

# SPU-E120W-HR

1GE+WIFI EPON ONU



## Overview

SPU-E120W-HR is Sopto's for broadband access market based on the introduction of EPON technology passive optical network terminal products. It's with EPON OLT are used together to provide a complete broadband access solution.

EPON technology is a kind of emerging technology which takes advantage of PON technology and Ethernet technology also is a kind of point to multi-point network technology. OLT through the passive optical network to connect multiple ONU with single fiber bidirectional technical can rarely used fiber resources to meet the operators of the multi-user access requirements.

SPU-E120W-HR fully meet IEEE802.3ah and CTC3.0 standard protocol. It has good third-party compatibility to work with the third party OLT, It supports 1Gbps transmission rate up and down and provides users with good QOS, flexible bandwidth allocation of Ethernet services and IP integrated service.

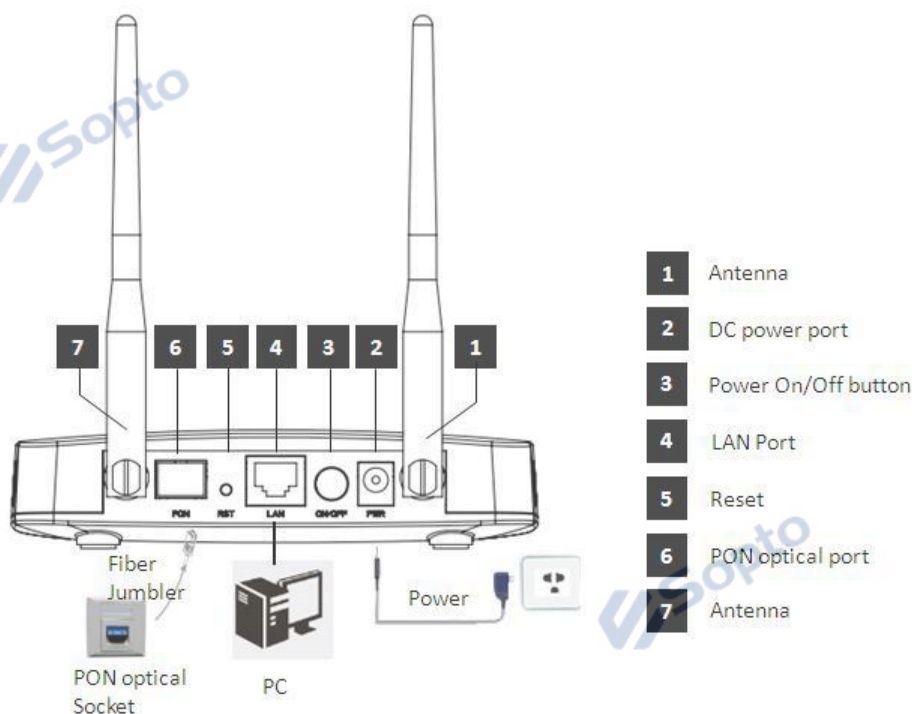
SPU-E120W-HR can integration wireless function with meet 802.11 n/b/g technical standards, It has built-in high gain directional antenna, the wireless transmission rate up to 300Mbps. It has the characteristics of strong penetrating power and wide coverage. It can provide users with more efficient data transmission security.

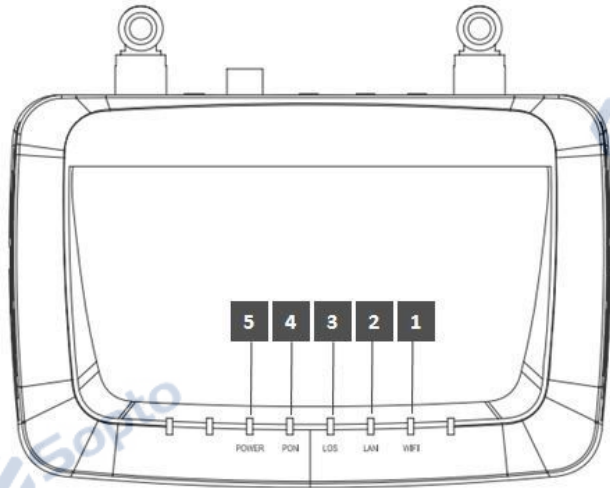
The device shell adopts personalized ventilation design, simple, fashion, steady. High quality environmental protection material is impact resistant, high temperature resistant and good heat dissipation effect to providing users with a more secure Internet environment.

## Features

- Support port-based rate limitation and bandwidth control;
- In compliant with IEEE802.3ah Standard
- Wi-Fi series meet 802.11 n/b/g technical standards
- Up to 20KM transmission Distance
- Support data encryption, group broadcasting, port Vlan separation ,etc.
- Support Dynamic Bandwidth Allocation (DBA)
- Support ONU auto-discovery/Link detection/remote upgrade of software;
- Support port mode of VLAN configuration
- Support power-off alarm function ,easy for link problem detection
- Support broadcasting storm resistance function
- Support port isolation between different ports
- Support port flow control
- Specialized design for system breakdown prevention to maintain stable system
- Support software online upgrading

## Product interface and LED definitions





- 1** Wi-Fi status
- 2** LAN status
- 3** Optical signal status
- 4** ONU register status
- 5** Power status

