

D.C. RESISTANCE (OHMS).

SET:

SOURCE SELECTOR SWITCH TO D.C.
BRIDGE SELECTOR SWITCH TO R.
CONNECT UNKNOWN TO "R" TERMINALS AND
SELECT A SUITABLE D.C. RANGE.
DEPRESS GALVANOMETER KEY AND BALANCE
ON P ARM ONLY.

$R = \text{D.C. RESISTANCE IN OHMS.}$

$R = \text{SETTING OF P X D.C. RANGE FACTOR.}$

LOW RESISTANCES

FOR LOW RESISTANCES A PRELIMINARY
TEST SHOULD BE MADE TO DETERMINE THE
RESISTANCE OF THE LEADS CONNECTING THE
TEST RESISTANCE TO THE BRIDGE.

CAPACITY (MICRO - MICROFARADS).

SET

SOURCE SELECTOR SWITCH TO A.C.
BRIDGE SELECTOR SWITCH TO C.
SWITCH M TO +

CONNECT UNKNOWN TO TERMINALS 'C'.

SELECT SUITABLE A.C. RANGE AND OBTAIN
BALANCE ON TELEPHONE BY SUCCESSIVE
ADJUSTMENT OF P AND Q ARMS.

NOTE SETTING Q_0 .

C = CAPACITY IN MICRO - MICROFARADS.

$$C = (Q - Q_0) \times \text{A.C. RANGE FACTOR.}$$

EFFECTIVE SERIES RESISTANCE IN OHMS

$$R_e = K \left(\frac{12377 - Q}{Q} \right) - P$$

VALUES OF K.

A.C. RANGE FACTOR.

A.C. RANGE	FACTOR.
X 1	500
X 10	100
X 100	10
X 1000	5

$$\cos \phi = \boxed{0.0063 \times 10^{-6}} \times R_e \times C.$$

SELF INDUCTANCE (MICROHENRIES)

SET.

SOURCE SELECTOR SWITCH TO A.C.
BRIDGE SELECTOR SWITCH TO L
SWITCH M TO +

CONNECT UNKNOWN TO L TERMINALS.
SELECT A SUITABLE A.C. RANGE AND OBTAIN
BALANCE ON THE TELEPHONE BY SUCCESSIVE
ADJUSTMENT OF P AND Q.

NOTE SETTINGS P AND Q.
SHORT CIRCUIT LEADS TO TEST INDUCTANCE
AND REBALANCE P AND Q ARMS.

NOTE SETTINGS P_0 AND Q_0 .

L = INDUCTANCE IN MICROHENRIES.

$$L = (Q - Q_0) \times \text{A.C. RANGE FACTOR.}$$

WHEN USING THE X 100 AND 10,000 RANGE
FACTORS THE CORRECTIONS GIVEN IN THE
INSTRUCTION FOLDER SHOULD BE APPLIED.

R_e = EFFECTIVE RESISTANCE IN OHMS.

$$R_e = (P - P_0) K$$

K = A.C. RANGE FACTOR - 1

MUTUAL INDUCTANCE MICROHENRIES

SET

SOURCE SELECTOR TO A.C.

BRIDGE SELECTOR TO M.

A.C. RANGE SWITCH TO M.

CONNECT UNKNOWN TO TERMINALS M_1 , M_2 , AND
BALANCE P AND Q ARMS USING TELEPHONE AS
DETECTOR.

$M =$ MUTUAL INDUCTANCE IN MICROHENRIES.

- $M =$ SETTING OF Q.

IMPURITY IN OHMS

= SETTING OF P.

FREQUENCY

SET.

SOURCE SELECTOR TO "OFF."

BRIDGE SELECTOR TO "F."

A. C. RANGE SWITCH TO "F"

SWITCH M TO -

CONNECT TEST SUPPLY TO "F" TERMINALS AND
BALANCE P AND Q ARMS USING TELEPHONE AS
DETECTOR.

READ SETTING OF Q AND FIND CORRES
PONDING VALUE OF FREQUENCY FROM CHARTS.
(SEE INSTRUCTION FOLDER).

NOTES.

WHEN THE BRIDGE IS NOT IN USE THE
SOURCE SELECTOR SWITCH SHOULD BE SET
TO 'OFF'.

ALL TERMINALS NOT ACTUALLY REQUIRED FOR
A TEST MUST BE LEFT OPEN CIRCUITED.

EXAMINE THE DRY BATTERY PERIODICALLY.
TO SEE THAT THE CELLS ARE IN GOOD
CONDITION.