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Find the *Tenma 72-6558* at our website: ***Click HERE***

SECTION 1 *START*

The 72-6558 is 199999 (5½) digital Multi-Display Multimeters. They have high resolution and are designed for bench-top and systems applications.

1-1 Features

- Auto-range dual LCD display with back light.
- Built in RS-232 interface. Optional IEEE-488(GPIB) interface(accepts SCPI)
- True rms AC, (AC+DC) rms calculated.
- Selectable dBm reference impedance
- The reading can be displayed in either 5½, 4½ or 3½ digits
- The maximum sampling rate is 80 times / sec (72-6558 only)
- With Dynamic Recording (Min/Max/Avg), 1mS Peak Hold , Capacitance and Temperature functions (72-6558 only).
- Closed-case Calibration

1-2 Specific Precautions

Observe all these precautions to ensure your personal safety and to prevent damage to the 72-6558 or connected equipment.

Power Source - The 72-6558 power source must not apply more than 250Vrms between the supply conductors or between either supply conductor and ground. A protective ground connection , through the grounding conductor in the power cord , is essential for safe system operation.

Grounding the Multimeters - The 72-6558 is grounded through their power cords. To avoid electric shock , the ground wire in the power cord must be connected.

Do not Remove Covers or Panels - To avoid personal injury , do not operate the 72-6558 without the panels or covers in place.

Do not Operate in Explosive Atmospheres - The 72-6558 provides no explosion protection from static discharges or arcing components. Do not operate the meter in an atmosphere of explosive gasses.

Electrical Overload - Never apply a voltage to a connector on the 72-6558 that is outside the range specified for that connector.

1-3 Options and Accessories

A) The following options are available for the 72-6558
- GPIB interface unit
- Temperature test probe

B) The following is a list of standard accessories for the 72-6558
- Power cable
- User's manual
- Test lead kit

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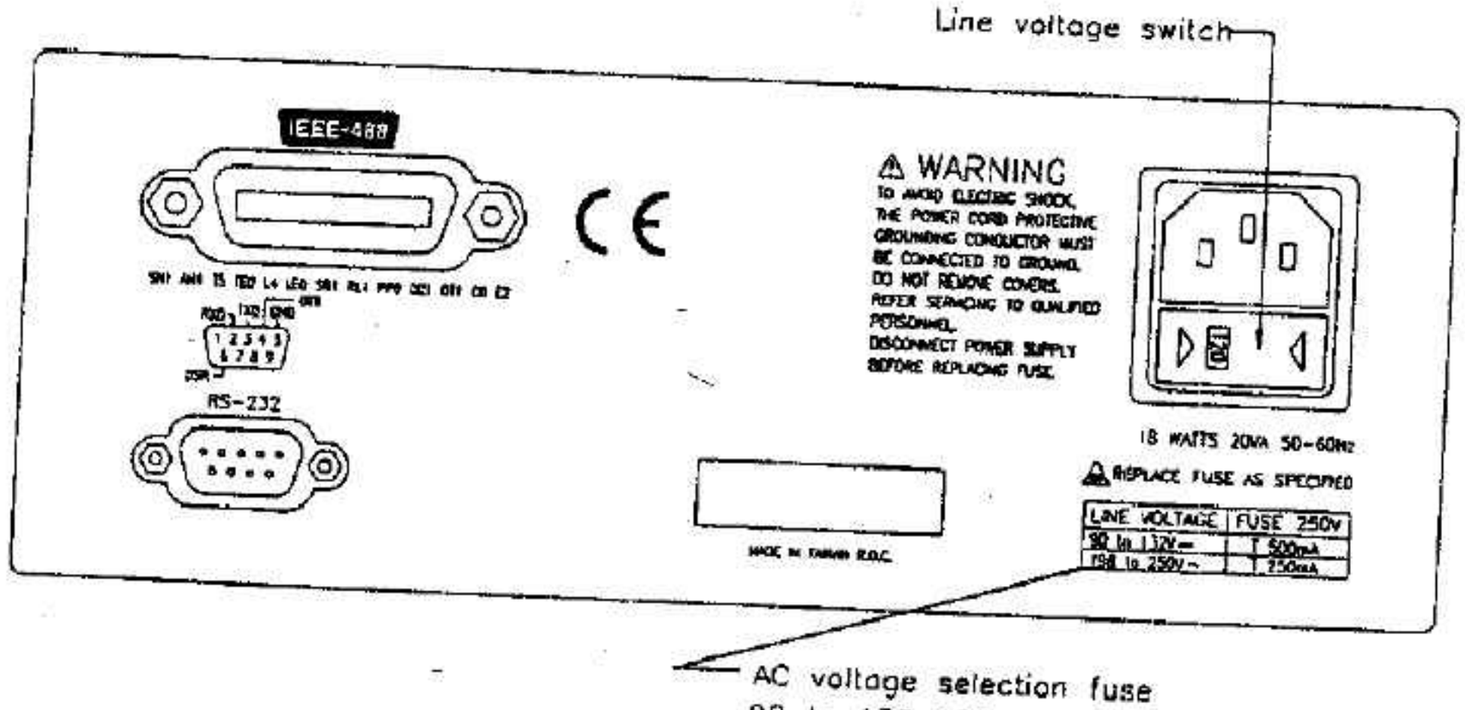
1-4 Line Power and Fuse

