

[54] DIGITAL PANEL METER

4,748,404 5/1988 Heinze et al. .... 324/115 X

[75] Inventors: Brian Paulsen, Monument Beach; Joseph Vignolo, Dedham, both of Mass.

FOREIGN PATENT DOCUMENTS

2055480 3/1981 United Kingdom .... 324/115

[73] Assignee: R. T. Engineering Service, Inc., Mansfield, Mass.

OTHER PUBLICATIONS

"New Concept Hioki Digital Multimeters"; Cat No. 3207 E; 1980; pp. 1-4.

[21] Appl. No.: 156,931

Primary Examiner—Reinhard J. Eisenzopf

[22] Filed: Feb. 17, 1988

Assistant Examiner—Vinh P. Nguyen

[51] Int. Cl.<sup>4</sup> ..... G01R 19/00; G01R 29/00

Attorney, Agent, or Firm—Wolf, Greenfield & Sacks

[52] U.S. Cl. .... 324/115; 324/99 D; 324/114

[57] ABSTRACT

[58] Field of Search ..... 324/115, 114, 99 D, 324/123 R, 119; 340/660, 661, 662, 663

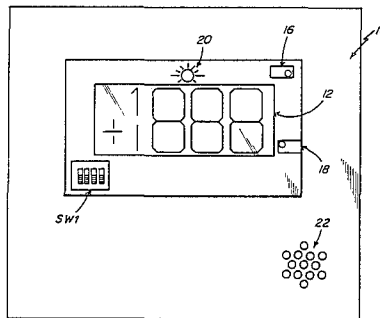
A digital panel meter adapted for replacement of a standard analog panel meter and designed to selectively receive different ranges of input signals such as AC or DC input signals. The meter circuitry employs an analog-to-digital converter having multiple digits, an input circuit including a range circuit, an operational amplifier and filter circuitry. A relay is tripped for signaling the attaining of a trip point. An audible alarm is provided that may be enabled or disabled and that may be operated in either continuous or short term modes.

[56] References Cited

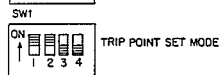
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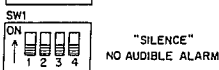
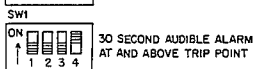
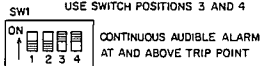
15 Claims, 6 Drawing Sheets



