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ESR9850

802.11b/g/n SOHO Router

- 11N AP/Router
- 2.4GHz
- 300 Mbps
- Gigabit

PRODUCT DESCRIPTION

ESR9850 is a 2T2R Wireless 11N Gigabit Router that delivers up to 6x faster speeds and 3x extended coverage than 802.11g devices. ESR9850 supports home network with superior throughput and performance and unparalleled wireless range. With easy to use on the WPS function, it helps users to connect to wireless device with just one push button.

There's also a built-in 4-port full-duplex 10/100/1000/1000 Fast Switch to connect your wired-Ethernet devices together. The Router function ties it all together and lets your whole network shares a high-speed cable or DSL Internet connection.

KEY FEATURES

- 1*802.11n SOHO Router (ESR9850)
- 1* 12V/1A Power Adapter
- 1*QIG
- 1*CD (User's Manual)
- 2 *2dBi SMA antenna

ESR-9850 Datasheet Version 18022009

*Theoretical wireless signal rate based on IEEE standard of 802.11 a, b, g, n chipset used. Actual throughput may vary.Network conditions and environmental factors lower actual throughput rate.
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HOME AND HOME OFFICE
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TECHNICAL SPECIFICATION	
> Hardware specification	
Physical Interface	WAN: One 10/100/1000 Fast Ethernet RJ-45
	LAN: Four 10/100/1000 Fast Ethernet RJ-45
	Rest button
	Power Jack
	WPS (WiFi Protected Setup)
LEDs Status	Power Status
	WAN (Internet connection)
	LAN1~LAN4
	WLAN(Wireless connection)
Power Requirements	Power Supply: 200 to 240 VDC ± 10% (ETSI) 100 to 120 VDC ± 10% (FCC)
	Device: 12V/1A
> RF Specification	
Frequency Band	2.400 ~ 2.484 GHz
Modulation Technology	● OFDM: BPSK, QPSK, 16-QAM, 64-QAM ● DBPSK, DQPSK, CCK
Operating Channels	11 for North America, 14 for Japan, 13 for Europe
Wireless Setting	● Wireless Mode – 11b/ 11g /11n ● Channel Selection (Setting varies by Country) ● Channel Bandwidth (Auto, 20Mhz, 40Mhz) ● Transmission Rate -11g: Best. 54, 48, 36, 24, 18, 12, 11, 9, 6, 5.5, 2, 1 in Mbps

MCS index	Guard Interval 800ns		Guard Interval 400ns	
	20MHz(Mbps)	40MHz(Mbps)	20MHz(Mbps)	40MHz(Mbps)
0	6.5	13.5	7.2	15
1	13	27	14.4	30
2	19.5	40.5	21.7	45
3	26	54	28.9	60
4	39	81	43.3	90
5	52	108	57.8	120
6	58.5	121.5	65	135
7	65	135	72.2	157.5
8	13	27	14.4	30
9	26	54	28.9	60
10	39	81	43.3	90
11	52	108	57.8	120
12	78	162	86.7	180
13	104	216	115.6	240
14	117	243	130	270
15	130	270	144.4	300

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Receive Sensitivity (Typical)	● IEEE802.11n(2RX) MCS0/8 @ -91dBm MCS7/15@ -74dBm ● IEEE802.11g (2RX) 6Mbps@ -92dBm 54Mbps@ -75dBm ● IEEE802.11b (1RX) 1Mbps@ -93dBm 11Mbps@ -91dBm
Available transmit power	● IEEE802.11N MCS 0~15@ typical 16 dBm ● IEEE802.11g 6~54 Mbps@ typical 16 dBm ● IEEE802.11b 1, 11Mbps@ typical 17 dBm
Antenna *2	Peak Gain = 2 dBi

