



2011 January

Product Solution Guide



Making Communication Easier

Micronet[®]
Making Communication Easier

Choosing Micronet As Your Networking Partner

Micronet is a leading company in developing and manufacturing advanced networking solutions for Enterprise, SME, ISP, and SOHO. Since 1992, Micronet has delivered over tens of millions of connections worldwide. Today, Micronet offers two product groups, the Network Infrastructure Group (NIG) and Application Solution Group (ASG). The NIG includes Wired LAN, Wireless LAN, WAN and System Management product lines. The ASG includes Security, Voice, Surveillance and Server product lines.

Micronet delivers a variety of solutions using Ethernet as a high-performance and cost-effective application. With Micronet Ethernet switches and adapters, the network infrastructure could be easily established, providing SOHO and enterprise users a fast way to network.

Micronet Industrial switches and media converters can be operated in wide operating temperature and cooperated with IP Surveillance, Outdoor Wireless products in extremely harsh environments.

Micronet Wireless LAN solution enables you to build the mobile and flexible connectivity without cabling hassle. For SOHO, they are able to experience faster wireless transmission. WISP and enterprises can obtain more revenues by providing Internet access service, reducing the cost of wire deployment.



Micronet Broadband Internet solution fits the emerging demand of ADSL broadband communication. Through ISPs or distribution channels, users can easily enjoy Internet access via ADSL modem and router. Micronet also develops VDSL products to fulfill requirements of high performance.

Micronet IP Telephony solution saves your cost of long distance calls. IP Telephony family products

offer IP Phone and VoIP Gateway with FXS and FXO interfaces. In addition, Micronet has developed various product lines such as KVM Switch, Print Server, and IP Camera.

Micronet is your best choice when outgrowing your networking business! We are focused on developing and marketing networking products globally, providing customers the most up-to-date technologies at competitive pricing and quality service. What we aim for and what we do is to make communication easier.

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Ethernet Switch

Switch is the core of network infrastructure, whether in enterprise/business environment or in ISP service arena. Micronet provides full range switch product line, covering numerous deployment applications, such as FTTx, fiber optics, enterprise gigabit Ethernet, PoE (Power over Ethernet) switch, IP DSLAM, VDSL long-reach Ethernet, managed or unmanaged switches, etc.

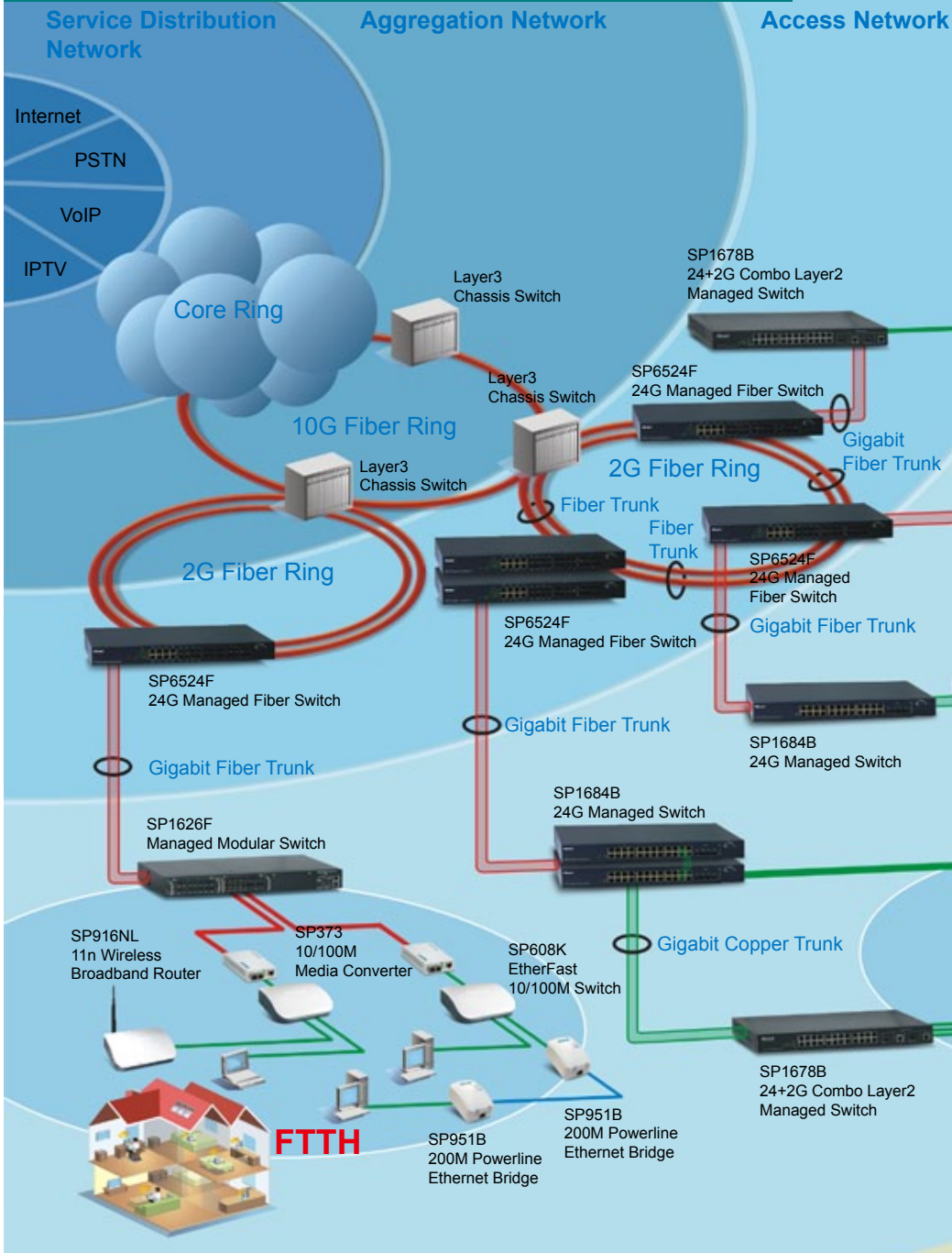
In the past 19 years, Micronet has shipped millions of ports to customers worldwide. We focus on quality and configuration flexibilities so that system integrators are able to adopt our solutions easily and comfortably.

By providing comprehensive support and technical discussion to channel partners, Micronet helps to configure for diversified application environments, such as hospitals, building services, construction planning, city infrastructural design, SMB & enterprise, central office and branch office communications, multi-national companies, data center services, etc.

In addition, Micronet also provides solutions in Wireless LAN, VoIP, and IP surveillance arenas. These solutions can be integrated with switch product line seamlessly. Customers are free from compatibility issues and may achieve the lowest cost of ownership for a total solution.

Micronet Telecommunication and Networking Solution

Ethernet Switch



Premises Network

WISP

SP920MA-12
2.4GHz Omni-
Directional Antenna

SP915A
Wireless LAN
Outdoor AP/Bridge

SP3524B
24-Port VDSL2
Managed Switch

Gigabit Fiber Trunk

Gigabit Copper Trunk

SP3524A
24-Port VDSL Managed Switch

Server Farm

SP5103
IP Phone

FTTB

SP3501AS
VDSL Modem

SP5554HDC
Outdoor Speed Dome

SP3501BS
VDSL2 CPE
Modem Router

SP5101
IP Phone

SP5581HDC
Fixed Dome
IP Camera

SP5108
IP Phone

SP3501BS
VDSL2 CPE
Modem Router

FTTC

SP916NL
Wireless LAN
Broadband Router

SP9012N
Wireless LAN
Outdoor CPE

SP608K
EtherFast
10/100M Switch

IPTV

-  WLAN
-  10/100M
-  10/100/1000M
-  Gigabit Copper Trunk
-  100M Fiber
-  Gigabit Fiber Trunk
-  Powerline
-  Telephone line

10/100M Unmanaged Switch



- 1 10/100M RJ-45 Port
- 2 Power Jack

Model No. Description		SP605K 5-port Switch
Interface	10/100Mbps Port, RJ-45	5
	Desktop Installation	■
	Wall Mounted Installation	■
Others	Housing	Plastic
	Power	DC 5V, 0.6A
	Dimension, W x D x H (mm)	158 x 106 x 26

10/100M Unmanaged Switch



- 1 LED Indicator
- 2 10/100M RJ-45 Port

Model No. Description		SP616EB 16-port Switch
Interface	10/100Mbps Port, RJ-45	16
	10/100/1000Mbps Port, RJ-45	-
	Desktop Installation	■
Others	Rack Mounted Installation	10"/19"
	Housing	Metallic
	Power	AC 100~240V
	Dimension, W x D x H (mm)	216 x 133 x 42
Option		C610, C619 ¹

Note: C610 : 10" Rack Mounting Bracket Set for SP616EB
C619 : 19" Rack Mounting Bracket Set for SP616EB

Desktop



- 1 10/100M RJ-45 Port
- 2 Power Jack



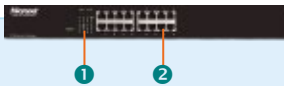
- 1 LED Indicator
- 2 10/100M RJ-45 Port
- 3 Power Jack



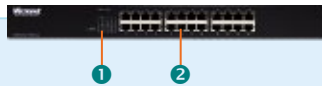
- 1 LED Indicator
- 2 Power Jack
- 3 10/100M RJ-45 Port

SP608K 8-port Switch	SP608EB 8-port Switch	SP616B 16-port Switch
8	8	16
■	■	■
■	-	■
Plastic	Metallic	Plastic
DC 5V, 0.6A	AC 100~240V	AC 100~240V
158 x 106 x 26	194 x 85 x 25	290 x 100 x 30

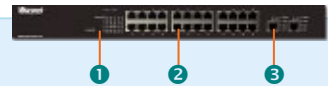
Rack Mount



- 1 LED Indicator
- 2 10/100M RJ-45 Port



- 1 LED Indicator
- 2 10/100M RJ-45 Port



- 1 LED Indicator
- 2 10/100M RJ-45 Port
- 3 10/100/1000M RJ-45 Port

SP616R 16-port Switch	SP624R 24-port Switch	SP659C 24-port Switch
16	24	24
-	-	2
■	■	■
19"	19"	19"
Metallic	Metallic	Metallic
AC 100~240V	AC 100~240V	AC 100~240V
441 x 130 x 44	441 x 130 x 44	441 x 130 x 44
-	-	SFP Transceiver

Gigabit Switch



Unmanaged

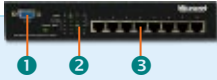
1 LED Indicator
2 10/100/1000M RJ-45 Port
3 Power Jack

1 10/100/1000M RJ-45 Port

1 Console Port
2 LED Indicator
3 10/100/1000M RJ-45 Port

	Model No. Description	SP6108A 8-port GbE Switch	SP6108 8-port GbE Switch	SP6108WS 8-port GbE Switch
Hardware	10/100/1000Mbps Port, RJ-45	8	8	8
	1000Mbps SFP Slot	–	–	–
	10/100/1000Mbps Auto-Negotiation	■	■	■
	Auto-Uplink (Auto MDI/MDI-X)	■	■	■
	Jumbo Frame to Minimize Packet Overhead	9Kbytes	9Kbytes	9Kbytes
Layer2 Feature	Port-based VLAN	–	–	8 Groups
	IEEE 802.1q, Tag-based VLAN	–	–	8 Groups
	Port Mirror to Monitor the Traffic of the Source Port	–	–	–
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	–	–	4 Groups
QoS	Traffic Prioritization among Ports or Services	–	–	–
	Port-based QoS	–	–	■
	IEEE 802.1p (CoS) Priority Tag	–	–	–
	DSCP (DiffServ Code Point) Classifier	–	–	–
Sec- urity	Priority Queues	–	–	4
	Bandwidth Control	–	–	–
	ACL (Access Control List)	–	–	–
Control	IGMP Multicast Grouping	–	–	–
	Console Management	–	–	■
	Telnet Management	–	–	■
	Web-based Management	–	–	■
Install- ation	SNMP Network Monitoring	–	–	■
	Desktop Installation	–	–	■
Others	Rack Mounted Installation	–	–	–
	Power	DC 5V 3A	DC 5V 2.5A	AC 100~240V
	Dimension, W x D x H (mm)	158 x 106 x 26	130 x 97 x 24	216 x 133 x 42
	Option	–	–	–

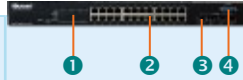
Web Smart



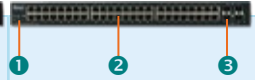
- 1 Console Port
- 2 LED Indicator
- 3 10/100/1000M RJ-45 Port



- 1 LED Indicator
- 2 10/100/1000M RJ-45 Port
- 3 SFP Slot
- 4 Console Port



- 1 LED Indicator
- 2 10/100/1000M RJ-45 Port
- 3 SFP Slot
- 4 Console Port



- 1 CPU Indicator
- 2 10/100/1000M RJ-45 Port
- 3 SFP Slot

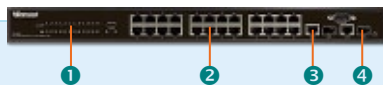
Ethernet Switch

SP6108WSF1 8-port GbE Switch	SP676C 16-port GbE Managed Switch	SP684C 24-port GbE Switch	SP6148WS 48-port GbE Switch
8	16	24	48
1, Shared	4, Shared	4, Shared	4, Shared
■	■	■	■
■	■	■	■
9Kbytes	9Kbytes	9Kbytes	16Kbytes
8 Groups	16 Groups	24 Groups	72 Groups
256 Groups	16 Groups	24 Groups	256 Groups
■	■	■	■
2 Groups	12 Groups	12 Groups	12 Groups
■	■	■	■
4	4	4	4
-	-	-	■
-	-	-	MAC, IP Address, Appli- cation
-	-	-	■
■	■	■	■
■	-	-	■
■	■	■	■
■	■	■	■
■	■	■	■
-	19"	19"	19"
AC 100~240V	AC 100~240V	AC 100~240V	AC 100~240V
216 x 133 x 42	441 x 130 x 44	441 x 130 x 44	442 x 248.6 x 44
-	SFP Transceiver	SFP Transceiver	SFP Transceiver

10/100M Managed Switch



Layer2+ Managed Switch



- ① LED Indicator
- ② 10/100M RJ-45 Port
- ③ 10/100/1000M RJ-45 Port
- ④ SFP Slot

Model No. Description		SP1658C 24+2GbE Managed Switch
Interface	10/100Mbps Port, RJ-45	24
	10/100/1000Mbps Port, RJ-45	2
	Buffer Memory (Cache Size)	384KB
Layer2 Feature	Port-based VLAN	■
	IEEE 802.1Q, Tag-based VLAN	■
	IEEE802.1d, Spanning-Tree Protocol for Loop-free Redundant Network	■
	IEEE 802.1w, Rapid Spanning-Tree Protocol for Loop-free Redundant Network	■
	Port Mirror to Monitor the Traffic of the Source Port	■
QoS	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	■
	Traffic Prioritization among Ports or Services Port-based QoS	■
	IEEE 802.1p (CoS) Priority Tag (Layer 2)	■
	ToS (Type of Service) Classifier (Layer 3)	■
	DSCP (diffServ Code Point) Classifier (Layer 3)	■
Sec-unity	Priority Queues	■
	Bandwidth Control	■
	IEEE 802.1x, Network Access Control	■
Management	MAC Address Filter to Control the Access	■
	Stackability (Virtual Stack Management)	-
	Management	Console, Telnet, HTTP, SNMP
Others	MIB (Management Information Base)	■
	Power	AC 100~240V
	Dimension, W x D x H (mm)	430 x 178 x 44
	Option	SFP Transceiver

Layer2+ Stackable Managed Switch



- ❶ Console Port
- ❷ LED Indicator
- ❸ SFP Slot
- ❹ 10/100/1000M RJ-45 Port

SP1678B 24+2GbE Managed Switch

24

2

4MB

■

■

■

■

■

■

■

■

■

■

■

■

■

■

■

Console, Telnet, HTTP, SNMP

■

AC 100~240V

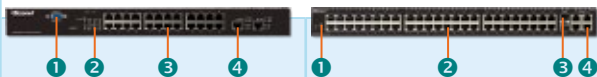
442 x 316 x 44

SFP Transceiver

10/100M Web Smart Switch



Web Smart Switch



- ① Console Port
- ② LED Indicator
- ③ 10/100M RJ-45 Port
- ④ 10/100/1000M RJ-45 Port

- ① LED Indicator
- ② 10/100M RJ-45 Port
- ③ SFP Slot
- ④ 10/100/1000M RJ-45 Port

Model No. Description		SP659B 24+2GbE-port Switch	SP6052WS 48+4GbE-port Switch
Hardware	10/100Mbps Port, RJ-45	24	48
	10/100/1000Mbps Port, RJ-45	2	4
	1000Mbps SFP Slot	–	2, Shared
	Buffer Memory (Cache Size)	320Kbytes	128Kbytes
Layer 2 Feature	Port-based VLAN	26 Groups	16 Groups
	Port Mirror to Monitor the Traffic of the Source Port	–	■
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	7 Groups	6 Groups
QoS	Traffic Prioritization Among Ports or Services	■	■
	Port-based QoS	■	■
	IEEE 802.1p (CoS) Priority Tag (Layer 2)	■	–
	ToS (Type of Service) Classifier (Layer 3)	■	■
	Priority Queues	■	■
Control	Bandwidth Control	■	–
	Telnet Management	■	–
Installation	Web-based Management	■	■
	Rack Mounted Installation	■	■
Others	Power	AC 100~240V	AC 100~240V
	Dimension, W x D x H (mm)	441 x 130 x 44	441 x 200 x 44
	Option	–	SFP Transceiver

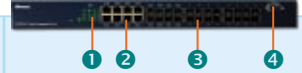
Gigabit Managed Switch



Gigabit Layer 2+ Managed Switch



- ① LED Indicator
- ② SFP Slot
- ③ 10/100/1000M RJ-45 Port
- ④ Console Port



- ① LED Indicator
- ② 10/100/1000M RJ-45 Port
- ③ SFP Slot
- ④ Console Port

Ethernet Switch

Model No. Description		SP1684B 24GbE+4GbE Managed Switch	SP6524F 24GbE Managed Switch
Hard-ware	10/100/1000Mbps Port, RJ-45	24	8, Shared
	1000Mbps	4, Shared	24
	Buffer Memory (Cache Size)	512KB	1392KBytes
Layer 2 Feature	Port-based VLAN	■	■
	IEEE 802.1q, Tag-based VLAN	■	■
	IEEE 802.1q-in-q, Nested (Double tag) VLAN	■	■
	Multicast VLAN	■	■
	Management for IPTV	■	■
	GVRP/GARP, GARP (Generic Attribute Registration Protocol)	■	■
QoS	Port Mirror to Monitor the Traffic of the Source Port	Inbound / Outbound	
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	■	■
	Traffic Prioritization Among Ports or Services	■	■
	IEEE 802.1p (CoS) Priority Tag (Layer 2)	■	■
	ToS (Type of Service) Classifier (Layer 3)	■	■
Security	TCP/UDP Service Port (Layer 4)	■	■
	Priority Queues	■	■
	Bandwidth Control	■	■
	IGMP (Internet Group Management Protocol)	Snooping / Proxy	
Management	Broadcast/Multicast/Unicast Storm Control	■	■
	IEEE 802.1x, Network Access Control	■	■
	ACL (Access Control List)	■	■
	IP-MAC-Port Binding for Access Control	■	■
Others	DHCP function	■	DHCP Relay
	Stackability (Virtual Stack Management)	—	16 Devices
	Management	Console, Telnet, HTTP, SNMP	
Others	MIB (Management Information Base)	■	■
	Power	AC 100~240V	AC 100~240V
	Dimension, W x D x H (mm)	430 x 250 x 44	441 x 200 x 44
	Option	SFP Transceiver	SFP Transceiver

Modular Switch



Modular Switch

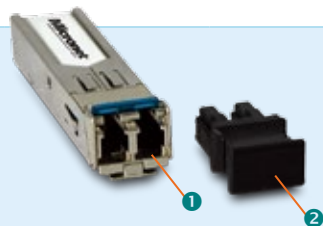


- ❶ Expansion Slot
- ❷ LED Indicator
- ❸ SFP Slot
- ❹ 10/100/1000M RJ-45 Port

Model No. Description	SP1626F Managed Modular Switch
Hardware	
Slot for Optional M200 Series Module	3
10/100/1000Mbps, RJ-45 / 1000Mbps Slot	2, Shared
Max, Ports of 100Mbps	24
Layer 2 Feature	
Stackability by VSM (Virtual Stack Management)	■
Port Mirror to Monitor the Traffic of the Source Port	■
IEEE 802.3ad, Link Aggregation to Increase the Bandwidth between the Linked Devices	■
Port-based VLAN	24 Groups
IEEE 802.1q, Tag-based VLAN	256 Groups
IEEE 802.1q-in-q, Nested (Double Tag) VLAN	■
GVRP (GARP VLAN Registration)*	■
IEEE 802.1d, Spanning-Tree Protocol for Loop-free Redundant Network	■
IEEE 802.1w, Rapid Spanning Tree Protocol for Loop-free Redundant Network	■
QoS	
Traffic Prioritization among Ports or Services Port-based QoS	■
IEEE 802.1p (CoS) Priority Tag (Layer 2)	■
DSCP (DiffServ Code Point) Classifier (Layer 3)	■
Priority Queue	■
Broadcast Storm Control	■
IGMP Snooping & Filtering	■
Others	
Management	Console, Telnet, HTTP, SNMP
Power	AC 100-240V
Dimension, W x D x H (mm)	442 x 281 x 44
Option	Optional Module

	Model No. Description	Module for SP1626F Managed Modular Switch
Modules	8-port 10/100Mbps (RJ-45)	–
	8-port 100Base-FX (ST/MM)	M218A
	8-port 100Base-FX (SC/MM)	M218B
	6-port 10/100Mbps (RJ-45) + 2-port 100base-FX (ST/MM)	–
	6-port 10/100Mbps (RJ-45) + 2-port 100base-FX (SC/MM)	–
	8-port 100Base-FX (SC/SM, 20KM)	M218-20
	1-port 100Base-FX (SC/SM, 40KM)	–
SFP	1-port 1000Base-SX SFP	M363A Series
	1-port 1000Base-LX SFP	M363B Series

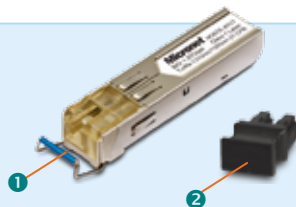
SFP Transceiver 1.25G SFP Transceiver



- ① LC Connector
- ② Protective Cap

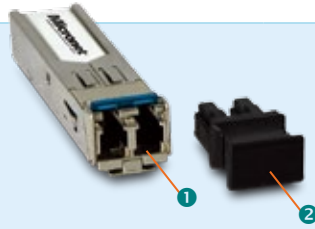
	Model No. Description	M363A SFP Transceiver	M363A-2 SFP Transceiver	M363B-10 SFP Transceiver
STD	IEEE 802.3z, 1000BASE-SX	■	■	-
	IEEE 802.3z, 1000BASE-LX	-	-	■
Performance	Wave Length (nm)	850nm	1310nm	1310nm
	Optical Power (dBm)	-19.5~-4	-9~-1	-9.5~-3
	Sensitivity (dBm)	-20	-19	-20
	Distance	550m	2KM	10KM

SFP Transceiver 1.25G Bi-Directional SFP Transceiver



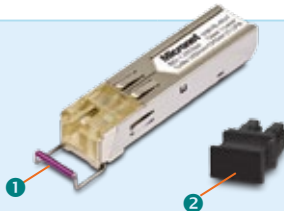
- ① LC Connector
- ② Protective Cap

	Model No. Description	M367A-10 SFP Transceiver	M367A-20 SFP Transceiver	M367A-40 SFP Transceiver
STD	IEEE 802.3z, 1000BASE-LX	■	■	■
Performance	Wave Length (nm)	T1310/R1550 nm		
	Optical Power (dBm)	-9 ~ -3	-8 ~ -2	-3 ~ -2
	Sensitivity (dBm)	-20	-23	-23
	Distance	10KM	20KM	40KM



- ① LC Connector
- ② Protective Cap

M363B-20 SFP Transceiver	M363B-40 SFP Transceiver	M363B-60 SFP Transceiver	M363B-80 SFP Transceiver	M363B-120 SFP Transceiver
–	–	–	–	–
■	■	■	■	■
1310nm	1310nm	1550nm	1550nm	1550nm
-8~-2	-2~+3	-2~+3	0~+5	0~+5
-23	-23	-23	-24	-30
20KM	40KM	60KM	80KM	120KM



- ① LC Connector
- ② Protective Cap

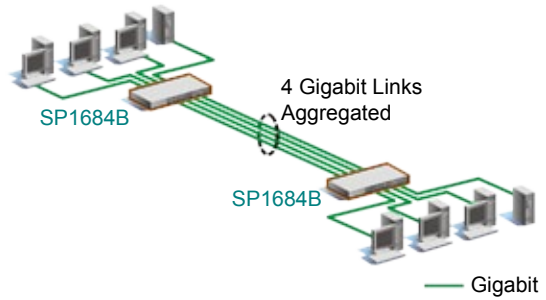
M367B-10 SFP Transceiver	M367B-20 SFP Transceiver	M367B-40 SFP Transceiver
■	■	■
T1550/R1310 nm		
-9 ~ -3	-8 ~ -2	-3 ~ +2
-20	-23	-23
10KM	20KM	40KM

Technical Notes

Link Aggregation

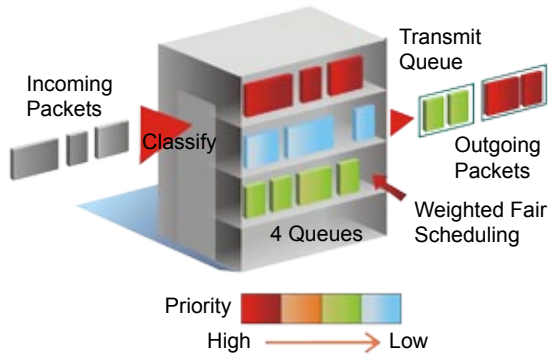
Link aggregation, or IEEE 802.3ad, is a networking term which describes using multiple Ethernet network cables/ports in parallel to increase the link speed beyond the limits of any one single cable or port, and to increase the redundancy for higher availability.

A limitation of link aggregation is that all physical ports in the link aggregation group must reside on the same switch.



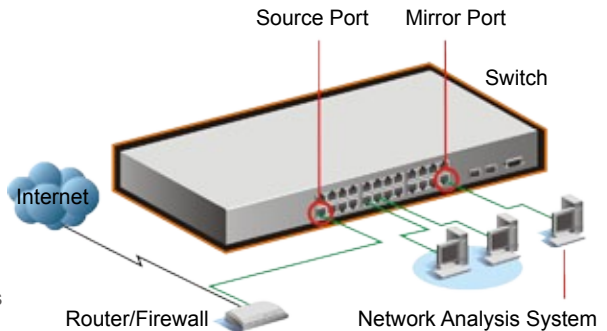
QoS

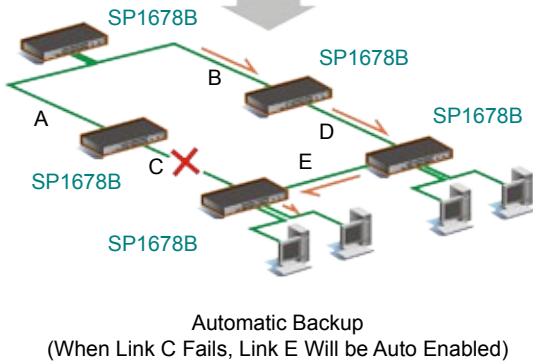
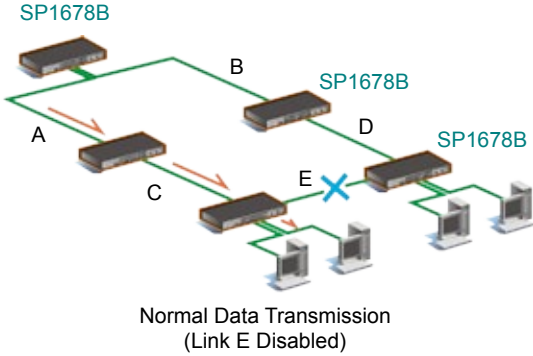
Quality of Service is the ability to provide different priority to different applications, users, or data flows, or to guarantee a certain level of performance to a data flow. For example, a required bit rate, delay, jitter, packet dropping probability and/or bit error rate may be guaranteed. Quality of service guarantees are important if the network capacity is insufficient, especially for real-time streaming multimedia applications such as Voice over IP, online games and IP-TV, since these often require fixed bit rate and are delay sensitive, and in networks where the capacity is a limited resource, for example in cellular data communication.



Port Mirror

Port mirroring is used on a network switch to send a copy of all network packets seen on one switch port (or an entire VLAN) to a network monitoring connection on another switch port. This is commonly used for network appliances that require monitoring of network traffic, such as an intrusion-detection system.





Spanning Tree

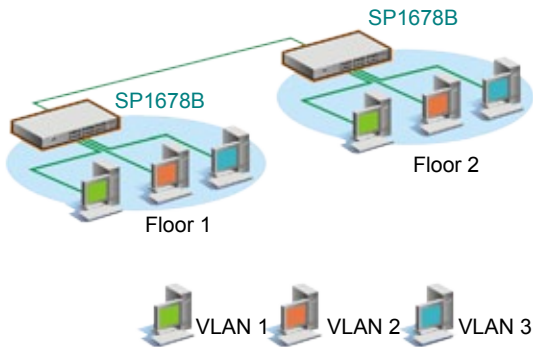
The Spanning Tree Protocol (STP) is an OSI layer-2 protocol that ensures a loop-free topology for any bridged LAN. Spanning tree allows a network design to include spare (redundant) links to provide automatic backup paths if an active link fails, without the danger of bridge loops, or the need for manual enabling/disabling of these backup links. Bridge loops must be avoided because they result in flooding the network.

The Spanning Tree Protocol is defined in the IEEE Standard 802.1D. It creates a spanning tree within a mesh network of connected layer-2 bridges (typically Ethernet switches), and disables those links that are not part of the tree, leaving a single active path between any two network nodes.

VLAN

A virtual LAN, commonly known as a VLAN, is a group of hosts with a common set of requirements that communicate as if they were attached to the Broadcast domain, regardless of their physical location. A VLAN has the same attributes as a physical LAN, but it allows the end stations to be grouped together even if they are not located on the same network switch. Network reconfiguration can be done through software instead of physically relocating devices.

VLANs give you the ability to create "virtual" switches inside a switch to help decrease broadcast traffic and to increase security.

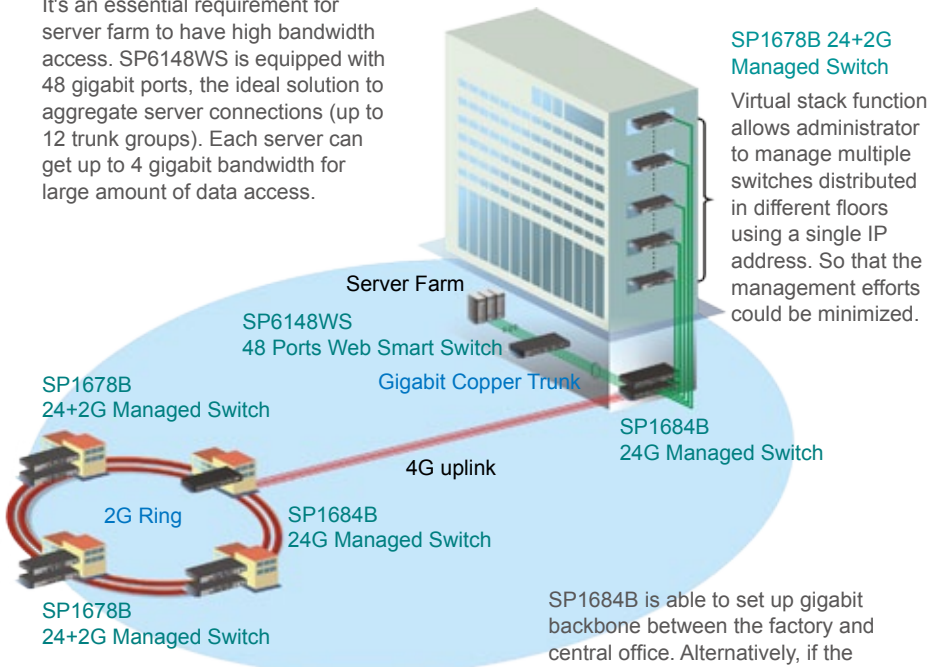


Enterprise Backbone For Wide Area District Networks Integration

It is common that offices and factories are distributed in wide area. In order to integrate enterprise's competitive advantage and know-how, it is critical to enhance the communication among all departments. Micronet Enterprise

Switch family provides cost-effective solution for network integration required by businesses. Such application is suitable for campus, airport, military base, hospital, and factory.

It's an essential requirement for server farm to have high bandwidth access. SP6148WS is equipped with 48 gigabit ports, the ideal solution to aggregate server connections (up to 12 trunk groups). Each server can get up to 4 gigabit bandwidth for large amount of data access.



