



US005690692A

# United States Patent [19]

[11] Patent Number: **5,690,692**

Fleming

[45] Date of Patent: **Nov. 25, 1997**

## [54] BIO-ACTIVE FREQUENCY GENERATOR AND METHOD

[75] Inventor: **Janet E. Fleming**, San Diego, Calif.

[73] Assignee: **Regeneration Technology**, Tijuana, Mexico

[21] Appl. No.: **787,158**

[22] Filed: **Jan. 22, 1997**

### Related U.S. Application Data

[63] Continuation of Ser. No. 541,182, Oct. 11, 1995.

[51] Int. Cl.<sup>6</sup> ..... **A61N 1/32**

[52] U.S. Cl. .... **607/50; 607/66**

[58] Field of Search ..... **607/50, 66, 67, 607/142**

### [56] References Cited

#### U.S. PATENT DOCUMENTS

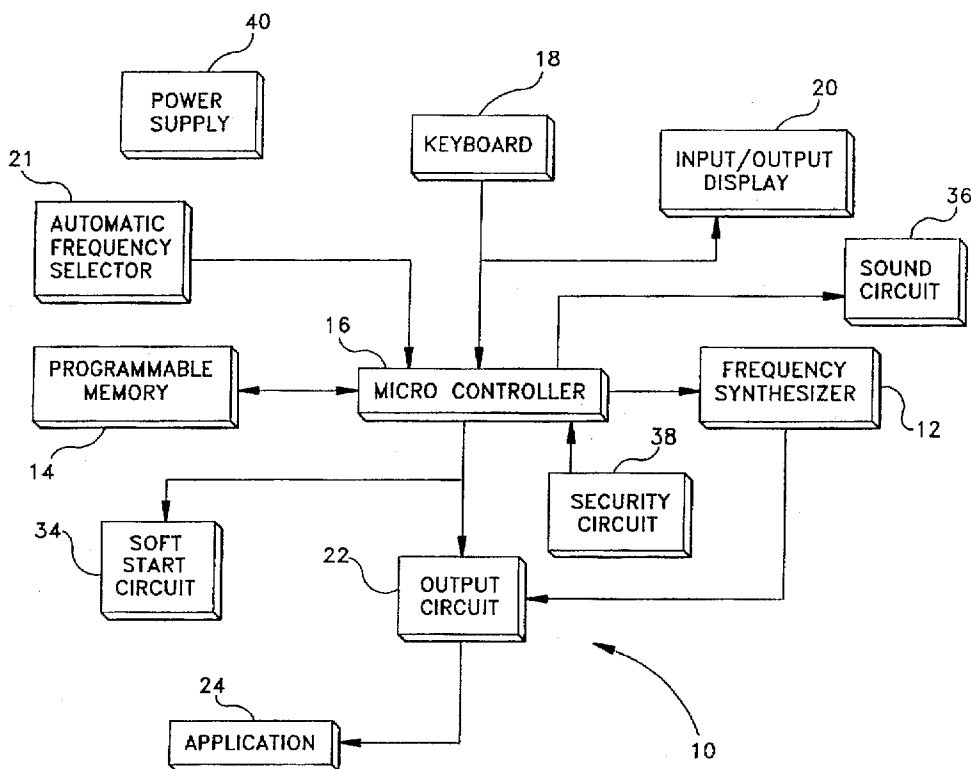
- 4,255,790 3/1981 Hondegem .
- 4,738,250 4/1988 Fulkerson et al. .
- 4,895,154 1/1990 Bartelt et al. .
- 4,919,139 4/1990 Brodard .
- 5,048,523 9/1991 Yamasawa et al. .
- 5,285,781 2/1994 Brodard .
- 5,447,526 9/1995 Karsdon .

