



## Apollo 3 ADSL Modem Chipset

## Solution Summary

**Integrated Telecom Express** is a leading innovator and manufacturer of Asymmetric Digital Subscriber Line (ADSL) OEM chips and software.

**Interoperable** ITeX products adhere to all ANSI and ITU specifications. ITeX's participation in all the major standards groups, including DSL Forum, ISWG and UNH-IOL offers assured interoperability worldwide.

**Compatible** with Microsoft Windows 95, 98, 2000, Millenium and NT4.0.

**Plug-n-play** install Wizard and graphical user interface makes ITeX solutions easy to install and use.

### Apollo 3

- ITeX's Apollo 3 chipset is a cost effective, controllerless ADSL solution that requires minimal external components. (Only one external line driver is needed in the analog front-end circuit).
- Apollo 3 achieves transmission rates of up to 8 Mbps downstream and 768 Kbps upstream over existing copper wire. This rate is more than 140 times faster than a 56K analog modem.
- Apollo 3 is designed to meet ANSI T1.413 Issue 2, ITU G.dmt and G.lite requirements with both splitter and splitterless operations. In addition, Apollo 3 is interoperable with all major central office DSLAMs. Its software offers maximum implementation flexibility, management, and diagnosis capabilities.

### Protocols

- ✓ Compliant with ANSI T1.413 i2, ITU G.992.1 (G.dmt), G.992.2 (G.lite), and G.994.1 (G.hs) in ADSL layer.
- ✓ Compliant with ITU-I.432 and ITU-I.363 in ATM TC, SAR and AAL5 layers.
- ✓ Supports RFC2364 (PPPoA), RFC2516 (PPPoE), RFC1483 and RFC1577 over ATM



### Performance

- ✓ Data rates up to 8 Mbps downstream and 768 Kbps upstream (Subject to DSLAM configuration).
- ✓ Compliant with Microsoft WHQL Specification

### Features

- ✓ Multi-mode Auto Detection
- ✓ Controllerless configuration with no external memory or controller required.
- ✓ Simple intuitive management & diagnostic GUI.

### Systems

- ✓ Supports Win 95, 98, 2000, Millenium and NT4.0
- ✓ Supports NDIS4, NDIS5, and NDIS WAN Miniport Drivers
- ✓ Supports multiple PVC
- ✓ Standard Windows Wizard driver installation
- ✓ Integrated 32-bit 33MHz PCI 2.1 bus master
- ✓ AFE with 13-bit ADC, 12-bit DAC, and 8.8 MHz sampling rate over 1.1 MHz signal bandwidth

### *Minimal chipset cost and power consumption*

Apollo 3 integrated the PCI to Utopia interface function with the DMT Transceiver/ATM Framing function into one digital chip. It further integrated line receiver into the analog front end. With control function performed by the host, Apollo 3 reduces the need for external memory and controller. The computing requirement on the chip is also minimized and the power consumption is greatly reduced.

### *Maximum programming flexibility*

With control functions and partial system routines performed by the host, programming can be developed, tuned, updated, and maintained easily.

### *Most Robust PCI Design*

Apollo 3 inherits the successful Apollo 2 product designed for use as a PC systems internal PCI modem card. Plug-and-play intuitive graphical user interface and support for all the major operating systems make Apollo 3 the ideal solution for high performance broadband Internet access.

**Apollo 3 - Chipset and Software**

The Apollo 3 solution consists of a digital chip (i90388), an analog front-end (i80234), and specially designed software.



**Apollo 3 - Digital Chip**

The Apollo 3 digital chip (i90388) provides a low-cost solution to enable ADSL access. i90388 includes three major blocks: PCI interface and sub-system control, a DMT Transceiver/ATM Framer, and an AFE interface. The i90388 digital chip has a built-in PCI 2.1 bus master interface for use as an internal PC modem.



**Apollo 3 - Analog Front End (AFE)**

The Apollo 3 AFE (i80234) contains one 12-bit DAC and one 13-bit ADC, each with an 8.8 MHz sampling rate. The Apollo 3 AFE only dissipates 0.7 watts in full operation and includes a power down mode for standby.



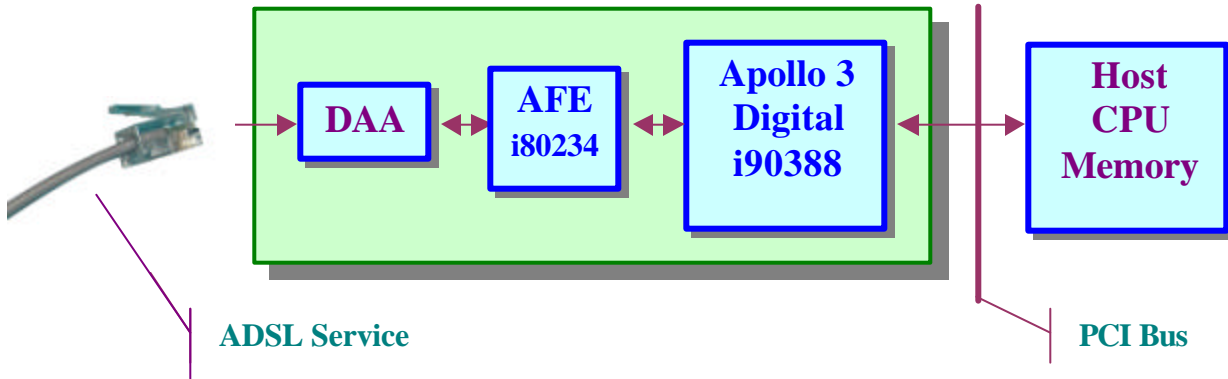
**Apollo 3 - Software**

The Apollo 3 driver software is based on the various NDIS network miniport driver models for various Microsoft Windows OS platforms. It consists of ADSL TC, ADSL PMD, ADSL handshaking, ATM TC, SAR, AAL layer, miniport driver and H/W chipset interface. Furthermore, Apollo 3 supports management API for the developer and OEM's flexibility.



**Package**

- Apollo Digital i90388 - 176-pin LQFP
- Apollo Analog Front End i80234 - 64-pin LQFP



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