RADIO CORPORATION OF NEW ZEALAND LIMITED

OPERATING INSTRUCTIONS

FOR TYPE VO-12A MULTIMETER (with output meter)
FOR TYPE VO-13 MULTIMETER (voltohm meter only)

GENERAL:

This instrument has been designed to meet the needs of the serviceman who requires a combination multimeter and output meter. The following ranges are incorporated :-

Multimeter.

D.C. and A.C. Volts	0-10-100-500-1000
D.C. - M.A.	0-10-100-500-1000-5000
Ohms	0-1000-10,000-100,000 ohms and 1 megohm.

Output meter.

A.C. Volts	0-3-30-300.
D.C. - M.A.	0-50.

OPERATING INSTRUCTIONS (Multimeter):

To read all D.C. Ranges including ohms.

Set main selector switch to range required, and "D.C. - A.C. - O.P." switch to "D.C." Connect leads to the test terminals. As the resistance ranges are fed from an internal D.C. power supply it will be necessary to plug the 3-pin plug into the 230 volt A.C. supply for resistance measurements. "Zero reset" should be operated in the usual manner.

To read A.C. Volts.

Proceed as above, but set "D.C. - A.C. - O.P." switch to the "A.C." position. Read 10 volts A.C. on the 10 V.A.C.scale. For 100, 500 and 1000 volts A.C. read off the standard D.C. voltage scales.

To read 5 amps. D.C.

Set the multimeter selector switches to read 1000 M.A., and place the 5 amp. shunt across the test terminals, making sure that the terminals are screwed up firmly.

To read A.C.Volts across the primary of an output transformer.

Set D.C.- A.C.- O.P. switch to "O.P." position, and main selector switch to voltage range required. This position has an isolating condenser in series with the test leads.

OUTPUT METER:

To use this instrument as an output meter it should be used in conjunction with the standard output meter harness.

OPERATION:

Plug harness into 5-pin socket provided on the front of the instrument. With left hand selector set to "Plate Current" and right hand selector to "Plate 1", the output plate current is then read on the bottom scale of the output meter. Individual plate current of push-pull output tubes and twin triode output tubes can be measured by switching the plate switch from position "1" to position "2".

Output voltage is read on the top scale of the output meter by switching the left hand selector to the appropriate voltage position.

The 3 volt position is "spring loaded" to safeguard the meter. Read 3 volts A.C. on the middle scale of the meter.

WARNING: Check all settings of switches before making any tests. The movement is protected by a 100 m.a. fuse, but sudden overloads may seriously damage the meter. If blown this fuse should be replaced with the spare fuse, mounted alongside the main fuse on the terminal strip. Fitting any other type of fuse will definitely ruin the meter.

WIRING DETAILS FOR "COUPLING HARNESS", "ADAPTOR", AND "BREAK-IN" CABLES.

Type "A"

Pin No.	Plug 6.	Socket 6.	Plug 5.
Pin No.	1	1	-
"	2	-	2
"	3	3	-
"	4	4	-
"	5	-	3
"	6	6	-
"	-	2	1
"	-	5	4

Type "B"

Pin No.	Plug 6.	Plug 4.
Pin No.	1	1
"	2	2
"	5	3
"	6	4

Type "C"

Pin No.	Plug 6.	Plug 5.
Pin No.	1	1
"	2	2
"	3	3
"	5	4
"	6	5

Type "D"

Pin No.	Plug 6.	Plug 6.
Pin No.	1	1
"	2	2
"	3	3
"	4	4
"	5	5
"	6	6

Type "E".

Pin No.	Plug 4.	Socket 4.	Plug 5.
Pin No.	1	1	-
"	2	-	1
"	3	3	3 & 4
"	4	4	-
"	-	2	2

Type "F"

Pin No.	Plug 5.	Socket 5.	Plug 5.
Pin No.	1	1	-
"	2	-	1
"	3	3	3 & 4
"	4	4	-
"	5	5	-
"	-	2	2

Type "G"

Pin No.	Plug 6.	Socket 6.	Plug 5.
Pin No.	1	1	-
"	2	-	1
"	3	3	3 & 4
"	4	4	-
"	5	5	-
"	6	6	-
"		2	2

Type "H"

Pin No.	Plug Octal	Socket Octal	Plug 5.
Pin No.	1	1	-
"	2	2	-
"	3	-	1
"	4	4	3 & 4
"	5	5	-
"	6	6	-
"	7	7	-
"	8	8	-
"	-	3	2

(Please add to V012 Instructions)