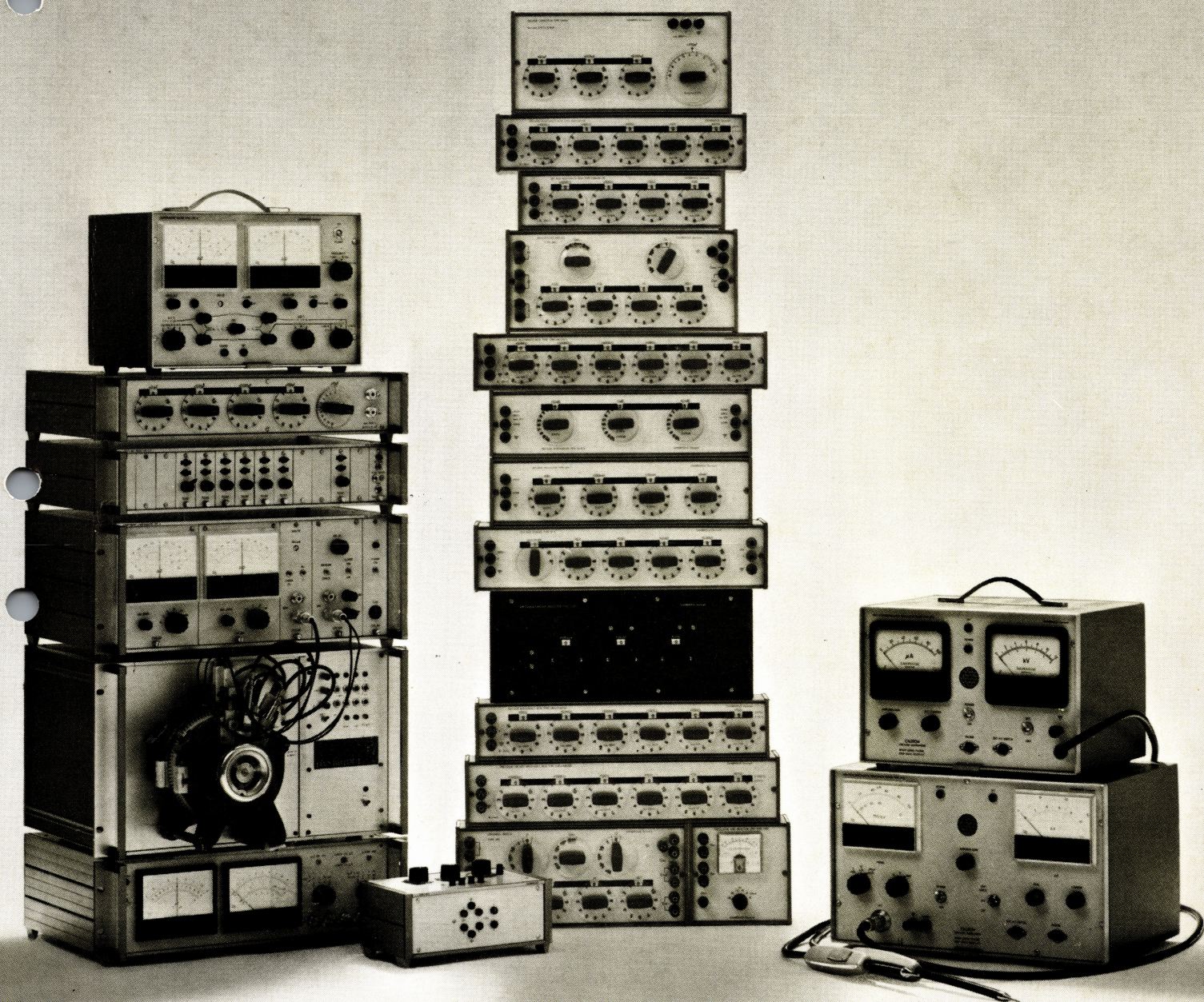


testing

danbridge/denmark



Component Testing and Sorting Equipment

An ever increasing range of instruments for testing R-C-L components and networks is available from A/S Danbridge.

The instruments available at present are:

- DC — Resistance Bridge Type MB 3
- 1 MHz Capacitance Deviation Bridge Type CDB1
- R-C-L Deviation Bridges Types CPT2 and CPC4
- Test Limit Selector Type TLS1
- Decade Resistors and Capacitors
- Sorting Machine for taped and discrete axial-lead components

CPT2 Component Tester & CPC4 Component Comparator

are deviation bridges measuring impedance difference in % and loss angle difference in radians ($\tan\delta$). Test frequencies are 100 Hz (CPT2 only), 1, 10, and 100 kHz.

