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# The Most Versatile Instrumentation Quality DC Measurement and Interface System.

## SMART POWER SUPPLY

- 2 x Negative supplies  
controllable from -2V to -16V,  
3.0 Amp each.
- 2 x Positive supplies  
controllable from 2V to 16V. 3.0  
Amp each
- 16 x Bipolar Supplies  
programmable from -8V to +8V.  
300mA per pin capability.
- 50uV voltage resolution and  
0.05% accuracy guaranteed at  
pin.
- Supply capable of delivering  
120W combined.

## SMART CURRENT SENSE

- Fast 50pA through to 3.0 Amp  
simultaneous current  
measurement on all 20 pins.
- Current limiting/control  
capability and audible alarm.

## ANALOG INPUT

- 16 input lines capable of 24bit  
measurement between -30 and  
+30V. 50uV resolution at  
10,000 samples/second.

## DIGITAL I/O

- 20 configurable I/O lines from  
2.0 to 5.5V in 10mV steps.
- Any line can be digital  
input/output, I2C, SPI, RS232,  
custom protocol.
- 4MHz bus speed capable.
- Configurable onboard data  
processing.



- Lab Power Supply Replacement
- Smart Automated Test Systems
- Hardware Set to Work
- PCB Bed of Nails
- MMIC Measurements and Bias
- Semiconductor Device Characterisation
- 20 x SPI, I2C, RS232, JTAG, IO Ports
- Industrial Control
- Sensor Measurement
- Constant Current Control Systems
- Actuator Drive
- 120W output power per card
- Fully Reconfigurable
- Controlled by USB, Bluetooth or WIFI



Easy to Use



Portable



Value for Money



Rugged

The EECL ATD module is a hugely versatile USB controlled card that has a range of voltage supplies (coupled with current sensing from nano amp through to amp levels), analogue input pin banks and configurable digital input/output arrays. The card is unique as the dynamic ranges offered are unprecedented and with 20 high speed CPU cores running in parallel the card has power for the most demanding laboratory, industrial and scientific problems.

The card is essentially a combination of 4 heavy duty lab supplies, 16 medium power programmable supplies, 16 multimeters with precision current, resistance and power measurement, 16 analog voltage meters and 20 universal digital programmable input/output pins. These are all connected up via a super accurate stable voltage reference and communicate to an onboard processor with a USB port facilitating a smart system. This processor can be tasked to perform powerful tests with the simplest of commands either from a supplied software suite or a user written application such as Labview, Matlab, C++ etc.

The card can be used in the lab environment as a complete replacement for power supplies, multimeters, digital and analog I/O cards and is all you need to set to work most PCBs. The card is RF filtered to 20 GHz and can therefore be used to power RF hardware such as MMICs, test boards, amplifiers enabling quick and easy set to work. The digital I/O can be used to program chip interfaces such as I2C, SPI. The card for example, can be used with a VNA to measure efficiency of a power amplifier with varying bias conditions. Multiple bias lines can be controlled at the same time allowing optimization or calculation of efficiency.

Cards can be stacked to provide a hundreds of pin capability or be run standalone. EECL have options for complete chassis systems, just the OEM cards or a single nicely robust packaged card with aluminum anodized heatsink. We can also provide an add-on FPGU module for complex processing tasks.

# The Most Versatile Electronic Test and Automated Measurement System.

## INTERFACE

- USB SCPI style interface
- Fast data transfer
- Field upgradable software and regular firmware releases.
- Matlab / Labview Drivers
- Windows GUI for plug and go functionality with script system for complex automated test routines.

## TECHNICAL SUPPORT

EECL offer support to get you up and running quickly. Should you need a technical chat please don't hesitate to get in touch at [info@euroecl.com](mailto:info@euroecl.com)

## TURNKEY SOLUTIONS

We have many customers who require a complete turnkey test solution. We can implement new firmware commands to enable custom measurements to be completed at the hardware level. See the following pages for examples of where a turnkey implementation was used.