SP1678B 24+2G Managed Switch

Virtual stack function allows administrator to manage multiple switches distributed in different floors using a single IP address. So that the management efforts could be minimized.

SP6148WS 48 Ports Web Smart Switch

SP1678B 24+2G Managed Switch

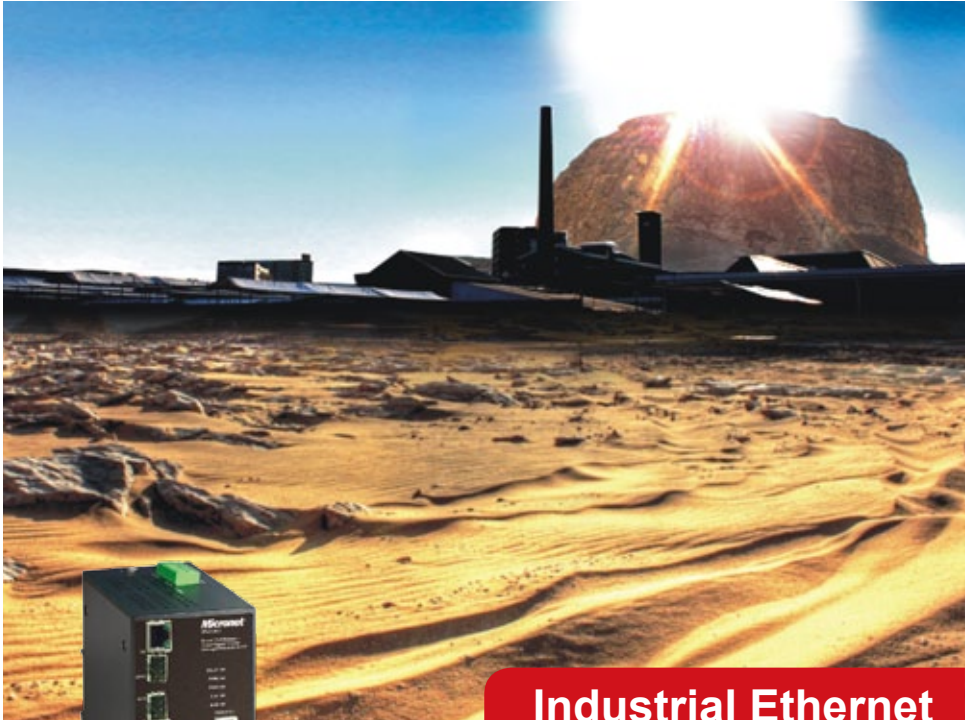
SP1684B 24G Managed Switch

SP1678B 24+2G Managed Switch

Both SP1684B and SP1678B support port trunk and spanning tree features. The two switches are ideal for constructing the network distribution ring. The ring configuration is fault-tolerant for fiber disconnection, and will make the mission-critical tasks more robust. SP1678B provides two Uplink Gigabit ports for the distribution ring and 24 10/100M ports for dispersing to each terminal.

SP1684B is able to set up gigabit backbone between the factory and central office. Alternatively, if the network requires larger backbone bandwidth higher than 2GMbps, SP6524F would be the ideal product. The model is equipped with 24-port of fiber connections and supports up to 8G port trunk.

— Gigabit Ethernet Copper
— Gigabit Ethernet Fiber



Industrial Ethernet

Micronet industrial switches can be operated in a wide operating temperature of -40 to 75°C and are designed for applications in extremely harsh environments, such as ITS (Industrial Transportation Systems), MRT Station Automation, Hospitality, and Factory Assembly Line Automation, etc.

Besides, most Micronet industrial switches also provide redundant protection, two mounting mechanism,

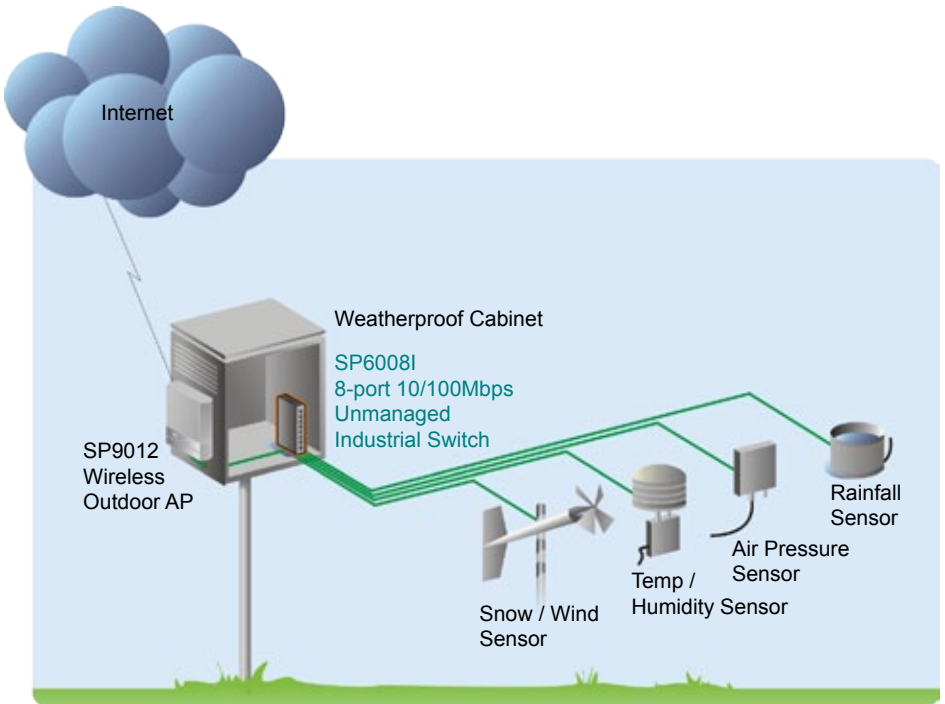
and fast network recovery in addition to wide operating temperature. These key features are unique to industrial switches and can not be found with normal commercial switches. In addition, Micronet managed industrial switches are equipped with an Ethernet protocol called M-Ring. With M-Ring, mission critical network connections can be kept running 24 by 7, or get recovered within milliseconds.

Weather Inspection

Increase reliability by using industrial switches in outdoor harsh weather

Unmanned weather stations play an essential role in an effort to analyze and predict the world's ever-changing weather patterns. The unmanned stations collect and store large amount of weather data and upload the data at regular intervals to a back-end host for analysis and long-term storage.

With wide operating temperature, redundant power, and aluminum case of IP30 level protection features, SP6008I 8-port 10/100Tx Unmanaged Industrial Switch is able to work in harsh environment to ensure all important data is gathered and transmitted.



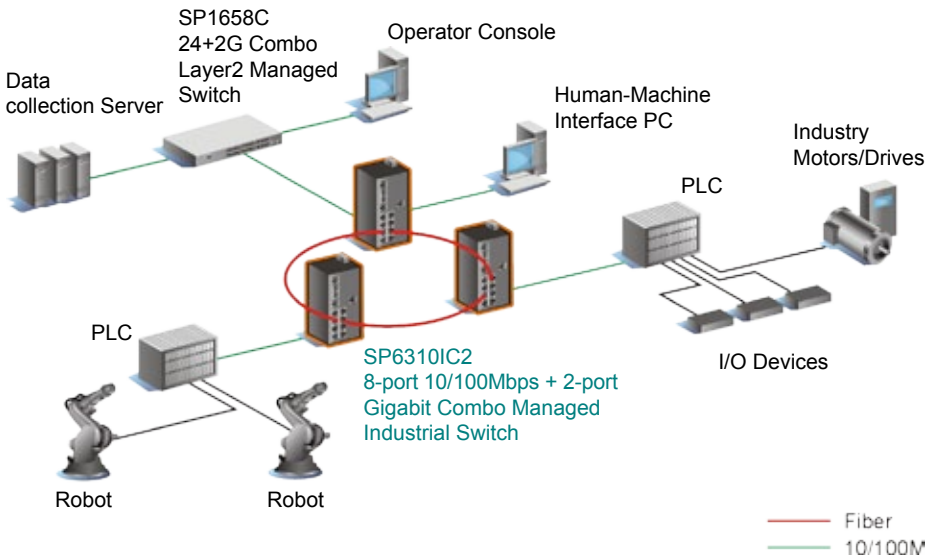
Manufacturing Automation

Optimize manufacturing productivity with robust industrial switches

Automation is key to keep manufacturers competitive, but it is difficult to achieve reliable communication amongst the specialized devices and protocols. In this scenario, SP6310IC2 8-port 10/100Mbps + 2-port Gigabit Combo Managed Industrial Switch plays an important role to connect with PLC (Programmable Logic Controller), robots, and central management system. With M-Ring technology, the redundancy connection of SP6310IC2 will recover the network

automatically within 20ms. The STP (802.1d) and RSTP (802.1w) industry standard reconnection protocol also helps to minimize network down time and guarantees network resilience.

Moreover, SP6310IC2 is equipped with multiple security features, such as Port Security, IP Security, and Login Security. Management features such as SNMP, SMTP email alert, relay alarms, and system log features are useful for administrators to monitor with ease.



Unmanaged Switch



- 1 Terminal Block
- 2 LED Indicator
- 3 10/100M RJ-45 Port

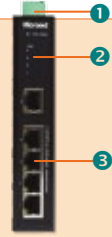
Model No. Description		SP6008I
		8-port 10/100M Unmanaged Industrial Switch
Interface	10/100Mbps Port, RJ-45	8
	10/100/1000Mbps Port, RJ-45	–
	1000M SFP Slot	–
	100Base-FX Port	–
Hardware	Auto-Negotiation	■
	Auto-Uplink (Auto MDI-MDI-X)	■
	Optical Cable	–
	Protocol	CSMA/CD
	Switching Fabric	1.6Gbps
	Packet Throughput Ability	2.38Mpps@64bytes
	Transfer Rate	14,880pps for Ethernet port, 148,800pps for Fast Ethernet port
Safety	Memory Buffer	448Kbits
	MAC Address	2K
	Broadcast Storm Protection	■
Power	EFT Protection for Power Line	3000V DC
	Ethernet ESD Protection	4000V DC
Environment	Power Supply	DC 12-48V
	Power Consumption	4.71 Watts
	Power Redundant Design	■
Others	Power Polarity Reverse Protection	■
	Operating Humidity	5%~95% (Non-condensing)
	Operating Temperature	-10-60°
	Storage Temperature	-40-85°
	DIN Rail Installation	■
	Wall Mount Installation	■
	Dimension, W x D x H (mm)	30 x 95 x 140

Unmanaged Switch

- 1 Terminal Block
- 2 LED Indicator
- 3 10/100M RJ-45 Port



- 1 Terminal Block
- 2 LED Indicator
- 3 10/100M RJ-45 Port



SP6108I

8-port 10/100/1000M Unmanaged Industrial Switch

SP6005IP4

5-port 10/100M Unmanaged Industrial Switch with 4-port PoE

—

5 (4-port PoE Support)

8

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CSMA/CD

CSMA/CD

16Gbps

1Gbps

23.8Mpps@64bytes

1.49Mpps@64bytes

14,880pps for Ethernet port,
148,800pps for Fast Ethernet port
1,488,000 for Gigabit Fiber Ethernet port

14,880pps for Ethernet port,
148,800pps for Fast Ethernet port

176Kbytes

448Kbits

8K

2K

■

■

3000V DC

3000V DC

6000V DC

6000V DC

DC 12-48V

DC 12-48V

7.788 Watts@12V, 7.392 Watts@48V

57 Watts (Full load with PoE)

■

■

■

■

5%~95% (Non-condensing)

5%~95% (Non-condensing)

-10-60°

-10-60°

-40-85°

-40-85°

■

■

■

■

30 x 95 x 140

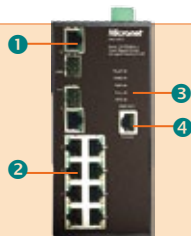
30 x 95 x 140

Managed Switch



Managed Switch

- 1 SFP Port
- 2 10/100M RJ-45 Port
- 3 LED Indicator
- 4 Console Port

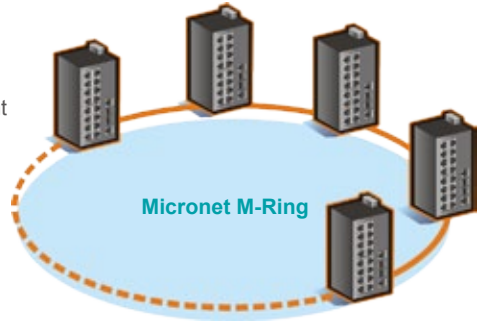


Model No. Description		SP6310IC2
		8-port 10/100M + 2-port Gigabit Combo Managed Industrial Switch
Interface	10/100Mbps Port, RJ-45	8
	10/100/1000Mbps Port, RJ-45	2
	1000M SFP Slot	2
	100Base-FX Port	-
Hardware	Optical Cable	Multi-mode: 50/125µm~ 62.5/125µm, Single-mode: 9/125µm
	Switching Fabric	7.2Gbps
	Packet Throughput Ability	10.7Mpps@64bytes
	Transfer Rate	14,880pps for Ethernet port 148,800pps for Fast Ethernet port 1,488,000 for Gigabit Fiber Ethernet port
Security	Memory Buffer	1Mbits
	MAC Address	8K
	Port Security	100 MAC Address Entires/Filter
	IP Security	10 IP authorization
Feature	Login Security	IEEE802.1x/RADIUS
	M-Ring, Dual Homing, Ring Coupling Topology	Recovery Time <20ms
	IEEE802.1w Rapid Spanning Tree Protocol	■
	VLAN	Port Based VLAN, IEEE802.1Q VLAN (256 entries)/VLAN ID, GVRP (256 groups)
QoS	Port Trunk with LACP	4 Trunk Groups & Members
	Port Mirror	3 Types: RX, TX and Both
	IGMP	IGMP Snooping v1/v2, 256 Multicast groups and IGMP query
	DHCP	DHCP Client/Server
Control	DNS	DNS Client and Primary/Secondary DNS Server
	Traffic Prioritization among Ports or Services	Determined by Port, Tag and IPv4 Type of Servier, Support IEEE802.1p and Bandwidth Control
	SNMP MIB Management	■ SNMP v1, v2c, v3/Web/Telnet/CLI
	Power	Power Supply
Power Consumption		11.5 Watts
Power Redundant & Polarity Reverse Protection		■
Environment	Operating Humidity	5%~95% (Non-condensing)
	Operating Temperature	-10-60°
	Storage Temperature	-40-85°
Other	Installation	DIN Rail & Wall Mount
	Dimension, W x D x H (mm)	72 x 105 x 152

Technical Notes

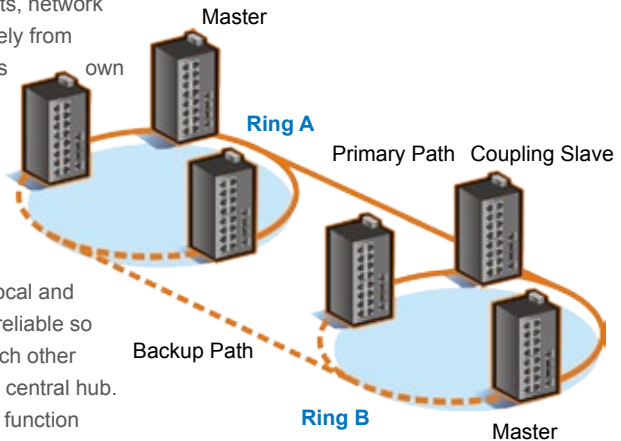
M-Ring Fault Tolerance

Most automation applications in industrial environment require highly reliable Ethernet network and have little tolerance in network failure. If one link fails, the risk is all other activities from this network will become unpredictable. Thus, the redundant Ethernet path becomes important while facing the hazard of link failures. Micronet's industrial switch is equipped with an Ethernet protocol called M-Ring. It maintains the whole network connection 24 x 7 without any activity failure. With Micronet's M-Ring solution, your network will always be kept running and can be recovered in just a few milliseconds.



Ring-Coupling

In many Ethernet environments, network devices may connect separately from different locations and have its own tasks to be taken up at one site of it, but occasionally these different sites' tasks may need to work shoulder-to-shoulder to take both of sites' data or to exchange the information in between. The local and remote sites need to be very reliable so that both of them can fulfill each other without building a huge single central hub. The Micronet "Ring Coupling" function helps maintain those distributed network devices into several smaller redundant rings without any control line. The smaller rings coupled in such way will still be able to communicate with each other.

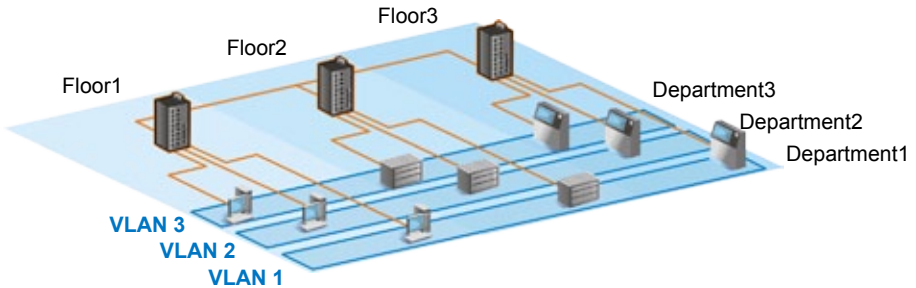


Technical Notes

VLAN (Virtual LAN) on Industrial Switches

A virtual LAN, commonly known as a VLAN, is a group of hosts with a common set of requirements that communicates as if they were attached to the broadcast domain, regardless of their physical

locations. A VLAN has the same attributes as a physical LAN. It allows for end station to be grouped together even if they are not connected to the same network switch.



Port Trunk with LACP on Industrial Switches

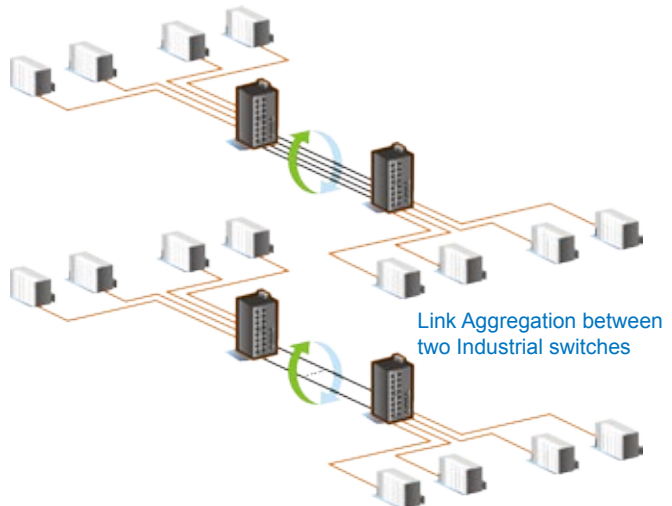
Port Trunk can increase network performance by aggregating the bandwidth of all cables and moderating the bottleneck of interconnections.

Port Trunk (Non-Standard)

Usually, switches from different provider won't establish a trunk

Link Aggregation Control Protocol (Standard)

Compliant with IEEE 802.3ad standard, switches from different providers can establish a trunk coupled with valuable features such as load sharing.





Power over Ethernet

Power over Ethernet (PoE) works by providing DC power over the same wires that carry Ethernet data, and makes delivering power over Ethernet cable to remote PoE-enabled devices possible. PoE simplifies the installation and deployment of powered devices. Micronet provides a full range PoE product line, including 4/8/16/24 port PoE switch series and PoE kit, to fulfill a variety of scenarios and applications, such as IP phones, WLAN and IP surveillance.

While the market rises, Micronet PoE solution keeps offering configuration flexibilities and technology innovation with quality so that our solution can

be easily adapted to any requirement. Besides, Micronet helps to configure for diversified application environments, such as for hospitality, data center, and SMB/enterprise office communications, etc.

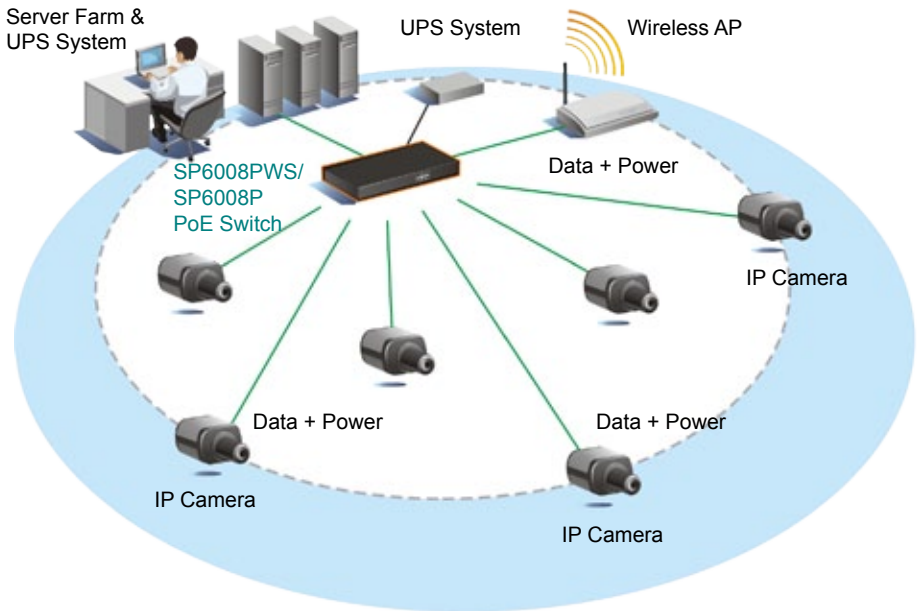
Furthermore, Micronet provides voice, IP Surveillance, and outdoor wireless product lines. These solutions can be integrated with PoE product line seamlessly. With cost effective solutions from Micronet, customers can get great efficiency without compatibility issues.

PoE Switch Delivers Power for IP Telephony, Wireless LAN, and IP Surveillance

Micronet PoE (Power over Ethernet) switch solution is designed with IEEE 802.3af compliance, and used to deliver power to Ethernet-enabled devices that are located in places where there is no AC outlet. Micronet provides a complete

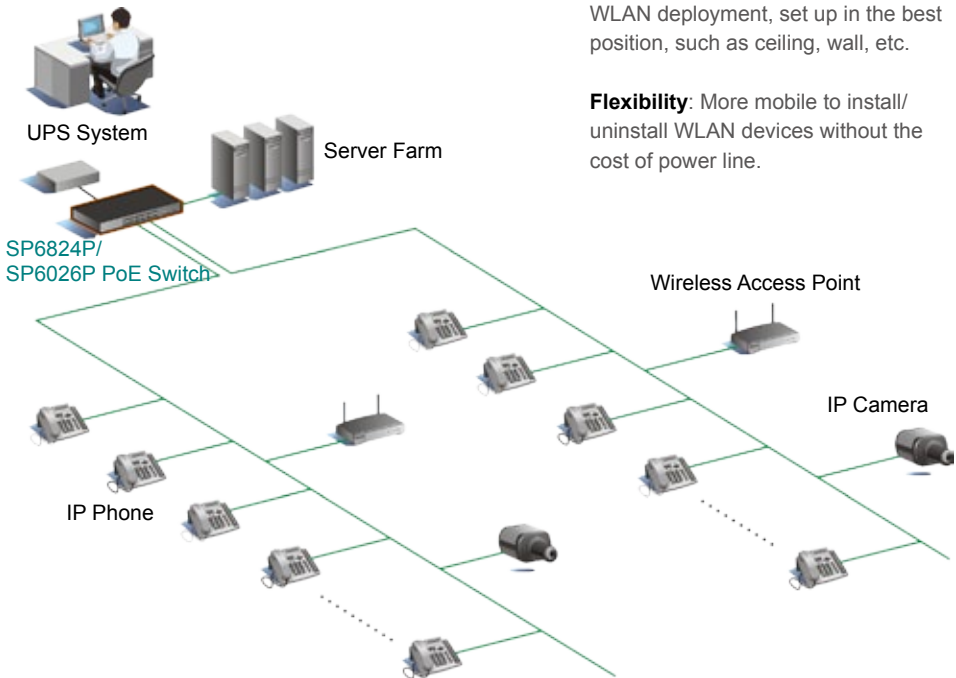
solution of high and low port-density of 4/8/16/24 port PoE switches. Thus, requirements from variety of scenarios, such as IP telephony, wireless LAN, and IP surveillance, can be fulfilled.

SP6008PWS 8-port PoE switch is suitable for the environments that demand for low density of PoE-port implementation, such as video surveillance and wireless hotspots.



A centralized power management system, with redundant power, ensures non-stop track for IP camera. A power failure does not affect community and business security.

SP6026P/SP6824P PoE switch is suitable for the office or other environments that demand for high density of PoE-port implementation, including VoIP, Wireless LAN, or IP surveillance. With UPS system deployed, reliable power-supply is ensured.



Optimized Coverage: It facilitates WLAN deployment, set up in the best position, such as ceiling, wall, etc.

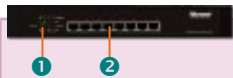
Flexibility: More mobile to install/uninstall WLAN devices without the cost of power line.

Secured and Easy Management:

A centralized power management system, with power redundancy, ensures non-stop operation. Via per-port PoE setting in PoE switch, administrator can re-configure the Ethernet devices and control the power on/off remotely when the devices meet problems or need upgrading.

— 10/100M

PoE Switch



- 1 LED Indicator
- 2 DIP Switch
- 3 10/100M RJ-45 Port (#5)
- 4 RJ-45 PoE Port (#1 - #4)

- 1 LED Indicator
- 2 10/100M RJ-45 Port/ PoE Port

	Model No. Description	SP6005P4 PoE Unmanaged Switch	SP6008P PoE Unmanaged Switch
Interface	10/100Mbps Port, RJ-45	1	-
	10/100Mbps PoE Port, RJ-45	4	8
	10/100/1000Mbps Port, RJ-45	-	-
	1000Mbps SFP Slot (shared)	-	-
PoE	IEEE 802.3af, Power over Ethernet	■	■
	IEEE 802.3at (draft), Power over Ethernet	■	-
	Power Delivery	Total 61.6W 48/30/20/ 15.4W for 1/2/3/4 PDs	Total 130W 15.4W for 8 PDs
Switching Features	Auto-Negotiation	■	■
	Auto-Uplink (Auto MDI/MDI-X)	■	■
	Port-based VLAN	-	-
	IEEE 802.1q, Tag-based VLAN	-	-
	IEEE 802.1q-in-q, Nested (Double Tag) VLAN	-	-
	Port Mirror to Monitor the Traffic of the Source Port	-	-
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	-	-
QoS	IEEE 802.1d, Spanning-Tree Protocol for Loop-free Redundant Network	-	-
	IEEE 802.1w, Rapid Spanning-Tree Protocol for Loop-free Redundant Network	-	-
	Traffic Prioritization among Ports or Services	-	-
	Port-based QoS	-	-
	IEEE 802.1p (CoS) Priority Tag (Layer 2)	-	-
	ToS (Type of Service) Classifier (Layer 3)	-	-
	DSCP (DiffServ Code Point) Classifier (Layer 3)	-	-
Others	TCP/UDP Service Port (Layer 4)	-	-
	Priority Queue	-	-
	Bandwidth Management	-	-
	WRR (Weighted Round Robin) Bandwidth Allocation for Differentiated Services	-	-
	Port-based Bandwidth Control (Ingress / Egress)	-	-
Management	Broadcast Storm Control	-	-
	IEEE 802.1x, Network Access Control	-	-
	Power	DIP Switch (Per-port PoE On/Off)	-
	Dimension, W x D x H (mm)	DC 48V, 1.25A	AC 100 - 240V
	Optional Module	120 x 90 x 28	58 x 87 x 20
		-	-

PoE Switch

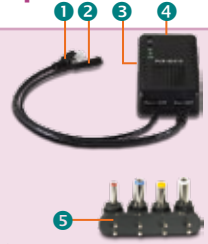
- 1** LED Indicator
- 2** 10/100M RJ-45 Port/ PoE Port
- 3** 10/100/1000M RJ-45 Port
- 4** SFP Slot

SP6008PWS PoE Web Smart Switch	SP6016P8 PoE Unmanaged Switch	SP6026P PoE Web Smart Switch	SP6824P PoE Managed Switch
-	8	-	-
8	8	24	24
-	-	2	2
-	-	2	2
■	■	■	■
-	-	-	-
Total 120W 15.4W for 8 PDs	Total 65W 15.4/7.7W for 4/8 PDs	Total 390W 15.4W for 24 PDs	Total 370W 15.4/30W for 24/12 PDs
■	■	■	■
■	■	■	■
■	-	■	■
-	-	256 Groups	256 Groups
-	-	-	■
-	-	-	■
-	-	-	■
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-	-	-	■
HTTP	-	HTTP	HTTP, Telnet, Console, SNMP
AC 100 - 240V	AC 100 - 240V	AC 100 - 240V	AC 100 - 240V
266 x 160 x 44	440 x 220 x 44	440 x 220 x 44	430 x 350 x 44
-	-	M363A, M363B-10	M363A, M363B-10

PoE Injector/Splitter



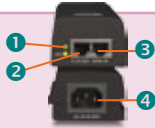
PoE Splitter



- 1 Data OUT Cable
- 2 Power OUT Cable
- 3 DIP Switch
- 4 Data/Power IN Port
- 5 Power Jack

Model No.	Description	SP390BS
		PoE Splitter
Standard	IEEE 802.3, 10BASE-T	■
	IEEE 802.3u, 100BASE-TX	■
	IEEE 802.3, 1000BASE-TX	■
	IEEE 802.3af, Power over Ethernet	■
Interface	Data Input RJ-45 Port	–
	Data/Power Output RJ-45 Port	–
	Data/Power Input RJ-45 Port	1
	Data Output RJ-45 Port	1
Power over Ethernet	OD/ID mm	5.5/2.5 5.5/2.1 5.5/1.7 5.5/1.3
	Power Supply	DC 48V, 0.3A
	Injector Output	–
	Maximum Feeding Power	15.4W
	Splitter Output	DC 5V, 2.0A DC 9V, 1.1A DC 12V, 0.8A (Output Adjustable)
	Detection of 802.3af PD (Powered Device) Presence	–
	Protection from Short-circuit	■
Others	Temperature	Operating: 0°C - 60°C Storage: 0°C - 60°C
	Dimension, W x D x H (mm)	80 x 55 x 26

PoE Injector



- 1 LED Indicator
- 2 RJ-45 for Data Output
- 3 RJ-45 for Data Input
- 4 Power Jack for Power Input

SP390BI PoE Injector

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AC 100 to 240 Vac

52 Vdc

30W

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■

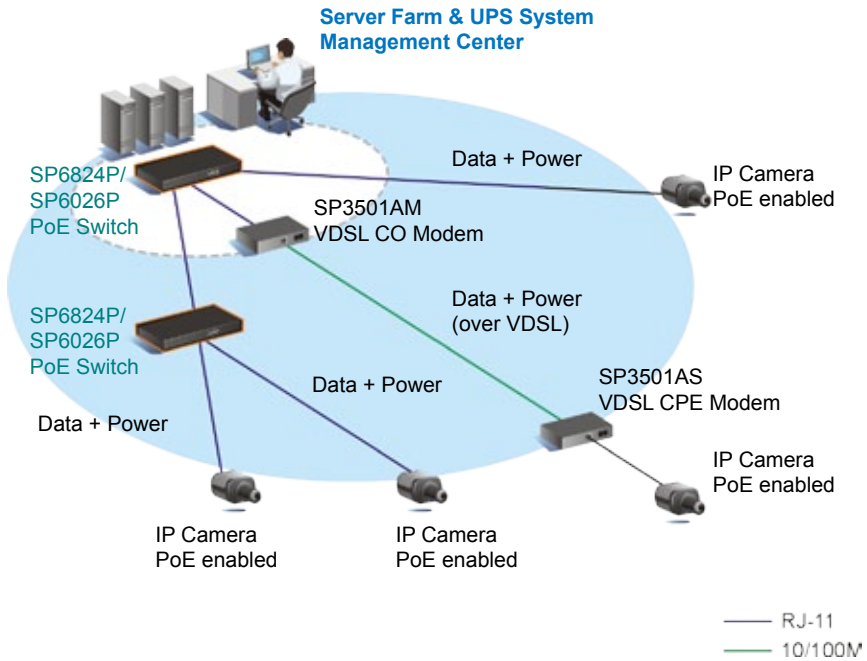
Operating: 0°C - 45°C
Storage: 0°C - 60°C

87.9 x 51.3 x 166

Provide Long-Reach Power and Data via PoE Switch & VDSL

SP6008P PoE switch forwards LAN power via network cable by Power Over Ethernet technology and requires no local power supply to be installed for the purpose. It can also forward Ethernet packets onto connected devices such as Micronet IP camera, wireless AP or IP phone products.

SP6008P can extend LAN cable network beyond 100 meters. If the distance is over 100 meters, the customers can use Micronet SP3501AM/AS VDSL CO/CPE Modem to extend the range up to 1.9 km away, and support symmetrical bandwidth 5/15/25 Mbps to provide sufficient bandwidth.





