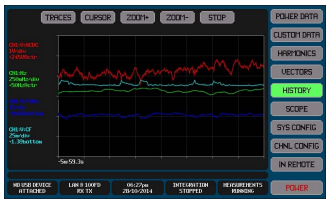
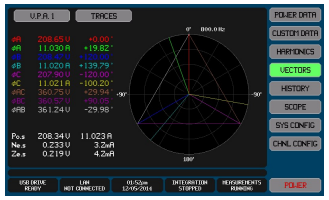
XiTRON TECHNOLOGIES

XT2640 Precision Multi-Channel Power Analyzer

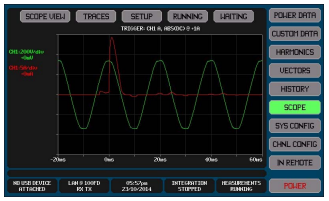
History Displays



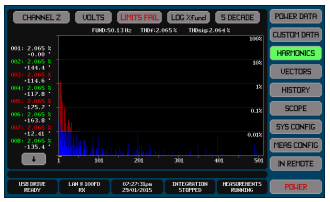
Vector Diagrams



Signal Waveform Displays



Harmonics Displays with Limits



Custom Data Displays

The user may also build a custom data screen showing any of the available results from any of the channels and/ or analyzers using a spreadsheet type format

XT2640 Precision Multi-Channel Power Analyzer

The XT2640 is actually three power analyzers in a single chassis with a single user interface. These are called Virtual Power Analyzers (VPA) or Channels. The XT2640 may have up to 4 channels installed, which may be any combination of channel cards and with any combination of available current input options.
Channels may be configured in any one (or none) of the 3 virtual power analyzers. Each virtual power analyzer may be configured for up to all channels installed.
Each VPA is independently configured for multi-channel wiring configuration, signal filtering, default measurement coupling, display results smoothing and significant digits, VA/VAR combine method, and efficiency grouping. VPAs may optionally be configured to be synchronized to each other.

XiTRON Technologies, founded in 1990, is the premier source of precision power testing and measuring equipment for industrial and consumer product development and manufacturing. XiTRON's sophisticated technology provides companies the edge in design verification and product manufacturability. XiTRON is ISO9001- 2008 certified.

XiTRON XVIEW Software

While all XiTRON precision test equipment is designed to be used in a completely stand-alone manner, there are times when external tools can aid or enhance the operation of an instrument. XView software tools and drivers are designed to help easily configure an instrument from a single screen, or are used to view a complete set of measurements in a single screen. Other XView tools are designed for data collection where results can be recorded in an Excel-compatible file for post-processing, insertion into reports, or simply for archival purposes.

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VOLTAGE INPUT SPECIFICATIONS

		S or A Channel Type	W Channel Type
Specified Input Range	**DC**	0 to ±1000V	0 to ±700V
	AC	0.1 to 1000Vrms	0.1 to 700Vrms
	Peak	<1800V	<1800V
No Damage Input Range	**<1ms**	2500Vrms (<3000Vpk)	2000Vrms (<3000Vpk)
	<100ms	2000Vrms (<3000Vpk)	1500Vrms (<3000Vpk)
	<5s	1500Vrms (<2500Vpk)	1000Vrms (<2500Vpk)
	Continuous	1000Vrms (<1800Vpk)	700Vrms (<1800Vpk)
Impedance		1.2MΩ ± 1%	400KΩ ± 1%

VOLTAGE ACCURACY SPECIFICATIONS

In specifications below F is frequency in kHz. Self-heating has a nominal 1 minute time constant.

