

# SUPREME

*Testing Instruments*

MODEL

548

MULTI TESTER

## INSTRUCTION MANUAL

SUPREME INSTRUMENTS CORPORATION

GREENWOOD, MISSISSIPPI

U. S. A.



# SUPREME MODEL 548

## ELECTRICAL SPECIFICATIONS

POWER SUPPLY REQUIREMENTS: (Unless otherwise specified on plate attached to instrument.)

Voltage.....100/130 volts A-C  
 Frequency.....50/60 cycles  
 Power Consumption.....10 watts maximum  
 Self-contained battery ..One 1.5 volt battery  
(Burgess 2F-BP)

## MECHANICAL SPECIFICATIONS

OVER-ALL DIMENSIONS:

	PANEL	CASE
Height.....	11-7/16 in.....	11-3/4 in.
Width.....	8 inches.....	8-1/2 in.
Depth.....		4-3/4 in.

WEIGHT:

Net.....12 pounds  
 Shipping.....16 pounds

### STANDARD EQUIPMENT SUPPLIED WITH THE SUPREME MODEL 548

QUANTITY INCLUDED	STOCK NUMBER	DESCRIPTION	PACKER'S CHECK
1	9446	Booklet, Operating Data	
1	6725	Card, Return Registration	

.....  
*The foregoing list has been checked by the undersigned who is responsible for the completion of this package.*

*(Signed).....*  
*Shipping Department*

MODEL 548  
 SERIAL #.....117.....

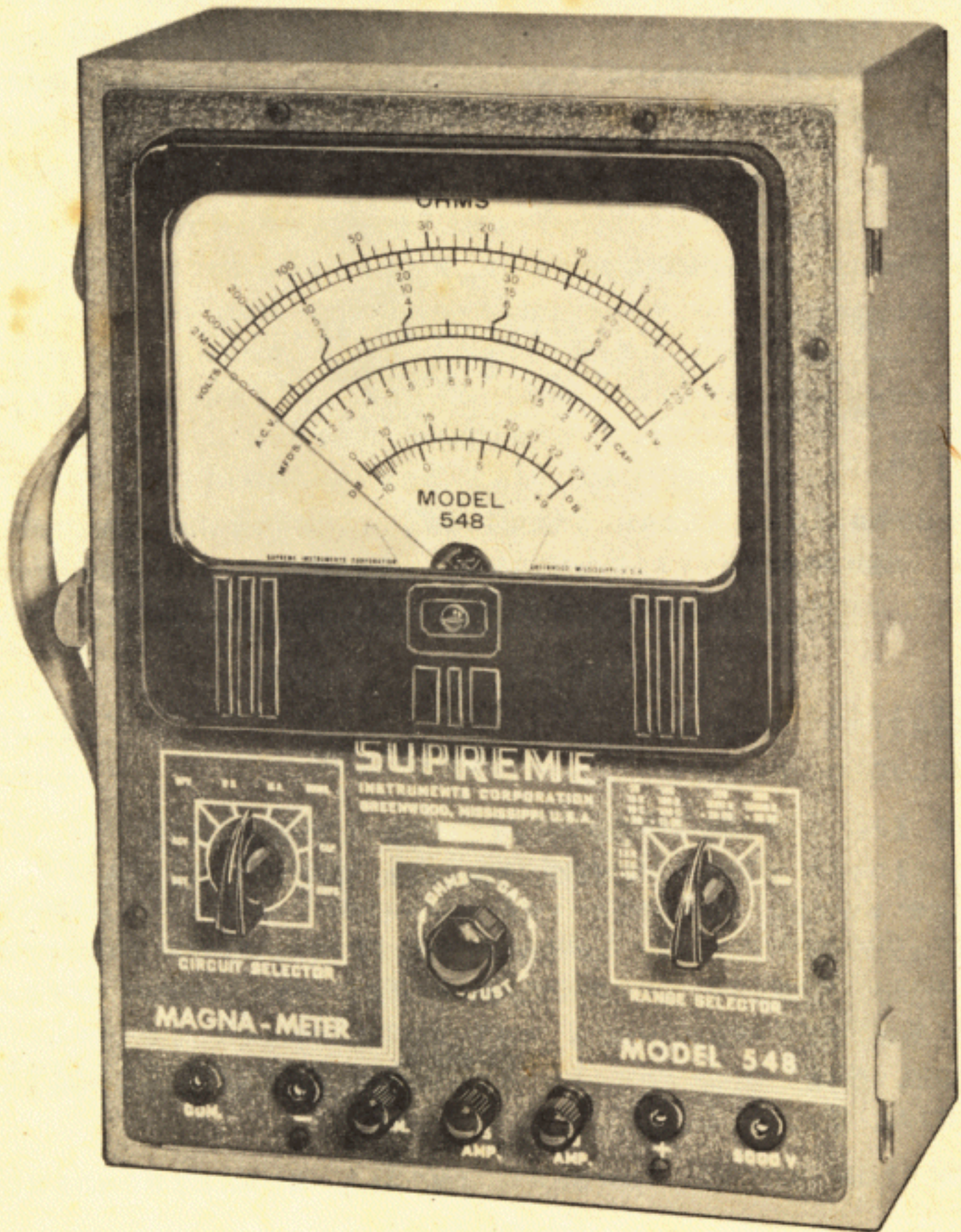
MENTION ABOVE NUMBERS IN ALL CORRESPONDENCE!!