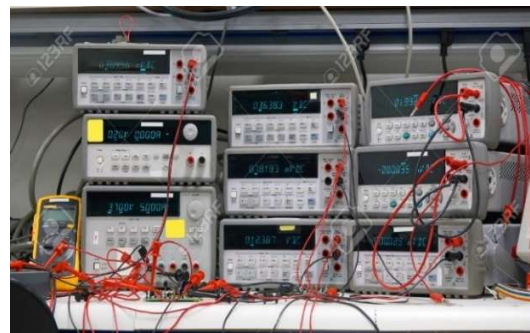
If you require anything just a little bit different to what is here, please get in touch – we may be able to make or modify it for you.

## Features and Benefits

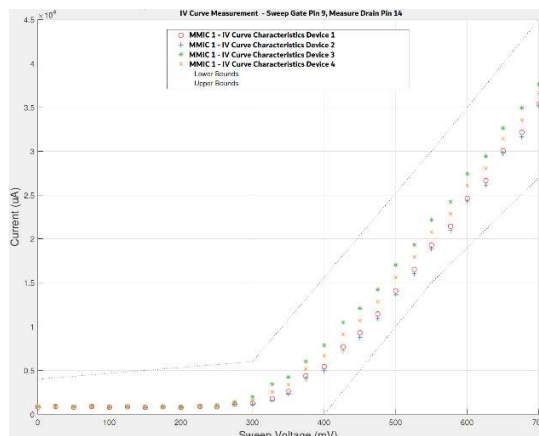
The card can replace 20 power supplies and multimeters with an integrated higher performance system at a tiny fraction of the cost that this desktop setup would be. Not to mention all those cables with current loops eradicated. The card features onboard filtering to remove noise that can couple around circuits and cables. The power supply is also isolated eradicating the mains noise that often appears from the standard setup shown to the right. A common interface means a quick measurement of any type can be made as all supplies are controlled simultaneously.

The hardware is designed in such a way that it can be reconfigured with new processing algorithms and given its interconnected nature various SMART operations can be carried out. The hardware can be used as a basic PSU, current sense and IO card, or it can be configured to control amplifier bias, measure transistors IV curves, measure leakage currents into integrated circuits and the detection of potential static damage.

The hardware can collect data from many different sources and the interface protocol allows this to be transferred simultaneously. However complex this may sound the units basic functions are simple and straight forward to use. The unit features an audible alarm that can be configured to alert to over current, specific input voltages or digital events. If you simply need some power the unit can be just this.



Free yourself from the clutter of many Supplies / Meters



Measure Diode & Transistor IV Curves from nA to Amps on all pins simultaneously.  
Ultra-Fast Sweep – 10,000/Samples/Sec

## Headline Specifications

- **DC Outputs:** -16V to +16V, 3 Amps – 4 Outputs. Low Noise. RF Filtered  
-8V to + 8V, 300mA – 16 Outputs. Low Noise. RF Filtered  
Programmable current limit per pin (constant or trip mode)
- **DC Step Size:** 50uV step size on voltage outputs
- **DC Accuracy:** ultra-accurate XFET Reference, max 3ppm/C, +/- 0.05%
- **Current Measure:** 50pA to 3 Amps with pA scale accuracy and unprecedented dynamic range (> 1 billion). Positive and Negative Current.
- **Speed:** Simultaneous measurement of all currents and analog input up to 10,000 samples/second using 20 parallel CPU cores.
- **Analog Inputs:** +30 to -30V range with 24bit resolution (4uA).
- **Digital Ports:** 20 reconfigurable pins as I/O, I2C, RS232, SPI etc.  
Power rail configurable between 2.0V and 5.5V.  
4MHz digital IO speed per pin.
- **Control Interface:** USB, Bluetooth or WIFI – Supports stackable cards
- **Power:** +24V, 0.4 to 5A. Total card power output capability: 120W
- **Weight:** 300g
- **Size:** 190mm x 100mm x 15mm

## SERVICES AVAILABLE

- Technical Support
- Installation and Setup
- Maintenance
- Application Support
- Hardware Support
- New Features on Request
- Calibration
- Guaranteed Warranty

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