	S Channel Type	A Channel Type	W Channel Type
Resolution	0.001V	0.1mV	0.001V
Base Accuracy	0.1%rdg	0.03%rdg	0.1%rdg
Frequency Adder	0.01-1Hz: 0.05%rdg <10kHz: (0.005*F)%rdg 10-40kHz: (0.05+(0.012*(F-10)))%rdg 40-100kHz: (0.41+(0.025*(F-40)))%rdg		0.01-1Hz: 0.1%rdg <40kHz: (0.002*F)%rdg 40-100kHz: (0.08+(0.004*(F-40)))%rdg 100-1000kHz: (0.32+(0.013*(F-100)))%rdg
Bandwidth (-3dB)	>700kHz		>2.5MHz
Floor Adder	DC: 0.003V AC<100Hz: 0.003V AC>100Hz: 0.005V	DC: 0.001V AC<100Hz: 0.002V AC>100Hz: 0.005V	DC: 0.004V AC<100Hz: 0.004V AC>100Hz: 0.007V
Self-Heating Adder	0.0005ppm rdg per $Vrms^2$		0.0015ppm rdg per $Vrms^2$
Single Harmonic Adder	<10kHz: 0.01%fund + 0.001V <80kHz: 0.05%fund + 0.005V	<10kHz: 0.005%fund + 0.0005V <80kHz: 0.05%fund + 0.005V	<10kHz: 0.015%fund + 0.0015V <100kHz: 0.03%fund + 0.005V <305kHz: 0.08%fund + 0.01V
ΣHarmonic Adder	<10kHz: 0.02%fund + 0.002V <80kHz: 0.1%fund + 0.01V	<10kHz: 0.015%fund + 0.001V <80kHz: 0.15%fund + 0.01V	<10kHz: 0.03%fund + 0.003V <100kHz: 0.06%fund + 0.007V <305kHz: 0.15%fund + 0.015V
CMRR	1uV per V.Hz		0.7uV per V.Hz
Inter-Channel Phase	(0.02° + 0.15°*F)		(0.02° + 0.07°*F)

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CURRENT INPUT SPECIFICATIONS (ALL OPTIONS)

		H option	D option			X option	
			AUTO range	HI range	LO range	HI range	LO range
Specified Input Range	DC	0 to ±30A	0 to ±20A	0 to ±20A	0 to ±1A	0 to ±15V	0 to ±0.5V
	<100Hz	3mA to 30Arms	10uA to 20Arms	2mA to 20Arms	10uA to 1Arms	800uV to 15Vrms	20uV to 0.5Vrms
	>100Hz	20mA to 30Arms	150uA to 20Arms	15mA to 20Arms	150uA to 1Arms	2mV to 15Vrms	150uV to 0.5Vrms
	Peak	<200A	<50A	<150A	<1A	<18V	<0.5V
No Damage Input Range	<1ms	200Arms (<300Apk)	30Arms (<50Apk)	150Arms (<250Apk)	30Arms (<50Apk)	200Vrms (300Vpk)	20Vrms (30Vpk)
	<20ms	75Arms (<300Apk)	20Arms (<50Apk)	50Arms (<200Apk)	20Arms (<50Apk)	50Vrms (300Vpk)	10Vrms (20Vpk)
	<1s	50Arms (<200Apk)	20Arms (<50Apk)	30Arms (<150Apk)	5Arms (<25Apk)	30Vrms (300Vpk)	5Vrms (10Vpk)
	Continuous	30Arms	20Arms (<50Apk)	20Arms (<150Apk)	2Arms (<5Apk)	20Vrms (300Vpk)	2Vrms (10Vpk)
	Power Off	As Above	As LO Range			As Above	As HI Range
Impedance		<10mΩ	As HI/LO range	<20mΩ	0.57Ω ± 10%	20.5KΩ ± 1%	10.25KΩ ± 1%

CURRENT OPTION H ACCURACY SPECIFICATIONS

In specifications below F is frequency in kHz. Self-heating has a nominal 3 minute time constant.

	S Channel Type	A Channel Type	W Channel Type
Resolution	100uA	10uA	100uA
Base Accuracy	0.1%rdg	0.03%rdg	0.1%rdg
Frequency Adder	0.01-1Hz: 0.05%rdg <10kHz: (0.003*F)%rdg 10-40kHz: (0.03+(0.007*(F-10)))%rdg 40-100kHz: (0.24+(0.02*(F-40)))%rdg		0.01-1Hz: 0.1%rdg <40kHz: (0.0015*F)%rdg 40-100kHz: (0.06+(0.003*(F-40)))%rdg 100-1000kHz: (0.24+(0.012*(F-100)))%rdg
Bandwidth (-3dB)	>1.25MHz		>5MHz
Floor Adder	DC: 300uA AC<100Hz: 800uA AC>100Hz: 3mA	DC: 100uA AC<100Hz: 500uA AC>100Hz: 2mA	DC: 400uA AC<100Hz: 1mA AC>100Hz: 4mA
Self-Heating Adder	1.5ppm reading per $Arms^2$		
Single Harmonic Adder	<10kHz: 0.01%fund + 100uA <80kHz: 0.05%fund + 5mA	<10kHz: 0.005%fund + 80uA <80kHz: 0.03%fund + 5mA	<10kHz: 0.015%fund + 150uA <100kHz: 0.03%fund + 5mA <305kHz: 0.08%fund + 5mA
ΣHarmonic Adder	<10kHz: 0.02%fund + 200uA <80kHz: 0.1%fund + 7mA	<10kHz: 0.015%fund + 150uA <80kHz: 0.15%fund + 7mA	<10kHz: 0.03%fund + 300uA <100kHz: 0.06%fund + 7mA <305kHz: 0.15%fund + 10mA
CMRR	500pA per V.Hz		
V:A Phase	(0.01° + 0.015°*F)		(0.01° + 0.007°*F)
Inter-Channel Phase	(0.02° + 0.15°*F)		(0.02° + 0.07°*F)

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CURRENT OPTION D ACCURACY SPECIFICATIONS

Current option D has two ranges (HI and LO). Where the specification varies between ranges there are separate specifications for each range denoted (HI) or (LO) as applicable, otherwise the specification applies to both ranges.

In specifications below F is frequency in kHz. Self-heating has a nominal 3 minute time constant.

	S Channel Type	A Channel Type	W Channel Type
Resolution (HI)	100uA	10uA	100uA
Resolution (LO)	1uA	0.1uA	1uA
Base Accuracy	0.1%rdg	0.03%rdg	0.1%rdg
Frequency Adder	0.01-1Hz: 0.05%rdg <10kHz: (0.003*F)%rdg 10-40kHz: (0.03+(0.007*(F-10)))%rdg 40-100kHz: (0.24+(0.02*(F-40)))%rdg		0.01-1Hz: 0.1%rdg <40kHz: (0.0015*F)%rdg 40-100kHz: (0.06+(0.003*(F-40)))%rdg 100-1000kHz: (0.24+(0.012*(F-100)))%rdg
Bandwidth (-3dB)	>1.25MHz		>5MHz
Floor Adder (HI)	DC: 300uA AC<100Hz: 500uA AC>100Hz: 2mA	DC: 100uA AC<100Hz: 300uA AC>100Hz: 1.5mA	DC: 400uA AC<100Hz: 700uA AC>100Hz: 3mA
Floor Adder (LO)	DC: 2uA AC<100Hz: 3uA AC>100Hz: 10uA	DC: 1uA AC<100Hz: 1.5uA AC>100Hz: 8uA	DC: 3uA AC<100Hz: 4uA AC>100Hz: 15uA
Self-Heating Adder	2ppm reading per $Arms^2$		
Single Harmonic Adder (HI)	<10kHz: 0.01%fund + 70uA <80kHz: 0.05%fund + 3.5mA	<10kHz: 0.005%fund + 50uA <80kHz: 0.03%fund + 3.5mA	<10kHz: 0.015%fund + 100uA <100kHz: 0.03%fund + 3.5mA <305kHz: 0.08%fund + 4mA
Single Harmonic Adder (LO)	<10kHz: 0.01%fund + 0.4uA <80kHz: 0.05%fund + 20uA	<10kHz: 0.005%fund + 0.3uA <80kHz: 0.03%fund + 20uA	<10kHz: 0.015%fund + 0.5uA <100kHz: 0.03%fund + 20uA <305kHz: 0.08%fund + 30uA
ΣHarmonic Adder (HI)	<10kHz: 0.02%fund + 150uA <80kHz: 0.1%fund + 5mA	<10kHz: 0.015%fund + 120uA <80kHz: 0.15%fund + 5mA	<10kHz: 0.03%fund + 200uA <100kHz: 0.06%fund + 5mA <305kHz: 0.15%fund + 7mA
ΣHarmonic Adder (LO)	<10kHz: 0.02%fund + 1uA <80kHz: 0.1%fund + 30uA	<10kHz: 0.015%fund + 0.7uA <80kHz: 0.15%fund + 30uA	<10kHz: 0.03%fund + 1uA <100kHz: 0.06%fund + 30uA <305kHz: 0.15%fund + 40uA
CMRR (HI)	400pA per V.Hz		
CMRR (LO)	20pA per V.Hz		
V:A Phase	(0.01° + 0.015°*F)		(0.01° + 0.007°*F)
Inter-Channel Phase	(0.02° + 0.15°*F)		(0.02° + 0.07°*F)

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