> **Wireless Functional List**	
Wireless Radio On/Off button	Software button / Disable or Enable WiFi radio
Operation mode	AP
	Router
	WDS AP
	Repeater
Switch of 802.11 modes	B/G/N
Channel setting	Manual
	Auto / Best Channel Selection
Transfer rate setting	Auto and Manual
Output Power Control	**10% / 25% / 50% / 75% / 100%**
WiFi QoS	WMM
Power Saving	Wireless LAN power saving
Multiple BSSID (Multi AP)	4 BSSID for 2.4Ghz
	4 BSSID for 5Ghz
	Each BSSID should has its own WiFi & security settings
WPS	WPS : Enable / Disable Wi-Fi Protected Setup Information - WPS Current Status: Not Configured - Self Pin Code: - SSID: - Authentication Mode: Disable - Passphrase Key: - WPS Via Push Button: - WPS via PIN:

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Security	WEP	WEP(64/128bit)
	WPA/ WPA2	WPA-PSK（Personal）,WPA2-PSK（Personal）,WPA/WPA2-PSK(Personal), WPA-EAP（Enterprise）, WPA2-EAP（Enterprise）,WPA/WPA2-EAP(Enterprise)
	TKIP/ AES	TKIP / AES
	Hidden ESSID	
	MAC address filtering	MAC address filtering (Both in WLAN and LAN), up to 50 field
	L2 Isolation	
	802.1x Authenticator	MD5/ TLS/ TTLS, PEAP (Nice to Have)
	802.1x Supplicant	TTLS, PEAP (Nice to Have)
Desired / Preferred SSID BSSID Support		Profile item can be arranged for preference Profile on the top represents higher preference User is allowed to move profile UP/Down
Site Survey		Scan current AP, display information: SSID, MAC, Channel, Security, Signal, Mode (Infra/Adhoc) Allow to add to AP profile (preferred SSID)
Channel Bandwidth Selection		N Mode: 20,. 40, Auto
		B/G Mode: 5, 10, 20, Auto
Maximum Client User		Max: 64 Min: 1. The “maximum client user” is defined by RF chipset

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FUNCTIONAL LIST			
Router function On/Off Button			Router function on/off * (in web UI) --UI option to enable/disable routing function --when routing function disabled, WAN port setting will NT be shown. (DHCP also disable) ON: Full wireless router function (Default Router IP:192.168.1.1) OFF: Wireless AP & Switching HUB function(Default Router IP:192.168.1.1)
LAN Settings			IP (check validity and DHCP server IP range) MAC
DHCP server			DHCP Range, Lease Time, Client list **IP range check for validity** **Device IP should never be released**
Router	NAT/ NAPT		
	Port Forwarding		
	Port Mapping		Virtual Server: every single IP should support more than one service port (UI forbids that)
	Port Tagging		
	ALG		FTP and Popular network applications (TBD)
	VPN	VPN pass-thru	PPTP, IPSEC, L2TP pass through
		Server Type	PPTP, IPSEC, L2TP
		Encryption	56bit (DES), 168bit (3DES), 256bit (AES)
		Max tunnels	
		Key management	Preshare key
		Authentication	MD5/SHA-1
	QoS		MAC/ IP/ Port base bandwidth control
	Filtering	URL	URL-Keyword blocking, 20 site can be registered
		IP	IP Filtering with scheduling function
		Port	TCP / UDP
		ICMP	
	Block Ping From WAN		Enable / Disable option box
	DMZ		Multiple DMZ records
Firewall	**SPI**		**Please follow customer definition**
	Anti-DoS attack		Hacker Shield
Dynamic DNS			
Setting and change of MTU/MSS value			MSS value is always “MTU-40”
Change in WAN side MAC address			Clone WAN port MAC supported
WAN side form	PPPoE		PAP/CHAP/MS-CHAP / MS-CHAPV2
			Always (keep trying if fail)
			On demand / Manual
			Idle Time Out(disconnect if idled for a certain time)
	DHCP Client		
	Fixed IP		
Remote Login			Enable / Disable Checkbox
			Management Port
Backup/ Restore Setting			Save Current Setting Restore Saved Setting Reset to Factory Default

