

# Duetto

by Commend

One device to bring together different worlds  
SIP telephony and Intercom in one device



VoIP® and  
SIP

Desk & wall  
mounting

Bi-directional  
video

7" touch  
screen

20kHz  
eHD Voice

## Compact and powerful control station

The control station DUETTO delivers full Intercom power in a compact form to offer users the double benefit of advanced functions and great flexibility of use. It was designed to offer the user an ideal space-saving master Intercom station, either as a desktop device or wall-mounted terminal.

Combining the best of VoIP® and SIP technology, DUETTO incorporates support of building automation as well as integrated video communication and surveillance. All in all, DUETTO serves a wide range of application environments, from reception areas and porters' offices to automated doors and gates and many more. Wherever video supported visitor management is needed or if available space is low but the requirements are uncompromisingly high, DUETTO is a perfect solution.

Enhanced ultra HD Voice by Commend transfers the audio signal at a bandwidth up to 20 kHz, thus capturing the entire audible frequency range. As a result, voice communication and emergency calls are transmitted at a level of clarity literally unheard-of so far. This enables communication and sonication in true HD quality.

## Features and highlights

- Compact control station solution
- 20 kHz speech quality
- 7" TFT touch screen with IPS (In-Plane Switching)
- Bi-directional video (can be hidden)
- Optional with built-in HD video camera
- Applicable as desk and wall mount device
- VoIP® and SIP support (for detailed feature set, see product manual)
- OpenDuplex® for natural, hands-free communication with high volume
- Modern user interface for intuitive control
- Simple configuration via web interface
- Input recognition (e.g. line fault or buttons)
- Secure connection with uploadable server certificates
- IPv4 and IPv6 support <sup>1)</sup>
- IEEE 802.1X support (with EAP-TLS and EAP-MD-5)
- Wi-Fi ready
- Housing manufactured from robust and high-quality polycarbonate (IP rating IP20 acc. EN 60529)
- Full headset and handset support (i.e. handling same like a phone)
- Power supply via Power over Ethernet (PoE)

<sup>1)</sup> For detailed information on the product features, see the product manual

## Key benefits at a glance

### Modern video supporting Intercom station

Eye-to-eye contact makes conversation easier and helps to avoid misunderstandings. With integrated bi-directional video, DUETTO provides improved communication from the get-go. As a result, visitors feel welcome from the first time they get in touch with companies and people via an Intercom terminal.

The video capabilities of DUETTO include high-quality surveillance video to help staff react quickly and correctly in sensitive situations. In addition, external video sources, such as weather or traffic cameras, can be integrated seamlessly.

Of course, DUETTO is also available without integrated video for applications where data protection regulations prohibit video transmissions.

### Powerful control desk in a compact design

No longer restricted to control centres, modern control stations have found their way into the office, where they offer the operating convenience of a regular desktop device. They can be networked with other systems to integrate seamlessly into the everyday working environment.

DUETTO combines powerful Intercom functionality with flexible telephony. It also interfaces with building automation systems to offer convenient control of lighting, automated window shades, heaters and multimedia equipment. It manages emergency calls and call requests, provides status information and ensures an overview of all communication lines.

As a control station, DUETTO also allows operators to handle one phone call and one Intercom call in parallel. This enables them to take incoming emergency calls or visitor calls from a door terminal in mid-conversation.



#### EE 980CM

- Supports VoIP® and SIP (hybrid) <sup>1)</sup>
- Built-in HD video camera

#### EE 980

- Supports VoIP® and SIP (hybrid) <sup>1)</sup>

#### SIP-EE 980CM

- Supports SIP
- Built-in HD video camera

#### SIP-EE 980

- Supports SIP

<sup>1)</sup> For detailed information on the product features, see the product manual

### Superior speech intelligibility

Whether it is used in hands-free mode or with an attached optional handset, DUETTO delivers Commend's superior audio quality. Equipped with 20 kHz audio support and intelligent acoustic algorithms, DUETTO sets the standard for excellent speech intelligibility even under the most difficult conditions. These qualities are complemented by the ability to suppress background noise and focus on the speaker automatically.