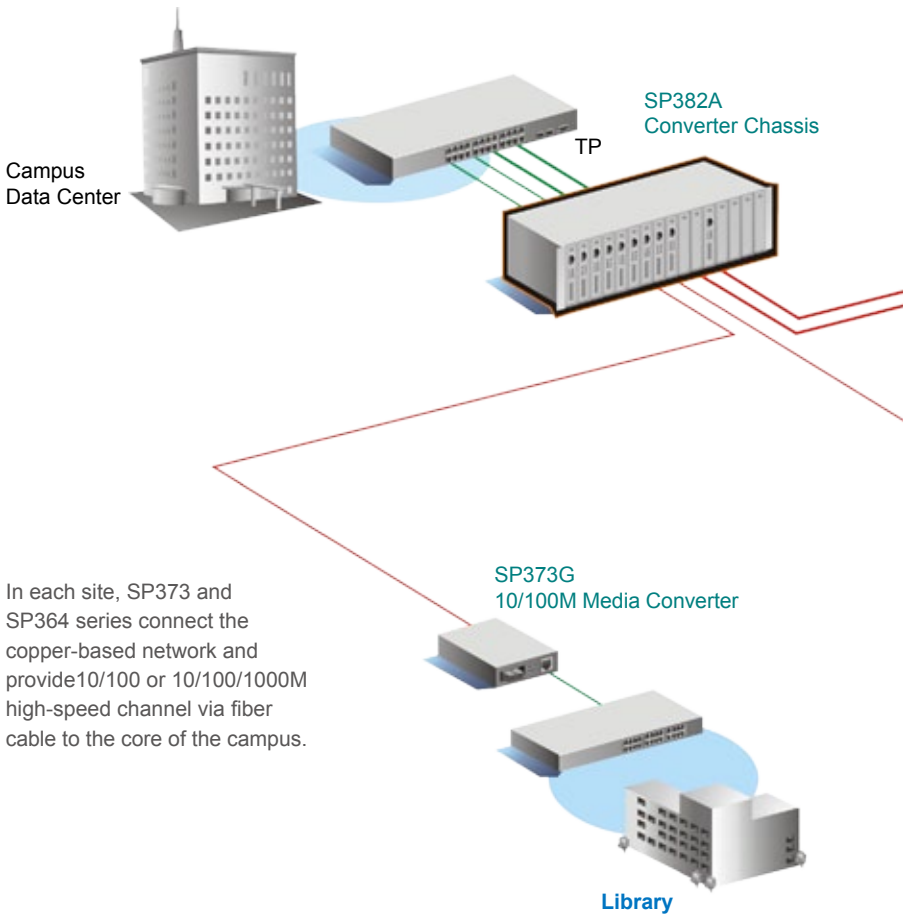
Fiber Optics

Micronet Fiber-Optics Product Series deliver fiber communications and media conversion from copper to fiber that permits data transmission over long distance at high data rate. Complete solutions with a variety of speed and fiber type provide great flexibility for the network infrastructure.

Fiber-Optics Transmission On Campus

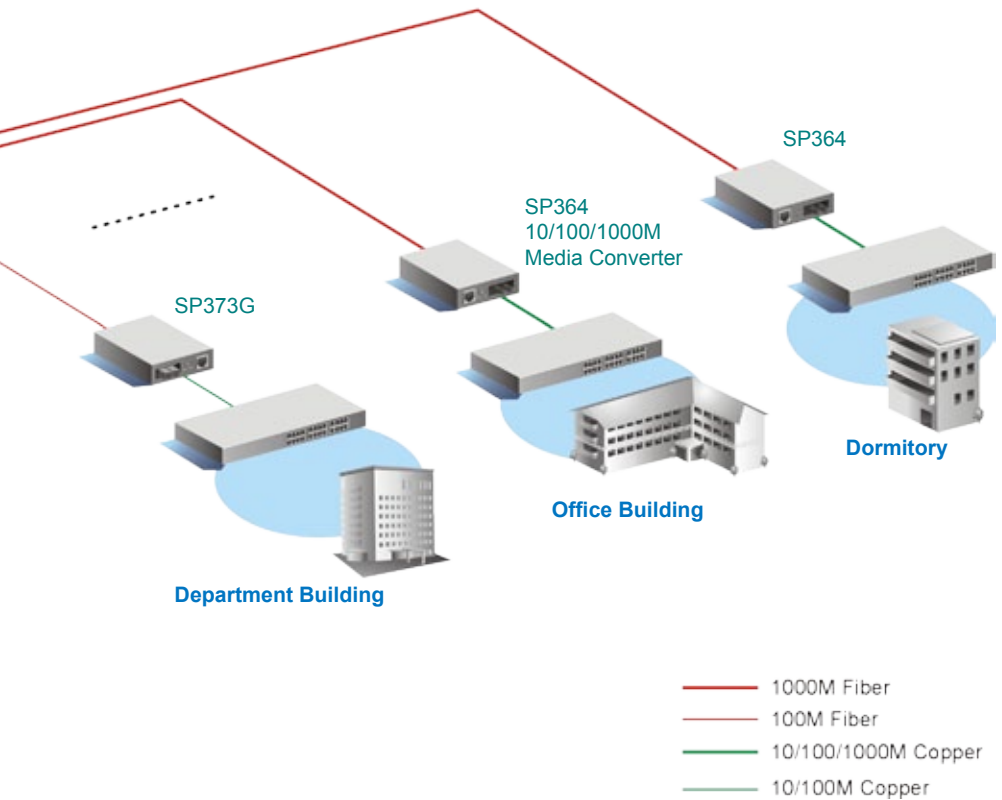
Micronet fiber-optics solution provides media conversion from copper to fiber-optics that permits transmission over the long distance at the high data rate. Converter chassis, located in the data center, aggregates the traffic of the campus via fiber-optics, and

connects to the core network. With the spread of optical fiber in the campus, administrators can take advantage of the feature of media conversion to extend the copper-based network beyond the distance limitation of 100 meters.



In each site, SP373 and SP364 series connect the copper-based network and provide 10/100 or 10/100/1000M high-speed channel via fiber cable to the core of the campus.

SP382A Converter Chassis accommodates up to 12 slide-in 10/100M or 10/100/1000M media converters those make fiber links with the remote media converters in other areas of the campus.



Media Converter



10/100M Media Converter



- 1 Fiber LAN Port
- 2 LED Indicator
- 3 10/100M RJ-45 LAN Port



- 1 Fiber LAN Port
- 2 LED Indicator
- 3 10/100M RJ-45 LAN Port

	Model No. Description	SP373F 10/100Mbps Media Converter	SP373G 10/100Mbps Media Converter
Standard	IEEE 802.3, 10BASE-T	■	■
	IEEE 802.3u, 100BASE-TX	■	■
	IEEE 802.3u, 100BASE-FX	■	■
Connection	TP Connection (Copper)	10/100Mbps, RJ-45	10/100Mbps, RJ-45
	FX Connection (Fiber)	100Mbps, Dual ST	100Mbps, Dual SC
	Fiber Cable	50/125 or 62.5/125 μm	50/125 or 62.5/125 μm
	Fiber Mode	Multimode, Duplex	Multimode, Duplex
	Wavelength	1310nm	1310nm
Other	Max. Distance	2KM	2KM
	Power	DC 5V, 2A	DC 5V, 2A
	Dimension, W x D x H (mm)	94 x 70.3 x 26.5	94 x 70.3 x 26.5

Media Converter



10/100/1000M Media Converter



- 1 Fiber LAN Port
- 2 LED Indicator
- 3 1000M RJ-45 LAN Port



- 1 Fiber LAN Port
- 2 LED Indicator
- 3 1000M RJ-45 LAN Port

	Model No. Description	SP364 10/100/1000Mbps Media Converter	SP364-10/20 10/100/1000Mbps Media Converter
Standard	IEEE 802.3, 10BASE-T	■	■
	IEEE 802.3u, 100BASE-TX	■	■
	IEEE 802.3ab, 1000BASE-T	■	■
	IEEE 802.3z, 1000BASE-SX	-	-
	IEEE 802.3z, 1000BASE-LX	-	■
Connection	TP Connection (Copper)	10/100/1000Mbps, RJ-45	10/100/1000Mbps, RJ-45
	FX Connection (Fiber)	1000Mbps, Dual SC	1000Mbps, Dual SC
	Fiber Cable	50/125 or 62.5/125 μm	9/125 or 10/125 μm
	Fiber Mode	Multimode, Duplex	Single Mode, Duplex
	Wavelength	850nm	1310nm
Other	Max. Distance	550M	SP364-10: 10KM SP364-20: 20KM
	Power	DC 5V, 2A	DC 5V, 2A
	Dimension, W x D x H (mm)	94 x 70.3 x 26.5	94 x 70.3 x 26.5
	Optional Module	-	-

10/100M Media Converter



- ❶ Fiber LAN Port
- ❷ LED Indicator
- ❸ 10/100M RJ-45 LAN Port



- ❶ Fiber LAN Port
- ❷ LED Indicator
- ❸ 10/100M RJ-45 LAN Port



- ❶ Fiber LAN Port
- ❷ LED Indicator
- ❸ 10/100M RJ-45 LAN Port

SP373G-20/40/60
10/100Mbps Media Converter

SP342C-20
WDM 10/100Mbps Media Converter

SP343C-20
WDM 10/100Mbps Media Converter

10/100Mbps, RJ-45
100Mbps, Dual SC
9/125 or 10/125 μm
Single Mode, Duplex
1310nm

10/100Mbps, RJ-45
100Mbps, Single SC
9/125 or 10/125 μm
Single Mode, Simplex Fiber
Tx: 1310nm, Rx: 1550nm

10/100Mbps, RJ-45
100Mbps, Single SC
9/125 or 10/125 μm
Single Mode, Simplex Fiber
Tx: 1550nm, Rx: 1310nm

SP373G-20: 20KM, SP373G-40:
40KM, SP373G-60: 60KM
DC 5V, 2A
94 x 70.3 x 26.5

20KM
DC 5V, 2A
94 x 70.3 x 26.5

20KM
DC 5V, 2A
94 x 70.3 x 26.5



- ❶ SFP Slot
- ❷ LED Indicator
- ❸ 1000M RJ-45 LAN Port

SP360
1000Mbps to SFP Media Converter

10/100/1000Mbps, RJ-45
Slot for SFP Module
Depend on SFP Module
Depend on SFP Module
Depend on SFP Module

DC 5V, 2A
94 x 70.3 x 26.5
M363A, M363B-10

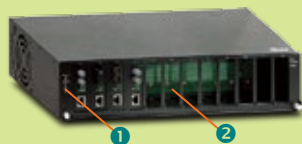
Note:

M363A : 1000BASE-SX SFP Transceiver, 550M
M363B-10 : 1000BASE-LX SFP Transceiver, 10KM

Converter Chassis



Unmanaged



- 1 LED Indicator
- 2 Slot for Media Converter

Model No. Description		SP382A Converter Chassis
Interface	Slot for Media Converter	12
	Converter Hot Swapping during Power-on State	■
	Management Port, RJ-45	-
Power	Power	AC 100 - 240V
	Power Consumption	60W
	Dual Power Redundancy	■
	Load Balance	■
Others	Management	-
	Dimension, W x D x H (mm)	440 x 258.6 x 89
Option		Standalone Converter
10/100M	10/100BASE-TX to 100BASE-FX, 2km, ST/MM	SP373F
	10/100BASE-TX to 100BASE-FX, 2km, SC/MM	SP373G
	10/100BASE-TX to 100BASE-FX, 20km, SC/SM	SP373G-20
	10/100BASE-TX to 100BASE-FX, 40km, SC/SM	SP373G-40
	10/100BASE-TX to 100BASE-FX, 60km, SC/SM	SP373G-60
	10/100BASE-TX to 100BASE-FX, Bi-Di, 20km, SC/SM	SP342C-20 / SP343C-20
Gigabit	10/100/1000BASE-T to 1000BASE-SX, 550m, SC/MM	SP364
	10/100/1000BASE-T to 1000BASE-LX, 10km, SC/SM	SP364-10
	10/100/1000BASE-T to 1000BASE-LX, 20km, SC/SM	SP364-20
	1000BASE-T to 1000BASE-LX, 30km, SC/SM	-
	1000BASE-T to 1000BASE-LX, 50km, SC/SM	-

Managed



- 1 Management Board
- 2 Converter Module



- 1 Management Board
- 2 Converter Module

SP1386 Managed Converter Chassis

SP1387 Managed Converter Chassis

16

16

■

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AC 100 - 240V

DC - 48V

150W

150W

■

■

■

■

HTTP, Telnet, Console, SNMP, E-mail Alarm

440 x 350 x 88

440 x 350 x 88

Converter Module

M365A

M365B

M365B-20

M365B-40

M365B-60

M365C-20A / M365C-20B

M366B

M366B-10

-

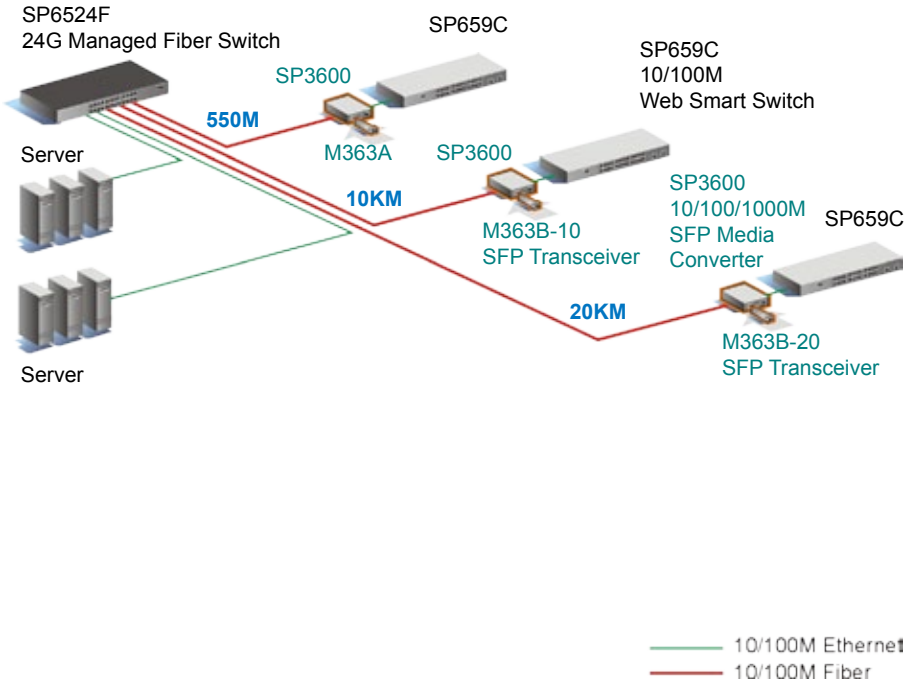
M366B-30

M366B-50

High Flexibility for Fiber-Optics Networking

SP3600 Gigabit media converters extend legacy twisted-pair network via optical fiber cable with higher bandwidth and no performance degradation. SP3600 is able to convert the networking media between UTP and optical fiber cable, and extend the length of Ethernet connection.

SP3600 supports one SFP (Small Form-factor Pluggable) slot for various types of SFP transceiver. It allows multimode and single mode for different transmission distance, and provides the flexibility for different applications.





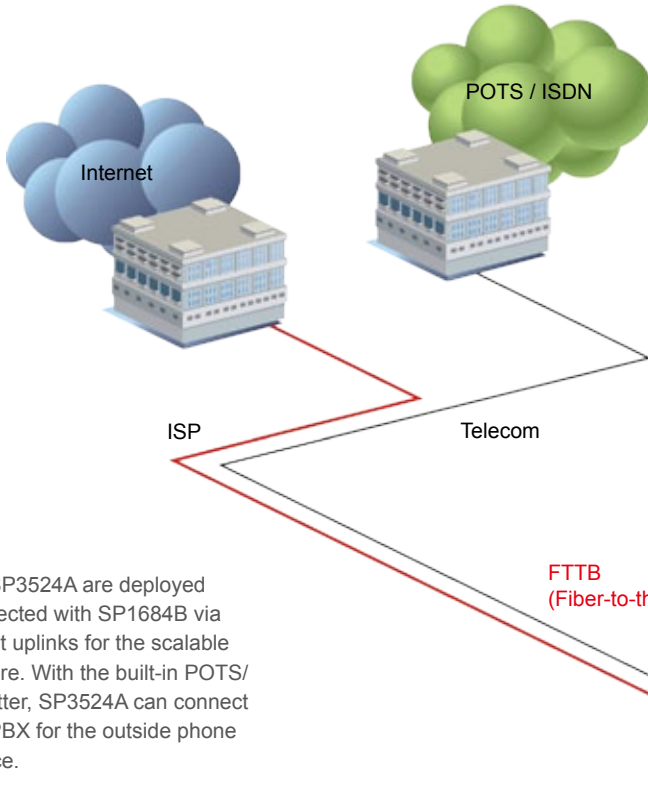
VDSL

Micronet VDSL Product Series deliver cost-effective and high-performance broadband access to the MDU/MTU environments. With cutting-edge VDSL/VDSL2 technology, Micronet VDSL solution dramatically extends Ethernet distance range and supports high bandwidth over the existing telephone wiring infrastructure.

Hotel Internet Service via VDSL & WLAN

The high-speed Internet access is implemented for hotels via fiber. To share the bandwidth to all customers, SP3524A and SP3501AS establish

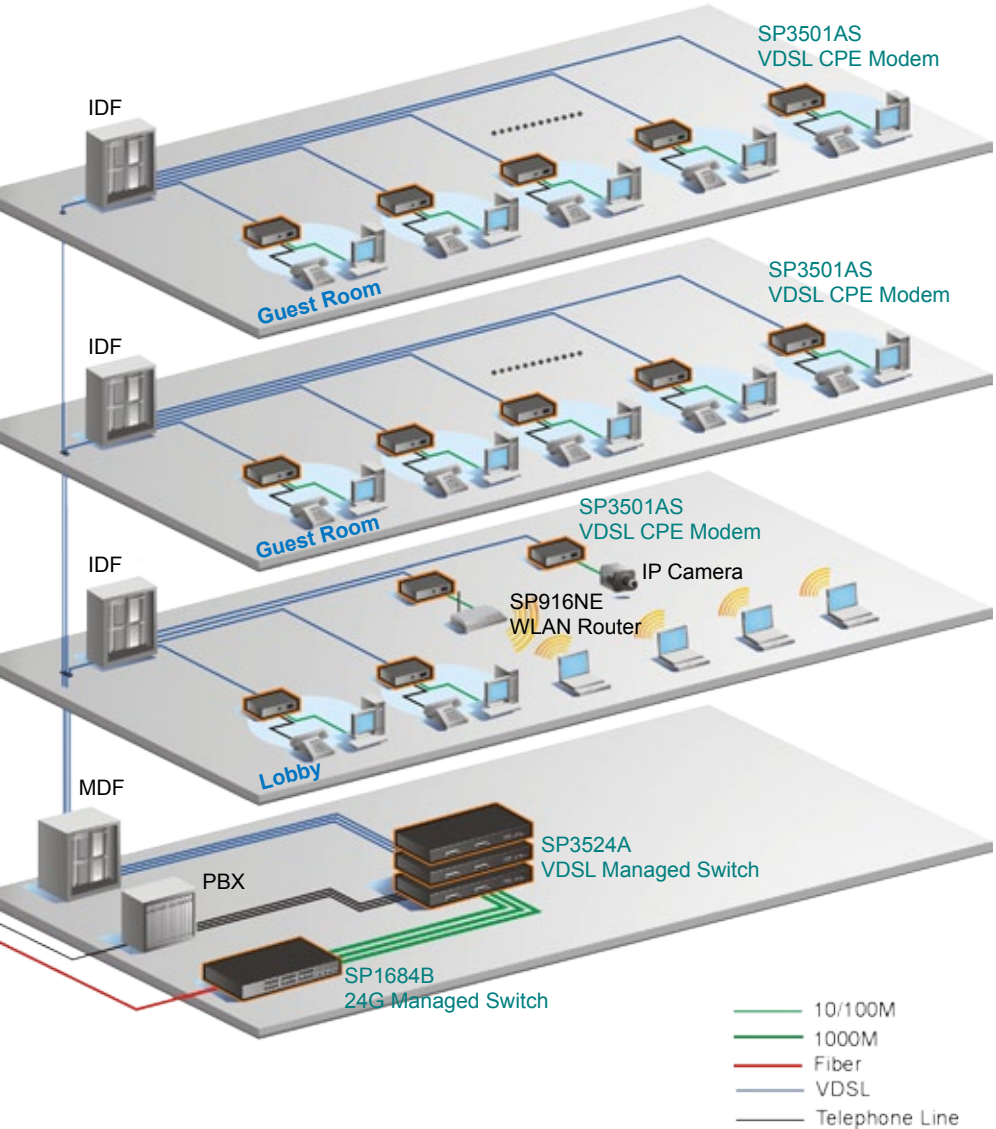
VDSL connections to extend the last mile of access, and provide symmetrical bandwidth (5/15/25 Mbps) over the existing telephone wiring infrastructure.



Multiple SP3524A are deployed and connected with SP1684B via the gigabit uplinks for the scalable architecture. With the built-in POTS/ISDN splitter, SP3524A can connect with the PBX for the outside phone call service.

In some open spaces, such as hotel lobbies, SP3501AS can be used to connect IP camera and wireless access point for security and for the mobile users to get internet access.

In each guess room, SP3501AS is used to connect telephone and PC without re-wiring the legacy telephone wires in the buiding. Hotel can serve customers with phone and high-speed internet services with the single VDSL CPE device via its existing telephone lines.



VDSL

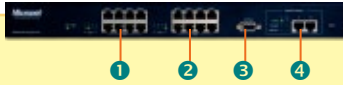


- ① LED Indicator
- ② VDSL Line RJ-11 Port
- ③ Phone RJ-11 Port
- ④ 10/100M RJ-45 LAN Port

VDSL

Model No. Description		SP3501AM/AS VDSL CO/CPE Modem
Stand- dard	ITU-T G.993.1 (VDSL)	ITU-T G.993.1 (VDSL)
	Modulation	QAM, 4-band
Hardware	Main Chip	Infineon 22827
	VDSL Line	1
	POTS/ISDN Line	1
	10/100Mbps Port, RJ-45	1
Trans- mission	10/100/1000Mbps Port, RJ-45	-
	Data Rate (Upstream / Downstream)	25/25Mbps, within 0.8KM 15/15Mbps, within 1.3KM 5/5Mbps, within 1.9KM
	Transmission Distance	Up to 1.9KM
Switching Features	IEEE 802.1q, Tag-based VLAN	-
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	-
	IEEE 802.1d, STP	-
	IGMP Snooping for Multicast Distribution	-
	Port Mirror to Monitor the Traffic of the Source Port	-
	Broadcast Storm Control	-
	IEEE 802.1x, Network Access Control	-
Others	Device IP Address Assignment	-
	Management	DIP Switch
	Temperature	Operating: -20°C - 70°C
	Power Supply	DC 5V, 1A
	Dimension, W x D x H (mm)	110 x 95 x 24

VDSL



- 1 VDSL Line RJ-11 Port
- 2 POTS/ISDN RJ-11 Port
- 3 Console Port
- 4 10/100/1000M RJ-45 LAN Port



- 1 VDSL Line RJ-21 Port
- 2 POTS/ISDN RJ-21 Port
- 3 10/100/1000M RJ-45 LAN Port
- 4 Console Port

SP3508A
VDSL Switch

SP3524A
VDSL Switch

ITU-T G.993.1 (VDSL)

QAM, 4-band

QAM, 4-band

Infineon 22827

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25/25Mbps, within 0.6KM
15/15Mbps, within 1.1KM
5/5Mbps, within 1.7KM

Up to 1.7KM

256 Groups

3 Groups

■

■

■

■

■

Static IP, DHCP Client

HTTP, Telnet, Console, SNMP

Operating: 0°C - 50°C

AC 100 - 240V

435 x 255 x 44

434 x 299 x 66

VDSL

VDSL2



VDSL2



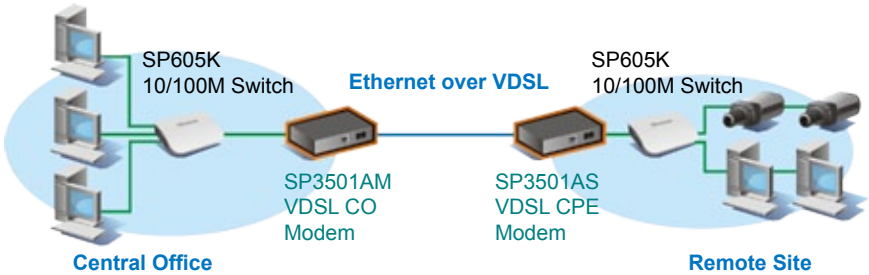
- ❶ 10/100M RJ-45 LAN Port
- ❷ VDSL2 Line RJ-11 Port
- ❸ Phone Line RJ-11 Port
- ❹ Console Port

Model No. Description		SP3501BM/BS VDSL2 CO/CPE Router
Standards	ITU-T G.993.1 (VDSL)	■
	ITU-T G.993.2 (VDSL2)	■
	ITU-T G.994.1	■
	Modulation	DMT, 2-6 band
Hardware	Main Chip	Infineon VINAX CO/CPE
	VDSL2 Line	1
	POTS/ISDN Line	1
	10/100Mbps Port, RJ-45	4
VDSL2	Band Profile Support for Differentiated Scenarios	8a, 8b, 8c, 8d, 12a, 12b, 17a, 17b, 30a
	Band Plan	997, 998
	LR-VDSL2 Long-Reach Capability	■
	Data Rate (Upstream / Downstream)	Up to 100/100Mbps
	Transmission Distance	Up to 2.3KM
	VDSL2 Line Speed Configuration	Auto/Fixed Speed
Others	Networking	Static IP, DHCP Client, PPPoE, NAT, Virtual Server, DMZ, Port Mapping, Static Route, Firewall
	Management	HTTP
	Temperature	Operating: 0°C - 50°C Storage: -20°C - 65°C
	Power	DC 12V, 1A
	Dimension, W x D x H (mm)	230 x 150 x 38

Technical Notes

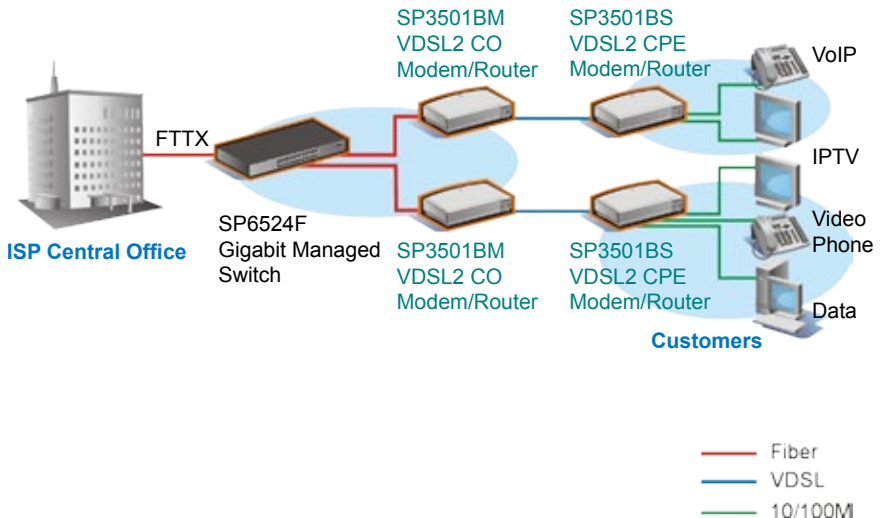
Point to Point Link:

Ideal for multiunit building environments, such as enterprise, campus, hospital, hotel, and telecom, to communicate with each other.



Last Mile of FTTB Deployment:

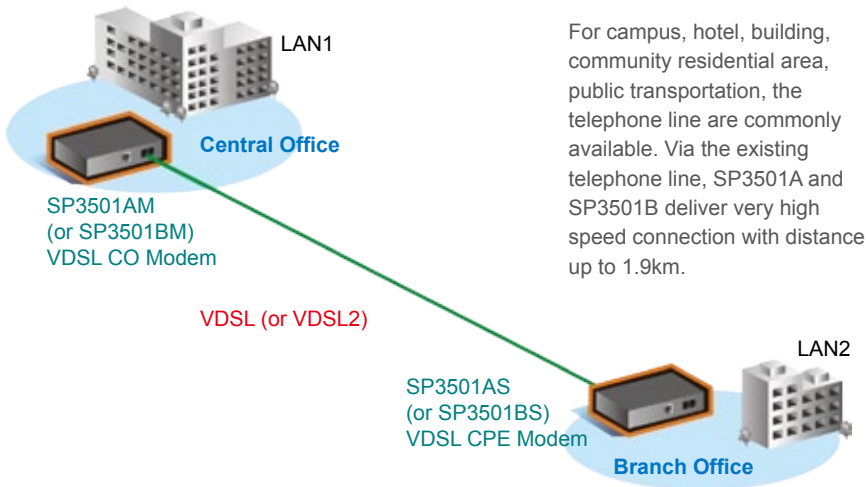
- Symmetrical bandwidth up to 100Mbps (VDSL2)
- Ideal for ISP to support the wide deployment of triple-play services, such as voice, video, data, high definition television (HDTV) and interactive gaming.



VDSL/VDSL2 Provides Long-Reach Transmission for Business

Micronet VDSL/VDSL2 (Very High Speed Digital Subscriber Line) is designed to deliver very high-speed broadband access. Over the legacy telephone wiring infrastructure, Micronet VDSL/VDSL2 is able to extend the distance of LAN and to provide the high-speed symmetrical bandwidth without the limitation of 100 meters.

The cost-effective solution establishes inter-connectivity and further provides high-speed channel for internet access, video surveillance, and multimedia broadcasting, which are common in the MDU/MTU environment, such as campus, hotel, community area, company, public transport, etc.



