

(12) **United States Patent**
Rogers

(10) **Patent No.:** **US 6,556,564 B2**
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- (54) **SCHEDULED INTERNET PROTOCOL TELEPHONE INSTRUMENT SYSTEM**
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- (73) Assignee: **Cetacean Networks, Inc.**, Portsmouth, NH (US)
- (*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 66 days.
- (21) Appl. No.: **09/780,685**
- (22) Filed: **Feb. 8, 2001**
- (65) **Prior Publication Data**
US 2001/0033565 A1 Oct. 25, 2001
- Related U.S. Application Data**
- (60) Provisional application No. 60/181,099, filed on Feb. 8, 2000.
- (51) **Int. Cl.⁷** **H04L 12/66**
- (52) **U.S. Cl.** **370/352; 370/443; 370/498; 379/88.17**
- (58) **Field of Search** 370/352, 353, 370/354, 355, 356, 389, 419, 474, 476, 442, 443, 444, 498; 709/88.17

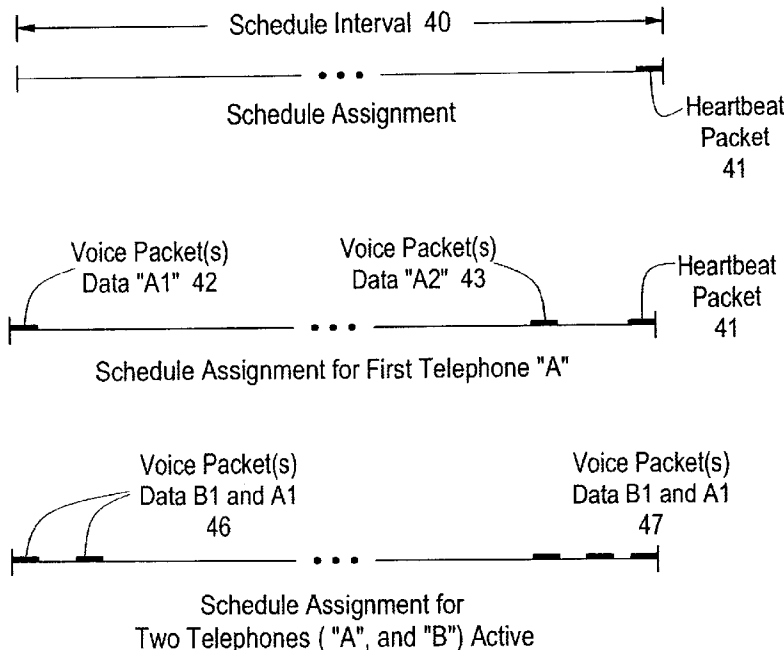
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(57) **ABSTRACT**

A LAN telephone which makes voice telephone calls over a local area network (LAN) data network. Acoustic voice sounds are digitally encoded and transmitted as data, over the LAN. The disclosed telephone simultaneously receives LAN data packets and decodes them, translating the data into acoustic audio voice sounds. All communications with the network occur through the use of the LAN, including data for call control and for voice signals. The disclosed LAN telephone uses a packet scheduling technique to prevent packet collision, delay or loss. The scheduling technique relies on time of transmission and arrival to switch packets. Additionally, the disclosed LAN telephone is operable to receive power from a data switch, using LAN wiring. The instrument further includes a means for attaching peripheral devices through an electronic interface system, as well as an internal system for allowing the telephone to be moved, from one connection to another, without changing the telephone number. The instrument also provides a system for automatically changing the internal control software of the instrument, or of any connected peripheral. A system for connecting an external "speaker-phone" system is also disclosed, which gives the instrument's user the ability to place the voice audio source and pickup in a location that is convenient to the user and not necessarily co-located with the instrument itself.

