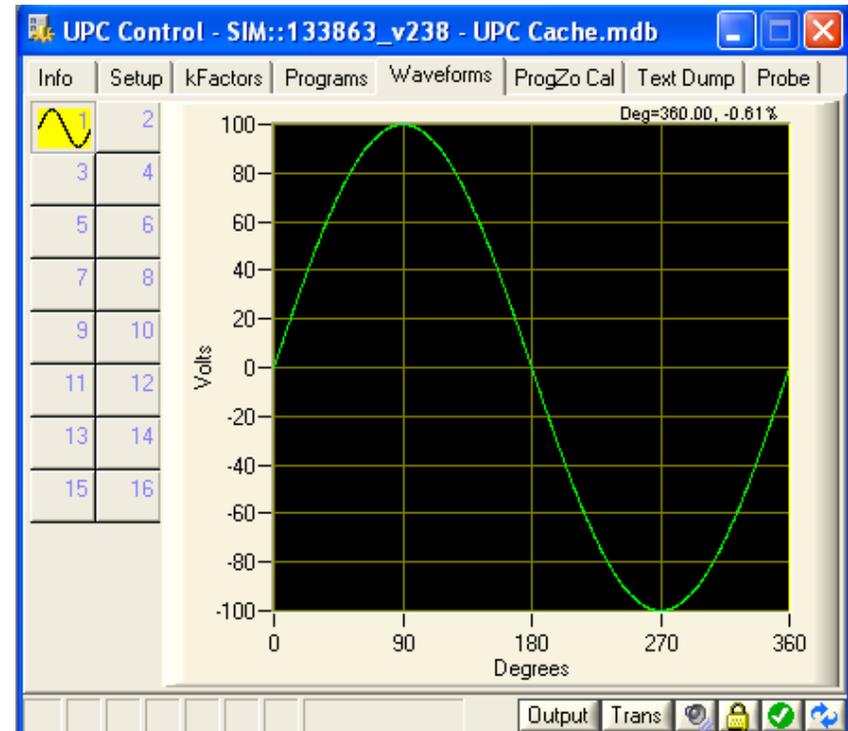
UPC Control Button continued

- UPC Programs tab:
 - Allows direct viewing/editing of stored Programs on the UPC. This does not include the new features included with the Output Sequencer.



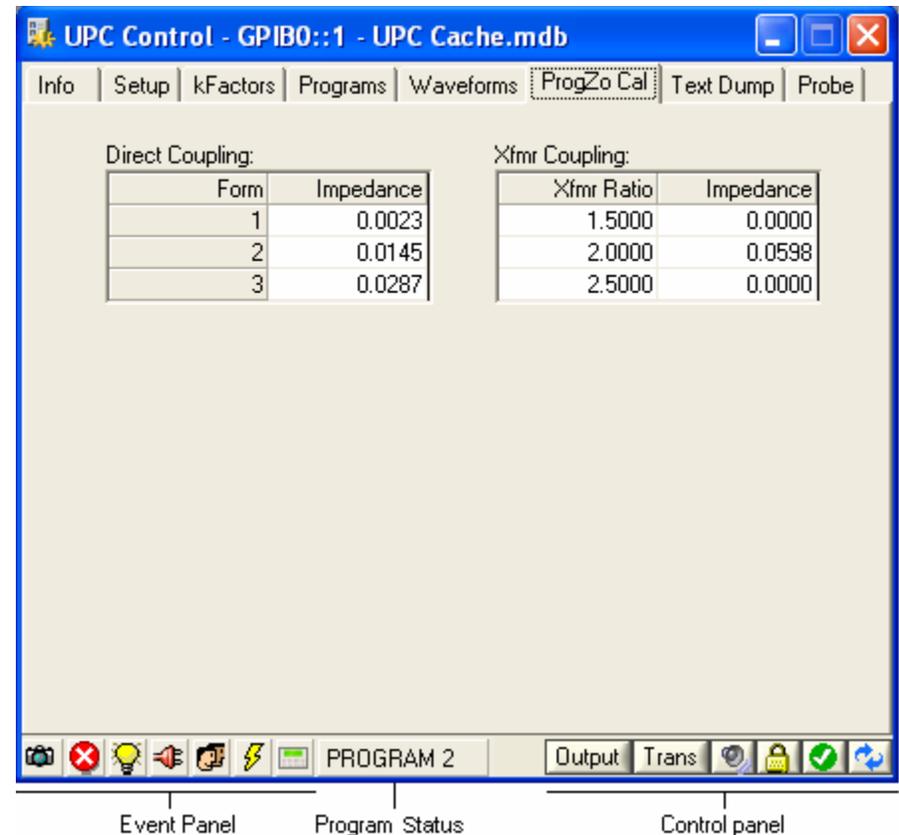
UPC Control Button continued

- UPC Waveforms tab:
 - Allows direct viewing of stored Waveforms on the UPC. This does not include the new features included with the Waveform Editor.



