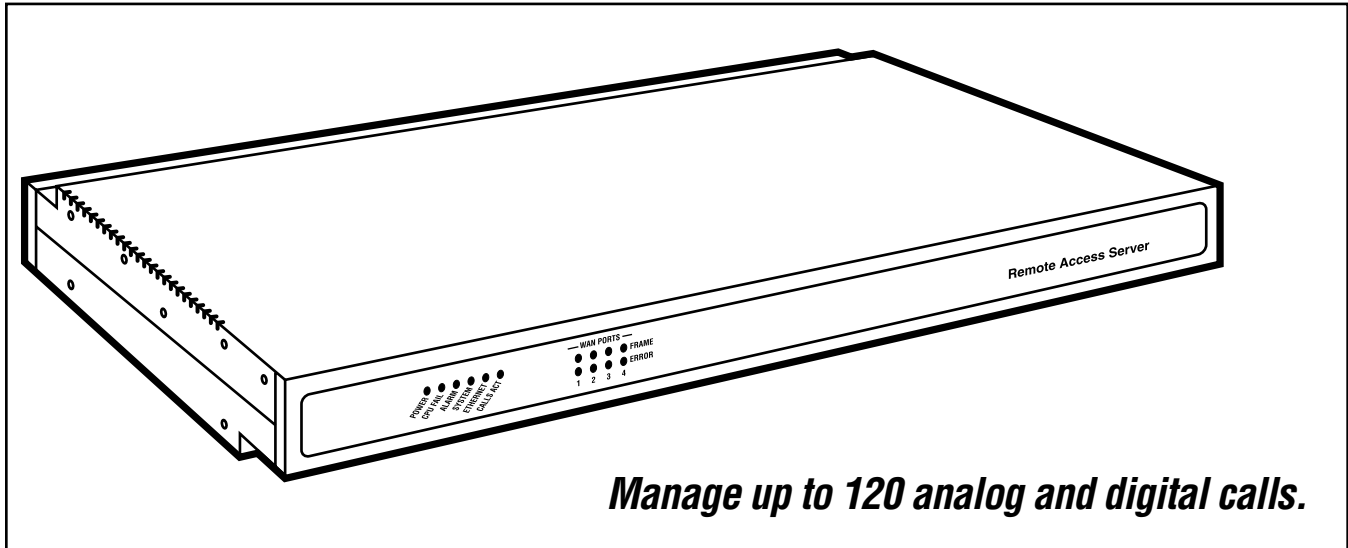# BLACK BOX®
NETWORK SERVICES

REMOTE ACCESS SERVERS

Manage up to 120 analog and digital calls.

Key Features

▶ **Expand your dialup access system.**

▶ **Support up to 120 simultaneous analog or digital ISDN calls.**

▶ **Four WAN ports support T1/E1/PRI.**

▶ **Support Frame Relay/ PPP network uplinks.**

▶ **Autosensing LAN port supports full-duplex Ethernet and Fast Ethernet connections.**

▶ **Multiple management options.**

▶ **Dual power supplies.**

▶ **Convection cooled.**

A remote access server, generically speaking, enables authorized users to dial into or out of a LAN. It's a standalone device that attaches directly to a network via Ethernet or Token Ring.

A remote access server may feature internal modems or be attached to external modems via RS-232 cable. Many remote access servers also support ISDN with either internal ISDN circuitry or through external terminal adapters.

A remote access server also enables authorized LAN users to dial out to remote devices or services from anywhere on the network through a centralized modem. This eliminates the need for each user to have a separate modem and phone line—saving you a ton of money.

Find a server built just for you.

The type of remote access server you select depends on the size of your LAN, the amount of remote traffic it handles, and how many operating systems you run in your LAN/WAN environment.

The BLACK BOX® Remote Access Servers enable you to lower your equipment costs while expanding your dialup services. They simultaneously connect from 16 to 120 analog or digital modem users to the Internet, IP LANs, or a corporate intranet. They're great for Internet Service Providers (ISPs) and for providing a central network access point for remote users.

Choose from Remote Access Servers with either dual or quad T1/E1/PRI WAN ports. While all servers feature 4 WAN ports, the dual-port models enable you to use 2 of the 4 ports to receive between 16 and 60 calls. You can configure the remaining two ports for Frame Relay/PPP uplinks and establish WAN redundancy. The quad-port servers, on the other hand, enable you to use all 4 WAN ports for T1/E1/PRI modem connections and receive between 96 and 120 calls.