VDSL and VDSL2 Bandwidth v.s. Distance Range		
	Bandwidth(DS/US)	Distance
VDSL	25/25Mbps	Up to 800m
	15/15Mbps	Up to 1.3km
	5/5Mbps	Up to 1.9km
VDSL2	100/100Mbps	Up to 300m
	96/70Mbps	Up to 400m
	80/36Mbps	Up to 500m
	60/28Mbps	Up to 600m

VDSL/VDSL2 wiring : Cat.3 Twisted Pair, 22, 24, 26 AWG



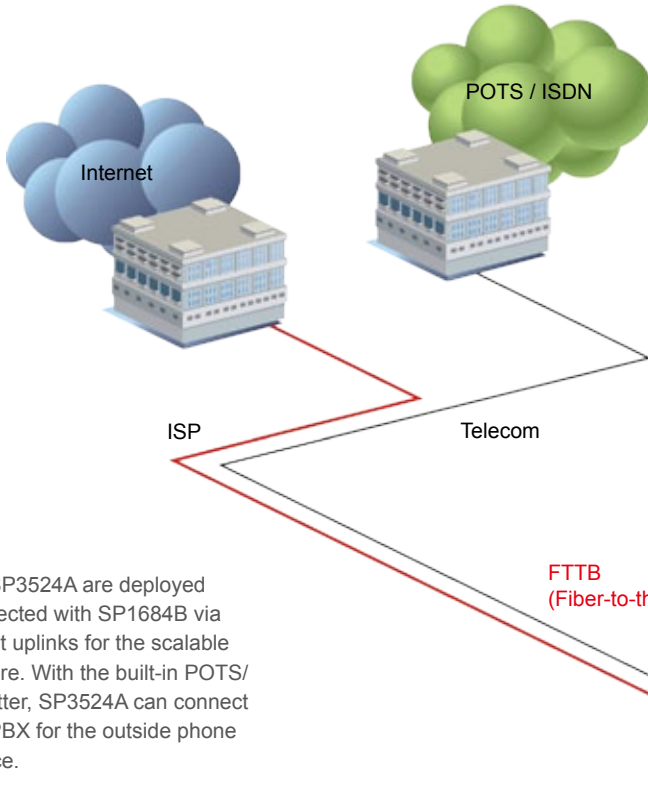
VDSL

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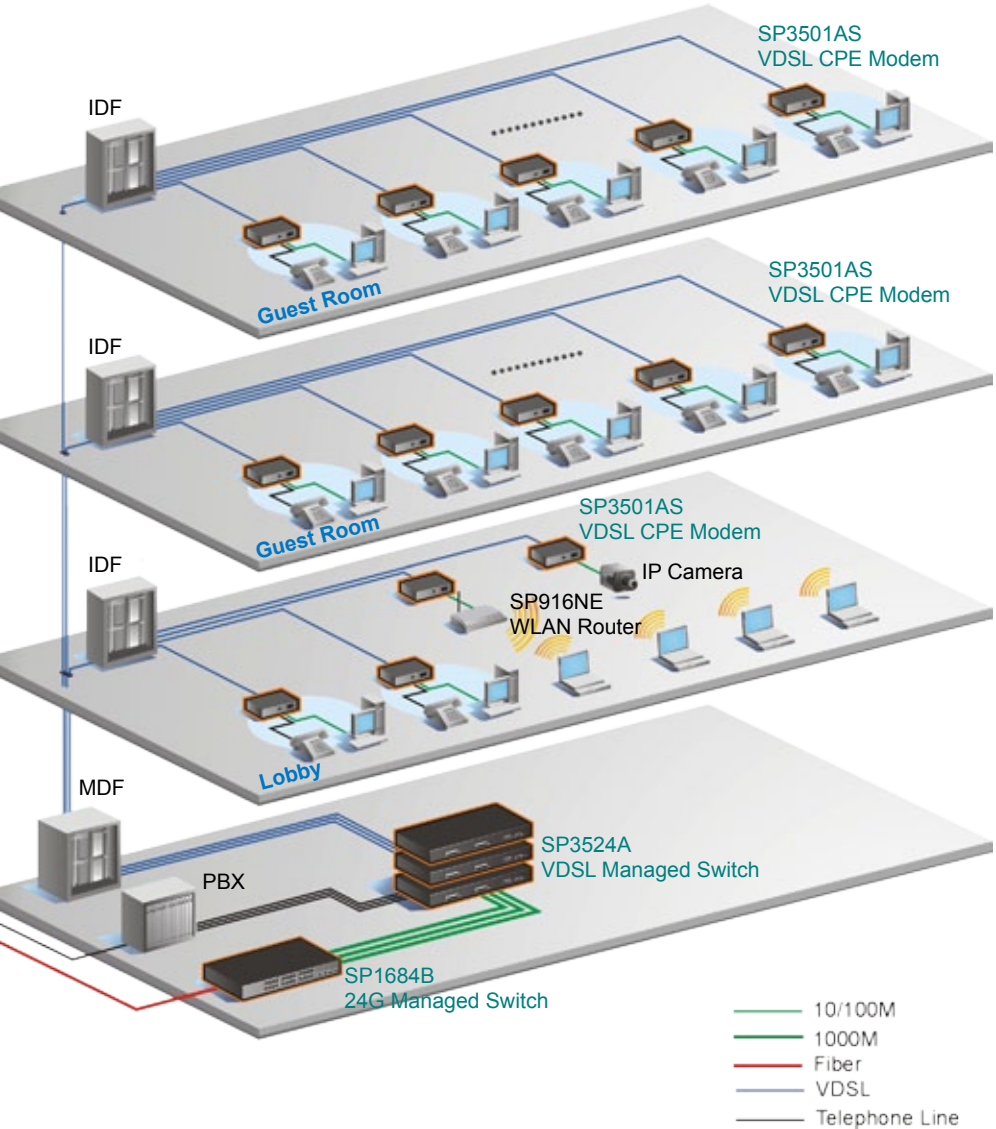
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VDSL

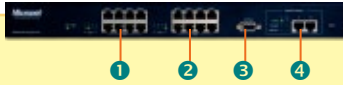


- ① LED Indicator
- ② VDSL Line RJ-11 Port
- ③ Phone RJ-11 Port
- ④ 10/100M RJ-45 LAN Port

VDSL

Model No. Description		SP3501AM/AS VDSL CO/CPE Modem
Stand- dard	ITU-T G.993.1 (VDSL)	ITU-T G.993.1 (VDSL)
	Modulation	QAM, 4-band
Hardware	Main Chip	Infineon 22827
	VDSL Line	1
	POTS/ISDN Line	1
	10/100Mbps Port, RJ-45	1
Trans- mission	10/100/1000Mbps Port, RJ-45	-
	Data Rate (Upstream / Downstream)	25/25Mbps, within 0.8KM 15/15Mbps, within 1.3KM 5/5Mbps, within 1.9KM
	Transmission Distance	Up to 1.9KM
Switching Features	IEEE 802.1q, Tag-based VLAN	-
	IEEE 802.3ad, Link Aggregation, to Increase the Bandwidth between the Linked Devices	-
	IEEE 802.1d, STP	-
	IGMP Snooping for Multicast Distribution	-
	Port Mirror to Monitor the Traffic of the Source Port	-
	Broadcast Storm Control	-
	IEEE 802.1x, Network Access Control	-
Others	Device IP Address Assignment	-
	Management	DIP Switch
	Temperature	Operating: -20°C - 70°C
	Power Supply	DC 5V, 1A
	Dimension, W x D x H (mm)	110 x 95 x 24

VDSL



- 1 VDSL Line RJ-11 Port
- 2 POTS/ISDN RJ-11 Port
- 3 Console Port
- 4 10/100/1000M RJ-45 LAN Port



- 1 VDSL Line RJ-21 Port
- 2 POTS/ISDN RJ-21 Port
- 3 10/100/1000M RJ-45 LAN Port
- 4 Console Port

SP3508A
VDSL Switch

SP3524A
VDSL Switch

ITU-T G.993.1 (VDSL)

QAM, 4-band

QAM, 4-band

Infineon 22827

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2

25/25Mbps, within 0.6KM
15/15Mbps, within 1.1KM
5/5Mbps, within 1.7KM

Up to 1.7KM

256 Groups

3 Groups

■

■

■

■

■

Static IP, DHCP Client

HTTP, Telnet, Console, SNMP

Operating: 0°C - 50°C

AC 100 - 240V

435 x 255 x 44

434 x 299 x 66

VDSL

VDSL2



VDSL2



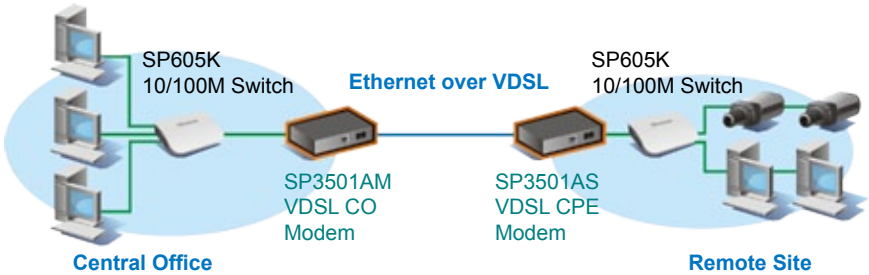
- ❶ 10/100M RJ-45 LAN Port
- ❷ VDSL2 Line RJ-11 Port
- ❸ Phone Line RJ-11 Port
- ❹ Console Port

Model No. Description		SP3501BM/BS VDSL2 CO/CPE Router
Standards	ITU-T G.993.1 (VDSL)	■
	ITU-T G.993.2 (VDSL2)	■
	ITU-T G.994.1	■
	Modulation	DMT, 2-6 band
Hardware	Main Chip	Infineon VINAX CO/CPE
	VDSL2 Line	1
	POTS/ISDN Line	1
	10/100Mbps Port, RJ-45	4
VDSL2	Band Profile Support for Differentiated Scenarios	8a, 8b, 8c, 8d, 12a, 12b, 17a, 17b, 30a
	Band Plan	997, 998
	LR-VDSL2 Long-Reach Capability	■
	Data Rate (Upstream / Downstream)	Up to 100/100Mbps
	Transmission Distance	Up to 2.3KM
	VDSL2 Line Speed Configuration	Auto/Fixed Speed
Others	Networking	Static IP, DHCP Client, PPPoE, NAT, Virtual Server, DMZ, Port Mapping, Static Route, Firewall
	Management	HTTP
	Temperature	Operating: 0°C - 50°C Storage: -20°C - 65°C
	Power	DC 12V, 1A
	Dimension, W x D x H (mm)	230 x 150 x 38

Technical Notes

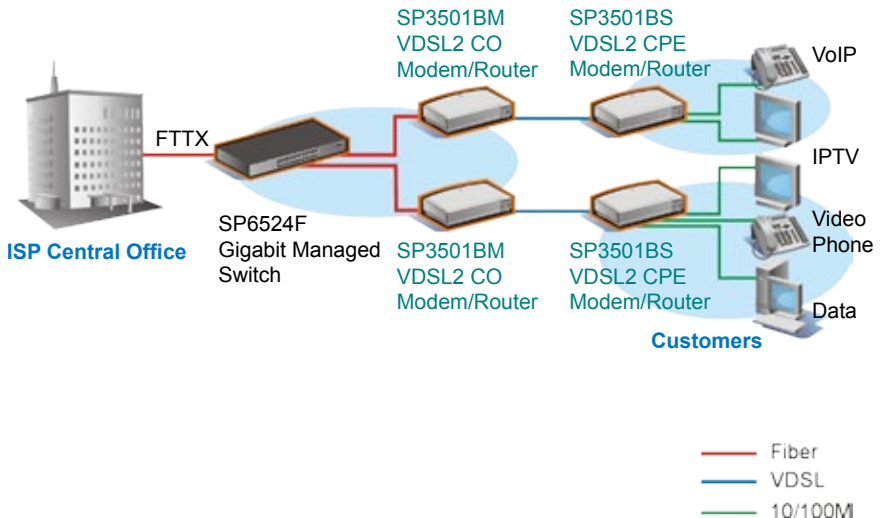
Point to Point Link:

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Last Mile of FTTB Deployment:

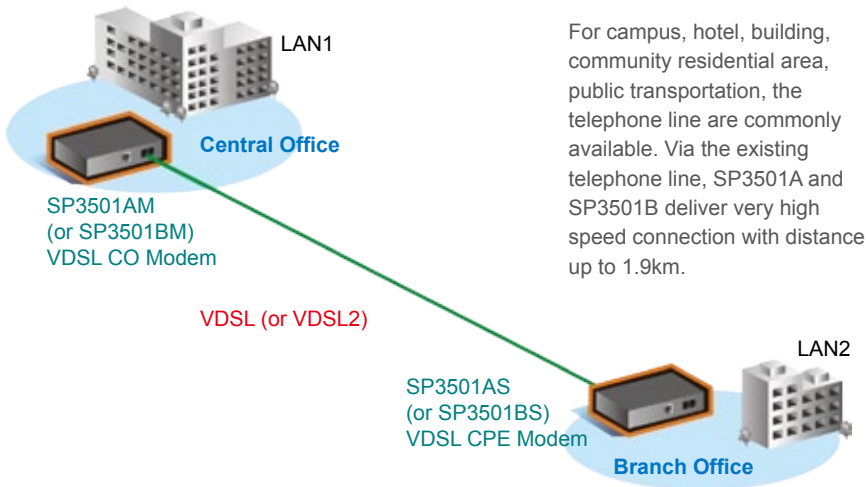
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The cost-effective solution establishes inter-connectivity and further provides high-speed channel for internet access, video surveillance, and multimedia broadcasting, which are common in the MDU/MTU environment, such as campus, hotel, community area, company, public transport, etc.



For campus, hotel, building, community residential area, public transportation, the telephone line are commonly available. Via the existing telephone line, SP3501A and SP3501B deliver very high speed connection with distance up to 1.9km.

VDSL and VDSL2 Bandwidth v.s. Distance Range

	Bandwidth(DS/US)	Distance
VDSL	25/25Mbps	Up to 800m
	15/15Mbps	Up to 1.3km
	5/5Mbps	Up to 1.9km
VDSL2	100/100Mbps	Up to 300m
	96/70Mbps	Up to 400m
	80/36Mbps	Up to 500m
	60/28Mbps	Up to 600m

VDSL/VDSL2 wiring : Cat.3 Twisted Pair, 22, 24, 26 AWG



Wireless LAN



Micronet provides a series of wireless products and solutions to Home, SOHO, SMB, Enterprise and WISP. The Wireless LAN Solutions offer the convenience of high-speed networking without the costs and inflexibility of cabling infrastructures. Users are able to enjoy Internet access wirelessly anywhere, anytime.

WISP Backbone and CPE

SP9012N is a cost effective outdoor wireless CPE which is best suitable for both indoor and outdoor use due to its weatherproof enclosure design. SP9012N is equipped with outstanding administration capability which allows users to remotely monitor and control the device and record its status. Customers can use SP9012N to connect to other SP9012N devices from one place to another. At the same time, those SP9012N devices can still work as access points to accept access point clients (e.g., SP907GP) connection. Therefore, the customers can easily make wireless connections from different locations by SP9012N. SP9012N has been able to achieve three times better throughput than competitors' wireless products in field test. If the customer needs to increase the wireless connectivity, SP9012N can be placed with Micronet SP907GP to transmit its digital data across floors with best of sensitivity. In addition, although SP9012N has a built-in 8 dBi internal antenna, to extend the wireless distance coverage, the customer can also use SP9012N with an external antenna (e.g., 12 dBi Omni-directional antenna) to reach a longer distance coverage as well. For cost sensitive solutions, SP9012 can be used to replace SP9012N, since it is the best choice among all outdoor wireless CPEs when constructing a 2.4 GHz outdoor wireless environment.

SP9015 is a 5.8GHz frequency band and weather proof outdoor wireless device with high power output and excellent radio sensitivity. The customer can use SP9015 to work as an outdoor wireless bridge, access point, gateway or even access client through its simple and friendly web configuration within seconds. If used with other Micronet outdoor wireless products, for example SP915A, they can be brought together as the solution for the wireless backbone of WISP. If one SP9015 is configured with another SP9015 as a pair, both devices can be set into WDS (Wireless Distribution System) mode to become point-to-point link. Thus, the wireless system integrators can build a cost effective outdoor wireless solution with nothing else but a few SP9015 devices.

SP907GP
WLAN USB
Adapter



SP9015
WLAN Outdoor
CPE



SP9015
WLAN Outdoor
CPE



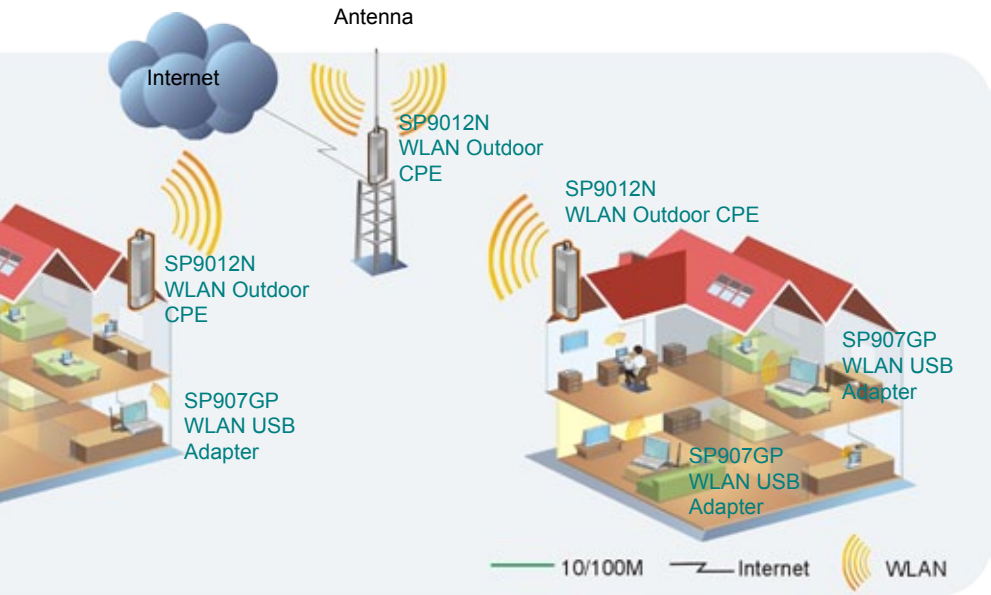


Fig 1. Multiple CPEs Solution

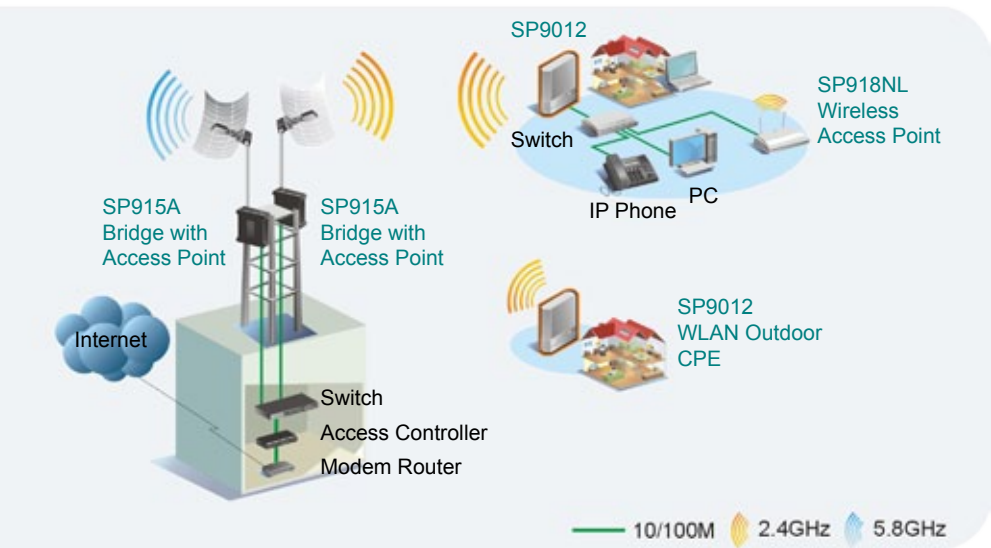


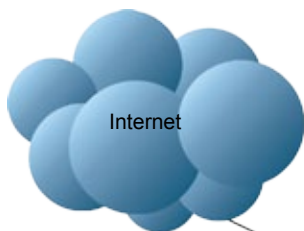
Fig 2. CPE works with WISP Backbone Solution

Networking the Home PCs with 300 Mbps 11n Wireless LAN

SP916NE 11n wireless broadband router enables high-speed Internet sharing and connect all the computers and wireless devices together. SP916NE supports up to 300Mbps transmission rate which is 3 to 6 times faster than 11g wireless router.

Through the new MIMO (Multi-in, Multi-out) technology, SP916NE can minimize the dead wireless corners and provide better transmission performance. The SP916NE also Supports QoS (Quality of Service) that separates data streams based on sensitivity to delay, enabling your VoIP (Voice over IP), video, and gaming applications.

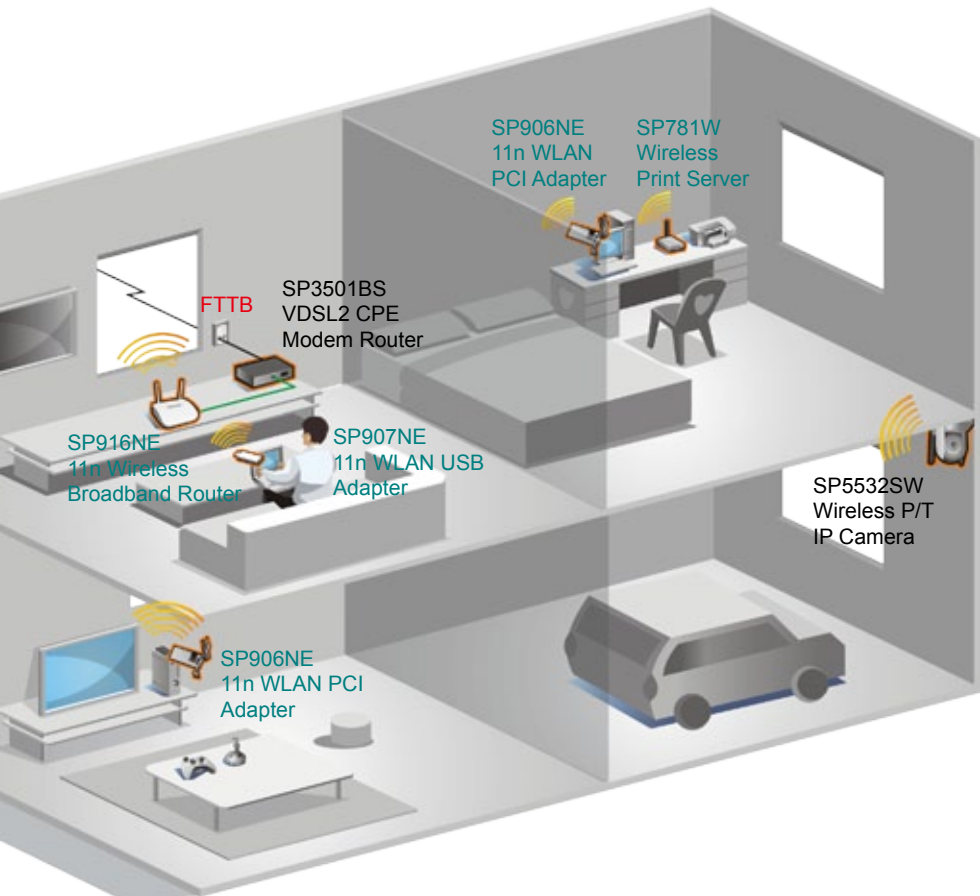
For office, SP916NE will greatly enhance the effective throughput.



SP916NE 11n wireless broadband router creates a wireless network to share high-speed Internet access among computers, game consoles, and media players with wider coverage around your home. SP906NE 11n wireless PCI adapter and the SP907NE 11n wireless USB adapter enable your PC with a faster wireless connection and superior reception, excellent for video, gaming.

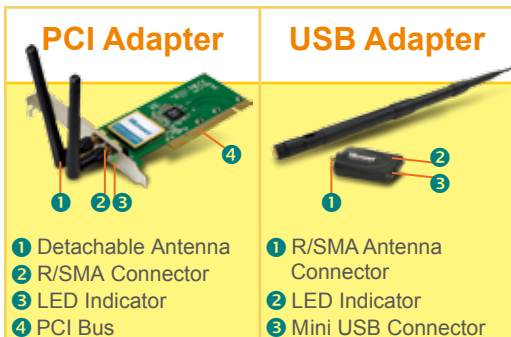


SP916NE 11n wireless broadband router supports Wi-Fi Protected Setup (WPS) which is the most simple way to build connection between wireless network devices and the wireless router. You don't have to select encryption mode and input a long encryption pass phrase every time when setting up any wireless client. This wireless router supports two types of WPS: Push-Button Configuration (PBC) and PIN Code.



WLAN Adapter

Wireless LAN

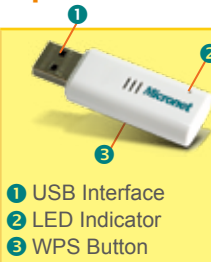


- 1 Detachable Antenna
- 2 R/SMA Connector
- 3 LED Indicator
- 4 PCI Bus

- 1 R/SMA Antenna Connector
- 2 LED Indicator
- 3 Mini USB Connector

Model No. Description		SP906NE WLAN PCI Adapter	SP907GE WLAN USB Adapter
Hardware	IEEE 802.11b/g Compliant	■	■
	IEEE 802.11n Compliant	■	—
	Frequency Band	2.4GHz	
	Wireless Data Rate (Max.)	300M	54M
	Wireless Output Power (Max.)	18 dBm	30 dBm
	External Antenna	2 x 2 dBi	1 x 9 dBi
	Antenna Connector Type	R/SMA	R/SMA
	Operation Channel	FCC (US), ETSI (Europe)	
Feature	Traffic Prioritization among Services (QoS)	■	■
	WPS (WiFi Protected Setup) for Easy Connection between AP & Client via Push Button or PIN Code	■	—
Security	IEEE 802.1x, Network Access Control	■	■
	WEP (Wired Equivalent Privacy)	■	■
	WPA (Wi-Fi Protected Access)	■	■
Operation	WPA2	■	■
	Ad-Hoc	■	■
Software	Infrastructure	■	■
	Driver Support	Windows 98SE/ME/2000/XP/Vista/7	
	Utility	■	■

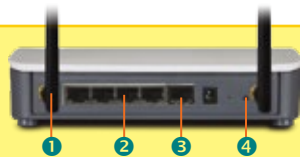
USB Adapter



WLAN AP / Router



WLAN Broadband Router



- ① Detachable R/SMA Antenna
- ② 10/100M RJ-45 LAN Port
- ③ 10/100M RJ-45 WAN Port
- ④ Reset/WPS Button

Model No. Description		SP916NE 11n Wireless Broadband Router
Inter- face	10/100Mbps LAN Port, RJ-45	4
	10/100Mbps WAN Port, RJ-45	1
Hardware	IEEE 802.11b/g Compliant	■
	IEEE 802.11n Compliant	■
	Frequency Band	2.4 GHz
	Wireless Data Rate (Max.)	300M
	Wireless Output Power (Max.)	18 dBm
	Antenna Connector Type	R/SMA x 2
Operation Channel		FCC(US), ETSI(Europe)
Feature	NAT (Network Address Translation)	■
	DMZ (Demilitarized Zone) for Non-Interference Traffic	■
	Virtual Server (Port Mapping) for Selected Service Ports Pass-through	■
	Built-in Firewall	■
	UPnP (Universal Plug & Play)	■
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
Security	IEEE 802.1x, Network Access Control	■
	ACL (Access Control List)	■
	WEP (Wired Equivalent Privacy)	■
	WPA (Wi-Fi Protected Access)	■
Operation	WPA2	■
	Access Point	■
	Bridge	■
	Station Adapter	■
Man- agement	WDS (Wireless Distribution System)	■
	Web-based Management	■
Others	Firmware Upgrade	■
	Power	DC 9V, 0.6A
Dimension, W x D x H (mm)		164 x 89 x 34

WLAN Outdoor CPE / AP



WLAN Outdoor AP/Bridge



- ① 10/100M RJ-45 LAN Port
- ② 10/100M RJ-45 WAN Port
- ③ Reset Button
- ④ LED Indicator

Model No. Description		SP9012 WLAN Outdoor CPE
Inter- face	10/100Mbps LAN Port, RJ-45	1
	10/100Mbps WAN Port, RJ-45	1
Hardware	IEEE 802.11 Compliant	IEEE802.11b/g
	Frequency Band	2.4 GHz
	Wireless Data Rate (Max.)	54M
	Wireless Output Power (Max.)	26 dBm
	Antenna Connector Type	Embedded 14dBi Antenna
	Operation Channel	FCC(US), ETSI(Europe)
	Power over Ethernet	■
Feature	NAT (Network Address Translation)	■
	DMZ (Demilitarized Zone) for Non-Interference Traffic	■
	Built-in Firewall	■
	UPnP (Universal Plug & Play)	■
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
	Bandwidth Control for Both Inbound & Outbound Traffic	■
	Operating Mode	Bridge, Gateway, WISP
Security	IEEE 802.1x, Network Access Control	■
	ACL (Access Control List)	■
	WEP (Wired Equivalent Privacy)	■
	WPA (Wi-Fi Protected Access)	■
	WPA2	■
Management	Telnet Management	-
	Web-based Management	■
	SNMP Network Monitoring	-
	Firmware Upgrade	■
	Watchdog Timer	■
Others	Power	DC 12V, 1.25A (PoE)
	Dimension, W x D x H (mm)	230 x 210 x 100

WLAN Outdoor AP/Bridge



- ① 10/100M RJ-45 LAN Port
- ② Reset Button
- ③ Antenna (Optional)
- ④ LED Indicator



- ① 10/100M RJ-45 LAN Port
- ② Reset Button
- ③ LED Indicator



- ① LED Indicator
- ② 10/100M RJ-45 LAN Port
- ③ Reset Button
- ④ Power ON/OFF

Wireless LAN

WLAN Outdoor AP / Bridge



WLAN Outdoor AP / Bridge



- 1 PoE LAN Port
- 2 Antenna Connector

Model No. Description		SP915NLOS-7 NLOS Access Point
Hardware	10/100Mbps LAN Port, RJ-45	1
	IEEE 802.11 Compliant	IEEE802.11b/g
	Frequency Band	763~778MHz/703~718MHz
	Wireless Data Rate (Max.)	54M
	Wireless Output Power (Max.)	28 dBm
	Antenna Connector Type	N-Type
	Operation Channel	FCC(US), ETSI(Europe)
Feature	Power over Ethernet	■
	Packet Filtering	■
	DHCP Client/Server	■
	WMM	■
	Multiple SSID	■
	UPnP (Universal Plug & Play)	■
	Wireless Client Isolation	■
	AP Load Balancing	■
Security	AP Association / Traffic Limit for Preventing from Overloading	Number of Users/Traffic Load
	Operating Mode	Bridge, WDS, AP
	IEEE 802.1x, Network Access Control	■
	ACL (Access Control List)	■
	WEP (Wired Equivalent Privacy)	■
	WPA (Wi-Fi Protected Access)	■
Management	WPA2	■
	VPN Passthrough	■
	Web-based Management	■
	SNMP Network Monitoring	■
Others	Firmware Upgrade	■
	Watchdog Timer	■
	Power	DC 48V, 1A (PoE)
	Dimension, W x D x H (mm)	234 x 170 x 63

WLAN Outdoor AP / Bridge



- 1 PoE LAN Port
- 2 Antenna Connector

SP915NLOS-9 NLOS Access Point

1

IEEE802.11b/g

907~922MHz

54M

28dBm

N-Type

FCC(US), ETSI(Europe)

■

■

■

■

■

■

■

■

Number of Users/Traffic Load

Bridge, WDS, AP

■

■

■

■

■

■

■

■

■

DC 48V, 1A (PoE)

234 x 170 x 63

WLAN Outdoor AP / Bridge



WLAN Outdoor AP / Bridge



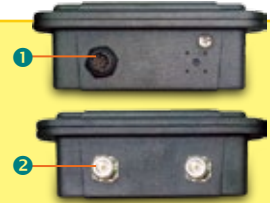
- ① PoE LAN Port
- ② Antenna Connector

Model No. Description		SP915A WLAN Outdoor AP/Bridge
Hardware	10/100Mbps LAN Port, RJ-45	1
	IEEE 802.11 Compliant	IEEE802.11a/b/g
	Frequency Band	2.4 & 5.8 GHz
	Wireless Data Rate (Max.)	54M
	Wireless Output Power (Max.)	27 dBm
	Antenna Connector Type	N-Type
	Operation Channel	FCC(US), ETSI(Europe)
	Power over Ethernet	■
Feature	Packet Filtering	■
	DHCP Client/Server	■
	WMM	-
	Multiple SSID	-
	UPnP (Universal Plug & Play)	■
	Wireless Client Isolation	■
	AP Load Balancing	■
	AP Association / Traffic Limit for Preventing from Overloading	Number of Users/Traffic Load
Security	Operating Mode	Bridge, WDS, AP
	IEEE 802.1x, Network Access Control	■
	ACL (Access Control List)	■
	WEP (Wired Equivalent Privacy)	■
	WPA (Wi-Fi Protected Access)	■
	WPA2	■
Management	VPN Passthrough	■
	Web-based Management	■
	SNMP Network Monitoring	■
	Firmware Upgrade	■
Others	Watchdog Timer	■
	Power	DC 48V, 1A (PoE)
	Dimension, W x D x H (mm)	234 x 170 x 63

WLAN Outdoor AP / Bridge



- ① PoE LAN Port
- ② Antenna Connector



- ① PoE LAN Port
- ② Antenna Connector

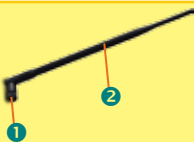
Wireless LAN

SP915M WLAN Outdoor Mesh AP	SP915R WLAN Outdoor Repeater
1	1
IEEE802.11a/b/g	IEEE802.11a/b/g
2.4 & 5.8 GHz	2.4 & 5.8 GHz
54M	54M
25 dBm	27 dBm
N-Type	N-Type
FCC(US), ETSI(Europe)	FCC(US), ETSI(Europe)
■	■
■	■
■	■
■	■
■	-
■	■
-	■
■	-
Number of Users/Traffic Load	Number of Users/Traffic Load
Mesh Backhaul, WDS, AP	Repeater, WDS, AP
■	■
■	■
■	■
■	■
■	■
■	-
■	■
■	■
-	■
DC 48V, 1A (PoE)	DC 48V, 1A (PoE)
234 x 170 x 63	234 x 170 x 63

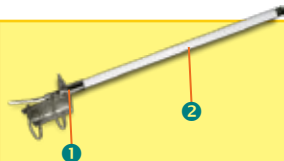
WLAN Antenna



2.4GHz WLAN Antenna



- 1 R/SMA Connector
- 2 Omni-directional Antenna



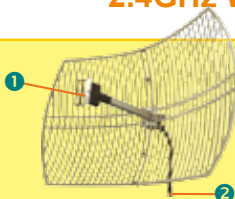
- 1 N-Jack Connector
- 2 Omni-directional Antenna

Model No. Description		SP920K-7 Omni-directional Antenna	SP920MA-8 Omni-directional Antenna
Hardware	Frequency Band	2.4 - 2.5 GHz	
	Antenna Gain (dBi)	7	8
	Power Handling (Watts)	-	100
	VSWR (Voltage Standing Wave Ratio)	1.92:1	1.5:1
	Impedance	50 ohm	
	Antenna Connector Type	R/SMA Plug	N Jack
	Polarity	Vertical	
	E-Plane	30°	14°
	H-Plane	360°	360°
Mounting Type	-	Mast	

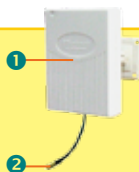
WLAN Antenna



2.4GHz WLAN Antenna



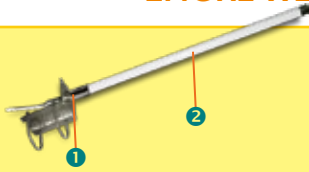
- 1 Grid Antenna
- 2 N-Jack Connector



- 1 Panel Antenna
- 2 R/SMA Connector

Model No. Description		SP920PA2-24 Grid Antenna	SP920LA-7 Panel Antenna
Hardware	Frequency Band	2.4 - 2.5 GHz	
	Antenna Gain (dBi)	24	7
	Power Handling (Watts)	100	10
	VSWR (Voltage Standing Wave Ratio)	1.5:1	
	Impedance	50 ohm	
	Antenna Connector Type	N Jack	SMA Plug
	Polarity	Horizontal/Vertical	
	E-Plane	7°	80°
	H-Plane	8°	30°
Mounting Type	Swivel/Mast	Swivel	

2.4GHz WLAN Antenna

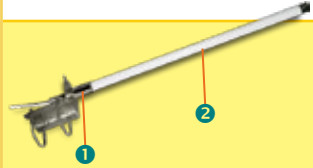


- 1 N-Jack Connector
- 2 Omni-directional Antenna



- 1 N-Jack Connector
- 2 Yagi Antenna

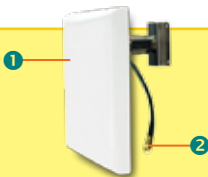
5.8GHz WLAN Antenna



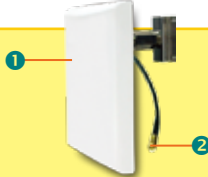
- 1 N-Jack Connector
- 2 Omni-directional Antenna

SP920MA-12 Omni-directional Antenna	SP920FB Yagi Antenna	SP920MA-10E Omni-directional Antenna
2.4 - 2.5 GHz		5.5 - 5.875 GHz
12	15	10
20	50	20
1.5:1		
50 ohm		
N Jack	N Jack	N Jack
Vertical	Horizontal/Vertical	Vertical
14°	25°	14°
360°	25°	360°
Mast	Swivel/Mast	Mast

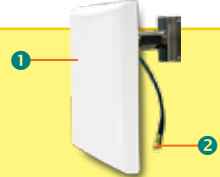
5.8GHz WLAN Antenna



- 1 Panel Antenna
- 2 N-Jack Connector



- 1 Panel Antenna
- 2 N-Jack Connector



- 1 Panel Antenna
- 2 N-Jack Connector

SP920LA-12 Panel Antenna	SP920LA-12E Panel Antenna	SP920LA-18E Panel Antenna
2.4 - 2.5 GHz	5.15 - 5.875 GHz	
12	12	18
10	10	10
1.5:1		
50 ohm		
N Jack	N Jack	N Jack
Horizontal/Vertical		
30°	29°	18°
60°	50°	18°
Swivel		

WLAN Antenna Accessories



WLAN RF Cable



- 1 R/SMA-Plug
- 2 N-Plug



- 1 N-Jack
- 2 N-Plug

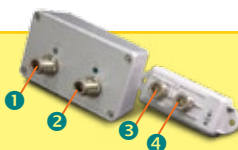
Model No. Description		C920B-1 / C920B-3 Wireless Antenna Cable	C920C-5 / C920C-10 Wireless Antenna Cable
Hardware	Frequency Band	2.4 or 5.8GHz	2.4 or 5.8GHz
	Length	C920B-1:1m, C920B-3: 3m	C920C-5: 5m, C920C-10:10m
	Cable Type	RG58/U	RG8/U, JIS8D
	Connector Type	N Plug -to- R/SMA Plug	N Plug -to- N Jack
	Gain Loss	C920B-1: 0.6dB, C920B-3: 0.6dB	C920C-5: 2dB, C920C-10: 3.1dB
	VSWR (Voltage Standing Wave Ratio)*	1.5:1	1.5:1
	Impedance	50 ohm	50 ohm
	Nominal DC Spark-over Voltage	-	-
	Surge Breakdown	-	-

Note: It is a ratio of the maximum and minimum amplitude (voltage or current) of the corresponding field components appearing on a line that feeds an antenna.