### IMPORTANT

*See enclosed colored page for information concerning Registration, Transportation Damages, Warranty, Replacement Parts, etc.*

The instructions listed on this colored sheet *must* be complied with before the warranty policy is applicable. The Model and Serial numbers should be mentioned in *all* correspondence regarding this instrument.







#9446

## INSTRUCTION MANUAL

FOR

SUPREME MODEL 548

### GENERAL DESCRIPTION

The SUPREME Model 548 is a portable multi-meter equipped with a rugged, easily read, seven inch SUPREME meter and provided with functions for the measurement of Direct Current, D-C Voltage, A-C Voltage, Resistance, Capacitance, Decibels and Output Voltages.

The function and range desired are selected by means of rotary switches. All functions with the exception of 0/10/25 D-C Amperes and 0/2500/5000 A-C and D-C Volts are available at only two pin jacks. The instrument is entirely portable, requiring connection to the A-C line only for Capacitance and 0/2 Megohms/20 Megohms measurement.

### POWER SUPPLY REQUIREMENTS

Unless otherwise specified this instrument is designed to operate from 100 to 130 volts, 50/60 cycles. Power consumption is 10 watts maximum. The tube used is 6X5GT, used as a rectifier for supplying voltage for operation of megohm function. A 1.5 volt battery is supplied for operation of the lower ranges of the Ohmmeter.

This instrument is protected from damage in case of an overload by a 1 ampere fuse. In case your instrument fails to operate remove the instrument from its case and check the 1 ampere fuse located on the terminal strip on the back of the meter. Replace with a fuse of the same type and rating--3AG 1 ampere.

If the second fuse burns out, the instructions



listed under SERVICE AND MAINTENANCE should be followed. *CAUTION! The 90-day Warranty on the instrument is valid only if it is protected by a fuse having the specified rating! Do not substitute one of higher rating!*

## PANEL MARKINGS AND COMPONENTS

### METER:

Seven-inch, 200 microamperes, SUPREME full-vision type. Three linear center scales, 0/10/25/50, basic scales for all voltages (except 0/5 A-C volts) and current measurements. One non-linear scale 0/5 for 5 volt A-C range only. One non-linear scale 1/4 for capacitance measurement only. Upper scale OHMS, 0/2000 ohms. Lower scales, -10/+9 DB and 0/+23 DB for making decibel measurements.

### ROTARY SWITCH: (Circuit Selector)

Below meter and to left of center of panel. Used for selection of particular function desired.

### ROTARY SWITCH: (Range)

Below meter and to right of center of panel. Used for selection of range desired.

### POTENTIOMETER: (OHMS-CAP-ADJ.)

Below meter and in center of panel. Used for adjusting the meter 'Zero Ohms' when setting up instrument to make resistance measurements. Also used in the adjustment of the meter to 'Full Scale' reading when setting up instrument to make capacitance measurements. When rotated to extreme counter-clockwise position switch disconnects A-C power.

### BINDING POSTS:

At lower center edge of panel. Used for the



measurement of 0/10/25 D-C amperes.

PIN JACKS:

At lower edge of panel marked '-' and '+'.  
Used for all readings with exception of  
0/10/25 D-C amperes and 0/2500/5000 A-C  
and D-C voltages.

PIN JACKS: (2500 volts)

At lower left hand corner of panel used in  
conjunction with pin jack marked '-' for  
the measurement of voltage between 1000  
and 2500 volts A-C or D-C.