Primary Examiner—William E. Kamm  
 Assistant Examiner—Carl H. Layno  
 Attorney, Agent, or Firm—Gilliam, Duncan, Harms

## [57] ABSTRACT

A system and method for generating bio-active frequencies. Such generated frequencies are very precise and are accurate within 0.001 Hz. The frequencies are used to advantage in health science applications such as killing microorganisms and viruses and enhancing tissue regeneration and may be used in various commercial and industrial applications, such as food processing. A specific precise frequency synthesizer is controlled by a programmable control that instructs the synthesizer to generate a specific precise frequency or a series of precise frequencies. A keyboard is actuable by a user to select a specific frequency or sequence of frequencies or a preprogrammed series of frequencies. Depending upon the specific frequency being generated, a circuit gates the generated signal ON or OFF with a predetermined determinable periods being selected for such ON/OFF periods. Immediately prior to initiation of a specific precise frequency signal a warning auditory signal is made to alert a user of the invention and the frequency signal is gradually increased at a predetermined rate from zero to a predetermined level controllable by a user. A display indicates information representative of the specific frequencies selected and the period of running of each. Application electrodes for the device are disclosed as well as an indicator as to whether the electrodes are in proper contact with a subject.

7 Claims, 23 Drawing Sheets



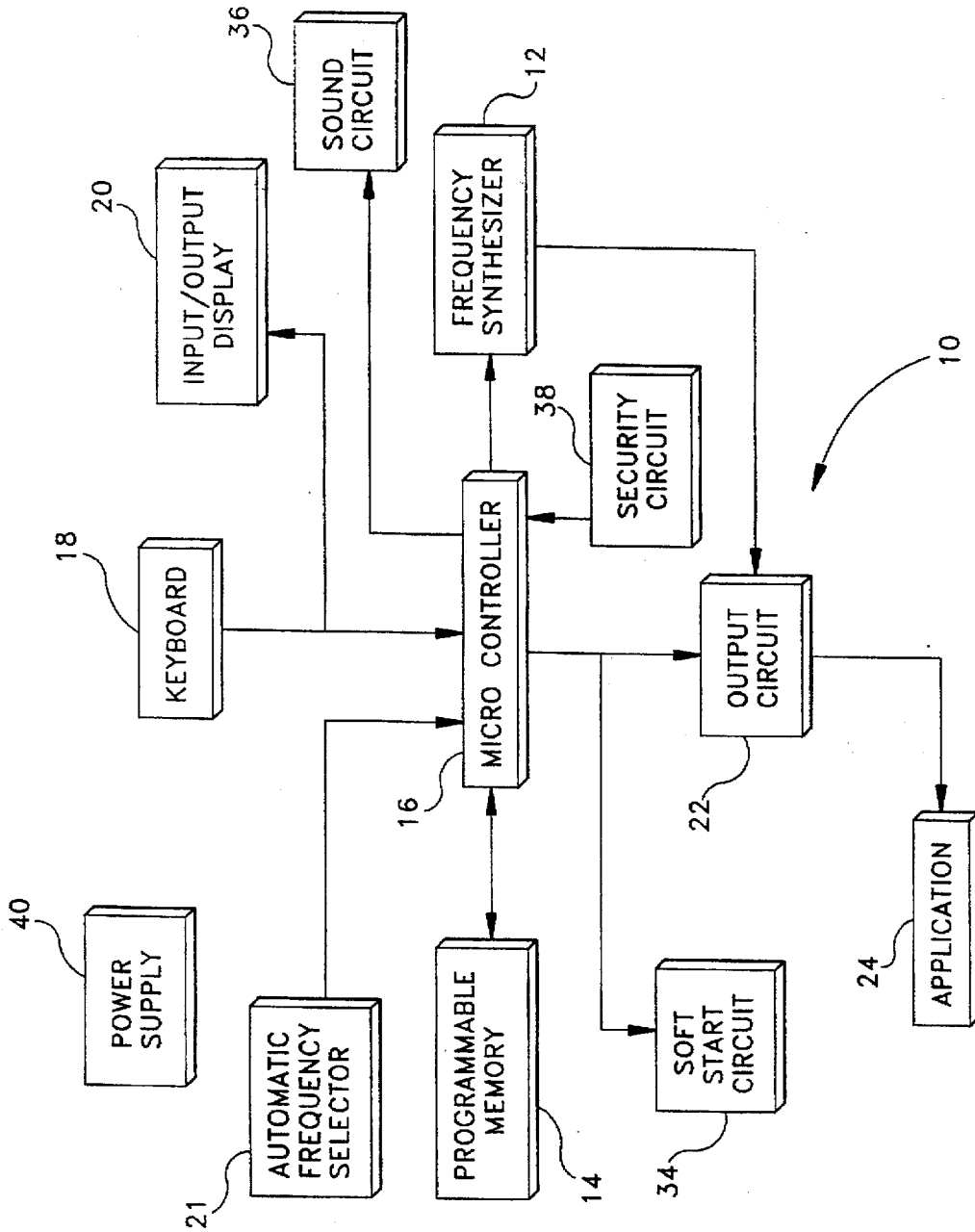


FIG. 1

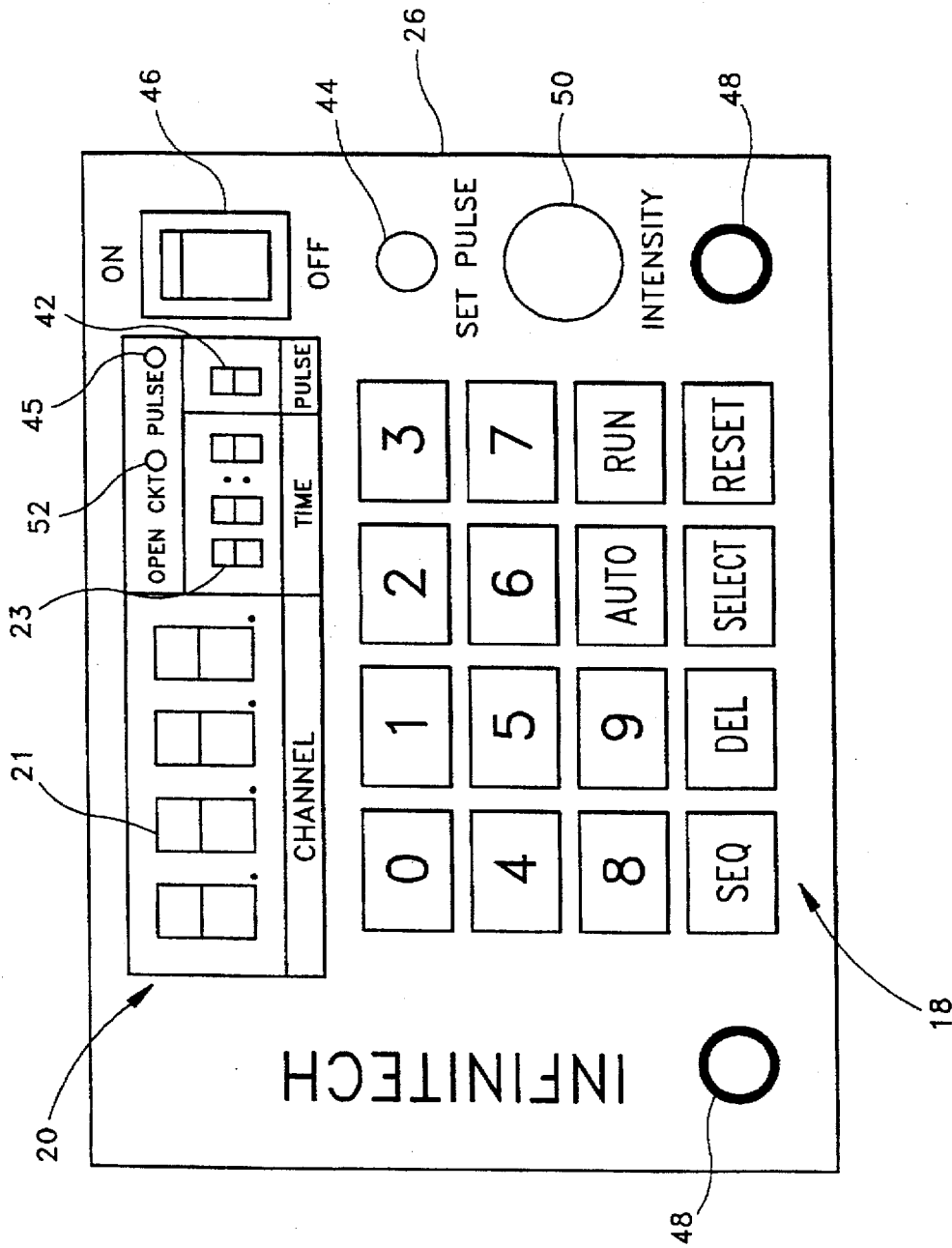


FIG. 2

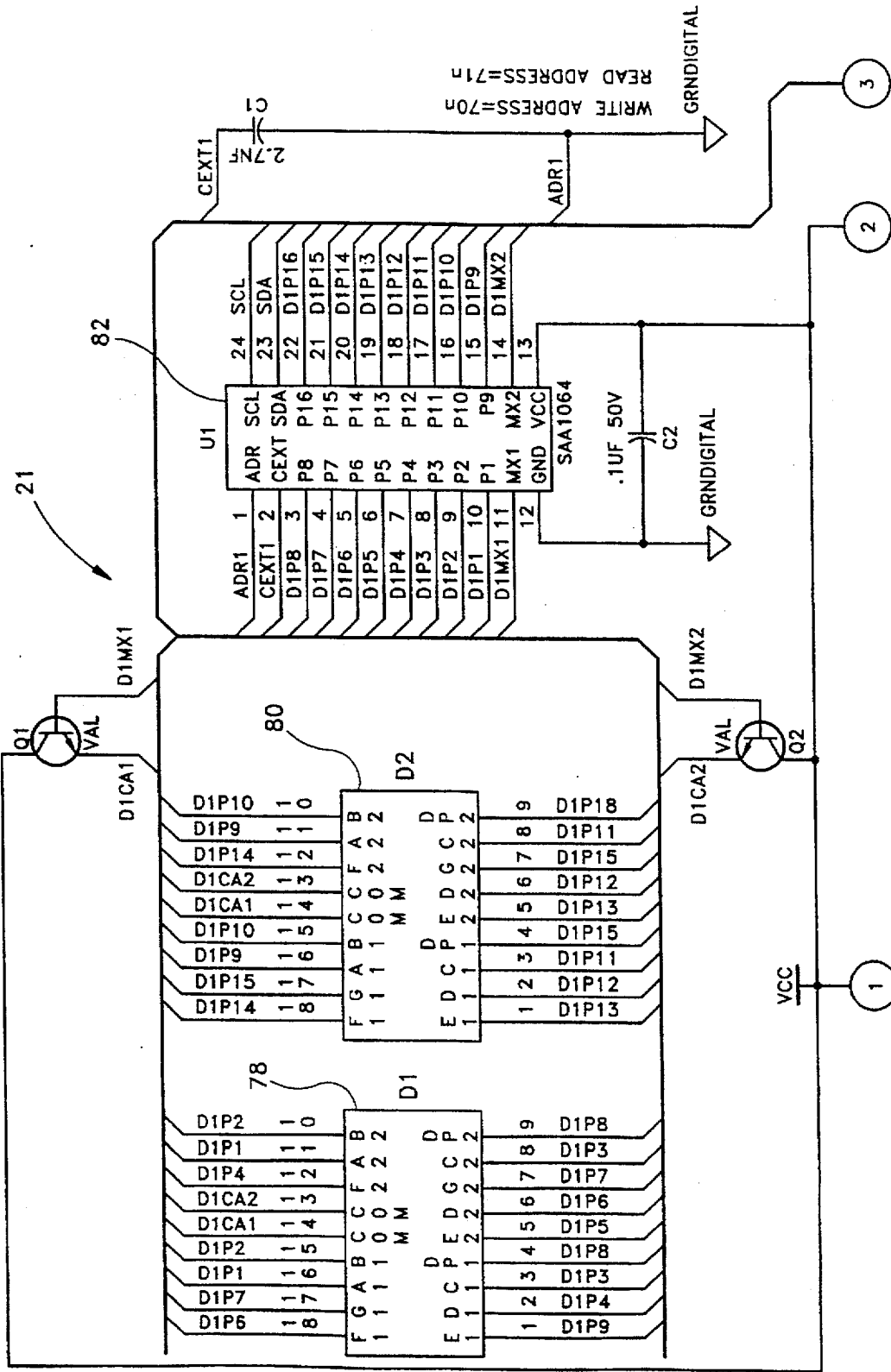


FIG. 3a

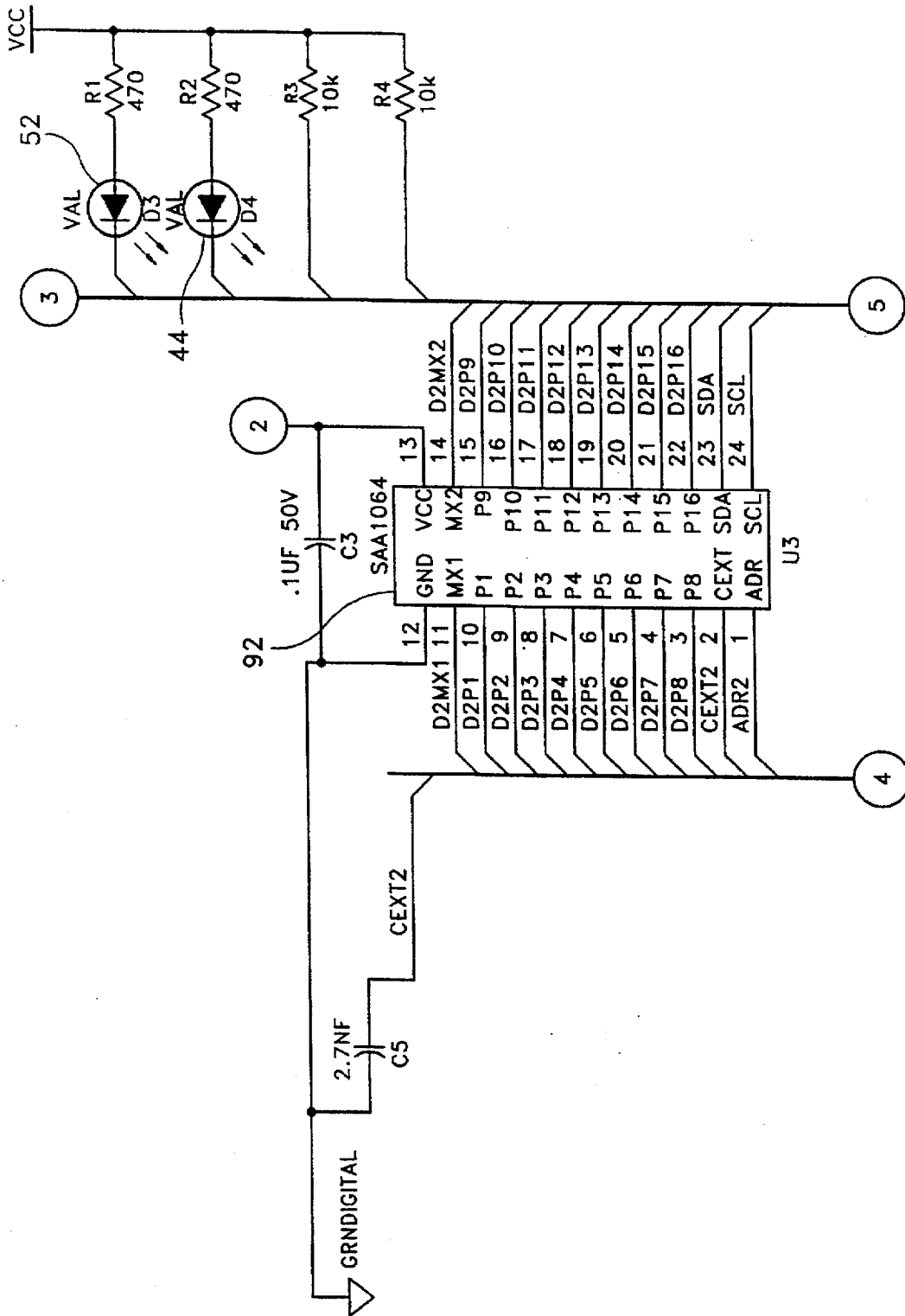


FIG. 3b

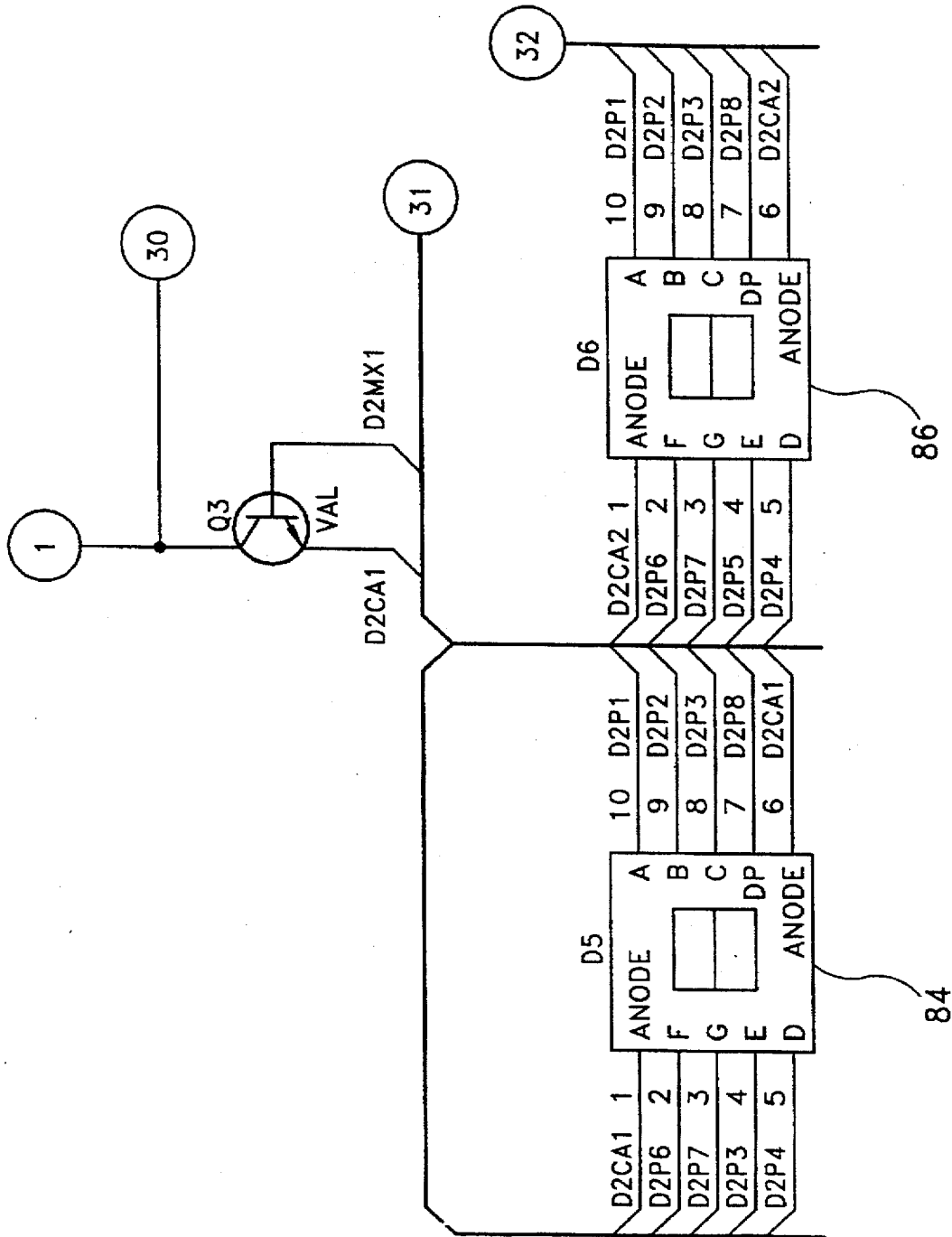


FIG. 3C