21 Claims, 14 Drawing Sheets



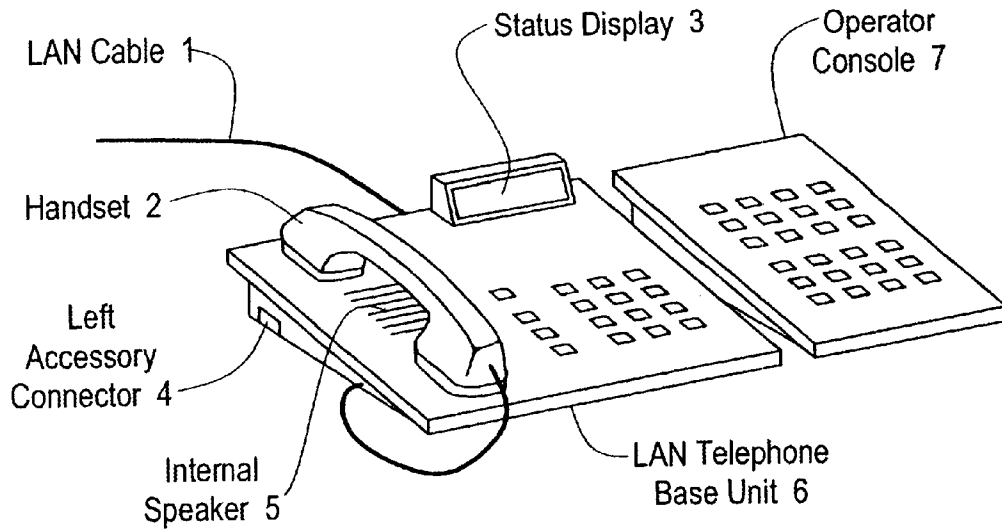


FIG. 1

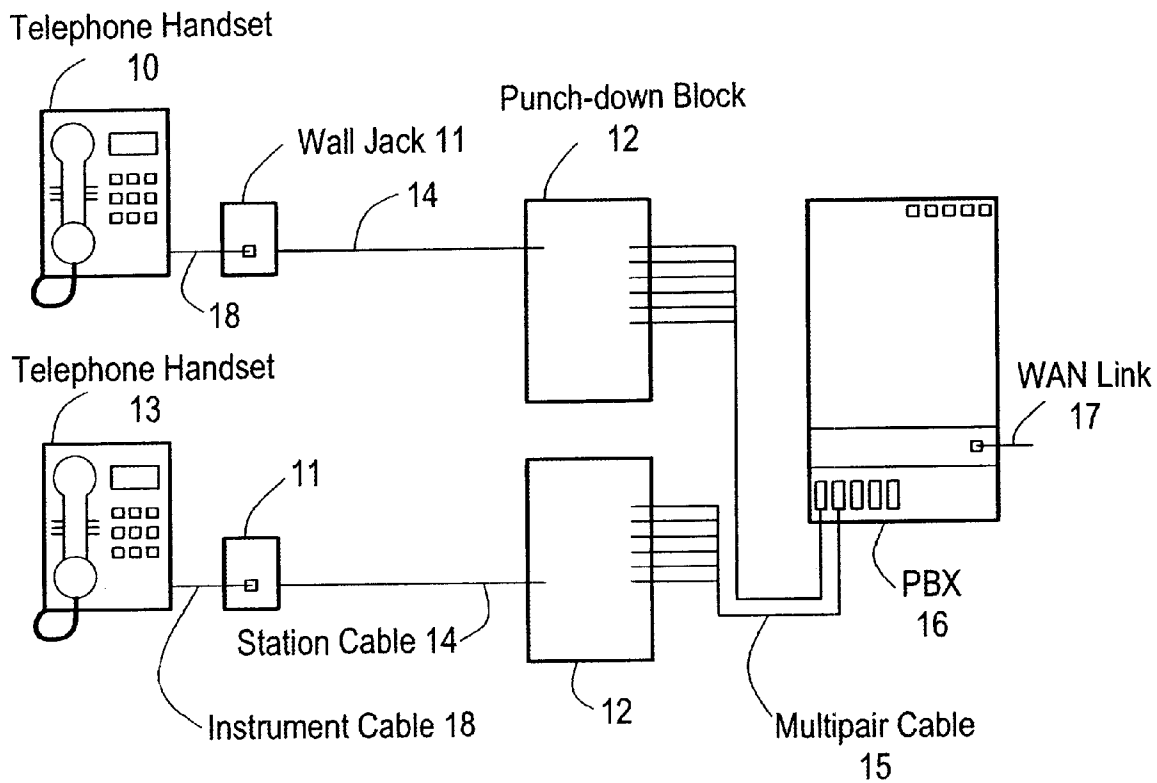


