

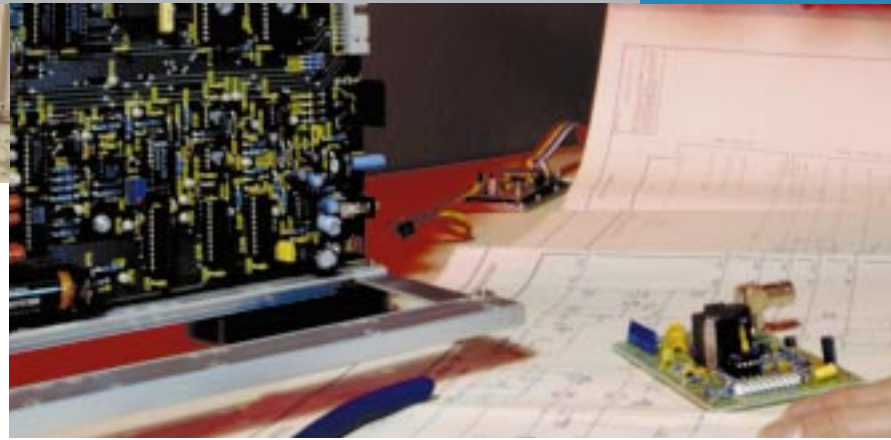
The KeyTek MiniZap® test system is a self-contained ESD simulator that enables users to perform direct, indirect & diagnostic ESD testing via interchangeable plug-in tips.

ESD is the most common cause of failure in computer-based equipment, and susceptibilities often occur during installation and networking. The diagnosis and remedy for ESD failures typically require test procedures developed in R&D, but implemented by QC, manufacturing, and field service.

Practical and reliable, the KeyTek MiniZap ESD simulator and options are designed specifically for demanding applications such as these. It generates ESD simulation pulses that are real world, repeatable and correlatable – mandatory performance criteria for a company-wide ESD test program.

KeyTek MiniZap®

ESD simulators for direct, indirect & diagnostic ESD testing



A high performance, ruggedly reliable test unit ideal for manufacturing, field service or the lab
A totally integrated single light-weight unit, the KeyTek MiniZap is a hand-held tester featuring a breakthrough mechanical design that's gained worldwide acceptance for ease of use, and its ability to withstand long-term operation in rugged environments. By simply interchanging plug-in tips, you can test to fast risetime standards, and do 'reality checks' that indicate product performance in intended environments.

discharge. The KeyTek MiniZap does not use a voltage multiplier, and is perhaps the only ESD simulator on the market that won't introduce testing errors and uncertainties due to streams of artificial, high-level ESD multiples. With its constant-voltage ESD simulator design feeding back and monitoring right from the tip, you know the EXACT voltage you've tested at every time. The correct tip voltage is maintained right up to the instant of discharge; only then is it dropped to prevent simulator-induced multiples.

ESD testing without errors caused by simulator-generated multiple ESDs

Multiple ESD events can be generated by a human discharge, and also by other ESD simulators that introduce additional artificial and far more energetic multiple discharges. This results from the voltage multiplier or "cascade" usually used to furnish high voltage for charging the simulator capacitor. That voltage multiplier can function as a charge supply for the simulator capacitor long after the first discharge has occurred. It can therefore be responsible for generation of tens or even hundreds of multiples, often originating at nearly the same high charge voltage as the first

System Description

Contact-mode simulation, ± 0.5 to ± 8 kV, and air discharge simulation ± 0.5 to ± 15 kV; both single shot, or repetitive at 1/s and 20/s. Provides both the air discharge mode via IEC ball tip TPA-2 up to ± 15 kV, and contact mode with special IEC Omni-Tip™ assembly TPC-2A, up to >8 kV. Also includes True-ESD®, fastest air discharge tip, TPA-1. The combination provides full conformance to and beyond IEC 61000-4-2 and ANSI C63.16. Uses digital display with 10V resolutions and includes inter-locked safe, lock-on mode. Uses a 150 pF/330 ohm Discharge Network (other value output modules available). Includes soft case, and rechargeable (internal) battery operation.

