S6

High performance Intercom Server for rack mounting

Up to 448 subscribers

VirtuoSIS on board

IoIP® and SIP

Easy to expand

Backwards compatible

16 kHz eHD Voice

The ultimate Intercom appliance

In 2013, Commend introduced the worldwide first 100% software-based Intercom Server. However, VirtuoSIS was only available for virtualised IT environments so far. The Intercom Server S6 brings all VirtuoSIS features into common server rooms as well.

The cost-efficient and compact total package of hardware and software can be extended flexibly. Therefore, no extra hardware is needed – it is only necessary to activate the desired licences.

A strong software provides all VirtuoSIS benefits. This means that the S6 combines reliability, crystal-clear intelligibility, easy maintenance as well as low costs. And, of course, the S6 is fully compatible to earlier Commend systems – such as Intercom servers or stations.

Features and highlights

– Compact Intercom Server including VirtuoSIS Starter
– Easy to expand using the desired licences
– Backwards compatible to expand existing Commend systems
– High energy efficient
– Supports IP-based, digital and analogue Intercom stations as well as Commend SIP stations and third-party SIP phones
– VoIP connectivity to PSTN via SIP gateways
– IPv4 for IoIP®
– IPv4 and IPv6 for SIP clients/trunk connections (audio and video)
– Supports all Intercom functions and feature levels
– Networkable with all IP Intercom Servers via LAN or WAN
– Networkable with the Intercom Servers S3, GE 800 and VirtuoSIS via NET
– IP interfaces: ICX over IPv4/IPv6, RTP, SIP over TLS and (S)RTP as well as IoIP®
– Central configuration via the configuration software CCT 800
– Supports Commend Solution Apps, e.g. ComPLC
– Requires no key subscribers
– Optimised for rack mounting

S6 DATA SHEET V2.0/1221
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.
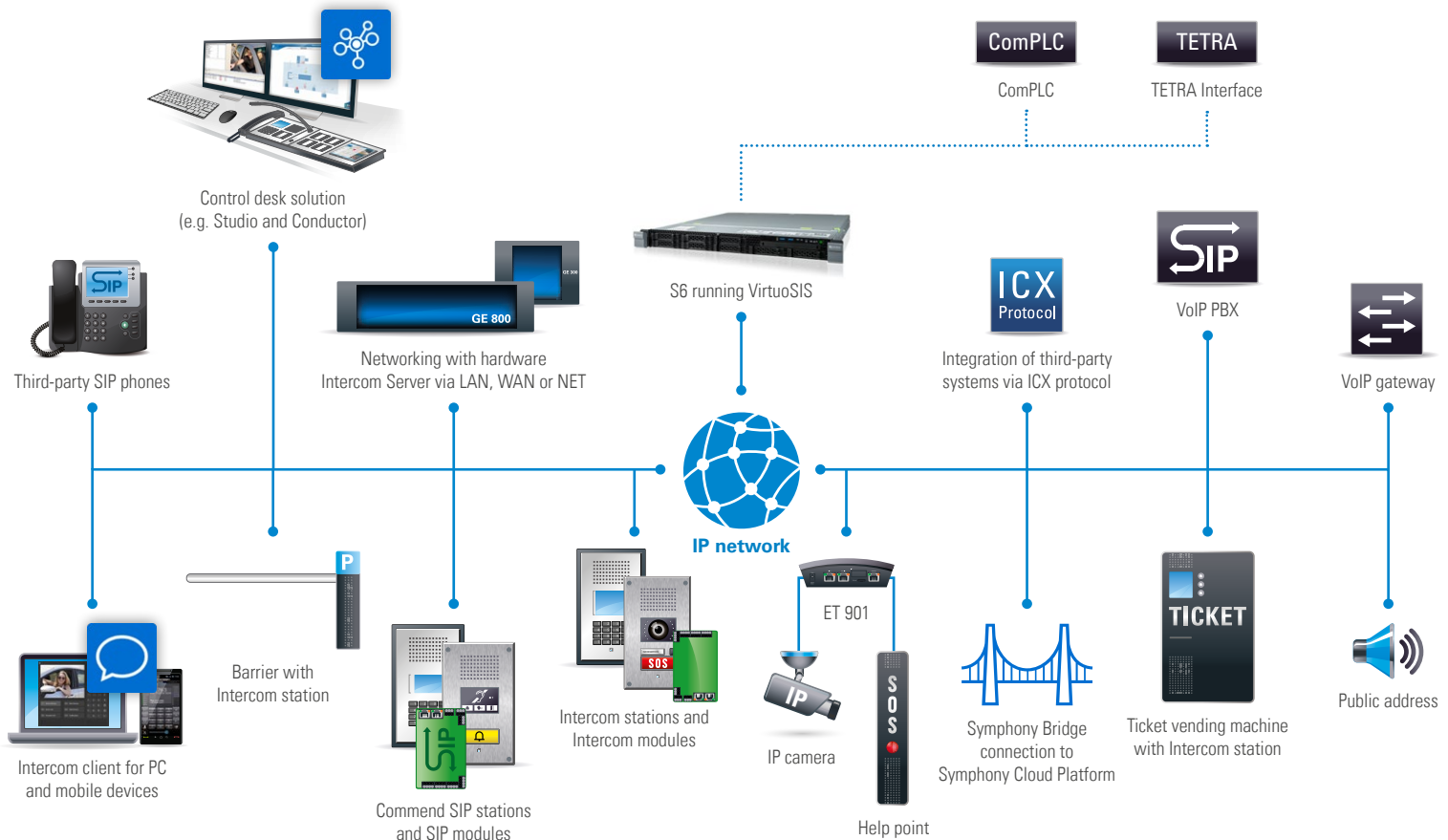
SA | 1

