LoopStar™ Line-Powered ADSL Wi-Fi Solutions

Line-Powered Access Point Provides Easy and Economical Deployment

Power Module

Outdoor Access Point

Low Profile Access Point

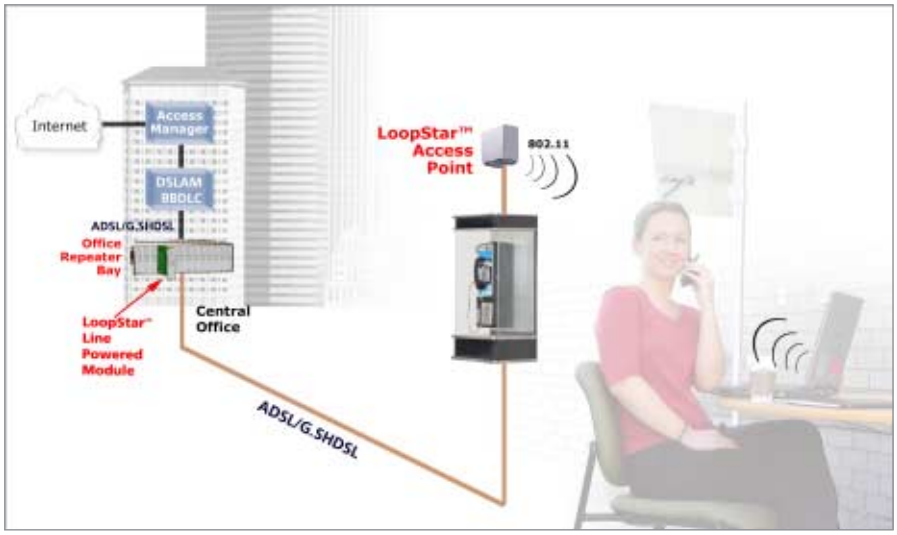
ADC's carrier class LoopStar™ Wi-Fi solutions feature an industry-first, line-powered access point that offers service providers a low-cost and easy-to-deploy approach for building a network of Wi-Fi hotspots. The LoopStar Wi-Fi family provides solutions for access point-only applications and more elaborate access point plus access controller functionality. Supporting ADSL access technology, the LoopStar Wi-Fi products provide line-powering capability that allows access points to be located where needed when commercial power is not readily available. With this Wi-Fi solution, service providers can fully leverage the value of their copper infrastructure and network assets to extend broadband wireline into the wireless network.

Benefits

- Reduce installation costs by thousands of dollars per access point
- Simplify and reduce installation time by eliminating the need to negotiate power access
- Optimize access point location for maximum RF coverage
- Provide line powering from any BBDLC and DSLAM supporting ADSL transport
- Offer low-profile packaging for indoor applications
- Offer temperature-hardened housings that can be installed anywhere
- NEBS, OSMINE, CE, IEC, and UL compliant

LoopStar ADSL Wi-Fi Solution

Description



The LoopStar ADSL Wi-Fi solution consists of two elements: a shelf-based powering module and an outdoor or indoor Wi-Fi access point. High-speed access is delivered over the copper pair via an asymmetric, rate adaptive DSL to the access point. The LoopStar line-powering module superimposes DC powering on an ADSL pair originating from the service provider's existing BBDLC or DSLAM. ADSL and line power travel down the pair to terminate at the service provider's deployment location where the LoopStar Wi-Fi Access Point creates a public hotspot.

Industry-leading 802.11 Technology

Deploying wireless LANs in public hotspots requires robust radio technology that supports carrier-class standards. The LoopStar ADSL Wi-Fi solution features a Direct Sequence Spread Spectrum (DSSS) radio operating in the 2.4 GHz frequency band that is fully IEEE 802.11 compliant with automatic rate scaling at 11, 5.5, 2 and 1 Mbps. The transmitter provides up to 23dBm of output power, enhancing long-range operation by nearly three times that of standard products. In addition, the 64/128-bit WEP data encryption engine delivers significantly improved throughput without compromising security.

Ordering Information

	FCC List	Part Number	ETSI List	Part Number	France List	Part Number	Japan List	Part Number	Spain List	Part Number
LPS-202R	L1A1	1262152	L1A2	1292168	L1A3	1292186	L1A4	1292194	L1A5	1292205
LPS-202R	L1B1	1262153	L1B2	1292169	L1B3	1292187	L1B4	1292195	L1B5	1292206
LPS-212R	L1A1	1276819	L1A2	1292173	L1A3	1292190	L1A4	1292199	L1A5	1292210
LPS-212R	L1B1	1276820	L1B2	1292175	L1B3	1292191	L1B4	1292200	L1B5	1292212

LPS-2xyR	Lz%#	**LoopStar WiFi Access Point Remote** x = AP (AP = Access Point, bridge only) (0) vs. AP/AC (AP/AC = Access Point plus controller) (1) y = G.SHDSL (0) vs. ADSL (2) z = Feature Set – First Release (1) % = Standard Lid (A) vs. Low Profile Lid (B) # = Country Code – FCC (1), ETSI (2), France (3), Japan (4), Spain (5)

Default values for Different Country Codes

	Max PWR	Channels	ADSL Annex
FCC	200mW	CH 1-11	A
ETSI	100mW	CH 1-13	A
France	100mW	CH 10-13	A
Japan	100mW	CH 1-14	A
Spain	100mW	CH 10-11	A