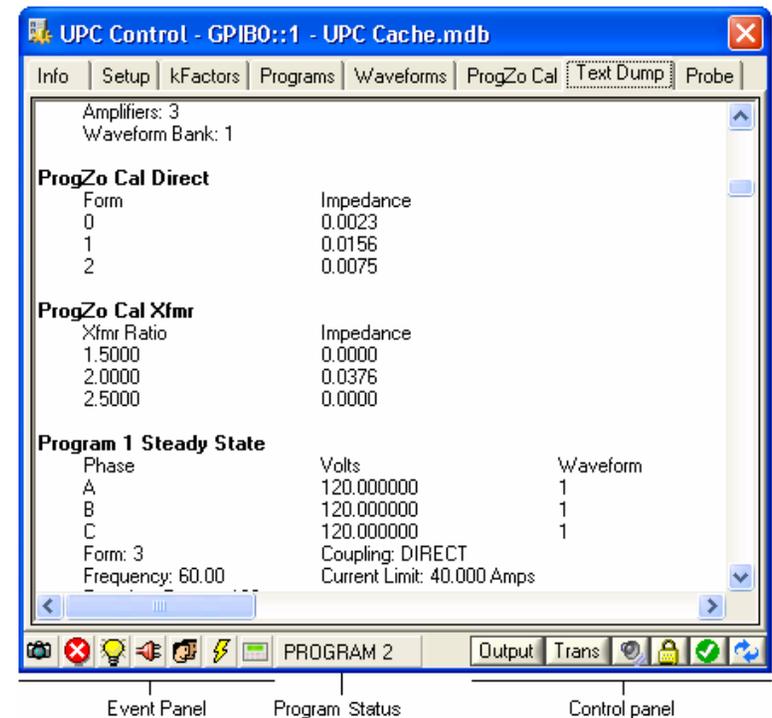
UPC Control Button continued

- UPC ProgZoCal tab:
 - Allows viewing/editing of Prog Zo calibration factors if this option is installed.



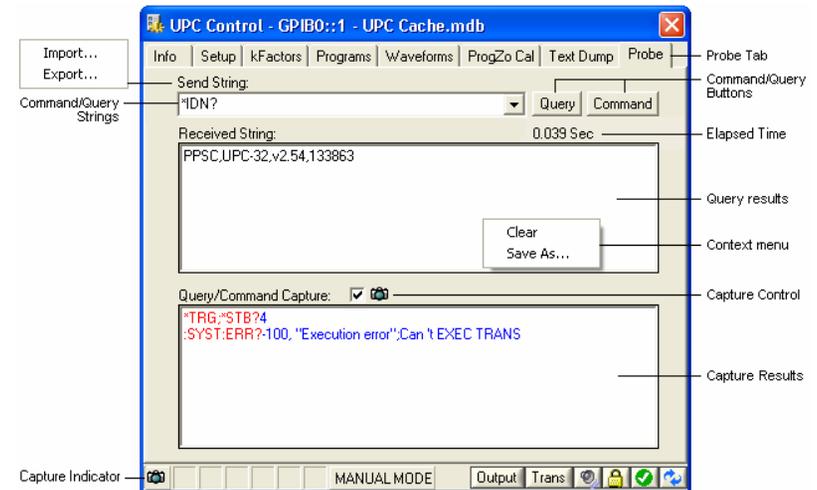
UPC Control Button continued

- UPC Text Dump tab:
 - Allows the viewing of all data included in the UPC Control file including kFactors, Setting, Programs and Waveform data.



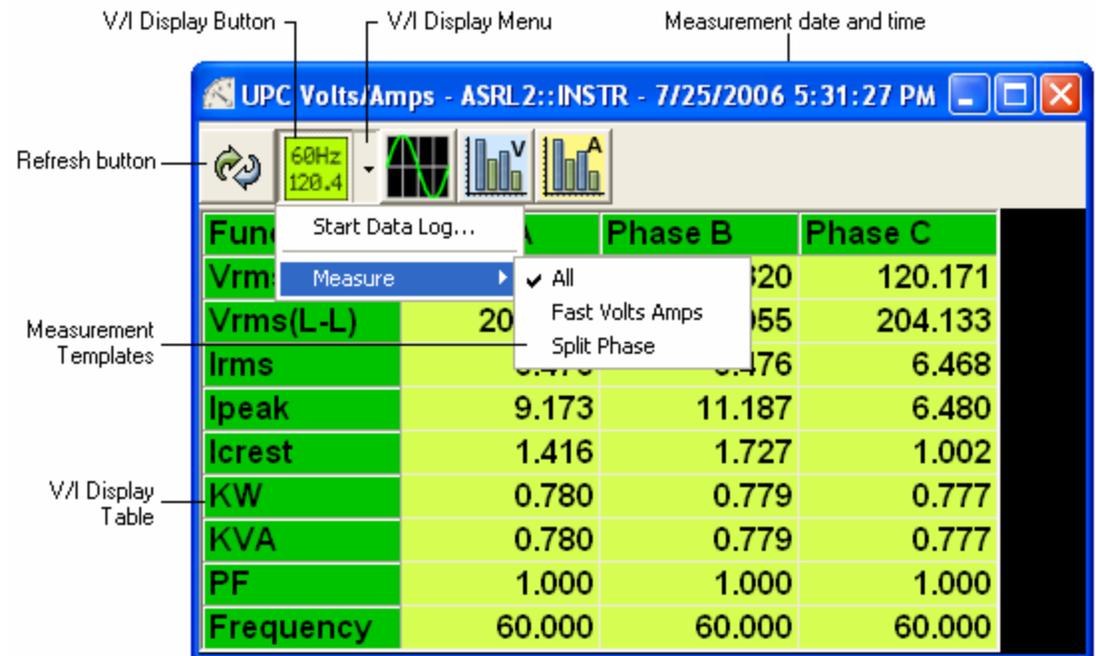
UPC Control Button continued

- UPC Probe tab:
 - Provides the ability to send commands directly to the UPC and see the responses in the window.
 - Also includes the ability to “Capture” commands sent to the UPC while using UPC Studio/Control Features.