commend.com

commend

Commend Intercom platform

Voice communication with 16 kHz sound experience

Commend's 16 kHz audio standard transmits voice communication, emergency calls and especially music with previously (literally) unheard-of clarity. At the same time, the IP Intercom Servers double as PA servers to enable the combination of public address and Intercom on a single platform.

Intercom solutions by Commend

Data networks enable the transmission of all kinds of data. For Intercom transmissions, Commend has developed a specific technology: IoIP®, short for Intercom over IP. As a logical further development of the Voice over IP standard, IoIP® provides better speech quality and higher data security and serves as the Commend standard for the professional integration of Intercom stations, control and display functions, networking of Intercom Servers, and especially for security and communication solutions.

ComPLC
ComPLC

TETRA
TETRA Interface

Control desk solution
(e.g. Studio and Conductor)

S6 running VirtuoSIS

ICX Protocol
Integration of third-party systems via ICX protocol

SIP
VoIP PBX

Third-party SIP phones

Networking with hardware
Intercom Server via LAN, WAN or NET

VoIP gateway

IP network

Intercom client for PC and mobile devices

Barrier with Intercom station

Commend SIP stations and SIP modules

Intercom stations and Intercom modules

ET 901

IP camera

Help point

Symphony Bridge connection to Symphony Cloud Platform

TICKET
Ticket vending machine with Intercom station

Public address

Ready for connection of

– IP Intercom stations
– Commend SIP stations and third-party SIP phones
– 2-wire Intercom stations (with IP Intercom box ET 901-D)
– 4-wire Intercom stations (with IP Intercom box ET 901-A)

100% flexible, 100% compatible

VirtuoSIS adapts easily and flexibly to your project requirements while remaining fully compatible with previous system generations. The server supports all IP-based, digital and analogue Intercom stations by Commend; third-party systems can be integrated easily via Intercom eXchange protocol (ICX).

Integration of Commend Solution Apps

Thanks to direct integration of any Commend Solution App into VirtuoSIS, no further hardware or software is needed. That's why it is easy to use third-party systems e.g. TETRA by simply licensing the appropriate interface on the Intercom Server.
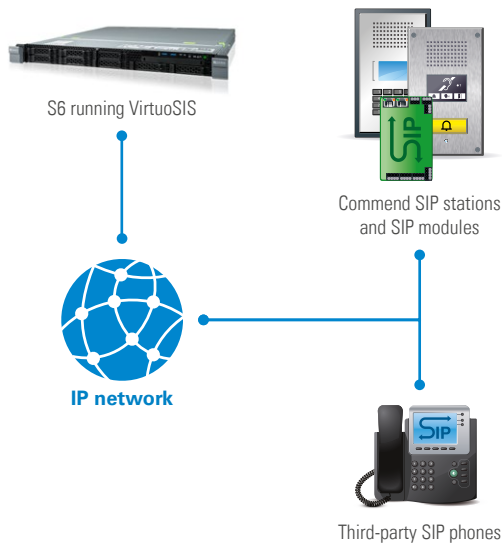
Highlights from more than 150 features

