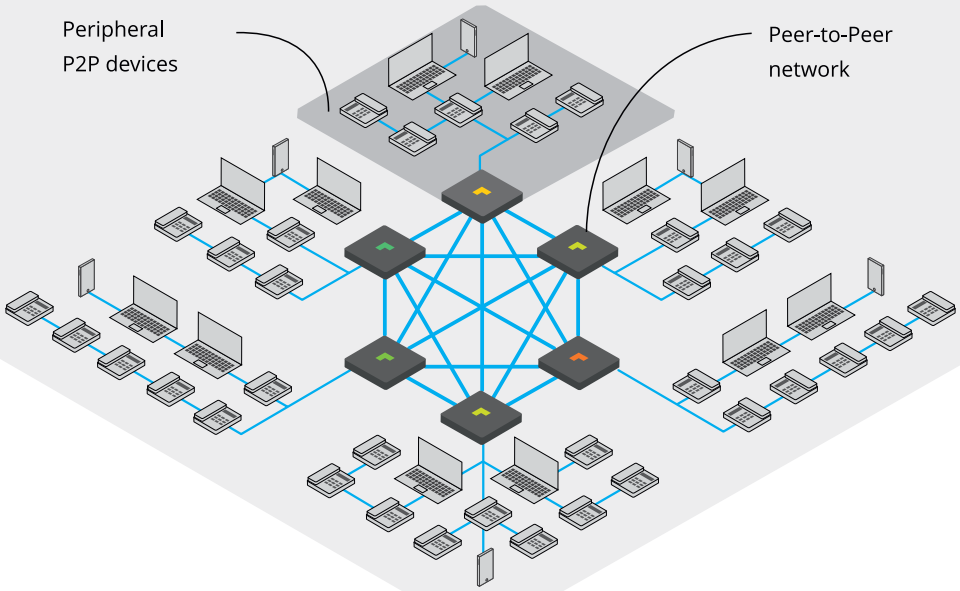
SYMWAY

P2P Unified Communications System

Product Catalog
June 2018

A simplified scheme of peer-to-peer architecture



Technology Overview

ЛИНТЕХ

Moscow R&D company founded in 1990 with a richhistory of development and implementation of large-scale innovative projects.

SYMWAY

Subsidiary of J SC Lintech™, a resident of Skolkovo, the brand of the Peer-to-Peer Unified Communications System.

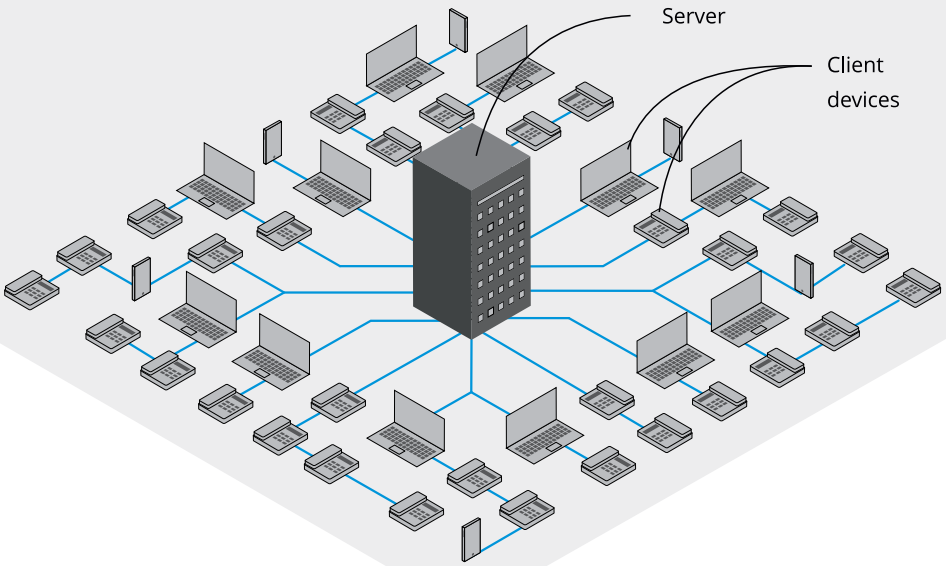
The Russian company JSC Lintech™ has developed a fundamentally new concept of corporate telephony and unified communications. The technology is called the Unified Peer-to-Peer Communications Network Symway™.