### Future-proof system architecture

Used as a desktop station or mounted on a wall, DUETTO adapts perfectly to any requirements and acts as a convenient all-purpose hub for IP video, SIP and Commend Intercom lines. The talent of DUETTO for easy integration with other systems opens it to a wide range of additional applications.

### Intuitive operation with 7" TFT touch screen

The large display impresses with its excellent viewing angle of nearly 180°, a screen saver and automatic adaptation to ambient lighting. With its 7" screen, DUETTO offers plenty of space for displaying interactive on-screen elements and icons to support intuitive, targeted interaction. The display of multiple pending tasks provides an convenient overview for better planning and an important edge on information.

# DUETTO

## Technical specifications

### Technical data

<b>IP rating:</b>	IP20 (acc. EN 60529)
<b>Microphone:</b>	4 electret condenser microphones polar pattern: omnidirectional
<b>Loudspeaker:</b>	special membrane type for optimal sound quality, 8 Ω
<b>Amplifier:</b>	700 mW
<b>Sound pressure level:</b>	max. 85 dB
<b>Inputs:</b>	2 inputs for floating contacts (RJ12 jack)
<b>Outputs:</b>	2 open drain outputs (RJ12 jack) <sup>1)</sup> max. 60 VDC max. 500 mA in total
<b>Call indication:</b>	status LED
<b>Display:</b>	7" TFT touch screen resolution: 800 x 480 pixels 16,777,216 colours IPS (In-Plane Switching)
<b>Camera:</b> (only EE 980CM and SIP-EE 980CM)	built-in HD video camera 3.1 megapixels resolution: 640 x 480 pixels frame rate: 7.7 fps
<b>Transmission bandwidth:</b>	up to 20 kHz
<b>Operating temperature range:</b>	0 °C to +50 °C (32 °F to +122 °F)
<b>Storage temperature range:</b>	0 °C to +50 °C (32 °F to +122 °F)
<b>Relative humidity:</b>	up to 95%, not-condensing
<b>Connection:</b>	RJ45 jack for Ethernet and PoE, 3 USB 2.0 ports (Type A) for external devices <sup>2)</sup> (e.g. for wireless USB adapter or additional relay output)
<b>Power supply:</b>	PoE: IEEE 802.3af Class 3 or external power supply (24 VDC, 700 mA; power range: 22–30 VDC) with coaxial power connector (outer diameter: 5.5 mm, inner diameter: 2.1 mm)
<b>Cabling:</b>	min. Cat. 5
<b>IP protocols:</b>	IPv4, IPv6, TCP, UDP, HTTP, RTP, RTCP, DHCP, RTSP, SIP, SNMP, STUN
<b>Data rate:</b>	10/100 MBit/s (Full/Half Duplex)
<b>Audio codecs:</b>	G.722, G.711 A-Law, G.711 μ-Law, Opus, Speex
<b>Video codecs (incoming):</b>	H.264 Constrained Baseline, Motion JPEG
<b>Video codecs (outgoing):</b>	H.264 Constrained Baseline (SIP video only), Motion JPEG
<b>Memory extension:</b>	MicroSD card
<b>Mounting:</b>	wall mount kit (EE SH9) desk kit (EE DK9)
<b>Dimensions (H x W x D):</b>	with desk kit: 142 x 270 x 70 mm (5.59 x 10.6 x 2.76 in) with wall mount kit: 138 x 270 x 38 mm (5.4 x 10.6 x 1.5 in)
<b>Weight incl. package:</b>	approx. 1000 g (2.2 lbs)
<b>Colour:</b>	black
<b>Optional accessories:</b>	handset (EE HS9) PoE injector (PA 15W POE) USB output module (EB1A) headset (HS1) headset cable (KAB-HS1-RJ)

<sup>1)</sup> For use of the output with inductive loads, a suppression (flyback) diode must be used in parallel to the load! Otherwise, the output can be damaged!

