Electrostatic Discharge Simulator

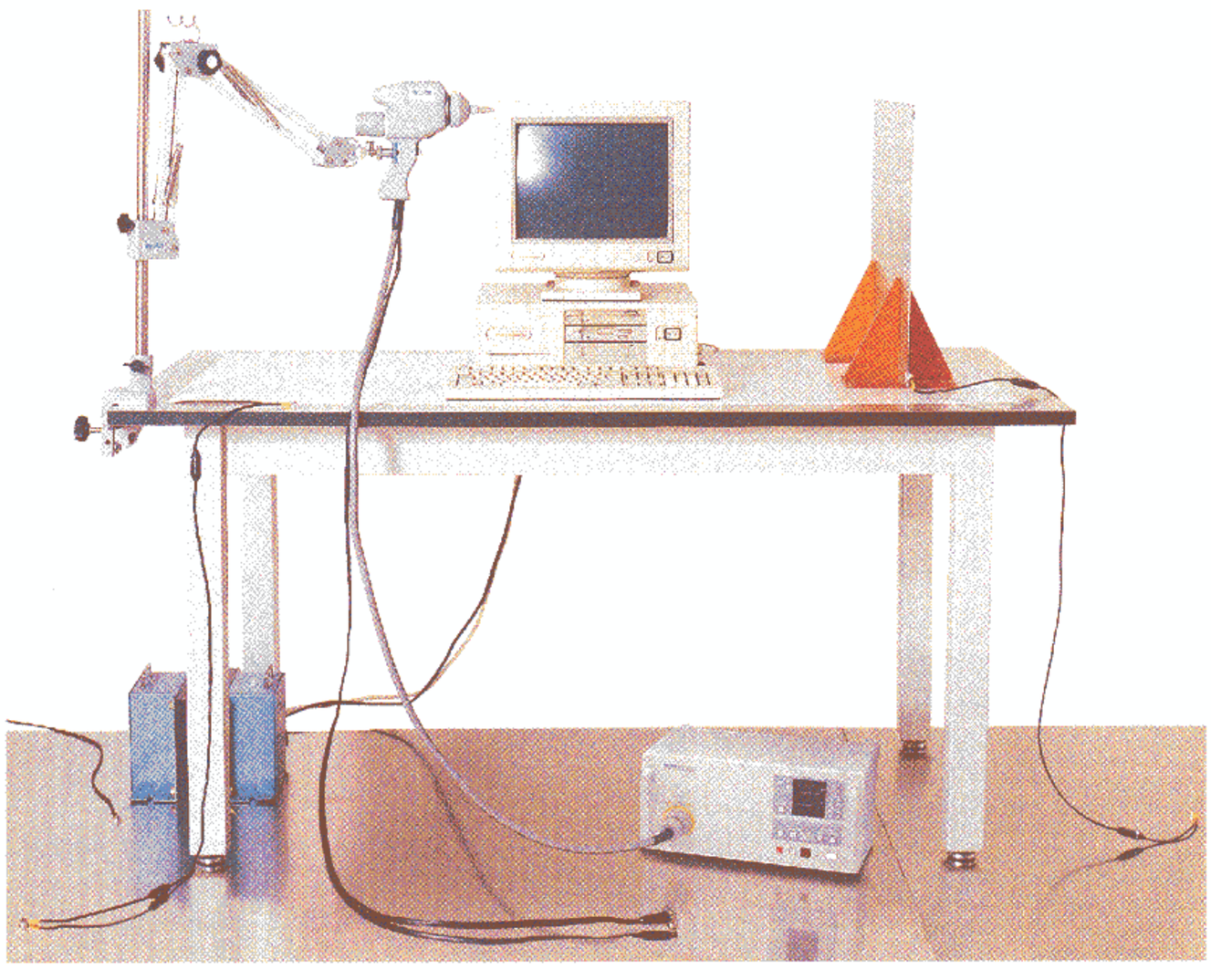
NoiseKen®

ESD Test Environment

Conforming to IEC61000-4-2

ESS-801/801GL

A complete package to easily build up the ESD test (laboratory test) set-up called for in the IEC standard.