PIN JACKS: (5000 volts)

Used for the measurement of voltage between  
2500 volts and 5000 volts A-C or D-C.

MODEL NUMBER:

Model 548. Lower right hand corner of panel.

SERIAL NUMBER:

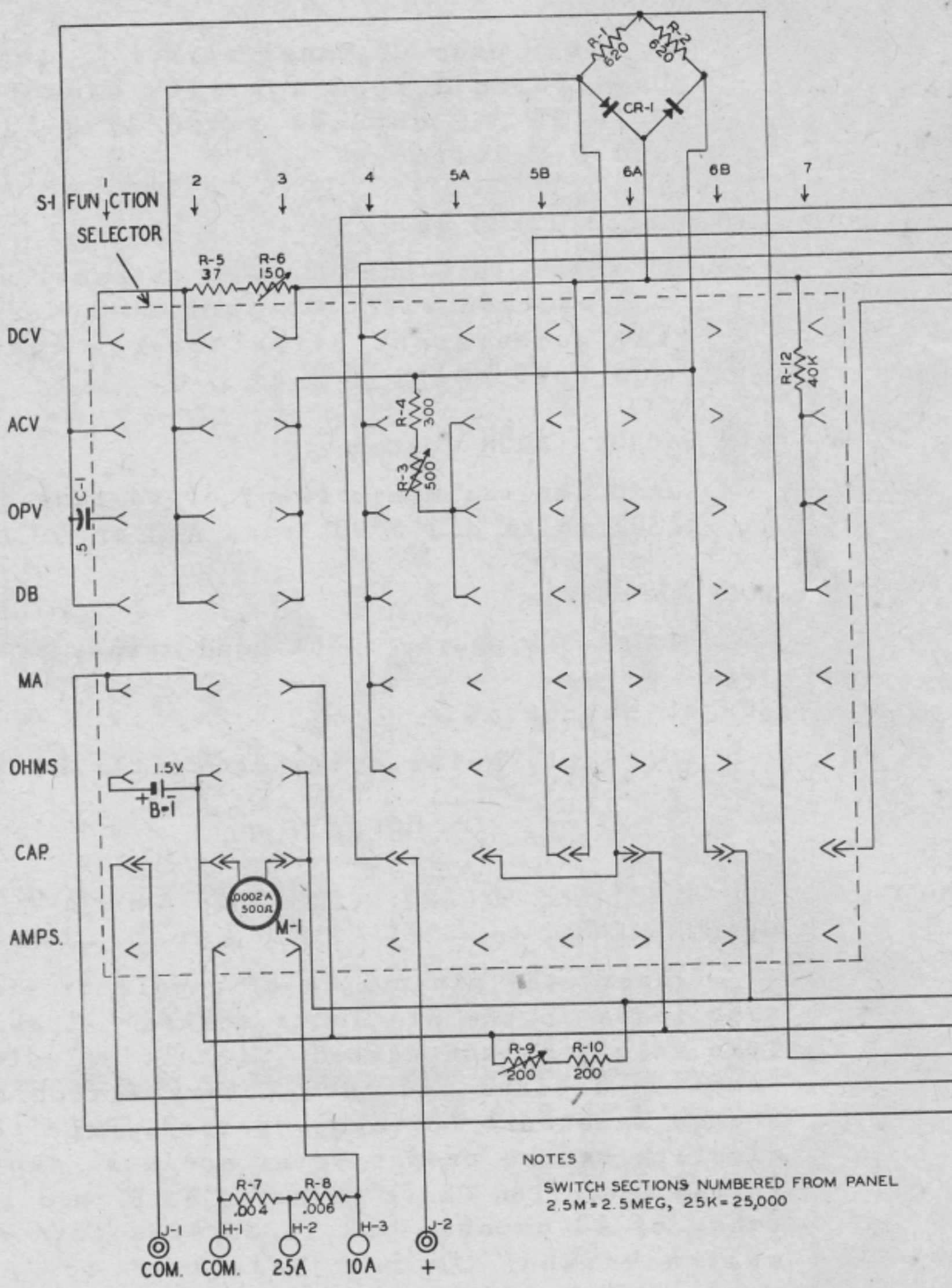
Directly below meter in center of panel.

