ESR9850
802.11b/g/n SOHO Router

2.4GHz   300Mbps   Gigabit   11N Router / Repeater

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.

Package Contents

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

Software Features			
System	System OS： Linux OS System boot up time is <= 45 Sec		
Utility	Easy Setup Wizard		
Router User Interface	Access method	Web Based (HTTP 1.0 / 1.1)	
	Browser Compatibility	Microsoft Internet Explorer 5.5/6/7 , Safari Ver1.2,Firefox 2.0 or later	
Status	System Status	System Information	System Up Time, Device Name, Wireless MAC, LAN MAC, Country, Current Time, Firmware Version, Management VLAN ID
		Current IP Setting	IP Address, Subnet Mack, Default Gateway, DHCP

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		Current Wireless Setting	Operation mode, Wireless Mode, Channel/ Frequency, L2 Isolation, MSSID Setting 2.4Ghz TX/RX: packet counts & traffics in Kbytes

	Client List		List current associated clients.
			Show only authorized and associated clients
			     - SSID
			     - MAC address
			     - Channel
			     - Security Type
			     - Mode (Infrastructure / Ad-hoc)
			     - Traffic in Kbytes

	System Log		displays a list of events that are triggered on the Ethernet and Wireless interface. This log can be referred to when an unknown error occurs on the system or when a report needs to be sent to the technical support department for debugging purposes

Wireless Functional List		
Wireless Radio On/Off button	Y	Software button / Disable or Enable WiFi radio
Operation mode	Y	AP
	Y	Router
	Y	WDS AP
	N	WDS Bridge
	N	CB (2.5 NAT)
	Y	Repeater
Switch of 802.11 modes	Y	B/G/N
Channel setting	Y	Manual
	Y	Auto / Best Channel Selection
Transfer rate setting	Y	Auto and Manual
Output Power Control	Y	10% / 25% / 50% / 75% / 100%
Distance Control bar &	N	use KM instead of numbers

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ACK timeout Setting			
RSSI Indicator	N		CB/ CR/ Repeater Mode
Signal Strength	N		CB/ CR/ Repeater
WiFi QoS	Y		WMM
Power Saving	Y		Wireless LAN power saving
Multiple BSSID (Multi AP)	Y		4 BSSID for 2.4Ghz
	N		4 BSSID for 5Ghz
	Y		Each BSSID should has its own WiFi & security settings
WPS	Y		WPS : Enable / Disable
			Wi-Fi Protected Setup Information
			- WPS Current Status:　unConfigured
			- Self Pin Code:
			- SSID:
			- Authentication Mode:　Disable
			- Passphrase Key:
			- WPS Via Push Button:
			- WPS via PIN:
Security	WEP	Y	WEP(64/128bit)
	WPA/ WPA2	Y	WPA-PSK（Personal）,WPA2-PSK（Personal）,WPA/WPA2-PSK(Personal), WPA-EAP（Enterprise）, WPA2-EAP（Enterprise）,WPA/WPA2-EAP(Enterprise)–
	TKIP/ AES	Y	TKIP / AES
	Hidden ESSID	Y	
	MAC address filtering	Y	MAC address filtering (Both in WLAN and LAN), up to 50 field
	L2 Isolation	Y	
Desired / Preferred SSID BSSID Support		Y	Profile item can be arranged for preference Profile on the top represents higher preference User is allowed to move profile UP/Down
Site Survey		Y	Scan current AP, display information: SSID, MAC, Channel, Security, Signal, Mode (Infra/Adhoc) Allow to add to AP profile (preferred SSID)
Channel Bandwidth		Y	N Mode: 20,. 40, Auto

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Selection	Y	B/G Mode: 10, 20, Auto

Functional List			
Router function On/Off Button		N	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		Y	IP (check validity and DHCP server IP range) MAC
DHCP server		Y	DHCP Range, Lease Time, Client list
Router	NAT/ NAPT	Y	
	Port Forwarding	Y	
	Port Mapping	Y	Virtual Server: every single IP should support more than one service port (UI forbids that)
	Port Tagging	Y	
	ALG	Y	FTP and Popular network applications (TBD)
	VPN — VPN pass-thru	Y	PPTP, IPSEC, L2TP passthrough
	Server Type	Y	PPTP, IPSEC, L2TP
	Encryption	Y	56bit (DES), 168bit (3DES), 256bit (AES)
	Max tunnels	Y	
	Key management	Y	Pre-shared key
	Authentication	Y	MD5/SHA-1
	QoS	Y	MAC/ IP/ Port base bandwidth control
		N	MSSID based bandwidth control
		N	Physical port-based bandwidth control
	Filtering — URL	Y	URL-Keyword blocking, 20 site can be registered
	IP	Y	IP Filtering with scheduling function
	Port	Y	TCP / UDP

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		ICMP	Y	
		Block Ping From WAN	Y	Enable / Disable option box (DoS)
		DMZ	Y	DMZ Support
Firewall		SPI	Y	Stateful Packet Inspection
		Anti-DoS attack	Y	Hacker Shield
Dynamic DNS			Y	
Jumbo Frame Support			Y	9216bytes
IPv6 Support			N	IPv6
LAN side VLAN function			N	
Change in WAN side MAC address			Y	Clone WAN port MAC supported
WAN side form	PPPoE		Y	PAP/CHAP/MS-CHAP / MS-CHAPV2
			Y	Always (keep trying if fail)
			Y	On demand / Manual
			Y	Idle Time Out(disconnect if idled for a certain time)
	Multi PPPoE		N	
	DHCP Client		Y	
	Fixed IP		Y	
SNMP	SNMP V1/ V2C		N	- SNMP Active : Disabled / Enabled
	MIBI, MIBII		N	- SNMP Version : V1/V2c/ALL
	Private MIB		N	- Read Community :
				- Set Community :
				- System Location :
				- System Contract :
				- Trap Active : Disabled / Enabled
				- Trap Manager IP :
Administration			N	User Name
			Y	Password
			Y	Confirmed Password
			N	Authentication Data should be encrypted while transmission
Remote Login			Y	Enable / Disable Checkbox
			Y	Management Port
VLAN Management			N	VLAN Active: Disabled / Enabled