Hardware and software offered by Lintech™ under the registered Symway™ trademark provides the ability to build up modern unified communications networks: a functionally developed and business-oriented enterprise telephony, video, conference, videoconference, presence status, messaging, etc. Symway™, in contrast to products offered by leading industry vendors and solutions based on the principles of client-server architecture, is the world's first solution based on the principles of peer-to-peer (P2P) architecture.

The unifed communications in this case is a peer-to-peer network, each peer of which (devices and Symway™ software) provides it's resources for use by other peers and, in turn, is able to use the resources of any other peer of the network.

The table on the right shows the main advantages of the peer-to-peer architecture in comparison with the client-server.

Simplified scheme of client-server architecture



Comparison table

Criteria	Client-server	Peer-to-Peer architecture
System scalability	The maximum number of users is limited by the server resources.	No restrictions on the number of subscribers of the system. Practically infinite increase in the number of peers of the system. The absence of a central device that acts as a server.
Obsolescence of equipment	The need for a complete replacement of equipment to a more perfect one.	No need to completely replace the equipment. The system is expanded by adding the necessary peers, carrying a new functionality and the ability to connect new subscribers. The term of obsolescence of equipment equals the period of its physical wear.
Fault tolerance	Server failure - the whole system is disabled	No server. Failure of the whole system is impossible - there is no single point of failure. If one (or several) peers of the peer-to-peer network fails, the system remains functional. The failure point is the network peer to which a certain number of subscribers are connected.
Functional integrity	Only within the same system. Combining multiple peers into a single functional space is not possible.	All system services are available to any subscriber of any peer of peer-to-peer network.
Efficiency of investments along the growth of the company	The limit of the capabilities of the existing system along with the growth of the company leads to the need for its complete replacement.	The company invests in the communication system with the proportion to its growth. The equipment already purchased is not decommissioned at any stage of the company's growth. Expanding the capabilities of the unified communications system is done by adding new peers of the network.

Disadvantages of client-server architecture

The complexity of scaling the system, which for small and medium businesses means the need at the stage of selecting and acquiring a unified communications system (in the simplest case, PBX), initially to set down an excessive capacity of the server platform (for example, to buy a more powerful PBX than is currently needed) in terms of increase of the number of employees in the future. This, in turn, requires additional and inefficient investments for a potential perspective already at the initial stage of the implementation of the system. A significant increase in the number of customers of the system, exceeding the capabilities of the previously acquired platform, leads to the prospect of its complete replacement by a more powerful one with the loss of already invested funds.

Disadvantages of client-server architecture

Large business, state structures and telecom operators are currently using the method of combining territorially distributed PBXs into a single number plan along the route directions, using the classic phone signaling or proprietary protocols of the producers. At the same time, only one goal is achieved - in fact, a single number plan. The client can use the rich functionality of modern switching systems only within the framework of the PBX to which it is connected, but not within the system as a whole.

Disadvantages of client-server architecture

The reliability of the system is determined by the functional capability and availability of the central server: failures of equipment, server software or linking communication environment lead to problems in the entire system, up to the complete loss of its functional capability. Solving this problem requires additional investments to reserve its key components and for the staff of highly qualified specialists capable of maintaining the continuity of its operation.

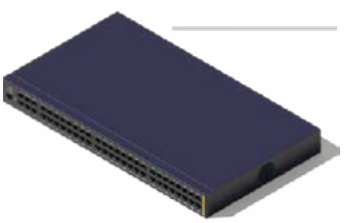
Resume

Thus, client-server systems have only one advantage over peer-to-peer systems - the relative simplicity of their development. Peer-to-peer unified communications system Symway™ is differed by an extremely high complexity of debelopment, but as a result, it can provide customers with previously unattainable investment efficiency, flexibility and functionality.

Optional capacity and functionality by port types of Unified Communications System is provided by simply acquiring the required number of peer-to-peer PBXs with the required parameters and including them into a single routed IP-network. Symway™ is able to meet the requirements for communications of businesses of any scale, public corporations and telecom operators.

Peer-to-peer PBX

At the moment, the following equipment has been developed, manufactured and started to be implemented:

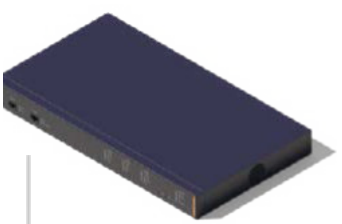


Symway™ Hybrid SE1603 is a hybrid peer-to-peer PBX. One device provides connection of 12FXO/48FXS/100SIP channels;

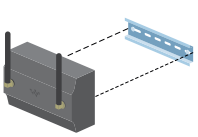
Symway™ Hybrid SZ1828 is a hybrid peer-to-peer PBX. Connection of 4FXO/2FXS/100SIP channels.

