



## Programmable AC Power Source



## PROGRAMMABLE AC POWER SOURCE MODEL 61600 SERIES

Chroma Programmable AC Power Source 61600 series delivers pure, instrument grade AC power at very low cost. The 61600 series supplies the output voltage from 0 to 300VAC, and frequency from 15 to 1000Hz. It is suitable for commercial, avionics, and military applications from bench-top testing to mass production.

The 61600 series generates very clean AC output with distortion less than 0.3% at 50/60Hz. With the state-of-the-art PWM technology and power factor correction circuit, the 61600 series yields higher efficiency and delivers more output power. The 61600 series is capable of delivering up to 6 times of peak current compared to its maximum rated current that makes it ideal for inrush current test.

The AC+DC modes extend the applications not only pure AC voltage but also DC component for testing DC offset in laboratory. Users also can use an optional DC noise filter to get low noise and good stability DC voltage for testing. Applying the advanced DSP technology, the 61600 series is able to provide precision and

high speed measurements such as RMS voltage, RMS current, true power, frequency, power factor, and current crest factor.

The 61600 series also provides an external analog input to amplify the analog signal from arbitrary signal generator. Thus, it is capable of simulating the unique waveform which observed in the field. Users also can control the amplitude of output voltage by a DC level. It is suitable to integrate Chroma AC source 61600 series into users' system.

For convenience sake, the 61600 series offers versatile front panel operations with LCD display and rotary knob. Users may also control the 61600 series AC source remotely via GPIB, RS232C or APG (Analog Programming) interface. Users can find Labview driver in NI's web site for programming.

The power-on self-diagnosis routine along with the full protections against OPP, OCP, OVP and OTP ensure the quality and reliability for the most demanding engineering tests and ATS applications.

## MODEL 61600 SERIES

### Key Features:

- Output Rating :  
Power: 500VA (61601), 1000VA (61602)  
1500VA (61603), 2000VA (61604)  
4000VA (61605)  
Voltage range: 0-150V/0-300V/Auto
- Frequency : 15Hz - 1000Hz
- Compact size and weight attributable to advance PWM technology
- Built-in PFC, provide input power factor over 0.98 (full load)
- AC+DC output mode for voltage DC offset simulation
- Programmable slew rate setting for changing voltage and frequency
- Programmable voltage, current limit
- One-key recall for 9 different voltage and frequency
- Low output impedance for testing IEC 61000-3-2 (61605)
- Comprehensive measurement capability, V, Irms, Ipk, Inrush, P, Q, S, PF, CF of current and etc.
- High output current crest factor, ideal for inrush current testing
- Turn on, turn off phase angle control
- TTL signal which indicates ON/OFF
- 3 units combined to 3-phase power output
- Easy-use software for operation and ON/OFF test
- Optional analog programming interface
- Optional GPIB and RS-232C interface
- Full protection: OP,OC,OV and OT protection

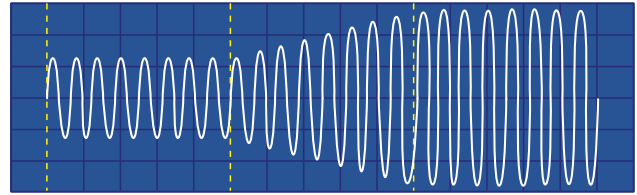
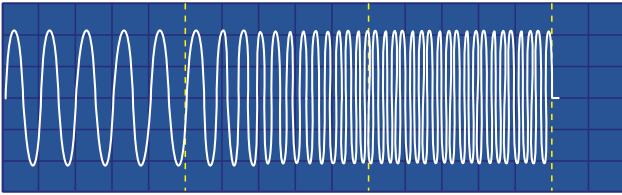


# Chroma



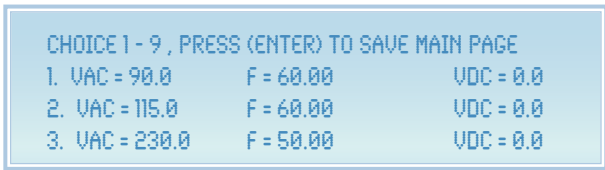
## 1. SLEW RATE OF VOLTAGE AND FREQUENCY

Chroma Programmable AC Power Source 61600 Series use DSP technology to program voltage waveform. Users can change the voltage or frequency in only one step. Or users can set the slew rate to get a gradual increase or decrease of voltage and frequency. It can help users easily to test the power input range of their products, for example, 90V-264V/47Hz-63Hz.