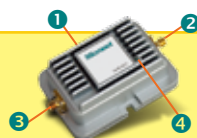
WLAN Antenna Accessories



WLAN Booster



- 1 Connector to Antenna
- 2 Connector to DC Injector
- 3 N-Type Connector to Amplifier
- 4 N-Type Connector to Access Point



- 1 Power Jack
- 2 SMA Male Connector to Access Point
- 3 SMA Female Connector to Antenna
- 4 LED Indicator

Model No. Description		SP922-1000 WLAN Auto Gain Booster, Outdoor	SP923G-500 WLAN Signal Booster, Indoor
Hardware	Frequency Band	2.4GHz	2.4GHz
	Connector Type	N Jack	SMA Female
	Transmission Gain	30dB	27dB
	Receiver Gain	15dB	10dB
	Impedance	50 ohm	50 ohm
	Frequency Response	+/- 1dB	+/- 1dB
	Noise Figure*	3.5dB	3.5dB
	Wireless Output Power (Max.)	1000mW	500mW
	Power	DC 6V, 2A	DC 6V, 2A

WLAN RF Cable



- 1 N-Plug
- 2 SMA-Plug



- 1 TNC
- 2 N-Plug

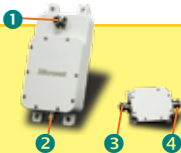
Lightning Arrester



- 1 N-Jack
- 2 N-Plug

C920D-5 / C920D-10 Wireless Antenna Cable	C920G Wireless Antenna Cable	C925 Lightning Arrester
2.4 or 5.8GHz	2.4 or 5.8GHz	50MHz to 3GHz
C920D-5: 5m, C920D-10:10m	0.3m	–
RG8/U, JIS8D	C200 Coax Cable	–
SMA Plug -to- N Jack	TNC -to- N Type	N Plug -to- N Jack
C920D-5: 2dB, C920D-10: 3.1dB	1dB	1dB
1.5:1	1.5:1	1.5:1
50 ohm	50 ohm	50 ohm
–	–	90V
–	–	2500V x 10A (10/1000µs)

WLAN Converter

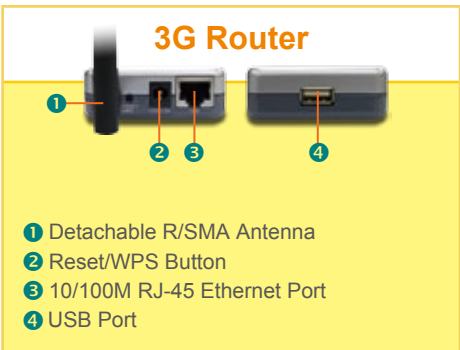


- 1 Connector to Antenna
- 2 Connector to DC Injector
- 3 Connector to Access Point
- 4 Connector to Converter

SP922-200E WLAN Converter
2.4GHz and 5.8GHz
N Jack
23dB
20dB
50 ohm
+/- 1dB
3.5dB
200mW
DC 12V, 1.5A

Note: Noise Figure is a measure of degradation of the signal to noise ratio (SNR) caused by components in the RF signal chain.

3G Router



Model No. Description		SP3111NL 3G Wireless Travel Router
Interface	10/100Mbps Ethernet Port, RJ-45	1
	USB Port	1
	WPS/Reset Button	1
	Power Jack	1
Hardware	IEEE 802.11b/g/n Compliant	■
	Frequency Band	2.4 GHz
	Wireless Data Rate (Max.)	150M
	Wireless Output Power (Max.)	17±1.5 dBm
	Antenna Connector Type	1 x R/SMA Diople Antenna
Operation Channel		FCC (US), ETSI (Europe)
Feature	WAN Connection Type	3G/3.5G, Cable, xDSL
	NAP/NAPT IP Sharing	■
	Virtual Server and DMZ	■
	DHCP Server	■
	DDNS	■
	WMM and QoS	■
	VPN Pass Through	IPSec/PPTP
	UPnP	■
	3G and xDSL Connection Fail Over	■
	One 10/100Mbps Ethernet Port	LAN/WAN Function Switchable
Security	MAC/IP filtering and URL blocking	■
	Anti-DoS Firewall	■
	WEP (Wired Equivalent Privacy) Encryption for Security	■
	WPA (Wi-Fi Protected Access) and WPA2 Encryption for Security	■
	RADIUS Server	■
Others	Management	HTTP, System Log, Firmware Upgrade
	Power	DC 5V, 2A
	Dimension, W x D x H (mm)	62 x 74 x 23

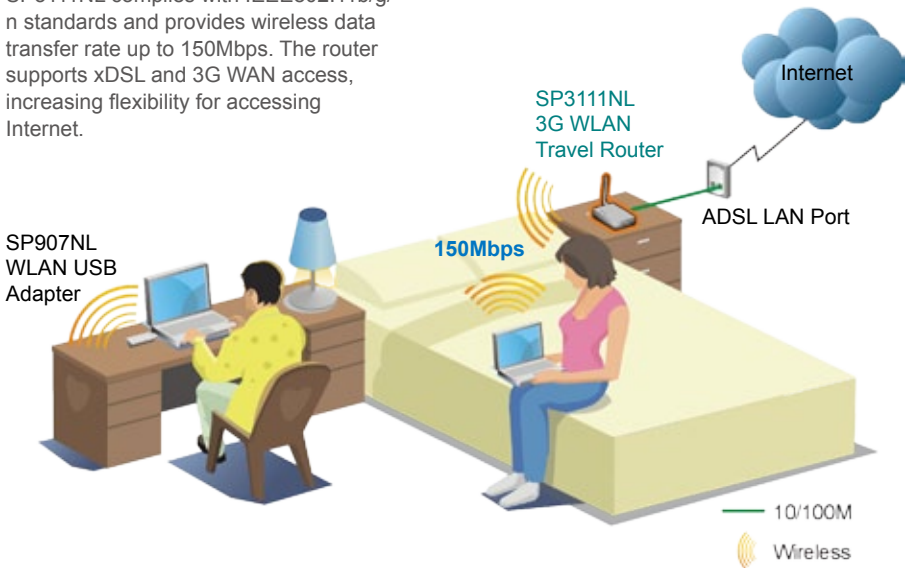
3G Wireless Travel Router

Micronet SP3111NL 3G Wireless Travel Router is designed to offer high speed connection with 3G Internet access via USB 3G adapter for SOHOs and enterprises, with both wireless broadband router and access point functions integrated. With compact size design, it is

a convenient networking product to carry around. The connection between wireless network client and the router can be built with security by simply pressing the WPS button on the wireless client and the router. With SP3111NL, users are able to access Internet service easily anytime, anywhere.

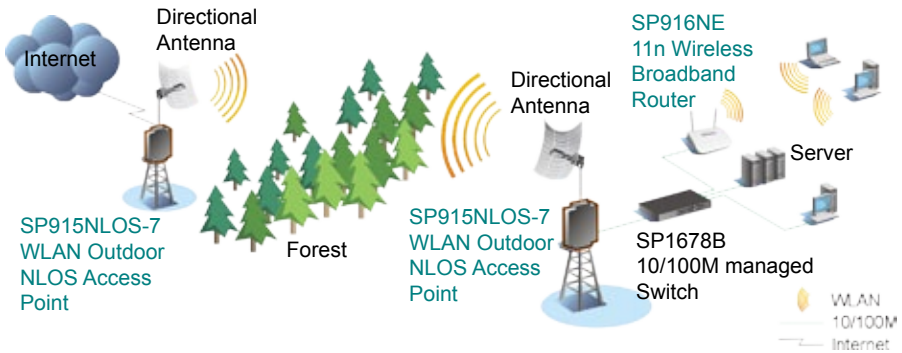


SP3111NL complies with IEEE802.11b/g/n standards and provides wireless data transfer rate up to 150Mbps. The router supports xDSL and 3G WAN access, increasing flexibility for accessing Internet.



Designing an Affordable, Easily Deployed, and Transparent Environment with Micronet Non-Line-Of-Sight (NLOS) Wireless Products

Of the multiple outdoor wireless solutions, Micronet SP915NLOS-7 and SP915NLOS-9 wireless products can apply for the deployment in Non-Line-Of-Sight (NLOS) scenario areas could be with hilly terrain, or the areas may be much like suburban communities that are surrounding with many of trees or foliages nearby, or the areas are very close to the forest or in the mountain areas or maybe just in the center of forest, as the purpose for a fire-alarm observatory. In some wireless communication area, there could be some obstructions, buildings or blocks which may obscure Line-Of-Sight (LOS) between the wireless access points and the backhaul infrastructure (e.g., of Wireless Internet Service Provider or WISP). The SP915NLOS-7 and SP915NLOS-9 operate on frequency band 700MHz and 900MHz, respectively.



Most of people may have one question - What are the major differences between the normal outdoor products and NLOS outdoor products? To explain of this, most of the outdoor wireless products can only works under the environment of Visual-Line-Of-Sight (VLOS) or Radio-Line-Of-Sight (RLOS). VLOS environment is as if you stand at the certain position far away from the object's location, you are able to see the remote object. While for the RLOS environment, it is as the wireless distance in-between by the definition of a football-shaped pattern known as the Fresnel Zone. If you are unable to maintain RLOS wireless environment, then you must realign or increase the mast height of both transmission products' antennas until you can achieve a quality Radio Frequency (RF) signal.

In contrast, Non-Line-Of-Sight (NLOS) wireless environment can avoid most of obstacles such as trees, building, hills, mountains, walls or any other blocked objects between transmitting antenna and the receiving antenna. The signals arriving at the receiver may consist of components from the direct path, multiple reflected paths, scattered energy, and diffracted propagation paths. These signals have different delay spreads, attenuation, polarizations, and stability relative to the direct path. Therefore, NLOS wireless products like Micronet SP915NLOS-7 and SP915NLOS-9 can have more contribution with its strong-sensitivity, widely-deployment and greatly-transparent capabilities that are suitable for most of complicated outdoor wireless infrastructure and environment.



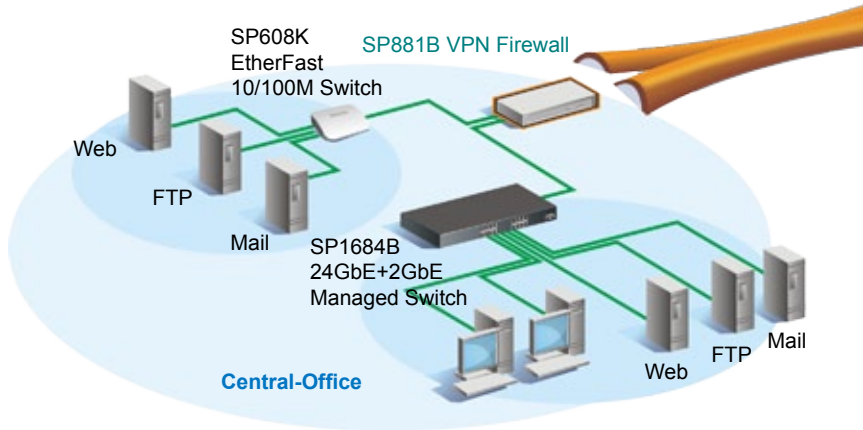
ADSL and Broadband

Micronet Broadband Product Series are the ideal solutions for SMB and residential users to setup high speed Internet access for their offices or homes. The Broadband Solution includes secured VPN connection for enterprises to establish inter-site connection to share corporate resources. In addition, companies requiring extra bandwidth for Internet access can be satisfied with the Multi-WAN Security Gateway.

Hardware VPN Solution for SMB Intranet Security

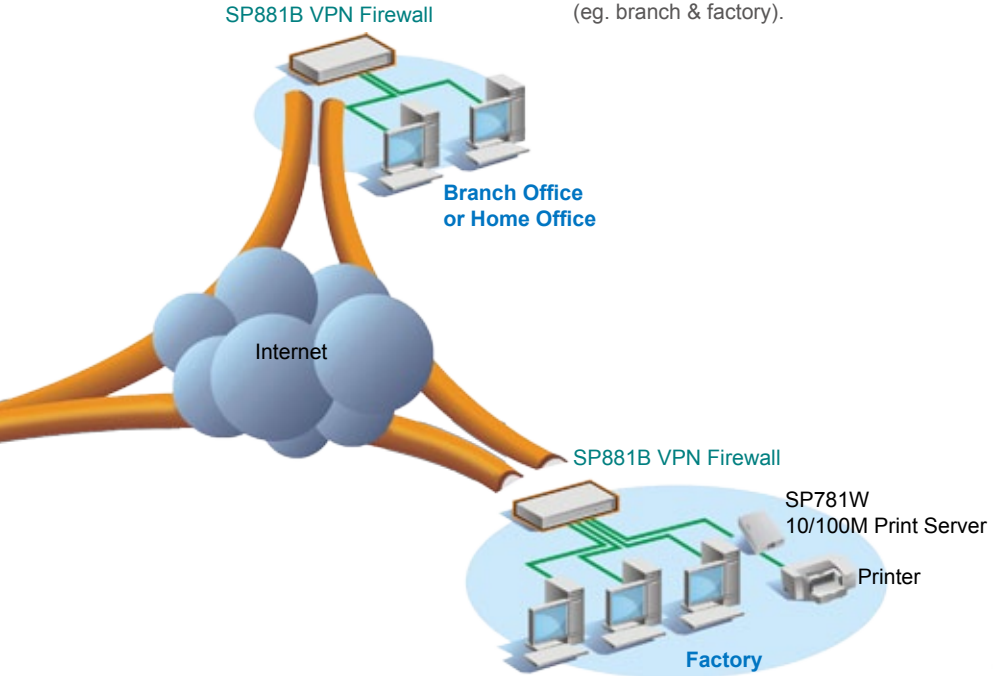
Secured interconnection between various business sectors/branches of an enterprise is a critical issue to all MIS personnel. Implementing a stable and low cost solution for sharing data/resources over the public domain (Internet) is the goal of all business owners. IPSec VPN (Internet Protocol Security Virtual Private Network) is the

solution to all SMB (Small & Medium Business) who wishes to connect multiple sites over Internet via a secured VPN tunnel. IPSec protocol is responsible for authenticating and encrypting each IP packets in the data stream. This will ensure private corporate data to be protected from eavesdropper.



Micronet VPN Router Solution utilizes hardware VPN connection for increased data rate performance. In comparison to software VPN connections, hardware enabled solutions are found to be more stable and superior in performance.

Micronet provides a complete product mix of Broadband VPN Router to meet all network environments & loads. Based on traffic capacity, the installer can select SP881B for high volume network loading. The diagram illustrates a common SMB network environment, where secured data exchange is required between remote sites (eg. branch & factory).



SP881B VPN Firewall is an All-in-One device providing critical features that are essentials to the SMB environment. SP881B comes with the following advanced routing features: Hardware VPN, Hardware DMZ (Demilitarized Zone), Firewall Protection, Bandwidth Control & Priority QoS (Quality of Service).

Broadband Router



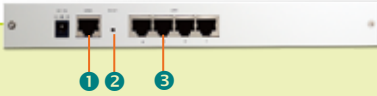
Firewall Router



- ❶ 10/100M RJ-45 LAN Port
- ❷ Hardware DMZ Port
- ❸ 10/100M RJ-45 WAN Port

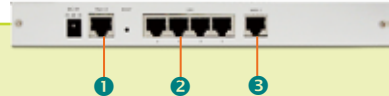
Model No. Description		SP881B Broadband VPN Firewall
Standard	10/100Mbps LAN Port, RJ-45	4
	10/100Mbps WAN Port, RJ-45	1
Interface	10/100Mbps DMZ Port, RJ-45	1
	NAT (Network Address Translation)	■
Voice Processing	Routing for Multi-Path Network	Static/RIPv2
	DHCP for Auto LAN IP Assignment	DHCP Server
	Virtual Server (Port Mapping) for Selected Service Ports Pass-through	■
	DMZ (Demilitarized Zone) for Non-Interference Traffic	Multi-DMZ
	Built-in Firewall	NAT Firewall
Telephony	Access Management	URL/Application Filter & Session Limit
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
	UPnP (Universal Plug & Play)	■
	VPN IPsec Tunnel	30 Tunnels
	VPN Pass Through	IPsec/PPTP
	Traffic Prioritization among Services (QoS)	ToS
	Bandwidth Control for Both Inbound & Outbound Traffic	■
	Web-based Management	■
	SNMP Network Monitoring	MIB II
	Statistics / Log	SysLog Server/Email Alert/Traffic Statistics
Power	DC 5V, 1.5A	
Dimension, W x D x H (mm)	245 x 137 x 30	

Bandwidth Controller



- ❶ 10/100M RJ-45 WAN Port
- ❷ Reset Button
- ❸ 10/100M RJ-45 LAN Port

Multi WAN Router



- ❶ 10/100M RJ-45 WAN2 Port
- ❷ 10/100M RJ-45 LAN Port
- ❸ 10/100M RJ-45 WAN1 Port

SP883B Broadband Bandwidth Controller

SP891 Multi-WAN Security Gateway

4	4
1	2
-	-
■	■
Static/RIPv2	Static/RIPv2
DHCP Server	DHCP Server
■	■
Multi-DMZ	Multi-DMZ
SPI/DoS/Ping to Death/Port Scan	SPI/DoS/Ping to Death/Port Scan
URL/Application Filter & Session Limit	URL/Application Filter & Session Limit
■	■
■	■
20 Tunnels	-
IPSec/PPTP	IPSec/PPTP
-	ToS
■	-
■	■
MIB II	MIB II
SysLog Server/Email Alert/Traffic Statistics	SysLog Server/Email Alert/Traffic Statistics
DC 5V, 1.5A	DC 5V, 1.5A
245 x 137 x 30	245 x 137 x 30

ADSL and Broadband



ADSL2+ Router



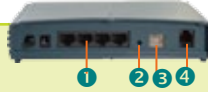
- ❶ RJ-11 Port
- ❷ 10/100M RJ-45 LAN Port
- ❸ Reset Button
- ❹ Power ON/OFF Button

Model No. Description		SP3362E ADSL2+ Modem Router
Standard	ANSI T1.413 Issue 2	■
	ITU G.992.1, G.dmt	■
	ITU G.992.2, G.lite	■
	ITU-T G.992.3, G.dmt.bis	■
	ITU-T G.992.4, G.lite.bis	■
	ITU-T G.992.5, G.dmt.bisplus	■
	ITU-T G. 994.1, G.hs	■
Inter- face	10/100Mbps LAN Port, RJ-45	1
	ADSL Line, RJ-11	1
Features	Downstream / Upstream Data Rate	24Mbps/1Mbps
	NAT (Network Address Translation)	8 Virtual Circuits
	Virtual Server (Port Mapping) for Selected Service Ports Pass-through	■
	Routing for Multi-Path Network	Static/RIPv2
	DHCP for Auto LAN IP Assignment	DHCP Server/Relay/Client
	DMZ (Demilitarized Zone) for Non-Interference Traffic	■
	Access Management	IP/Application Filter
	TR-069 CPE Auto-Provision	■
	Traffic Prioritization among Services (QoS)	ToS/DSCP
	VPN Pass Through	IPSec/PPTP/L2TP
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
UPnP (Universal Plug & Play)	■	
Manage- ment	Management	HTTP/Telnet
	SNMP Network Monitoring	MIB II
	Statistics / Log	Traffic Statistics/System Log
Others	Power	DC 12V, 0.5A
	Dimension, W x D x H (mm)	126 x 101 x 32.5

ADSL and Broadband



ADSL2+ VPN Router



- ① 10/100M RJ-45 LAN Port
- ② Reset button
- ③ USB PC Port
- ④ ADSL Line RJ-11 Port



- ① ADSL Line RJ-11 Port
- ② 10/100M RJ-45 LAN Port
- ③ Power Jack
- ④ Power ON/OFF Button

Model No. Description	SP3364F ADSL2+ Modem Router	SP3366 ADSL2+ VPN Modem Router
Standard	ANSI T1.413 Issue 2	■
	ITU G.992.1, G.dmt	■
	ITU G.992.2, G.lite	■
	ITU-T G.992.3, G.dmt.bis	■
	ITU-T G.992.4, G.lite.bis	■
	ITU-T G.992.5, G.dmt.bisplus	■
	ITU-T G.994.1, G.hs	■
Interface	10/100Mbps LAN Port, RJ-45	4
	ADSL Line, RJ-11	1
	Reset Button	■
	Power On/Off Switch	■
Features	Downstream / Upstream Data Rate	24Mbps/1Mbps
	NAT (Network Address Translation)	8 Virtual Circuits
	Routing for Multi-Path Network	Static, RIPv2
	DHCP for Auto LAN IP Assignment	Server/Relay/Client
	Port Mapping for Selected Service Ports Pass-through	Virtual Server
	DMZ (Demilitarized Zone) for Non-Interference Traffic	■
	Built-in Firewall	SPI
	Access Management	IP/URL/Application
	IGMP Snooping for Multicast Distribution	■
	VLAN for Segmenting LAN Network	Port-based & ATM
	DDNS (Dynamic DNS) for Mapping Dynamic IP & Host Name	■
	UPnP (Universal Plug & Play)	■
VPN	VPN IPsec Tunnel	–
	VPN Pass Through	IPsec/PPTP/L2TP
QoS	Traffic Prioritization among Services (QoS)	■
	Bandwidth Control for Both Inbound & Outbound Traffic	–
Others	Management	HTTP/Telnet/SNMP
	Statistics / Log	Traffic Statistics/System Log
	Power	DC 12V, 1A

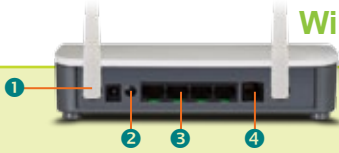
ADSL and Broadband



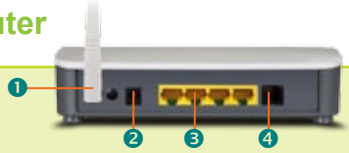
- 1 Antenna
- 2 10/100M RJ-45 LAN Port
- 3 Reset Button
- 4 ADSL Line RJ-11 Port

Model No. Description		SP3367E 54M Wireless ADSL2+ Modem Router
Standard	ANSI T1.413 Issue 2	■
	ITU G.992.1, G.dmt	■
	ITU G.992.2, G.lite	■
	ITU-T G.992.3, G.dmt.bis	■
	ITU-T G.992.4, G.lite.bis	■
	ITU-T G.992.5, G.dmt.bisplus	■
Interface	ITU-T G. 994.1, G.hs	■
	10/100Mbps LAN Port, RJ-45	4
	ADSL Line, RJ-11	1
	Antenna Connector Type	R/SMA (2dBi) x 1
Wireless	Reset Button	■
	Power On/Off Switch	■
	Wireless Data Rate (Max.)	54Mbps
Features	Wireless Output Power (Max.)	15dBm
	Wireless Security	64/128-bit WEP, WPA-PSK, WPA2-PSK
	Downstream / Upstream Data Rate	24Mbps/2Mbps
	NAT (Network Address Translation)	8 Virtual Circuits
	Routing for Multi-Path Network	Static, RIPv2
	DHCP for Auto LAN IP Assignment	Server/Client
	Port Mapping for Selected Service Ports Pass-through	Port Forwarding
	DMZ (Demilitarized Zone) for Non-Interference Traffic	■
	Built-in Firewall	SPI/Intrusion Detection & Protection
	Access Management	MAC/IP
	IGMP Snooping for Multicast Distribution	■
	Others	DDNS (Dynamic DNS) for Mapping
Dynamic IP & Host Name		■
UPnP (Universal Plug & Play)		■
VPN Pass Through		IPSec/PPTP/L2TP
Traffic Prioritization among Services (QoS)		■
Management		HTTP/Telnet/SNMP
Statistics / Log	Traffic Statistics/System Log	
Power	DC 12V, 0.5A	

Wireless ADSL2+ Router



- 1 Antenna
- 2 Reset Button
- 3 10/100M RJ-45 LAN Port
- 4 ADSL Line RJ-11 Port



- 1 Antenna
- 2 Reset Button
- 3 10/100M RJ-45 LAN Port
- 4 ADSL Line RJ-11 Port

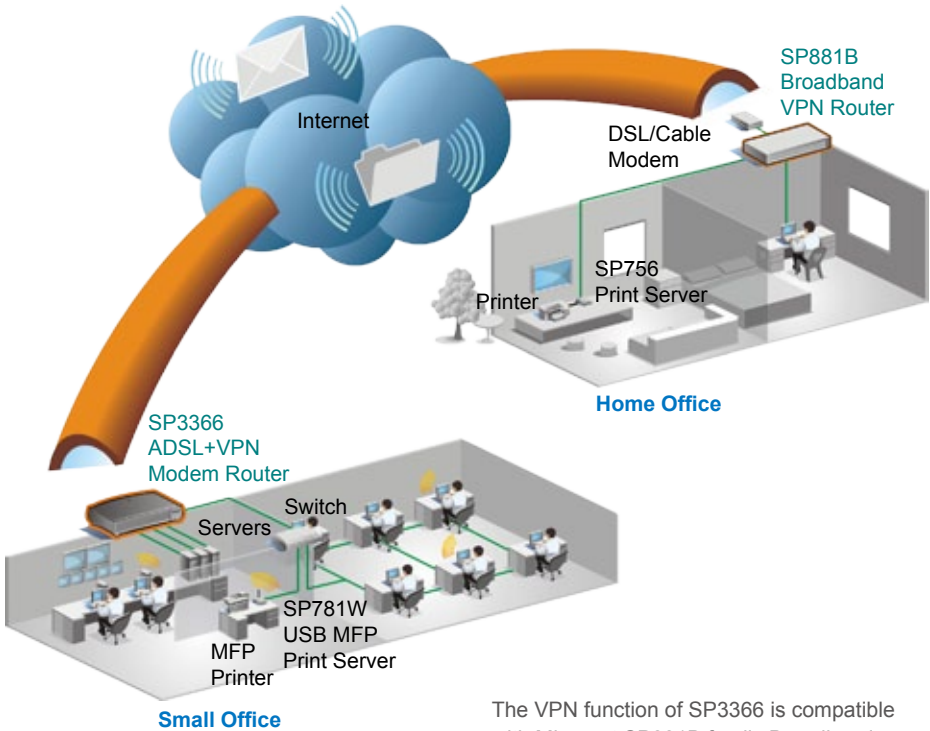
SP3367NE	SP3367NL
300M 11N Wireless ADSL2+ Modem Router	150M 11N Wireless ADSL2+ Modem Router
■	■
■	■
■	■
■	■
■	■
■	■
■	■
■	■
4	4
1	1
R/SMA (3dBi) x 2	R/SMA (3dBi) x 1
■	■
■	■
300Mbps	150Mbps
18dBm	16dBm
64/128-bit WEP, WPA-PSK, WPA2-PSK	64/128-bit WEP, WPA-PSK, WPA2-PSK
24Mbps/1Mbps	24Mbps/1Mbps
8 Virtual Circuits	8 Virtual Circuits
Static	Static, RIPv1, RIPv2
Server/Client	Server/Client
Port Forwarding	Port Forwarding
■	■
SPI	SPI
MAC/IP/URL/Application	MAC/IP/URL/Application
■	■
■	■
■	■
IPSec/PPTP/L2TP	IPSec/PPTP/L2TP
■	■
HTTP/Telnet/SNMP	HTTP/Telnet/SNMP
Traffic Statistics/System Log	Traffic Statistics/System Log
DC 12V, 1A	DC 12V, 0.8A

VPN Solution for SMB to Achieve Security

Micronet SP3366 ADSL VPN Modem Router integrates ADSL modem and broadband router in one device. More than normal broadband router features DDNS, DMZ host, and some firewall, the SP3366's inbound/outbound is

able to share individual bandwidth precisely by IP address and port number. Thus the bandwidth can be used in the key application and the router can work in the optimum state.

Secure Access of Company Files & Email via VPN



The VPN function of SP3366 is compatible with Micronet SP881B family Broadband Router. No matter users have ADSL or cable service, it is the wise choice to select Micronet VPN router to set up the secured network tunnel, either SP3366 or SP881B family.