Test set-up example with ESS-801

ESS-801GL
(Vertical coupling plane & Cable with resistors)

■ CONSTITUTION OF ESS-801 (TABLE TYPE)

Description	Model	Dimensions	Quantity
Testing table	03-00039A	(W)1600 x (H)800 x (D)800 mm	1
Vertical coupling plane	03-00005A	(W)500 x (H)500 x (t)1.5 mm	1
Ground plane	03-00007A	(W)1800 x (H)1000 x (t)1.5 mm	3
Insulating sheet	03-00004A	(W)1450 x (H)650 x (t)0.5 mm	1
Cable with discharge resistors	03-00054A	470kΩx 2	2
Horizontal coupling plane	03-00020A	(W)1600 x (H)800 x (t)1.5 mm	1

■ CONSTITUTION OF ESS-801GL (FLOOR TYPE)

Description	Model	Dimensions	Quantity
Insulation pallet	03-00024A	(W)1200 x (H)1200 x (t)100 mm	1
Vertical coupling plane base	03-00034A	(W)540 x (H)1540 x (D)500 mm	1
Ground plane	03-00007A	(W)1800 x (H)1000 x (t)1.5 mm	3
Cable with discharge resistors	03-00054A	470kΩx 2	1

TEST SET-UP

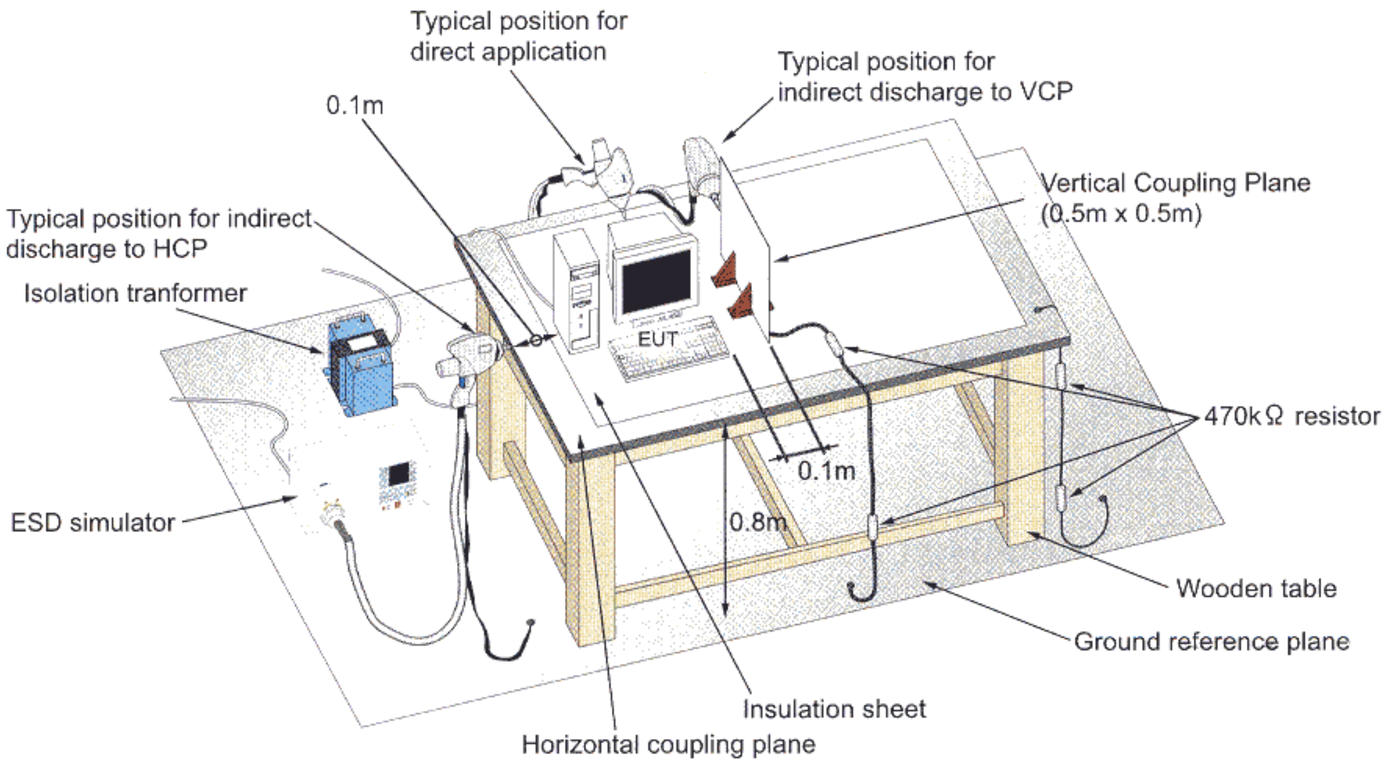
- **Ground reference plane:** A copper or aluminum sheet of 0.25 mm minimum thickness: other materials may be used but they shall have at least 0.65 mm minimum thickness. The minimum size is 1 m^2. The exact size depends on the EUT. It shall project beyond the EUT or coupling plane by at least 0.5 m on all sides. It shall be connected to the protective earth.

- **Coupling planes:** These planes shall be constructed from the same material and thickness as that of the ground reference plane and shall be connected to the ground reference plane via a cable with a 470kΩ resistor located at each end.