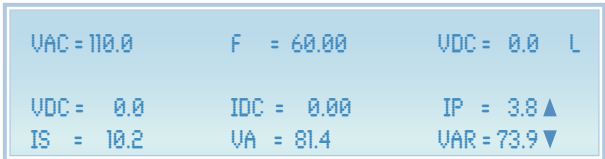
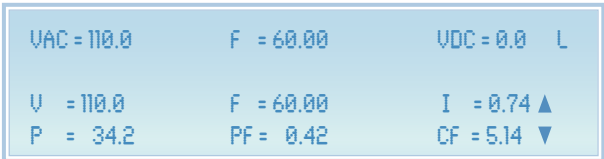
## 2. ONE-KEY RECALL MODE

Chroma Programmable AC Power Source 61600 Series allows users to save 9 various voltage and frequency. Users can recall the value by only pressing "1" to "9" key. It can help testers or manufacture operators easily to change voltage or frequency for some fixed test conditions.



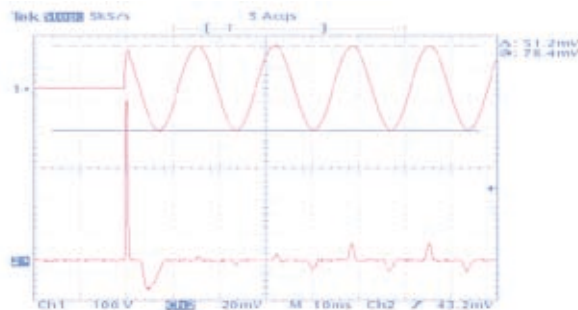
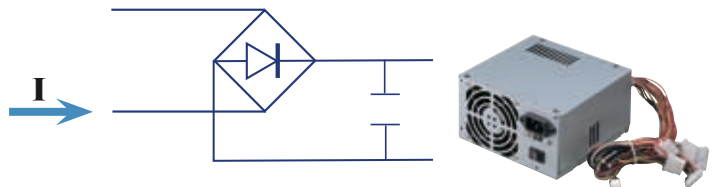
## 3. COMPREHENSIVE MEASUREMENTS

Chroma Programmable AC Power Source 61600 Series has built in a 16-bit precision measurement circuit and firmware utilities to measure the RMS voltage, RMS current, true power, power factor, peak repetitive current, inrush current, current crest factor, VA (apparent power), and VAR (reactive power). These comprehensive measurements make Chroma Programmable AC Power Source 61600 Series not only a power source but also a power meter.



## 4. HIGH OUTPUT CURRENT CREST FACTOR AND TURN ON / OFF PHASE ANGLE CONTROL

Chroma Programmable AC Power Source 61600 Series is capable of provide high output current crest factor (Max. 6). It delivers sufficient transient power required for testing most of switching made power circuits. The additive programmable turn on (off) phase angle control makes the 61600 series AC source ideal for inrush current test.