TO PROGRAM TRIP POINT  
USE SWITCH POSITIONS 1 AND 2



TO PROGRAM AUDIBLE ALARM  
USE SWITCH POSITIONS 3 AND 4



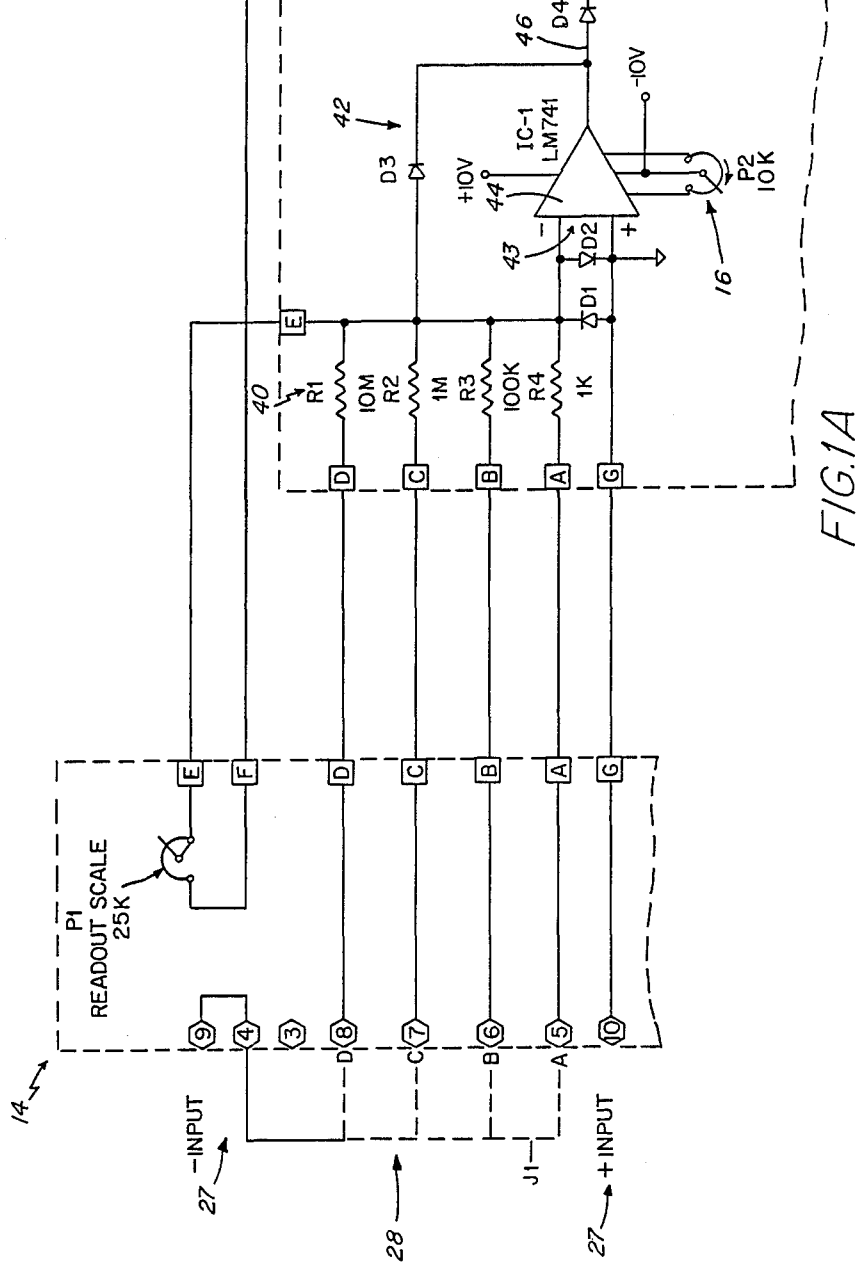


FIG. 1A