Additional Products

Description	ADC Cat#
3192 Mechanics Management-Capable Shelf	HMS-318 L3
Power Module for 3192 Mechanics Shelf	LPS-300C L1
External Antenna Mounting Kit (N-type)	LPS-299 L1

8/04 • 1287060

LoopStar ADSL Wi-Fi Solution

Specifications

LPS-202R Access Point Specifications

Parameter	Specification
Radio	
Wireless Standard	IEEE 802.11B Unlicensed ISM radio band
Frequency Band	GUI supports 2.412 GHz to 2.62 GHz
Modulation	Direct Sequence Spread Spectrum (DSSS) supporting three non-overlapping channels
Media Access Protocol	CSMA/CA with ACK
Data Rate	11 Mb/s with fallback to 5.5, 2 and 1 Mb/s
Transmit Power	0 - 200 mW, software controlled (23, 17, 13 dBm)
Operating Environment	-40˚ to +65˚ C
Antennas	Dual internal antennas for spatial diversity with support for external dual antennas
Networking	DHCP Client
Security	Secure connection (SSL) to on-board web-based management tools Customizable firewall with packet filtering based on protocol port and IP address
Authentication and Accounting	Secure HTML Login Page Support for 802.1x MAC Level authentication for non-HTTP devices Supports up to 250 concurrent users
Management	SNMP V1, V2 MIB-II with Traps Web-based management tool Secure local and remote management via HTTPS Scheduled configuration upgrades from central server Web-based firmware upgrades

LPS-212R Access Point and Access Controller Specifications

Parameter	Additional LPS-210R AP Specification
Radio	
Networking	DHCP Server (RFC 2131) PPPoE (RFC 2516) DHCP Relay (RFC 1542) DNS Relay IP Routing: Static and RIPv1 (RFC 1058), RIPv2 (RFC 1723) SMTP (E-mail) redirection Radius Client (RFC 2865 and RFC 2866) CIDR (RFC 1519)
Security	802.1x using EAP-MD5 or EAP-TLS Radius AAA Supporting EAP-MD5, PAP, CHAP, MSCHAP v2, MCHAP v1 Integrated VPN Client (PPTP, IPSec) for secure connection to the NOC NAT (FRC 1631) with port forwarding
Authentication and Accounting	RADIUS AAA support Provides accounting by time used or data transferred/received by customers Traffic quotas
Management	RADIUS Authentication Client MIB (RFC 2618) RIP v2 Extension (RFC1724) Real-time status and information protocol traces Site survey and monitoring tool Provisioning for white list support Provision to customize HTML pages for login

DSL

Standards	ITU G.992.1 (ADSL G.dmt), Annex A
Line Code	DMT
Symmetric/Asymmetric Rates	8 Mbps downstream 1 Mbps upstream
UNI	ATM Forum UNI Version 3.1 and 4.0
Classes of Service	UBR
VCs	2, 1 UBR session from which both modem and AP management can be accessed.
Network Management	SNMP V2, RFC-1213 MIB II, RFC-1493 Bridge, RFC-3276 SHDSL, IEEE802DOT11, Proprietary MIBs

8/04 • 12870600

Specifications (continued)

Parameter	Specification

LPS-202R + 212R L1A Outdoor Housing

Regulatory	CE marked, NEBS
Safety	UL/IEC 60950, UL/IEC 60950-21
Emissions and Immunity	EN55022, EN50385, EN300386
Operating Temperature	-40˚ to +65˚ C
Placement	Indoor or outdoor
Dimensions	10.25" x 8.5" x 4.75" (26 x 21.6 x 12 cm)
Weight	4.0 lbs (1.81 kg)
Antenna	Dual spatial diversity internal, external antenna via dual SMA female jack connectors or N-type external antenna mounting kit

LPS-202R + 212R L1B Low Profile Housing

Regulatory	CE marked, NEBS
Safety	UL/IEC 60950, UL/IEC 60950-21
Emissions and Immunity	EN55022, EN50385, EN300386
Operating Temperature	-40˚ to +65˚ C
Placement	Indoor or outdoor (no solar load)
Dimensions	9.0" x 6.0" x 1.75" (22.9 x 15.25 x 4.45 cm)
Weight	4.0 lbs (1.81 kg)
Antenna	Dual spatial diversity internal, external antenna via dual SMA female jack connectors

LPS-300C L1 Power Module Specifications

Plug Mechanics	Double width card for industry 3192 shelf
Board Dimensions	9.94" x 4.76" (25.25 x 12.1 cm) w20-pin gold fingered edge card connection
Number of APs supported per card	2
Supported powered pairs per shelf	28 in 23" (58.4 cm) shelf; 22 in 19" (48.2 cm) shelf
Regulatory	CE marked, NEBS SR-3580 Class 3
Safety	UL/IEC 60950, UL/IEC60950-21
Emissions and Immunity	EN55022, EN300386
Operating Temperature	-40˚ to +65˚ C
Power	50W per dual powering module
G.SHDSL Attenuation	< 0.5 dB
Powering Mode Span Voltage	+/- 130V DC nominal
Voltage Class	NEBS A2
Alarms	Closure on fuse or catastrophic board failure
Indicators	Overload, Under-load, ground fault
Safety	Boot-up device detection, Fail-safe power down
Voltage	-42 to -56 V DC

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For a listing of ADC's global sales office locations, please refer to our web site.

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