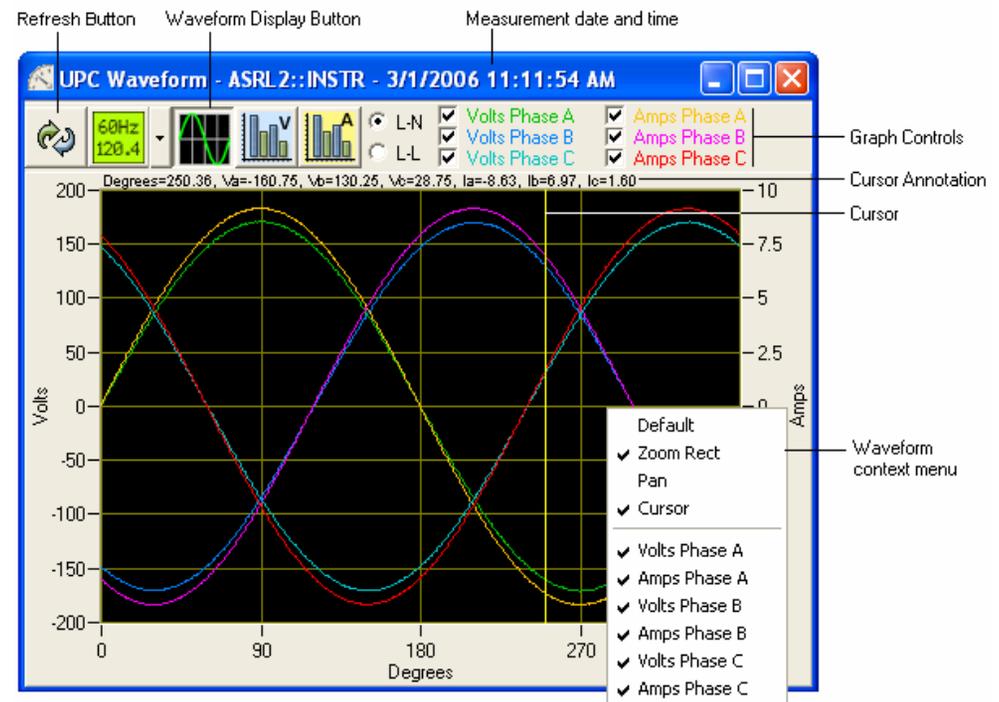
UPC Metering Panel

- The UPC Metering Panel provides all measurement data on a single panel.



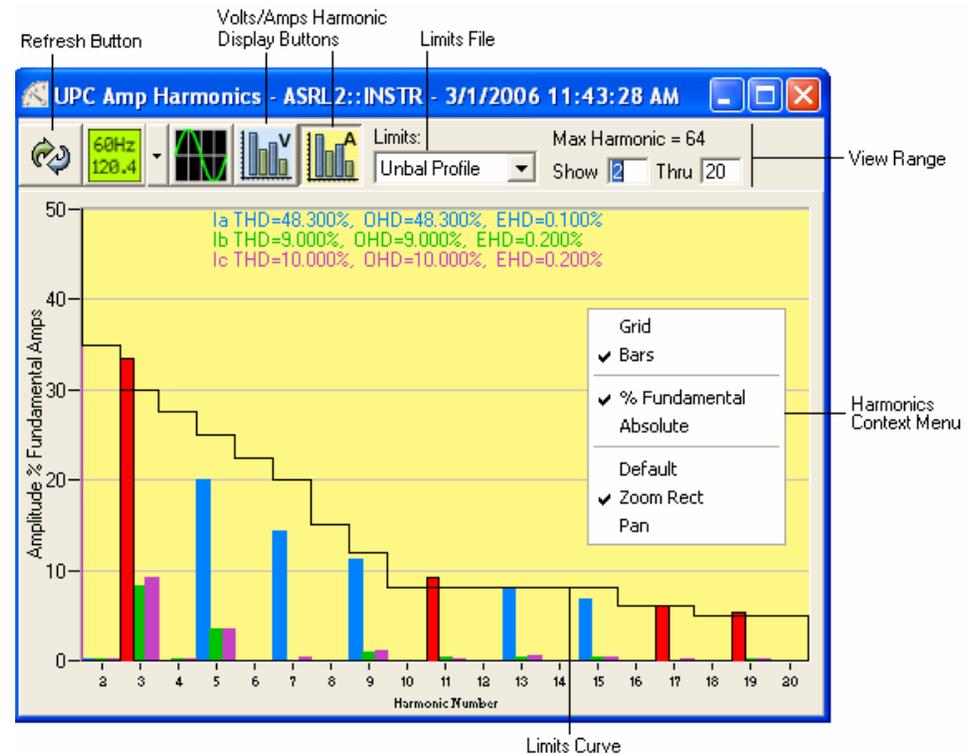
UPC Metering Panel continued

- The Voltage and Current output waveforms of the AC Power Source may be viewed by clicking the display button.



UPC Metering Panel continued

- Voltage/Current Harmonics may be displayed against user defined limit values to quickly determine if the load complies with the limit values. (Requires HAS option)



UPC Metering Panel continued

- Voltage/Current Harmonics may also be display in a tabular format where the measured values which exceed the limits are shown in red. (Requires HAS option)

