

**DESCRIPTION**

The TSC 73M2921 is a CMOS integrated circuit which provides all the modem "Data Pump" functions required to implement an intelligent V.22bis data and V.29 facsimile modem. It consists of a DSP (Digital Signal Processor) core with RAM and ROM data memory, ROM instruction memory, and register mapped input/output functions including timers, interrupts, ADC and DAC ports and serial data I/O.

The TSC 73M2921 also contains advanced features such as DTMF tone generation and detection, precise call progress detect and CLASS® functions such as CAS tone detection.

Other features include a parallel "mailbox" style control port between the host processor and the DSP. This control port also provides direct hardware control of the TSC 73M2921. A synchronous serial channel is provided for transmit and receive DTE data (with synchronizing clocks RxCLK, TxCLK and ExCLK).

The DSP also contains an on-chip oscillator and a power control circuit providing power saving modes dependent on host control, register bits and input sources, such as DTR, bit stream and ring detect.

The system "Control" function can be implemented with a commercial micro controller (such as the Z80, 8051 or 68302) or with the TSC 73M2910 (or other family member).

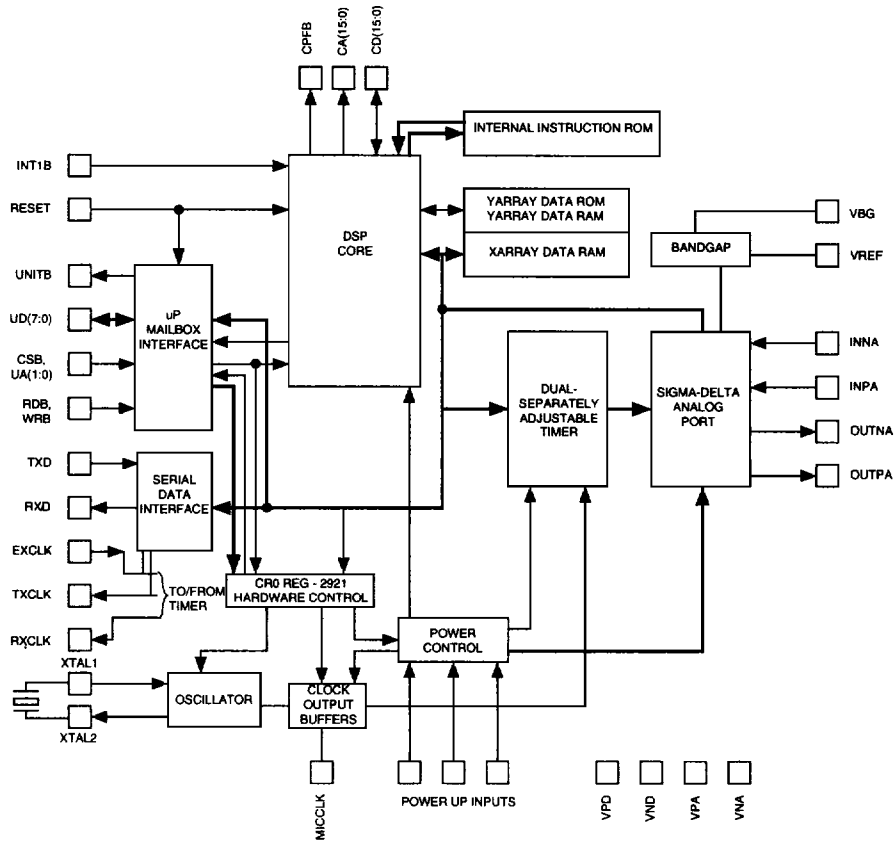
**FEATURES**

- **Data Speeds:**
  - V.22bis - 2400 bit/s
  - V.22, Bell 212 - 1200 bit/s
  - V.21, Bell 103 - 300 bit/s
  - V.23 1200 B/S - 75 bit/s
  - Bell 202 1200 bit/s
- **Facsimile Speeds:**
  - V.29 - 9600, 7200 bit/s
  - V.27ter - 4800, 2400 bit/s
  - V.21 ch 2 - 300 bit/s
- **Low implementation chip count**
- **Designed for 3.3 or 5 V systems.**
- **Low Power (~100mW) with power control options.**
- **Speaker Monitor output.**
- **Interfaces with TSC's custom TSC 73M2910 family or industry standard micro-controller.**
- **Provides 2 tone generators for single or DTMF tone generation**
- **Provides DTMF tone detection**
- **Provides 4 precise and 1 imprecise call progress detect filters.**
- **Provides CAS tone detection for CLASS® feature support.**
- **Supports synchronous serial data I/O, and parallel (8 bit) control.**
- **DSP provides micro-controller interrupt.**
- **The TSC 73M2921 is available in a TQFP package for production. A pin grid array package is available for prototyping.**

# TSC 73M2921

## Advanced Single Chip Modem

### BLOCK DIAGRAM



**Advanced Information:** Indicates a product is either in prototype testing or undergoing design evaluation prior to full production release. Specifications are based on design goals or preliminary evaluation and are not guaranteed. Small quantities are usually available and TDK Semiconductor Corporation should be consulted for current information.

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