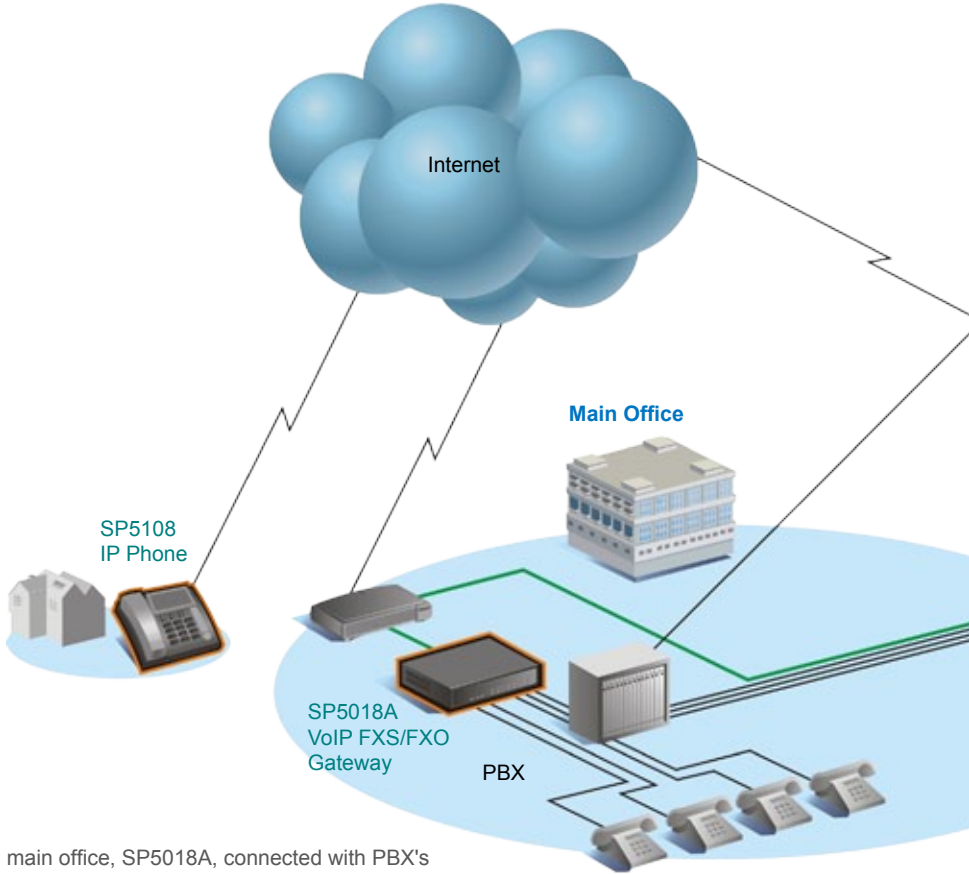


IP Telephony

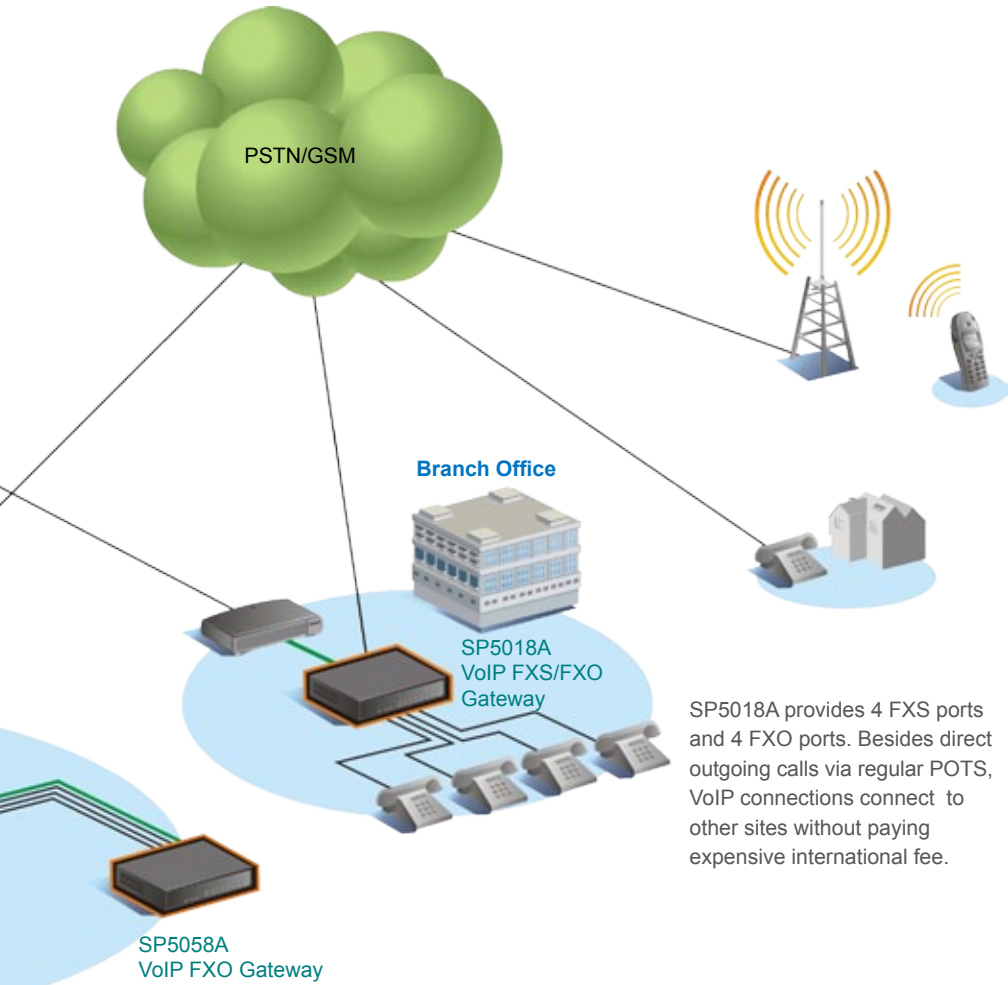
Micronet IP Telephony Product Series deliver industry-standard technology, legacy integration, and innovation. The complete and cost-effective solutions fulfill the requirements of SOHO, SMB, and enterprise who need to lower telephony cost. Besides, the products are excellent solution for ISP/ITSP to provide the telephony service.

Main/Branch Office VoIP

Micronet VoIP gateways, SP5018A and SP5058A, are used to build an IP-based voice communication platform among main office and branch offices. Company staff can make calls with lower expense and keep habitual dialing manners.



In main office, SP5018A, connected with PBX's trunk via FXS ports, allows users to dial out through the cost-saving route. In addition, SP5018A is placed in the branch office and used to connect to PSTN. That serves HQ staffs to dial free international calls among the sites, and even to local PSTN with local phone charge only.



Branch Office

SP5018A
VoIP FXS/FXO
Gateway

SP5058A
VoIP FXO Gateway

SP5018A provides 4 FXS ports and 4 FXO ports. Besides direct outgoing calls via regular POTS, VoIP connections connect to other sites without paying expensive international fee.

SP5058A, connected with PBX's extensions, has VoIP links with the IP Phones or FXS gateway at remote sites. HQ staffs are able to make calls to branches simply by dialing the extension numbers.

-  10/100M
-  Telephone Line
-  Internet

Analog Gateway, FXS



SIP FXS Gateway (ATA) H.323/SIP FXO Gateway



- 1 FXS RJ-11 Port
- 2 10/100M RJ-45 LAN Port
- 3 10/100M RJ-45 WAN Port



- 1 10/100M RJ-45 Port
- 2 FXS RJ-11 Port
- 3 Console Port

	Model No. Description	SP5001C/S SIP FXS Gateway (ATA)	SP5002 VoIP FXS Gateway
STD	IETF SIP Compliant	■	–
	ITU-T H.323 Compliant	–	■
	Interface		
Interface	FXS Port, RJ-11	1	2
	10/100Mbps LAN Port, RJ-45	1	2
	10/100Mbps WAN Port, RJ-45	1	–
Voice Processing	Codec	G.711 A/μ-law, G.729a, G.729b, G.726	G.711 A/μ-law, G.723.1, G.729, G.729a, G.729b, G.729ab
	EC (Echo Cancellation)	G.168	G.168, Acoustic Echo Cancellation
	VAD (Voice Activity Detection)	■	■
	CNG (Comfort Noise Generation)	■	■
	Jitter Buffer	Dynamic Jitter Buffer	Dynamic Jitter Buffer
	Gain / Voice Volume Setting	■	■
Telephony Features	DTMF Relay for Dialing	In-band, SIP Info, RFC2833	In-band, RFC2833, H.245, Q.931
	Service Domain Registration	3	1
	Line Account Registration	1	2
	Outbound Proxy	■	–
	Call Feature	Phone book, Speed dial, Hotline, Dial plan, Call hold, Call transfer, Call waiting, 3-Way conference, Call forward, DND	Phone Book, Speed Dial, Hotline, Dial Plan, Call Hold, Call Transfer, Call Forward
	Caller ID Standards	DTMF, FSK	DTMF, FSK
T.38 FAX over IP	■	■	
Others	Networking	Static IP, DHCP Client, PPPoE, DDNS, NAT, DMZ, Virtual Server, VPN Client (PPTP)	Static IP, DHCP Client, PPPoE
	QoS (Quality of Service)	ToS, IEEE 802.1p (CoS)	DSCP
	Management	HTTP, IVR (Via Keypad)	HTTP, Telnet, Console
	Power	DC 12V, 1A	DC 12V, 1A
	Dimension, W x D x H (mm)	195 x 122 x 32	230 x 150 x 38

H.323 FXS Gateway



- ❶ 10/100M RJ-45 Port
- ❷ FXS RJ-11 Port
- ❸ Console Port

SIP FXS Gateway



- ❶ 10/100M RJ-45 Port
- ❷ FXS RJ-11 Port
- ❸ Console Port

SIP FXS Gateway



- ❶ FXS RJ-11 Port
- ❷ 10/100M RJ-45 LAN Port
- ❸ 10/100M RJ-45 WAN Port

SP5004 VoIP FXS Gateway	SP5004/S VoIP FXS Gateway	SP5008A VoIP FXS Gateway
–	■	■
■	–	–
4	4	8
2	2	4
–	–	1
G.711 A/μ-law, G.723.1, G.729, G.729a	G.711 A/μ-law, G.723.1, G.729, G.729a	G.711 A/μ-law, G.723.1, G.726, G.729, G.729a
G.168, Acoustic Echo Cancellation	G.168, Acoustic Echo Cancellation	G.168, Acoustic Echo Cancellation
■	■	■
■	■	■
Dynamic Jitter Buffer	Dynamic Jitter Buffer	Dynamic Jitter Buffer
■	■	■
In-band, RFC2833, H.245, Q.931	In-band, SIP Info, RFC2833	In-band, SIP Info, RFC2833
1	1	4
4	4	8
–	■	■
Phone Book, Speed Dial, Hotline, Dial Plan, Call Hold, Call Transfer, Call Forward	Phone Book, Speed Dial, Hotline, Dial Plan, Call Hold, Call Transfer, Call Forward	SIP trunk, Service domains priority/cyclic ring, Serial ring on extension, Call hold, Call transfer, Call waiting, Call forward, Hotline and warm line, DID, Speed dial, Anonymous call, DND, Dial plan, Digit manipulation, CDR, MWI
DTMF, FSK	DTMF, FSK	DTMF, FSK
■	■	■
Static IP, DHCP Client, PPPoE	Static IP, DHCP Client, PPPoE	Static IP, DHCP Client, PPPoE, NAT, SNTP
DSCP	DSCP	ToS, DSCP
HTTP, Telnet, Console	HTTP, Telnet, Console	HTTP
DC 12V, 1.5A	DC 12V, 1.5A	DC 12V, 3A
230 x 150 x 38	230 x 150 x 38	242 x 160 x 35

Analog Gateway, FXO



H.323 / SIP FXO Gateway



- ① 10/100M RJ-45 LAN Port
- ② FXO RJ-11 Port
- ③ Console Port

Model No. Description		SP5052A VoIP FXO Gateway
STD	IETF SIP	■ (SIP version only)
	ITU-T H.323	■ (H.323 version only)
Interface	10/100Mbps WAN Port, RJ-45	–
	10/100Mbps LAN Port, RJ-45	2
	FXO Port, RJ-11	2
Voice Processing	Codec	G.711 A/μ-law, G.723.1, G.729, G.729a
	EC (Echo Cancellation)	G.168, Acoustic Echo Cancellation
	VAD (Voice Activity Detection)	■
	CNG (Comfort Noise Generation)	■
	Jitter Buffer	Dynamic Jitter Buffer
Telephony	DTMF Relay for Dialing	In-band, RFC2833, H.245, Q.931
	Service Domain Registration	1
	Line Account Registration	2
	Outbound Proxy	■ (SIP only)
	Call Hold	■
	Call Transfer	■
	Hot Line	■
	Call Routing with Digit Manipulation	■
	Service Domains Priority/Cyclic Ring	–
	Call Hunting for Incoming Call Dispatching	■
	PSTN/SIP Caller ID Selection	–
	Caller ID Standards	DTMF, FSK
	T.38 FAX over IP	■
Others	Networking	Static IP, DHCP Client, PPPoE (DDNS H323 only)
	QoS (Quality of Service)	DSCP
	Management	HTTP, Telnet, Console
	Power	DC 12V, 1A
	Dimension, W x D x H (mm)	230 x 150 x 38

H.323 / SIP FXO Gateway



- 1 10/100M RJ-45 LAN Port
- 2 FXO RJ-11 Port
- 3 Console Port

SIP FXO Gateway



- 1 FXO RJ-11 Port
- 2 10/100M RJ-45 LAN Port
- 3 10/100M RJ-45 WAN Port

SP5054A VoIP FXO Gateway

- (SIP version only)
- (H.323 version only)
-
- 2
- 4

G.711 A/μ-law, G.723.1, G.729, G.729a
G.168, Acoustic Echo Cancellation

Dynamic Jitter Buffer
In-band, RFC2833, H.245, Q.931

- 1
- 4
- (SIP only)
-
-
-
-
-
-
-
- DTMF, FSK
-

Static IP, DHCP Client, PPPoE (DDNS H323 only)

DSCP
HTTP, Telnet, Console
DC 12V, 1.5A
230 x 150 x 38

SP5058A VoIP FXO Gateway

-
-
- 1
- 4
- 8

G.711 A/μ-law, G.723.1, G.726,
G.729, G.729ab
G.168, Acoustic Echo Cancellation

Dynamic Jitter Buffer
In-band, SIP Info, RFC2833

-
-
-
-
-
-
-
-
- DTMF, FSK
-

Static IP, DHCP Client, PPPoE, NAT, SNTP

ToS, DSCP
HTTP
DC 12V, 3A
242 x 160 x 35

Analog Gateway, FXS/FXO



H.323 / SIP FXS/FXO Gateway



- ❶ 10/100M RJ-45 LAN Port
- ❷ FXS/FXO RJ-11 Port
- ❸ Console

Model No. Description		SP5014 VoIP FXS/FXO Gateway
STD	IETF SIP	■ (SIP version only)
	ITU-T H.323	■ (H.323 version only)
Interface	10/100Mbps WAN Port, RJ-45	–
	10/100Mbps LAN Port, RJ-45	2
	FXS Port, RJ-11	2
	FXO/PSTN Port, RJ-11	2
Voice Processing	Codec	G.711 A/μ-law, G.723.1, G.729, G.729a
	EC (Echo Cancellation)	G.168, Acoustic Echo Cancellation
	VAD (Voice Activity Detection)	■
	CNG (Comfort Noise Generation)	■
	Jitter Buffer	Dynamic Jitter Buffer
	Gain / Voice Volume Setting	■
Telephony Features	DTMF Relay for Dialing	In-band, RFC2833, H.245, Q.931
	Service Domain Registration	1
	Line Account Registration	4
	Outbound Proxy	■ (SIP only)
	Call Hold	■
	Call Transfer	■
	Call Waiting	■
	Call Forward	■
	Speed Dial	■
	Hot Line	■
	PSTN Bypass Line	2
	Call Routing with Digit Manipulation	■
	Service Domains Priority/Cyclic Ring	–
	Extension Serial Ring	–
	Call Hunting for Incoming Call Dispatching	■
PSTN/SIP Caller ID Selection	–	
Caller ID Standards	DTMF, FSK	
T.38 FAX over IP	■	
Others	Networking	Static IP, DHCP Client, PPPoE, (DDNS H323 only)
	QoS (Quality of Service)	DSCP (DiffServ)
	Management	HTTP, Telnet, Console
	Power	DC 12V, 1.5A
Dimension, W x D x H (mm)		230 x 150 x 38

SIP FXS/FXO Gateway



- ❶ FXS/FXO RJ-11 Port
- ❷ 10/100M RJ-45 LAN Port
- ❸ 10/100M RJ-45 WAN Port

SP5018A VoIP FXS/FXO Gateway

-
-
- 1
- 4
- 4
- 4
- G.711 A/μ-law, G.723.1, G.726,
G.729, G.729a
- G.168, Acoustic Echo Cancellation

-
- Dynamic Jitter Buffer

-
- In-band, SIP Info, RFC2833
- 4
- 8

-
-
-
- FXS only
- FXS only

-
-
- 4 (PABX mode only)

-
-
-
- FXS only

-
-
-
- DTMF, FSK

-
- Static IP, DHCP Client, PPPoE, NAT, SNTP
- ToS, DSCP (DiffServ)

HTTP

DC 12V, 3A

242 x 160 x 35

IP Phone



SIP Phone



- 1 LCD Display
- 2 Function Key
- 3 Dialing Pad

- 1 LCD Display
- 2 Function Key
- 3 Dialing Pad

	Model No. Description	SP5101 IP Phone	SP5102 IP Phone with PoE
STD	IETF SIP	■	■
	ITU-T H.323	–	–
	IEEE 802.3af, Power over Ethernet	–	■
Interface	10/100Mbps PC Port, RJ-45	1	1
	10/100Mbps LAN Port, RJ-45	1	1
	PSTN Lifeline, RJ-11	–	–
	Headset Jack, RJ-11	1	1
	Display	Backlight LCD, 2 x 16 Dot Matrix	
	Keypad	5 Fixed Function Keys, 12 Additional Function Keys	
	Function Key LED	■	■
Voice Processing	Codec	G.711 A/μ-law, G.723.1, G.729, G.729a, G.729b G.168, Acoustic Echo Cancellation	
	EC (Echo Cancellation)	■	■
	VAD (Voice Activity Detection)	■	■
	CNG (Comfort Noise Generation)	■	■
	Jitter Buffer	Dynamic Jitter Buffer	
Telephony Features	Gain / Voice Volume Setting	■	■
	DTMF Relay for Dialing	In-band, SIP Info, RFC2833	
	Service Registrar (No. of Account)	1	1
	Outbound Proxy	■	■
	STUN (Simple Traversal of UDP through NAT)	■	■
	Concurrent Call	2	2
	Call Hold	■	■
	Call Transfer	Consultant / Blind Transfer	
	Call Waiting	■	■
	3-Way Conference	■	■
	Call Forward	■	■
	Call Pickup	■	■
	Online Recording	–	–
	BLF (Busy Lamp Field)	■	■
	Phone Book	■	■
Speed Dial	■	■	
Hot Line	■	■	
DND (Do Not Disturb)	■	■	
Caller ID Display	■	■	
MWI (Message Waiting Indicator)	■	■	
Others	Networking	Static IP, DHCP Client, PPPoE	
	QoS (Quality of Service)	ToS	ToS
	Management	HTTP, Telnet	HTTP, Telnet
	Firmware Upgrade	HTTP, TFTP, FTP, Auto Provisioning	
	Power	DC 9-12V, 1A	DC 9-12V, 1A
	Dimension, W x D x H (mm)	230 x 200 x 100	230 x 200 x 100

SIP Phone



- ① LCD Display
- ② Function Key
- ③ Dialing Pad

- ① LCD Display
- ② Function Key
- ③ Dialing Pad

- ① LCD Display
- ② Function Key
- ③ Dialing Pad

SP5103 IP Phone	SP5108 IP Phone	SP5109 IP Phone with PoE
■	■	■
-	-	-
-	-	■
1	1	1
1	1	1
-	-	-
1	1	1
Backlight LCD, 2 x 16 Dot Matrix		
10 Speed Dialing Hotkeys, 9 Fixed Function Keys	8 Speed Dialing Hotkeys, 12 Fixed Function Keys	
-	-	-
G.711A/μ-law, G.723.1, G.726, G.729A/B G.168, Acoustic Echo Cancellation		
■	■	■
■	■	■
Dynamic Jitter Buffer		
■	■	■
In-band, SIP Info, RFC2833		
Max.3	Max.3	Max.3
■	■	■
■	■	■
2	2	2
■	■	■
Consultant / Blind Transfer		
■	■	■
■	■	■
■	■	■
■	-	-
■	-	-
■	■	■
■	■	■
■	■	■
■	■	■
■	■	■
Static IP, DHCP Client, PPPoE		
DSCP	DSCP	DSCP
HTTP, Telnet	HTTP, Telnet	HTTP, Telnet
HTTP, TFTP, FTP, Auto Provisioning		
DC 6V, 1A	DC 12V, 1A	DC 12V, 1A
200 x 180 x 80	183 x 255 x 120	183 x 255 x 120

IP PBX



IP PBX ROBO(Remote Office/Branch Office)

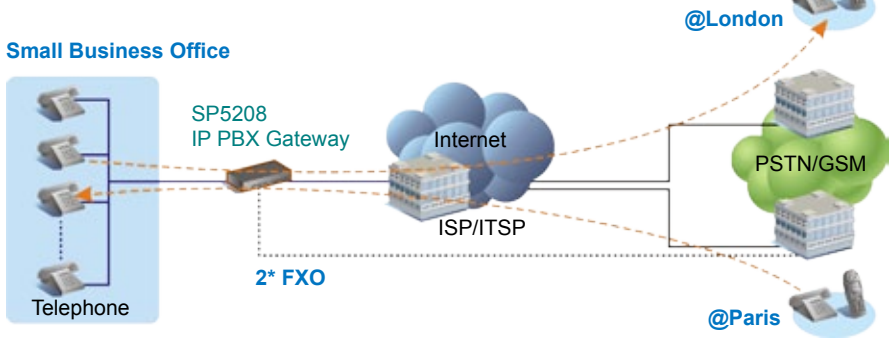


- 1 FXS/FXO RJ-11 Port
- 2 10/100M RJ-45 LAN Port
- 3 10/100M RJ-45 WAN Port
- 4 Power Jack

Model No.	SP5208	
Description	IP PBX ROBO (under 10 users)	
Interface	IETF SIP	■
	10/100Mbps WAN Port, RJ-45	1
	10/100Mbps LAN Port, RJ-45	4
	FXS Port, RJ-11	6
Capa-city	FXO Port, RJ-11	2 (PSTN Bypass Line)
	SIP Trunk	1
	Extension	Max. 6
Voice Processing	Concurrent NAT RTP Call	Max. 6
	Video Codec	-
	Voice Codec	G.711 A/μ-law, G.723.1, G.729, G.729a
Telephony Features	Voice Feature	VAD, CNG, Silence Suppression, Echo Cancellation (G.165 / G.168), Adaptive Jitter Buffer, Packet Loss Compensation, Adjustable volume level
	DTMF Relay for Dialing	In-band, SIP Info, RFC2833
PBX Features	Call Control	<ul style="list-style-type: none"> • SIP trunk and PSTN trunk • Company representative SIP number setting • Extension calling among FXS ports • Call hold, Call transfer, Call forward, and Speed dial • Operator priority / parallel ring • PSTN prefix routing • FXS ports (T1, T2) with bypass line from PSTN • PSTN backup for power/register failure • T.38 & G.711 (pass-through) FAX
	IVR (Interactive Voice Response)	■
Others	Customizable IVR	■
	System Administration	CDR, HTTP, Telnet
	NAT Traversal	RTP Proxy
	Networking	Static IP, PPPoE, DHCP Server / Client, NAT, SNTP
	Power	DC 12V, 3A
Dimension, W x D x H (mm)	242 x 160 x 35	

IP PBX Gateway (with PSTN Backup) for Small Business

The SP5208 IP PBX Gateway supports 6 FXS and 2 FXO ports for direct installation, with the legacy telephone system, and is designed to save users from complicated installation procedures. Without extra configuration on the SP5208, users can start to have extension calling to each others by just plugging the lines from telephones after the SP5208 is powered on. Via FXO connections with PSTN lines, users can have phone calls with PSTN or GSM subscribers.



Multiple Call Routes via IP/POTS with Non-stop Operation

Company may still need a representative PSTN number for customers to call. SP5208 supports 2 FXO ports to connect to receive daily phone calls from PSTN/GSM, if direct calling with PSTN number to VoIP network is not supported by ITSP. SP5208 supports 2 FXS ports with bypass lines from the 2 FXO ports for PSTN backup. In case of power or network failure, users still can receive and make calls via PSTN lines. Besides the default route via SIP trunk, SP5208 supports PSTN prefix routing for dialing via PSTN. When specific prefix can be configured in the system, the specific callings via PSTN are allowed. SP5208 IP PBX Gateway is an ease-to-use device that supports plug-n-play features and only needs few simple configurations more. It's suitable for small business/office that demands for few extensions or deploys extensions in specific locations, and helps to achieve goals of the efficiency and cost saving easily.

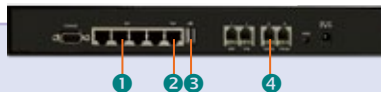
Considerate Design of Built-in PBX Functionalities

The SP5208 IP PBX Gateway supports SIP trunk to register with ITSP. All extensions under SP5208 can access the cost-saving call route provided by ITSP. That dramatically saves the small business from the expense of long-distance and international calls. Besides, single registration account is needed for all users to make calls, and there's no need for more accounts that charge for each. SP5208 supports PBX functionalities for user's convenient communications. In addition to the features as above, SP5208 supports simple IVR (Interactive Voice Response) like legacy PBX. The automated attendant (plus operator assignment) helps business attend the incoming calls from SIP or PSTN/GSM.

IP PBX



IP PBX for SMB



- ❶ 10/100M RJ-45 LAN Port
- ❷ 10/100M RJ-45 WAN Port
- ❸ USB Port
- ❹ FXS/FXO Port

Model No. Description		SP5325 Series IP PBX SMB (30 - 70 users)	
Interface	IETF SIP	■	
	10/100Mbps WAN Port, RJ-45	1	
	10/100Mbps LAN Port, RJ-45	4	
	FXS Port, RJ-11	Max. 4	
	FXO Port, RJ-11	Max. 4	
	Telecom Interface	4FXO / 1FXS+3FXO	
Capacity	PSTN Bypass Line	Max. 1	
	USB 2.0	1	
	SIP Trunk	Max. 95	
	Extension	Max. 70	
Telephony Features	Concurrent NAT RTP Call	Max. 25	
	Voice Feature	G.168 Echo Cancellation, AEC, VAD, CNG, Dynamic Jitter Buffer, Gain Adjustment, Disconnect Tone Detection (FXO)	
	DTMF Relay for Dialing	In-band, SIP Info, RFC2833	
	Call Control	<ul style="list-style-type: none"> • Call hold, Call transfer, Call waiting, and 3-way conference • Call Forward (Busy, Unconditional, No Answer, Find Me, Selective) • Busy Call Back (Camp-on) • Call Park/Retrieve and Call Pickup (SP5103 only) • Intercom and Call Paging via IP Phone speaker • Schedule-based Memo Call and Broadcast • Group Ring • Lifeline Priority Call (Emergency Call) • DID (Direct Line) and DOD • Speed Dial • DND and Call Block (for anonymous call or blacklist) • On-Line Call Recording (SP5103 only) 	
	Meet-Me Conference	Max. 8 Parties	
	ACD (Auto Call Distribution)	-	
	PBX Features	IVR (Interactive Voice Response)	3-layer IVR
		Prompt management	■
		Work Time Setting	■
		Multilingual	1
Voicemail Notification		E-mail, MWI, VMWI	
Voicemail Storage		512MB	
Adminis- tration	Voicemail Access Control	PIN Code	
	Fast-Forward / Rewind / Undelete	■	
	System Administration	Setup Wizard, Web-based User Interface (HTTP), SIP UA Status, Call Monitoring, CDR, SNMP	
	Stackable Management	-	
Others	Auto Provisioning for IP Phone	SP5103 only	
	NAT Traversal	STUN Client, RTP Proxy	
	Networking	Static IP, PPPoE, DHCP Server / Client, DNS, DDNS, SNTP, MAC Clone, NAT, DMZ, Virtual Server, Static Route, Firewall, ToS	
	Power	DC 12V, 2A, 24 Watts (max)	
	Dimension, W x D x H (mm)	300 x 155 x 38	

IP PBX for Enterprise



- ❶ FXS/FXO Port
- ❷ USB Port
- ❸ WAN RJ-45 Port
- ❹ LAN RJ-45 Port

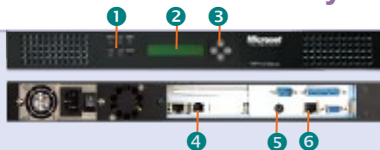
SP5350PRO
IP PBX Enterprise (100 - 200 users)

-
- 1
- 1
- Max. 8
- Max. 12
- 4FXO, 8FXO, 1FXO+3FXS, and 4FXS Optional Interface Card*
- Max.2
- 2
- Max. 250
- Max. 200
- Max. 50
- G.168 Echo Cancellation, AEC, VAD, CNG, Dynamic Jitter Buffer, Gain Adjustment, Disconnect Tone Detection (FXO)
- In-band, SIP Info, RFC2833
- Call hold, Call transfer, Call waiting, and 3-way conference
- Call Forward (Busy, Unconditional, No Answer, Find Me, Selective)
- Busy Call Back (Camp-on)
- Call Park/Retrieve and Call Pickup (SP5103 only)
- Intercom and Call Paging via IP Phone speaker
- Schedule-based Memo Call and Broadcast
- Group Ring
- Lifeline Priority Call (Emergency Call)
- DID (Direct Line) and DOD
- Speed Dial
- DND and Call Block (for anonymous call or blacklist)
- On-Line Call Recording (SP5103 only)
- Max. 24 Parties
- 32 Service Queues, 200 Agents, 5 Policies (Round robin, Ring all, Least recent, Fewest call, Random)
- 3-layer IVR
-
-
- Max. 3
- E-mail, MWI, VMWI
- 40GB
- PIN Code
-
- Setup Wizard, Web-based User Interface (HTTP), SIP UA Status, Call Monitoring, CDR, SNMP
- 4 Units Stacking
- SP5103 only
- STUN Client, RTP Proxy
- Static IP, PPPoE, DHCP Server / Client, DNS, DDNS, SNTP, MAC Clone, NAT, DMZ, Virtual Server, Static Route, Firewall, ToS
- AC 100-240V, 40 Watts
- 440 x 315 x 44

Digital Gateway



VoIP Trunk Gateway



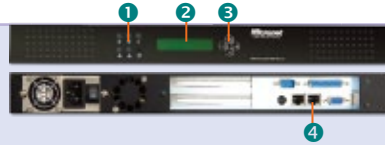
- 1 LED Indicator
- 2 LCD Display
- 3 Control Panel
- 4 RTP Ethernet RJ-45 Port
- 5 Host Ethernet RJ-45 Port
- 6 E1/T1 Trunk Port

Model No. Description	SP5060 VoIP E1/T1 Trunk Gateway	SP5064 VoIP E1/T1 Trunk Gateway
Standards	IETF SIP	■
Standards	ITU-T H.323	■
Standards	PSTN Signaling	E1 ISDN PRI, E1 SS7 ISUP, E1 CAS DTMF/ R2, T1 ISDN PRI, T1 CAS
Interface	E1/T1 Trunk Line	1
Interface	10/100Mbps Host Ethernet Port, RJ-45	1
Interface	10/100Mbps RTP Ethernet Port, RJ-45	1
Interface	RS-232 Console	1
Telephony	Voice Processing	<ul style="list-style-type: none"> G.711A/μ-law, G.723.1, G.729 Codecs VAD, CNG, G.168 Echo Cancellation, Silent Suppression, Adaptive Jitter Buffer, Configurable Payload Size
Telephony	Call Features	<ul style="list-style-type: none"> ANI/DNIS Access List DID/DOD, Intelligent PSTN Call Routing In-Trunk Hunting Method Built-in IVR and Billing System Digit Manipulation, ANI/ DNIS Replacement DTMF Relay: In-band, SIP Info, RFC2833
Advanced	Controller of Built-in IVR and Call Flow	<ul style="list-style-type: none"> Web UI Drag and Drop Interface Full Control of Call Behavior IVR for PSTN / SIP / H.323 Incoming Call Play Credit Time Duration, Play Credit Balance Power Call Information Branch, Collected Information Validation Active Disconnect & Reconnect without Hang-up Selected Disconnect Cause Code & Behavior
Advanced	AAA (Authentication, Authorization, Accounting)	<ul style="list-style-type: none"> External AAA: Call Detail Record (CDR), RADIUS, PSTN/VoIP Prepaid Support Embedded AAA: Embedded Prepaid/Postpaid Service, Point/ Second Calculation, Second/Point Calculation, PSTN/VoIP Prepaid Support
Others	Networking	DHCP Client, SNMP, TFTP/FTP Client
Others	NAT Traversal	Outbound Proxy
Others	Management	HTTP, Telnet, SNMP, Console, Push Button on Front Panel
Others	Power	AC 100 - 240V
Others	Dimension, W x D x H (mm)	483 x 450 x 44

SIP Proxy Server



SIP Proxy Server



- 1 LED Indicator
- 2 LCD Display
- 3 Control Panel
- 4 10/100M RJ-45 Port

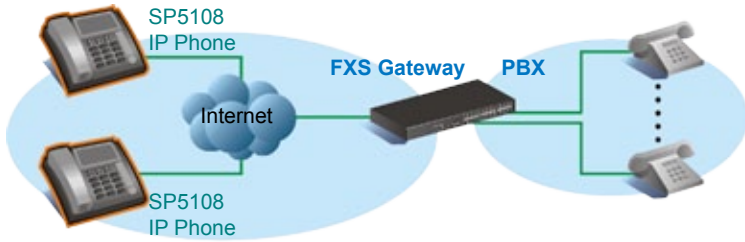
Model No. Description		SP5210 SIP Server	SP5210-200 SIP Server	SP5210-500 SIP Server	SP5210K SIP Server
Capacity	IETF SIP	■	■	■	■
	Subscriber	2000	2000	2000	2000
	Concurrent Call	200	200	200	200
	Concurrent NAT RTP Call	100	100	100	100
	10/100Mbps WAN Port, RJ-45	1	1	1	1
Interface	10/100Mbps LAN Port, RJ-45	1	1	1	1
	RS-232 Console	1	1	1	1
Telephony	SIP Register	<ul style="list-style-type: none"> • Dynamic Register, Predefine User (up to 2 URI), Predefine NAT User, Registrar Authentication MD5, Register Type Selection • Register to Multiple External Softswitch or Proxy • Separate NAT/Normal Register TTL, Effective/Expired Date, Global or Subscriber based Register TTL • Programmable Nonce Live Time, Programmable Authentication Check Period • Programmable General Max Register Time, Programmable Max NAT Register Time 			
	Proxy	<ul style="list-style-type: none"> • Stateful Proxy Server, Call-based Authentication MD5/RADIUS • Sequential Call Forking, Parallel Call Forking (Programmable Ring or Answer) • Proxy Peering Support, Hierarchical Proxy Support • Subscriber/System based Response Timer (No Answer/First Response) • Auto NAT User Detection 			
	Call Control	<ul style="list-style-type: none"> • Call Transfer, Call Waiting, Call Hold, Call Forward • Calling/Outgoing Number Screening, Call Hunting Group, Ring All with First Ring Back/Answer Group Hunting • Digit Manipulation • Caller ID Privacy • Emergency Call, Call Pickup, Find Me • Short Code, DND, Coloring Ring Back Tone Service, Announcement Service • VMS, Miss Call Notify by Email 			
	NAT Traversal	<ul style="list-style-type: none"> • Outbound and Inbound NAT Traversal, Automatically NAT Detection and RTP Proxy • External RTP Proxy Resource, Preferred NAT Resource Server • Enhanced NAT Partition, Intelligent RTP Proxy Resource Management 			
Others	AAA (Authentication, Authorization, Accounting)	<ul style="list-style-type: none"> • Flat CDR File in Local Storage • RADIUS Billing Message, Redundant RADIUS Server, RADIUS Authorization Message for Prepaid Service • Call Disconnect for Prepaid User 			
	Subscriber Access Management	Subscriber Access Control, Separate Web Password, User Group, Subscriber Logon, Disallow NAT Register			
	Power	HTTP, Console, Telnet, SNMP			
	Dimension, W x D x H (mm)	AC 100 - 240V 483 x 450 x 44			

FXS vs. FXO

In essence, voice interfaces are standard telephone interfaces of POTS. It can be an analog interface (eg. FXS, FXO), or be a digital interface (eg. E1, T1). A FXS (Foreign eXchange Station) interface, in essence, mimics the PSTN switch (call exchange center). FXS interface can be used to connect basic devices, such as PBX's trunk, phones and faxes. It provides voltage, off-hook detection, call progress indicators (dial tone, disconnect tone, hold tone...), and ring generation.

