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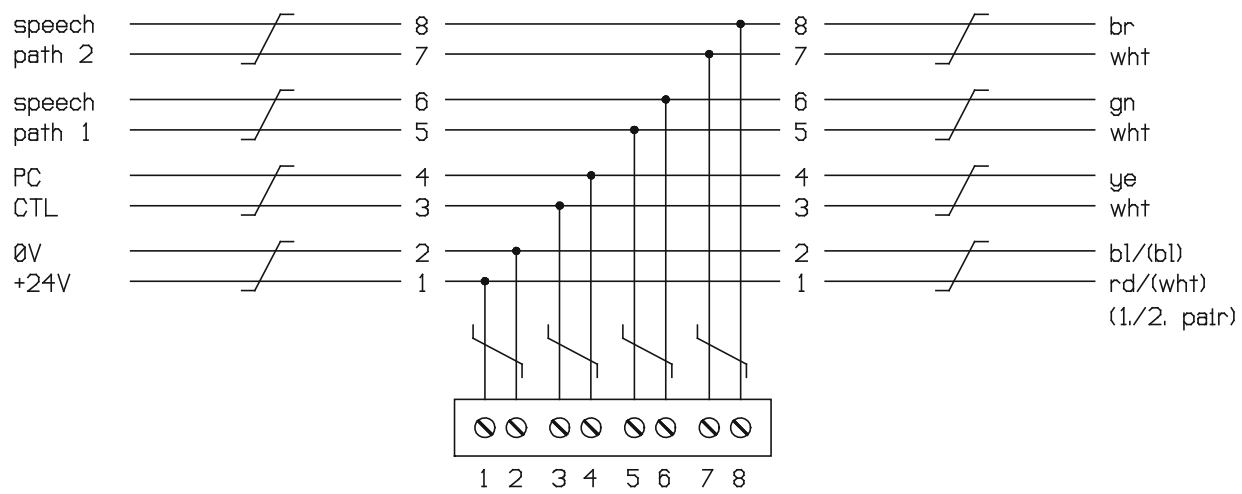
Audio part

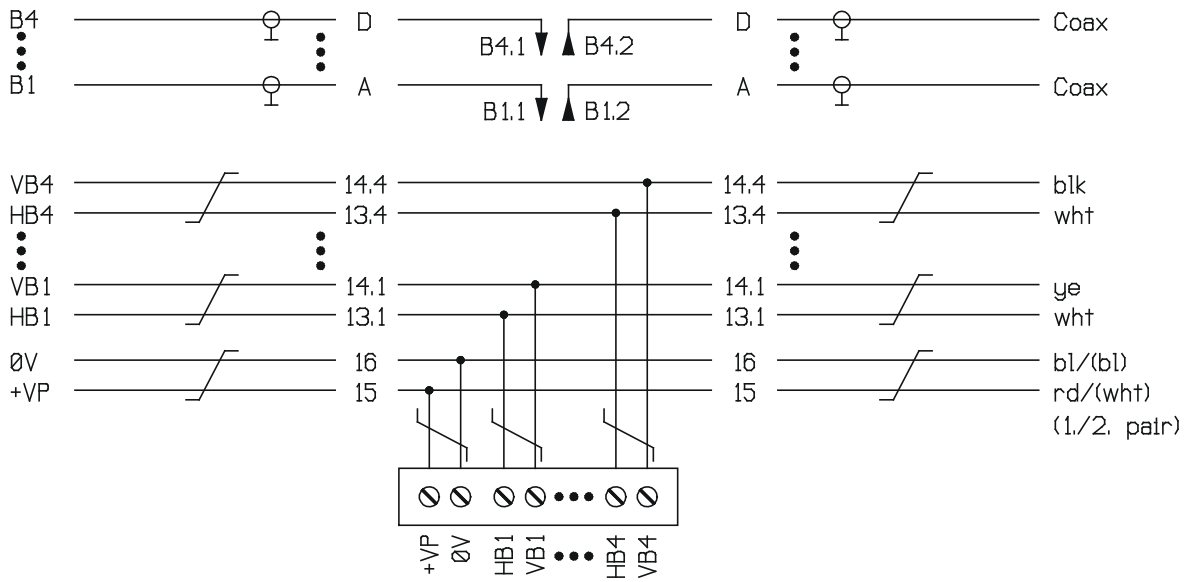


The **pairs of wires** specified in the above figure have to be employed for the bus lines. The supply wires have to be **doubled** in **side circuits**. It is recommended that you normally employ cable, **twisted pair**, **AWG 20**, e.g. **JY-ST-Y 6x2x0,8 mm** or compatible, as line material. The unused pair of wires serves as a spare, or will be used to perform various control functions. The supply wires have to be **doubled** in **side circuits**.
All the wires have to be laid in compliance with an **uniform** color system in the entire facility. It is recommended to apply the above indicated internationally standardized color key.

