

ABSTRACT

(Figure 2)

AN ANALOG FRONT END INTEGRATED CIRCUIT FOR
COMMUNICATION APPLICATIONS

A communications analog front end which functions as an analog and digital interface in combination with a microcontroller, DSP and the telephone or cellular network, with the DSP and

5 microcontroller for coupling to the local workstation. The invention provides independent control of a digital and audio channel, with each channel having its own A/D and D/A converter pairs, separate programmable gain and attenuation on each channel, separate sample rates (e.g., from 1.2 kHz to 44.1 kHz at 8/16 bit

10 resolutions) for the A/D converters, two low power, high stability on-chip oscillators, sample buffering on the audio channel (256 byte FIFOs) and, independent control of programmability of D/A output voltage levels, the A/D converters, and the D/A converters. The invention is for use in a system which enables a user to

15 communicate between a local workstation, which may or may not be connected to a local area network (LAN), and a remote workstation, which may be coupled to its own LAN, via a modem over a telephone line network or a cellular network or as a standalone unit, i.e., not coupled to the local workstation, to perform certain tasks

20 which are not processor intensive such as, for example, retrieval of E-mail messages from the remote workstation.

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