

# ZiLOG Transpro<sup>TM</sup>

**Transaction Processing Modem  
Z02922 Data Pump/AFE**



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# Agenda

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- ◆ **ZiLOG Commitment to the Embedded Modem**
- ◆ **What Is the Transaction Processing Modem and Quick Connect?**
- ◆ **What Is ZiLOG's Transaction Processing Modem?**
- ◆ **Z02922 Data Pump/AFE Description**
- ◆ **Additional Features**
- ◆ **Modem Schematic**
- ◆ **Modem BOM With Component Costs**
- ◆ **Availability**
- ◆ **Summary**



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## Commitment

- ◆ **ZiLOG Is Committed to Support Your Embedded Modem Needs**
- ◆ **Today**
  - 2400bps and 9600bps
- ◆ **Tomorrow**
  - 14.4kbps and Faster
  - 3.3volt
  - Higher Integration -- Single Chip



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## ZiLOG's Transpro™ Modem

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- ◆ **Integrated Product Z02922 Data Pump/AFE**
- ◆ **Supports Popular Modulation Standards...**
  - V.22bis, V.23, V.22, V.21, Bell212a, Bell103
- ◆ **Plus V.29 Quick Handshake and ITU Standard V.29**
- ◆ **9600bps Max. Data Rate (Tx/Rx)**
- ◆ **Competitive BOM Cost**
- ◆ **ZiLOG Can Arrange Assistance With Your Design**
  - Both Hardware and Software



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## Quick Connect Handshake

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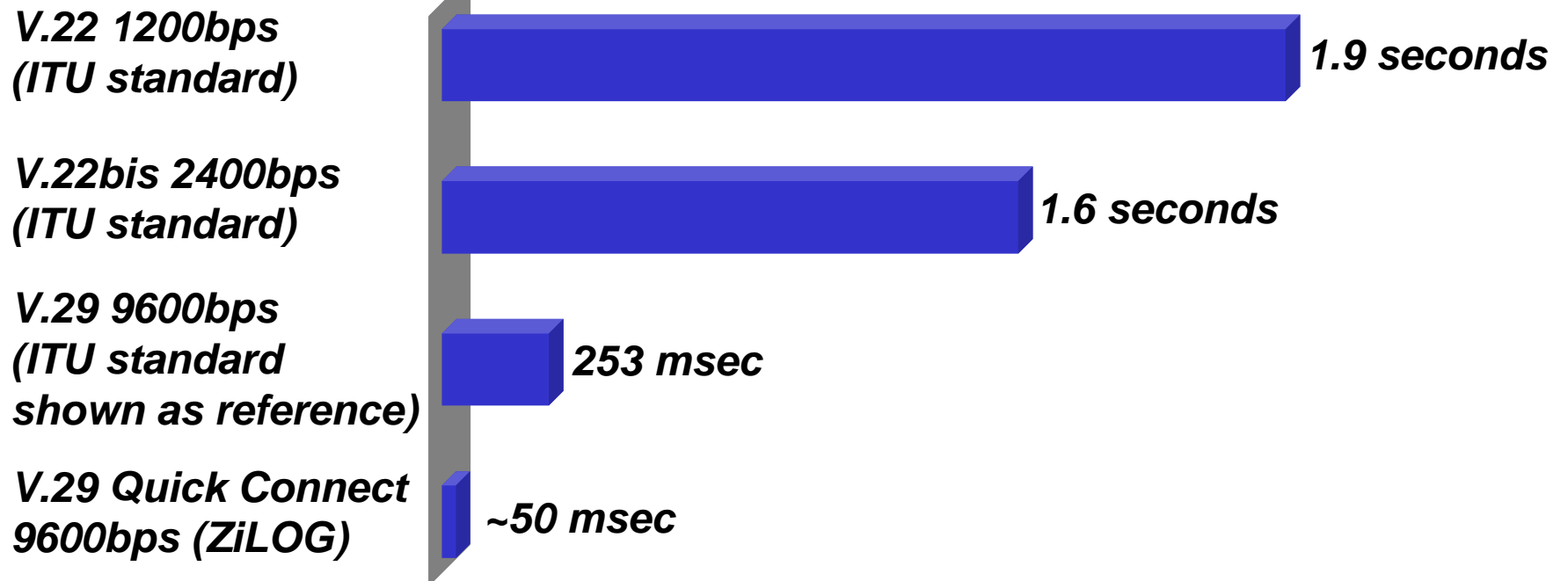
- ◆ **ZiLOG Works With the Leaders in the Transaction Processing Industry to Address the “Transaction Processing Modem”**
- ◆ **ZiLOG’s Z02922 Data Pump/AFE Supports a Quick Handshake for Applications Where Fast Transaction Turnaround Is Critical**
- ◆ **V.29 Quick Connect Uses the Short V.29 Handshake to Reduce Training Time From ITU Standard 253msec to Below 50msec**
- ◆ **1200bps Quick Connect Can Be Externally Controlled**