– Control desk functions
– Functional monitoring of microphone, loudspeaker and Intercom station lines
– Control functions (video, doors and gates etc.)
– Pre-recorded voice messages for customised announcements (waiting, information, alarm messages etc.)
– Audio monitoring for automated call triggering, e.g. at a scream or shout
– Audio recording interfaces
– All Calls and group calls with automated response function
– Conference calls with any number of subscribers
– Call forwarding
– Integration of third-party systems (OPC, TETRA etc.)
– Seamless VoIP integration via SIP
– And many more ...

S6 DATA SHEET V2.0/1221
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

SA | 2

commend.com

commend

Increased possibilities through SIP

SIP subscribers can be integrated – first and foremost the versatile and multi-functional Commend SIP series – directly into the Intercom network. This makes it possible for a vast range of VoIP devices to communicate with each other over the Intercom network and to fulfill basic Intercom features.
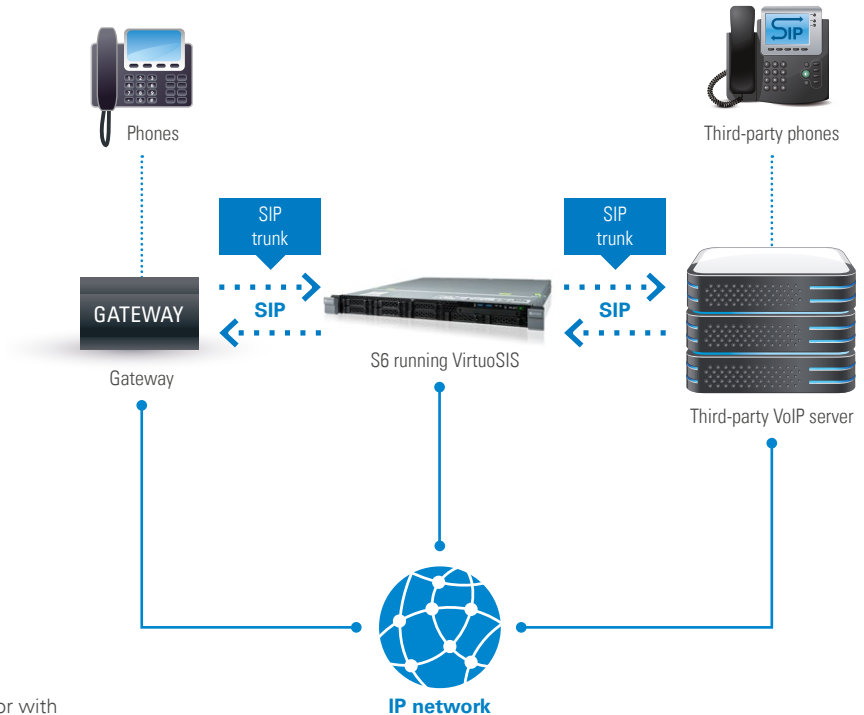
What is SIP-C?

Via the virtual SIP-C card, it is possible to use SIP clients (SIP-C) like third-party SIP phones and Commend SIP stations into VirtuoSIS directly. For this, only a simple IP network connection is necessary.

What is SIP-T?

Using a SIP trunk (SIP-T), VirtuoSIS can be connected to one or several third-party SIP servers. As soon as a SIP-T connection is established, there is an huge mutual benefit: all servers are able to use numerous of features and functions of the other one.

