



## 500VA~90kVA

### KEY FEATURES

- Compact size and weight attributable to advance PWM technology
- AC+DC output mode for voltage DC offset simulation
- Programmable output impedance for IEC 61000-3-3
- IEC 61000-4-11, IEC 61000-4-14, IEC 61000-4-28 voltage dips and frequency variation simulation
- Harmonics, interharmonics waveform synthesizer for IEC 61000-4-13 testing
- Power line disturbance simulation capability
- Programmable voltage and current limit settings
- Comprehensive measurement capability, including current harmonics
- High output current crest factor, ideal for inrush current testing
- Turn on, turn off phase angle control
- TTL signal which indicates output transient
- Optional analog programmable interface
- 2 units combined in series for high Voltage source (Model 61501~61505)
- 3 units combined to 3-phase power output (Model 61501~61505)
- Optional GPIB and RS-232 interface (Model 61501~61505)
- Easy use graphic user interface: softpanel (Option)
- Softpanel for IEC regulation test
- Capable of delivering power output up to 90KVA by implementing Master-slave parallel operation



The 61500 series AC power source defines new standard for high performance AC power source. It equips with all the powerful features. Such as power line disturbance simulation, programmable output impedance, comprehensive measurement function, wave-shape synthesis and regulation test software. Chroma also provides software for aerospace testing, including MIL-STD-704F, RTCA DO-160D, ABD100. These features make Chroma 61500 ideal for commercial, power electronics, avionics, marine, military and regulation test applications from bench-top testing to mass productions.

The 61500 series line up range from 500VA up to 90kVA, with one or three phase output. This allows user to have maximum choices from R/D design verification, quality assurance, to production testing.

Using the state-of-the-art PWM technology, the Chroma 61500 AC source is capable of delivering up to 6 times of peak current (Model 61501~61505) versus to its maximum rated current which makes it ideal for inrush current testing.

By using advanced DSP technology, 61500 AC power source offers precision and high speed power and harmonics measurements such as RMS voltage, RMS current, true power, power factor, current crest factor and up to 40 orders of current harmonics components.

The 61500 AC power source allows users to compose different harmonic components to synthesize your own harmonic distorted wave-shapes. The AC+DC and DC mode also extend the applications to simulate the natural waveform, Chroma 61500 also provides an external analog input, to amplify the analog signal from arbitrary signal generator. Thus, it is capable to simulate the unique waveform observed in the field.

With the versatile programmable output impedance and regulation test software, the 61500 AC power source allows users to perform Pre-compliance test against IEC 61000-4-11 and compliance test against IEC 61000-4-13/-4-14/-4-28 immunity test regulations and IEC 61000-3-2/-3-3 emission test regulations by incorporating Chroma 6630 power analyzer.

### ORDERING INFORMATION

**61501** : Programmable AC Source 0~300V, 15~1kHz / 500VA, 1Ø

**61502** : Programmable AC Source 0~300V, 15~1kHz / 1kVA, 1Ø

**61503** : Programmable AC Source 0~300V, 15~1kHz / 1.5kVA, 1Ø

**61504** : Programmable AC Source 0~300V, 15~1kHz / 2kVA, 1Ø

**61505** : Programmable AC Source 0~300V, 15~1kHz / 4kVA, 1Ø

**61511** : Programmable AC Source 0~300V, 15~1.5kHz / 12kVA, 1 or 3Ø

**61512** : Programmable AC Source 0~300V, 15~1.5kHz / 18kVA, 1 or 3Ø

**A615001** : Remote Interface for 61501~61505 and 61601~61605 (External V Input, RS-232 Interface, GPIB Interface)

\* **A615002** : Remote interface board (LAN and USB) for Model 61500/61600/61700 Series

