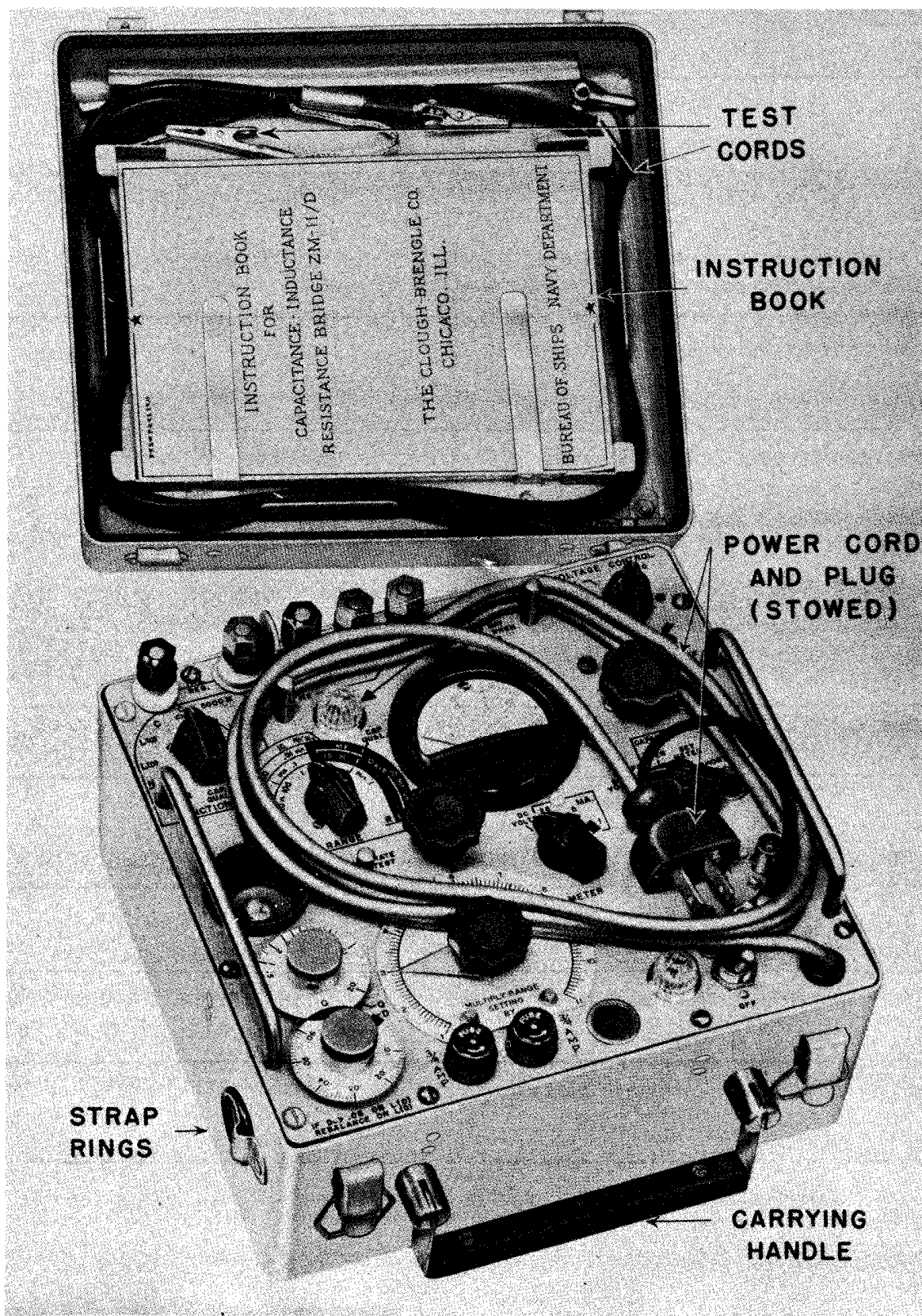


CAPACITANCE-INDUCTANCE-RESISTANCE BRIDGE

ZM-11/U



Capacitance-Inductance-Resistance Bridge ZM-11/D

April 1958

Test-Impedance and Standing Wave Ratio

ZM-11/U**CAPACITANCE-INDUCTANCE-RESISTANCE
BRIDGE****FUNCTIONAL DESCRIPTION**

The ZM-11/U is a portable instrument designed to examine such electronic parts as resistors, capacitors, coils, chokes, and transformers for condition and suitability for installation. It is self-contained except for a source of line power and embodies its own source of 1000 cycle bridge current together with a sensitive bridge balance indicator; and adjustable source of direct current for electrolytic capacitor and insulation resistance testing; and a meter with suitable ranges for leakage current tests on electrolytic capacitors.