## 5. EASY-USE SOFTWARE : THE 61600 SERIES SOFTPANEL



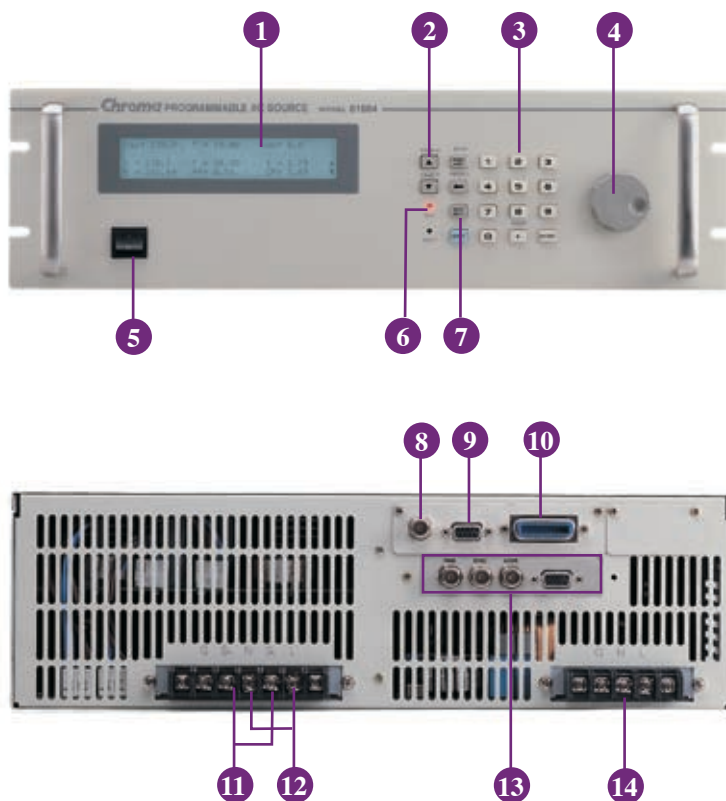
Main Operation Menu



Auto Run (for ON/OFF or Burn in Test)

### PANEL DESCRIPTION

#### Model 61601~61604



1. **LCD Display**  
Show the test setup, operating status and readings
2. **Page Up/Down Key**  
Facilitate parameter data editing
3. **Numeric Key**  
Data entry for test parameters
4. **Rotary Knob**  
Regulate for Analog voltage, frequency and parameter setting
5. **Power Switch**
6. **Output Indicator**  
Lighten when output is enable.
7. **Output Enable Key**  
Enable or disable output.
8. **External V Reference**  
External programming voltage input
9. **RS-232C Interface**
10.  **GPIB Interface**
11. **Remote Sense Terminal**  
Use to compensate the line drop between source and testing point
12. **Output Terminal**  
Connect output cable to the UUT
13. **System Interface**  
For synchronizing signal and transient signal
14. **Input Terminal**