<sup>2)</sup> Rated current per USB 2.0 port: max. 500 mA  
Power budget of all USB 2.0 ports: 800 mA with 5 VDC



### 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 station.

### Extent of supply

- Control station EE 980 / EE 980CM / SIP-EE 980 / SIP-EE 980CM
- Short reference

### System requirements

- GE 800 (min. PRO 800 5.0) with G8-IP (min. 6.1) or G8-IP-32 (min 6.1) or
- GE 300 (min. PRO 800 5.0) with G8-IP (min. 6.1) or
- IS 300 (min. PRO 800 5.0) or
- VirtuoSIS (min. PRO 800 5.0)
- Configuration software CCT 800 (min. 5.0)

## Compatibility SIP PBX

Basically, the DUETTO device can be used with any SIP server.

The following SIP server types have been tested explicitly by Commend and therefore a proper functionality can be confirmed:

Manufacturer <sup>1)</sup>	Type	Version
Cisco	Cisco Call Manager Cisco Unified Communication Manager	Version 9.x
3CX	3CX for Windows	Version 12
Starface	Starface free	Version 5.8
FreeSWITCH	FreeSWITCH	Version 1.2.0

<sup>1)</sup> The listed products and company names are brand names or registered trademarks of their respective owners.

## Requirements for audio and video transmission

### Attention:

- Under certain circumstances, the required bit rates for video transmission can be higher than the given values!
- Video transmission applies only to the DUETTO series versions EE 980CM and SIP-EE 980CM!

The following tables show the required bit rates for audio and video transmission per direction:

### Audio transmission for SIP

Codec	Sample rate	Bandwidth	Bit rate
G.711	8 kHz	3.5 kHz	176 kBit/s
G.722	16 kHz	7 kHz	301 kBit/s
Opus	48 kHz	20 kHz	<50 kBit/s
Opus	16 kHz	7 kHz	<50 kBit/s
Speex	16 kHz	7 kHz	<30 kBit/s
Speex	8 kHz	3.5 kHz	<30 kBit/s

### Video transmission for VoIP<sup>®</sup> and SIP (for video codecs MJPEG and HTTP)

Format / resolution	Bit rate
QVGA	1 MBit/s <sup>1)</sup>
VGA	3 MBit/s <sup>1)</sup>

<sup>1)</sup> Applies for a frame rate of 5 fps

### Video transmission für SIP (for video codecs H.264 Constrained Baseline and RTP)

Format / resolution	Bit rate
QVGA	0.8 MBit/s <sup>2)</sup>
VGA	2 MBit/s <sup>2)</sup>