CAUTION !

Before switching on the instrument, make sure that it is set to the correct mains voltage of the power line.

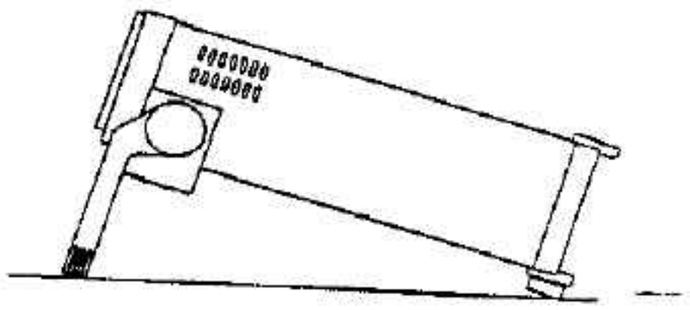
The 72-6558 accepts a primary input voltage from 90 to 250 VAC, 50/60Hz.

Figure 1-1 illustrates the location of the line voltage switch and fuse holder.



1-5 Adjusting the Handle

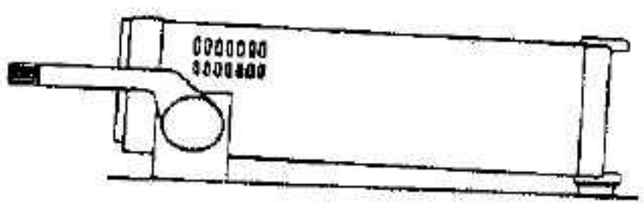
1. Viewing Position



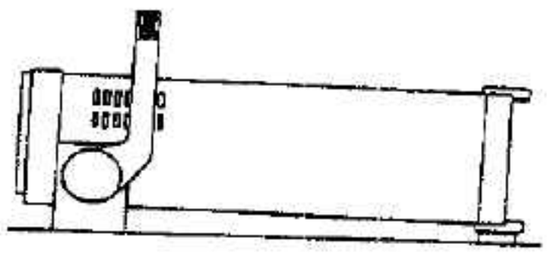
2. Alternative Viewing Position



3. Carrying Position



4. Removal Position
(to Remove, Pull Ends Out)



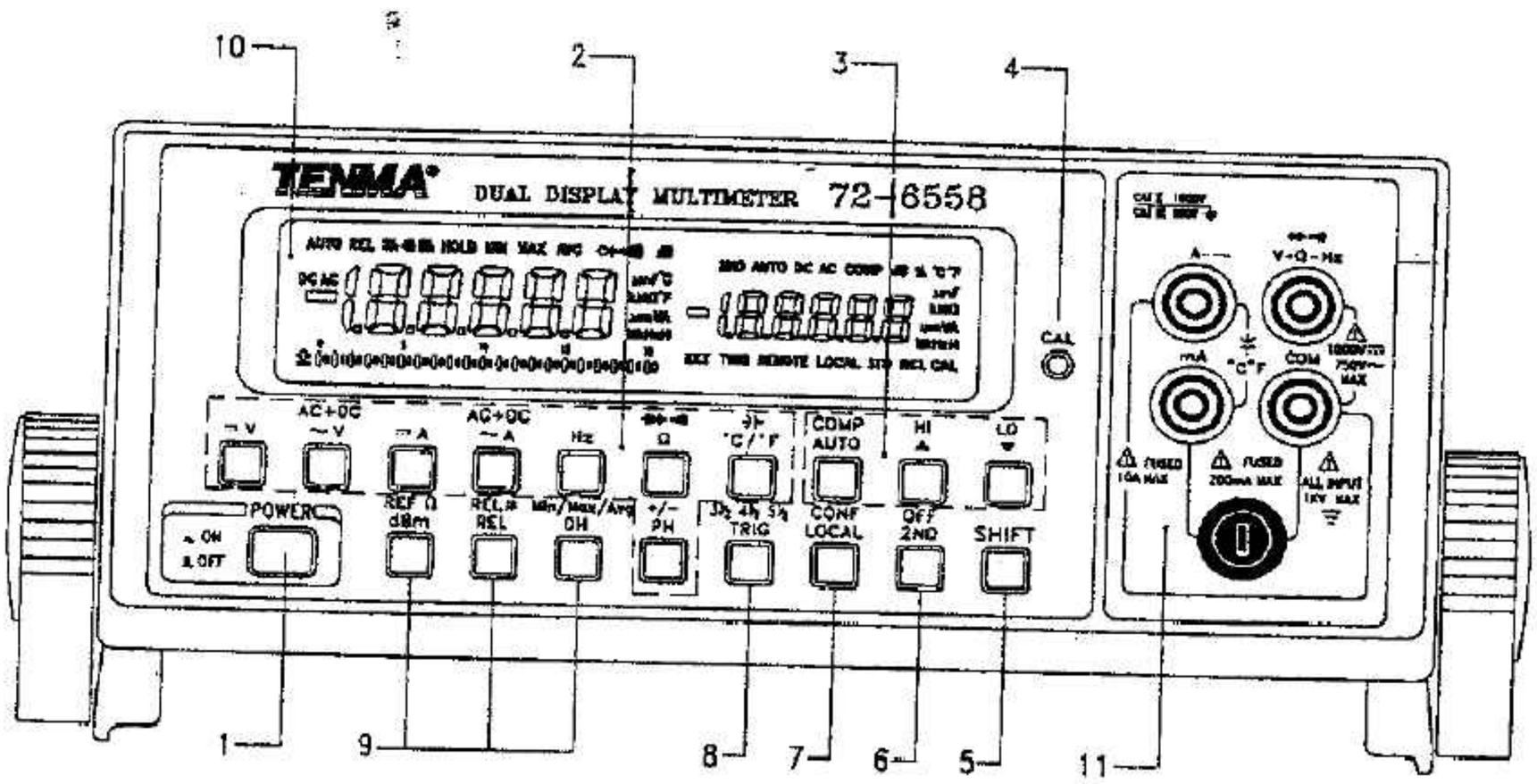
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SECTION 2 *PANEL DESCRIPTION*

This section describes the front panel operational keys, displays, input terminals and the Rear panel.

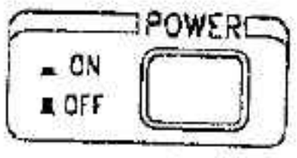
2-1 Front Panel

Figure 2-1 Illustrates the front panel of the 72-6558



1. Power switch
2. Measurement function selection keys
3. Comparator/ Range selection keys
4. Calibration mode selection button
5. SHIFT/ENTER key
6. Second display selection key
7. System Configuration/ LOCAL key
8. Number of Digits/ Trigger key
9. Arithmetic Function selection keys
10. Display
11. Input terminal panel

1. Power Switch



Press the switch to turn the instrument ON.
Press the switch again to turn OFF the power.