Both instruments can be used for R-C-L components and networks—CPT2 being the more universal while the CPC4 is mainly designed for testing production quantities. Sorting rates of 6,000 to 8,000/h are obtainable.

DK5SV Decade Capacitor

is an excellent standard for CPC4 and CPT2. The range is 30 pF to 1.1113 μ F in 4 decades plus an air capacitor. Hermetically sealed polystyrene capacitors are used from 1 nF and up. The 10 \times 100 pF decade uses zero TC ceramic capacitors. Accuracy is 0.5 %.

TLS1 Test Limit Selector

converts one or two analog input signals (from CPT2, CPC4 or CDB1) into decision signals according to selected limits. Enables high-speed multichannel sorting of components either manually or by means of mechanical handling equipment, for the control of which outputs are available.

The Handler for Axial-Lead Components

is basically designed for GO/NO GO checking of taped and discrete axial-lead components at speeds up to 14,000/h. Models for multichannel sorting of discrete components are available as well. Kelvin contacts are provided.

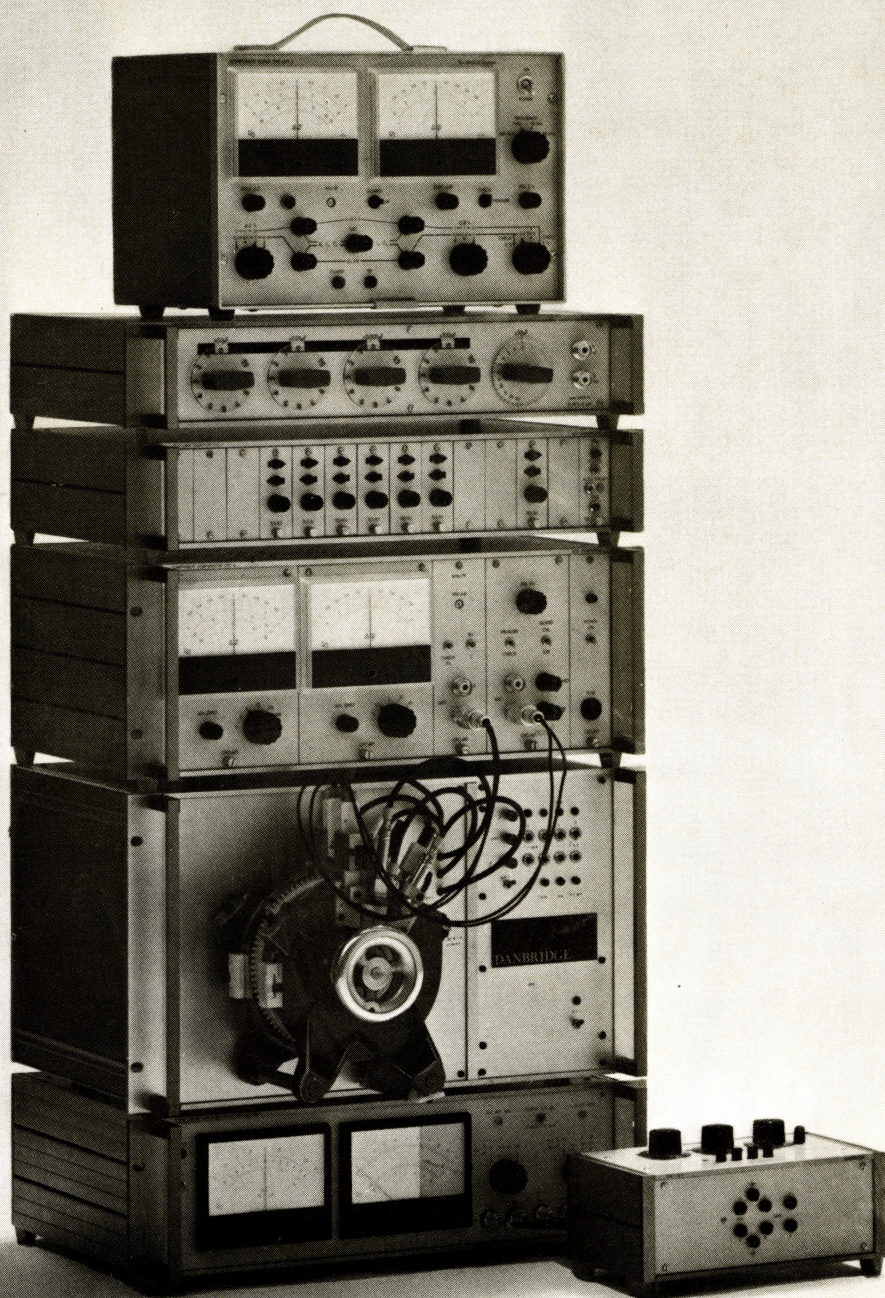
CDB1 1 MHz Capacitance Deviation Bridge

is one of the most outstanding instruments of its kind available on the world market to-day. Capacitance testing at 1 MHz with a resolution of 0.01 pF (or 0.001 %) and DF ($\tan\delta$) measurement down to 10^{-4} are figures needing no explanation. The instrument is easy to use, needs no balancing, and offers equal performance in the standards lab and in production applications.

