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ADVANCE INFORMATION

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DATA SHEET

29C93

TERMINAL RATE ADAPTOR CIRCUIT (TRAC)

MAIN FEATURES

- SPEED ADAPTION OF V24 TERMINAL TO ISDN "B" CHANNEL
- FULL ECMA 102 IMPLEMENTATION SYNC. AND ASYNC. TERMINAL
- DATA RATE 50 TO 19200 BPS IN ASYNC. MODE
- DATA RATE 600 BPS TO 56KBPS IN SYNC. MODE
- END TO END AND LOCAL FLOW CONTROL
- NETWORK INDEPENDENT CLOCK SUPPORTED IN SYNC. MODE (INTERNAL DPLL)
- SUPPORTS V25BIS PROTOCOL FOR CALL SET-UP
- IN-BAND PARAMETER EXCHANGE (ECMA 102 IPE)
- EASY INTERFACE WITH X21 TERMINALS THROUGH X21 CONTROLLER (HC 55421)
- V24 INTERFACE
- PROGRAMMABLE SERIAL SYSTEM INTERFACE
- 8 BIT MICROPROCESSOR INTERFACE

1. DESCRIPTION

The 29C93 is a Terminal Rate Adaptor Circuit (TRAC) performing the speed adaption of synchronous and asynchronous V24 terminals to the ISDN "B" channel at 64 Kbps. The TRAC is directly connected to the serial bus extension provided by the 29C90 (DPC). The 29C91 (Digital Loop Controller) supplies the Master Clock, Bit Clock and Frame Synchronization to the TRAC.

In asynchronous mode, it is possible to exchange data between two terminals working at different speeds, however, according to ECMA102 specification, the two terminals must use the same intermediate rate.

For synchronous terminals, the TRAC is able to work with network independent clocks without addition of external circuits.

In X21 applications, the V24 interface from the TRAC should be directly connected to the X21 controller (HC 55421) serial interface.

The microprocessor receives the distant terminal parameters, using external memory for buffering.

"End to End" or "Local" flow control can be implemented using "XON/XOFF" or "105/106" circuits. The in-band parameter exchange (IPE), as specified in ECMA102, is fully supported by the 29C93. During initialization, the microprocessor can transmit on a byte basis through the TRAC µP interface a set-up message which will be sent at 64Kpbs over the B channel.

In addition, the V25bis protocol for call establishment is also supported by the TRAC in asynchronous mode.

The 29C93 can be programmed to interface directly with several possible serial bus configurations including MHS DSB standard (see "system bus modes" table).

The TRAC, together with MHS 29C90/29C91, provides a cost-effective solution for implementation of a Terminal Adaptor function in "S" interface applications according to ECMA102 standard.