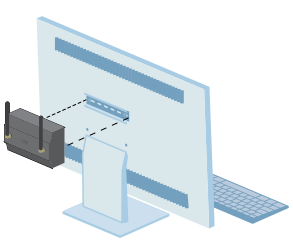
Symway™ Hybrid SZ1900 GSM is a hybrid peer-to-peer PBX with GSM trunks. Connection of 4FXO/2GSM/100SIP channels.

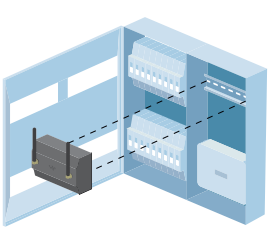
Symway™ Hybrid SZ1900 E1 is a hybrid peer-to-peer PBX. Connection of 4E1/100SIP channels;



Symway™ Hybrid KH1603 is a hybrid peer-to-peer PBX. Connect up to 800 SIP subscribers (clients).







Mounting options

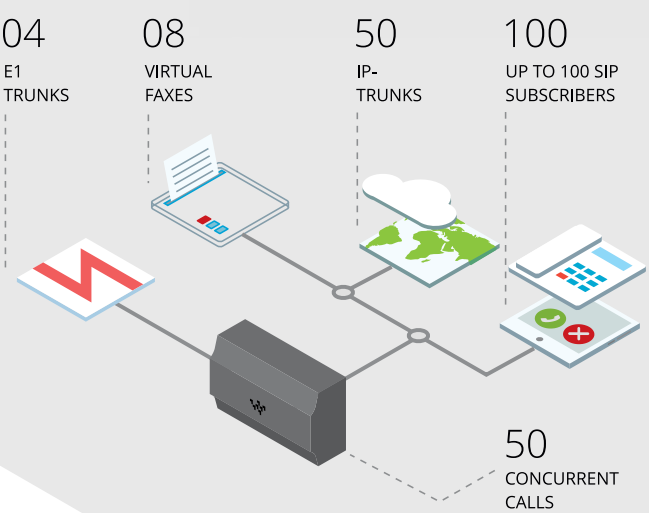
Peer-to-Peer PBX Hybrid SZ1828, SZ1900 GSM and SZ1900 E1 are designed for mounting on a DIN-rail, any flat surface, on the VESA mount on the back of the monitor.

Hybrid SE1603 and Hybrid KH1603 are made in the form factor 1U and are designed for mounting in 19-inch racks, communication or server cabinets.

Hybrid SZ1900 E1

Specifications

peer of Symway™ network
hybrid PBX
gateway E1



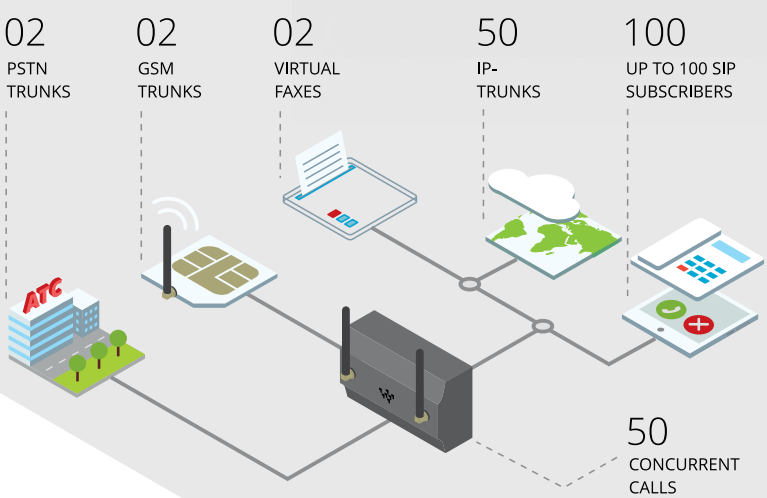
Symway™ Hybrid SZ1900 E1 is a hybrid peer-to-peer PBX that provides connection over E1 trunks. Designed for large businesses, government agencies and telecom operators.