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# Handshake Times

## ***ITU-standard Handshakes Are Too Long for Some Applications!***



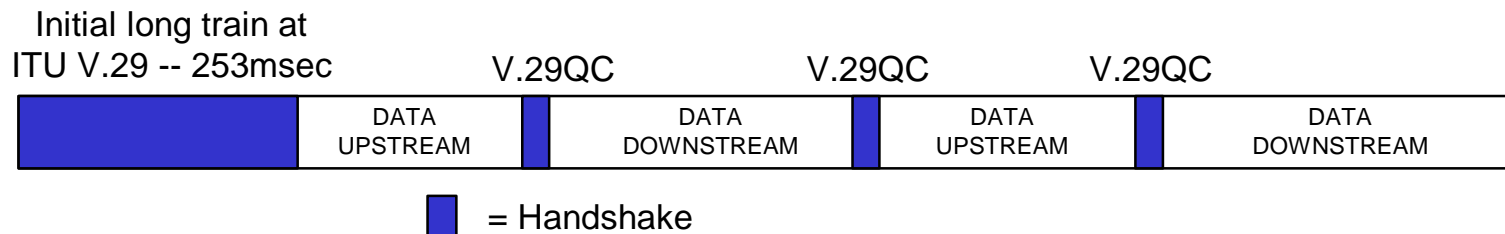
***Note that the V.29 Quick Connect is not an ITU standard handshake***



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# A Quick Connect Session

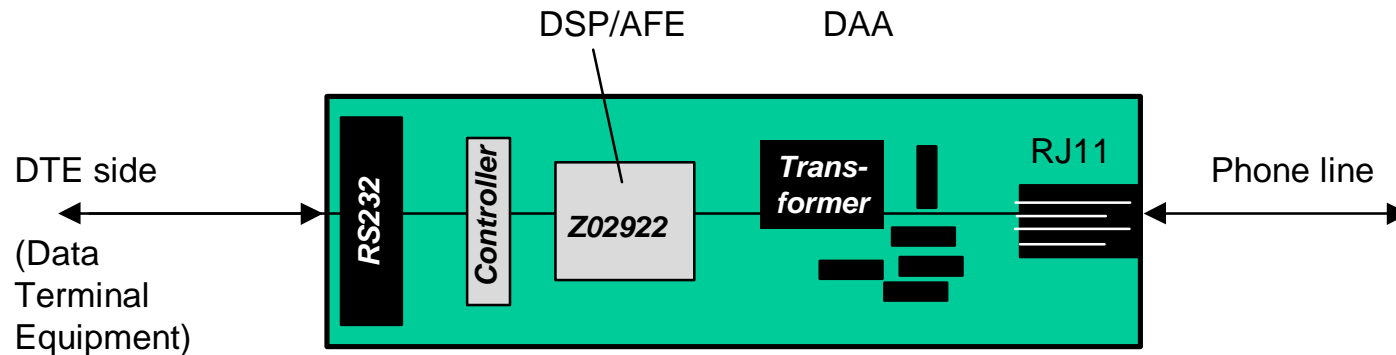
- ◆ Initial “Long Train” V.29 Handshake Must Be Done to Train Modem Equalizers for That Particular Phone Connection
- ◆ Subsequent Direction Changes in the Line Can Then Use the Quick Connect Handshake
- ◆ At 9600bps Half Duplex, the Quick Line Turnaround Creates a Quasi Full Duplex Operation -- Which Approaches 9600bps Full Duplex Transmission Speeds