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		Special VLAN ID: 1~4095
Backup/ Restore Setting	Y	Save Current Setting
		Restore Saved Setting
		Reset to Factory Default
Firmware Upgrade	Y	Firmware Upgrade
		Firmware Recovery
Display at time	NTP	Y	
	Manual setting for Time Server	Y	
E-mail Notification function	N	(Email Alert Setting)
UPnP	Y	
Discovery Tool	N	A scanner for existing devices
		Must list device IP and MAC
Power Saving	Y	Save energy for WLAN and LAN interfaces.
		- WLAN : Enable / Disable
		- Ethernet : Enable / Disable
Diagnosis	Y	Address to Ping : Y
		Ping Frequency : N
		Telnet Server: N
CLI	N	Command Line Interface (accessible only with special account)
		For RMA, SQA, Engineering purpose
Emergency Recovery Page	Y	A self-aid page for users in case of firmware upgrade failure
Captive Portal	N	WiFi-Dog
FTP Server	N	Folder root on USB device
		User Account management
		Allow external access on/off
		Nte: character coding?
SAMBA	N	Windows Compatible file sharing
		Nte: character coding?
Web-Based File Server	N	File download / upload
		Allow external access on/off

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Technical Specifications	
Hardware Specifications	
MCU	RT3052, 384MHz embedded RF/MAC/BBP
	Gigabit: Realtek 8366RB
Memory	32MB SDRAM (16 + 16; enhanced performance)
Flash	4MB
PCB dimension	150mm * 100mm
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

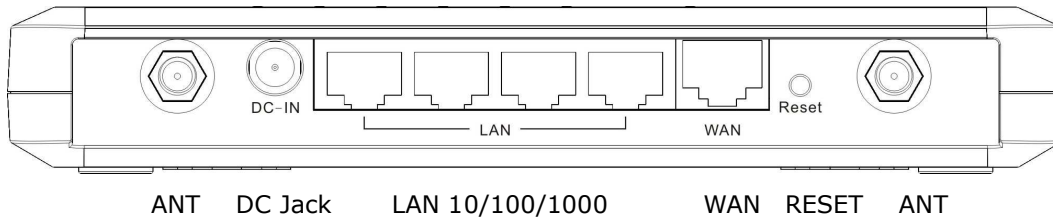| Top Panel (LED status)	
WAN	1 (Link-> blue on, traffic->blink)
LAN	4 (Link-> blue on, traffic->blink)
WLAN	1 (Link-> blue on, traffic->blink)
Power/Status	1 (On-> red Test/reset default->blink)
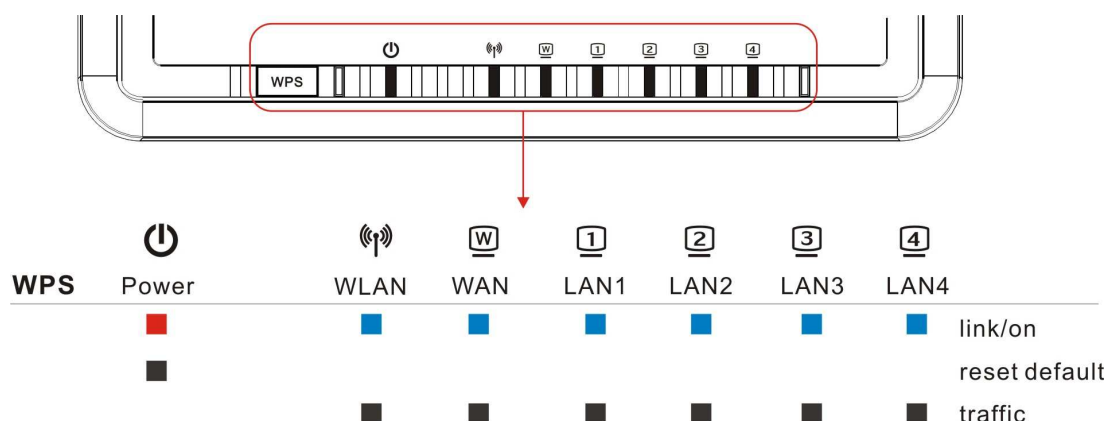
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Rear Panel (Interface)

ANT   DC Jack   LAN 10/100/1000   WAN   RESET   ANT

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	0	6.5
1	13	27	1	13
2	19.5	40.5	2	19.5
3	26	54	3	26
4	39	81	4	39
5	52	108	5	52
6	58.5	121.5	6	58.5
7	65	135	7	65
8	13	27	8	13
9	26	54	9	26
10	39	81	10	39
11	52	108	11	52
12	78	162	12	78
13	104	216	13	104
14	117	243	14	117

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	15	130	270	15	130
Receive Sensitivity (Typical)	IEEE802.11n(2RX)		IEEE802.11g (2RX)	IEEE802.11b (1RX)	
	MCS0/8 @ -91dBm		6Mbps@ -92dBm	1Mbps@ -93dBm	
	MCS7/15@ -74dBm		54Mbps@ -75dBm	11Mbps@ -91dBm	
Available transmit power	IEEE802.11n		IEEE802.11g	IEEE802.11b	
	MCS 0~15@ typical 16 dBm		6~54 Mbps@ typical 16 dBm	1, 11Mbps@ typical 17 dBm	
Antenna *2	Peak Gain = 2 dBi				

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