S6 running VirtuoSIS

Commend SIP stations and SIP modules

IP network

Third-party SIP phones

Phones

SIP trunk

GATEWAY

Gateway

SIP

SIP trunk

SIP

S6 running VirtuoSIS

Third-party phones

Third-party VoIP server

IP network

Highlights SIP-C features

– Line monitoring for SIP-T and SIP-C subscribers
– Triggering call requests, optionally with calm down message and/or with assigned video camera
– Door station with a contact triggered via DTMF
– Listening to radio channels
– Receiving All Calls, group calls and door ringing calls
– Participant radio conference
– Control desk function
– Receiving call requests and corresponding ICX messages
– OpenDuplex® conferences
– Protocols used for SIP-C: UDP, TCP and TLS
– Supported video codec: H.264/MPEG-4 AVC

Start smart with feature level A subscribers

– Ideal for small-sized systems
– Basic Intercom functions: privacy call, conversation, group ringing to group 0 and door opener via DTMF after-dialling
– Expandable to feature level B with the upgrade licence L-UG-8B or to feature level D with the upgrade licence L-UG-1D

Highlights SIP-T features

– Each channel can be assigned to a separate trunk
– Up to 8 SIP trunks per card
– The trunk automatically selects one of the free assignment channels
– Line monitoring
– Configuration of dial-prefixes, pre-dialling and code numbers for easy call numbers within the system
– Call history with up to 20 entries (0T)
– Basic Intercom functions (e.g. calls)
– Executive-secretary transfer chain
– Initiator conference
– Alarm receiver
– Control desk function
– Auto dialler mode
– Audio mixing for speech recording
– PA function (for phone call by direct outward dialling)
– Radio feed-in (4T, 6T)
– Protocols used for SIP-T: UDP, TCP and TLS
– Supported video codec: H.264/MPEG-4 AVC

S6 DATA SHEET V2.0/1221
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

SA | 3

commend.com

commend

S6
Technical specifications

Technical data

Registered subscribers:	IP/SIP: max. 448
Concurrent conversations:	IoIP conversations (audio): max. 32 per instance SIP conversations (audio): max. 32 per instance SIP conversations (audio): max. 64 per master SIP conversations (audio and video): max. 64 per master A single conversation may use one or more channels. For further information on the concurrent use of SIP audio channels, see manual **"Intercom Server Configuration"**.
Concurrent channels in use:	SIP channels (audio): max. 128 SIP channels (audio and video): max. 128
VirtuoSIS Master:	1 VirtuoSIS master with max. 4 VirtuoSIS instances
Compliance:	CB, RoHS, WEEE, GS, CE, CSAc/us, ULc/us, FCC Class A, VCCI:V3 Class A + JIS 61000-3-2, GOST, KC, CCC, C-Tick, BSMI
Operating system:	Linux Debian 10 (64 bit)
Intercom Server Software:	VirtuoSIS (pre-installed)
Intercom Server Hardware:	Fujitsu
Network interfaces:	up to 2
Data rate:	up to 1 Gbit/s per Ethernet port
Rated current:	max. 4.5 A (100 V)/max. 2.0 A (240 V)
Power Supply:	max. 300 W, 92 % (Gold efficiency) 100 – 240 V (50/60 Hz)
Sound pressure level (LpAm):	24/52 dB(A) (min./max. idle), 26/40 dB(A) (min./max. operation) [1]
Sound power level (LWAd; 1 B = 10 dB):	4.2/7 B (min./max. idle), 4.2/5.8 B (min./max. operation) [1]
Operating temperature range:	+5 °C to +45 °C (+41 °F to +113 °F)
Storage temperature range:	–25 °C to +60 °C (–13 °F to +140 °F)
Relative humidity:	10% to 85%, non-condensing
Installation:	installation in a server rack (1 RU to 19"), rack mount kit included in extent of supply [2]
Dimensions server (W x H x D):	483 x 43 x 572 mm (19.02 x 1.69 x 22.52 in) recommended minimum depth of the server rack: 800 mm (31 in)
Weight incl. package:	approx. 16.5 kg (37 lbs)

[1] Noise emissions and operation modes depend on the configuration.
[2] Rack mounting rail:
   Full extraction 815 mm (32.08 in)
   Tool-free installation
   Length variability: 559 to 914 mm (20.00 to 33.98 in)

Line length in LAN

The maximum line length of Cat. 5 cabling in a LAN is 100 m (328 ft) – e.g. from switch to Intercom Server.