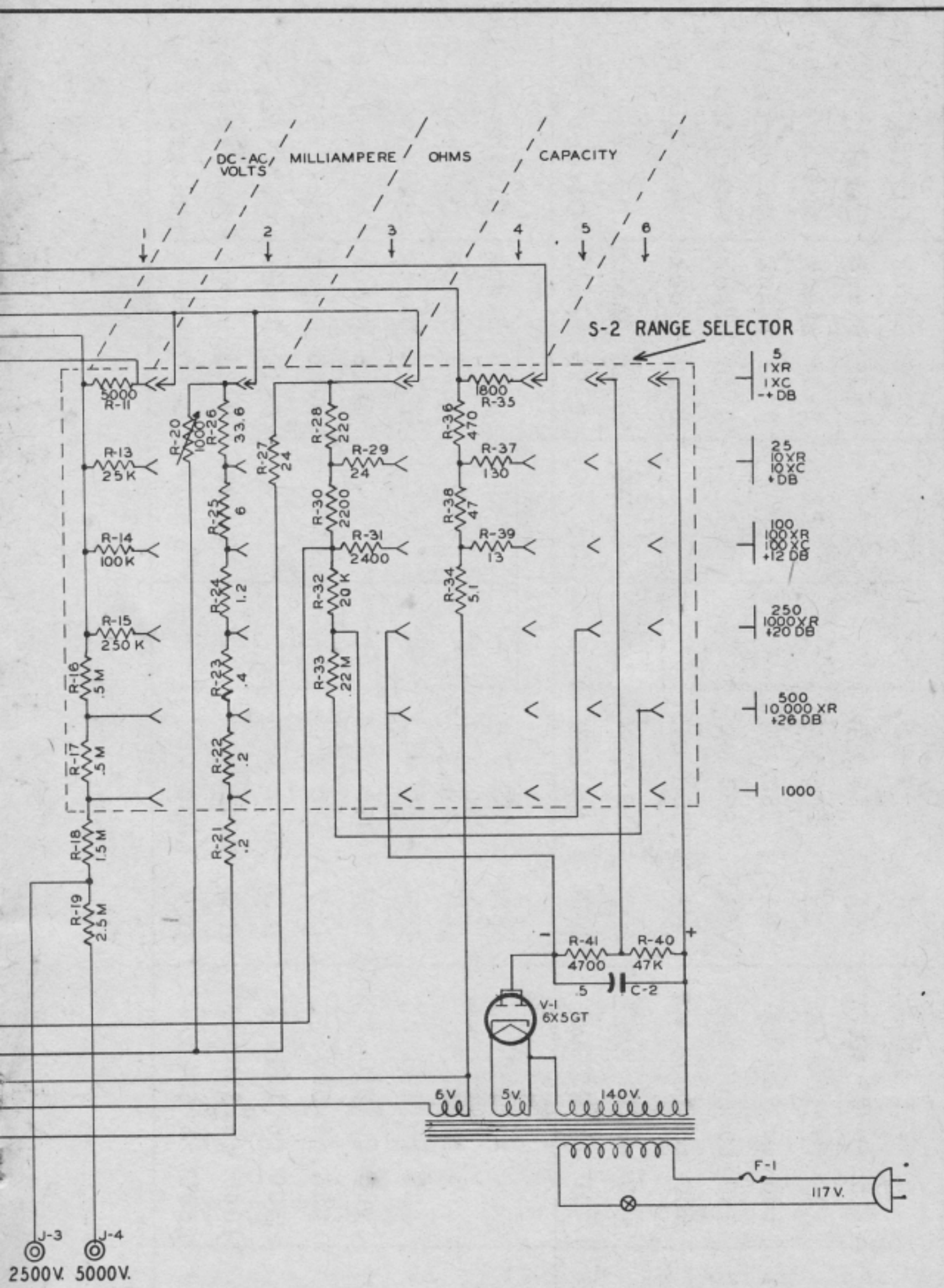
### OPERATION

#### ALL FUNCTIONS EXCEPT RESISTANCE AND CAPACITANCE MEASUREMENTS:

Insert the pin points of a pair of standard test leads in the pin jacks marked '-' and '+'. Turn rotary switch marked 'Circuit Selector' to function desired and turn rotary switch marked 'Range Selector' to range desired. Read the indication on the proper meter scale as explained in the Operation Chart on pages 8, 9, and 10. For range of 10 amperes and 25 amperes turn rotary switch marked 'Circuit Selector' to 'AMPS'. Connect heavy leads to binding post labeled 'Com' for either 'D-C 10 AMPERE' or 'D-C 25 AMPERE' as desired. Refer to chart on pages 8 and 9 for reading.







MATERIAL \_\_\_\_\_ FINISH \_\_\_\_\_  
 UNLESS OTHERWISE SPECIFIED DECIMAL DIMENSIONS TO BE 2 \_\_\_\_\_ OTHER DIMENSIONS TO BE 2 \_\_\_\_\_ SCALE \_\_\_\_\_  
 DRAWN \_\_\_\_\_ TRACED \_\_\_\_\_ DATE 9-15-47  
 CHECKED \_\_\_\_\_ APPROVED \_\_\_\_\_  
 Raymond Stewart

**SUPREME**  
 INSTRUMENTS CORPORATION  
 GREENWOOD, MISS. U.S.A.

SCHEMATIC DIAGRAM  
 MODEL 548

NO. 3086-C



TYPE OF MEASUREMENT	RANGE OF MEASUREMENT	SWITCHES SET		CONNECT LEADS		SCALE USED	INTERPRET READING
		LEFT	RIGHT	PIN JACKS			
DIRECT CURRENT	0 to 5 MA	MA	5 MA	'-'	'+'	0-50 Black	Divide by 10
	5 to 25 MA	MA	25 MA	"	"	0-25 Black	Direct
	25 to 100 MA	MA	100 MA	"	"	0-10 Black	Multiply by 10
	100 to 250 MA	MA	250 MA	"	"	0-25 Black	Multiply by 10
	250 to 500 MA	MA	500 MA	"	"	0-50 Black	Multiply by 10
	500 to 1000 MA	MA	1000 MA	"	"	0-10 Black	Multiply by 100
	0 to 10 AMP	AMP	10 AMP	BINDING POSTS 'Com' '10 AMP'		0-10 Black	Direct
	10 to 25 AMP	AMP	25 AMP	'Com' '25 AMP'		0-25 Black	Direct
D-C VOLTS 1000Ω	0 to 5 V	DCV	5 V	PIN JACKS '-'		0-50 Black	Divide by 10
	5 to 25 V	DCV	25 V	"	'+'	0-25 Black	Direct
	25 to 100 V	DCV	100 V	"	"	0-10 Black	Multiply by 10
	100 to 250 V	DCV	250 V	"	"	0-25 Black	Multiply by 10
	250 to 500 V	DCV	500 V	"	"	0-50 Black	Multiply by 10
	500 to 1000 V	DCV	1000 V	"	"	0-10 Black	Multiply by 100
	1000 to 2500 V	DCV	2500 V	'-'	'2500V'	0-25 Black	Multiply by 100
	2500 to 5000 V	DCV	5000 V	"	'5000V'	0-50 Black	Multiply by 100



TYPE OF MEASUREMENT	RANGE OF MEASUREMENT	SWITCHES SET		CONNECT LEADS		SCALE USED	INTERPRET READING	
		LEFT	RIGHT	PIN JACKS				
				'-'	'+'			
A-C VOLTS 1000Ω	0 to 5 V	ACV	5 V	'-'	'+'	0-5 Red	Direct	
	5 to 25 V	ACV	25 V	"	"	0-25 Black	Direct	
	25 to 100V	ACV	100 V	"	"	0-10 Black	Multiply by 10	
	100 to 250V	ACV	250 V	"	"	0-25 Black	Multiply by 10	
	250 to 500V	ACV	500 V	"	"	0-50 Black	Multiply by 10	
	500 to 1000V	ACV	1000 V	"	"	0-10 Black	Multiply by 100	
	1000 to 2500V	ACV	2500 V	"	"	0-25 Black	Multiply by 100	
	2500 to 5000V	ACV	5000 V	"	"	0-50 Black	Multiply by 100	
	OUTPUT VOLTS 1000Ω	0 to 5 V	OPV	5 V	'-'	'+'	0-5 Red	Direct
		5 to 25 V	OPV	25 V	"	"	0-25 Black	Direct
25 to 100V		OPV	100 V	"	"	0-10 Black	Multiply by 10	
100 to 250V		OPV	250 V	"	"	0-25 Black	Multiply by 10	
250 to 500V		OPV	500 V	"	"	0-50 Black	Multiply by 10	
500 to 1000V		OPV	1000 V	"	"	0-10 Black	Multiply by 100	
1000 to 2500V		OPV	2500 V	"	"	0-25 Black	Multiply by 100	
2500 to 5000V		OPV	5000 V	"	"	0-50 Black	Multiply by 100	