UPC Amp Harmonics - ASRL2::INSTR - 3/1/2006 11:43:28 AM

Limits: Unbal Profile

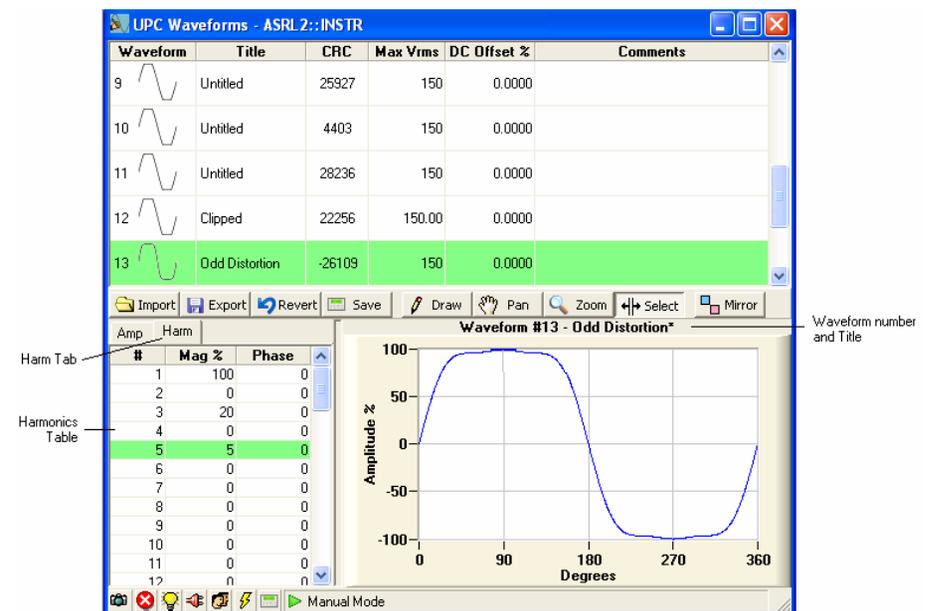
Harmonic	Ia Mag%Fund	Ia Phase	Ib Mag%Fund	Ib Phase	Ic Mag%Fund	Ic Phase	Amps Limit
THD	48.3		9.0		10.0		14
OHD	48.3		9.0		10.0		7.65
EHD	0.1		0.2		0.2		3.28
1	100.0	0.0000	100.0	0.0000	100.0	0.0000	
2	0.1	211.9	0.1	179.9	0.1	180.8	35
3	33.4	0.0	8.2	0.0	9.2	0.1	30
4	0.0	267.5	0.1	180.1	0.1	175.0	27.5
5	20.0	0.0	3.5	179.9	3.5	179.9	25
6	0.0	270.4	0.0	141.8	0.0	146.8	22.5
7	14.3	0.1	0.0	142.8	0.4	182.7	20
8	0.0	338.2	0.0	225.5	0.0	143.9	15
9	11.2	0.0	1.0	0.5	1.1	0.8	12
10	0.0		0.0	162.7	0.0	158.5	8
11	9.2		0.4	178.2	0.2	176.6	8
12	0.0		0.0	199.6	0.0	153.3	8
13	7.9		0.3	177.3	0.5	177.9	8
14	0.0		0.0	311.3	0.0	240.0	8
15	6.8	0.1	0.4	0.0	0.3	2.5	8

Harmonics Context Menu

- Grid
- Bars
- % Fundamental
- Absolute

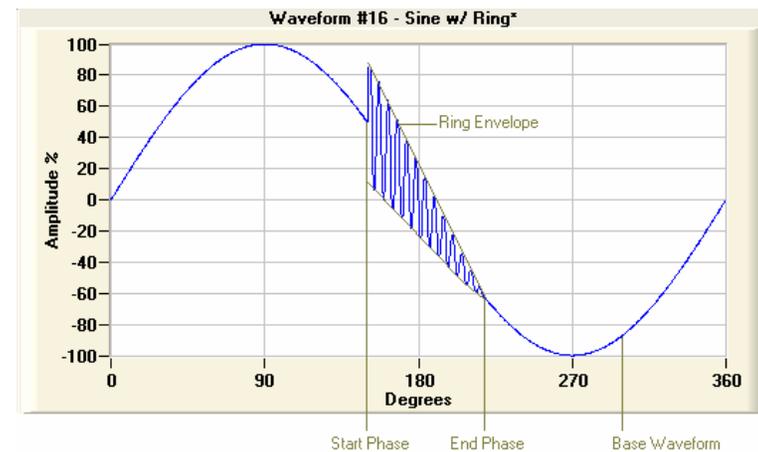
Waveform Editor

- The New Waveform Editor provides numerous new tools to create simulated waveforms used to create real world power inside your laboratory.
 - Import waveforms from Oscilloscopes
 - Create waveforms using the freehand drawing tool
 - Enter harmonics in a table format