No field changes in effect at time of preparation (18 April 1958).

RELATION TO OTHER EQUIPMENT

The ZM-11/U supersedes Capacitance and Resistance Bridge NT-60007. The ZM-11/U has a greater range, includes inductance measurement, and is more compact in design.

ELECTRICAL AND MECHANICAL CHARACTERISTICS**RANGE DATA**

CAPACITANCE: 10 uuf to 10 uf, 1 uf to 100 uf, 10 uf to 1100 uf.

INDUCTANCE: 0.1 mh to 1 hy, 1 to 10 hy, 10 to 110 hy.

RESISTANCE: 1 ohm to 11 meg.

INSULATION RESISTANCE(DC): 200 to 500 meg, 5000 to 10000 meg.

TRANSFORMER TURN RATIO: 0.01 to 110.

CAPACITOR LEAKAGE CURRENT(DC): 0 to 1, 5, 25 ma.

D DISSIPATION FACTOR: 0 to 0.06 (10 uuf to 0.1 uf), 0 to 0.6 (0.1 uf to 1100 uf).

Q STORAGE FACTOR: 0.5 to 20.

ELECTROLYTIC CAPACITOR VOLTAGE(DC): 0 to 500 v.

ACCURACIES (NORMAL CONDITIONS)**CAPACITANCE**

10 UUF TO 10 UF: 2% +1 scale div.

1 UF TO 100 UF: 3% +1 scale div.

10 UF TO 1100 UF: 5% +1 scale div.

INDUCTANCE

0.1 MH TO 1 HY: 2% +1 scale div.

1 HY TO 10 HY: 5% +1 scale div.

10 HY TO 110 HY: 10% +1 scale div.

RESISTANCE: 2% +1 scale div.

INSULATION RESISTANCE (DC)

200 TO 500 MEG: 3% +100 meg.

5000 TO 10000 MEG: 3% +200 meg.

TRANSFORMER TURN RATIO: 2% +1 scale div.

CAPACITOR LEAKAGE CURRENT (DC): 3% of full scale.

D DISSIPATION FACTOR: 20% +0.02 in. D.

Q STORAGE FACTOR: 20%.

ELECTROLYTIC CAPACITOR VOLTAGE (DC): 5% of full scale.

POWER REQUIREMENTS: 105 to 125 v, 50 to 1000 cps, 29 W.

MANUFACTURER'S OR CONTRACTOR'S DATA

The Clough-Brengle Company, Chicago, Ill.
Contract NObsr-43157, dated 9 December 1948.

Contract NObsr-49270, dated 26 June 1950.

Contract NObsr-52462, dated 26 May 1951.

Contract NObsr-59239, dated 25 November 1951.

Contract NObsr-63220, dated 20 February 1953.

Approximate Cost: \$230.00 with equipment spares.

TUBE AND/OR CRYSTAL COMPLEMENT

(1) 5726/6AL5W

(1) 6AG5

(2) 6AV6

(1) 6E5

(1) 6J6WA

(1) 6X4WA

(1) 6005/6AQ5W

Total Tubes: (8)

No Crystals used.

REFERENCE DATA AND LITERATURE

NAVSHIPS 91704: Technical Manual for Bridge Capacitance-Inductance-Resistance ZM-11/U.

TYPE CLASSIFICATION

DESIGN COGNIZANCE BUSHIPS

PROCUREMENT COGNIZANCE MIL-B-15421A(SHIPS)

STOCK NO.

R.D. NO. 6.1.4.5

April 1958

Test-Impedance and Standing Wave Ratio

CAPACITANCE-INDUCTANCE-RESISTANCE BRIDGE

ZM-11/U

EQUIPMENT SUPPLIED DATA

QUANTITY PER EQUIPT	NAME AND NOMENCLATURE	OVERALL DIMENSIONS (inches)	WEIGHT (lbs.)
1	Capacitance-Inductance-Resistance Bridge ZM-11/U including:	5-11/16* X 8-27/32 X 9-5/8	14*
	(1) Cable Assembly	1/2 X 1/2 X 48	
	(1) Test Lead, Red	1/2 X 1/2 X 36	
	(1) Test Lead, Black	1/2 X 1/2 X 36	
2	Technical Manual NAVSHIPS 91704	1/2 X 5-3/4 X 7	
1	Set of Equipment Spares		

NOTE: *-Equipment serial numbers 971 thru 1366 height is 6-3/8 in., weight is 15 lbs.