**A615003** : AC voltage transform unit for Model 61500/61600 Series

**A615007** : Softpanel for Model 61500/61600 Series

**A615008** : DC Noise Filter (Max. 16A)

\* **A615010** : Aerospace softpanel for RTCA DO-160G standard

\* **A615011** : Aerospace softpanel for MIL-STD-704F standard

**A615103** : Parallelable power stage unit 18kVA, 1 or 3Ø, for 61511/61512/61611/61612

**A615104** : Input/Output terminals for parallel connecting 2 units of 61511/61512/61611/61612/ A615103

**A615105** : Input/Output terminals for parallel connecting 3 units of 61511/61512/61611/61612/ A615103

**A615106** : Reverse Current Protection unit for 61511/61512/61611/61612

\* Call for availability

Option for 277V/480VLL (5Wires) AC input voltage are available with 61511/61512/ 61611/61612/ A615103 models, please contact Chroma sales representative for detailed information.

Support higher than 300V output voltage capability, please contact Chroma sales representative for detailed information.



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Model 61505~61504



Model 61505



Model 61511, 61512



A615103 Parallelable Power stage Unit 18kVA

SPECIFICATIONS-1			
Model	61501	61502	61503
<b>Output Phase</b>	1	1	1
<b>Output Rating -AC</b>			
Power	500VA	1000VA	1500VA
<b>Voltage</b>			
Range/Phase	150V/300V/Auto	150V/300V/Auto	150V/300V/Auto
Accuracy	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V	0.1V
Distortion*1	0.3% @ 50/60Hz 1% @ 15-1kHz	0.3% @ 50/60Hz 1% @ 15-1kHz	0.3% @ 50/60Hz 1% @ 15-1kHz
Line Regulation	0.1%	0.1%	0.1%
Load Regulation*2	0.2%	0.2%	0.2%
<b>Max. Current</b>			
RMS	4A/2A (150V/300V)	8A/4A (150V/300V)	12A/6A (150V/300V)
Peak	24A/12A (150V/300V)	48A/24A (150V/300V)	72A/36A (150V/300V)
<b>Frequency</b>			
Range	DC, 15 ~ 1kHz	DC, 15 ~ 1kHz	DC, 15 ~ 1kHz
Accuracy	0.15%	0.15%	0.15%
Resolution	0.01 Hz	0.01 Hz	0.01 Hz
<b>Output Rating-DC</b>			
Power	250W	500W	750W
Voltage	212V/424V	212V/424V	212V/424V
Current	2A/1A (212V/424V)	4A/2A (212V/424V)	6A/3A (212V/424V)
<b>Programmable Output Impedance</b>			
Range	0 Ω +200μH ~ 1 Ω +1mH		
<b>Harmonics &amp; Interharmonics Simulation</b>			
Bandwidth	2400Hz	2400Hz	2400Hz
<b>Input Rating</b>			
Voltage Operating Range	1Ø 100~240V ± 10%V <sub>LN</sub>	1Ø 100~240V ± 10%V <sub>LN</sub>	1Ø 100~240V ± 10%V <sub>LN</sub>
Frequency Range	47~63Hz	47~63Hz	47~63Hz
Current (per phase)	10A Max. @ 90V	18A Max. @ 90V	22A Max. @ 90V
Power Factor*4	0.97 Min.	0.97 Min.	0.98 Min.
<b>Measurement</b>			
<b>Voltage</b>			
Range	150V/300V	150V/300V	150V/300V
Accuracy	0.2%+0.2%F.S.	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V	0.1V
<b>Current</b>			
Range (peak)	24A	48A	72A
Accuracy (RMS)	0.4%+0.3%F.S.	0.4%+0.3%F.S.	0.4%+0.3%F.S.
Accuracy (peak)	0.4%+0.6%F.S.	0.4%+0.6%F.S.	0.4%+0.6%F.S.
<b>Power</b>			
Accuracy	0.4%+0.4%F.S.	0.4%+0.4%F.S.	0.4%+0.4%F.S.
Resolution	0.1W	0.1W	0.1W
<b>Harmonics</b>			
Range	2~40 orders	2~40 orders	2~40 orders
<b>Others</b>			
<b>Interface</b>	GPIO, RS-232 (Optional)		
<b>Temperature</b>			
Operating	0 ~ 40°C	0 ~ 40°C	0 ~ 40°C
Storage	-40 ~ +85°C	-40 ~ +85°C	-40 ~ +85°C
<b>Safety &amp; EMC</b>	CE ( include EMC & LVD )		
<b>Dimension (HxWxD)</b>	133.35 x 482.6 x 569.5 mm / 5.25 x 19 x 22.42 inch	133.35 x 482.6 x 569.5 mm / 5.25 x 19 x 22.42 inch	133.35 x 482.6 x 569.5 mm / 5.25 x 19 x 22.42 inch
<b>Weight</b>	20 kg / 44.05 lbs	20 kg / 44.05 lbs	20 kg / 44.05 lbs