FIG. 2

Prior Art

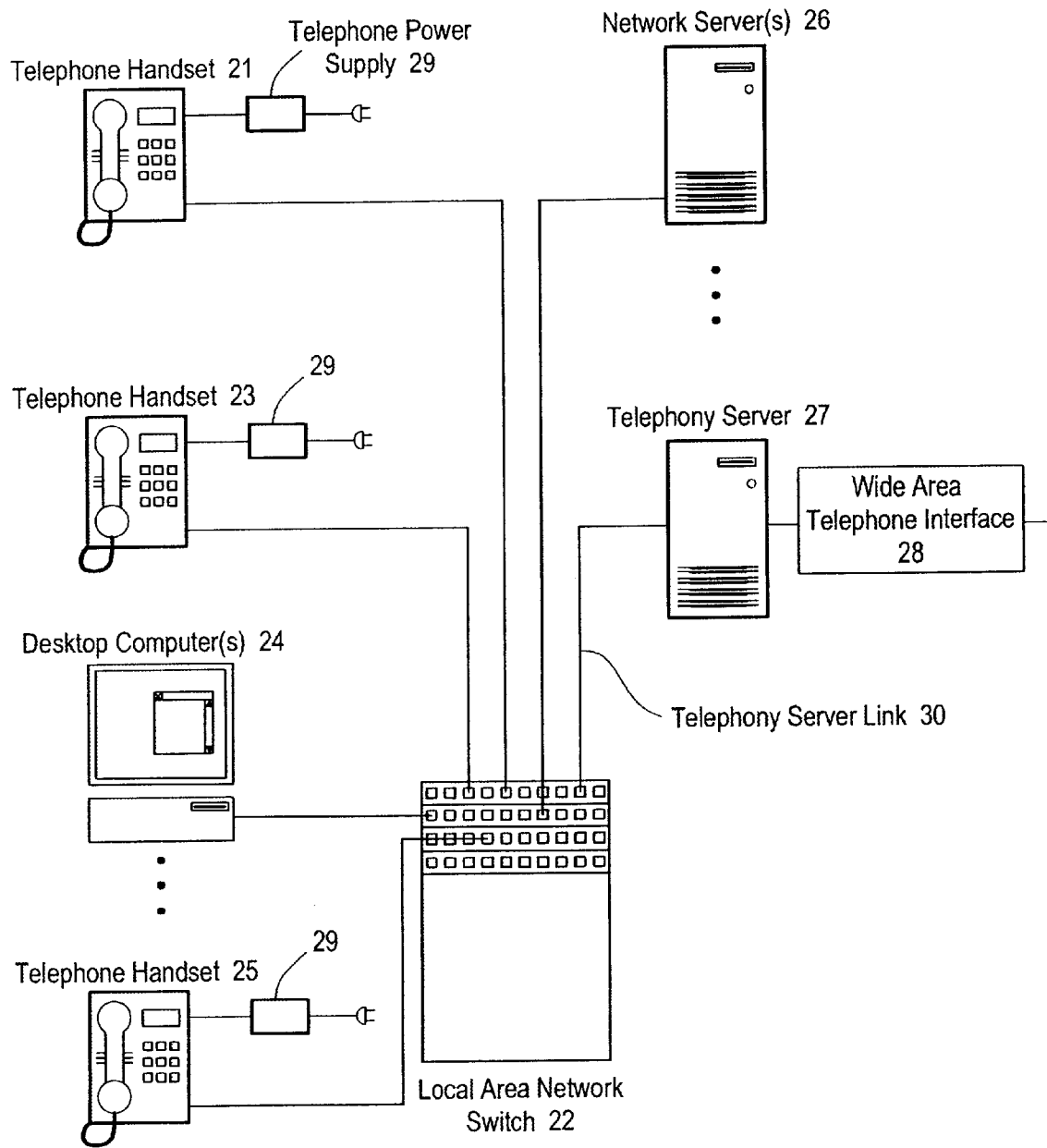
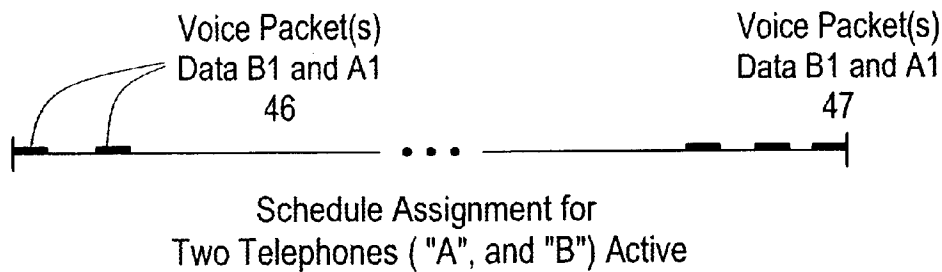