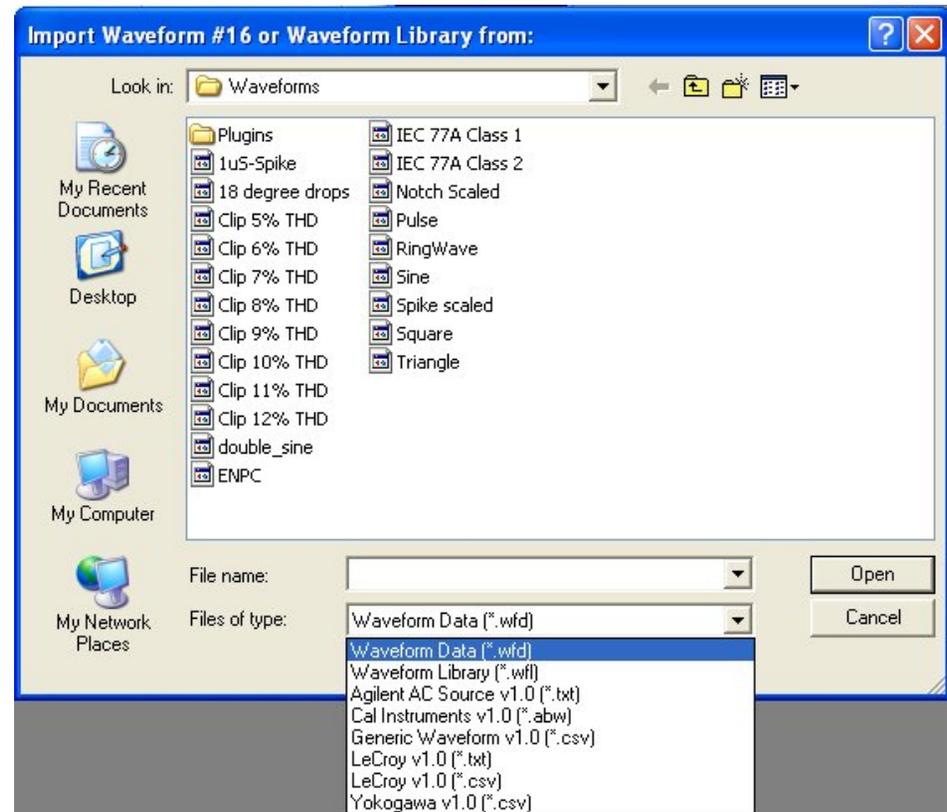
Waveform Editor continued

- Ringwave Wizard
 - Creates a 'ringwave' on the output waveform
 - Select Ringwave Waveform from current waveform library
 - Set the parameters based on your needs



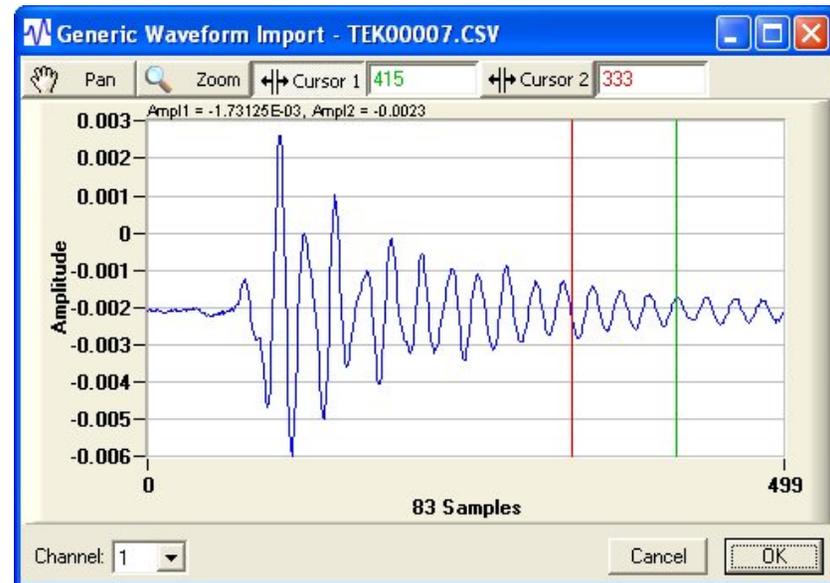
Waveform Editor continued

- Import Waveforms:
 - Oscilloscopes
 - Tektronix
 - Yokogawa
 - LeCroy
 - Agilent
 - *.CSV format files
 - UPC Interactive



Waveform Editor continued

- Oscilloscope Waveforms require selecting a portion of the sample data to be used for AC power sources waveform

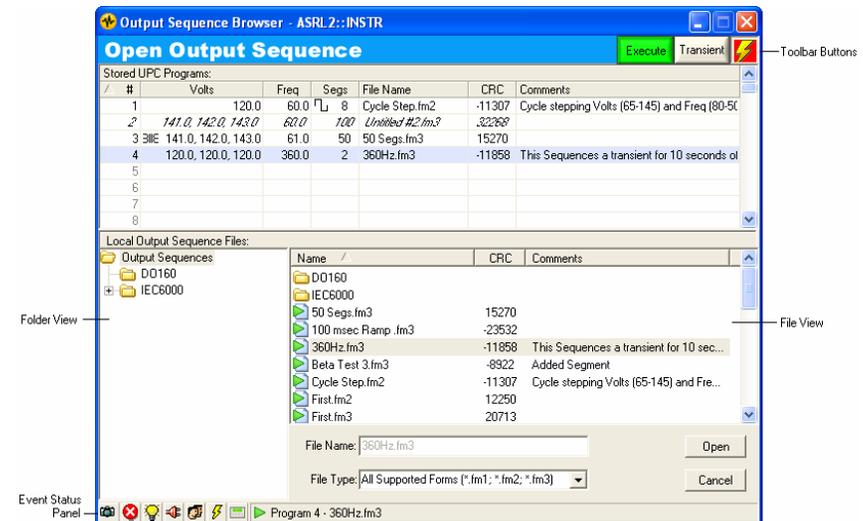


Output Sequencer

- The new Output Sequencer enhances UPC Programs as follows:
 - Associates waveform libraries with the Output Sequence
 - Eases Transient creation with a user friendly interface
 - Allows quick review of installed UPC Programs and relates them to stored Output Sequences on the computer
 - Provides a “Detail” view of the Output Sequence to see the transient before it is executed

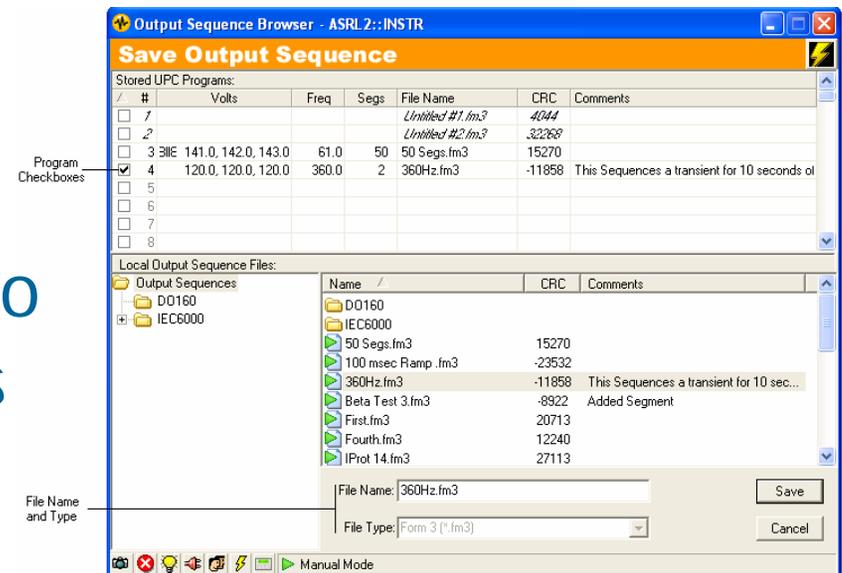
Output Sequencer continued

- Output Sequence Browser
 - Manages Computer and UPC Output Sequence files
 - Shows the contents of the UPC with basic information
 - Allows Drag/Drop maintenance of Output Sequences