**Note\*1** : Maximum distortion is tested on output 125VAC (150V RANGE) and 250VAC (300V RANGE) with maximum current to linear load.

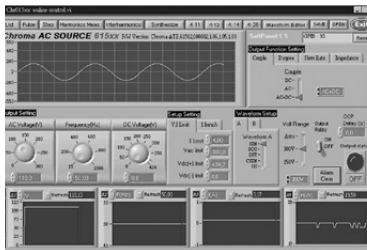
**Note\*2** : Load regulation is tested with sine wave and remote sense.

**Note\*3** : Model 61505 can also use single-phase connecting method of input AC power, the maximum input current is 28A @ 190V.

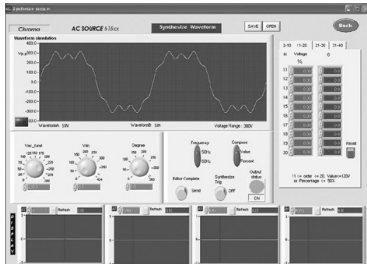
**Note\*4** : Input power factor is tested on input 220V, full load condition.

Battery Test & Automation Solution  
 Photovoltaic Test & Automation Solution  
 Semiconductor/IC Test Solution  
 Optical Devices Test Solution  
 LED/Lighting Test Solution  
 FPD Test Solution  
 Video & Color Test Solution  
 Automated Optical Inspection Solution  
 Power Electronics Test Solution  
 Passive Component Test Solution  
 Electrical Safety Test Solution  
 General Purpose Test Solution  
 Thermoelectric Test & Control Solution  
 PXI Test & Measurement Solution  
 Manufacturing Execution Systems Solution

