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12-Channel Universal Access Processor

M80310

The M80310 12-channel universal access processor from Mindspeed Technologies, Inc. provides a complete solution for transporting multiple media types between circuit-switched and packet-based networks. The M80303 is ideally suited for enterprise and carrier infrastructure solutions serving the converging voice and data networks.

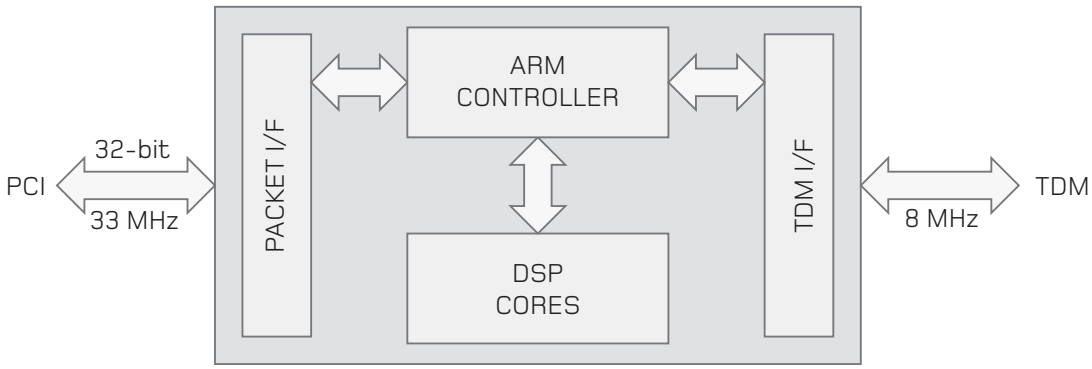
Mindspeed's M80310 addresses new requirements such as Fax over IP (T.38), and modem pass-through while maintaining support of traditional PSTN data/fax termination needs. Additionally, the M80310 supports a rich feature set of Voice over Internet Protocol (VoIP) encapsulations and protocols.

The M80310 combines powerful DSP cores with a programmable packet-processing ARM™ controller. This processor is offered as a complete software solution, running Mindspeed's extensive suite of field-proven data and fax modulations, voice echo cancellers and general telecommunications protocols, providing complete IP packets.

KEY FEATURES

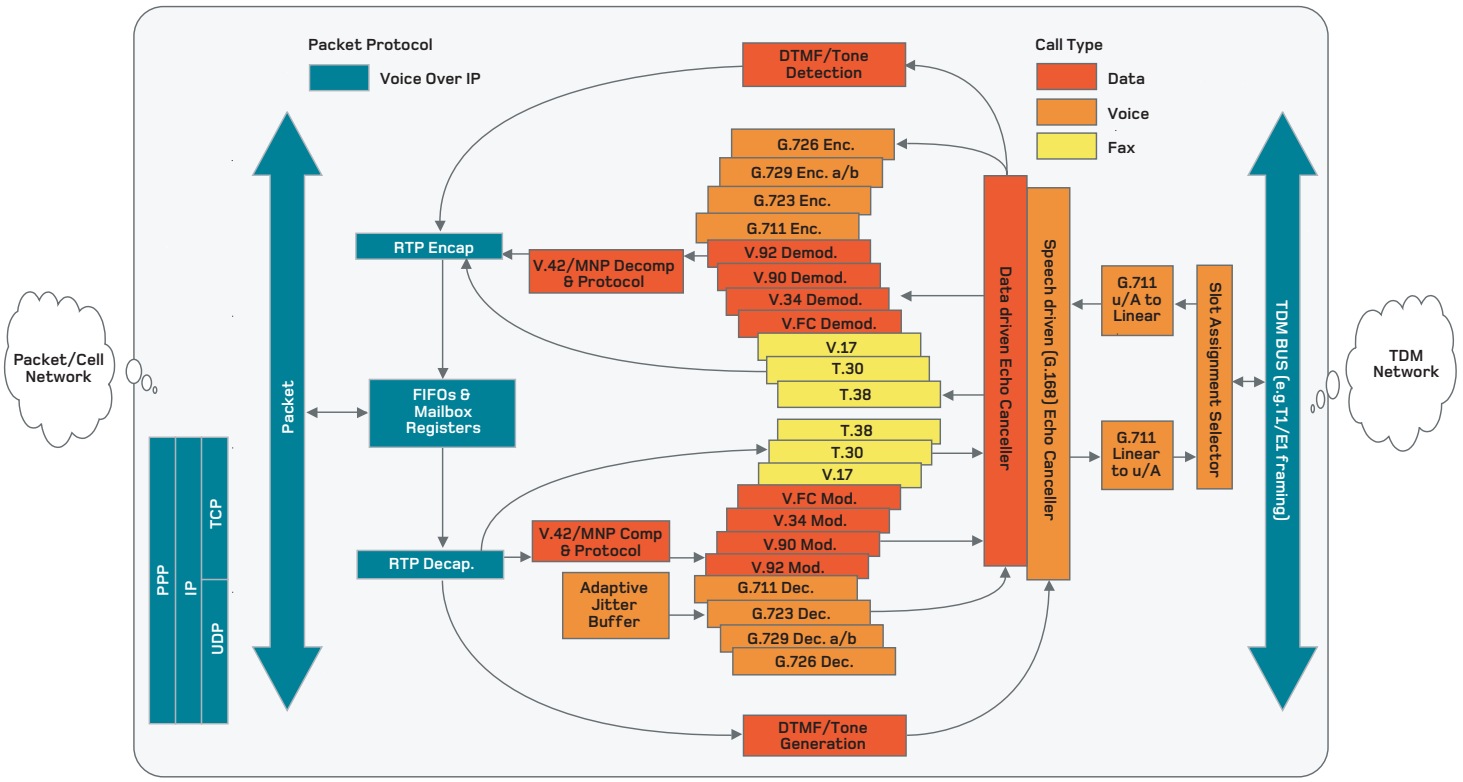
- 12 channels of voice codec, fax or data modem termination
- Voice coders: G.711, G.723, G.726, G.729a/b
- Speech processing: G.168 EC, jitter buffer, VAD, DTMF detect
- Data and fax modulations: V.92, V.90, V.34, V.32bis, V.17, V.29
- Error correction and compression: V.44, V.42bis, V.42, MNP 2-5
- Complete packet processing: RTP, and UDP
- ISDN: 64/56 Kbps ISDN BRI, HDLC or data pass-through
- Compact 17 mm, 256 ball BGA with 1 mm ball pitch