Assigning wires

No.	Symbol	Designation / function	
1	**24 VDC**	supply voltage (+) functional area 22 – 28 VDC	
2	**0 V**	reference line to supplying and controlling all the measurements to the control system refer to this line	
3	**CTL**	control and data line bidirectional data transfer from and to all the subscribers	
4	**PC**	power-control line by means of this line, all the supply units in the facility will be activated and deactivated synchronously activating is centrally, by means of a switch installed by the Owner between wires 2 and 4	
5	**S 1a**	voice channel 1, wire a	two-wire voice system with constant-current supply 80 mA, 600 Ohm impedances the voice system is electrically decoupled from the control system (wires 1 - 4) supplying is by one SVG-641-0 supply unit per voice channel employing one pair of wires for each voice channel will be required
6	**S 1b**	voice channel 1, wire b	
7	**S 2a**	voice channel 2, wire a	
8	**S 2b**	voice channel 2, wire b	
7xx	**Gr a**	group voice-channel a	voice channel 2 is used as local voice-channel in facilities with the formation of groups it is then omitted for use as global voice channel
8xx	**Gr b**	group voice-channel b	

Video part



The video bus is constructed with 75-Ohm coaxial cables for the video transmission, a twisted pair of wires for the voltage supply, and the die control lines (H/V) to control the position of the cameras.
Shared-laying of video supply and control lines in the Siedle MULTI audio cable, in principle, is possible. For reasons of clarity, however, we recommend to use a separate cable, **twisted pairs, AWG 20** e.g. **JY-ST-Y-6x2x0,8-mm** or compatible.
The supply wires have to be **doubled** in **side circuits**. All the wires have to be laid in compliance with an **uniform** color system in the entire facility. It is recommended to apply the above indicated internationally standardized color key.

Assigning wires

No.	Symbol	Designation / function	
15	**24 VDC**	video supply voltage (+) functional area 20 – 28 VDC	
16	**0 V**	reference line to supplying and camera controlling this potential is identical with the ground potential for video signals as well !	
13.x	**HB 1 (.. 4)**	control lines for horizontal / vertical control of the system cameras one H / V pair of wires will be required per installed video channel	
14.x	**VB 1 (.. 4)**		
A	**B1**	video channel 1	coaxial lines for video-signal transmission one coaxial line will be required for each video channel in group systems, video channel 4 will automatically be defined as group channel
B	**B2**	video channel 2	
C	**B3**	video channel 3	
D	**B4**	video channel 4	

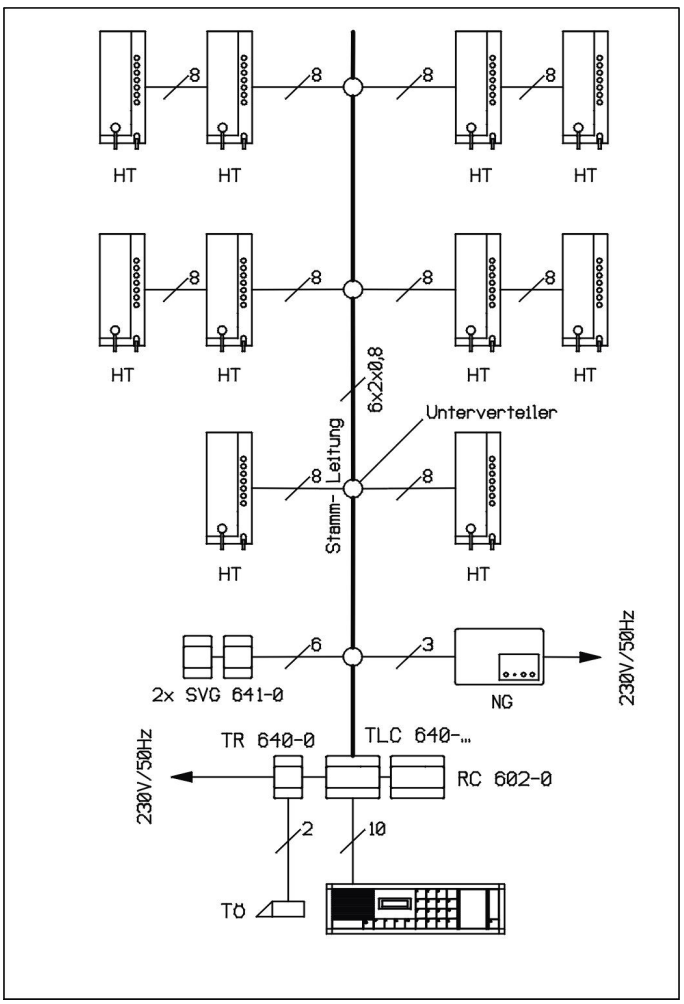
The video bus-lines will be looped-through to all the switching units.
Up to 2 floor cameras can be connected directly with the B2 and B3 bus-connections at the VMS-644-.. video switching-units. In this case, the corresponding bus lines omit as video channels in the entire system.
In video single-channel facilities, the power supply, the HB / VB 1 control lines and the coaxial bus line A will be required only.

When installing the bus system, you can execute any form in principle. Thereby, the below specified limit values must be observed:

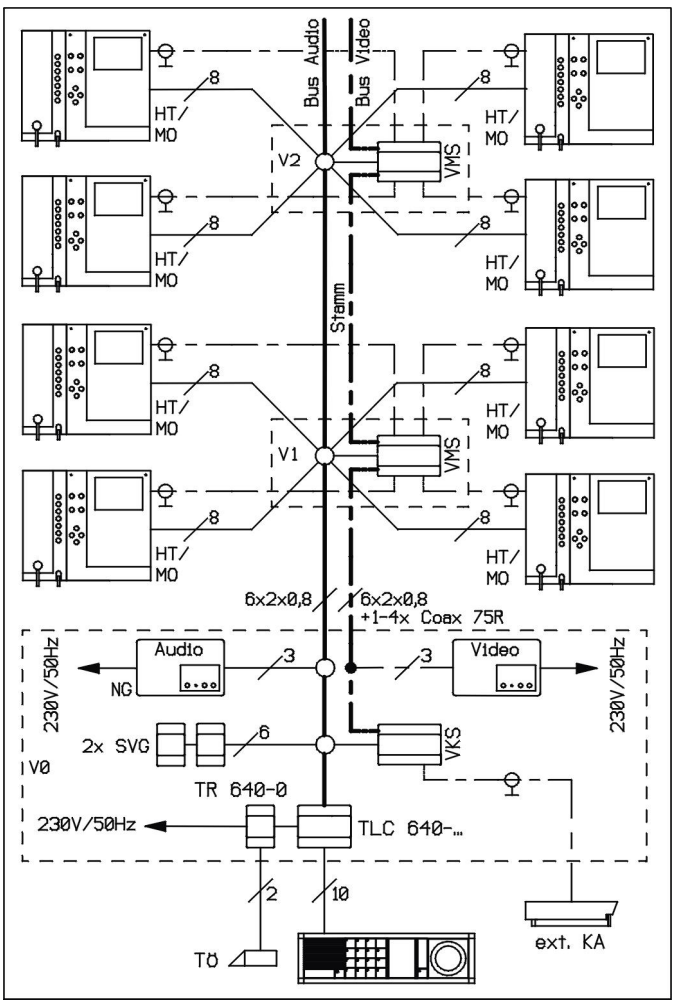
- max. range between the most remote subscribers 800 m (1,000 m)
- entire line-length installed for 500 subscribers 5,000 m ∗1)
- max. line-length from the TL controller to the functional modules 200 m
- max. length of the coaxial-bus trunk, or to the terminals 250 m

∗1) When installing less than 100 subscribers, any exceeding of the entire cable length of 2,000 m can cause functional problems, by reason of the large line-capacity relative to the low load. In this case, wire 3 has to be terminated by 1 kOhm to wire 2 at the end of the risers.