Device Scaling	Unlimited. Symway™ devices form a single network of unified communications.
Network	Ethernet 10Base-T/100Base-TX Static IP, DHCP QoS
Protocols	SIP (RFC3261), IAX2
Transport	UDP, TCP, TLS
Codecs	G.711, G.729, GSM, G.722, iLBC, Speex, Opus
Call record	Yes
Fax	T.30, T.38
Dimensions, mm	144x88x56
Weight, g	270
Power Supply	PoE IEEE 802.3af
Control	Web administration within the entire Symway™ SNMP cluster

Hybrid SZ1900 GSM

Specifications

peer of Symway™ network
hybrid PBX
gateway GSM/FXO



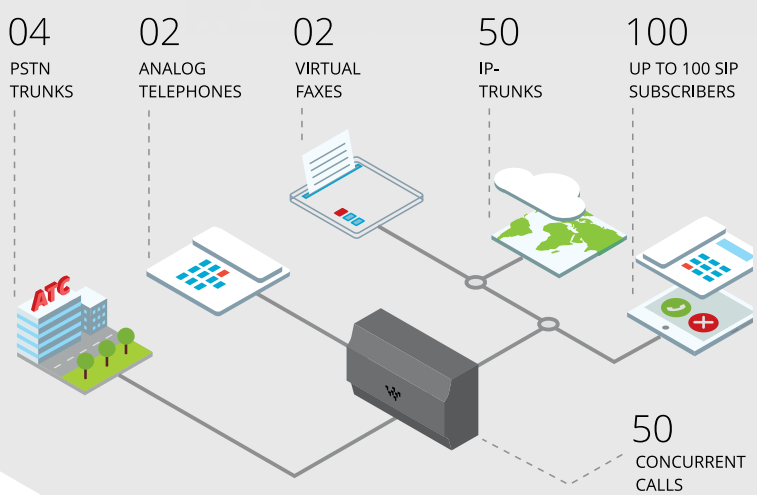
Symway™ Hybrid SZ1900 GSM is a hybrid peer-to-peer PBX with two GSM trunks. Designed for small businesses or branches of large companies.

Device Scaling	Unlimited. Symway™ devices form a single network of unified communications.
Network	Ethernet 10Base-T/100Base-TX Static IP, DHCP QoS
Protocols	SIP (RFC3261), IAX2
Transport	UDP, TCP, TLS
Codecs	G.711, G.729, GSM, G.722, iLBC, Speex, Opus
Call record	Yes
Fax	T.30, T.38
Dimensions, mm	144x88x80
Weight, g	300
Power Supply	PoE IEEE 802.3af
Control	Web administration within the entire Symway™ SNMP cluster

Hybrid SE1828

Specifications

peer of Symway™ network
hybrid PBX
gateway FXO/FXS



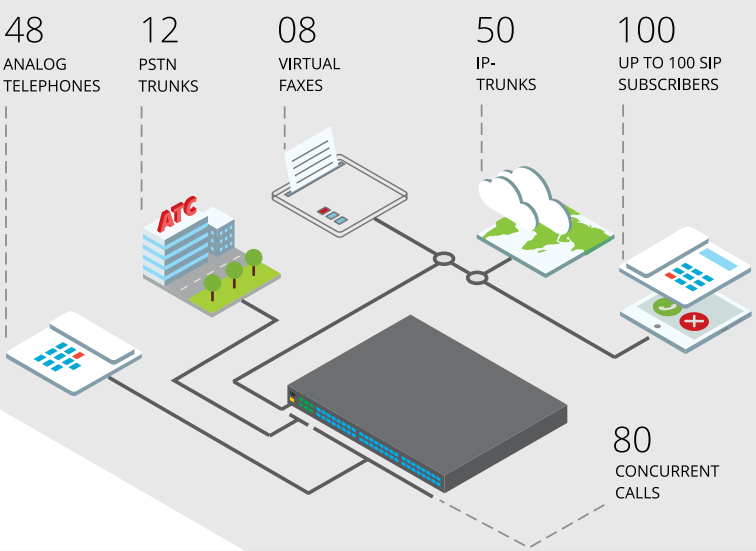
Symway™ Hybrid SZ1828 is a hybrid peer-to-peer PBX. Designed for small businesses or branches of large companies.

Device Scaling	Unlimited. Symway™ devices form a single network of unified communications.
Network	Ethernet 10Base-T/100Base-TX Static IP, DHCP QoS
Protocols	SIP (RFC3261), IAX2
Transport	UDP, TCP, TLS
Codecs	G.711, G.729, GSM, G.722, iLBC, Speex, Opus
Call record	Yes
Fax	T.30, T.38
Dimensions, mm	144x88x56
Weight, g	290
Power Supply	PoE IEEE 802.3af
Control	Web administration within the entire Symway™ SNMP cluster

Hybrid SE1603

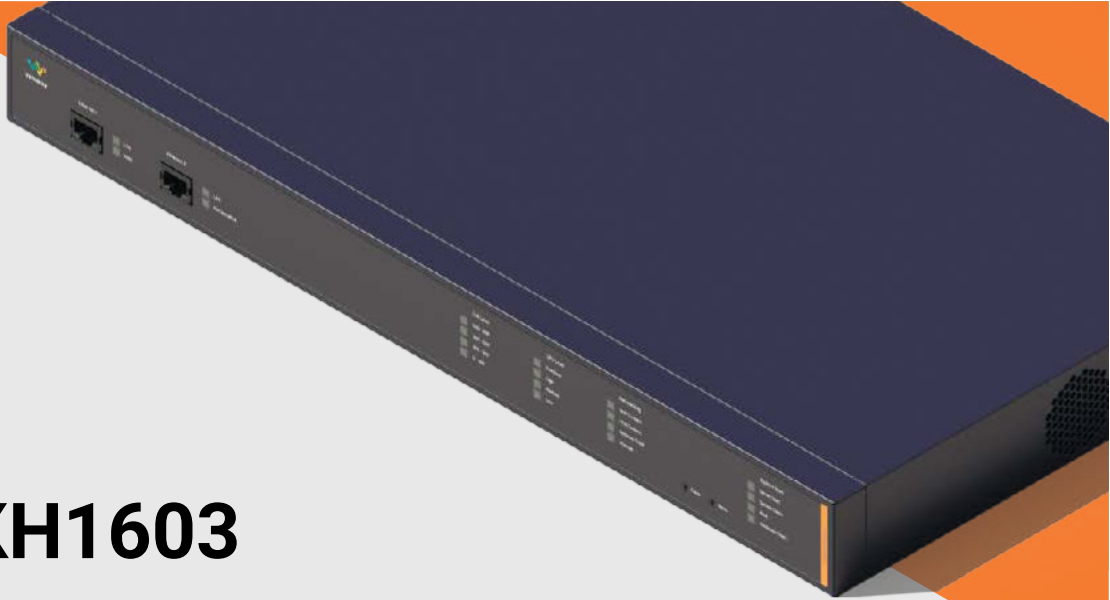
Specifications

peer of Symway™ network
hybrid PBX
gateway FXO/FXS



Symway™ Hybrid SE1603 is a hybrid peer-to-peer PBX in a 1U form factor, designed for enterprises that actively use analog telephony.

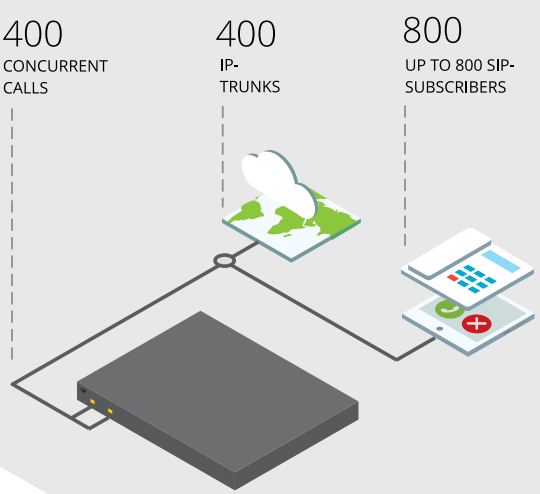
Device Scaling	Unlimited. Symway™ devices form a single network of unified communications.
Network	Ethernet 10Base-T/100Base-TX Static IP, DHCP QoS
Protocols	SIP (RFC3261), IAX2
Transport	UDP, TCP, TLS
Codecs	G.711, G.729, GSM, G.722, iLBC, Speex, Opus
Call record	Yes
Fax	T.30, T.38
Dimensions, mm	440x250x44
Weight, g	3100
Power Supply	PoE IEEE 802.3af
Control	Web administration within the entire Symway™ SNMP cluster