Output Sequencer continued

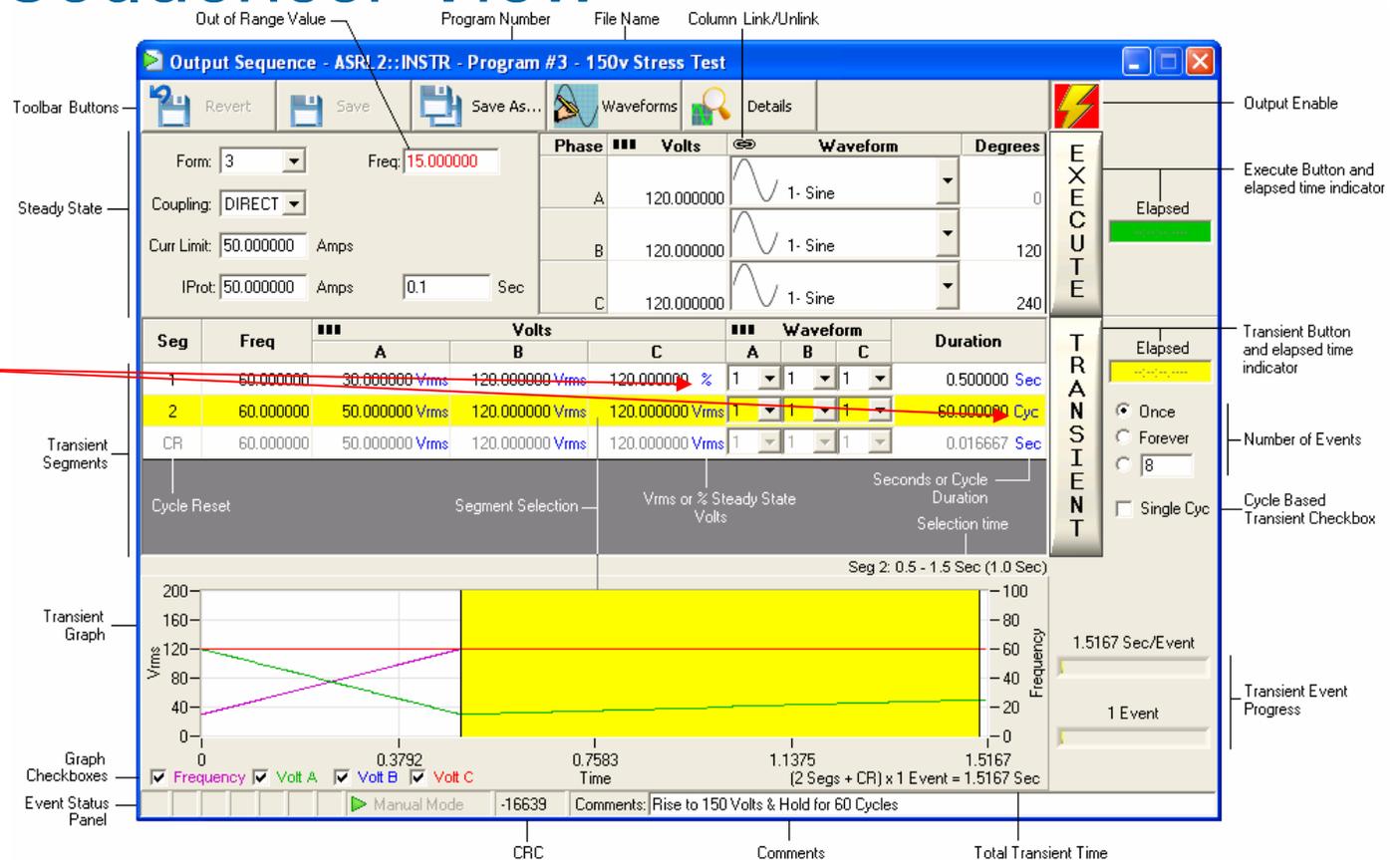
- Saving Output Sequences
 - When Saving Output Sequences you can decide which location to store it on your UPC as well as where on your Hard Drive.