A FXO (Foreign eXchange Office) interface is like the port on a standard telephone, it receives calls from and dials into a PBX or PSTN (Public Switched Telephone Network). FXO interface requires a dial tone, ring indication, and call progress indicators to be provided from PBX or PSTN switch. Automate the operations (on-hook, off-hook) that are done manually.

FXS port connecting legacy PBX's trunk

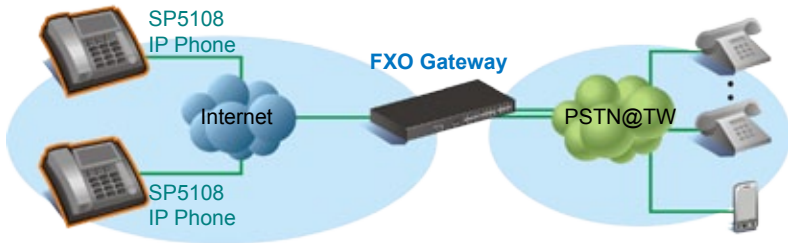


← Dial IP number, and IP Phone rings ... Dial access code "0", Pick up the phone ...

→ Pick up the IP Phone, dial IP number, and PBX picks up the call ...

→ Dial extension number, and telephone rings ...

FXO Gateway connecting PSTN



← Dial IP number, and IP Phone rings ...

← Pick up the phone, and dial GW's PSTN number

→ Pick up the IP Phone, dial PSTN number, and phone rings ...



KVM Switch

With server deployment in data centers and among cooperates on the rise, KVM switches are gaining acceptance. Cost saving by using a single switch that controls thousands of servers is behind this technology's popularity.

Remote management is also set to become popular in market. It has been

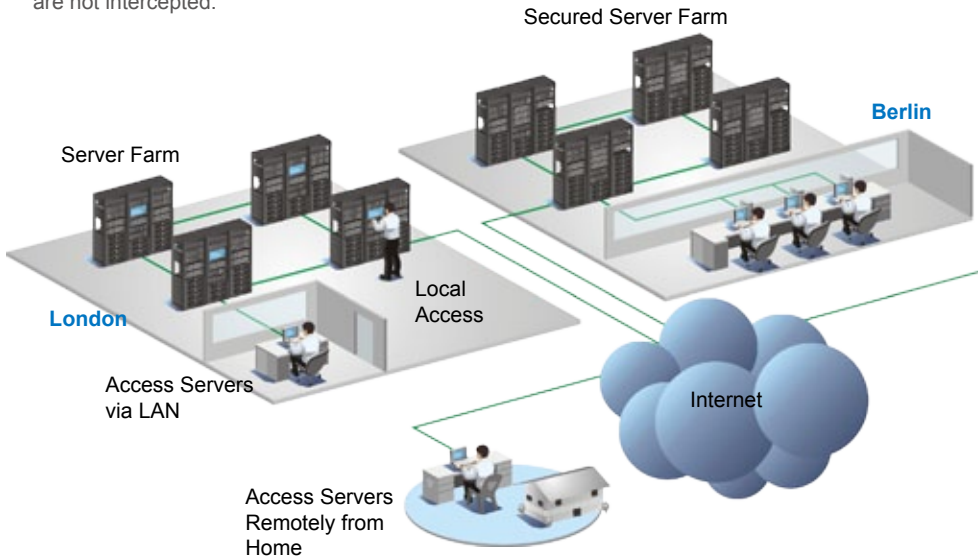
proved by the enthusiastic response to Micronet IP based KVM, SP1200A. Based on customers' demands, Micronet will provide the best solution for the keyboard-mouse-monitor application.

KVM over IP for Boundless Remote Server Access via Internet

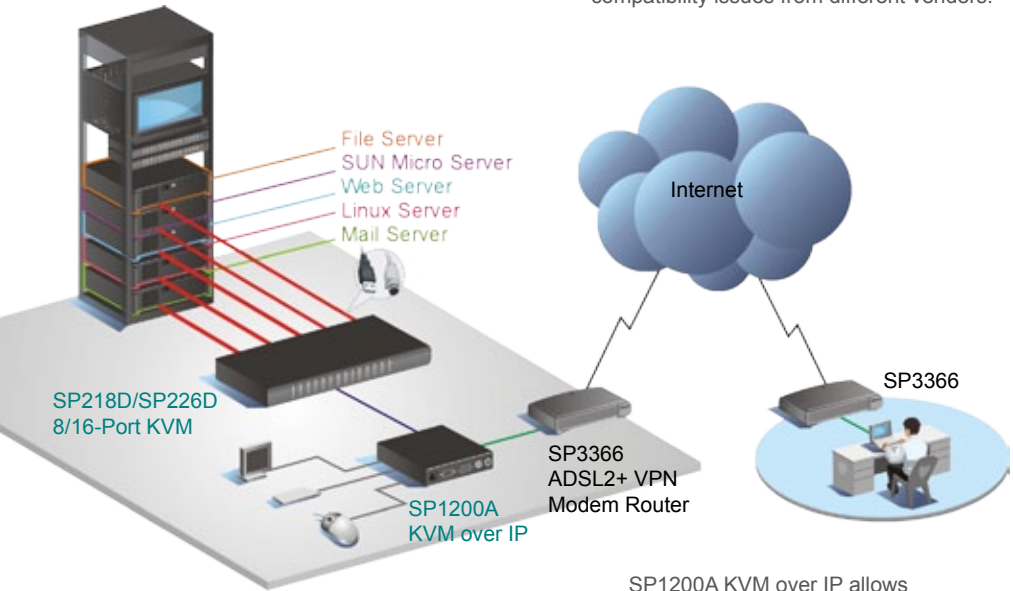
KVM (Keyboard Video Mouse) solutions are the key to managing the server farm more efficiently and economically. KVM switches allow servers/PCs at multiple floors to be managed in a centralized location. Only a single set of equipment (monitor, mouse & keyboard) is needed to operate hundreds of servers located in the server farm. KVM over IP is the next innovative step by the industry to further extend the mobility and flexibility of the

server access. As shown in the diagram, MIS personnel can remotely access the KVM/Server via local network or over the Internet. Not being restricted by time and space, administrators can assert tighter control over enterprise network system. Remote access over the Internet will become a key aspect for the successful deployment of the solution.

SP1200A KVM over IP will authenticate each connected client via Certified Authority (CA) and only the certified PC can be connected. By using HTTPS encrypted protection, enterprise can remain rest assure that all data transmitted are not intercepted.



SP1200A KVM over IP is compatible with the other vendor's rack-mount KVM switch with the PS/2 local console port, allowing users with existing KVM switch to easily adopt SP1200A KVM over IP without any compatibility issues from different vendors.



SP1200A KVM over IP allows servers and PCs to become remotely accessible over LAN or Internet via web browser. In this case, IT personnel would become more mobile and flexible.

SP1200A KVM over IP can work in conjunction with 8/16-Port KVM to allow multiple servers' screens images to be transmitted over the Internet. Besides, Micronet 8/16-port KVM and SP1200A KVM over IP can support SUN Micro Servers other than PC Servers.

Desktop KVM Switch



USB Desktop KVM Switch



- 1 Push Button
- 2 Console for Monitor
- 3 PC Connection
- 4 Console for Keyboard/Mouse



- 1 PC Connection
- 2 Push Button
- 3 Console for Monitor
- 4 Console for Keyboard/Mouse

Model No. Description		SP212D 2-Port USB KVM Switch	SP212F 2-Port USB KVM Switch
Hardware	PC Port Number	2	2
	PC Connection	HDB 15-pin Female	Combo Cable
	Local Console for Peripheral Device	Video: HDB 15-pin Female, Mouse/Keyboard: USB	
	Speaker	–	3.5mm Audio In/Out Jack
	Microphone	–	3.5mm MIC In/Out Jack
Cable	KVM Cable (Host)	Video/Mouse/Keyboard: HDB 15-pin Male	
	KVM Cable (PC)	Video: HDB 15-pin Female, Mouse/Keyboard: USB	
Operation	Push Button on Device for Port Selection	■	■
	Hotkey for Quick Keyboard Control	■	■
	Mouse / Keyboard Emulation	USB	USB
	Auto Scan Interval (Sec) for Monitoring PC/Server	10 - 60	10 - 60
	Scrolling & Multi-Button Mouse	■	■
	Hot Plug & Play	■	■
Others	Video Resolution	2048 x 1536	2048 x 1536
	Utility	■	■
	OS Support	Windows, Mac OS, Linux	
	Dimension, W x D x H (mm)	96 x 61 x 24	8.8x5.7x2.5

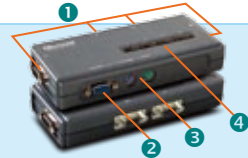
PS/2 Desktop KVM Switch



- 1 PC Connection
- 2 Console for Keyboard/Mouse
- 3 Console for Monitor
- 4 Push Button



- 1 Push Button
- 2 Console for Monitor
- 3 PC Connection
- 4 Console for Keyboard/Mouse

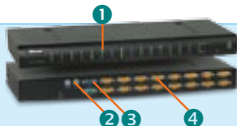


- 1 PC Connection
- 2 Console for Keyboard/Mouse
- 3 Console for Monitor
- 4 Push Button

Rack Mount KVM Switch



Rack Mount



- ① LED Indicator
- ② Console Port
- ③ Daisy Chain
- ④ PC/Server Connection

KVM over IP



- ① Redundancy Power
- ② Virtual USB Storage
- ③ PC/KVM Connection
- ④ 10/100M RJ-45 Port

Model No. Description		SP218D / SP226D 8 / 16-Port Combo KVM	SP1200A KVM over IP
Hardware	PC Port Number	8 / 16	KVM or PC x 1
	Daisy Chain	8 Banks ^{**1,2}	KVM Dependent ^{*3}
	PC / KVM Connection	HDB 15-pin Female	Video: VGA HDB 15-pin Female Mouse/Keyboard: PS/2
	Local Console	Video: VGA HDB 15-pin Female, Mouse/Keyboard: PS/2	
	Other Interface	-	<ul style="list-style-type: none"> •10/100Mbps LAN Port, RJ-45 •Virtual Storage Port, USB 2.0^{*4} •Serial Console Port, RS-232 •Redundancy Power Port x 2
Cable	KVM Cable (Host)	Video/Mouse/Keyboard: HDB15-pin Male	Video: HDB 15-pin Male Mouse/Keyboard: PS/2
	KVM Cable (PC)	Video: VGA HDB 15-pin Female, Mouse/Keyboard: PS/2	
Operation	Auto Scan Interval (Sec) for Monitoring PC/Server	5 - 99	-
	Hot Plug & Play	■	-
	KVM over IP / LAN	-	■
	Push Button on Device for Port Selection	■	-
	Hotkey for Quick Keyboard Control	Hotkey Control	Hotkey Control/ Hotkey Mapping
	Mouse / Keyboard Emulation	USB & PS/2	USB & PS/2
	Video Resolution	1920 x 1440	1600 x 1200
	OS Support	Windows, Mac OS, Sun Micro System, Unix, Linux, NetWare	
Others	Management	OSD Interface	HTTP/Telnet
	Desktop	-	■
	Rack Mount	■	■
	Dimension, W x D x H (mm)	470 x 190 x 44	190x 110 x 40

Note: 1. SP218D can intermix with SP226D when stacking
 2. The maximum number of PCs in a stack is 64 for SP218D and 128 for SP226D.
 3. SP1200A is compatible with the other brands of KVM switch with PS/2 interface
 4. Virtual Storage port provides user an alternative USB drive to save and access files on the SP1200A, KVM over IP



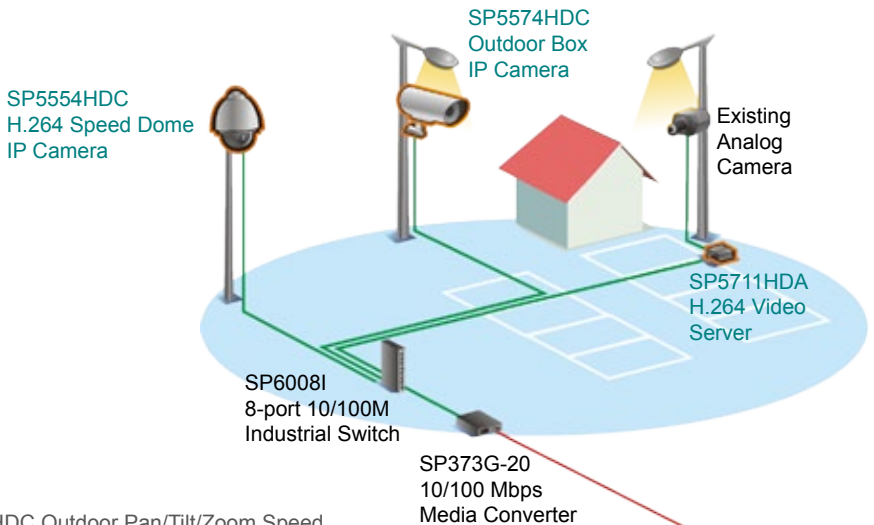
IP Surveillance

Micronet provides total solutions of IP surveillance, with full line of IP cameras including indoor box, outdoor box, fixed dome and speed dome to meet various demands. The Micronet video server integrates existing CCTV analog cameras into the IP network, without sacrificing the existing investment. In addition, the bundled NVR Microview™ allows you to monitor, record and manage IP surveillance equipments effortlessly, achieving lowest TCO (Total Cost of Operation) to build up the intelligent IP surveillance system.

Total Solution for IP Surveillance Demands

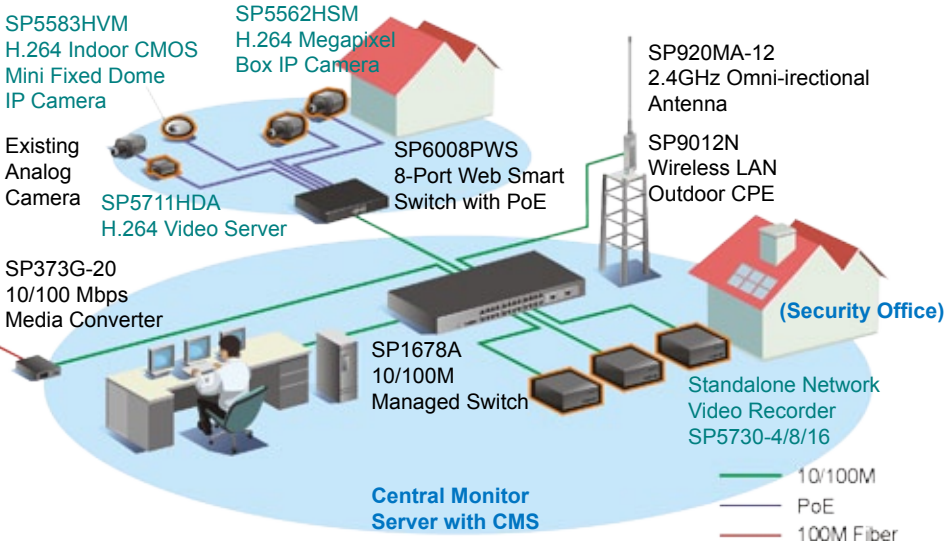
High security protection is a critical issue for those administrative staff when constructing wide area parklands (e.g., hospitals, national parks, public buildings, and public squares). Good surveillance system saves effort on patrol and provides excellent real-time monitoring capability. Micronet IP surveillance products provide professional solution with its high quality, mega-pixel resolution, and advanced H.264 stream compression technique, that is able to meet the most of video monitoring requirement and better

security purpose. In addition, Micronet IP Surveillance products are fully compatible with its camera management software, Microview. Microview can support up to 36 channels monitoring capability, and will help SMB implement video security to reach the goal of TCO (total cost of ownership). Thus, Micronet IP surveillance whole package will help to manage many of distributed properties and provide much better service for human safety control.



SP5554HDC Outdoor Pan/Tilt/Zoom Speed Dome IP Camera is equipped with high-acceleration rate stepping motor and IP66 weather-proof case to achieve accurate and steady monitoring for professional outdoor surveillance applications. SP5554HDC features its sensitivity-enhanced Sony Ex-View CCD sensor and built-in IP illuminator around lens to bring the clearest vision at night. In addition to the cost, SP5554HDC's function-steady PTZ motor makes repairing cost much lower, and further makes professional surveillance implementation affordable.

SP5573HDC Industrial Outdoor Box IP Camera operates perfectly even in the temperature -25~50°C for the demand of harsh working environment. With maximum 80 meters of infrared night view range, SP5573HDC is installed to help national park administrator catch every move of nocturnal animals and take care the living without neglect.



Indoor Box IP Camera



CCD

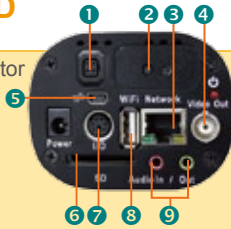
-
- 1 Auto Iris Control Connector
 - 2 RJ-45 Ethernet Port
 - 3 OSD Control
 - 4 BNC Video Out
 - 5 USB Config Port
 - 6 SD/SDHC Card Socket
 - 7 Mini-Din I/O Socket
 - 8 USB Port for Wi-Fi Support
 - 9 Audio Line in/Audio Line Out

Model No. Description		SP5561HDC Indoor Box IP Camera
Sensor & Lens	Image Sensor	1/3" Sharp CCD
	Lens Type	Optional (M610, M611, M612, M613, M614) or CS Mount type Lens
	Minimum Illumination	0.1 Lux
Video & Audio	Compression Format	H.264, M-JPEG, MPEG-4
	Video Streaming	Dual Streams Simultaneously
	Image Resolution	D1, CIF, QCIF
	Frame Rate	30fps (NTSC)/25fps (PAL) @ D1
	Day / Night	■
	Resolution	520 TV Lines
	2-Way Audio	■
System	Audio Compression	ADPCM
	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP, IPv4 SAMBA client (NAS)
	PoE Support	■
	802.11 b/g Wi-Fi Support	External Wi-Fi Adapter
Others	Socket for SD Card	■
	Power Consumption	DC 12V / 1A
	Dimensions	76(W) x 58(H) x 109(D)mm
	Weight	390g

*Lens is not included

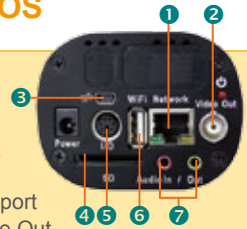
CCD

- 1 Auto Iris Control Connector
- 2 OSD Control
- 3 RJ-45 Ethernet Port
- 4 BNC Video Out
- 5 USB Config Port
- 6 SD/SDHC Card Socket
- 7 Mini-Din I/O Socket
- 8 USB Port for Wi-Fi Support
- 9 Audio Line in/Audio Line Out



CMOS

- 1 RJ-45 Ethernet Port
- 2 BNC Video Out
- 3 USB Config Port
- 4 SD/SDHC Card Socket
- 5 Mini-Din I/O Socket
- 6 USB Port for Wi-Fi Support
- 7 Audio Line in/Audio Line Out



SP5562HWC
Indoor Box IP Camera

1/3" SONY WDR CCD

Optional (M610, M611, M612, M613, M614) or CS Mount Lens

0.012 Lux

SP5561HVM
Indoor Box IP Camera

1/4" Low-light Sensitive CMOS

Optional (M611, M612, M613, M614) or CS Mount Lens

2.0 lux

H.264, M-JPEG, MPEG-4

Dual Streams Simultaneously

D1, CIF, QCIF

30fps (NTSC) /
25fps (PAL) @ D1

Built-in ICR

540 TV Lines



VGA, QVGA, QQVGA

30fps @ VGA

–

640 x 480



ADPCM

TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTP, RTSP,
3GPP, UPnP, IPv4 SAMBA client (NAS)



External Wi-Fi Adapter



DC 12V / 1A

DC 12V / 1A

76(W) x 58(H) x 109(D)mm

390g

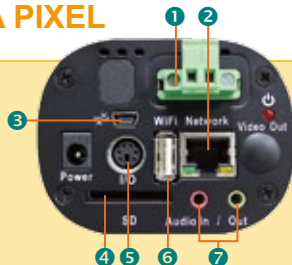
395g

Indoor Box IP Camera



MEGA PIXEL

- 1 Terminal Block
- 2 RJ-45 Ethernet Port
- 3 USB Config Port
- 4 SD Card Socket
- 5 Mini-Din I/O Socket
- 6 USB Port for Wi-Fi Support
- 7 Audio Line in/Audio Line Out



	Model No. Description	SP5562HSM Indoor Box IP Camera	SP5563HTM Indoor Box IP Camera
Sensor & Lens	Image Sensor	1/3" Megapixel CMOS	1/2.7" 1080p CMOS
	Lens Type	Optional (M811, M812, M813, M814) or CS Mount Lens	CS Mount Lens for Megapixel
	Minimum Illumination	2.0 Lux	1.0 lux
Video & Audio	Compression Format	H.264, M-JPEG, MPEG-4	H.264 High Profile, M-JPEG, MPEG-4
	Video Streaming	Dual Streams Simultaneously	Up to 4 independent ROI
	Image Resolution	SXGA, VGA, QVGA, QQVGA	FULL HD, UXGA, SXGA, XGA, HDTV, VGA, QVGA, QQVGA
	Frame Rate	15fps @ SXGA, 30fps @ VGA	30 fps @ 1080p
	Day / Night	Built-in ICR	Built-in ICR
	Resolution	1280x1024	1920 x 1080
	2-Way Audio	■	■
	Audio Compression	ADPCM	ADPCM, AAC
System	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP, IPv4 SAMBA client (NAS)	
	PoE Support	■	■
	802.11 b/g Wi-Fi Support	External Wi-Fi Adapter	
	Socket for SD Card	■	■
Others	Power Consumption	DC 12V / 1A	DC:8~25V, AC:8~25V
	Dimensions	76(W) x 58(H) x 109(D)mm	76(W) x 58(H) x 109(D)mm
	Weight	400g	398g

*Lens is not included

Lens	Model No.	Description
	M612	CS Mount, Fixed Lens for 1/4" sensor, 4mm, F2.0
	M613	CS Mount, Fixed Lens for 1/3" & 1/4" sensor, 6mm, F1.6
	M614	CS Mount, Fixed Lens for 1/3" & 1/4" sensor, 8mm, F1.6
	M813	CS Mount Lens, Fixed, 6mm, F1.6 for Megapixel
	M814	CS Mount Lens, Fixed, 8mm, F1.6 for Megapixel
Bracket	Model No.	Description
	C623	Bracket 130mm, Metal, Max Load 5 kgs, Weight 145g
Wi-Fi Adapter	Model No.	Description
	M807GP	WLAN 11b/g USB Wi-Fi Adapter with Antenna

Fixed Dome IP Camera



CCD



- 1 Vandal-proof Housing
- 2 IR LED
- 3 Power Cord
- 4 RJ-45 Ethernet with LED Indicators

Mini Dome



- 1 RJ-45 Ethernet Cable
- 2 Power Adapter Connector
- 3 Audio Line Out

Model No. Description		SP5581HDC Fixed Dome	SP5583HVM Mini Dome
Sensor & Lens	Image Sensor	1/3" High Res. CCD+, SONY 11X DSP	1/4" Low-Light, Sensitive CMOS
	Lens Type	Vari-focal 3~9mm	Fixed 3.6mm
	Minimum Illumination	0.1 Lux (IR Off), 0 lux (IR On)	2.0 Lux
PTZ	Pan / Tilt	3-Axis Design	90° Pan/10° Tilt adjustable
Video & Audio	Compression Format	H.264, M-JPEG, MPEG-4	H.264, M-JPEG, MPEG-4
	Video Streaming	Dual Streams Simultaneously	Dual Streams Simultaneously
	Image Resolution	D1, CIF, QCIF	VGA, QVGA, QQVGA
	Frame Rate	30fps (NTSC)/ 25fps (PAL) @ D1	30fps @ VGA
	Day / Night	Built-in ICR, IR LED 24 pcs/ 20m	-
	Resolution	520 TV Lines	640 x 480
	2-Way Audio	2-Way (Audio In/ Out)	2-Way (Audio In/ Out)
	Audio Compression	ADPCM	ADPCM
System	Network Protocol	TCP / IP, DHCP, PPPoE, HTTP, DDNS, NTP,FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP, IPv4, SAMBA client (NAS)	TCP / IP, DHCP, PPPoE, HTTP, DDNS, NTP,FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP, IPv4, SAMBA client (NAS)
	PoE Support	■	■
Others	Protection Class	IP66	-
	Power Consumption	DC 12V / 1A	DC12V / 1A
	Dimensions	136 (Ø) × 106 (H) mm	114 (Ø) ×39 (H) mm
	Weight	925g	335g

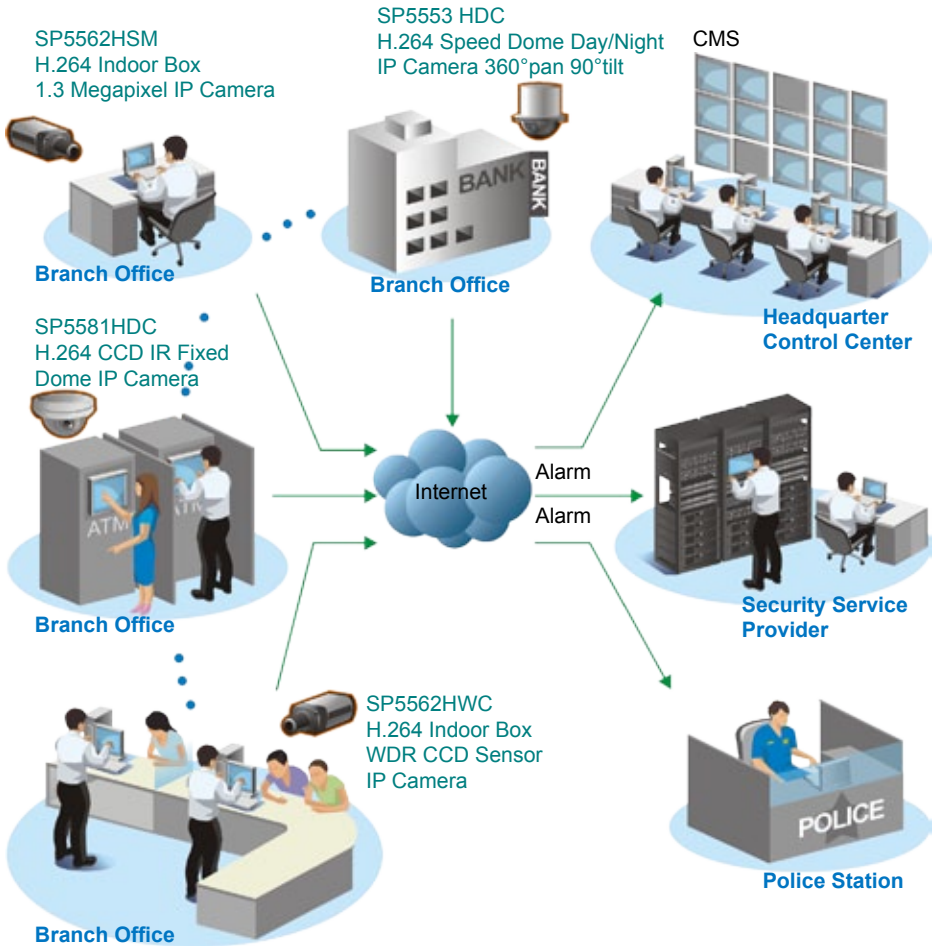
Micronet IP Surveillance Solution

In order to secure customers, staff and the properties of every bank branch, Micronet proudly introduce IP Video Surveillance Solutions for banking industry.

Micronet professional IP cameras benefits of using Megapixel resolution SP5562HSM and SONY WDR sensor SP5562HWC to provide supreme details for important areas like receptions and entrances. With the

support of Micronet NVR systems SP5730, our client can achieve local monitoring and central management at the same time.

Micronet's IP Video Surveillance solution combines IP cameras and NVR systems as a complete package, which allows the best performance at the lowest cost.