MB3 DC-Resistance Bridge

is the latest instrument in this line (not shown). Resistance range is 1 Ω - 210 M Ω with a measuring accuracy (incl. drift) of ± 0.1 % up to 10 M Ω - ± 1 % above 10 M Ω .

Resolution is 0.01 %. Apart from manual measurements of resistors the instrument is suitable for controlling sorting machines, resistor trimming machines, etc. Space is available for plugging-in control modules whereby the basic bridge is easily adapted to a wide variety of mechanical equipment.



R-C-L Decades & Bridges

More than 25 different models available

Decade Capacitors Type DK

High quality polystyrene and polycarbonate capacitors are used ensuring high stability and low losses. Instruments are available with C-values up to $10 \mu\text{F}$ and accuracies of 0.5 % or 2.5 %.

Decade Resistors Types PDR, DR, and CDR

Carefully aged and stabilized wirewound resistors manufactured by Danbridge are used for values up to $10 \text{ k}\Omega$, while for the $100 \text{ k}\Omega$ and $1 \text{ M}\Omega$ decades high stability metal film resistors are employed.

PDR: Range $11 \times 0.1 \Omega$ to $11 \times 10 \text{ k}\Omega$.
Accuracy 0.03 %
5 or 6 decades.

DR: Range $10 \times 0.1 \Omega$ to $10 \times 1 \text{ M}\Omega$.
Accuracy 0.1 %
4, 5, or 6 decades.

CDR: Range $10 \times 1 \Omega$ to $10 \times 10 \text{ k}\Omega$.
Accuracy 1 %
4 or 6 decades.

Decade Attenuators Type DA

Balanced H and unbalanced T networks with 600Ω impedance. Accurate attenuations up to 110 dB in steps of 0.1 dB at frequencies up to 300 kHz.

Voltage Divider Type SP5

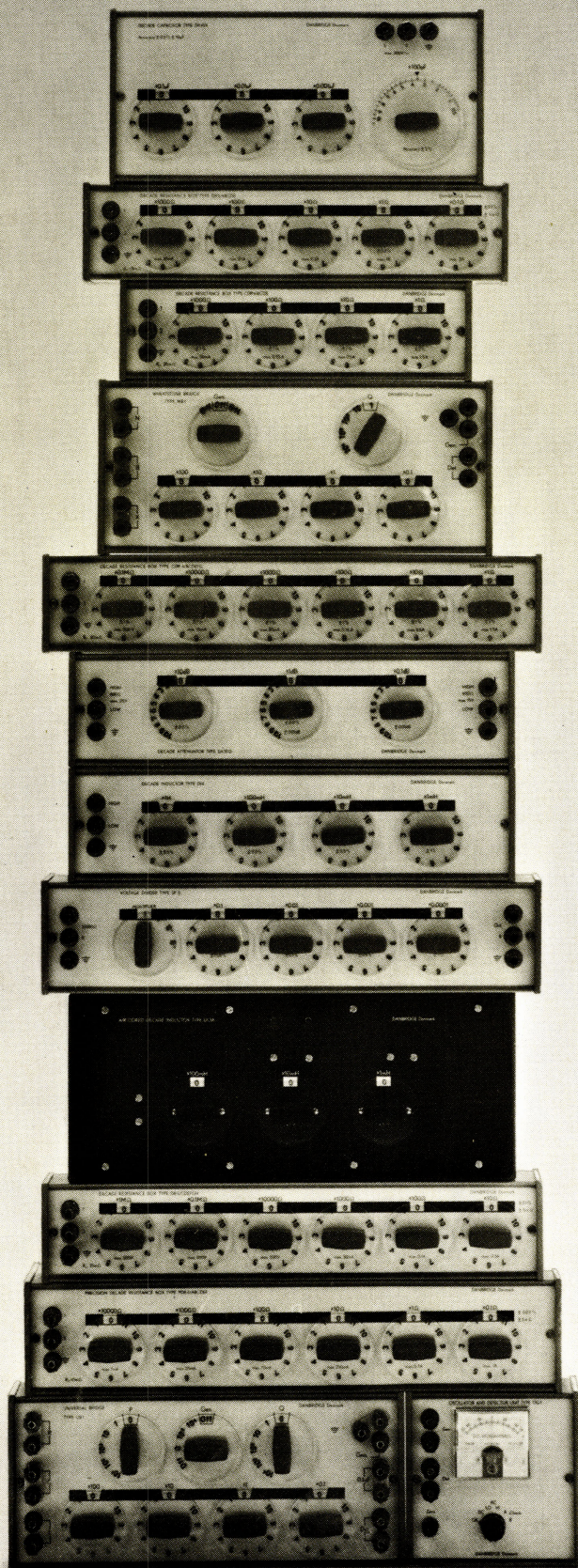
Any voltage up to 100 V can be divided in steps of 10^{-7} — e.g. with an input voltage of 10 V any output can be chosen between 1 μV and 10 V. Accuracy 0.02 % for ratios above 10^{-3} .