Extent of supply

– Server
– Rack mounting kit (incl. 2 earthquake security screws and 4 centring screws for the support of uprights with round holes)
– VirtuoSIS Starter licence
– 2 cable ties
– Male-to-female extension power cord (1.8 m)
– Short reference

Power cable

For the S6, the power cable with country-specific plug is available separately:
– C-KAB-C13-AU (Australia)
– C-KAB-C13-EU (Europe)
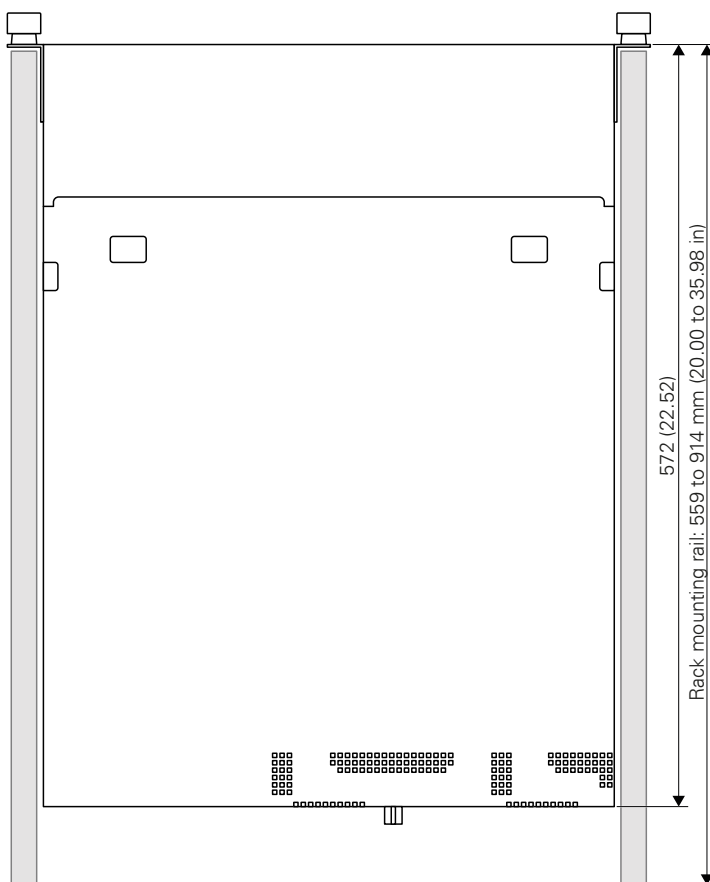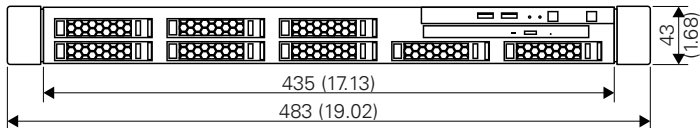– C-KAB-C13-UK (United Kingdom)
– C-KAB-C13-US (USA)

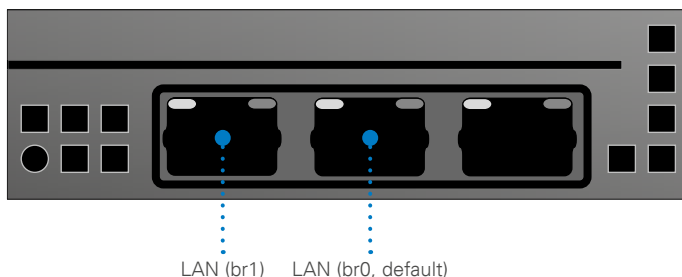## Accessibility

Default IP address (br0): **10.10.0.1/16**

commend

S6
Installation instructions

Dimensions front panel

Measuring units in mm (in), not to scale!

435 (17.13)
483 (19.02)
43 (1.68)

572 (22.52)
Rack mounting rail: 559 to 914 mm (20.00 to 35.98 in)

Connection (rear left side)

LAN (br1)   LAN (br0, default)

Mounting instructions

– The server may only be installed by authorised service engineers.
– Do not expose the server to extreme temperatures (see "Technical data" on page TE | 1).
– Observe the country specific standards for installation, mounting and configuration.
– For installation in a rack, use the supplied rack mount kit and follow the mounting instructions in the respective short reference.
– For safety reasons and because of its weight and size, at least two persons are required to install the server in a rack.
– Never lift the server into a rack using the quick release levers on the front panel.
– When connecting and disconnecting cables, observe the relevant instructions in the manual supplied with the corresponding rack.
– When installing the rack, make sure that the anti-tilt mechanism is fitted correctly.
– Do not extend more than one unit out of the rack simultaneously – even if the tilt protection is in place. If several units are simultaneously extended from the rack, there is a risk that the rack could tip over. For further information, see the safety information supplied with the rack.
– For ventilation clearance, at least 200 mm space has to be left from the front and rear of the server.