Speed Dome IP Camera

IP Surveillance



- ① RJ-45 Ethernet with LED Indicator
- ② Power Cord
- ③ Digital in/Digital Out terminal
- ④ Pan/Tilt/Zoom

Model No. Description		SP5553HDC-18 Speed Dome
Sensor & Lens	Image Sensor	1/4" SONY Ex-view CCD
	Lens Type	Vari-focal 4.1mm~73.8mm, F1.4 to F3.0
	Minimum Illumination	0.01 Lux
PTZ	Pan / Tilt	360° Continuous Pan Rotation / 90° Scan Range / 180° Auto Flip
	Zoom Ratio	18×Optical / 12×Digital
Video & Audio	Compression Format	H.264, M-JPEG, MPEG-4
	Video Streaming	Dual Streams Simultaneously
	Image Resolution	D1, CIF, QCIF
	Frame Rate	30fps (NTSC)/25fps (PAL) @ D1
	Image Setting	Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay
	Horizontal Resolution	480 TV Lines
	Audio Support	2-Way (Audio In/ Out)
System	Audio Compression	Audio In / Out: ADPCM / MP3
	Alarm Input / Output	Digital In × 1 , Digital Out × 1
	Day & Night	Build in IR cut filter
Others	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP
	Protection Class	-
	Power Consumption	DC 12V / 2.50A
	Dimensions	218 (Ø) × 247 (H) mm
	Weight	7kg

CCD



- ① RJ-45 Ethernet with LED Indicator
- ② Power Cord
- ③ Digital in/Digital Out terminal
- ④ Pan/Tilt/Zoom

SP5553HDC-26 Speed Dome	SP5554HDC-18 Speed Dome	SP5554HDC-26 Speed Dome
1/4" SONY Ex-view CCD	1/4" SONY Ex-view CCD	
Vari-focal 3.5mm~91mm F1.6 to F3.8	Vari-focal 4.1mm~73.8mm, F1.4 to F3.0	Vari-focal 3.5mm~91mm F1.6 to F3.8
0.01 Lux	0.01 Lux	
360° Continuous Pan Rotation / 90° Scan Range / 180° Auto Flip	360° Continuous Pan Rotation / 90° Scan Range / 180° Auto Flip	
26×Optical / 12× Digital	18×Optical / 12×Digital	26×Optical / 12× Digital
H.264, M-JPEG, MPEG-4	H.264, M-JPEG, MPEG-4	
Dual Streams Simultaneously	Dual Streams Simultaneously	
D1, CIF, QCIF	D1, CIF, QCIF	
30fps (NTSC)/25fps (PAL) @ D1	30fps (NTSC)/25fps (PAL) @ D1	
Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay	Compression, Contrast, Brightness, Saturation, Hue, and Image Overlay	
480 TV Lines	480 TV Lines	
2-Way (Audio In/ Out)	2-Way (Audio In/ Out)	
Audio In / Out: ADPCM / MP3	Audio In / Out: ADPCM / MP3	
Digital In × 1 , Digital Out × 1	Digital In × 1 , Digital Out × 1	
Build in IR cut filter	Build in IR cut filter	
TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP	
–	IP66	
DC 12V / 2.50A	DC 12V / 2.50A	
218 (Ø) × 247 (H) mm	220 (Ø) × 262 (H) mm	
7kg	7kg	

Bullet IP Camera

MEGA PIXEL



Model No. Description		SP5591HTM Bullet IP Camera
Sensor & Lens	Image Sensor	2 Megapixels CMOS
	Lens Type	Fixed, 6mm, F1.8
	Minimum Illumination	1.5 Lux (IR Off) / 0 Lux (IR On)
Sensor & Lens	Compression Format	H.264 / Motion JPEG
	Video Streaming	Multiple Streams
	Image Resolution	2MP: 1600x1200 HD720:1280x 720 SVGA: 800x600 VGA: 640x480 QVGA: 320x240
	Frame Rate	15fps @ 2MP 30 fps @ HD720/SVGA/VGA/QVGA
	Day / Night	Mechanical IR Cut Filter
	IR LED	Built-in, Range up to 15M
	Audio	■
	Audio Compression	G.711 PCM 8KHz
	Network Protocol	HTTP, HTTPS, TCP/IP, IPv4, UDP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP, Upnp, Bonjour, ARP, ICMP, RTSP, RTP
System	PoE Support	■
	Protection Class	IP66
Others	Power Consumption	8W
	Dimensions	77(W) x 160 (L) x 80 (H) mm
	Weight	820g

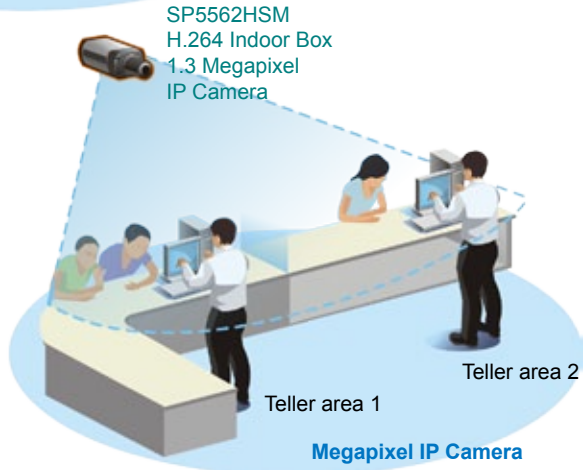
*Lens is not included

Cost Effective Micronet Megapixel Solution

A high resolution IP camera such as Micronet SP5562HSM or SP5591HTM provides so much detail that it covers at least twice the area required by analog CCTV camera. Micronet SP5562HSM can therefore generally replace two conventional cameras.



Micronet SP5562HSM can monitor wider area than conventional cameras at the same time!



Outdoor Box IP Camera



CCD

- 1 Automatic Defogging Glass
- 2 IP66 Die-cast Aluminum Housing
- 3 Super Power IR LEDs
- 4 Built-in Fan/Heater
- 5 Power Cord
- 6 RJ-45 Ethernet with LED indicator
- 7 Line Out audio jack
- 8 Digital In/Digital Out terminal
- 9 Line in audio jack



Model No. Description		SP5572HDC Outdoor Box IP Camera	SP5573HDC Outdoor Box IP Camera
Sensor & Lens	Image Sensor	1/3" SONY SuperHAD WDR CCD	
	Lens Type	Vari-focal 9-22mm, ED	
	Minimum Illumination	0.1 Lux (IR Off) / 0 Lux (IR On)	
Video & Audio	Compression Format	H.264, M-JPEG, MPEG-4	
	Video Streaming	Dual Streams Simultaneously	
	Image Resolution	D1, CIF, QCIF	
	Frame Rate	30fps (NTSC) / 25fps (PAL) @ D1	
	Day / Night	Build in IR LED, Range up to 40M	Build in IR LED, Range up to 80M
	Horizontal Resolution	540 TV Lines	
	Audio Support	2-way (Audio In/ Out)	
	Audio Compression	Audio In: ADPCM / Audio Out: MP3	
	Alarm Input / Output	Digital In × 1 , Digital Out × 1	
System	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP, UDP, RTSP, 3GPP, UPnP, IPv4 SAMBA client (NAS)	
	PoE Support	-	
Others	Protection Class	IP66	
	Power Consumption	AC 24V or 90~240V Power Input : 4A Rating Current	
	Dimensions	120(W) × 115(H) × 215(D) mm	
	Weight	3700g	

CCD



- ① 12pcs high-light LED, 50M IR distance
- ② IP66 Pressure Die-cast Aluminum Housing



- ① 12pcs high-light LED, 35M IR distance
- ② IP66 Pressure Die-cast Aluminum Housing

SP5574HDC
Outdoor Box IP Camera

SP5575HDC
Outdoor Box IP Camera

1/3" SONY SuperHAD CCD

Fixed 25mm

External Adjustable Vari-focal
9-22mm

0.06 Lux (IR Off) / 0 Lux (IR On)

H.264, M-JPEG, MPEG-4

Dual Streams Simultaneously

D1, CIF, QCIF

30fps (NTSC) / 25fps (PAL) @ D1

Build in IR LED, Range up to 50M

Build in IR LED, Range up to 35M

520 TV Lines

2-way (Audio In/ Out)

Audio In: ADPCM / Audio Out: MP3

Digital In × 1 , Digital Out × 1

TCP/IP, DHCP, PPPoE, HTTP, DDNS, NTP, FTP, SMTP,
UDP, RTSP, 3GPP, UPnP, IPv4 SAMBA client (NAS)



IP66

12V DC 1.25A

12V DC 1.25A

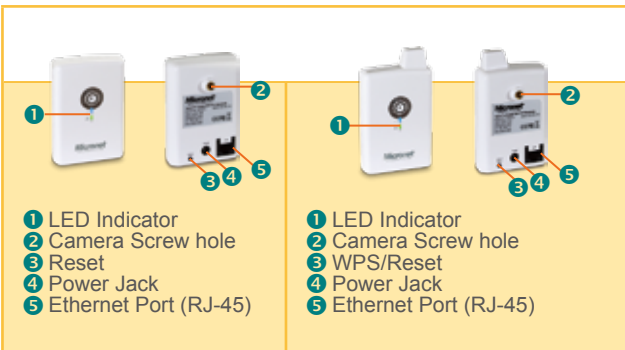
90Ø(W) x 109 (H) x 257 (L) mm

133(W) x 99 (H) x 250 (L) mm

1900g

2500g

Home/SOHO IP Camera

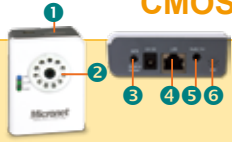


- 1 LED Indicator
- 2 Camera Screw hole
- 3 Reset
- 4 Power Jack
- 5 Ethernet Port (RJ-45)

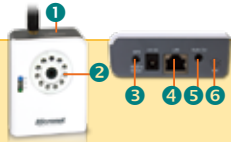
- 1 LED Indicator
- 2 Camera Screw hole
- 3 WPS/Reset
- 4 Power Jack
- 5 Ethernet Port (RJ-45)

Model No. Description		SP5512 Home/SOHO IP Camera	SP5512W Home/SOHO IP Camera
Sensor & Lens	Image Sensor	1/4" CMOS	1/4" CMOS
	Lens Type	2.83mm, F2.8, Fixed Lens	
	Minimum Illumination	1.3 Lux	1.3 Lux
Video & Audio	Compression Format	M-JPEG, MPEG-4	
	Video Streaming	Dual Streams Simultaneously	
	Image Resolution	VGA	VGA
	Frame Rate	30 fps @ VGA	30 fps @ VGA
	Day / Night	-	-
	Audio Support	-	-
System	Wireless LAN	-	802.11 b/g/n
	Network Protocol	TCP/IP, DHCP, PPPoE, HTTP, DDNS, 3GPP, UPnP, IPv4	
	PoE Support	-	-
Others	iPhone Supportt	■	■
	Power Consumption	DC 5V, 1A	DC 5V, 1A
	Dimensions	64 x 95 x 30 mm	64 x 110 x 30 mm
	Weight	95g	85g

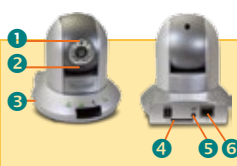
CMOS



- 1 SD Card Slot
- 2 IR LED
- 3 Reset
- 4 Ethernet Port (RJ-45)
- 5 Audio-out Connector
- 6 Microphone



- 1 SD Card Slot
- 2 IR LED
- 3 WPS/Reset
- 4 Ethernet Port (RJ-45)
- 5 Audio-out Connector
- 6 Microphone



- 1 IR LED
- 2 Microphone
- 3 Reset
- 4 SD Card Slot
- 5 Audio-out Connector
- 6 Ethernet Port (RJ-45)



- 1 IR LED
- 2 Microphone
- 3 SD Card Slot
- 4 WPS/Reset
- 5 Audio-out Connector
- 6 Ethernet Port (RJ-45)

Standalone Network Video Recorder



Standalone Network Video Recorder
Model No. SP5720

Micronet SP5720 Standalone Network Video Recorder is a hard disk recording device with Standalone Network Video Recording software to perform recording and playback video from IP cameras. Each SP5720 Standalone Network Video Recorder can manage up to 4 IP cameras.

Using a web browser on a PC connected to a LAN or internet to operate the SP5720 Standalone Network Video Recorder. Recorded video can be played back from remote site (PC, handset, PDA). Up to 4 PCs (web browsers) can access this unit concurrently.

SP5720 Standalone Network Video Recorder is compatible with most major brand cameras and its ability to automatically search and find the available cameras on the network can greatly reduce the user effort when expanding the system.

SP5720
Standalone Network
Video Recorder



MicroView™ 36 channel Network Video Recording Software

Micronet IP Surveillance solution comes with the professional 36CH camera management software which allows a single PC to manage up to 36 IP cameras and video servers. The software includes real time video monitoring, recording, playback and event alert management functionalities. Besides, it supports multiple screen monitors and eMap management. This makes customers enjoy lower TCO to implement surveillance system.





Standalone Network Video Recorder

Model No. SP5730-4/8/16

Micronet SP5730 Standalone Network Video Recorder (NVR) is a hard disk recording device with Central Management Software (CMS) to perform video recording and playback from IP cameras.

SP5730 Standalone Network Video Recorder comes in three models SP5730-4, SP5730-8 and SP5730-16 managing up to 4, 8 and 16 cameras respectively. The Central Management Software (CMS) can manage up to 16 Micronet SP5730 Network Video Recorder, thus up to 256 IP cameras can be easily monitored through the internet by a web browser

on a PC. SP5730 Standalone Network Video Recorder is compatible with most major brand cameras; support multiple languages and uses "Micronet Smart camera Search" tool, to easily setup the available cameras on the network hence making future expanding effortless.

SDK

Software Development Kit

Micronet provides Software Development Kit for 3rd party to develop software to work with Micronet IP camera. With high compatibility and scalability, Micronet Software Development Kit efficiently reduces the integration cost and effort, allowing users to easily integrate Micronet IP Cameras with CGI, ActiveX, DLLS, static and dynamic libraries on Windows and Linux OS. Sample code is provided to present straightforward user experience.



Video Server



H.264/ MPEG-4/ M-JPEG



- 1 10/100 Ethernet Port
- 2 USB Config Port
- 3 BNC Video Input
- 4 RS-485 PTZ Camera Control

- 1 Audio Line In/Out
- 2 Mini-Din I/O Socket
- 3 USB Config Port
- 4 USB Host Wi-Fi Support

	Model No. Description	SP5711HD 1CH Video Server	SP5711HDA 1CH Video Server with Audio
Video & Audio	Video Input	1CH, NTSC / PAL, BNC Connector	
	Image Resolution	D1, CIF, QCIF	
	Compression Format	H.264, M-JPEG, MPEG-4	
	Frame Rate	30fps (NTSC) / 25fps (PAL) @ D1 Resolution	
System	Audio Support	–	2-Way
	Network Protocol	TCP / IP, DHCP, PPPoE, HTTP, DDNS, NTP,FTP, SMTP, UDP, RTP, RTSP, 3GPP, UPnP	
	802.11b/g Wi-Fi Support	–	USB Port for External Wi-Fi Adapter
	Pan / Tilt / Zoom Protocols	Pelcop, PelcoD, DynaColor, Merit_Lilin, Visca, Transparent	
	Network Connector	RJ-45 Ethernet 10Base / 100Base TX	
	Serial Connector	RS-485	
	Alarm Input / Output	–	Digital In × 1, Digital Out × 1
	Alarm Events	File / Clip Upload via FTP and Email, Notification via Email, External Output Activation	
	Alarm Trigger	Periodic Timer, Motion Detection, Video Loss, Power Loss, Network Loss	
	Video Buffer	Up to 10 sec	
Mechanical	Motion Detection	3 x 3 Configurable Areas	
	Power Consumption	DC 12V / 1A	DC 12V / 1A
	Dimension	61(W) × 31(H) ×70(D) mm	
	Weight	170g	170g
	Housing	Robust Aluminum Mechanical Design	



C530 1U/ 19" rack mount kit for SP59XX capacity: 6 units



Print Server

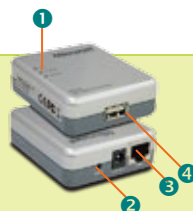
In printing product field, multifunctional printers have been evolving a lot in the last couple of years. Multifunctional printers with copier and scanner offer a powerful combination of functionality and compactness. These innovations are great for small businesses or home-based offices that cannot afford to buy separate printers, copiers and scanners for their daily requirements. Multifunctional print server can optimize the benefit by sharing multifunction printer to all network users.

Micronet is committed to improving print server on stability and compatibility. Our new multifunctional print server, SP781W, is fully compatible with the top 5 multifunction printers in the market. Furthermore, Micronet will continue to release new products to fulfil the need for network resource sharing.

Print Server



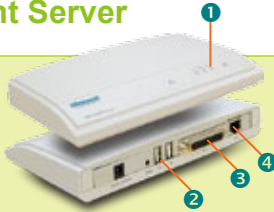
Print Server



- ① LED Indicator
- ② Reset Button
- ③ 10/100M RJ-45 LAN Port
- ④ USB Printer Port

Model No. Description	SP756 1U Print Server	
Wifi	IEEE 802.11b/g and IEEE 802.11n Compliant	
Interface	10/100Mbps LAN Port, RJ-45	■
	USB Printer Port (USB 2.0)	1
	Parallel Printer Port	—
	Antenna Connector Type	—
	Reset Button	■
Function	Scan	—
	Print	■
	Memory Card Reader	—
	Fax	—
OS Support	MFP Print Server OS Support	—
	Print Server OS Support	Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux/Unix
Printing Mode	LPR Printing	Unix
	IPP Printing	Windows 2000/XP/Vista/7, Linux/Unix
	Raw Printing	Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux
	Unix Logical Printing	Unix
Protocol	TCP/IP	■
	IPX/SPX	■
	NetBEUI	■
	Apple Talk	■
Others	Web-based Management	■
	Utility	■
	Power	DC 7.5V, 0.5A

Print Server



- 1 LED Indicator
- 2 USB Printer Port
- 3 Parallel Printer Port
- 4 10/100M RJ-45 LAN Port



- 1 LED Indicator
- 2 Reset Button
- 3 10/100M RJ-45 LAN Port
- 4 Detachable Antenna (R/SMA)

Print Server

SP766
2U1P Print Server

SP781W
Wireless MFP Print Server

–	■
■	■
2	1
1	–
–	R/SMA x 1
■	■
–	■
■	■
–	■
–	■
–	■
–	■
Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux/Unix	
Unix	
Windows 2000/XP/Vista/7, Linux/Unix	
Windows 2000/XP/Vista/7, MAC OS 9.x above, Linux	
Unix	
■	■
■	■
■	■
■	■
■	■
■	■
■	■
DC 12V, 1A	DC 5V, 1A

Networking Printers for Efficient Resource Sharing in Office Environment

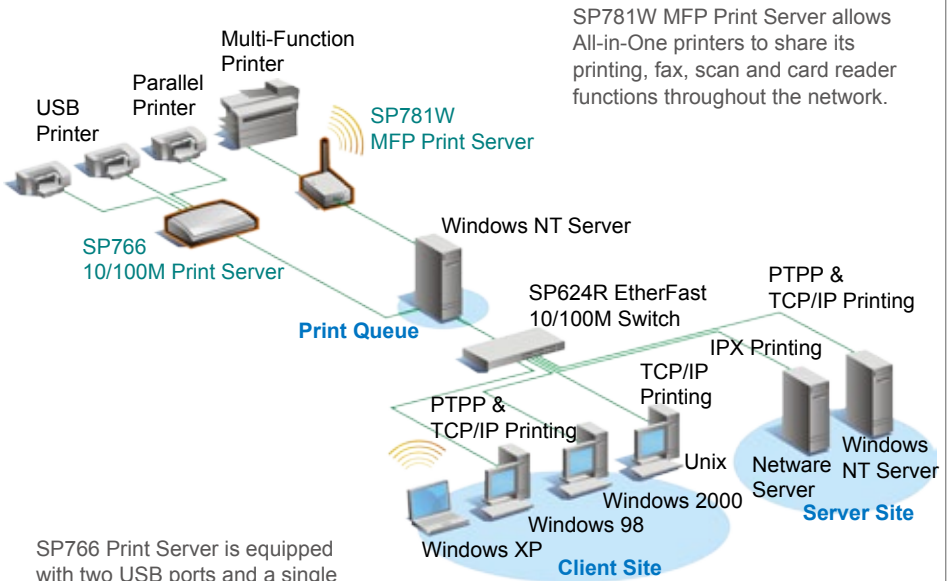
Network printing has become essential for office network infrastructures to improve the efficiency of working environments. The optimal print server solution needs to adapt to all common client-server operating systems.

Micronet's print servers are designed to be compatible with all major OS: Windows NT/95/98/2000/XP/Vista/7/ Unix/Linux, MAC OS & NetWare. Furthermore, the print servers will accept various networking protocols

of different OS: TCP/IP, IPX/SPX, NetBEUI and AppleTalk.

The diagram below shows a network with multiple print servers in an office environment. By installing PTPP (Peer-to-Peer Printing) driver into Windows Servers, advanced features (such as print queue and user management) become available to enhance the management of network printing.

By implementing Micronet Print Servers in the office networks, printers can be shared by different departments efficiently. People can print at any location in the office to any destination printer.



SP766 Print Server is equipped with two USB ports and a single parallel port to allow multiple printers to be accessed.



Structured Cabling

Ethernet networks have penetrated deeply metropolitan area for over ten years. Now is the time to extend it to reach rural areas. Considering the long distance and wide area, fiber cable is the right solution to disperse networks with stability and cost effectiveness. Micronet new structured cabling products use high quality Coring Optical Fiber to deliver optimized capability and flexibility in long-term performance.

Bulk Cable



UTP Cable



Model No. Description		SP1101E UTP Cat.5e Cable	SP1101S UTP Cat.6 Cable
Structure	Category	Cat.5e	Cat.6
	Cable Type	UTP	UTP
	Conductor Type	Solid	Solid
	Number of Twist Pair	4	4
AWG (American Wire Gauge) Number		24	24
Standard	Fire Retardant Grade	75°C	75°C
	Wiring Standard*1	TIA/EIA-568B.2	TIA/EIA-568B.2-1
	Length (Meter)	100/305 ⁻²	100/305 ⁻³
	Certification	E142890/UL	E142890/UL

Patch Cord



UTP Patch Cable



Model No. Description		SP1102E UTP Cat.5e Patch Cable	SP1102S UTP Cat.6 Patch Cable
Structure	Category	Cat.5e	Cat.6
	Cable Type	UTP	UTP
	Conductor Type	Stranded	Stranded
	Number of Twist Pair	4	4
AWG (American Wire Gauge) Number		24	24
Standard	Fire Retardant Grade	75°C	75°C
	Wiring Standard*1	TIA/EIA-568B.2	TIA/EIA-568B.2-1
	Length (Meter)	1/2/3/5/10/20/30 ^{4,5}	
	Certification	E142890/UL	E142890/UL

FTP Cable



SP1101T UTP Cat.6A Cable	SP1103E FTP Cat.5e Cable	SP1103S FTP Cat.6 Cable	SP1103T FTP Cat.6A Cable
Cat.6A	Cat.5e	Cat.6	Cat.6A
UTP	FTP	FTP	FTP
Solid	Solid	Solid	Solid
4	4	4	4
23	24	23	23
75°C	75°C	75°C	75°C
TIA/EIA-568B.2-1	TIA/EIA-568B.2	TIA/EIA-568B.2-1	TIA/EIA-568B.2-1
100/305 ³	100/305 ⁶	100/305 ⁷	100/305 ⁷
E142890/UL	E142890/UL	E142890/UL	E142890/UL

- Note:
1. TIA/EIA-568B.2-1 is the appendix of TIA/EIA-568B
The standard rules Cat.6 wiring system must be backward compatible with Cat.3, Cat.5 and Cat.5e cables
 2. SP1101E-100/305 : UTP Cat.5E Cable, 100/305 Meters
 3. SP1101S-100/305 : UTP Cat.6 Cable, 100/305 Meters
 4. SP1101T-305 : UTP Cat.6A Cable, 305 Meters
 5. SP1102E-1/3/5 : UTP Cat.5E Patch Cable, 1/3/5 Meters
 6. SP1102S-1/3/5 : UTP Cat.6 Patch Cable, 1/3/5 Meters
 7. SP1103E-100/305 : FTP Cat.5E Cable, 100/305 Meters
 8. SP1103S-100/305 : FTP Cat.6 Cable, 100/305 Meters
 9. SP1103T-305 : FTP Cat.6A Cable, 305 Meters

Patch Panel & Wall Socket



Cat.5e Patch Panel



Model No. Description		SP1161 24-Port Patch Panel	SP1164 24-Port Patch Panel
Structure	Cable Type	UTP	FTP
	Type	Cat. 5e	Cat. 5e
	Jack	Phosphor Bronze with 50 Micro-inch Nickel Plated Contact Area: Min. 30 Micro-inch Gold Plated	
	Terminal Block	110 & Krone Tool Compatible Used for 22-26 AWS Stranded and Solid Wire Phosphor Bronze with 50 Micro-inch Tin-lead Plated over 50-60 Micron-inch Nickel Plated	
	Jack Bracket Set	ABS+PC, UL94V-0	ABS+PC, UL94V-0
	Dimension, W x D x H (mm)	43 x 483 x 52	88 x 483 x 52

Patch Panel & Wall Socket



Cat.5e Wall Socket



Model No. Description		SP1162A-1 Cat. 5e Wall Socket	SP1162A Cat. 5e Wall Socket
Structure	Port Number	1	2
	Jack	Phosphor Bronze with 50 Micro-inch Nickel Plated Contact Area: Min. 30 Micro-inch Gold Plated	
	Terminal Block	110 & Krone Tool Compatible Used for 22-26 AWS Stranded and Solid Wire Phosphor Bronze with 50 Micro-inch Tin-lead Plated over 50-60 Micron-inch Nickel Plated	
	Jack Bracket Set	ABS+PC, UL94V-0	
	Dimension, W x D x H (mm)	80 x 80 x 37	

Cat.6 Patch Panel



SP1161S 24-Port Patch Panel	SP1164S 24-Port Patch Panel
UTP	FTP
Cat. 6	Cat. 6
Phosphor Bronze with 50 Micro-inch Nickel Plated Contact Area: Min. 30 Micro-inch Gold Plated	
110 & Krone Tool Compatible Used for 22-26 AWS Stranded and Solid Wire Phosphor Bronze with 50 Micro-inch Tin-lead Plated over 50-60 Micron-inch Nickel Plated	
ABS+PC, UL94V-0	
43 x 483 x 52	88 x 483 x 52

Cat.6 Wall Socket



SP1162S-1 Cat. 6 Wall Socket	SP1162S-2 Cat. 6 Wall Socket
1	2
Phosphor Bronze with 50 Micro-inch Nickel Plated Contact Area: Min. 30 Micro-inch Gold Plated	
110 & Krone Tool Compatible Used for 22-26 AWS Stranded and Solid Wire Phosphor Bronze with 50 Micro-inch Tin-lead Plated over 50-60 Micron-inch Nickel Plated	
ABS+PC, UL94V-0	
80 x 80 x 37	

Fiber-Optic Cable



Multimode	Single-mode
<p>1 Multimode Fiber</p> <p>2 Multimode SC Connector</p>	<p>1 Single-mode Fiber</p> <p>2 Single-mode SC Connector</p> <p>3 Single-mode LC Connector</p>

Model No. Description		SP1105A/SP1106A/SP1107A Multimode Fiber Patch Cord	SP1105B/SP1106B/SP1107B Single Mode Fiber Patch Cord
Structure	Cable Type	Multimode, Zipcord	Single Mode, Zipcord
	Diameter (Core/Cladding)	62.5/125 um	9/125 um
	Connector	SC-SC / SC-LC / LC-LC	
	Cable Length (Meter)	By Order	
	Color of Jacket	Orange	Yellow
Property	Operating Wavelength	850nm / 1310 nm	1310 nm / 1550 nm
	Maximum Fiber Attenuation (dB/km)	≤ 3.5 (850 nm) ≤ 1.5 (1310 nm)	0.33~0.35 (1310 nm) 0.19~0.20 (1550 nm)
	Eccentricity of Curvature(um)	< 50	



NIC & Powerline Product

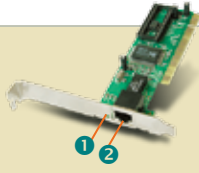
Micronet provides a full range of cost-effective and reliable network adapters to accomplish the quality of network linkage, ranging from the Fast Ethernet adapter to Gigabit adapter. Besides, Micronet also provides Powerline Products for digital home solution. Powerline Bridge can completely solve the problem of wireless dead spots, and construct network without annoying network wires and cables.

The Powerline Bridge can turn existing electrical wiring into a network and connect all divided wired/wireless network together. Through HomePlug AV technology, the Powerline Bridge provides high data rate up to 200Mbps to deliver real-time audio/video streaming for digital home entertainment, such as IPTV, online gaming, etc.

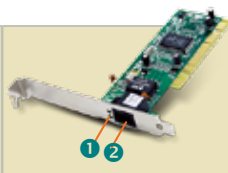
Network Adapter



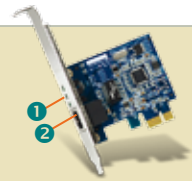
Network Interface Adapter



- ① LED Indicator
- ② RJ-45 Port



- ① LED Indicator
- ② RJ-45 Port



- ① LED Indicator
- ② RJ-45 Port

Model No. Description		SP2500RS 10/100M Ethernet Adater	SP2612R Gigabit Ethernet Adapter	SP2612E Gigabit Ethernet Adapter
Standard	IEEE 802.3, IEEE802.3u	■	■	■
	IEEE 802.3ab	-	■	■
	IEEE 802.3x (Full Duplex Flow Control)	■	■	■
Hardware	Bus Type	32-bit PCI	32-bit PCI	PCI Express
	10/100Mbps LAN Port, RJ-45	■	-	-
	10/100/1000Mbps LAN Port, RJ-45	-	■	■
	Data Rate	10/100M, Auto-Negotiation	10/100/1000M, Auto-Negotiation	
	BootROM Socket	■	-	-
Soft-ware	Driver Support	Windows 2000/XP/ Vista/7, Linux, SCO Unix, Mac OS	Windows 2000/XP/ Vista/7, Linux	Windows 2000/XP/ Vista/7

Powerline Bridge



Network Interface Adapter



- 1 LED Indicator
- 2 Power Plug
- 3 10/100M RJ-45 Port



- 1 LED Indicator
- 2 Power Plug
- 3 10/100M RJ-45 Port

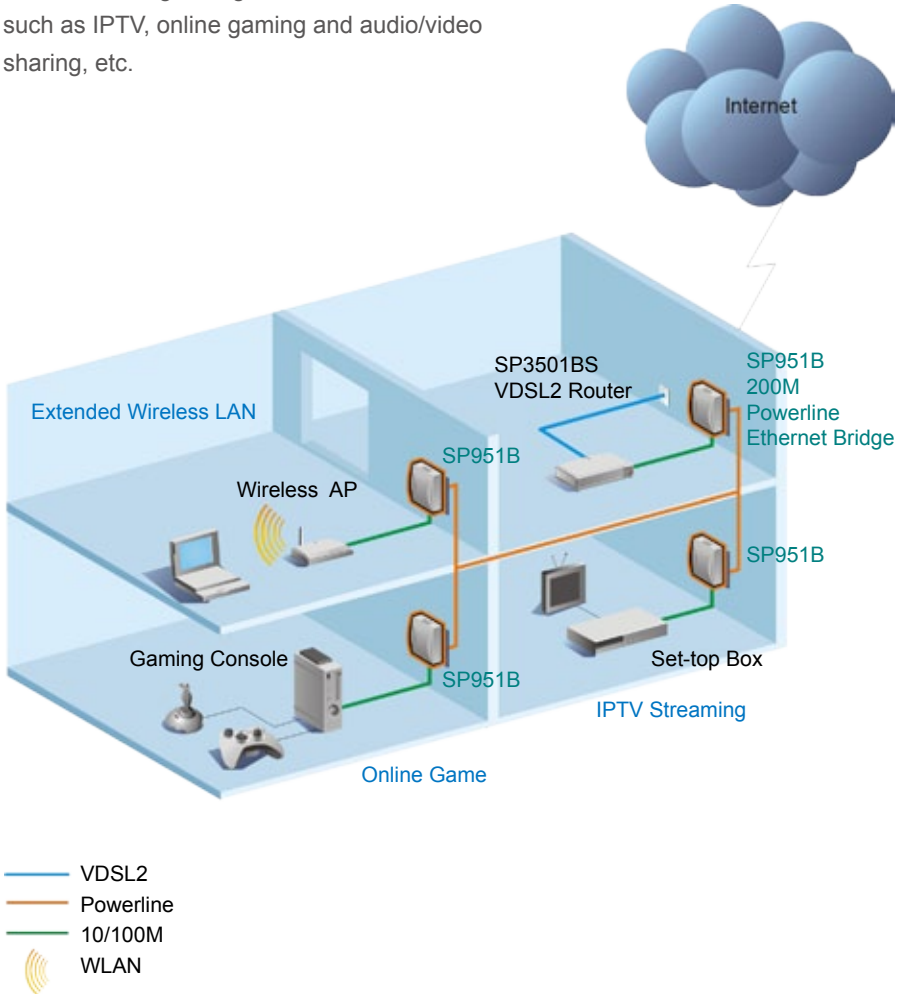
NIC & Powerline Product

Model No. Description		SP951A 85M Powerline Ethernet Bridge	SP951B 200M Powerline Ethernet Bridge
Std	IEEE 802.3, IEEE802.3u	–	■
	HomePlug 1.0 Compliance	■	–
Powerline	Modulation	OFDM (QAM 16/64/256, DBPSK, DQPSK)	OFDM (QAM 8/16/64/256/1024, QPSK, BPSK, ROBO)
	Frequency Band	4.3 - 20.9MHz	2 - 28MHz (with Mask)
	Data Rate	85Mbps	200Mbps
	Max. Distance (between Nodes)	300 Meters	300 Meters
	Max. Node (per Network)	16	64
	Security	56-bit DES Encryption	128-bit AES Encryption
QoS	CoS / ToS Packet Classifier	–	■
	CSMA/CA Priority-based Access	–	4 Priority Levels
	TDMA Contention-free Access for Digital Video	10/100M	Guaranteed Bandwidth, High Reliability Tight Control of Latency and Jitter
Others	Multicasting	10/100M	IPv4: IGMP v1/v2/v3 Snooping IPv6: MDL v1/v2 Snooping
	OS Support for Utility	Window 98SE/Me/NT/2000/XP/Vista/7, MAC OS, Linux	
	Power	AC 100 - 240V, 50/60Hz	
	Dimension, W x D x H (mm)	96 x 69 x 29	96 x 69 x 29

Note: No breaker is allowed between any two powerline nodes.

Network Home PCs via Existing Powerline

SP951B Powerline Ethernet Bridges turn existing electrical wiring into a network and connect all divided wired/wireless networks together. With HomePlug AV technology, SP951B provides high data rate up to 200Mbps to deliver real-time audio/video streaming for digital home entertainment, such as IPTV, online gaming and audio/video sharing, etc.



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Global Service and Support

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