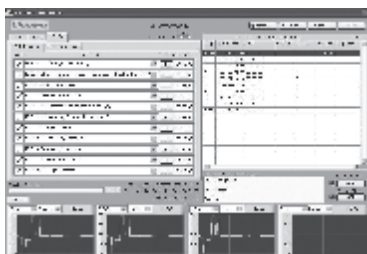
## Softpanel



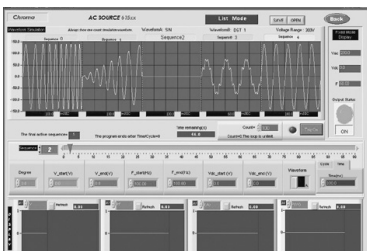
Main Operation Menu



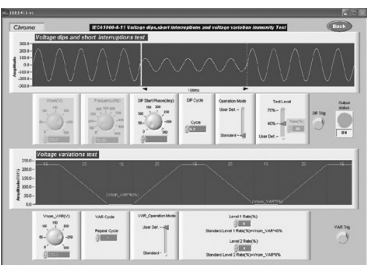
Distorted Waveform Editor



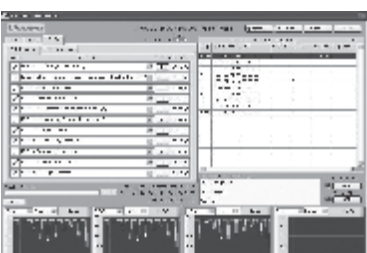
Aerospace Testing : MIL-STD-704F



Transient Voltage Programming



Voltage Dip, Short, Variation Regulation Test



Aerospace Testing : RTCA DO-160G

## SPECIFICATIONS-2

Model	61504	61505
<b>Output Phase</b>	1	1
<b>Output Rating -AC</b>		
Power	2000VA	4000VA
<b>Voltage</b>		
Range/Phase	150V/300V/Auto	150V/300V/Auto
Accuracy	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V
Distortion*1	0.3% @ 50/60Hz 1% @ 15-1kHz	0.3% @ 50/60Hz 1% @ 15-1kHz
Line Regulation	0.1%	0.1%
Load Regulation*2	0.2%	0.2%
<b>Max. Current</b>		
RMS	16A/8A (150V/300V)	32A/20A (150V/300V)
Peak	96A/48A (150V/300V)	192A/96A (150V/300V)
<b>Frequency</b>		
Range	DC, 15 ~ 1kHz	DC, 15 ~ 1kHz
Accuracy	0.15%	0.15%
Resolution	0.01 Hz	0.01 Hz
<b>Output Rating-DC</b>		
Power	1000W	2000W
Voltage	212V/424V	212V/424V
Current	8A/4A (212V/424V)	16A/8A (212V/424V)
<b>Programmable Output Impedance</b>	0 Ω +200μH ~ 1 Ω +1mH	
<b>Harmonics &amp; Interharmonics Simulation</b>		
Bandwidth	2400Hz	2400Hz
<b>Input Rating</b>		
Voltage Operating Range	1Ø 100~240V ± 10%V <sub>LN</sub>	3Ø 200~240V ± 10%V <sub>LN</sub> *3
Frequency Range	47~63Hz	47~63Hz
Current (per phase)	28A Max. @ 90V	14A Max. @ 190V
Power Factor*4	0.98 Min.	0.98 Min.
<b>Measurement</b>		
<b>Voltage</b>		
Range	150V/300V	150V/300V
Accuracy	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V
<b>Current</b>		
Range (peak)	96A	192A
Accuracy (RMS)	0.4%+0.3%F.S.	0.4%+0.3%F.S.
Accuracy (peak)	0.4%+0.6%F.S.	0.4%+0.6%F.S.
<b>Power</b>		
Accuracy	0.4%+0.4%F.S.	0.4%+0.4%F.S.
Resolution	0.1W	0.1W
<b>Harmonics</b>		
Range	2~40 orders	2~40 orders
<b>Others</b>	GPIB, RS-232 (Optional)	
<b>Temperature</b>		
Operating	0 ~ 40°C	0 ~ 40°C
Storage	-40 ~ +85°C	-40 ~ +85°C
<b>Safety &amp; EMC</b>	CE ( include EMC & LVD )	
<b>Dimension (HxWxD)</b>	133.35 x 482.6 x 569.5 mm / 5.25 x 19 x 22.42 inch	266.7 x 482.6 x 569.5 mm / 10.5 x 19 x 22.42 inch
<b>Weight</b>	20 kg / 44.05 lbs	41 kg / 90.31 lbs

**Note\*1** : Maximum distortion is tested on output 125VAC (150V RANGE) and 250VAC (300V RANGE) with maximum current to linear load.

**Note\*2** : Load regulation is tested with sine wave and remote sense.

**Note\*3** : Model 61505 can also use single-phase connecting method of input AC power, the maximum input current is 28A @ 190V.