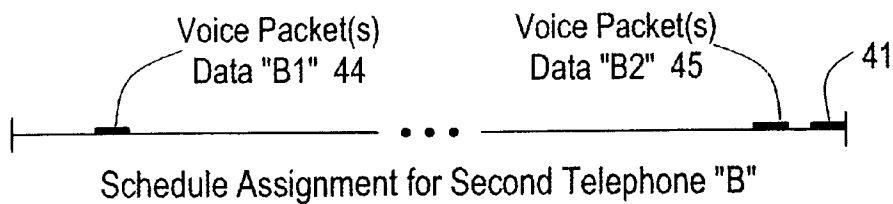
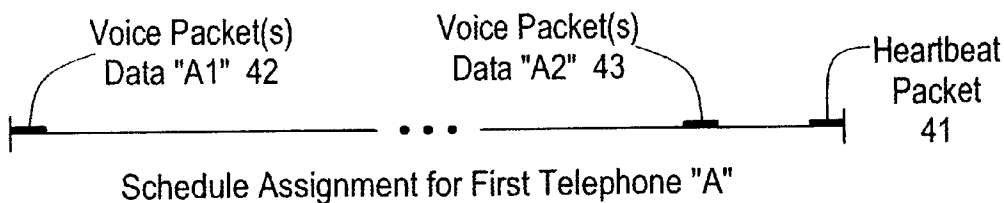
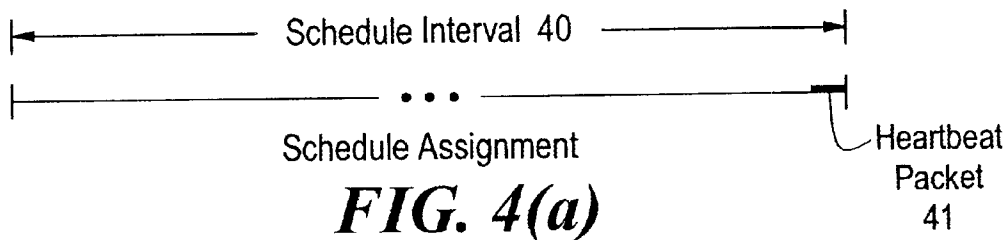