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# Transpro™ Modem Overview



- ◆ **No External Memory**
- ◆ **Minimum External Logic Required**
- ◆ **Hybrid Included On-chip Reduces BOM Cost. “Direct Connect” to the DAA**





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## Z02922 Transpro™ DSP/AFE

Parallel I/F	DSP	ADC DAC
V.24 Serial I/F	8KW ROM	Osc
	512W RAM	Eye Pattern

- ◆ **Low power consumption**
  - **50mA Active Mode**
  - **25uA Sleep Mode**
- ◆ **Small Package**
  - **44-pin PLCC**

- ◆ **Single Chip Data Pump and AFE Solution**
- ◆ **V.29 “Quick Connect” Reduces Handshake Time -- Improves Line Turnaround. 50msec Vs. 254msec ITU Standard**
- ◆ **“V.29QC” \*, V.29, V.22bis, V.22, V.23, V.21, Bell212a/103**
- ◆ **1200bps “Quick Connect” Handshake Sequence Can Be Externally Controlled**
- ◆ **2 Types of Handshake Timings**
  - **Automatic ITU Standard Handshakes**
  - **Manual Control Over Handshakes (All Except V.29QC)**
- ◆ **Auto-dial and Answer Support**
  - **DTMF & Calling Tone Generation/detection**
  - **Call Progress Tone Detection**
- ◆ **Excellent Line Compensation**
  - **Multiple Compromise and Cable Equalizers**
- ◆ **HDLC Framing in Software**
- ◆ **No External Memory Required, Minimal External Logic**

\* Note that V.29QC is not an ITU standard



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## Additional Features

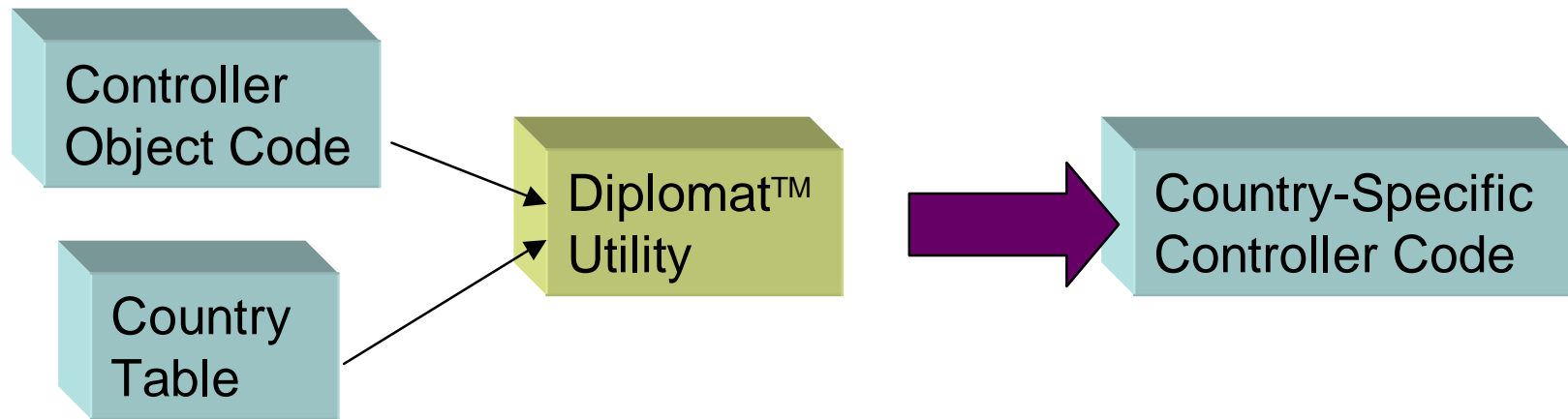
<b>Feature</b>	<b>Benefit</b>
<b>Control Handshake Manually</b>	<b>Customization</b>
<b>Quick Connect Handshake</b>	<b>Compatibility</b>
<b>Programmable Transmit Level</b>	<b>-6db to -43db More Country Qualifications</b>
<b>Programmable DTMF Tone Transmit</b>	<b>Programmable</b>
<b>Programmable Bandpass and Tone Detectors</b>	<b>Replace Old Analog Tone Detection Logic. Save Cost.</b>
<b>Simple, Flexible Homologation</b>	<b>Less Engineering</b>
<b>V.23 for Europe and South America</b>	<b>Same Solution Serves Worldwide</b>
<b>2- to 4- Wire Hybrid Integrated Onchip</b>	<b>Fewer Components, Lower Cost</b>
<b>Small Packages</b>	<b>Small P.C. Board</b>