2. Measurement function selection keys

⎓ V
: Selects DC voltage measurement

~ V
: Selects AC voltage

⎓ A
: Selects DC current measurement

Hz
: Selects frequency measurement

Ω
: Selects resistance measurement (two-line only)

°C / °F
: Selects temperature measurement (thermocouple)

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~ A

: Selects AC current measurement

PH

: Selects peak hold measurement (72-6558 only)

◆Using the SHIFT key: SHIFT

SHIFT AC+DC ~ V : Selects AC voltage measurement (AC+DC coupling mode)

SHIFT AC+DC ~ A : Selects AC current measurement (AC+DC coupling mode)

SHIFT °C / °F : Selects Capacitance measurement (72-6558 only)

SHIFT Ω : Selects diode/continuity testing

SHIFT +/- PH : Selects the 1mS peak hold mode for direct measurement of negative, positive peak value. (72-6558 only)

* Each time these keys are pressed , the state is as follows: → -Vp → +Vp

3. Compactor/ Range Selection keys

AUTO : Selects the measurement range mode by toggle (Auto or Manual)

▲ : Selects the measurement range to Manual and increases it by one level.

▼ : Selects the measurement range to Manual and decrease it by one

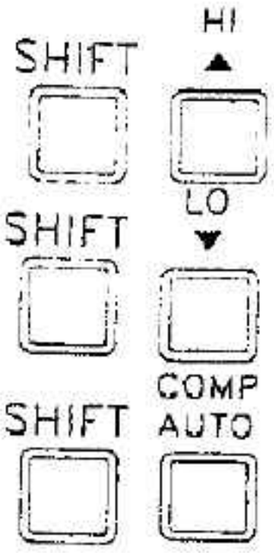
*** Press these keys when in the parameter setting mode**

AUTO : Move the blinking digit to the right

▲ ▼ : Change the contents of the blinking digit.

◆Using the SHIFT key: SHIFT

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: Sets the upper limit (HI) for comparator calculation

: Sets the lower limit (LO) for comparator calculation

:Selects setting or cancelling of the comparator calculation

4. Calibration mode selection button

CAL



: Sets the calibration (CAL) mode.

Press this button again to return to the normal measurement state.

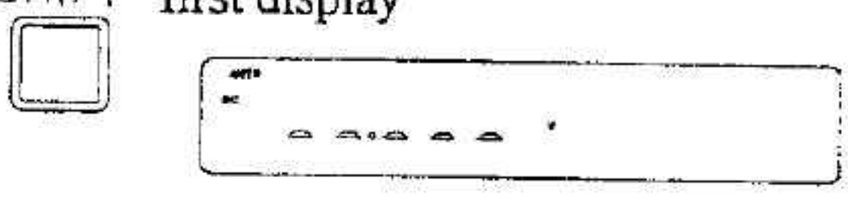
5. SHIFT / ENTER key

◆ **Set the SHIFT mode**

If this key is pressed before another, the function shown above that key is executed.

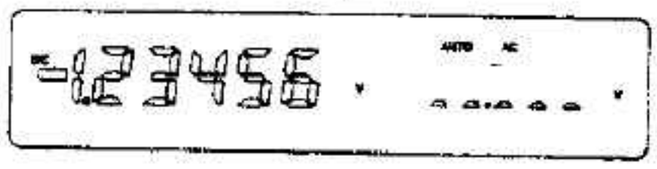
SHIFT mode message:

A. In SHIFT first display



B. In second display

SHIFT



◆ **ENTER key**

Press this key in the parameter writing mode

6. Second Display Selection Key

2ND

: Sets the dual function mode for the second display

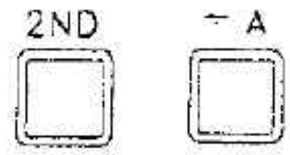
2ND — V

: Shows DC voltage reading in second display

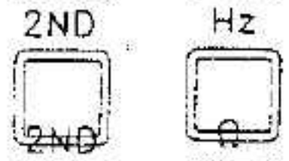
2ND ~ V

: Shows AC voltage reading in second display

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: Shows DC current reading in second display



: Shows frequency reading in second display



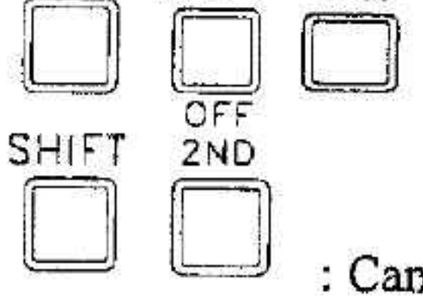
: Shows resistance reading in second display