All servers come with an auto-sensing 10-/100-Mbps Ethernet LAN port that supports full-duplex operation. Manage them via an integrated SNMP/HTTP system through the console port or any Web browser. Access the command line interface through either the front-panel RS-232 console port or via Telnet™.

The servers also include dual power supplies, so they stay up and running even if one power supply fails. In addition, the servers are convection cooled—no fans are required, which wear out over the long run. Furthermore, running fans increase your power expenses. But the BLACK BOX® Remote Access Servers lower your costs in so many ways!

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

Approvals: Canada: cMET, CS-03; CE Approval; EMC Directive 89/336/EEC; FCC: Part 15, Classes A and B; Part 68; ITU: CTR-4, CTR-12, CTR-13; Low-Voltage Directive 72/23/EEC (EN60950); UL® 1950 (MET)

Authentication: RADIUS, PAP/CHAP, Username/Password, Static Users Database

Management: HTTP; SNMP; Telnet via dial-in, Ethernet, or RS-232 console port; SYSLOG client; remote software upgrade via FTP; user-configurable login prompts and banners

Memory: 4 MB Flash; 32 MB EDO DRAM

Modem Standards: ITU: V.92, V.90, V.42/V.42 bis error correction and compression, V.34 Annex 12, V.34, V.32, V.32 bis, V.23, V.22, V.22 bis, V.21, sync/async receiver/transmitter for V.14, V.8, V.8 bis; K56flex™; Bell 212A, Bell 202, Bell 103; EIA-PN-2330

Processor: RISC-based Intel® i80960VH

Protocol Services: TCP/IP suite with extensive protocol statistics; ICMP/TFTP/FTP/Rlogin/Telnet; Ethernet ARP, Proxy ARP, RARP protocols; Point-to-Point Protocol (PPP); SLIP; Van Jacobson TCP header compression; PPP address and protocol compression; RADIUS authentication and accounting with support for primary and secondary servers; RIP, RIPv2; MultiLink PPP; multichassis MultiLink; Layer 3 and 4 filtering

PSTN Signaling: T1 Primary Rate Interface, T1 Robbed Bit with Loop/Ground Start or E&M Wink/Immediate, E1 Primary Rate Interface (Q.931), E1 MFR2 (R2)

Speed: E1: 2.048 Mbps; LAN: 10 or 100 Mbps, half- or full-duplex; RS-232 control port: 230 kbps, async; T1: 1.544 Mbps

Connectors: WAN: (4) RJ-48 (software-selectable for T1, E1, PRI, Frame Relay, or PPP/HDLC); Ethernet: (1) RJ-45 (10/100BASE-T), full-duplex; RS-232: (1) RJ-45 (console)

Indicators: 14 LEDs: (1) each for POWER, CPU FAIL, ALARM, SYSTEM, ETHERNET, CALLS ACT; (2) for STATUS of each WAN port

Operating Environment: Temperature: 32 to 131°F (0 to 55°C); Humidity: 5 to 95% noncondensing

Power: Dual redundant 90–254 VAC, 50/60 Hz, autosensing

Size: 1.75"H (1U) x 19"W x 12"D (4.4 x 48.3 x 30.5 cm)

What the Package Includes

- (1) Remote Access Server
- (1) Guide
- (1) CD
- (1) 10-ft. (3-m) RJ-45 Ethernet cable
- (1) 10-ft. (3-m) DB9 to RJ-45 cable for the console port
- (2) 10-ft. (3-m) RJ-48C WAN connection cables
- (2) power cords
- Rack ears and mounting hardware kit

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

Ordering Information

ITEM	CODE
Remote Access Servers	
Dual T1/E1/PRI	
16 Calls	LRA2900A-16
24 Calls	LRA2900A-24
30 Calls	LRA2900A-30
48 Calls	LRA2900A-48
60 Calls	LRA2900A-60
Quad T1/E1/PRI	
96 Calls	LRA2900A-96
120 Calls	LRA2900A-120
For optimum performance and a 20% savings, order…	
Category 5 Patch Cable, 100-MHz, 4-Pair, Straight-Pinned, PVC, Beige, 10-ft. (3-m)	EVMSL05-0010