

# Programmable Pin Electronics Module

## MODEL 36010

The 36010 is a 100MHz programmable pin electronic module designed for characterizing, validating and testing digital and mixed signal IC or electronics. Each module consists of a Sequence Pattern Generator and Logic Pin Electronics Card containing 8 channels. The 36010 module is expandable to provide up to 64 channels hardware resource for various purposes. Besides, based on the per-pin architecture, each channel is equipped with 32M vector memory, 32 sets of clocks, 32 sets of waveforms and one PMU channel. It provides fast and accurate testing, with same performance and features as other stand ATE equipment.

### Sequence Pattern Generator

The Sequence Pattern Generator of the 36010 module provides more than 17 sequence commands including "jump", "match", "loop", "repeat", ... etc, to control the flow of pattern execution. It equips with 32M sequence command memory, which allows each vector to has its own sequence command to control the flow of pattern execution flexibly. Besides, each Sequence Pattern Generator can support up to 8 Logic Pin Electronics Cards, which means it can support up to 64 I/O channels and performs testing on 8 DUT simultaneously.

### Logic Pin Electronic Card

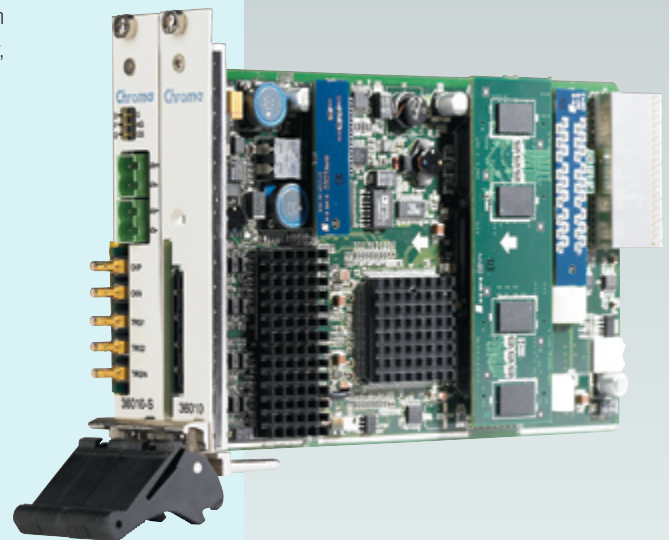
In each Logic Pin Electronics Card, it adopts Chroma® PINF ICs on it to achieve high timing accuracy and flexible waveform output functions. The per-pin timing generator provides 32 sets of clock containing 6 programmable edges. As for the per-pin waveform generator, it provides each digital I/O channel 32 sets of programmable waveform with the change-one-the-fly feature. In the analog function, the Logic Pin Electronics card has the tri-level driver and comparator with 610uV programmable resolution. It also equips with active load, per-pin PMU and high voltage driver functions. Moreover, the 36010 supports scan pattern function for scan test.

### Proprietary Software, CRISP

In addition to support the LabView and LabWindows environments, Chroma® also provides the proprietary software option, CRISP. To cover the various requirements for the IC debugging, CRISP contains lots of software modules. Running on the Microsoft Windows XP® operation system and using C++ as the test program language, CRISP provides users the flexible, easy-to-use and fast-runtime GUI software to meet the various demands. The project IDE tool makes it easy to create the test program quickly. In the test program debugging stage, CRISP provides the suite of debugging software tools for user, which includes Plan Debugger, Datalog, Waveform, Scope, SHMOO, Pin Margin, Wafer Map, Summary, Histogram, STDF, Test Condition Monitor, Pattern Editor, and so on.

