# TIMING & NOISE ANALYZER
## Model 80611

The 80611 Timing and Noise Analyzer provides the C8000 Automated test systems with highly accurate measurements capabilities and specialized control functions designed for high speed power supply testing applications.

Using the Timing/Noise Analyzer the C8000 platform are uniquely capable of parallel measurements when testing multiple outputs power supplies and provides a wide variety of switching and digital control functions.

The 80611 can be populated with up to 10 80611N Noise cards which provide differential and parallel reading of the following parameters; Peak to Peak, RMS, Overshoot, Undershoot, Turn-On time, Turn-Off time, Rise time, Fall time.

The 80611 also includes 6 external trigger sources providing a total combination of 24 different triggering options allowing a wide variety of devices and conditions to be tested.

Measurements can also be routed via low and high BW multiplexers to the system DMM and/or o'scope if configured in the C8000.

The instrument also provides auxiliary controls such as 16 digital I/O and 8 Floating Double Pole Single Throw relays to support flexible management of unit tests.

For high BW applications the 80611 can be configured with up to two 10 input by 2 output, 100MHz High Frequency multiplexer cards module allow for o'scope images to be captured by the system.

For applications with a high digital pin count additional Digital output cards are available with a set array of 50.

This provides support for basic digital control and monitoring. With optional digital output cards systems can be expanded in groups of 50, up to a total addition of 100 digital I/O channels.

# Model 80611

### *Key Features:*

- May be populated with up to ten 20MHz noise cards.
- Parallel and differential noise readings including PK-PK noise, RMS noise, timing over/undershoot and many others
- 8 pairs of built-in relays and 16 bits TTL control signals for user defined special controlling application.
- Built in 10 x 4 low frequency mulitplexer for routing signals to scope or DMM
- Sequence timing measurements for outputs relative to PWR_GD, input or other signals.
- Two expansion slots for100Mhz High freq mux cards or 50 channel digital I/O card

Chroma

CHROMA SYSTEMS SOLUTIONS, INC.
7 CHRYSLER, IRVINE, CA 92618 (949)600-6400
www.ChromaUSA.com

## SPECIFICATIONS

| Model | 80611 MAINFRAME |
|---|---|
| Mux Inputs | |
| Input Channel | 10 Channel Inputs |
| Voltage | 0~220VDC , 0~250VAC |
| Current | 0~2Amp |
| Relay Life | 50,000 cycles in life at 1800 operations/hour with rated load |
| Floating Relays | |
| Output Channel | 8 pairs of Floating Relays |
| Voltage | 0~28VDC, 0~240VAC |
| Current | 0~5Amp |
| Relay Life | 100,000 cycles in life |
| TTL Input/ Output | |
| Input Channel | 16 Bits standard TTL input device |
| Output Channel | 16 Bits standard TTL output device |
| Maximum Input Channel | 500mA for 5V |
| Trigger Inputs | |
| Input Channel | 6 Trigger Input ports |
| Max Input Voltage | 30VDC |
| Power Requirement | |
| Voltage and Freq. | 115VAC / 230 VAC (±10%) , 60Hz / 50Hz |
| Current | 1.5 amp for 110VAC, 0.75 amp for 230VAC |
| Dimension | 177mm (H) x 423mm (W) x 563mm (D)<br>7” (H) x 16.88” x 22” (D) |
| Weight | 25 Kgs (55 lbs) |

| 80611N NOISE CARD | |
|---|---|
| **Noise Spec** | |
| **Input Condition** | |
| **Input Noise Voltage** | 2Vmax |
| **Input Impedance** | 50 ohm / 0.95M ohm (DC) |
| **Voltage Rating** | 500Vdc |
| **Withstand voltage (To GND)** | 500Vdc |
| **Input Setting** | |
| **Input Voltage Range** | 400mV / 2V |
| **Resolution** | 15Bit / 14Bit |
| **Vp-p Measurement** | |
| **Accuracy** | 1% +5mV / 1% + 15mV (Normal: 0.5 sec, Fast: 0.1 sec) (note 1) |
| **Bandwidth** | 6Hz-10K / 100K / 500K / 1M / 20MHz |
| **-3dB Tolerance** | +/- 1dB |
| **CMRR** | 50dB @ 20MHz |
| **Vrms Measurement** | |
| **Range** | 28mVrms (80mVpp)/140mVrms(400mVpp)/700m Vrms (2Vpp) |
| **Accuracy** | 0.1% +0.5mV / 0.1% +1mV / 0.1% + 3mV |
| **Bandwidth** | 6Hz-1MHz (see note 2) |
| **-3dB Tolerance** | +/- 1dB |
| **Vpeak Spec** | |
| **Input Setting** | |
| **Input DC Voltage Range** | 6V /30V / 120V / 500V |
| **Resolution** | 15bit |
| **Bandwidth** | 400KHz |
| **Dynamic Vpk(+/-) Measurement** | |
| **Accuracy** | 0.4% + 6mV / 30mV / 120mV / 600mV |
| **Droop Rate Error** | 0.25 / 1.25 / 5 / 25 mV/ms |
| **Dynamic Vstable(+/-) Measurement** | |
| **Accuracy** | 0.4% + 6mV / 30mV / 120mV / 600mV |
| **Dynamic Vspike(+/-) Measurement** | |
| **Accuracy** | 0.5% of F.S. |
| **Droop Rate Error** | 0.5 / 2.5 / 10 / 50 mV/ms |
| **Offset Mode (note 3)** | |
| **Input Spike Range** | 0.6V(6V) / 3V(30V) / 12V(120V) / 50V(500V) |
| **Dynamic Vspike(+/-) Measurement** | |
| **Accuracy** | 0.5% + 4mV / 20mV / 80mV / 400mV |
| **Droop Rate Error** | 0.05 / 0.25 / 1 / 5 mV/ms |
| **Dync. Input** | |
| **Channel** | 1 |

| Vdc Spec | |
|---|---|
| **Input DC Voltage Range** | 6V /30V / 120V / 500V |
| **Accuracy** | 0.1%Reading+0.025%F.S. |

1: The measurement time should be larger than input signal period.
2: See table below

| | |
|---|---|
| 2Vpp Range | 0.707Vrms~0.2Vrms BW 1MHz<br>0.2Vrms~0.141Vrms BW 600KHz |
| 0.4Vpp Range | 0.141Vrms~0.02Vrms BW 1MHz<br>0.02Vrms~0.01Vrms BW 600KHz |
| 0.08Vpp Range | 0.028Vrms~0.004Vrms BW 1MHz<br>0.004Vrms~0.002Vrms BW 600KHz |

3: This superior accurate measurement is only applicable when the peak-to-peak voltage is less than 10% F.S.