**Note\*4** : Input power factor is tested on input 220V, full load condition.

SPECIFICATIONS-3				
Model	61511	61512	61511+A615103	61512+A615103
<b>Output Phase</b>	1 or 3 selectable			
<b>Output Rating-AC</b>				
Power	12kVA	18kVA	30kVA	36kVA
Each phase	4kVA	6 kVA	10kVA	12kVA
<b>Voltage</b>				
Range	0~150V/0~300V			
Accuracy	0.1%+0.2%F.S.			
Resolution	0.1 V			
Distortion *1	0.3% @50/60Hz, 1%@15~1kHz, 1.5%>1kHz			
Line regulation	0.1%			
Load regulation *2	0.2%			
Temp. coefficient	0.02% per degree from 25°C			
<b>Max Current (1-phase mode)</b>				
RMS	96A / 48A	144A / 72A	240A / 120A	288A / 144A
Peak (CF=4)	384A / 192A	576A / 288A	960A / 480A	1152A / 576A
<b>Max Current (each phase in 3-phase mode)</b>				
RMS	32A / 16A	48A / 24A	80A / 40A	96A / 48A
Peak (CF=4)	128A / 64A	192A / 96A	320A / 160A	384A / 192A
<b>Frequency</b>				
Range	DC, 15-1.5kHz			
Accuracy	0.005%			
Resolution	0.01 Hz			
<b>Phase</b>				
Range	0 ~ 360°			
Resolution	0.3°			
Accuracy	<0.8°@50/60Hz			
<b>DC Output (1-phase mode)</b>				
Power	6kW	9kW	15kW	18kW
Voltage	212V / 424V	212V / 424V	212V / 424V	212V / 424V
Current	48A / 24A	72A / 36A	120A / 60A	144A / 72A
<b>DC Output (3-phase mode)</b>				
Power	2kW	3kW	5kW	6kW
Voltage	212V / 424V	212V / 424V	212V / 424V	212V / 424V
Current	16A / 8A	24A / 12A	40A / 20A	48A / 24A
<b>Input AC Power (each phase)</b>				
AC type	3-phase, Delta or Y connecting			
Voltage Operating Range*3	3Ø 200~240V ± 10%V <sub>LN</sub> (Delta: L-L, Y: L-N)			
Frequency Range	47-63 Hz			
Max. Current	Delta: 80A Y: 70A	Delta: 120A Y: 90A	Delta: 200A Y: 160A	Delta: 240A Y: 180A
<b>Measurement</b>				
<b>Voltage</b>				
Range	150V / 300V			
Accuracy	0.1%+0.2%F.S.			
Resolution	0.1 V			
<b>Current</b>				
Range	128/32/8 A peak	192/48/12 A peak	320/80/20 A peak	384/96/24 A peak
Accuracy (RMS)	0.4%+0.3%F.S.			
Accuracy (peak)	0.4%+0.6%F.S.			
Resolution	0.1 A			
<b>Power</b>				
Accuracy	0.4%+0.4% F.S.			
Resolution	0.1 W			
<b>Others</b>				
Waveform Synthesis	40 orders @ 50/60Hz			
Harmonic Measurement	Voltage / Current 40 orders @ 50/60Hz			
Programmable Impedance	0Ω +200 μH ~ 1Ω +1mH			
<b>Efficiency*4</b>	0.75 (Typical)			
<b>Protect</b>	UVP, OCP, OPP, OTP, FAN			
<b>Interface</b>	GPIB, RS-232, USB, Ethernet (standard)			
<b>Temperature</b>				
Operating	0°C ~40°C			
Storage	-40°C~85°C			
Humidity	30 %~90 %			
<b>Safety &amp; EMC</b>				
CE ( include EMC & LVD )				
<b>Dimension (H x W x D)</b>	1163 x 546 x 700 mm / 45.78 x 21.5 x 27.56 inch*5		1163 x 546 x 700 mm / 45.78 x 21.5 x 27.56 inch x 2 units*5	
<b>Weight</b>	229.4 kg / 505.29 lbs		242.4 kg / 533.92 lbs	
			480 kg / 1057.27 lbs	
			495 kg / 1090.31 lbs	

**Note\*1** : Maximum distortion is tested on output 125VAC (150V RANGE) and 250VAC (300V RANGE) with maximum current to linear load.

**Note\*2** : Load regulation is tested with sine wave and remote sense

Battery Test & Automation Solution  
 Photovoltaic Test & Automation Solution  
 Semiconductor/IC Test Solution  
 Optical Devices Test Solution  
 LED/Lighting Test Solution  
 FPD Test Solution  
 Video & Color Test Solution  
 Automated Optical Inspection Solution  
 Power Electronics Test Solution  
 Passive Component Test Solution  
 Electrical Safety Test Solution  
 General Purpose Test Solution  
 Thermoelectric Test & Control Solution  
 PXI Test & Measurement Solution  
 Manufacturing Execution Systems Solution