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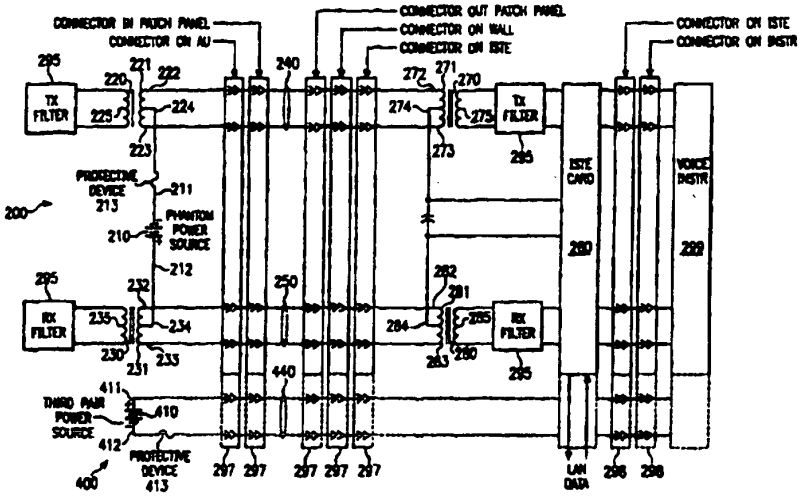

(57) Abstract

A power subsystem and method for providing phantom power and third pair power via a computer network bus, the bus including first and second conductors. The phantom power subsystem comprises: (1) a power supply having a positive output and a negative output, the power supply adapted to provide power via the positive and negative outputs and (2) first and second transformers, each of the first and second transformers having a winding, each of the windings having a pair of end taps and a center tap, the first conductor coupled to the end taps of the winding of the first transformer to allow data communication therebetween, the second conductor coupled to the end taps of the winding of the second transformer to allow data communication therebetween, the positive and negative outputs of the power supply coupled to the center taps of the windings of the first and second transformers, respectively, to allow the power supply to transmit the power, via the first and second transformers and the first and second conductors, to equipment couplable to the first and second conductors.

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MULTIMEDIA SYSTEM HAVING CENTRAL POWER SOURCE AND DISTRIBUTION SUBSYSTEM

TECHNICAL FIELD OF THE INVENTION

The present invention is directed, in general, to multimedia systems and, more specifically, to a power subsystem for a multimedia subsystem and a method of providing phantom and third pair power therefor, the subsystem providing a central power source and distribution of power to equipment comprising the system.

BACKGROUND OF THE INVENTION

Currently, "Information superhighway" and "multimedia" are probably the most often spoken and least often understood aspects of a coming revolution in data communication. Although issues specific to an information superhighway are beyond the scope of the present discussion, interactive multimedia systems are very much within the present scope.

An interactive multimedia system is broadly defined as a system capable of processing, storing, communicating and coordinating data pertaining to visual information, aural

information and other information. Visual information is generally divided into still picture or graphics and full motion video or animation categories. In the vernacular of those involved in multimedia, such visual information is generically referred to as "video." Aural information is generally divided into speech and non-speech categories and is generically referred to as "voice." "Other information" is directed primarily to computer data, often organized in files and records, and perhaps constituting textual and graphical data. Such computer data are generally referred to as "data."

To date, multimedia has, for the most part, been limited to stand-alone computer systems or computer systems linked together in a local area network ("LAN"). While such isolated systems have proven popular and entertaining, the true value of multimedia will become apparent only when multimedia-capable wide area networks ("WANs") and protocol systems are developed, standardized and installed that permit truly interactive multimedia. Such multimedia systems will allow long distance communication of useful quantities of coordinated voice, video and data, providing, in effect, a multimedia extension to the voice-only services of the ubiquitous telephone network.

Defining the structure and operation of an interactive multimedia system is a critical first step in the development of such system. Accordingly, before entering into a discussion herein of more specific design issues, it is important to discuss more general questions that need to be resolved concerning design objectives of the system as

a whole and some generally agreed-upon answers and specifications.

Interactive multimedia may be thought of as an electronic approximation of the paradigm of interactive group discussion. It involves the interactive exchange of voice, video and data between two or more people through an electronic medium in real time. Because of its interactive and real-time nature, there are some stringent requirements and required services not normally associated with multimedia retrieval systems. Some of the more obvious examples of those requirements and services include latency (transmission delay), conferencing, availability ("up-time") and WAN interoperability.

The evolution of existing private branch exchange ("PBX") and LAN topologies towards a composite interactive multimedia system based upon client/server architectures and isochronous networks is a natural trend. However, to merge the disparate mediums of voice, video and data successfully into a cohesive network requires that three fundamental integration issues be defined and resolved. The first of the fundamental integration issues is quality of service ("QoS"). QoS is defined as the effective communication bandwidth, services and media quality coupling of separate equipment or "terminals" together and the availability ("up-time") of the same. QoS parameters are divided into four groups: 1) terminal QoS, 2) network QoS, 3) system QoS, and 4) availability requirements. Thus, QoS parameters must be defined for both terminal equipment ("TE") and network equipment ("NE") governing the

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