# Am7901A/B

Subscriber Line Audio-Processing Circuit
WORLD-CHIP<sup>TM</sup>
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  $\mu$ -law codes (Am7901B), or 8-bit  $\mu$ -law or A-law codes (Am7901B).

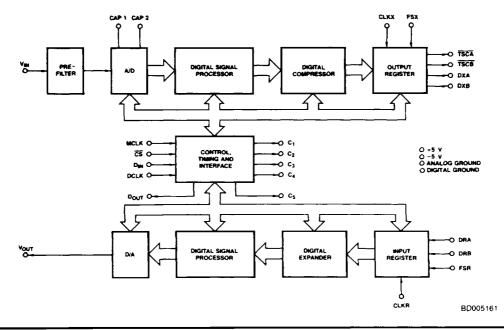
Either one of two output ports may be selected for PCM data transmission.

The receive section contains a digital signal processor and a D/A converter. Either 16-bit linear or 8-bit  $\mu$ -law codes (Am7901A), or 8-bit  $\mu$ -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.

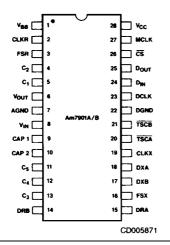
The control I/O provides a microprocessor-compatible serial interface and allows the user bi-directional access to many programmable features and the capability to completely control the operation of the device via a comprehensive set of 32 commands.

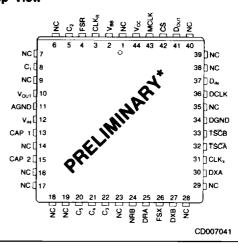
#### **BLOCK DIAGRAM**

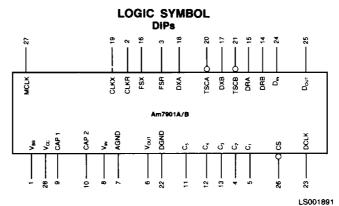


Order #01520D

# CONNECTION DIAGRAM Top View



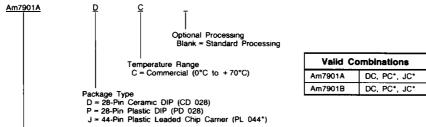




## **ORDERING INFORMATION**

AMD products are available in several packages and operating ranges. The order number is formed by a combination of the following:

Device number, speed option (if applicable), package type, operating range and screening option (if desired).



AMD Device Type Am7901A (Linear, μ-Law) Am7901B (A-Law, μ-Law) Subscriber Line Audio-Processing Circuit (SLAC) WORLD-CHIP

\*Preliminary. Subject to change.

### Valid Combinations

Consult the local AMD sales office to confirm availability of specific valid combinations, to check on newly released valid combinations, and to obtain additional data on AMD's standard military grade products.