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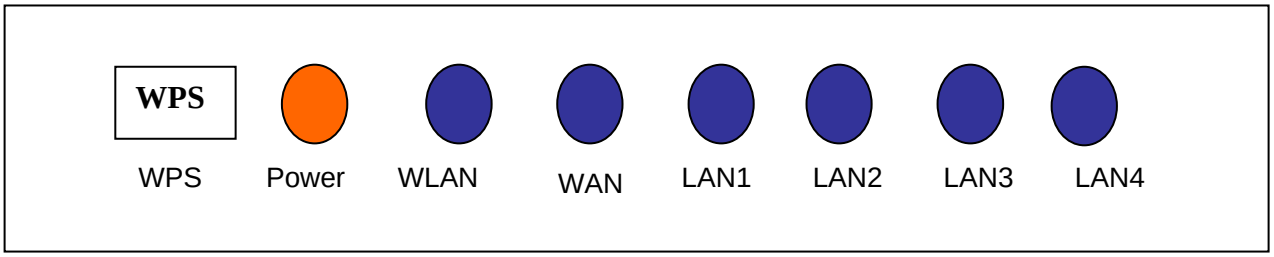
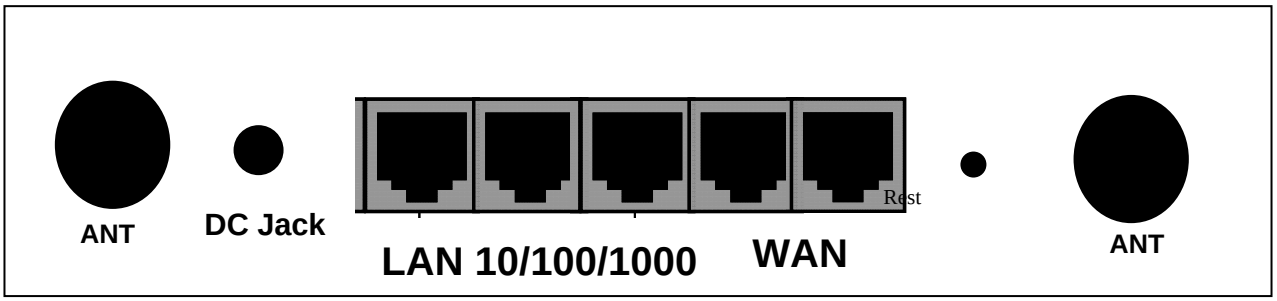
Firmware Upgrade		Firmware Upgrade Firmware Recovery **Allow User to decide to Keep current setting or reset to default.**
Display at time	NTP	
	Manual setting for Time Server	
E-mail Notification function		(Email Alert Setting)
UPnP		
Discovery Tool		A scanner for existing devices Must list device IP and MAC
Power Saving		Save energy for WLAN and LAN interfaces. - WLAN : Enable / Disable - Ethernet : Enable / Disable
Diagnosis		Address to Ping : Ping Frequency : 1 / 3 / 5 / 10 / 15 / 20
		Telnet Server
Emergency Recovery Page		A self-aid page for users in case of firmware upgrade failure

> Top Panel (LED status)	
WAN	1 (Link-> blue on, traffic->blink)
LAN	4 (Link-> blue on, traffic->blink)
WLAN	1 (Link-> blue on, traffic->blink)
Power/Status	1 (On-> red Test/reset default->blink)

> Front Panel



> Rear Panel (Interface)



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ENVIRONMENT & PHYSICAL	
Temperature Range	0 to 45° C - Operating, -10 to 70 ° C - Storage
Humidity (non-condensing)	15% ~ 95% typical
Dimensions	PCB TBD
	Housing 170mm (L) x 111mm (W) x 26mm (H)

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