

PEB 35512 (GEMINAX-V)  
 PEB 55508 (GEMINAX-D)  
 PEB 3558 (GEMINAX-A)  
 PEB 4561 (GEMINAX-S)  
 PEB 22716 (GEMINAX-L2)  
 PEB 4565 (GEMINAX-SL)

Global Enhanced Multiport Integrated  
 ADSL Transceiver



# GEMINAX

## Applications

- Splitterless multirate ADSL data transmission combined with POTS voice for CO, Access Network, MSAP and DLC

## Features

- Combined voice and G.dmt/G.lite chipset (IVD) for 8 channels
- No additional POTS splitter required for ATU-C side
- Compliant to ITU-T G.992.1 (G.dmt), G.992.2 (G.lite), and G.994.1 (G.hs)
- Compliant to ANSI T1.413 I2
- Performance measurements according to ITU-T G.996.1 (G.test)
- Compliant to ITU-T Q.552 Z Interface, LSSGR TR57/507 for voice transmission
- ATM UTOPIA-2 interface
- 8-bit parallel host interface
- PCM or IOM-2 interface

- All memory on-chip, no external memory required for GEMINAX
- Future proof due to software upgrade options
- Programmable digital filters for country specific settings like:
  - Impedance matching
  - Transhybrid balancing
  - Frequency response
  - Gain
- Fully programmable DC characteristics
- Programmable teletax injection and filtering
- Polarity reversal (soft/hard) for payphones
- Integrated ringing
  - Programmable ring amplitude (up to 85 Vrms)
  - Automatic DC ring trip detection with programmable threshold
  - Ring generation with zero crossing injection
  - No ring relays required
- External ringing supported
- Programmable thresholds for on-hook, off-hook and ring trip detection
- Integrated DCXO for synchronization of PCM voice and ADSL data subsystems
- Support of software controlled Integrated Test & Diagnostic Functions (ITDF):
  - Integrated line testing
  - Loops for Integrated Board/
  - Circuit Testing
- Dr.DSL(TM) firmware running on GEMINAX-D for ADSL pre-qualification and maintenance
- < 1 W power dissipation per channel (20 dBm line level, on-hook)
- -40°C to +85°C operating range

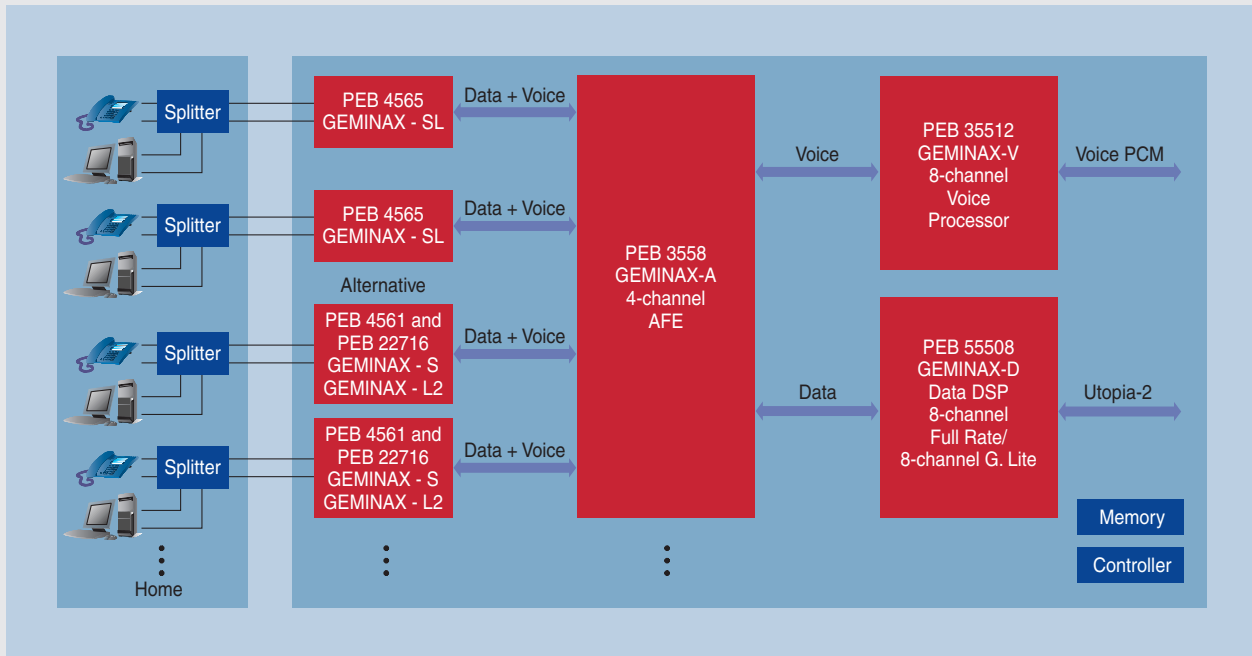
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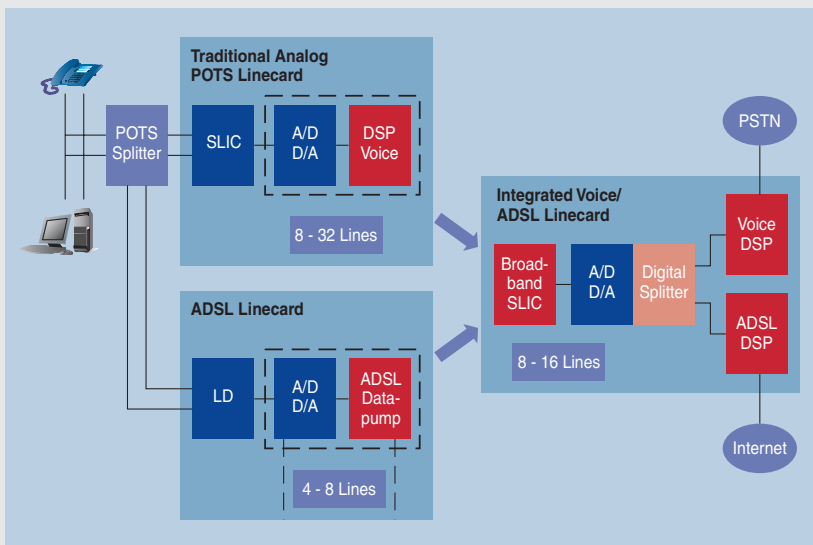


Never stop thinking.

## Integrated Voice Data (IVD) Principle



## Splitterless High Integrated Voice & Data Linecard



- Applications for high-density IVD Linecards
- ADSL full-rate or lite operation selectable for each channel
- Support of all analog linecard services and BORSCHT functions

- Only one single linecard without any external POTS splitter required
- POTS and ADSL loop qualification by on-chip firmware, no additional hardware required

### GEMINAX-V

ADSL Voice DSP, 8 channels, P-MQFP-64 package

### GEMINAX-D

ADSL Data DSP, 8 channels, P-TQFP-144 or P-LBGA-256 package

### GEMINAX-A

Analog Front End for ADSL and Voice, 4 channels, P-TQFP-144 or P-LBGA-192 package

### GEMINAX-S

Broadband SLIC, 1 channel, P-VQFN-64 package

### GEMINAX-L2

ADSL Dual-Channel Linedriver, 2 channels, P-DSO-36 or P-VQFN-48 package

### GEMINAX-SL

Broadband SLIC and Linedriver, 1 channel, P-DSO-36 package

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