FIG. 3

Prior Art



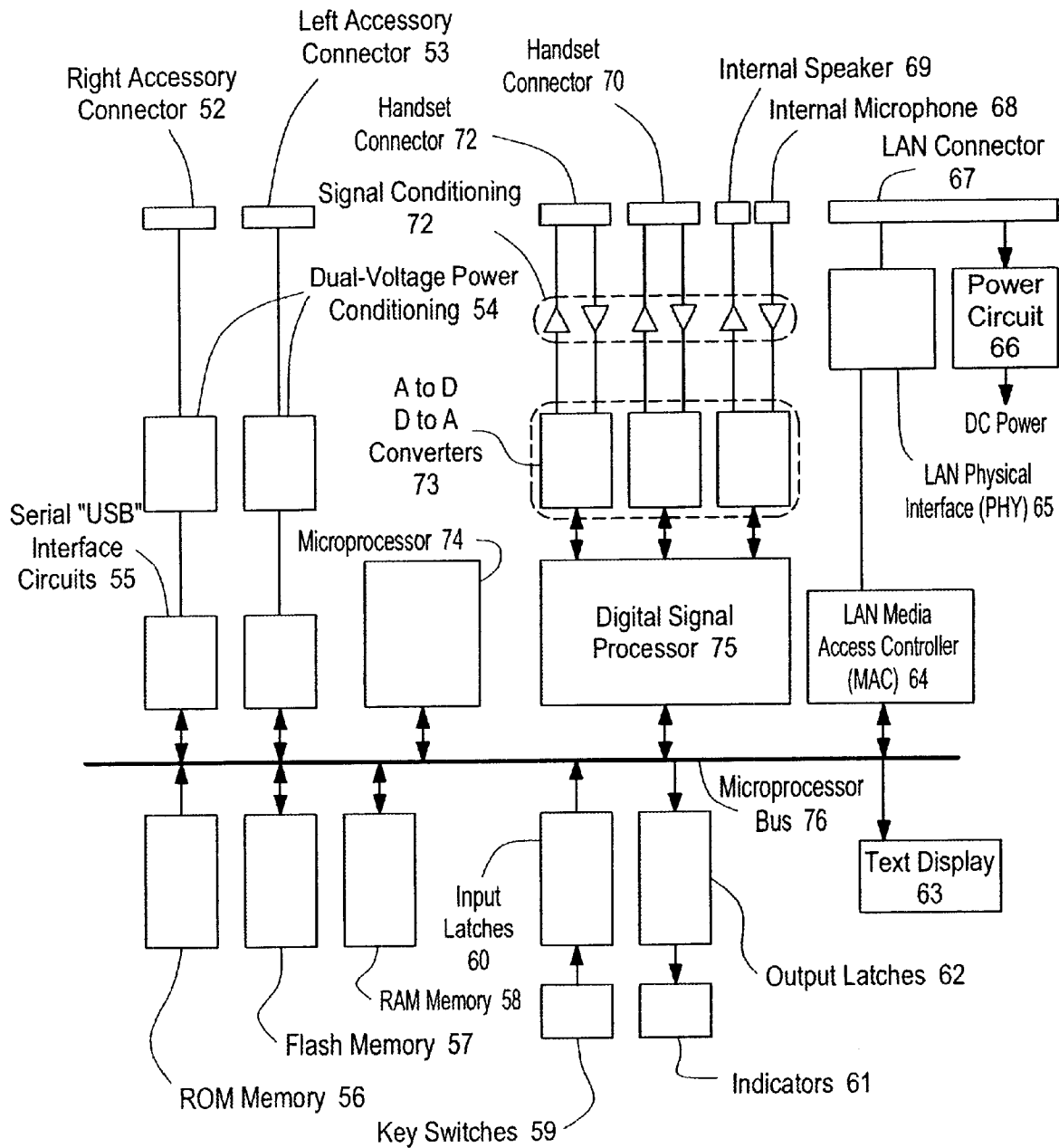


FIG. 5

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