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## Diplomat™ Code Utility

- ◆ **Simplify country qualifications**
- ◆ **Modify controller Object code**
  - No need for source code
- ◆ **Text-based**



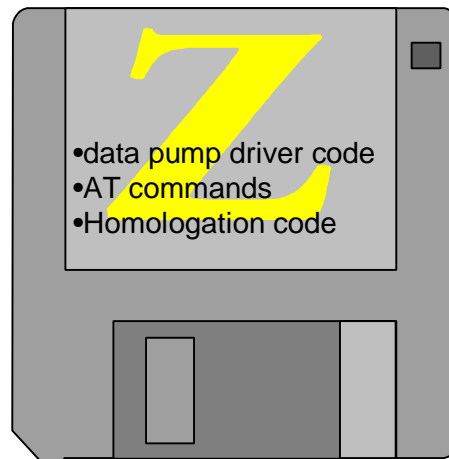


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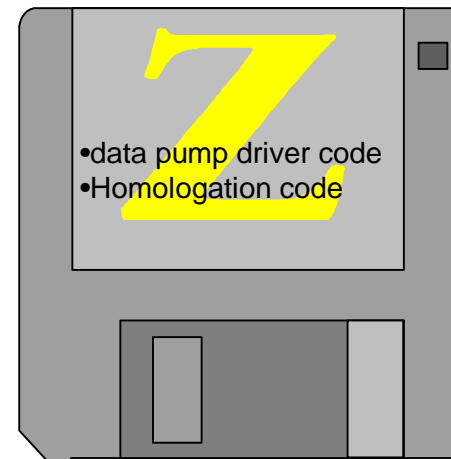
## Software Available

- ◆ **You Choose the Design Alternative That Meets Your Needs**
  - **Data Pump Driver Code in 'C' -- No Fee**
  - **Full Controller Source Code in 'C' Available for One-time Fee**

**\$10K License Fee**



**No License Fee**





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## Transpro™ Modem BOM

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### PART NUMBER

### DESCRIPTION

<b>Z0292212VSC</b>	<b>Data Pump/AFE 44PLCC</b>	<b>1</b>
<b>24.576mhz</b>	<b>Crystal</b>	<b>1</b>
<b>Various</b>	<b>Caps</b>	<b>11</b>
<b>Various</b>	<b>Resistors</b>	<b>10</b>
<b>671-8005</b>	<b>Transformer</b>	<b>1</b>
<b>Zener</b>	<b>Diodes</b>	<b>4</b>
<b>Various</b>	<b>Diodes</b>	<b>3</b>
<b>4N35</b>	<b>Opto Isolator</b>	<b>1</b>
<b>0.25 Amp</b>	<b>Fuse</b>	<b>1</b>
<b>SPST</b>	<b>Relay</b>	<b>2</b>
<b>RJ11</b>	<b>Phone Jack</b>	<b>1</b>
<b>PC Board</b>	<b>PCB</b>	<b>1</b>
<b>VR101 250V/4.5A</b>	<b>Varistor</b>	<b>1</b>



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## Main Applications

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### ◆ The Transpro™ Modem's Primary Applications:

- Credit Card Network Access Controllers
- Credit Card Verification Terminals
- Point of Sale Modem
- Gas Pump Modem
- 9600bps Applications



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## Z02922/Z02205 Availability

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◆ <b>Samples</b>	<b>Now</b>
◆ <b>Production</b>	<b>Now</b>
◆ <b>Evaluation Kit</b>	<b>Now</b>
◆ <b>Product Spec</b>	<b>Now</b>
◆ <b>Customer Procurement Spec</b>	<b>Now</b>

**Think Remote. Think Dial-up. Think ZiLOG.**



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## Zilog Transpro™ Modem

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- ◆ **Competitive BOM Cost**
- ◆ **Low Component Count Solution**
- ◆ **Basic Data Pump Driver Code Is Available**
- ◆ **Customization Is Available**
  
- ◆ **Visit Zilog's Web Site at [www.zilog.com](http://www.zilog.com)**