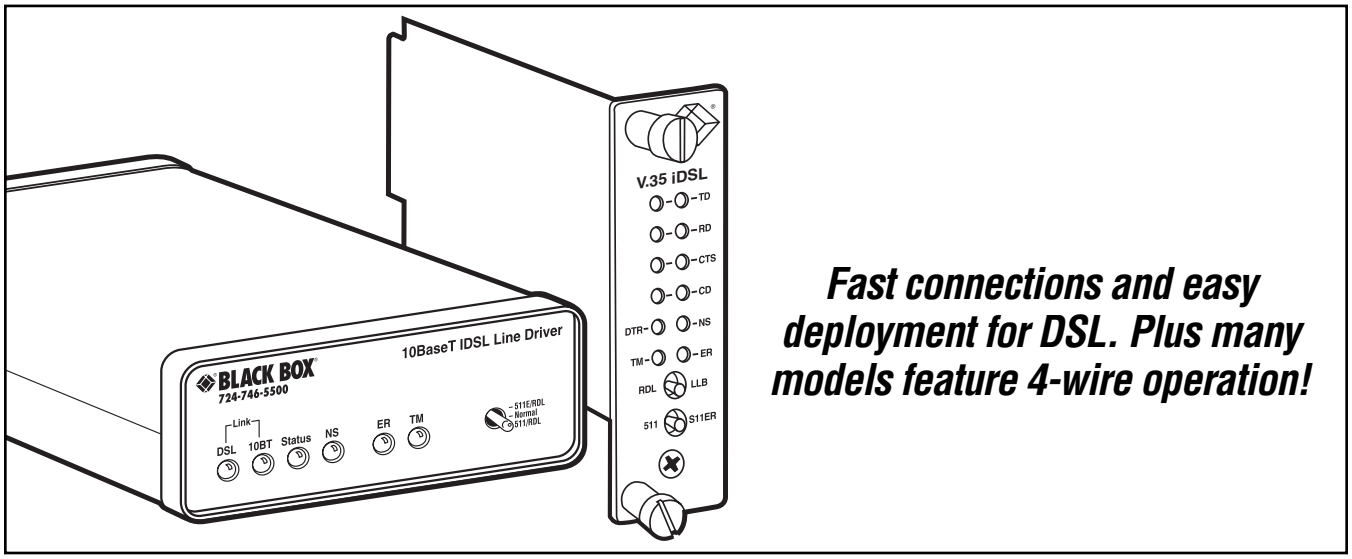
BLACK BOX®
NETWORK SERVICES

2-WIRE IDSL LINE DRIVERS • MANAGED MICRORACK



Fast connections and easy deployment for DSL. Plus many models feature 4-wire operation!

Key Features

- ***Affordable IDSL solutions with data rates up to 128 kbps.***
- ***Rack cards and QuikConnect stand-alone models support 2-/4-wire operation and feature hot-swap-able interfaces.***
- ***2B1Q line coding lessens crosstalk and boosts SNR ratios.***
- ***MicroRACK enables multiple configurations and network management options.***

You want fast network connections, right? But you want an affordable and easy-to-deploy solution, too. Our IDSL brings you the high speed you need at a low cost and is easy to use.

Black Box has many IDSL Line Drivers that provide high speeds and deployment flexibility to meet the connection requirements of your network.

2-Wire IDSL Line Driver Rack Cards

With many network interfaces and data formats to support, managing a network can be frustrating. But Black Box makes things easier with our 2-Wire IDSL Line Driver Rack Cards.

These cards provide full-duplex operation and sync data rates up to 128 kbps, at distances up to 5 miles (8 km), over 24 AWG and 10 miles (16.1 km), over 19 AWG.

If you need to send data at high speeds beyond 5 miles, the cards enable you to extend distances by using four wires instead of two!

The cards feature 2B1Q line coding, which lessens crosstalk between adjacent lines and improves signal-to-noise ratios.

All cards come with front and rear modules. Rear modules distinguish the cards from each other by interface and connector. All front modules are the same for each card, with an LED display providing extensive diagnostics.

QuikConnect™ technology enables you to hot-swap rear modules and switch interfaces. Choose from cards with a variety of interfaces: dual V.24 (RS-232)/V.35, V.35, RS-530, G.703, X.21, or 10BASE-T.

16-Port Managed MicroRACK

Place your 2-Wire IDSL Line Driver Rack Cards in the versatile 16-Port Managed MicroRACK.

The MicroRACK accepts one or two AC or DC power supplies in any combination. Each supply provides 100% of the rack's power requirements. When two supplies are used, they operate in a dual redundant load-sharing operation. The load sharing makes them even more reliable. In the event one supply fails, the second unit immediately takes over. The rack also notifies the central site operator of the failure through the network management system.