: Shows temperature measurement reading in second display (72-6558 only)



: Shows AC voltage (AC+DC coupling mode) in second display



: Shows DC current (AC+DC coupling mode) in second display

: Cancels the dual function mode and turns OFF the second display

7. System Configuration / Local Key

◆ Local mode



: Returns the instrument to front panel control from the REMOTE mode

◆ System configuration mode



A. Selects interface setting mode
   1. RS-232 Serial interface (standard).
   2. GPIB interface (option).

B. Selects Power-up configuration type
   1. Meter clear (restore the power-up configuration to the factory setting).
   2. Setting starts the initializing condition

C. Turns the beep mode ON or OFF.

8. Number of Digits/Trigger Keys

◆ Trigger sampling:



: Orders measurement to start when the sampling mode is in Data Hold.

◆ Number of digits change:

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SHIFT 3½ 4½ 5½ TRIG : When these keys are pressed , the states are as follows : 5½ → 4½ → 3½

9. Arithmetic Function Selection Keys

dBm : Selects setting or cancelling of the dBm calculation

REL : Selects setting or cancelling of relative calculation

DH : Sets the sampling mode to Free-Run or Data Hold.

SHIFT REF Ω dBm : Selects setting the REF Ω (reference impedance) mode for dBm calculation

SHIFT REL# REL : Selects setting the REL# (relative constant) mode for REL calculation

◆ **Dynamic recording selection key**

SHIFT Min/Max/Avg DH : Each time press these keys the states are as following

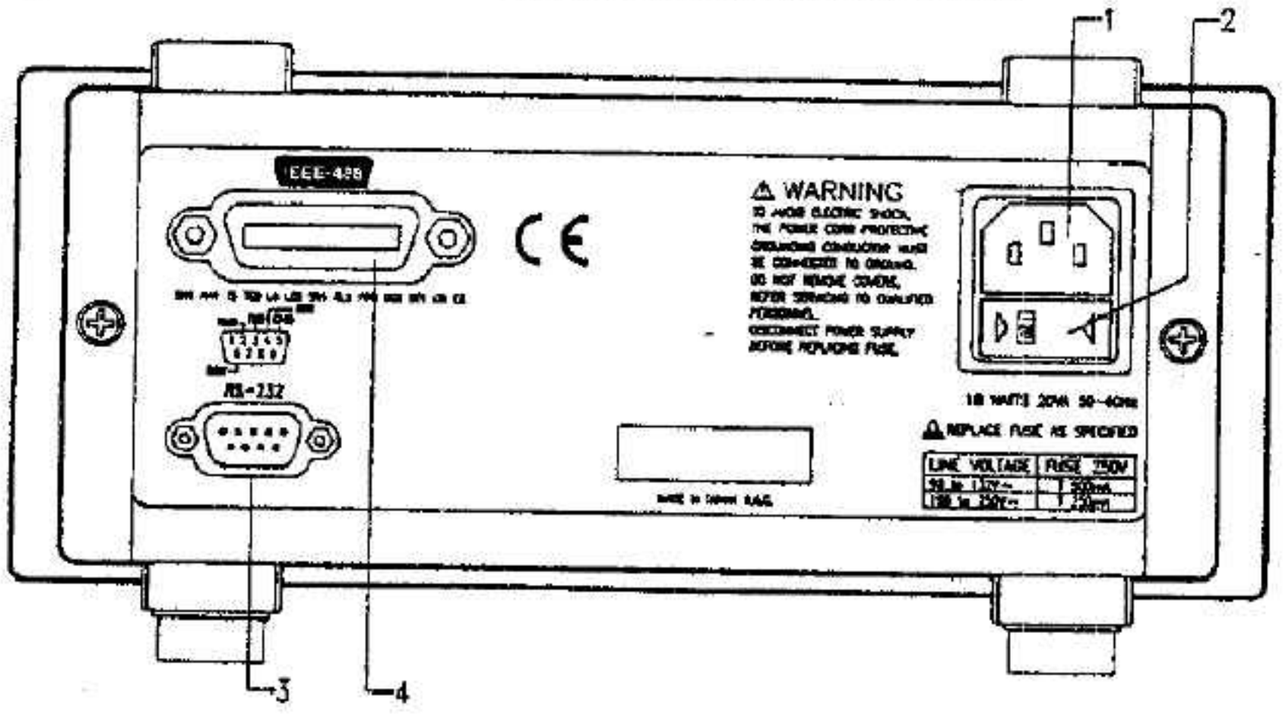
Min.→ Max. → Avg.