Hybrid KH1603

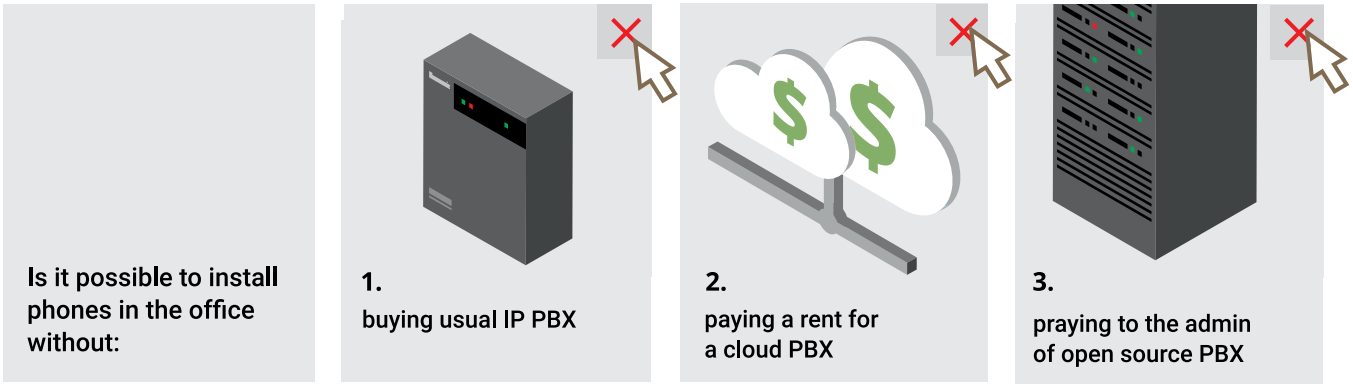
Specifications

peer of Symway™ Network Hybrid PBX



Symway™ Hybrid KH1603 is a hybrid peer-to-peer PBX in a 1U form factor, which provides the connection of a large number of SIP subscribers.

Device Scaling	Unlimited. Symway™ devices form a single network of unified communications.
Network	Ethernet 10Base-T/100Base-TX Static IP, DHCP QoS
Protocols	SIP (RFC3261), IAX2
Transport	UDP, TCP, TLS
Codecs	G.711, G.729, GSM, G.722, iLBC, Speex, Opus
Call record	Yes
Fax	T.30, T.38
Dimensions, mm	440x250x44
Weight, g	3400
Power Supply	PoE IEEE 802.3af
Control	Web administration within the entire Symway™ SNMP cluster



Peer-to-peer phone

Installation of phones without PBX, clouds and servers - just the phone at the employee's workplace

According to the plans of JSC Lintech™, the production of a prototype of an IP phone implementing Symway™ technology is expected to be completed in early June 2018. Symway™ Peerouette is the world's first peer-to-peer phone. Once the phone releases, the issue of introducing a unified communications system for enterprises of any scale is reduced to acquiring the necessary number of peer- to-peer phones. No classical PBXs, servers or cloud systems will be required.

Symway™ Peerouette on the workplaces of the company's employees is all what is needed to deploy a full-fledged peer-to-peer system of unified communications Symway™.

When connected to a local network, the devices themselves will detect each other, and an intuitive and user-friendly administration interface will help organize the operation of the entire system and manage its capabilities. Nevertheless, the above Symway™ Hybrid equipment will remain in demand for interoperability between equipment (analog and "conventional" IP phones) and telecom networks (FXO, E1, GSM) that do not support Symway™ technology, significantly expanding their functionality.

Symway® P2P Phone

Specifications

Symway™ Peerouette is the world's first peer-to-peer phone. With its help, the issue of implementing a unified communications system for enterprises of any scale is reduced to acquiring the necessary number of peer-to-peer phones.

Device scaling	Unlimited. Symway™ devices form a single network of unified communications.
Model	Peerouette (working title)
Display	Color touch screen LCD 5" with a resolution of 800x480 pixels. The color depth is 24 bits. Touch panel for five simultaneous
Sound	HD handset and headset. Full-duplex HD Speakerphone
Network	Switch 2 ports RJ45 Ethernet 10Base-T/100/1000Base-TX Static IP, DHCP QoS
Protocols	SIP (RFC3261), IAX2
Transport	UDP, TCP, TLS
Codecs	G.711, G.729, GSM, Broadband: G.722, iLBC, Speex, Opus
Fax	Yes
Call record	T.38
Power supply	PoE IEEE 802.3af
Control	Web administration of the device as part of the entire Symway™ cluster

symway.com
inbox@symway.com
+7 495 740 71 18

ЛИНТЕХ

Sk Skolkovo

5 Nobelya str.,
Skolkovo Innovation Centre,
Mozhajskij region, Moscow, 121205