For 10BASE-T Ethernet connections, management is provided by the Managed Micro-RACK SNMP/HTTP Card. It enables you to configure, control, and perform diagnostics using

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SNMP management software and MIB walking tools. Or you can use the card with a Web browser to view embedded HTTP/HTML management screens.

The SNMP/HTTP card is the perfect complement to our 2-Wire IDSL Line Driver Rack Cards. The SNMP/HTTP cards come with user-friendly management software that enables an operator to control a MicroRACK from anywhere in the world via the Internet.

For total network control, equip your 16-Port Managed MicroRACK with a Managed MicroRACK Control Module. It enables you to daisychain up to eight MicroRACKs, using a Control Module in each of the racks— that gives you total control of up to 120 2-Wire IDSL Line Driver Rack Cards! Plus, you can manage the 120 remote modem/line drivers as well!

There are five possible configurations for the 16-Port Managed MicroRACK:

- Standard—16 cards plus 1 power supply;
- Managed—15 cards, 1 SNMP/HTTP card, plus 1 power supply;
- Redundant—14 cards plus 2 power supplies;
- Managed/Redundant—13 cards, 1 SNMP/HTTP card, plus 2 power supplies;
- Daisychained/Redundant—13 cards, 1 SNMP/HTTP card, or 1 Managed MicroRACK Control Module, plus 2 power supplies.

2-Wire IDSL Standalone Line Drivers

Of course, you might not need all the options featured in our rack cards and Managed MicroRACK. So to bring IDSL speed and affordability to your desktop, check out our 2-wire line drivers.

These units provide full-duplex sync speeds up to 128 kbps, at distances up to 5 miles (8 km) over 24 AWG and up to 10 miles (16.1 km) over 19 AWG. When used as remote units, they're also manageable via SNMP.

Like the line cards, these standalone drivers also feature 2B1Q coding. They also come with a 90–260-VAC universal wallmount power supply.

Choose from three models. The 2-Wire Standalone IDSL Line Drivers can interface with V.35, X.21, or 10BASE-T Ethernet.

QuikConnect™ IDSL Standalone Line Drivers

Your final options for IDSL deployment are the QuikConnect IDSL Standalone Line Drivers. Combining the convenience of desktop management with the interface options found in our rack cards, the QuikConnect IDSL Standalone Line Drivers provide an added dimension of flexibility.

These units provide full-duplex operation and sync data rates up to 128 kbps, at distances up to 5 miles (8 km), over 24 AWG and 10 miles (16.1 km), over 19 AWG. If you need to send data at high speeds beyond 5 miles, the standalone line drivers enable you to extend distances up to 11.4 miles (18.3 km) by using four wires instead of two.

When used as remote units, the standalone line drivers are manageable via SNMP. And like all of our other 2-Wire IDSL Line Drivers, they feature 2B1Q coding.

These standalone line drivers include replaceable interface modules, which enable connection to V.24 (RS-232), V.35, RS-530, G.703, X.21, or 10BASE-T.

Choose from two models. The QuikConnect IDSL Standalone Line Drivers come with either a 90–260-VAC universal wallmount power supply or a 48-VDC wallmount power supply.

Technically Speaking

DSL (digital subscriber line) is the root of all xDSL services. In fact, DSL is the root physical layer for ISDN BRI service—two 64-kbps bearer (B) channels and one 16-kbps data (D) channel (2B+D). These channels are bundled together to provide a functional 128-kbps pipeline that can transmit voice, data, fax, or video signals simultaneously.

Here's how DSL (and by extension, xDSL) works: Telephone lines carry frequencies up to 1 MHz. But analog telephone service only requires a maximum frequency of 3.3 kHz, leaving a large amount of unused bandwidth. DSL makes use of this wasted space by piggybacking high-speed data traffic onto the unused bandwidth.

By filtering the frequencies at each end of this range (4 kHz to 2.2 MHz) and isolating them from the voice channels, the local telco can transport both traditional telephone signals and high-speed DSL over the same line that already links your home or business to its central office (CO).

DSL service supports high-speed data transmission over a local loop. As with most xDSL services, speeds increase near the CO and taper off with distance. One other important thing to consider when discussing xDSL is that top speeds and distances are almost always expressed as theoretical maximums, assuming ideal line conditions.

Factors such as crosstalk, wire gauge, line condition, and the presence of load coils or bridge taps on the loop may all limit the effectiveness of, or even preclude the use of, xDSL services.

xDSL encompasses a broad range of digital service options: ADSL (Asymmetric DSL), HDSL (High-Speed Digital Subscriber Line), IDSL (ISDN DSL), RADSL (Rate-Adaptive Asymmetric DSL), SDSL (Symmetric DSL), and VDSL (Very High-Speed DSL). For more information on these digital line services, call the Black Box Technical Support experts at 724-746-5500.

