UMC

UM82450/UM8250

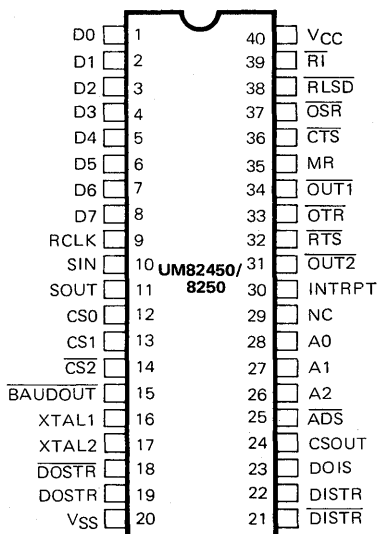**Asynchronous Communication Element (ACE)**

Feature

- Adds or deletes standard asynchronous communication bits (Start, Stop, and Parity) to or from serial data stream
- Full double buffering eliminates need for precise synchronization
- Independently controlled transmit, receive, line status, and data set interrupts
- Programmable baud rate generator allows division of any input clock by 1 to $(2^{16} - 1)$ and generates the internal 16x clock
- Independent receiver clock input
- Modem control functions (CTS, RTS, DSR, DTR, RI, and carrier detect)
- Single +5 volt power supply

- Fully programmable serial-interface characteristics
  - 5-, 6-, 7-, or 8-Bit characters
  - Even, Odd, or No-Parity bit generation and detection
  - 1-, 1½-, or 2-Stop bit generation
  - Baud rate generation (DC to 56K baud)
- False start bit detection
- Complete status reporting capabilities
- Easily interfaces to most popular microprocessors
- Line break generation and detection
- Internal diagnostic capabilities
  - Loopback controls for communications link fault isolation
  - Break, parity, overrun, framing error simulation
- Full prioritized interrupt system controls

General Description

UM82450 and UM8250 are programmable Asynchronous Communication Element (ACE) chips fabricated with Si-Gate NMOS process. The UM82450 is an improved specification version of the UM8250. These two products perform serial-to-parallel conversion on data characters received from the CPU. The CPU can read the complete status of the ACE at any time during the functional operation. They also includes a programmable baud rate generator that is capable of dividing the timing reference clock input by divisors of 1 to $(2^{16} - 1)$, and producing a 16x clock for driving the internal transmitter logic.

Pin Configuration

Pin			Pin
D0	1	40	V_CC
D1	2	39	RI
D2	3	38	RLSD
D3	4	37	OSR
D4	5	36	CTS
D5	6	35	MR
D6	7	34	OUT1
D7	8	33	OTR
RCLK	9	32	RTS
SIN	10	31	OUT2
SOUT	11	30	INTRPT
CS0	12	29	NC
CS1	13	28	A0
CS2	14	27	A1
BAUDOUT	15	26	A2
XTAL1	16	25	ADS
XTAL2	17	24	CSOUT
DOSTR	18	23	DOIS
DOSTR	19	22	DISTR
V_SS	20	21	DISTR

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Block Diagram