### Key Features

- Standard PXI 3U form factor
- 100MHz maximum data rate
- 8 channels with per-pin, per-cycle bidirectional control
- Scalable architecture to provide up to 64-pin
- 32M sequence command memory
- More than 17 pattern sequence commands
- Per-pin architecture
- 32M vector memory per pin
- 32 sets of clock and waveform per pin
- Waveforms changes on-the-fly
- Programmable tri-level driver in 610uV resolution
- One high voltage driver per board
- Per-channel PMU
- Per-channel timing measurement unit
- Support scan pattern function
- Windows 2000/XP operating system
- Support LabView and LabWindows
- Proprietary software tools option



**Chroma**

## Applications

- Logic and mixed signal validation and test
- Digital pattern generator and vector capture
- Consumer IC and electronics test
- Logic test subsystem for DC and RF ATE



## SPECIFICATIONS

<b>Model</b>	<b>36010</b>	<b>Programmable Load</b>	
Test Rate	50/100MHz	IOL/IOH Range	± 12mA
Channels Per Board	8 (Scalable to 64 channels)	VREF Setting Range	-1.5V ~ +6V
Vector Depth	32M	<b>High Voltage Driver</b>	
Sequence Control Memory	32M	HV Channel	1 HV channels / board
Number of Sequence Control Command	17	VIL/VIH Range	0V~+14.78V / 0.22V~+15V
Parallel test capability	8	VIL/VIH DC Current	± 60mA
<b>Timing Generator Per Pin</b>		<b>Scan Chain</b>	
No. of Edges	6 edges / pin (2 Driver, 2 Driver & I/O, 2 Strobe)	Chain number / LPC	1/2/4
No. of Timing Sets	32 sets / pin	Size per chain	256M/128M/64M
Rate / Edge Setting Resolution	125ps / 62.5ps	<b>PPMU</b>	
Rate Setting Range	20nS → 1mS	Channel Number	1 channel / 1 pin
<b>Waveform Generator Per Pin</b>		Voltage Force Range	-1.5V ~ +6V
No. of Waveform Sets	32 sets / pin	Current Measured Range	32mA / 2mA / 200uA / 20uA/2uA
<b>Driver</b>		Current Forced Range	32mA / 2mA / 200uA / 20uA/2uA
VIL/VIH Range	-1.5V~+5.9V / -1.4V~+6V	Voltage Measured Range	-1.5V ~ +6V
VIL/VIH Accuracy	± 10mV	<b>Power and Dimensions</b>	
Output Current (Static/Dynamic)	± 50mV/ ± 100mA	Power Consumption	25W per Slot
Output Impedance	50 ± 5 Ω	Size	PXI 3U Standard Board (Extendable)
<b>Comparator</b>		Cooling System	Standard PXI Chassis Fan (Forced Air Cooling)
VOL/VOH Range	-2V ~ +7V		
VOL/VOH Accuracy	± 15mV		

\* The specifications are subject to change without notice.

## ORDERING INFORMATION

**36010** : Programmable Pin Electronic Card

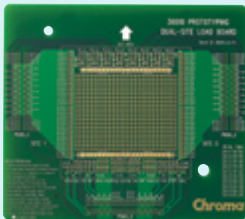
**A360100** : Sequence Pattern Generator

**A360101** : Load Board Test Fixture

**A360102** : 250W/48V DC Power Supply

**Universal Load Board**

**CRISP System Software**



Universal Load Board



Load Board Test Fixture

Developed and Manufactured by :

### CHROMA ATE INC.

致茂電子股份有限公司

#### HEADQUARTERS

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

#### HSINCHU

6F, No. 5, Technology Rd.,  
Hsinchu Science Park,  
Hsinchu 30078, Taiwan  
Tel: +886-3-563-5788  
Fax: +886-3-563-5758

#### JAPAN

Tel: +81-2-7661-0548

#### EUROPE

Morsestraat 32,  
NL-6716 AH Ede,  
The Netherlands  
Tel: +31-318-648282  
Fax: +31-318-648288

#### U.S.A.

7 Chrysler Irvine  
CA 92618  
Tel: +1-949-421-0355  
Fax: +1-949-421-0353  
Toll Free: +1-800-478-2026

#### CHINA

3F Building 40,  
No. 333, Qin Jiang Rd.,  
Shanghai, China  
PC: 200233  
Tel: +86-21-6495-9900  
Fax: +86-21-6495-3964

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