### ORDERING INFORMATION

**61601** : Programmable AC Source 0~300V, 15~1KHz / 500VA

**61602** : Programmable AC Source 0~300V, 15~1KHz / 1KVA

**61603** : Programmable AC Source 0~300V, 15~1KHz / 1.5KVA

**61604** : Programmable AC Source 0~300V, 15~1KHz / 2KVA

**61605** : Programmable AC Source 0~300V, 15~1KHz / 4KVA

**A615001** : Remote Interface Board for Model 61500/61600 series  
(External V Input, RS-232 Interface, GPIB Interface)

**A610004** : Universal Socket Center for Model 6512/6520/6530/ 6560/  
6415/6420/6430/61500/61600 series

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

**A615008** : DC Noise Filter (Max.16A) for Model 61500/61600 series

**A600009** : GPIB Cable (200cm)

**A600010** : GPIB Cable (60cm)



MODEL 61605

## SPECIFICATIONS

Model	61601	61602	61603	61604	61605
<b>Output Phase</b>	1	1	1	1	1
<b>Output Rating-AC</b>					
<b>Power/Phase</b>	500VA	1000VA	1500VA	2000VA	4000VA
<b>Voltage</b>					
Range/Phase	150V/300V/Auto	150V/300V/Auto	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.	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V	0.1V	0.1V	0.1V
Distortion*1	0.3% @ 50/60Hz1%, 15-1KHz (Typical)	0.3% @ 50/60Hz1%, 15-1KHz (Typical)	0.3% @ 50/60Hz1%, 15-1KHz (Typical)	0.3% @ 50/60Hz1%, 15-1KHz (Typical)	0.3% @ 50/60Hz1%, 15-1KHz (Typical)
Line Regulation	0.1%	0.1%	0.1%	0.1%	0.1%
Load Regulation *2	0.2%	0.2%	0.2%	0.2%	0.2%
<b>Max. Current/Phase</b>					
R.m.s.	4A/2A (150V/300V)	8A/4A (150V/300V)	12A/6A (150V/300V)	16A/8A (150V/300V)	32A/20A (150V/300V)
Peak	24A/12A (150V/300V)	48A/24A (150V/300V)	72A/36A (150V/300V)	96A/48A (150V/300V)	192A/96A (150V/300V)
<b>Frequency</b>					
Range	DC,15-1KHz	DC,15-1KHz	DC,15-1KHz	DC,15-1KHz	DC,15-1KHz
Accuracy	0.15%	0.15%	0.15%	0.15%	0.15%
<b>Output Rating-DC</b>					
<b>Power</b>	250W	500W	750W	1000W	2000W
<b>Voltage</b>	212V/424V	212V/424V	212V/424V	212V/424V	212V/424V
<b>Current(per phase)</b>	2A/1A (212V/424V)	4A/2A (212V/424V)	6A/3A (212V/424V)	8A/4A (212V/424V)	16A/8A (212V/424V)
<b>Programmable Output Impedance</b>					
Range	0Ω+200μH ~ 1Ω+1mH				
<b>Harmonics &amp; Inter-harmonics Simulation</b>					
Bandwidth	2400Hz	2400Hz	2400Hz	2400Hz	2400Hz
<b>Input Rating</b>					
<b>Voltage Range</b>	90-250V, 1Ø	90-250V, 1Ø	90-250V, 1Ø	90-250V, 1Ø	190-250V, 3Ø
<b>Frequency Range</b>	47-63Hz	47-63Hz	47-63Hz	47-63Hz	47-63Hz
<b>Current(per phase)</b>	10A Max. @ 90V	18A Max. @ 90V	22A Max. @ 90V	28A Max. @ 90V	14A Max. @ 190V
<b>Power Factor *3</b>	0.97 Min.	0.97 Min.	0.98 Min.	0.98 Min.	0.98 Min.
<b>Measurement</b>					
<b>Voltage</b>					
Range/Phase	150V/300V	150V/300V	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.	0.2%+0.2%F.S.	0.2%+0.2%F.S.
Resolution	0.1V	0.1V	0.1V	0.1V	0.1V
<b>Current</b>					
Range(peak)	24A	48A	72A	96A	192A
Accuracy(r.m.s.)	0.4%+0.3%F.S.	0.4%+0.3%F.S.	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.	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.	0.4%+0.4%F.S.	0.4%+0.4%F.S.
Resolution	0.1W	0.1W	0.1W	0.1W	0.1W
<b>Others</b>					
<b>Interface</b>	GPIB,RS-232 (Optional)				
<b>Temperature</b>					
Operating	0-40°C	0-40°C	0-40°C	0 ~ 40°C	0 ~ 40°C
Storage	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C	-40~+85°C
<b>Safety &amp; EMC</b>					
CE (Include EMC & LVD)					
<b>Dimensions(WxHxD)</b>	482 x 132.6 x 570mm	482 x 132.6 x 570mm	482 x 132.6 x 570mm	482 x 132.6 x 570mm	482 x 265.9 x 570 mm
<b>Weight</b>	20 kg	20 kg	21 kg	21 kg	36 kg

All specifications are subject to change without notice.

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 sinewave and remote sense.

Note 3 : Input power factor is tested on input 220V, full load condition.

Developed and Manufactured by :

### CHROMA ATE INC.

致茂電子股份有限公司

#### HEADQUARTERS

No. 66, Hwa-Ya 1st Rd.,  
Hwa-Ya Technology Park,  
Kuei-Shan Hsiang,33383  
Taoyuan County 33383  
Taiwan  
Tel: +886-3-327-9999  
Fax: +886-3-327-8898  
http://www.chromaate.com  
E-mail: chroma@chroma.com.tw

#### CHINA

CHROMA ELECTRONICS  
(SHENZHEN) CO., LTD.  
8F, No.4, Nanyou Tian An  
Industrial Estate, Shenzhen,  
China PC: 518052  
Tel: +86-755-2664-4598  
Fax: +86-755-2641-9620

#### JAPAN

CHROMA JAPAN CORP.  
11F NARA Building II 2-2-8  
Shinyokohama, Kouhokoku,  
Yokohama City 222-0033  
Kanagawa, Japan  
Tel: +81-45-470-2285  
Fax: +81-45-470-2287  
http://www.chroma.co.jp

#### U.S.A.

CHROMA SYSTEMS  
SOLUTIONS, INC.  
25612 Commercentre Drive,  
Lake Forest, CA  
92630-8830  
Tel: +1-949-600-6400  
Fax: +1-949-600-6401  
Toll Free: +1-866-600-6050  
http://www.chromausa.com  
E-mail: sales@chromausa.com

#### EUROPE

CHROMA ATE EUROPE B.V.  
Morsestraat 32, 6716 AH Ede,  
The Netherlands  
Tel: +31-318-648282  
Fax: +31-318-648288  
http://www.chromaeu.com  
E-mail: sales@chromaeu.com

Distributed by: