

Technical Description
VIPCOS 670 Crane Call Station
L. No.: 703500



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Translation of the German original

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1. Legends and Agreements



Danger!

This sign refers to an extremely dangerous situation that, unless avoided, may cause serious injury or even death.



Caution!

This sign refers to an potentially dangerous situation that, unless avoided, may cause a device to be damaged by ESD.



Notice!

This sign refers to an potentially dangerous situation that, unless avoided, may cause material damage.

“Commands and entries“	In this document, all commands and entries that need to be entered from a user’s keyboard are enclosed by inverted commas.
See <i>Overview</i>	All refers to chapters or figures of this description are displayed in <i>cursive</i> .

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2. Overview

The VIPCOS Crane Call Station V670 can be used as Subscriber for the VIPCOS Decentralized Communication System. The VIPCOS Crane Call Station allows direct voice communication with other terminals. It can also be used for loudspeaker announcements and even for programmable local functions. A microphone and speaker monitoring is inside the device. The model described in these pages has 16-line keys.

In addition to target keys for WL/EL, Fullduplex and SIP, the Intercom Call Station has volume control, voice memory, and protection class up to IP65. Depending on the configuration used, it enables you to control functions such as:

- Full duplex Connections
- WL-Connections
- EL-Connections
- Group calls
- Collective calls
- Speech memory
- Priorities
- Call storage etc.

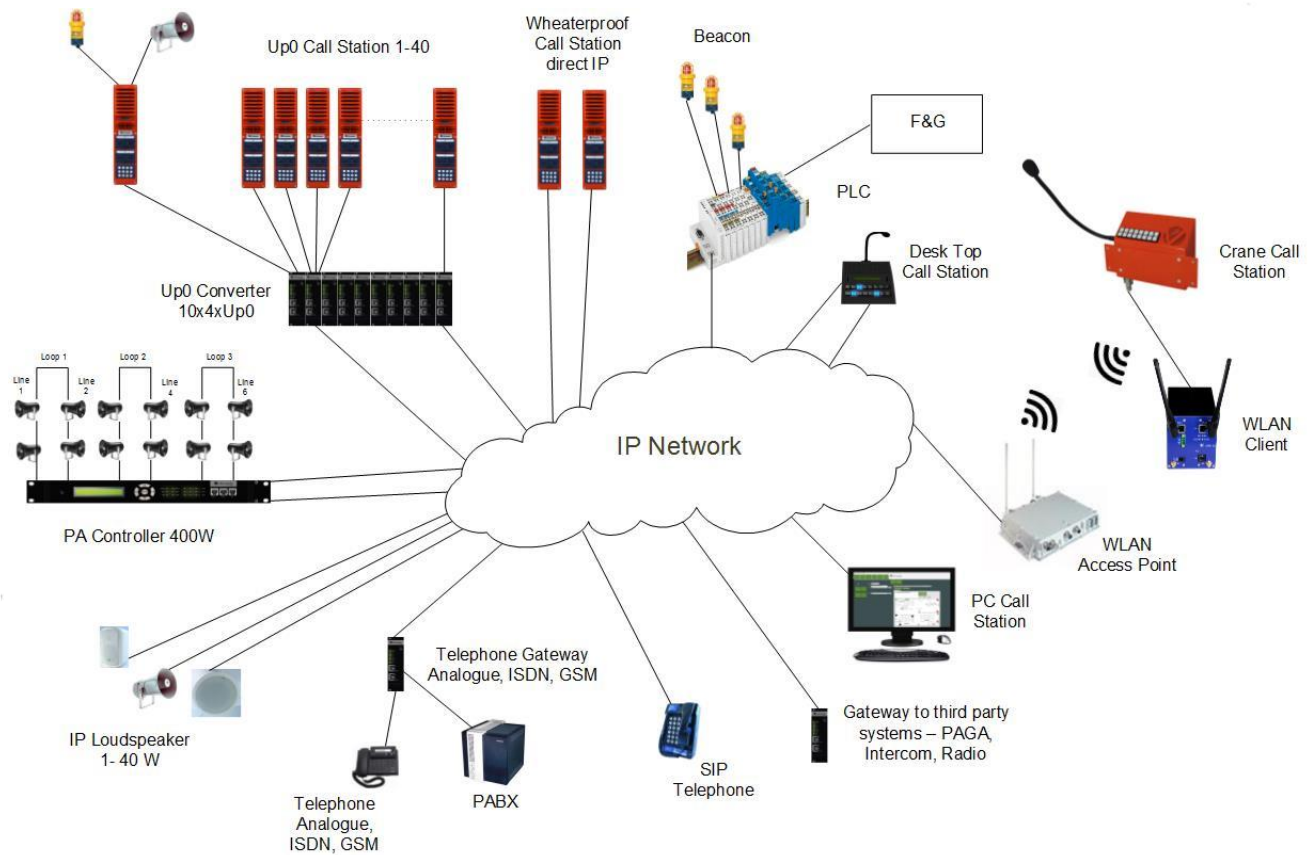
WL = Two-way Voice Communication

EL = One-way Voice Communication

Internal memory block of 32 MB is built into every VIPCOS 670 Crane Call Station. The internal memory block provides standard sounds and texts that can be enhanced using customer-specific announcements, sound sequences or audio files. The resultant sound files can be played back by means of a simple keystroke.

3. Application

The VIPCOS 670 Crane Call Station is used in VIPCOS systems or can be integrated in nearly every SIP (Session Initiation Protocol) System. This device is direct connectable to a VIPCOS network node. Switches with Power over Ethernet and IGMP function are recommended to supply connected devices and, in this case, the VIPCOS 670 Crane Call Station.



4. Design

The VIPCOS 670 Crane Call Station consists of a Orange (RAL2004) anti-graffiti coated Aluminum housing in protection class up to IP65 with built-in loudspeaker, a gooseneck microphone, keypad including 16 keys with LED signaling. These keys can be labeled individually.

The bottom panel has two RJ45 sockets for redundant network connections. In standard configuration only the first port is fitted with RJ45 IP65 inlet.

All electronic components are attached to a printed circuit board inside the device. Two LED's for displaying the current operational readiness are included.

5. Transportation and Storage

Proper operation of the device requires both appropriate transport in transport packaging and appropriate storage conditions.

For storage of device observe the permitted climatic conditions and the permitted operable temperature range!

6. Assembly

The VIPCOS 670 Crane Call Station is designed as a portable device for operating in moveable Cranes. To ensure fast installation, quick fasteners were attached to the mounting plate of the VIPCOS 670 Crane Call Station.

Mounting Plate with quick fasteners attached:

Bild von Montageplatte mit schnellverschlüssen einfügen!

The counterpart on the crane must be designed accordingly:

Maßzeichnung des gegenstückes zur Montageplatte einfügen. Darunter ein Bild von den Gummigenstücken der schnellverschlüsse!

To attached the VIPCOS 670 Crane Call Station push the mounting plates quick fasteners softly to the counter plate and turn them 90°:

Bild von "Hochzeit" einfügen. Daneben nahaufnahme von schnellverschull von hinten mit ring. Drehrichtung mit Paint einfügen und 90° dranschreiben!

Now the VIPCOS 670 Crane Call Station is attached to the Crane operator place via rubber buffered connectors to protect the device against vibration.

The VIPCOS 670 Crane Call Station provides an IP65 RJ45 Connector for fast and secure connecting to the VIPCOS PoE Network. The connector will fit only in one direction:

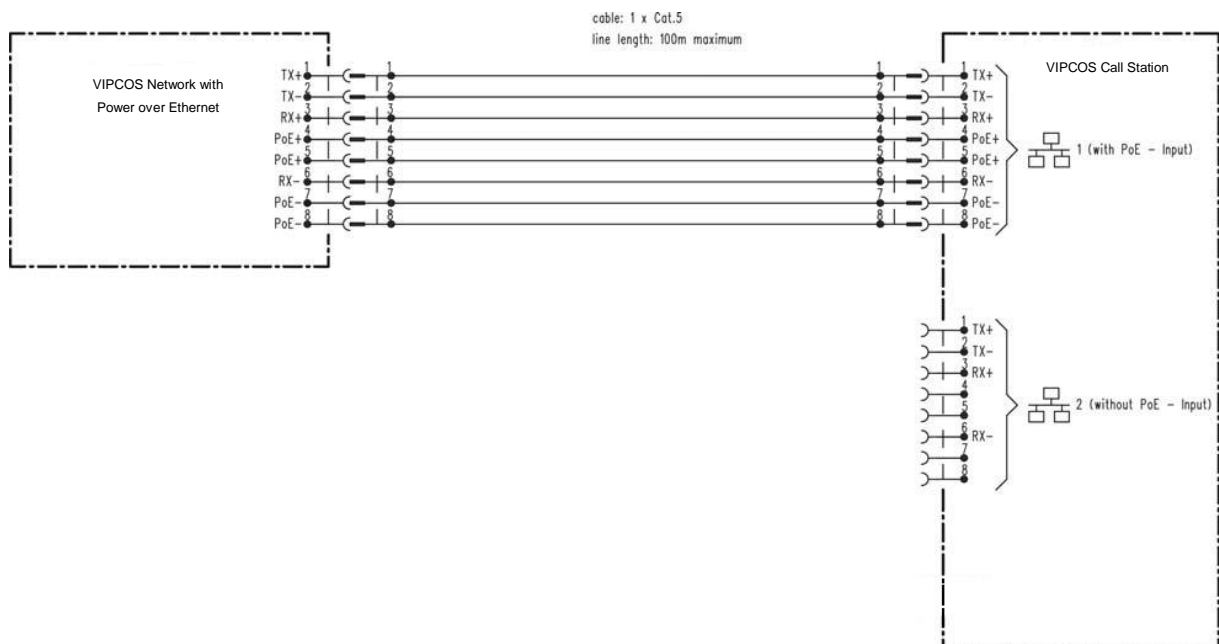


6.1 Connection to a net node

The following examples are all based on the assumption that in the VIPCOS network there is some sort of structured cabling in accordance with the requirements of DIN EN 50173 or ISO/IEC 11801. All switches, adapters, gateways, extenders and modems in the network should have auto crossover and IGMP functionality. Otherwise the using of crossover cables instead of standard patch cables are required.

More information about VIPCOS system is to find in the system description VIPCOS. This document will be delivered with each system.

The standard way of connecting the VIPCOS 670 Crane Call Station to a VIPCOS network node, using shorter cables of up to 100 meters (measured from the V670 Intercom Call Station connector to the network node connector), is by means of Power over Ethernet, subsequently referred to as PoE.

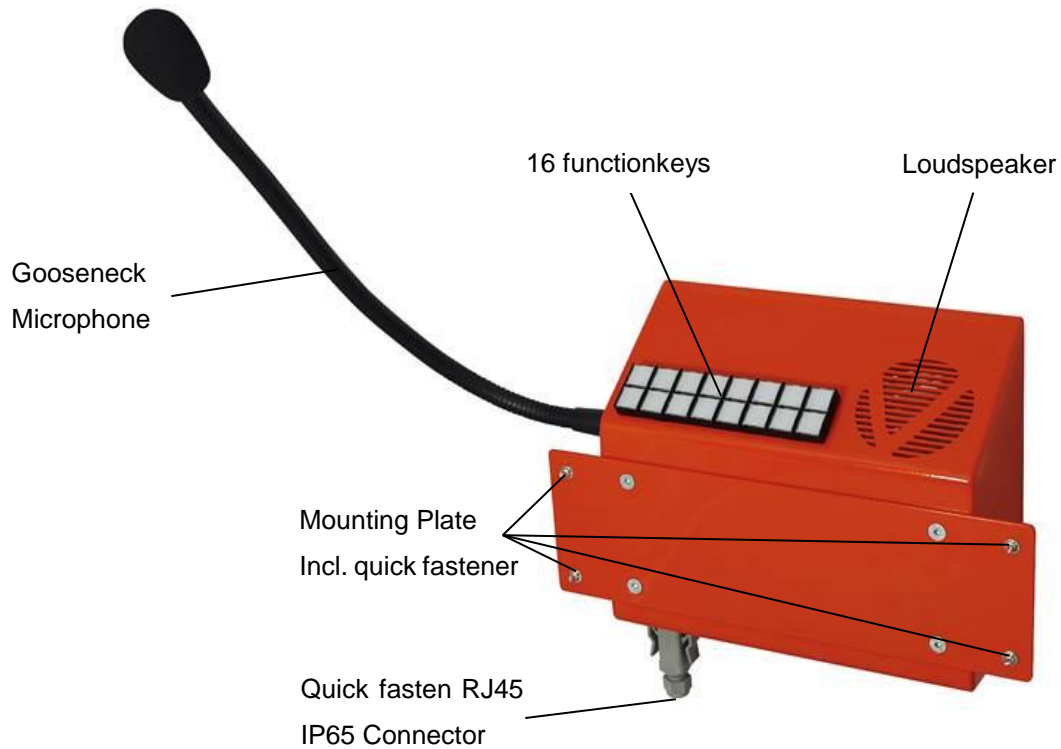


Example 1: Network 1 PoE – net node powering, 1 x Cat.5

Please note that there is the possibility of using a PoE injector in order to provide PoE for the V670 Crane Call Station.

7. Interfaces, Controls and Displays

The following elements can be found on the front side of the device:



8. Commissioning

Each device that leaves the production site gets a standard check list with a static IP address (192.168.100.10). After switching on the system, and after resetting functions or connecting an V670 Crane Call Station, there is an automation initialization procedure running which takes about seven seconds and is terminated with the rest position. The call station is then ready for operation.

The Call Station initialization is shown as running light from left to right of all 16 keys.

9. Configuration

To be used in a VIPCOS system, the V670 must be configured with relevant data.

The Crane Call Station is configured via the IP network using a standard internet browser to visit the configuration website of the device or using the software VIPCOS Configuration (Reference number 701200). The user interface which has been implemented has a clearly structured layout.

10. Functionality

10.1 Overview

The VIPCOS 670 Call Station is part of the innovative VIPCOS system which distinguishes itself from other, conventional intercom systems by virtue of its "decentralized IP-intelligence".

As the switchboard software is located inside the call station, the call station itself can act independently and communicate without a central switchboard.

For this purpose, the call station is connected to an IP-compliant Ethernet system by means of a Cat 5 cable directly via the switch.

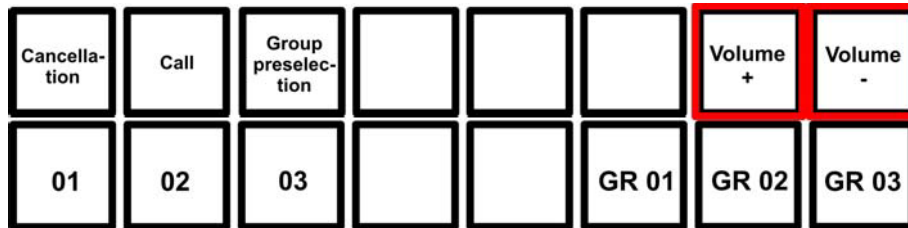
The second RJ45 sockets of the call station enable a redundant connection to a second Ethernet system.

10.1.1 Local Functions

Local functions affect only one call station. They do not have any influence on any other call stations. The required specifications are automatically transmitted to a call station during initialization. This makes it possible to use this call station immediately on the basis of individual local functions, i.e. those functions that have been intended only for this station.

10.1.2 WL volume +/-

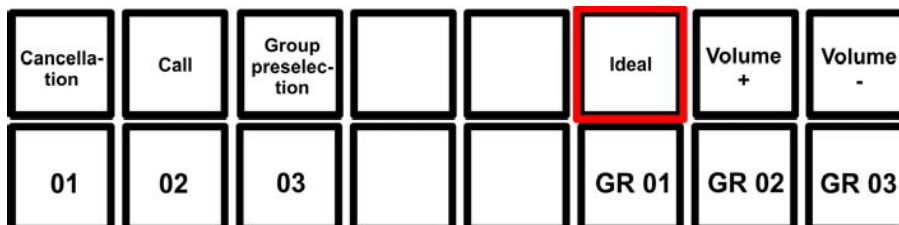
When this local function has been set up after initialization, there are two control keys, one for "Volume +", the other for "Volume -". Each actuation of the speaker volume for call connections increases or decrease the volume by one setting. A volume setting in this instance is 2 dB (decibel). In addition to the basic setting, the initializing process also stipulates the minimum and maximum values.



Key functions are examples!

10.1.3 Ideal key

The basic setting can be reset at any time by actuating the ideal key, even after the values have been manually changed. This is invaluable if the preset values have been inadvertently changed so that the Call Station can be operated in the standard settings.



Key functions are examples!

10.2 WL destination keys

10.2.1 Simplex/Fullduplex intercommunication connections (WL/Fullduplex)

Intercom connections are conducted from a keyboard via a loudspeaker and microphone. The VIPCOS system integrates echo canceling software. To avoid any acoustic feedback the Volume needs to be adjusted to the workplace.

Each available user is assigned an individual key at each call station. Inside or next to these keys, there are light-emitting diodes signaling the current operational status of the associated call station. In this context, continuous light indicates that the line is currently engaged by another active voice communication. On the other hand, intermittent light indicates that a connection has been established.

To establish voice communication with any user, simply press the key assigned to this user. Once this has been done, the user can be addressed immediately. It is essential that the key is held down while you're speaking. Release the key when you have finished!

During the call, the call station at the other end will display a flashing light, either inside or next to the key associated with the caller.

All other call stations will display a continuous light in their associated diodes, which serves as an Engaged signal. Other stations cannot join in the ongoing call (unless they have priority status or Fullduplex connections are available), i.e. engaged lines or connections cannot be used. In other words, as long as a target key indicates an engaged status (continuous light), the associated user cannot normally be called until the continuous light goes out and the line is clear again.

After you have finished speaking and released the key, all associated functions will be terminated and all associated lamps will go out. If the other person wants to respond, they press the required key and answer. This process can be repeated any number of times.

10.2.2 Loudspeaker announcements (EL)

The procedure for loudspeaker announcements is the same as for simplex intercommunication connections. Simply press the key and speak. By pressing the key, a connection to a loudspeaker or loudspeaker circuit will be established. This one-sided connection will continue until the key is released.

10.2.3 Group call

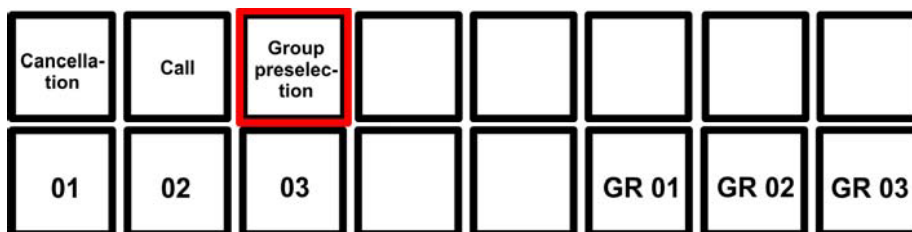
A group call combines a number of users or loudspeaker circuits to form a pre-defined group. As usual, connections are established by pressing a key and these connections continue until this key is released. Engaged call stations or loudspeaker circuits will normally not be interrupted.

As usual, target call stations display a flashing light in their associated diodes. For the two call stations involved, all other call stations receive a continuous light as an Engaged signal.

10.2.4 Dynamic Group Call

Individual users or even pre-defined groups can be combined to form temporary larger groups. To do so, carry out these steps:

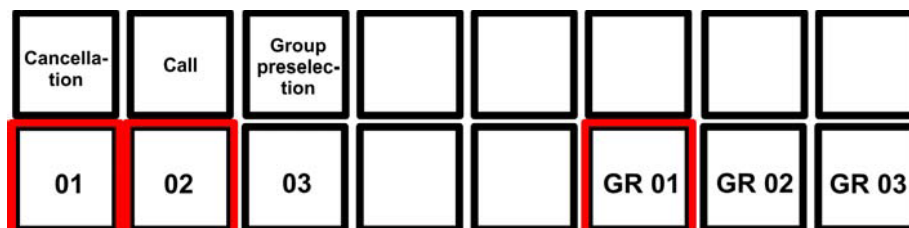
- a) Group preselection
Press this key to select and activate this function. The key's lamp will flash.



Key functions are examples!

This function will continue until the Group preselection key is pressed again. The key's lamp will stop flashing.

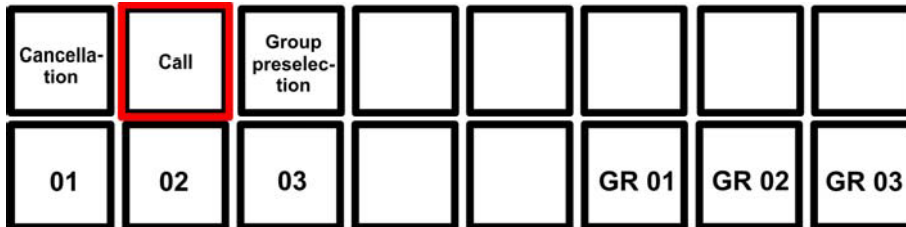
- b) Combining a number of groups
After pressing the Group Preselection key, you can select a number of different users or groups by pressing the associated call keys. The lamps in the keys associated with the selected persons will steady light.



Key functions are examples!

c) Call key

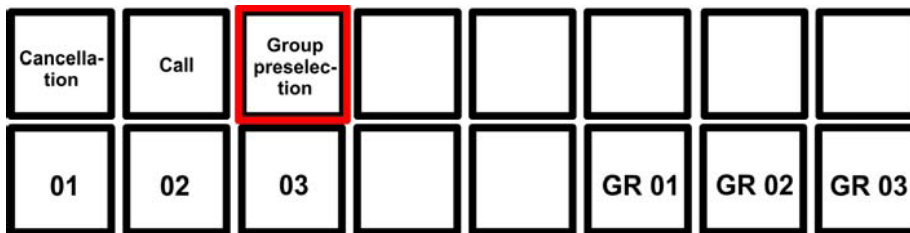
After selecting the new group, this group can be called by pressing the call key. Simply press the call key and start speaking. After pressing the key, the required connection will be established. The connection will be broken after releasing the key. All other connection keys will display a continuous light as an Engaged signal.



Key functions are examples!

d) Cancellation of dynamic Group Function

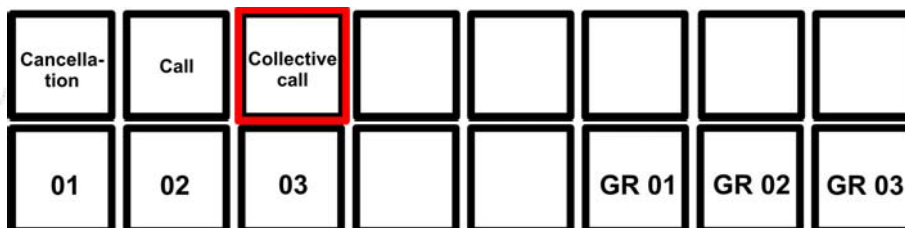
The group preselection will remain active until the key is pressed again.



Key functions are examples!

10.2.5 Collective call

A collective call combines all users and loudspeaker circuits to form a larger group which can be called by pressing the collective call key on the VIPCOS Crane Call Station. As usual, the connection remains active until the key is released.



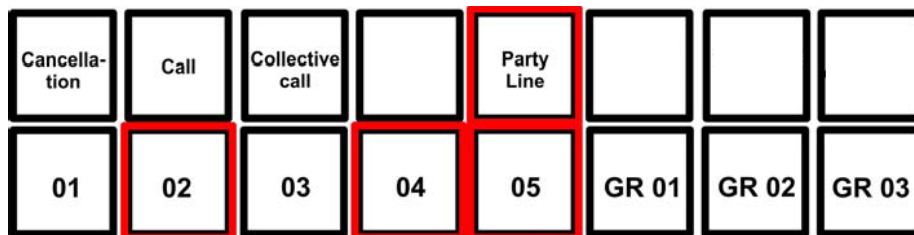
Key functions are examples!

10.2.6 Party Line connections

10.2.7 Establishing a Party Line connection

This function enables users to set up conference calls between a number of users. To do so, press the Party Line key to start the selection. The key's lamp will flash.

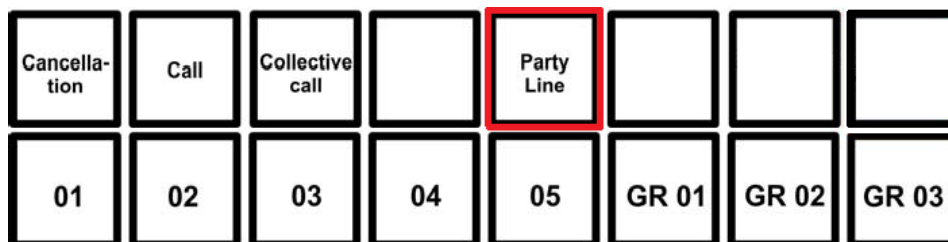
Next, select the required participants by pressing the associated keys, for example "2", "4", "5".



Key functions are examples!

This will cause the lamps of the selected persons to steady light. The selected persons can now start the conference call. You can see which users have been selected by the indicator lights on the destination Key. At the call stations of the selected users, the lamp of the Party Line key will start to flash. If you want to speak to all other users of the conference call, press the Party line speech key and keep it pressed until you have finished speaking. Then release the key.

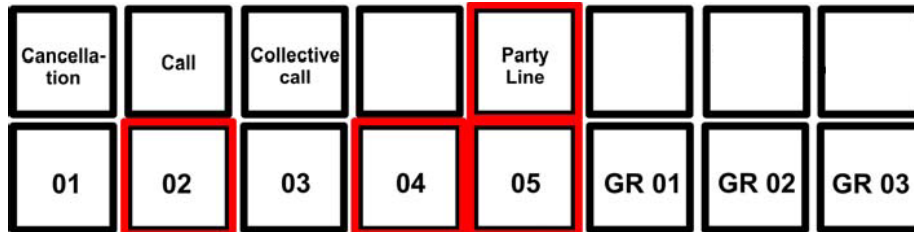
To stop the Party Line function, press the Party Line Button again. The Keys lamp will stop flashing.



Key functions are examples!

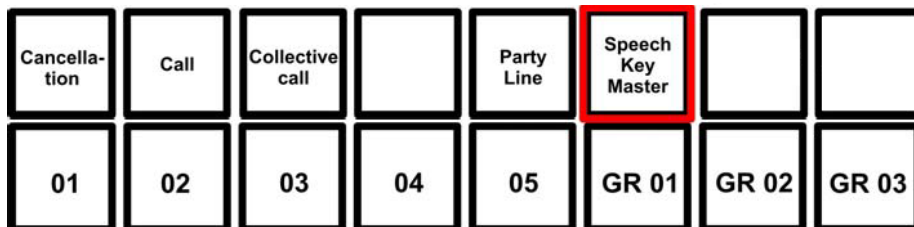
At the call stations of the selected users, this will cause the light in the Party Line key to switch off.

The starting call station will be the Master and handle the whole conference. It can add and delete subscriber as needed even when the function is already started. Press the Party Line key to start the function. Next, select the required users (as described above). This will cause the keys of the selected persons to steady light, thus indicating that this person can now start a conference call.



Key functions are examples!

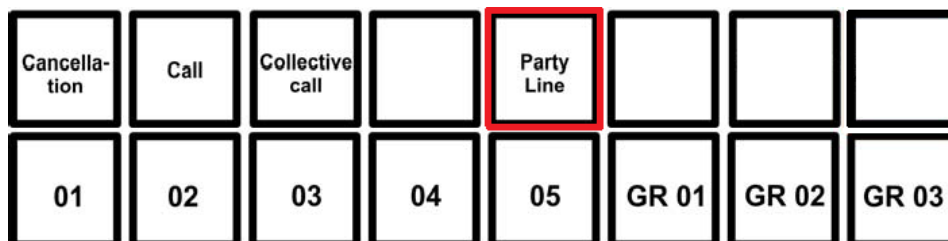
At the own call station, the Speech Master key's lamp will active. To talk to the other conference members, press this key and keep it pressed until you've finished speaking. The keys of the other conference members (for example, "2", "4", "5") will show a continuous light.



Key functions are examples!

For example, while user "2" is speaking, the associated lamp at his (or her) own call station is flashing. All other persons involved in the call have a continuous light.

To cancel the Party Line connection, press the Conference Cancellation key. The display will show the clear function. The lamp next to the Party Line key will go out for the selected users.



Key functions are examples!

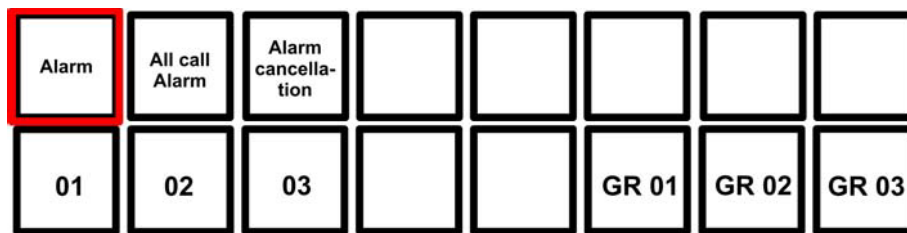
10.2.8 Announcements with Pre-tone

When you press the key with configured Pre-tone, a connection to another call station will be established and the Pre-tone replayed (Also on the own station), after which you may speak to the selected call station. Cancel the connection by releasing the key.

Announcements can also be sent either to a selected group or as a collective call. After you've pressed the Group Call or the Collective Call key with configured Pre-tone, a connection to the pre-defined group / to all target call stations will be established and the Pre-tone replayed. Now you can make an announcement to the selected target group. To finish the call, simply release the key.

10.2.9 Triggering an alarm

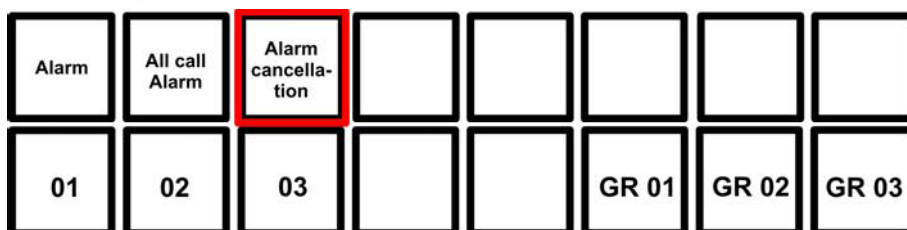
By briefly pressing this key (for example, "Alarm") an alarm sound can be sent to the preconfigured loud-speaker circuits, single subscribers or Groups.



Key functions are examples!

Press this key shortly.

The alarm will continue until it is cancelled by pressing a pre-defined key (for example, "Alarm Cancellation").



Key functions are examples!

10.3 Functions without assigned keys

10.3.1 Priorities

All connections and functions are given a defined priority. Busy connections or functions can only be interrupted by connections or functions of a higher priority. Connections of the same or lower priority are not executed with a busy connection or function. The system allows for 255 priority levels.

10.3.2 Call storage function

The call storage function will save unanswered calls. If there were any unanswered calls, the caller(s) will be identified by the call station's associated target key(s) flashing. In this way, users can see at a glance who tried to call them during their absences. The Call storage function will be terminated as soon as the call is finally made or after a configurable time.

To avoid Call storage being activated again and again for each reply in an intercom call, the VIPCOS system controls the call intervals and activates Call storage only after a certain pre-defined time interval has elapsed.

10.4 Telephony function



Notice!

VIPCOS SIP Server Hardware is required when using IP telephones in VIPCOS systems. You may be able to use your own SIP server, this needs to be proofed by Vonamic GmbH. A corresponding gateway is also necessary for connecting analogue or ISDN telephones.

10.4.1 A V670 Intercom Call Station dialing by a telephone subscriber.

A telephone subscriber always dials a V670 Crane Call Station by dialing the subscriber's ID number configured in the VIPCOS Web interface. The connection is established immediately and the telephone subscriber can talk directly. Slow blinking of the LED on the line key configured on the V670 Intercom Call Station signals the call and readiness to speak. The speech-connection sequence is like a normal telephone conversation. The line key must be pressed to activate the microphone on the V670 Crane Call Station and it may only be released after speaking is finished. The telephone subscriber is always audible at the V670 Crane Call Station due to a Full duplex connection.

A busy signal is audible on the telephone if the V670 Intercom Call Station has just established another active speech connection. Connection reestablishment can start after hanging up and picking up the receiver again. The conversation can be terminated by hanging up the telephone subscriber's receiver or by pressing a "delete" key specially set up for the operation on the V670 Crane Call Station.

The connection is automatically terminated after a preconfigured time of at most 90 seconds if the proper line key is not actuated during the connection, nobody speaks at the dialled destination, or a possibly configured "delete" key is not pressed after termination of the conversation.

10.4.2 A V670 Intercom Call Station dialing a telephone subscriber.

Only telephone subscribers who have been assigned a permanent line button on the V670 Crane Call Station through configuration in the VPCOS system can be dialed up. The line key must be briefly pressed to establish the connection. The steady line lamp signals connection establishment. The telephone is dialed directly and an audible signal occurs on the telephone. A dial tone is audible at the V670 Intercom Call Station until the telephone subscriber has lifted the receiver. After the connection is established by lifting the telephone receiver, the telephone subscriber can speak directly as accustomed and will be heard at the V670 Intercom Call Station. The speech-connection sequence is not like that in a normal telephone conversation. An intercom connection is involved instead. The V670 Crane Call Station's operator controls the microphone activation of the own Station. The telephone subscriber can speak immediately after actuating the line key on the V670 Intercom Call Station. The key must remain actuated while speaking and may only be released after speaking is finished. The speech direction from the V670 Intercom Call Station to the telephone subscriber always takes precedence. The telephone subscriber is always audible at the V670 Crane Call Station due to an Fullduplex connection.



If the telephone connection dialed is busy, then a busy signal is audible on the telephone loudspeaker. A press on the hang-up key at the V670 Crane Call Station terminates the dialing procedure. An additional connection can be established directly by pressing the line key.

The conversation can be terminated by hanging up the telephone subscriber's receiver or by pressing a "Hang-up" key specially set up for the operation on the V670 Intercom Call Station.

The connection is automatically terminated after a preconfigured time of at most 90 seconds if the proper line key is not actuated during the connection, nobody speaks at the dialed destination, or a possibly con-figured "delete" key is not pressed after termination of the conversation.

11. Name plate

The name plate is located on the device's lower rear side:

1	 
2	Type V640 Desktop Call Station
3	Serial 00-01-1A-30-00-0F
4	Year 2018 FW 0.99 / HW 1.01
5	Origin Made in Germany

- | | | |
|---|--------|--|
| 1 | Logo | Manufacturer logo and QR Code |
| 2 | Type | Product name |
| 3 | Serial | Serial number. All manufactured devices can be identified through this number. |
| 4 | Year | Time of production. Firm-, and Hardware Version |
| 5 | Origin | Country of Origin |

12. Maintenance

Operating the device does not require observing a maintenance plan.

13. Technical Data