# HD64941

## ACI (Asynchronous Communications Interface)
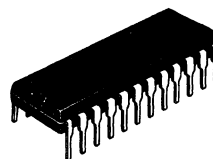
The HD64941 (ACI) is a universal asynchronous data communications controller chip that interfaces directly to most 8-bit microprocessors and may be used in a polled or interrupt-driven system environment. The HD64941 accepts programmed instructions from the microprocessor while supporting asynchronous serial data communications in full- or half-duplex mode.

The HD64941 serializes parallel data characters received from the microprocessor for transmission. Simultaneously, it can receive serial data and convert it into parallel data characters for input to the microcomputer.
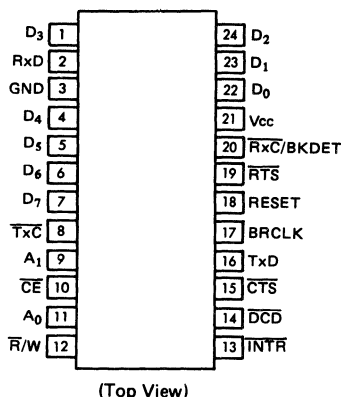
The HD64941 contains a baud rate generator which can be programmed to either accept an external clock or to generate internal transmit or receive clocks. Sixteen different baud rates can be selected under program control when operating in the internal clock mode.

## –ADVANCE INFORMATION–

HD64941



(DP-24N)

■ PIN ARRANGEMENT



| | | |
|---|---|---|
| $D_3$ | 1 | 24 | $D_2$ |
| RxD | 2 | 23 | $D_1$ |
| GND | 3 | 22 | $D_0$ |
| $D_4$ | 4 | 21 | Vcc |
| $D_5$ | 5 | 20 | $\overline{RxC}$/BKDET |
| $D_6$ | 6 | 19 | $\overline{RTS}$ |
| $D_7$ | 7 | 18 | RESET |
| $\overline{TxC}$ | 8 | 17 | BRCLK |
| $A_1$ | 9 | 16 | TxD |
| $\overline{CE}$ | 10 | 15 | $\overline{CTS}$ |
| $A_0$ | 11 | 14 | $\overline{DCD}$ |
| $\overline{R/W}$ | 12 | 13 | $\overline{INTR}$ |

(Top View)

## ■ FEATURES
- 5- to 8-bit characters plus parity
- 1, 1½ or 2 stop bits transmitted
- Odd, even or no parity
- Parity, overrun and framing error detection
- Line break detection and generation
- False start bit detection
- Automatic serial echo mode (echoplex)
- Local or remote maintenance loopback mode
- Baud rate:
  - DC to 1M bps (1 x clock)
  - DC to 62.5k bps (16 x clock)
  - DC to 15.625k bps (64 x clock)
- Internal or external baud rate clock
- 16 internal rates
- Double-buffered transmitter and receiver
- Single +5V power supply
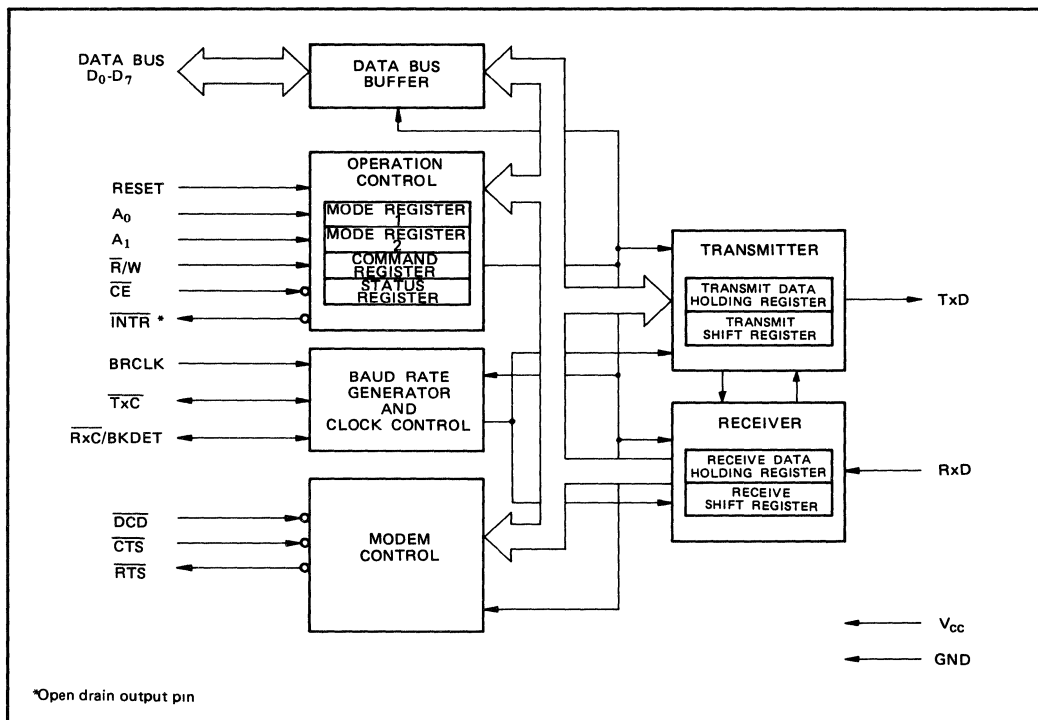- Signetics SCN2641 compatible