Applications include small and midrange voice and data terminating routers, IP PBXs, WAN access devices, low density remote access concentrators (RAC), voice gateways, call agents, and various other products benefiting from a complete voice and data access system solution.



Hardware Architecture

Software Architecture



Product Features

Generic

- 12 channels of complex voice, fax or data modem termination
- Low voltage operation with +5 V tolerant inputs
- Downloadable controller firmware and DSP code
- Advanced RISC machines (ARM940T) controller cores
- 32-bit, 33 MHz PCI host bus interface or 8.192 MHz TDM serial host bus interface
- Programmable TDM bus with time slot selection and support for multiple time slots per channel
- Built-in phase lock loop (PLL)
- PC100- and JEDEC-compliant SDRAM controller with 32-bit data bus

Signaling

- DTMF detection and generation
- Multi-frequency tone support for legacy network equipment (R1 and R2)

Data

- PSTN: ITU-T V.92, V.90, K56flex, K56Plus, (33.6 Kbps), V.FC, V.32 bis, V.32, V.22 bis, V.22, V.23, and V.21; Bell 212A and Bell 103
- ISDN: 64/56 Kbps ISDN basic rate interface B channel HDLC control, or data pass-through mode for HDLC processing elsewhere in the central site system
- Internal error correction and data compression (ECC)
- V.42 LAPM and MNP 2-4 error correction
- V.44, V.42 bis and MNP 5 data compression
- Async/Sync HDLC conversion
- V.120 ISDN data
- V.110 cellular data
- V.110 and V.120 auto detection

Fax

- V.17, V.33, V.29, V.27 ter, and V.21 channel 2
- T.30 protocol and class 2 supported

Voice

- G.168 128 ms network echo canceller
- G.711 μ-Law and A-Law
- G.723.1 and G.723.1 Annex A
- G.726
- G.728
- G.729 Annex A and Annex B
- Patented robust jitter buffer
- VoIP, including support for RTP and UDP frames
- Additional voice codecs available

Modem and Fax over IP

- Modem pass-through
- T.38 real time fax

Packet Processing

Voice over IP

- Generation and termination of complete IP packet
- Support of real time protocol (RTP)
- Support of user datagram protocol (UDP)
- Lookup functions, packet generation and termination
- DTMF digits can be detected and transported
- Support of RTCP

www.mindspeed.com/salesoffices

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