Start-up
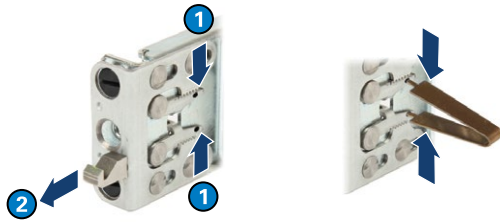

1. Install the S6 in a rack.

2. Power on the S6.

3. Set up the S6 via VirtuoBRO or PuTTY.

4. Configure the S6 via CCT 800.

S6 DATA SHEET V2.0/1221
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

IN | 1   commend.com   commend

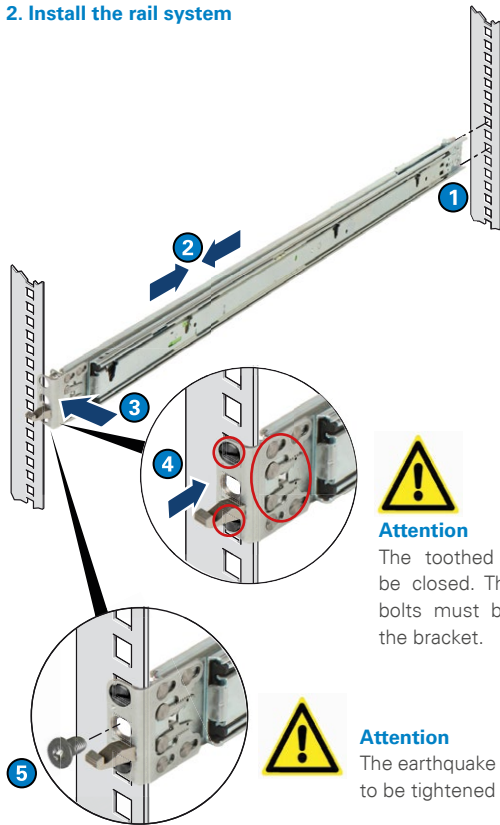# Rack installation with the rack mount kit included in extent of supply

1. Release the rails

1. To release the locking mechanism, press the rear side of the toothed levers together ① and pull the hook simultaneously as far as it will go ②.

If the rail is difficult to access, use the provided unlocking tool to release it:
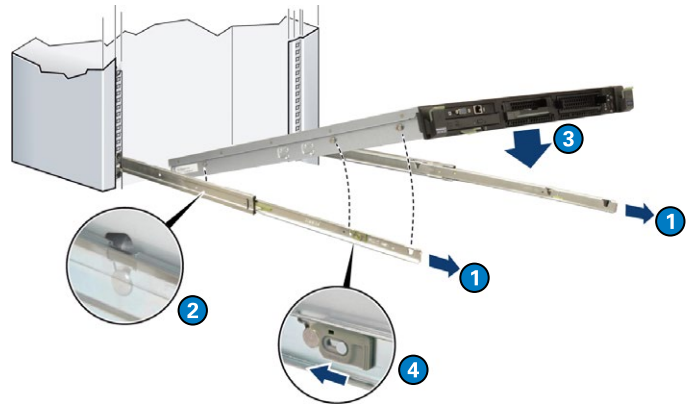1. Put the unlocking tool into the holes of the toothed levers.
2. Press the toothed levers together (see illustration above) and simultaneously pull the hook as far as it will go.

2. Install the rail system

Attention
The toothed levers must be closed. The two black bolts must be flush with the bracket.

Attention
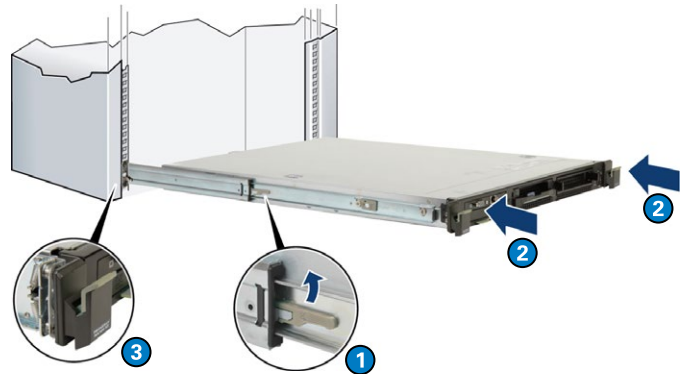The earthquake security screw has to be tightened with max. 1 Nm.

1. Identify the right and the left rail (see label on the rail).
2. Position the left rail on the rear left support upright (or on the support bracket) by inserting the retaining bolts ①.
3. Position the left rail on the front left support upright so that the support upright resides between the two brackets of the rail.
4. Press the left rail together ②.
5. Move the left rail outwards until the designated position (grid of support upright) is reached ③. The black bolts must lock into the corresponding holes.
6. Press the bracket backwards until the rail engages ④.
7. Check if the rail is fixed by pressing the left rail backwards.
8. *(Optional)* Fix each rail with one earthquake security screw M5 ⑤.
9. Repeat this procedure to install the right rail.

3. Lift S6 into position

1. Fully extend the telescopic rails until they lock in place ①. The telescopic rails must click into place so that they can no longer be moved.
2. At a slight angle, lower the S6 onto the rear mounting point on the telescopic rails ②.
3. Fold down the S6 ③ while pressing the rails inwards to the S6. Make sure that all rack mounting bolts (6 or 8) are properly seated in the mounting points on the telescopic rails and that the locking bars engage ④. If it is not properly seated, try again starting with ③.

4. Complete installation

Attention
Make sure that the QRLs are engaged properly on both sides. Be careful with your fingers. You can pinch them if the QRL changes to the release position.

1. Release the locking mechanism of both rails ①.
2. Push the S6 as far as it will go into the rack ② until the QRLs (quick release levers) engage ③.

S6 DATA SHEET V2.0/1221
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.
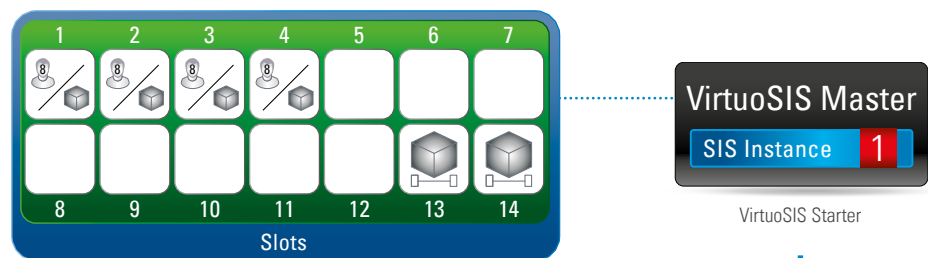
IN | 2   commend.com   commend

S6
Complementary information

Licensing scheme

The Intercom Server S6 provides an ideal solution for small as well as large systems. The supplied base licence VirtuoSIS Starter ("L-SIS32-11") can be used for up to 32 IP/SIP subscribers and one VirtuoSIS Instance. The expansion level VirtuoSIS Professional with up to 448 IP/SIP subscribers and 4 VirtuoSIS Instances can be unlocked with the optional upgrade licence ("L-SIS32-UPG").
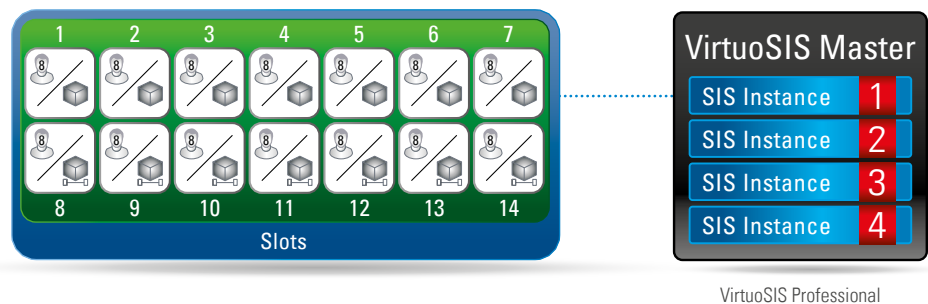
VirtuoSIS Starter