Output Sequencer continued

- Output Sequencer View

Note: Transient programming with % or Vrms for Voltage and Seconds or Cycles for Duration



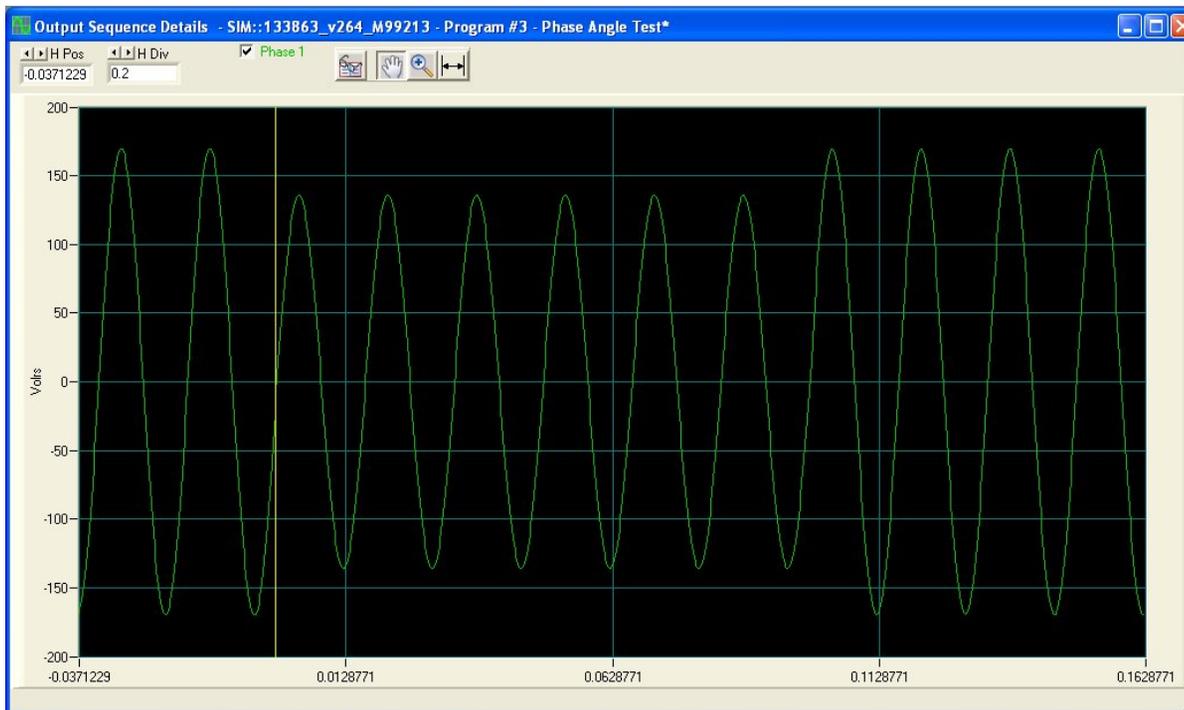
The screenshot shows the 'Output Sequence - ASR1.2::INSTR - Program #3 - 150v Stress Test' window. It features a toolbar with buttons for Revert, Save, Save As..., Waveforms, and Details. The main interface is divided into several sections:

- Steady State:** Includes controls for Form (3), Freq (15.000000), Coupling (DIRECT), Curr Limit (50.000000 Amps), and IProt (50.000000 Amps, 0.1 Sec).
- Waveform Table:** A table with columns for Phase (A, B, C), Volts (120.000000), Waveform (1- Sine), and Degrees (0, 120, 240).
- Transient Segments Table:** A table with columns for Seg, Freq, Volts (A, B, C), Waveform (A, B, C), and Duration.

Seg	Freq	Volts A	Volts B	Volts C	Waveform A	Waveform B	Waveform C	Duration
1	60.000000	30.000000 Vrms	120.000000 Vrms	120.000000 Vrms	1	1	1	0.500000 Sec
2	60.000000	50.000000 Vrms	120.000000 Vrms	120.000000 Vrms	1	1	1	60.000000 Cyc
CR	60.000000	50.000000 Vrms	120.000000 Vrms	120.000000 Vrms	1	1	1	0.016667 Sec
- Transient Graph:** A graph showing Vrms (0-200) and Frequency (0-100) over Time (0-1.5167 Sec). It includes a yellow shaded region for 'Seg 2: 0.5 - 1.5 Sec (1.0 Sec)'.
- Event Status Panel:** Includes checkboxes for Frequency, Volt A, Volt B, and Volt C, and a Manual Mode button.
- EXECUTE and TRANSIENT Buttons:** Large vertical buttons on the right side of the window.
- Labels and Indicators:** Various labels like 'Elapsed', 'Once', 'Forever', '8', 'Single Cyc', and '1.5167 Sec/Event' are present.

Output Sequencer continued

- Output Sequence Details Panel  Details
 - Provides example of programmed transient

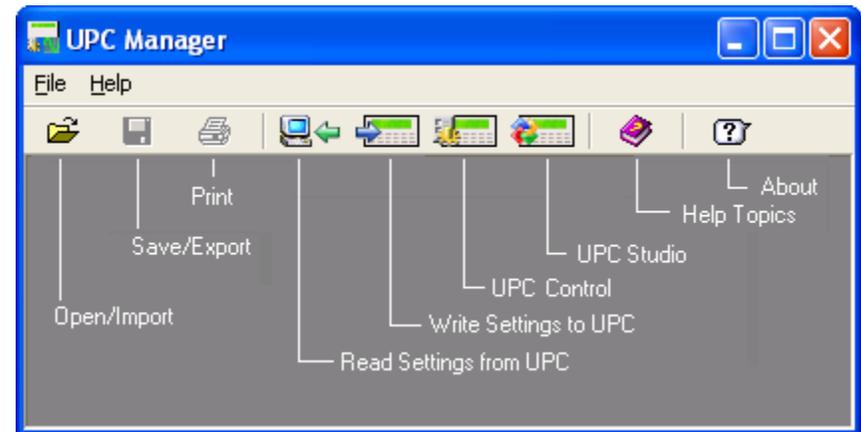


Offline Simulation

- UPC Studio can operate in a simulation mode enabling off-line setup of waveforms and Output Sequences.
- Offline operation allows the user to configure their tests which can be transferred from one computer to another
- Output sequences can be examined to help predict their performance when uploaded to the AC Power Source

