

# Comcerto™ 700 Series Carrier Convergence Processor

## M82710

### 404-Channel Communications Convergence Processor

Mindspeed's Comcerto 700 Series M82710 Carrier Convergence Processor delivers the industry's highest level of integration and performance. It combines powerful DSP cores optimized for voice processing and a flexible packet-processing engine. Together with Mindspeed's robust, industry-proven software, the M82710 represents a true carrier-class system-on-chip solution for voice-over-IP (VoIP) and voice-over-ATM (VoATM) applications. It supports packet-to-TDM and packet-to-packet operation across the entire range of IP modulations. The M82710 guarantees secure voice calls over packet networks by combining voice payload encryption and authentication. Dedicated signaling TDM busses provide transparent transport and processing of traditional telephony signaling information between the TDM and packet domain.

The M82710 supports a large suite of wireless communications protocols for W-CDMA and CDMA2000 based networks. Its DSP cores are architected to maximize the density of SMV (IS-893), the latest speech coder used in CDMA2000. Furthermore, it runs the complete tandem-free operation (TFO) protocol for both W-CDMA and CDMA2000 based networks. Additional software features include enhanced 128-way conferencing, caller ID detection and generation.

The M82710 is both pin- and API-compatible with the M82610, Mindspeed's previous generation of carrier-class voice processors. This flexibility allows seamless migration from the M82610 to the M82710, achieving even higher

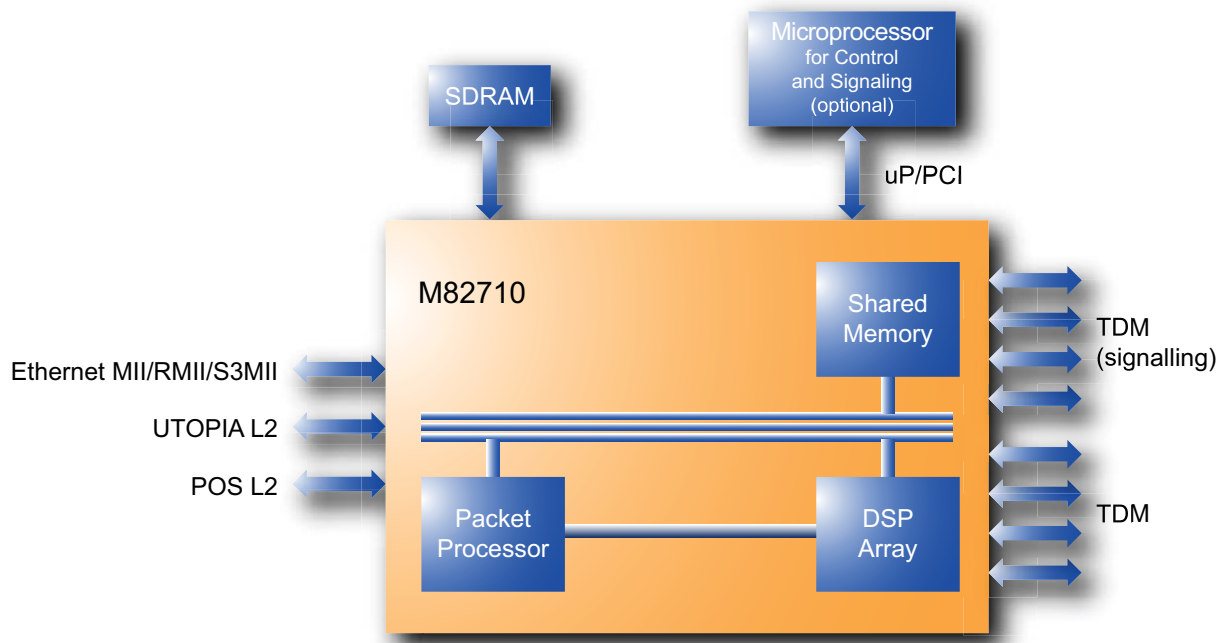
### KEY FEATURES

- > 404 G.711 channels of carrier-class voice
- > 168 channels of G.729 a/b
- > G.168-2002 compliant echo canceller
- > Integrated packet processor and digital signal processor
- > VoIP & VoATM AAL2/5
- > CAS signaling
- > G.7xx, T.38
- > QCELP8/13K, EVRC, SMV
- > AMR
- > AES, DES, 3DES, MMH authentication

performance and integration with little or no system development time.

Applications include voice gateways for next generation networks (NGN), media gateways, wireless base transceiver stations (BTSs) and node-Bs, base station controllers (BSCs), radio network controllers (RNCs), mobile switching centers (MSCs), digital loop carriers (DLCs), optical network terminals (ONTs) and optical line terminals (OLTs) for passive optical networks (PONs), digital subscriber line access multiplexers (DSLAMs), class 4 and 5 switches, integrated access devices (IADs), IP private branch exchanges (PBXs), ATM switches and IP routers.





M82710 Functional Block Diagram

## Product Features

### Voice Codecs and Modulations

- Echo canceller
  - G.168-2002 compliant
  - Echo Tail up to 128 ms
- G.711  $\mu$ -Law and A-Law
- G.711 Appendix I & II
- G.723.1 and G.723.1 annex A
- G.726
- G.728
- G.729 with annex A,B,E,G
- CDMA QCELP8k and QCELP13k
- EVRC
- AMR- NB
- SMV
- iLBC
- Tone detection/generation
- Comfort noise generation

### Packet and Protocol Processing

- Generation and termination of:
  - Complete IP packets (IP/UDP/RTP)
  - Complete Ethernet packets
  - AAL2 and AAL5 streams
- VoIP-over-Ethernet, ATM AAL5
- TDM signaling processing for CAS
- Transcoding:
  - Packet-to-packet
  - Any frame size to any frame size
  - Any voice codec to any voice codec

- Enhanced 128-way conferencebridging
- Caller ID generation and detection

### Security

- Voice payload encryption: AES, DES, 3DES
- Authentication: MMH, SHA1

### Relay Functions

- FAX/modem pass-thru
- T.38 fax relay
- CAS signaling relay

### System Support

- ARP, ICMP
- Ethernet boot and control
- Remote diagnostic capture

### Diagnostic Support

- Redundancy support: 1:1 & 1:N

### Wireless Communications Protocols

- Tandem-free operation (TFO) for W- CDMA & CDMA 2000
- luUP protocol for W-CDMA
- Voice quality enhancements including automatic level control and noise reduction

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82710-BRF-001-E

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