TYPE OF MEASUREMENT	RANGE OF MEASUREMENT	SWITCHES SET		CONNECT LEADS		SCALE USED	INTERPRET READING
		LEFT	RIGHT	PIN JACKS			
DECIBELS	-10 to +9	DB	-10/+9DB	"	"	-10/+9 Black	Direct
	0 to +23	"	0/+23DB	"	"	0/+23 Black	Direct
	0 to +35	"	+12DB	"	"	0/+23 Black	Add 12 DB
	0 to +43	"	+20DB	"	"	0/+23 Black	Add 20 DB
	0 to +49	"	+26DB	"	"	0/+23 Black	Add 26 DB
CAPACITANCE	.1 to 4 mfd	CAP	1 x C	"	"	.1/4 Black	Direct
	1 to 40mfd	CAP	10 C	"	"	.1/4 Black	Multiply by 10
	10 to 400 "	CAP	100 C	"	"	.1/4 Black	Multiply by 100
OHMS	0 to 2000	OHMS	1 x R	"	"	0-2M Black	Direct
	0 to 20M	"	10 R	"	"	0-2M Black	Multiply by 10
	0 to 200M	"	100R	"	"	0-2M Black	Multiply by 100
	0 to 2 MEG	"	1000R	"	"	0-2M Black	Multiply by 1,000
	0 to 20 MEG	"	10000R	"	"	0-2M Black	Multiply by 10,000



## RESISTANCE MEASUREMENTS:

Place pin points of test leads in pin jacks marked '-' and '+'. Turn left hand rotary switch marked 'Circuit Selector' to 'OHMS' position. Set right hand rotary switch marked 'Range Selector' to proper range for resistance to be measured--either 2000, 20 M, 200 M, 2 Meg, or 20 Meg. For the 2 Meg and 20 Meg ranges the instrument must be plugged in power socket. When using the ohms and megohms ranges, short circuit probes and adjust potentiometer marked 'OHMS, CAP, ADJ.' until the meter 'zeros' at full scale. The meter should be readjusted for '0' ohms each time the operator changes the resistance range. When the test leads are touched, a 'tingling' will be noted which is caused by the voltage used to operate the megohm ranges. This will not cause injury and does not indicate a defect in the instrument. After the meter has been adjusted to 'zero', release the shorted test probes and place across the resistor to be measured. Refer to chart on page 10 for reading.

## CAPACITANCE MEASUREMENTS:

Place pin points of test leads in pin jacks '-' and '+'. Turn left hand rotary switch marked 'Circuit Selector' to 'CAP' position. Set right hand rotary switch marked 'Range Selector' to proper range for capacitance to be measured--either  $.1/4$ ,  $1/40$  or  $10/400$  microfarads. Instrument must be plugged in power socket for all ranges of capacitance measurements. When using the microfarad ranges, short circuit probes and adjust potentiometer marked 'OHMS, CAP, ADJ.' until the meter 'zeros' at full scale on ohms scale. The meter should be readjusted for 'Full Scale' each time the operator changes the capacitance range. After the meter has been adjusted to 'Full Scale', release the shorted test probes and place across the capacitor to be measured. Refer to chart on page 10 for reading.



## SERVICE AND MAINTENANCE

If it becomes necessary to replace the battery the instrument should be removed from its case by moving the eight screws around the outside edge of the panel. The battery should then be removed from the battery retaining clamp in the bottom of the case and replaced with a battery of the type listed under ELECTRICAL SPECIFICATIONS.

All functions and ranges of the SUPREME Model 548 were carefully tested and calibrated before shipment from the factory. Under normal operating conditions this instrument should give a long and trouble-free service. However, if for any reason this instrument should fail to operate properly, write the Service Engineer at the factory. Submit complete information regarding the difficulty and full instructions will be forwarded in detail. The Model and Serial numbers, position of controls, inoperative section, and other information should be given in your *first* letter.

## REPLACEMENT PARTS

The parts used in the SUPREME Model 548 were carefully inspected for mechanical and electrical defects at the factory. Any special parts which are not available from regular dealer stocks may be ordered from your nearest SUPREME Service Station by describing the item and giving the Model and Serial numbers of your unit.



# 19 YEARS EXPERIENCE

## MANUFACTURING

- TUBE TESTERS
- MULTIMETERS
- CAPACITOR ANALYZERS
- A. F. SIGNAL GENERATORS
- VACUUM TUBE VOLTMETERS
- A. M. SIGNAL GENERATORS
- F. M. SIGNAL GENERATORS
- SIGNAL TRACERS
- OSCILLOSCOPES



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