Decade Inductors Types DI4 and DI3A

Two models are available. Type DI4 with ferrite cores having Q-values up to 400 and Type DI3A which employs coils wound on wooden formers mounted in a teak-wood cabinet. Q-values for DI3A are max 40-50.

Bridges Types UB1 and WB1

These two bridges are mainly used for training purpose in educational establishments for DC and AC measurements of R, L, C, Q, etc. Oscillator and Detector Unit Type OG1 incorporates a bridge power supply and a zero detector for both DC and AC measurements with above bridges.

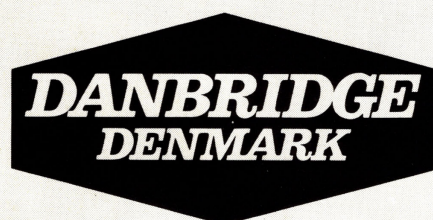


Non-destructive High Voltage Insulation Testers

The abovementioned types of instruments are also known as 'ionisation testers'. From Danbridge two models, types JP12 and JP30, are available and they are about the only instruments of their kind in series production to-day.

The present leaflet serves as an introduction only to the range of test equipment and instruments manufactured by A/S Danbridge of Copenhagen, Denmark. Since 1949 A/S Danbridge has manufactured various electronic instruments and the range available to-day finds users in more than 40 countries in most of which you will find a Danbridge agent.

Contact your local Danbridge agent in order to obtain detailed data on any instrument described in this leaflet. Otherwise please contact A/S Danbridge at the address below.



a-s danbridge

47 Brigadevej
DK-2300 Copenhagen S, Denmark

Telephones:

(01-27) Asta 1575

(01-77) Sundby 4106

Telex:

19775 danbri dk

Cable:

Danbridge, Copenhagen

A valuable feature of both instruments is the audible indication of ionisation in the object under test. As ionisation commences at a voltage lower than the breakdown voltage it is possible to determine the insulation strength without causing breakdown and thereby destruction of the insulation material.

Type JP12:

Test voltage 0-6 and 0-12 kV DC.

Max. current 1 mA at short circuit.

Current meter 100 μ A f.s.

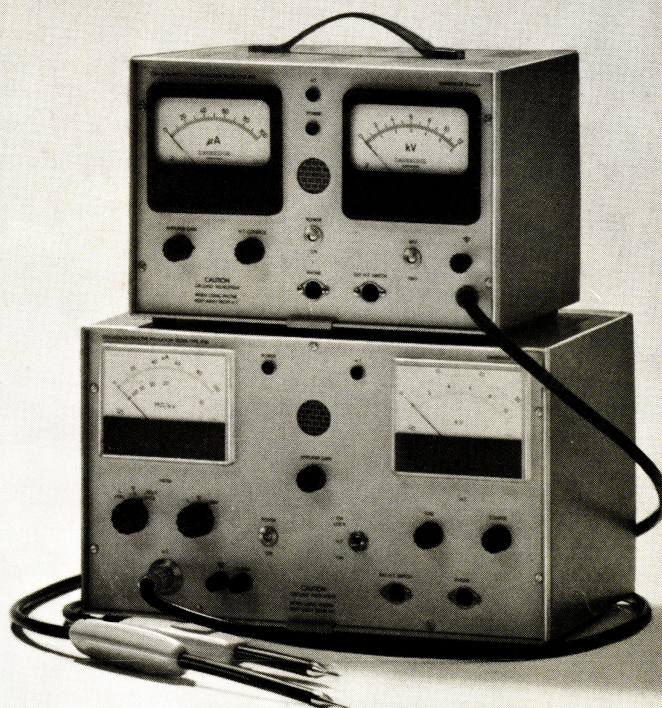
Type JP30:

Test voltage 0-30 kV DC.

Max. current 200 μ A — at short circuit 10 μ A.

Voltmeter 0-3, 0-10, and 0-30 kV f.s.

Current meter 1, 10, and 100 μ A f.s.



AGENT: