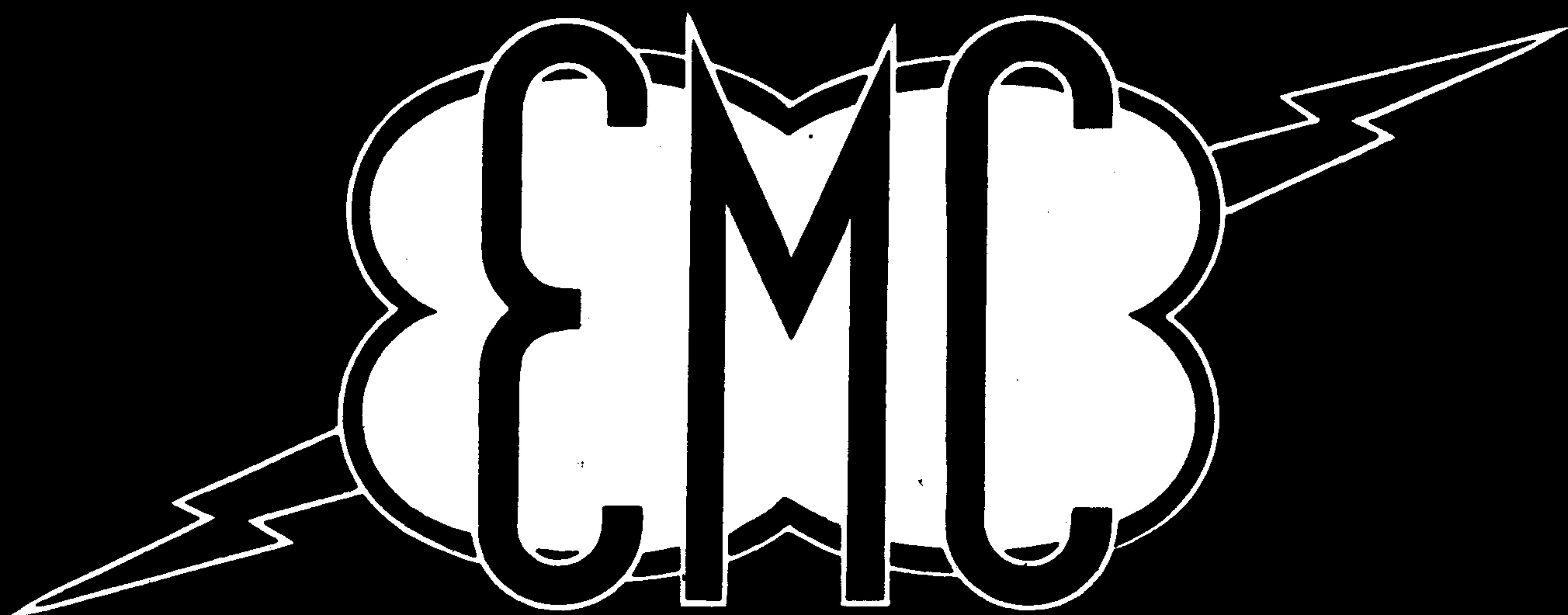


# OPERATING MANUAL

EMC Model 205



**WARNING:** Do not misplace this book. It contains complete instructions necessary for the operation of this instrument. **DO NOT** plug instrument into a DC POWER LINE! Unless otherwise indicated, this instrument is designed for 105-135 volt, 60 cycle, AC power.

**ELECTRONIC MEASUREMENTS**  
CORPORATION

NOTE:

TUBES WITH A FILAMENT OR HEATER VOLTAGE OF 50V. OR HIGHER MUST BE CHECKED FOR SHORTS WITH "FILAMENT SELECTOR" AT POSITION NO. 4. AFTER THE SHORT TEST THE KNOB IS RESET TO ITS PRIOR POSITION AND THE TUBE CHECKED FOR QUALITY.

DO NOT ATTEMPT TO RESET THE SHUNT CONTROL KNOB AT THE INSTRUMENT WAS CALIBRATED WITH THE KNOB PROPERLY SET. ANY ATTEMPT TO RESET THIS KNOB WILL UPSET THE CALIBRATION OF THE INSTRUMENT.

# OPERATING INSTRUCTIONS FOR MODEL 205

## GENERAL

Model 205 is a flexible emission type tube tester. It is normally designed for 105-130 volt AC 60 cycle operation.

The instrument contains a selenium type rectifier and two type NE51 neon bulbs.

The lever switches should normally be kept at the "K" position.

Unless tube chart indicates otherwise, all tubes are checked for quality in the "REG." position.

## TUBE TESTING OPERATION

I. Before inserting a tube into its socket the following procedure should be followed:

1. Set "Filament Selector" to number indicated on tube chart.
2. Set "Hi-Lo" switch to position indicated on tube chart.
3. Press the lever switch in the "F" column of the tube chart to the "F" position. All the other lever switches should be in the "K" position.
4. Set "shunt control" to value indicated on tube chart.

## II. LINE VOLTAGE TEST

1. Insert tube into proper socket
2. Turn "Circuit Selector" to "LV" position
3. Plug line cord into AC outlet.
4. Set "ON-OFF" switch to "ON" position.
5. Set meter pointer to arrow in center of scale with the "LV" control.

## III. SHORT TEST

1. Turn "Circuit Selector" to "SH" position.
2. Press lever switches up, one at a time, to "P" position, and return them to "K" position.
3. The single switch in the "F" position is not touched, but is left in the "F" position.
4. Unless the tube chart indicates otherwise, it is normal for the neon lamp to glow when only one of the lever switches is pressed to "P" position. This simply indicates filament or heater continuity. However, unless the tube chart indicates otherwise, if the neon lamp glows when more than one slide switch is pressed to "P" position, the tube is defective and should be discarded without further test. A momentary flash of the neon bulb should be disregarded.
5. A shorted tube should not be checked for quality since it might overload the meter or transformer.

6. Tubes having a filament or heater voltage of 25 volts or higher sometimes show a steady leakage at the rated heater voltage, although they are satisfactory to use. In such cases reduce the "Filament Selector" setting by 1 position. If the glow still persists at the reduced heater voltage, the tube is actually defective. If it dies down at the lower voltage, disregard the glow; reset the filament switch to the rated value, and continue with the quality test.

#### IV. QUALITY TEST

1. Make sure that the "Shunt Control" is correctly set to the value indicated on the tube chart.
2. Unless the tube chart indicates otherwise, turn "Circuit Selector" to "REG" position. Otherwise set the switch to either "DIO," "BAT TYPE", or "COLD K" positions as indicated in the "notations" column on the tube chart.
3. Press the switch or switches in the "P" column to the "P" position.
4. Read the tube quality on the "Reject-Good" scale.
5. If the tube has more than one section, return all the switches in the "P" position to the "K" position after completing the test on one section. Then reset switches and shunt control for the other section or sections.

#### V. BALLAST TUBES (Refer to ballast tube chart for listings)

1. Turn "ON-OFF" switch to "ON" position.
2. Set "Filament Selector" to "Bal" position.
3. All lever switches except those listed should be in "K" position.
4. Turn "Circuit Selector" to "SH" position.
5. Press lever switches listed, one at a time to "P" position. If the tube is good, neon lamp will glow each time a slide switch is pressed up to "P" position.
6. After pressing a lever switch to "P" position and noting whether or not the neon lamp glows, it should be returned to "K" position before another switch is thrown to "P" position.

#### VI. VOLTAGE REGULATOR TUBES, VR75, VR90, VR105, and VR150.

1. Turn "Shunt Control" to "0" position.
2. Set "HI-LO" switch to "HI" position.
3. Press #2 switch to "P" position.
4. If tube is good it will glow.

#### GUARANTEE

This instrument is guaranteed for 90 days from date of purchase to be free from any defect in workmanship or material. ELECTRONIC MEASUREMENTS CORPORATION will replace any defective part or parts within this period without charge, if tests at our factory show that the defect was not caused by abuse or tampering.

ELECTRONIC MEASUREMENTS CORPORATION reserves the right to make changes in design or add improvements to equipment manufactured by them without incurring any obligation to incorporate such changes or improvements in equipment previously sold by them.

# BALLAST TUBE CHART

TUBE TYPE	SLIDE SWITCHES IN "P" POSITION
1A1	1
1B1	1
1C1	1
1D1	1
1E1	1
1F1	1
1G1	1
1K1	2
1R1	2
1T1G	2
1X1	1
1Y1	1
1Z1	1
2	1
2UR224	3-8
2LR212	1-2-4
3	1
03G	3
4	1
5	1
6	1
7	1
8	1
9	1
10A	3
10AB	3-8
K17B	3-8
M17C	3-8
K23B	3-8
30A	3
K30D	2-3-8
33A	3
K34B	3-8
36A	3
K36B	3-8
KX36A	2
36D	2-3-8
L36DJ	2-3-4-8
K36H	1-2-8
L40S1	1-3-5
42A	3
42A1	4
42A2	1-4
K42B	3-8
KB42D	2-3-8
LX42D	1-2-3
K42E	3-8
KX42C	3-8
L42S1	2-3-5
49A	3
KX49A	3-8
49A1	4
49A2	1-4
K49B	3-8

TUBE TYPE	SLIDE SWITCHES IN "P" POSITION
KZ49B	2-5
K49BJ	3-4-8
L49S2	2-3-5
49AJ	3
KX49B	3-8
L49DJ	2-3-4-8
L49S3	2-3-5
50A2	2-3
50B2	2-5
50X3	2
K52H	1-2-8
K54B	3-8
55A	3
55A1	4
KX55A	2
55B	3-8
55A2	1-4
K55C	2-3
K55D	2-3-8
L55E	3-8
L55S1	2-3-5-8
60R30G	2-3
64.23	3
67A	3
K67B	3-8
L73B	3-8
80A	3
K79B	3-8
K80F	3-8
92A	3
L92B	3-8
L99D	2-3-8
100R8	3-8
120R	2
120RS	3-8
135K1A	3-4-8
140L4	1-2-3
165L4	2-3
165R	2
165L44	1-2-3
185L4	2-3
185R	2
185L44	1-2-3
200R	2
250RS	3-8
300R4	3-8
340	2
808-1	3-4-8
E14980	3-8
3334	2-3-8
8593	3-8
3ER248	2-3-4-8
3CR241	2-3-8