Intuitive operation

Portable & self-contained

Meets exact requirements of IEC 61000-4-2

Contact mode & air discharge ESD testing

Generates real world, repeatable & correlatable ESD pulses

E & H Field diagnostics

Vertical & horizontal coupling planes for indirect ESD testing

Built-in safety features

Field-configurable

Rechargeable battery or AC powered



Single Source Total EMC Solutions.

Experience the many benefits of working with recognized experts in the field of EMC (electromagnetic compatibility) testing. Our commitment to the discipline is wide ranging; we actively participate on global standards committees, and have helped define test methodologies to achieve regulatory standards such as CE Mark requirements, as well as company- and market-driven product quality objectives.

Our goal is to support you with lifelong service — from applications support, calibration services and preventative maintenance scheduling to full tactical field support.

Thermo Electron can help you reach the next level of success.

KeyTek MiniZap® Model MZ-15/EC

Feature	Benefit
Voltage Range	±0.5 to >8 kV, Contact Mode; ±0.5 to 15 kV, Air Discharge
Air Discharge	TRUE-ESD® (<0.3 ns nominal risetime up to 4 kV)
Contact Mode	0.7 - 1.0 ns risetime per IEC plus FR/CI™ std <0.3 ns risetime independent of charge voltage; 3.75A/kV ± 10% peak, e.g. 30 A @ 8 kV
RC Networks	150 pF/330 ohm standard (other RC networks available)
Lock On	Standard (with safety interlock)
Rep Rate	Single shot as well as 1/sec and 20/sec repetitive operation
HV Display	Digital LCD display measures actual HV at the tip with 10V resolution, -3% accuracy
Ground Connect Warning	LED indicates ground cable not connected to tester
Power	Operates either from 120 VAC, 50/60 Hz or 4 NiCd batteries with LED charge status indicator. (220/240 VAC, 50/60 Hz and European plugs optional)
Size	10" x 2.5" x 3.2" (25.4cm x 8.9cm x 8.1cm)
Weight	29 oz (822 gm) nominal, plus case and accessories
CALIBRATORS	
DCA-2	Output Calibration Attenuator: network to allow oscilloscope or meter monitoring of DC stored on the discharge capacitor (10,000:1 ratio)
CTC-3	Coaxial Current Monitor: IEC 61000-4-2, and ANSI C63.16 coax monitor for ESD current waveform, with >1 GHz capability. Includes high-peak-power attenuator and scope cable
FCS-1	Field and Corona Sensor Group: including Common Monitor Unit HEC-1, H-Field sensor HFS-1, E-field sensor EFS-1 and Pre-Discharge corona sensor CCS-1
ACCESSORIES	
TPC-1	True-ESD® fastest-risetime contact-mode tip
TPF-1	Self-discharge tip
50-MZ	Standoff spacer for air-discharge mode
VCP-1	Vertical Coupling Plane (VCP); 0.5m x 0.5m (19.7" x 19.7") plane, in accordance with IEC 61000-4-2 and ANSI C63.16 ESD test standards. Includes bench-mount stand with mounting provisions for the MiniZap, and handles
MZT-11	E-Field (static and dynamic electric field) Simulator Tip Assembly
MZT-12	H-Field (magnetic field) Simulator Tip Assembly
MCA-1	Hard Carrying Case (does not include space for VCP-1, HCP-1, BTS-1, TP-3)
TP-3	Full Target Plane for mounting the CTC-3 coaxial target; 1.5m x 1.5m (59" x 59") IEC-801-2 or 61000-4-2, and ANSI C63.16
HCP-1	Horizontal Coupling Plane (HCP); 0.8m x 1.6m (31.5" x 63") for use on non-conducting tabletop under a small EUT, as per IEC 61000-4-2, and ANSI C63.16. Includes one roll of <0.5mm thick, static-dissipative sheet insulator

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