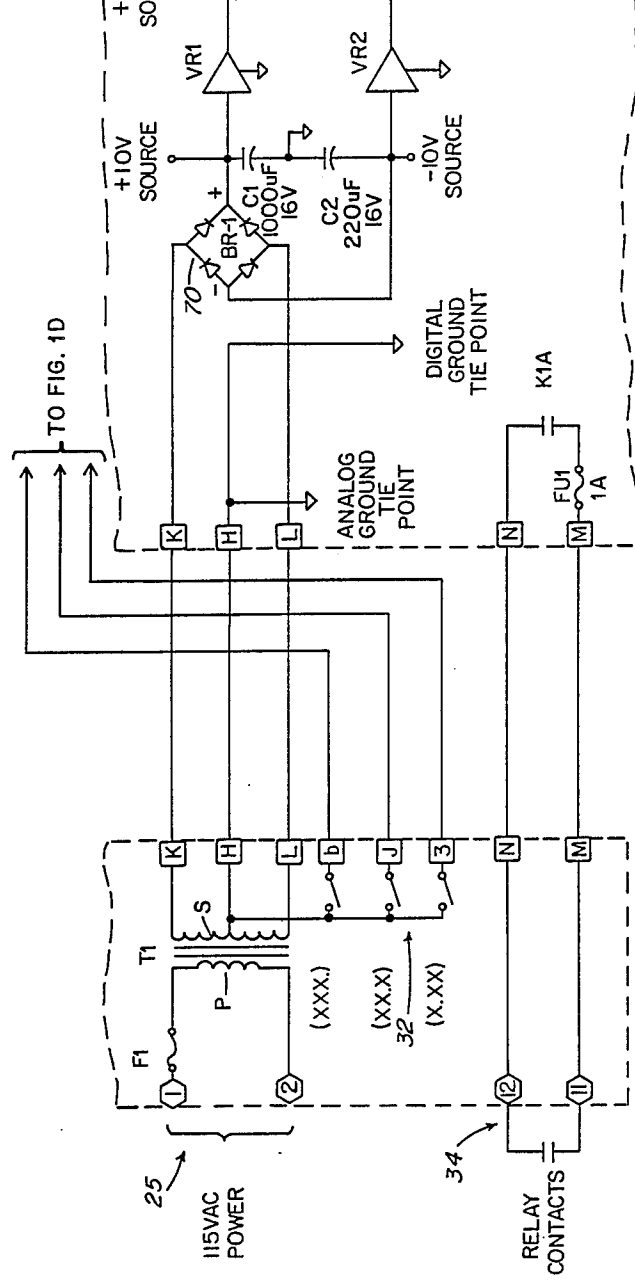


FIG.1B

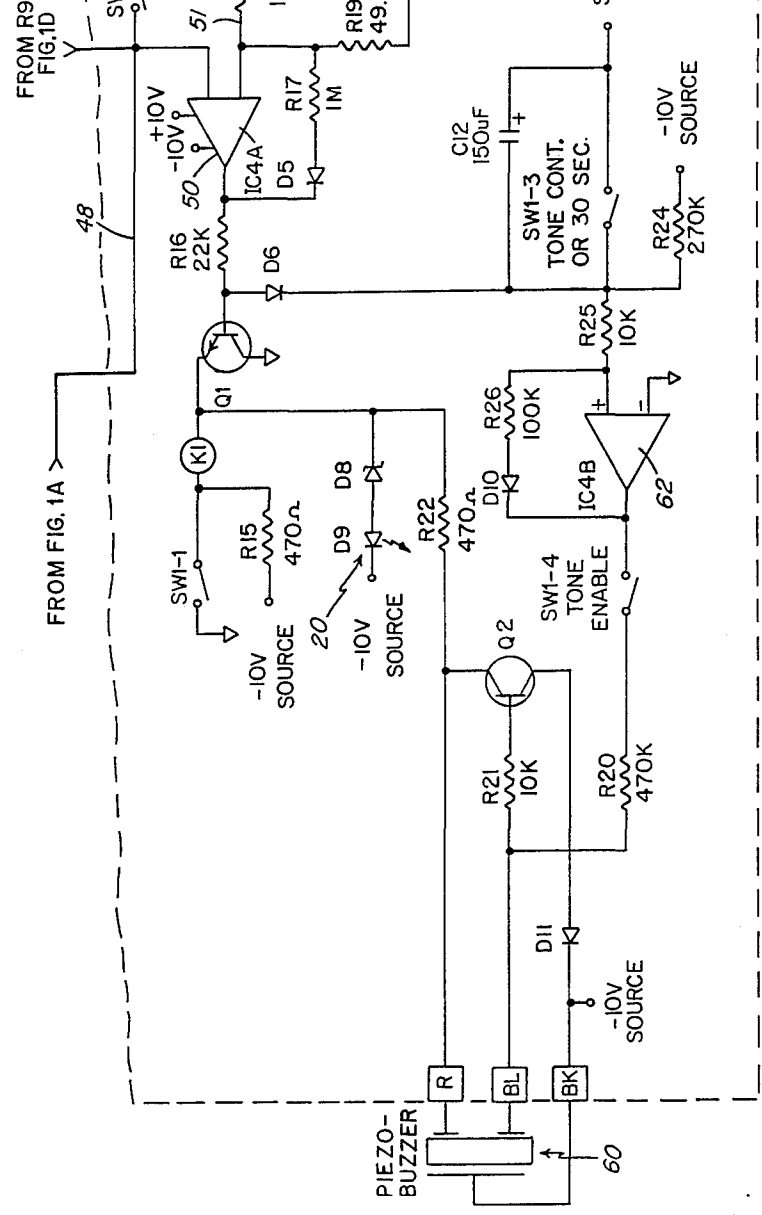


FIG.1C

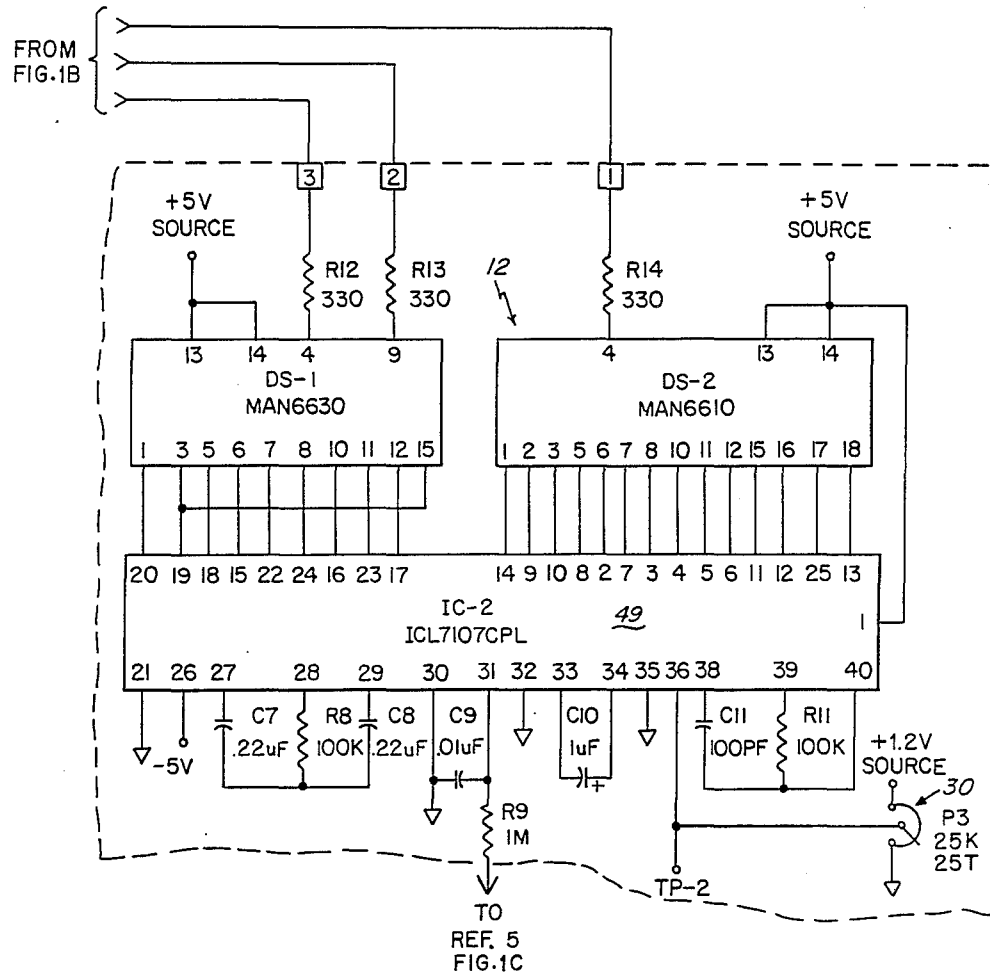


FIG. 1D

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