

Am7901A/B

Subscriber Line Audio-Processing Circuit
WORLD-CHIP™
PRELIMINARY

DISTINCTIVE CHARACTERISTICS

- Combination CODEC and Filter
- No trimming or adjustments required
- Uses digital signal processing
- Six user-programmable digital filters
- Dynamic Time Slot assignment
- Only 2 external components (non-precision)
- Dual PCM ports
- 4.096 MHz, 64-channel expanded mode operation
- Built-in test modes
- Microprocessor-compatible Serial Interface
- Control interface to SLIC
- Low standby power
- Selectable linear, μ -law (Am7901A) or μ -law, A-law (Am7901B)

GENERAL DESCRIPTION

The Subscriber Line Audio-Processing Circuit (SLAC) performs the codec and filtering functions necessary in digital voice switching machines. In this application, the SLAC processes voiceband analog signals into Pulse-Code Modulated (PCM) outputs and processes PCM inputs into analog outputs. The SLAC's performance is compatible with applicable AT&T and CCITT specifications. The device consists of three main sections: transmit processor, receive processor, and control logic.

The transmit section contains an anti-aliasing filter, an interpolative A/D converter and a digital signal processor. The analog signals received are converted and digitally processed to generate either 16-bit linear or 8-bit μ -law codes (Am7901A), or 8-bit μ -law or A-law codes (Am7901B).

Either one of two output ports may be selected for PCM data transmission.

The receive section contains a digital signal processor and a D/A converter. Either 16-bit linear or 8-bit μ -law codes (Am7901A), or 8-bit μ -law or A-law codes (Am7901B) are received, processed and converted to analog signals. Either one of two input ports may be selected for reception of PCM data.

The control I/O provides a microprocessor-compatible serial interface and allows the user bi-directional access to many programmable features and the capability to completely control the operation of the device via a comprehensive set of 32 commands.

BLOCK DIAGRAM



