

sanwa

501-ZX-TR
MULTITESTER

OPERATION SUGGESTIONS

1 Unknown quantity.

When unknown voltage or current is measured, always start with the highest range. After the first reading, the range switch can be reset to a lower range for a more accurate reading.

2 Selection of a range.

For accurate reading, use the range next higher to the approximate value known. For instance, the voltage of a dry cell should be checked on the DC 2.5V range; on the 10V or 50V range, no better result is obtained. For resistance, reading is most accurate around in the middle of the scale.

3 Protective front cover.

The metacrylic-resin front cover is treated with anti-electrification coating. Do not wipe it hard, or the coating will come off to cause erroneous reading. Volatile solvent should not be used to clean it; use a soft brush to remove dust. Metacrylic resin is softer than glass quite liable to get bruised.

4 Maintenance cares.

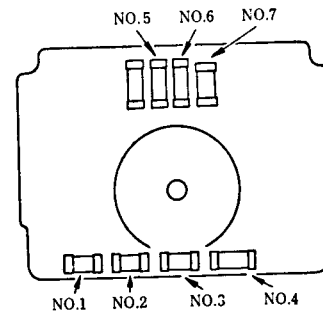
Avoid placing the instrument where severe shock or vibration is encountered, or where there is high temperature or moisture. Do not leave it in the direct sun or oily atmosphere.

5 Measurement of small-size transistors.

While testing a small-size RF germanium transistor, I_{CEO} gradually increases heated by the current applied. It may cause the pointer to creep, and must be checked quickly.

6 Resistor burned.

Not seldom some internal resistor is burnt on account of AC line voltage erroneously applied to the 250mA DC or the X1 ohm range. A resistor burnt can be replaced referring to Fig. 9 and the table. The protection device is to safeguard the indicator from accidental damage, while some resistor may burn on account of the overload, but its replacement readily restores the instrument to normal performance.



Range	Resistor
250 mA DC	No.1 - 0.97 Ω
100 mA "	No.2 - 1.5 Ω
10 mA "	No.3 - 22.5 Ω
1 mA "	No.4 - 225 Ω
$\Omega \times 100$	No.5 - 3.72 k Ω
" $\times 10$	No.6 - 344 Ω
" $\times 1$	No.7 - 34 Ω

Fig. 9

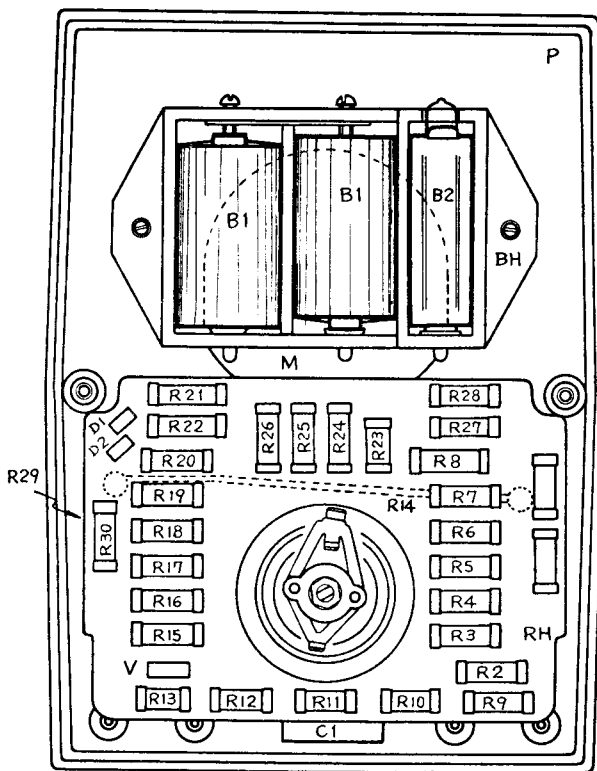
SUPPLEMENTARY DATA

1 Parts list.

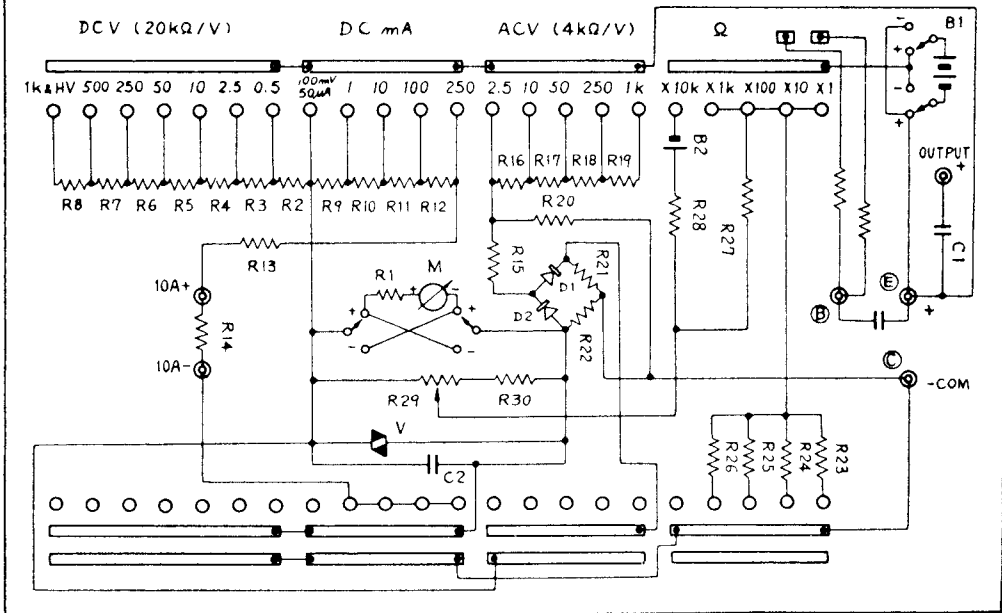
Part No.	Description	R.S.
ZXR01	Resistor (1.3 - 1.8k Ω) for mV calibration	R1
ZXR02	Resistor (8k Ω) 0.5V DC multiplier	R2
ZXR03	Resistor (40k Ω) 2.5V DC multiplier	R3
ZXR04	Resistor (150k Ω) 10V DC multiplier	R4
ZXR05	Resistor (800k Ω) 50V DC multiplier	R5
ZXR06	Resistor (4M Ω) 250V DC multiplier	R6
ZXR07	Resistor (5M Ω) 500V DC multiplier	R7
ZXR08	Resistor (10M Ω) 1kV DC multiplier	R8
ZXR09	Resistor (2.75k Ω) series	R9
ZXR10	Resistor (225 Ω) 1mA DC shunt	R10
ZXR11	Resistor (22.5 Ω) 10mA DC shunt	R11
ZXR12	Resistor (1.5 Ω) 100mA DC shunt	R12
ZXR13	Resistor (0.97 Ω) 250mA DC shunt	R13
ZXR14	Resistor (0.025 Ω) 10A DC shunt	R14
ZXR15	Resistor (11.9k Ω) 2.5V AC multiplier	R15
ZXR16	Resistor (30k Ω) 10V AC multiplier	R16
ZXR17	Resistor (160k Ω) 50V AC multiplier	R17
ZXR18	Resistor (800k Ω) 250V AC multiplier	R18
ZXR19	Resistor (3M Ω) 1kV AC multiplier	R19
ZXR20	Resistor (31.8k Ω) for AC sensitivity calibration	R20
ZXR21	Resistor (2k Ω) for rectifying circuit	R21
ZXR22	Resistor (2k Ω) for rectifying circuit	R22
ZXR23	Resistor (34 Ω) $\Omega \times 1$ shunt	R23

ZXR24	Resistor (344 Ω) $\Omega \times 10$ shunt	R24
ZXR25	Resistor (3.72k Ω) $\Omega \times 100$ shunt	R25
ZXR26	Resistor (220k Ω) $\Omega \times 1k$ shunt	R26
ZXR27	Resistor (34.2k Ω) Ω series	R27
ZXR28	Resistor (334k Ω) $\Omega \times 10k$ series	R28
ZXR29	Potentiometer (10k Ω) 0 Ω adjuster	R29
ZXR30	Resistor (6.7k Ω) shunt	R30
RF05	Germanium diode	D1
RF05	Germanium diode	D2
C049	Capacitor (0.1 μ F)	C1
C050	Capacitor (0.05 μ F)	C2
M013	Meter movement (44 μ A)	M
ZSW1	Range selector switch	RH
ZXP02	Front panel (501-ZXTR type)	P
B001	Dry cell (UM-2/1.5V), 2 required	B1
B004	Dry cell (015/22.5V)	B2
V001	Varister	V
X014	Rear case (501-ZXTR type)	
BA02	Carrying handle	
T001	Pin-type jack, 6 required	
K006	Range selector knob	
B001	Meter movement case	
C003	Meter movement front cover	
L002	Test leads, pair	
L003	Alligator clip cord, 2 required	
PSW2	Polarity switch	
R.S. Reference symbol		

2 Arrangement of parts.



MODEL 501-ZX_{TR} SCHEMATIC DIAGRAM



Schematic diagram.