<sup>2)</sup> Applies for a frame rate of 10 fps

# DUETTO

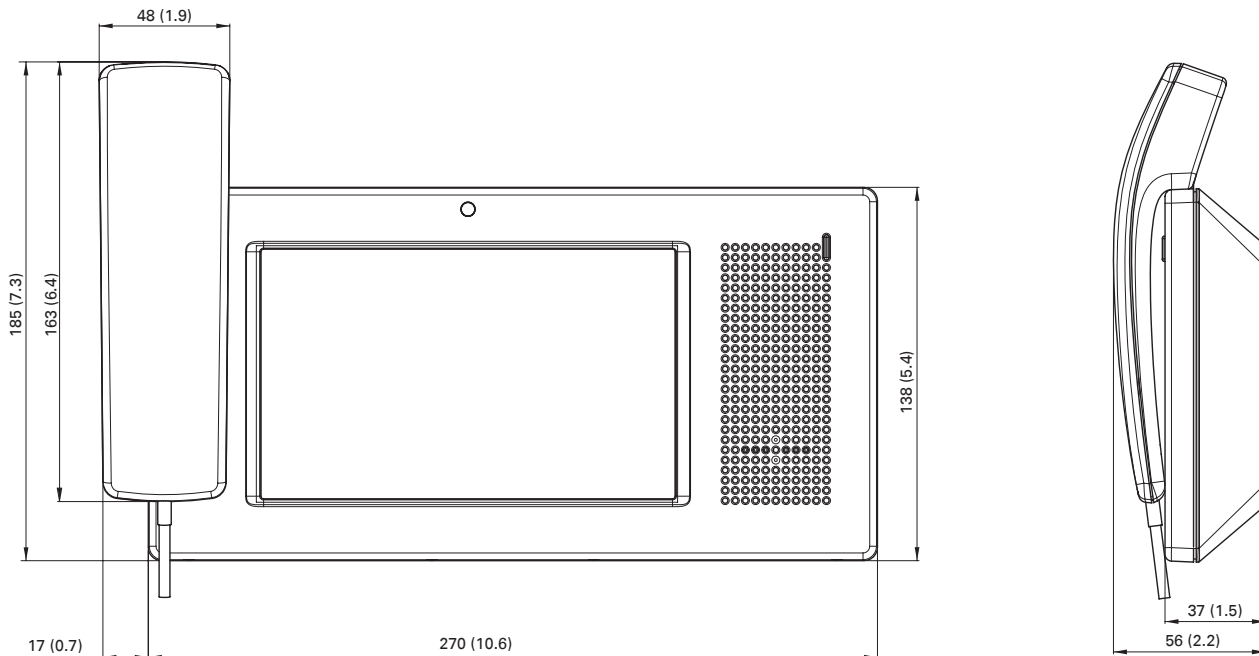
## Installation instructions

### Mounting instructions

- Do not expose the station to extreme temperatures ("Technical data," see TE | 1).
- Observe the country specific standards for installation, mounting and configuration.
- When opening the station, ESD precautions must be observed.
- The station may only be opened by authorised service engineers.
- The station must stand on its own, not e.g. in a shelf or under a filing tray.

### Dimensions

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

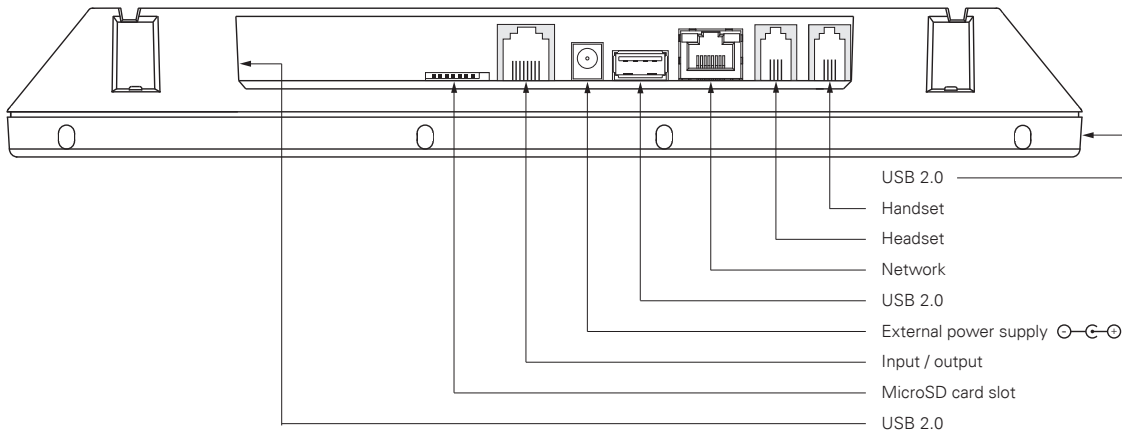


# DUETTO

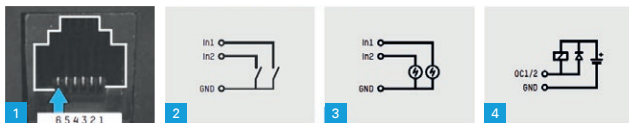
## Installation instructions

### Connection diagram

#### Bottom view



### Connector pin assignment and connection options of inputs and outputs



**1** Connector pin assignment of the RJ12 jack "Input / output":

- **6**: Input 1
- **5**: Input 2
- **4**: INGND, reference point for inputs
- **3**: OCGND, reference point for outputs
- **2**: Output 1
- **1**: Output 2

**2 Use of internal reference:** The inputs are designed for floating contacts (e.g. relay contacts, push buttons or switches).

**3 Use of external reference:** External power supplies are used (0–24 VDC).

**Note:** Max. cable length: 2 m.

**4** The outputs are designed as open drain outputs.

**Attention:** For use of the output with inductive loads, a suppression (flyback) diode must be used in parallel to the load! Otherwise, the output can be damaged!

### 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**.



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

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