– for small systems
– upgrade option to VirtuoSIS Professional
– for up to 32 IP/SIP subscribers
– 1 VirtuoSIS Instance
– Slot 1 to 4 usable for subscriber and interface cards
– Slot 13 and 14 usable for interface and networking cards
– Slot 15 reserved for networking cards (NET or LAN)

VirtuoSIS Starter

VirtuoSIS Professional

– for medium-sized systems
– for up to 448 IP/SIP subscribers
– up to 4 VirtuoSIS Instances
– Slot 1 to 14 usable for subscriber and interface cards
– Slot 8 to 14 usable for networking cards
– Slot 15 reserved for networking cards (NET or LAN)

Using the upgrade licence L-SIS32-UPG, VirtuoSIS Starter can be upgraded to VirtuoSIS Professional at any time.

VirtuoSIS Professional

S6 DATA SHEET V2.0/1221
The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

CO | 1   commend.com   commend

Available licences

Base licence

The S6 comes with the base licence L-SIS32-11 for VirtuoSIS Starter. This licence can be upgraded to a VirtuoSIS Professional.

IP licences

L-SIS-IP-2B	Licence for 2 subscribers, feature level B
L-SIS-IP-8B	Licence for 8 subscribers, feature level B
L-SIS-IP-32B	Licence for 32 subscribers, feature level B
L-SIS-IP-2D	Licence for 2 subscribers, feature level D
L-SIS-IP-8D	Licence for 8 subscribers, feature level D

SIP-C licences

L-SIS-SIP-8A	Licence for 8 SIP subscriber, feature level A
L-SIS-SIP-2B	Licence for 2 SIP subscribers, feature level B
L-SIS-SIP-8B	Licence for 8 SIP subscribers, feature level B
L-SIS-SIP-2D	Licence for 2 SIP subscribers, feature level D
L-SIS-SIP-8D	Licence for 8 SIP subscribers, feature level D

Interface licence

L-SIS-ICX	Single licence for ICX interface

SIP-T licences

L-SIS-SIPT8B	Licence for SIP trunk, 8 channels, feature level B
L-SIS-SIPT1D	Licence for SIP trunk, 1 channel, feature level D
L-SIS-SIPT8D	Licence for SIP trunk, 8 channels, feature level D

Network licences

L-SIS-LAN-4	Licence for 4 LAN connections
L-SIS-LAN-8	Licence for 8 LAN connections
L-SIS-WAN-8	Licence for 8 WAN connections
L-SYM-BRIDGE	Licence for Symphony Bridge

Upgrade licences

L-SIS32-UPG	Upgrade licence from VirtuoSIS Base Starter to VirtuoSIS Base Professional
L-UG-1D	Upgrade licence for 1 subscriber from feature level A, B or C to feature level D (for IoIP and SIP subscribers)
L-UG-8B	Upgrade licence for 8 subscribers from feature level A to feature level B (for SIP subscribers only)

We recommend a VirtuoSIS upgrade subscription so that the system always remains up-to-date and benefits from new features and improvements.

Further licences

In addition, various platform independent licences are available (e.g. Intercom Client, Mobile Client, Studio and ComPLC).

Quality tested. Reliable. Smart.

COMMEND products are developed and manufactured by Commend International in Salzburg, Austria.

The development and manufacturing processes are certified in accordance with **EN ISO 9001:2015**.

AUSTRIA

OBS ESSIVE ABOUT QUAL ITY

The technical data contained herein has been provided solely for informational purposes and is not legally binding. Subject to change, technical or otherwise. IoIP®, OpenDuplex® and Commend® are trademarks registered by Commend International GmbH. All other brands or product names are trademarks or registered trademarks of the respective owner and have not been specifically earmarked.

A strong worldwide network

COMMEND is represented all over the world by local Commend Partners and helps to improve security and communication with tailored Intercom solutions.

www.commend.com

S6 DATA SHEET V2.0/1221

The design and/or specifications of products may be subject to change for improvement without prior notice. Errors excepted.

CO | 2   commend.com   commend