■ **BLOCK DIAGRAM**



Figure 1  ACI Block Diagram

■ **APPLICATIONS**

- Intelligent terminals
- Network processors
- Front-end processors
- Remote data concentrators
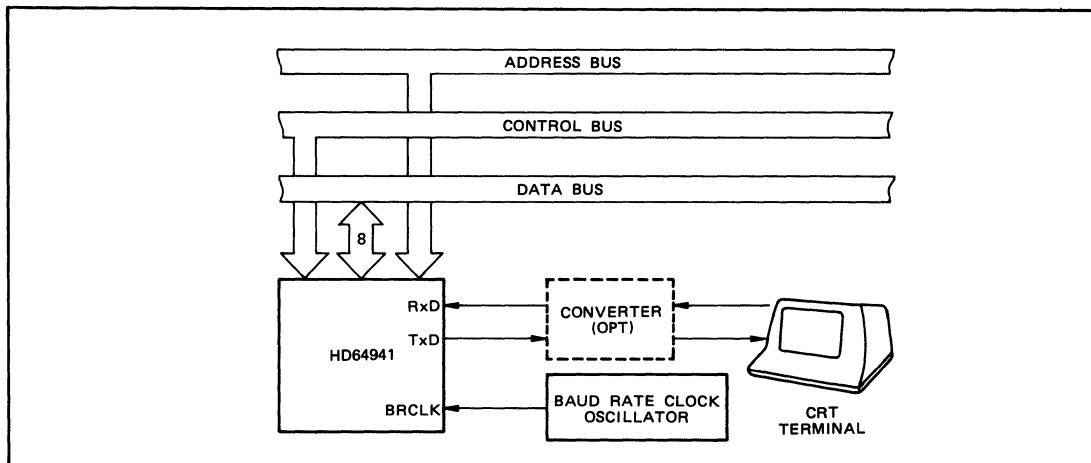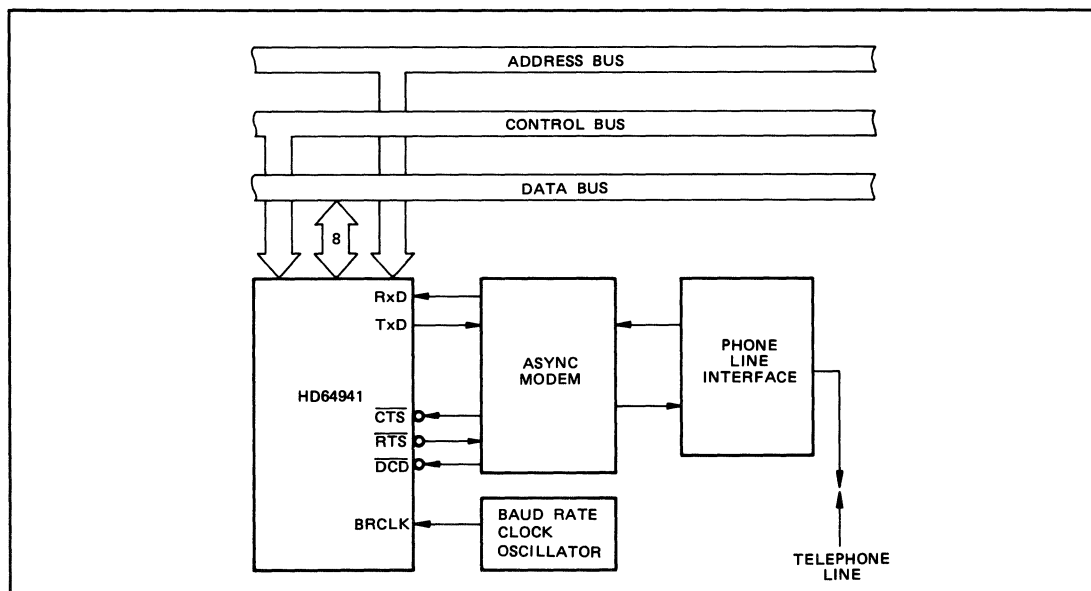- Serial peripherals



Figure 2  Asynchronous Interface to CRT Terminal



Figure 3  Asynchronous Interface to Telephone Lines