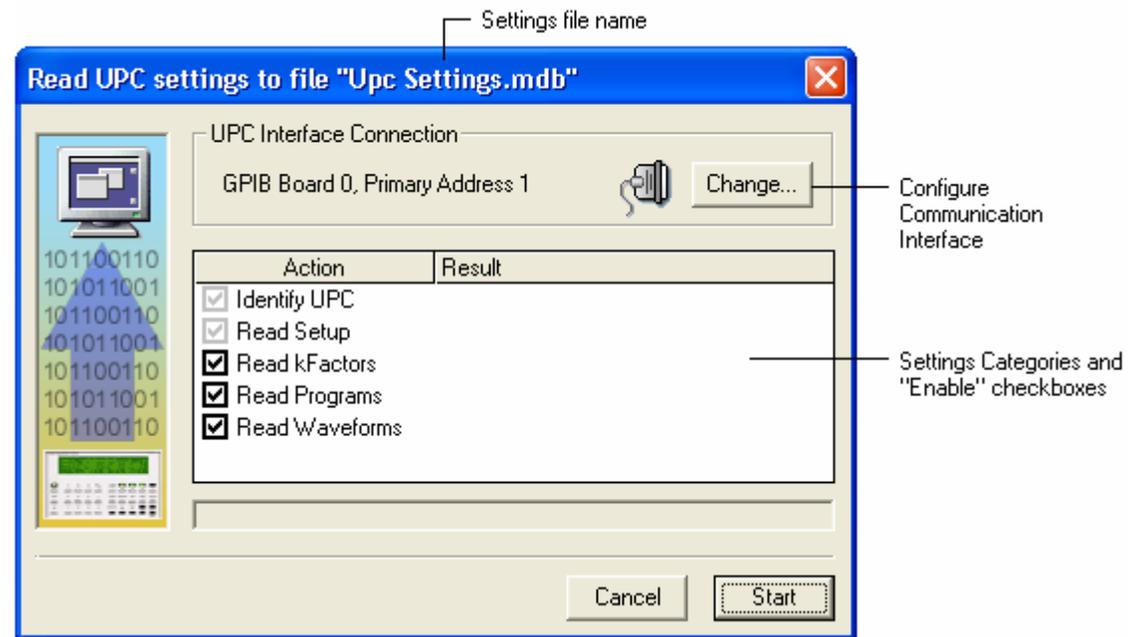
Upgrading Firmware

- UPC Studio will only work with UPC Firmware versions 5.0 and later.
- Upgrading is made easier with UPC Manager's tools:
 - Read UPC Settings to Computer
 - Write Settings to UPC
 - Simply 'Read' your Settings and 'Write' them after installing your new EPROMs



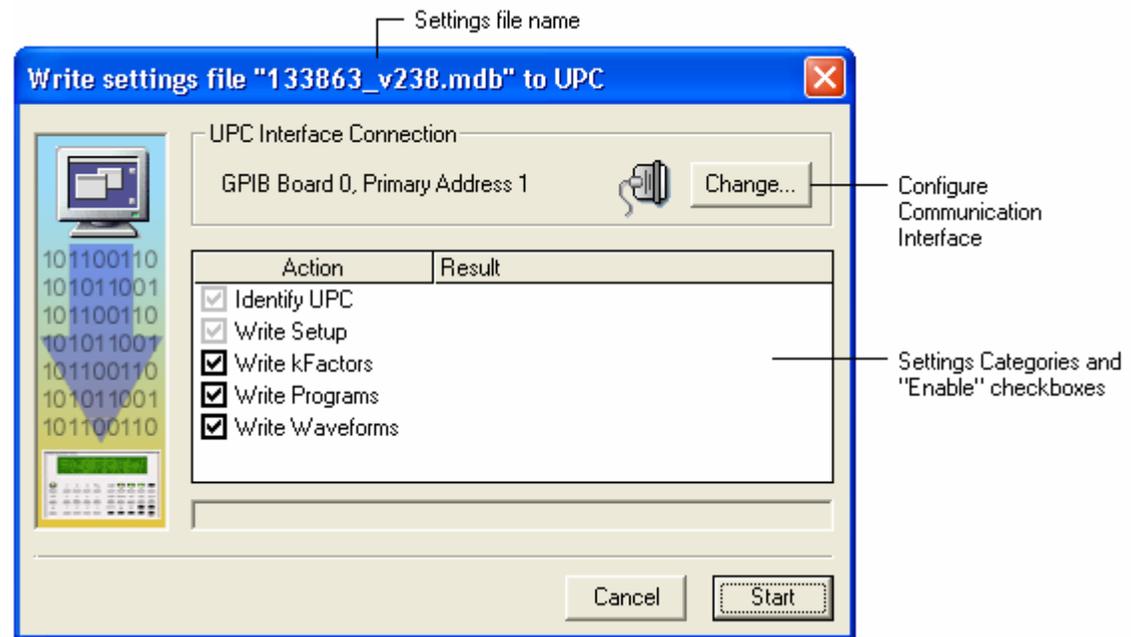
Upgrading Firmware continued

- Saving UPC Settings
 - UPC Manager can Read your UPC Settings and save them in a file on your computer
 - Choose:
 - kFactors
 - Waveforms
 - Programs



Upgrading Firmware continued

- Restoring UPC Settings
 - Using UPC Manager's 'Write' command you can send settings from a selected file
 - Choose:
 - kFactors
 - Programs
 - Waveforms





YOUR AC POWER SOURCE

Registering UPC Studio

- To use the functions in UPC Studio you must register with Pacific Power Source.
- Each set of firmware will have a serial number associated with it which will need to be sent to PPS.
- PPS will then generate an unlock code which the customer will have to input to UPC Manager

Registering UPC Studio

- Once the customer receives their Registration Code they will need to enter it for each PPS Product they have connected.
- The Registration window is available under the 'Help Menu'