10. Display

Backlight display for easy reading in dark.

2-2 Rear Panel

Figure 2-2 illustrates the Rear Panel of the 72-6558

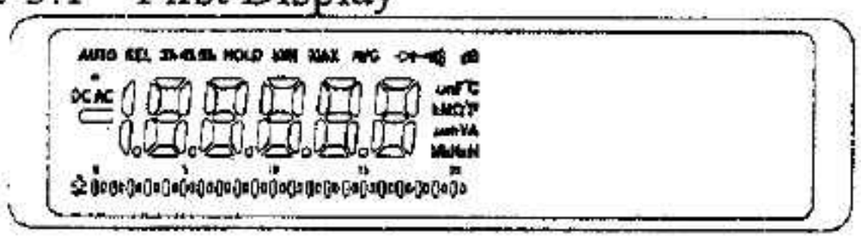


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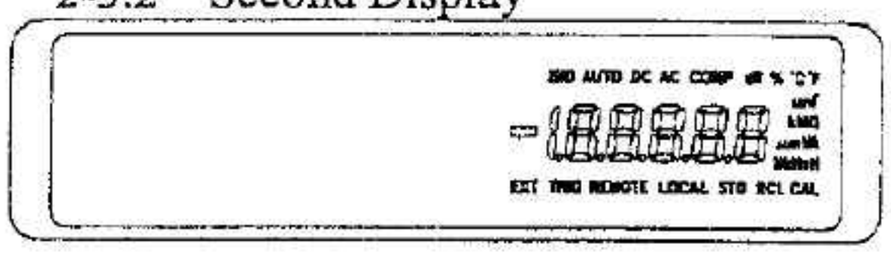
1. Power supply connector
2. Power supply change: Selects the line power voltage type to100/120/220/240V.
3. RS-232 connector (standard equipment)
4. IEEE488 (GPIB) interface connector (optional)