Why Buy From Black Box? Exceptional Value. Exceptional Tech Support. Period.

Recognize any of these situations?

- You wait more than 30 minutes to get through to a vendor's tech support.
- The so-called "tech" can't help you or gives you the wrong answer.
- You don't have a purchase order number and the tech refuses to help you.
- It's 9 p.m. and you need help, but your vendor's tech support line is closed.

According to a survey by Data Communications magazine, 90% of network managers surveyed say that getting the technical support they need is extremely important when choosing a vendor. But even though network managers pay anywhere from 10 to 20% of their overall purchase price for a basic service and support contract, the technical support and service they receive falls short of their expectations—and certainly isn't worth what they paid.

At Black Box, we guarantee the best value and the best support. You can even consult our Technical Support Experts before you buy if you need help selecting just the right component for your application.

Don't waste time and money—call Black Box today.

Specifications

Clocking: ME0001C, ME0009A units: Internal, external, receive recover;
ME0002A units: Internal, receive recover

Compliance: ME0001C, ME0002A units: FCC Part 15A, CTR-1, EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC, ESD EN 61000-4-2, EN55022 Class A conducted and radiated emissions, MET/cMET;
ME0001C-G703 only: Also complies with CTR-14;
ME0009A units: FCC Part 15A, EN55022 Class A conducted and radiated emissions, CTR-1, CTR-14 (G.703 interface), EMC Directive 89/336/EEC, Low-Voltage Directive 73/23/EEC, ESD EN 61000-4-2, MET/cMET

Line Coding: 2B1Q

Management: ME0001C units: DIP switch, SNMP/HTTP with Management Card;
ME0002A units: DIP switch or SNMP at the remote unit;
ME0009A units: DIP switch, VT100 via an EIA/TIA-561 port, or SNMP/HTTP as remote CPE unit

Speed: All units:
Async: Up to 38.4 kbps;
Sync: 32, 56, 64, 128 kbps;
V.35 and X.21 units:
Async: Up to 38.4 kbps

CE Approval: Yes

Indicators: LEDs for DSL link, transmit/receive data, no signal, loop test errors, test mode indication

Operating Temperature: 32 to 122°F (0 to 50°C)

Humidity Tolerance: Up to 90%, noncondensing

Power: ME0001C units: From rack;
ME0002A units:
External wallmount power supply with universal 90–260-VAC input;
ME0009A units: Internal 90–250-VAC, 50–60-Hz universal power supply or -48-VDC supply

Size: ME0001C units:
Front module: 3.1"H x 1"W x 4.8"D (7.9 x 2.5 x 12.2 cm);
Rear module: 2.8"H x 1"W x 3.3"D (7.1 x 2.5 x 8.4 cm);
ME0002A units: 1.5"H x 4.7"W x 5"D (3.8 x 11.9 x 12.7 cm);
ME0009A units: 1.6"H x 7.3"W x 6.6"D (4.1 x 18.5 x 16.8 cm)

Did You Know?

With top data rates ranging from 128 to 144 kbps, IDSL is somewhat of a misnomer. It's equal to ISDN data rates and service at 128 kbps and is slower than the faster (and more expensive) rates of other xDSL varieties. Hence the abbreviation, which stands for ISDN DSL.

Black Box offers the best warranty program in the industry—Fido Protection®. For more information, request **FaxBack 22512**.

Ordering Information

ITEM	CODE
2-Wire IDSL Line Driver Rack Cards	
V.24 (RS-232)/V.35 (DB25 F)	ME0001C-V24
V.35 (M/34 F)	ME0001C-V35
RS-530 (DB25 F)	ME0001C-RS530
64-kbps G.703 (RJ-45)	ME0001C-G703
X.21 (DB15 F)	ME0001C-X21
10BASE-T (RJ-45)	ME0001C-10BT
2-Wire IDSL Standalone Line Drivers	
V.35 (M/34 F), 90–260 VAC	ME0002A-V35
X.21 (DB15 F), 90–260 VAC	ME0002A-X21
10BASE-T (RJ-45), 90–260 VAC	ME0002A-10BT
QuikConnect™ IDSL Standalone Line Drivers	
with Universal Power Supply	ME0009A-IDSL
with 48-VDC Power Supply	ME0009A-IDSL-48
To rackmount your line driver cards, you may need…	
16-Port Managed MicroRACK	RM260
Managed MicroRACK SNMP/HTTP Card	RM261C-SNMP
Managed MicroRACK Control Module	RM262C
Autosensing 90–260-VAC Power Supply	PS466A
-48-VDC Power Supply	PS466A-DC