Indicator			Description
1	WIFI	WIFI	Blinking : Data is being transmitted On : Wi-Fi function Open Off : Wi-Fi function Close
2	LAN	LAN Port status	On: Ethernet connection is normal; Blinking: Data is being transmitted through the Ethernet port; Off: Ethernet connection is not set up;
3	LOS	EPON optical signals	On: Optical power lower than receiver sensitivity ; Off: Optical in normal
4	PON	ONU Register	On: Success to register to OLT Blinking: In process of registering to OLT; Off: In process of registering to OLT;
5	PWR	Power status	On: The ONU is power on; Off: The ONU is Power off;

### Specification

Item	Parameter
PON Interface	1 EPON optical interface Meet 1000BASE-PX20+ standard Symmetric 1.25Gbps upstream/downstream SC single-mode fiber split ratio: 1:64 Transmission distance 20KM
User Ethernet Interface	1*10/100/1000M auto-negotiation Full/half duplex mode RJ45 connector Auto MDI/MDI-X 100m distance
Power Interface	12V DC Power supply

PON Optical Parameter	<p>Wavelength: Tx:1310nm, Rx:1490nm</p> <p>Tx Optical Power: 0 ~ 4dBm</p> <p>Rx Sensitivity: -27dBm</p> <p>Saturation Optical Power: -3dBm</p> <p>Connector Type: SC</p> <p>Optical Fiber: 9/125μm single-mode fiber</p>
Data Transmission Parameter	<p>PON Throughput: Downstream 950Mbps; Upstream 930Mbps</p> <p>Ethernet: 100Mbps or 1000Mbps Packet Loss Ratio: &lt;math&gt;&lt;1*10E^{-12}&lt;/math&gt; latency: &lt;math&gt;&lt;1.5ms&lt;/math&gt;</p>
Business Capability	<p>Layer 2 wire speed switching</p> <p>Support VLAN TAG/UNTAG , VLAN conversion</p> <p>Support Port-based speed limitation</p> <p>Support Priority classification</p> <p>Support storm control of broadcast Support loop detection</p>
Network Management	<p>① OAM for PON Related functions: Support OLT query ONU basic information; ONU link fault report; Dynamic Bandwidth Allocation (DBA); etc</p> <p>② Local Web management , TR069 Remote Management for ONU local setting : ONU Layer 2 switch configuration such as Vlan; WiFi Setting(optional); etc</p>
Management Function	<p>Status monitor, Configuration management, Alarm management, Log management</p>
Shell	Plastic casing
Power	<math><4W</math>, 12V/0.5A power supply adapter
Physical Specifications	<p>Item Dimension : 135mm(L) x90mm(W) x 30mm (H)</p> <p>Item weight : 0.2kg</p>
Environmental Specifications	<p>Operating temperature: 0 to 50°C</p> <p>Storage temperature: -40 to 85°C</p> <p>Operating humidity: 10% to 90%(Non-condensing)</p> <p>Storage humidity: 10% to 90%(Non-condensing)</p>

### WIFI Specification (Suitable for the WIFI devices)



Item	Parameter	
Performance parameters	Operating Mode	Router or bridge
	WIFI antenna	2 external antennas
	Throughput	IEEE 802.11b: 11Mbps IEEE 802.11g: 54Mbps IEEE 802.11n: 300Mbps
	Frequency	2.412 ~ 2.472 GHz
	Channel	13*Channel, configurable to meet the standard of USA, Canada, Japan and China
	Modulation	DSSS , CCK and OFDM
	Coding	BPSK, QPSK, 16QAM and 64QAM
	RF receive sensitivity	802.11b: -83dBm @ 1 Mbps; -80dBm @ 2 Mbps; -79dBm @ 5.5 Mbps; -76dBm @ 11 Mbps 802.11g: -85dBm @ 6 Mbps; -84dBm @ 9 Mbps; -82dBm @ 12 Mbps; -80dBm @ 18 Mbps; -77dBm @ 24 Mbps; -73dBm @ 36 Mbps; -69dBm @ 48 Mbps; -68dBm @ 54 Mbps 802.11n 20MHz: -74dBm @ 65 Mbps; -70dBm @ 130 Mbps; 802.11n 40MHz: -70dBm @ 135 Mbps; -67dBm @ 300 Mbps;
	RF output lever	802.11b: 17 ±0.5dBm @11Mbps 802.11g: 15 ±0.5dBm @ 54 Mbps; 16 ±0.5dBm @ 48 Mbps; 17 ± 1dBm @ 6 ~ 36 Mbps 802.11n 20MHz: 14 ± 0.5dBm @ 130 Mbps; 15 ± 0.5dBm @ 78 Mbps; 18 ± 0.5dBm @ 6.5 Mbps 802.11n 40MHz: 14 ± 0.5dBm @ 300 Mbps; 15 ± 0.5dBm @ 162 Mbps; 18 ± 0.5dBm @ 13.5 Mbps
	Encryption Mode	802.11i security: WEP-64/128, TKIP (WPA-PSK) and AES (WPA2-PSK)



## Application

- Typical Solution: FTTH, FTTO
- Typical Business: INTERNET, IPTV, VOD, IP Camera, WIFI

## Network Construction



Figure: Application Diagram

## Ordering information

Product Name	Product Model	Descriptions
1GE+WIFI HGU Type	SPU-E120W-HR	1*10/100/1000M Ethernet interface, 1 EPON interface, Wifi, plastic casing, external power supply adapter

Note: If you need more customized services, please contact us.

E-mail: [info@sopto.com.cn](mailto:info@sopto.com.cn)

Web : <http://www.sopto.com.cn>