2-3 Display

2-3.1 First Display

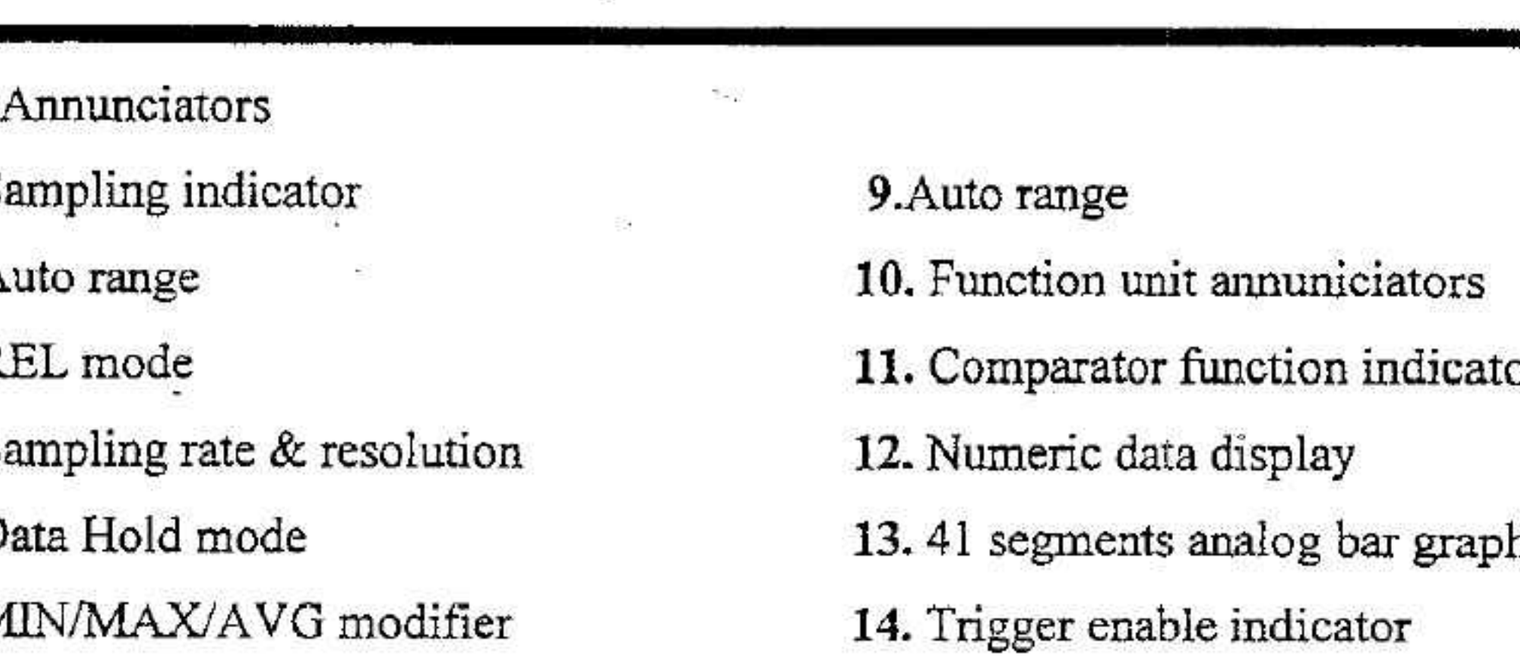


2-3.2 Second Display



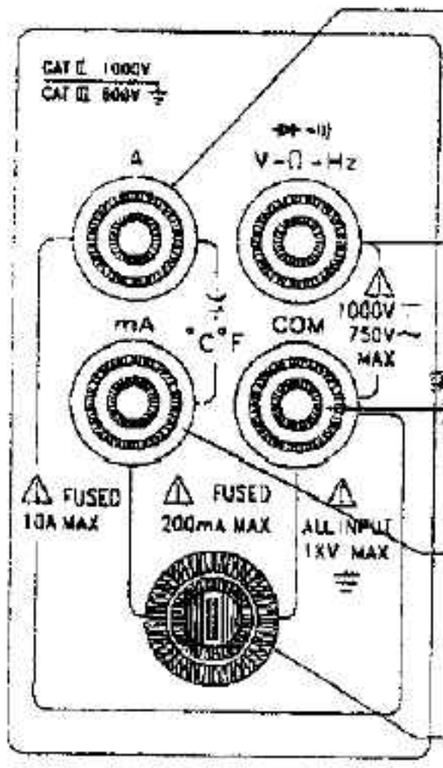
◆ Display Annunciators

1. Sampling indicator
2. Auto range
3. REL mode
4. Sampling rate & resolution
5. Data Hold mode
6. MIN/MAX/AVG modifier
7. Diode/Continuity test
8. 2ND indicator
9. Auto range
10. Function unit annuniciators
11. Comparator function indicator
12. Numeric data display
13. 41 segments analog bar graph
14. Trigger enable indicator
15. Remote state
16. Numeric data display



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2-4 Input Terminal



10A input Terminal for DC/AC current measurement.
Return Terminal for Capacitance, Temperature measurements.

Input Terminal
Volts,Ohms,Hz,Diode/Continuity test

Common Terminal

200mA Input Terminal . Capacitance ,Temperature measurements.

200mA Input Terminal Protection Fuse Holder

♦Input Limits

Function	Input Terminals	Maximum Input
⎓ V	VΩ⊣◁⊢ Hz and COM	1000V DC
~V, Hz	VΩ⊣◁⊢ Hz and COM	750V AC rms, 1000V peak, $1x10^7$ V-Hz normal mode, or $1x10^6$V-Hz common mode (whichever is less)
~mA, Hz	mA and COM	200mA DC to or AC rms
~A, Hz	A and COM	10A DC or AC rms
⊣⊢ °C / °F	mA and A	
Ω	VΩ⊣◁⊢ Hz and COM	500V DC or AC rms on all ranges
⊣◁⊢ •)))	VΩ⊣◁⊢ Hz and COM	500V DC or AC rms
All Function	any terminal to earth	1000V DC or peak AC

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