- **Test set-up for test performed in laboratories:**
A ground reference plane shall be provided on the floor of the laboratory.
The EUT shall be connected to the grounding system and arranged and connected according to its installation specifications. A distance of 1 m minimum shall be provided between the EUT and any metallic structure.
The discharge return cable of the test generator shall be connected to the ground reference plane, and this connection shall be of low impedance.
In cases where the length of the cable exceeds the length necessary to apply the discharges to the selected points, the excess length shall be placed non-inductively off the ground reference plane and shall not come closer than 0.2 m to other conductive parts in the test set-up.

TEST SET-UP EXAMPLE

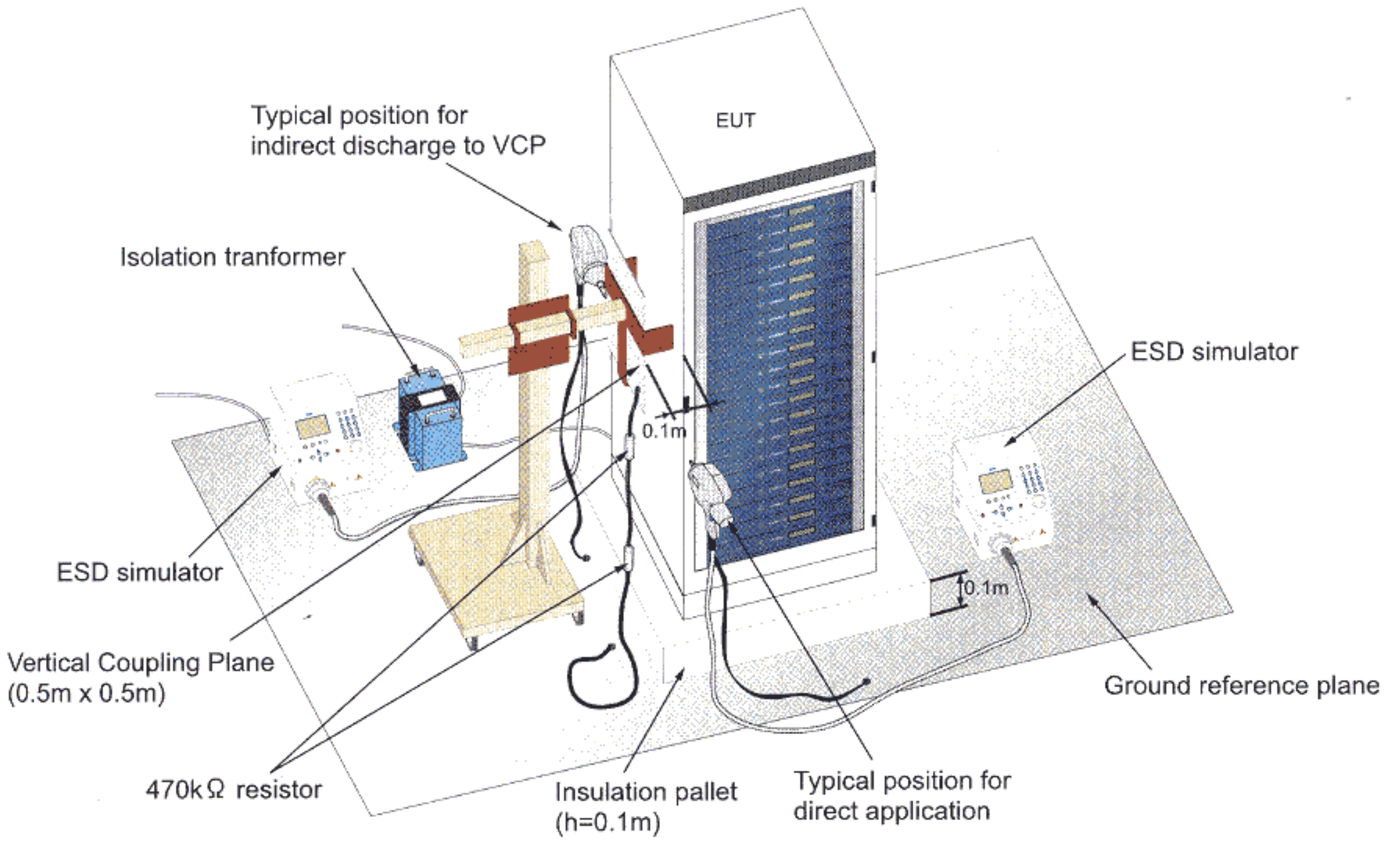
Table top equipment



Test set-up for table-top equipment, laboratory tests

A wooden table of 0.8m height shall be set on the ground plane. 1.6m x 0.8 m horizontal and 0.5m x 0.5 m vertical coupling planes shall be put on the table. An insulating support of 0.5 mm thickness shall be inserted between the EUT/cables and the horizontal coupling plane.

Floor-standing equipment



An insulation support of 0.1m thickness shall be used. 0.5m x 0.5m vertical coupling plane shall be used for indirect application of discharges.