To reach optimal operating conditions, in the case of greater facilities as well, i.e. sufficient voltage supply, shortest line lengths, maintainability, etc., the installation has to be executed as the so-called side-circuit system with floor distributions.
The power-supply units have to be distributed evenly according to the load-distribution in the facility, e.g. in the floor distributors.
Pure star-type, or feeding-through installations, as well as large ring-circuits are not permitted.

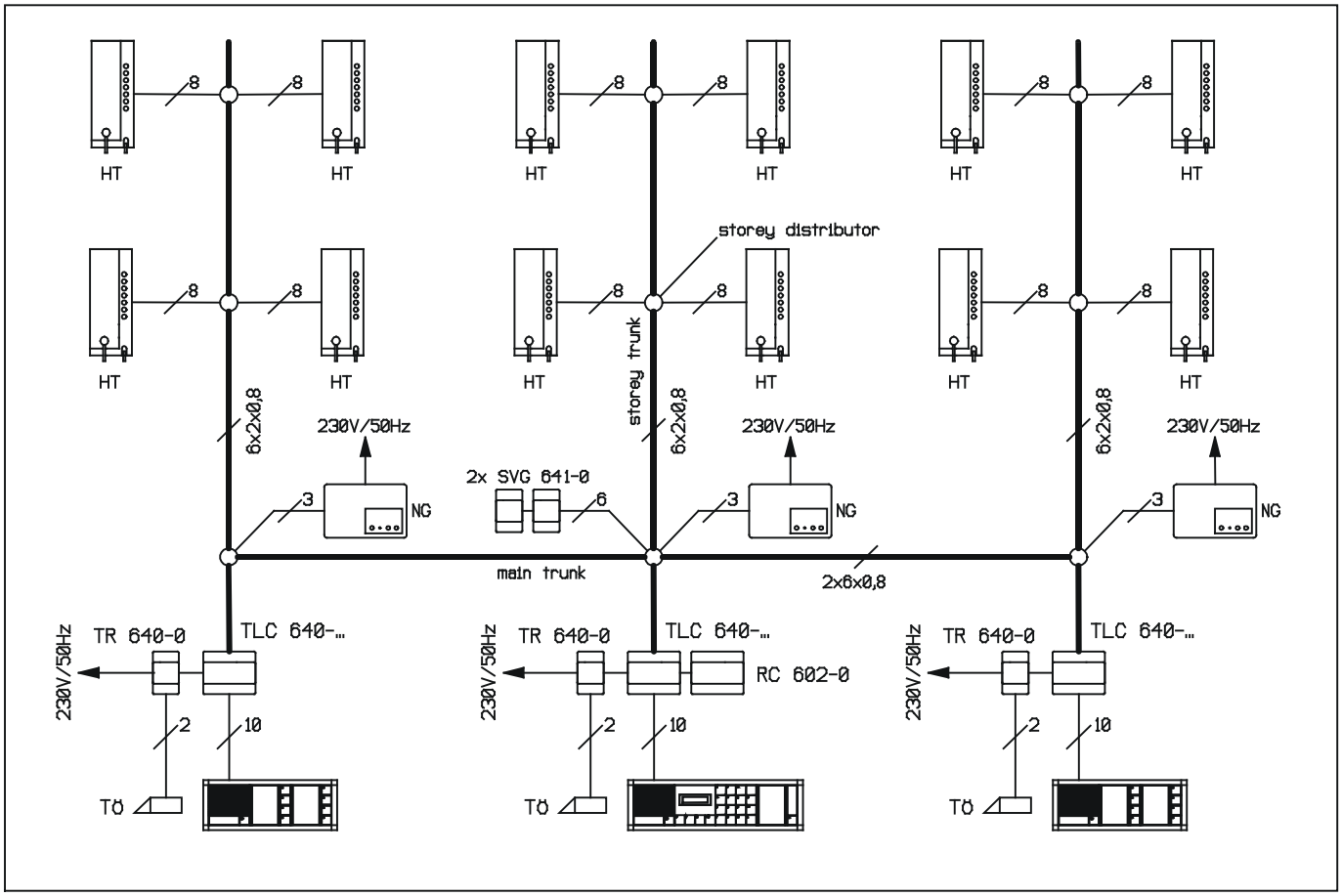


Simple side-circuit systems
Looping telephones in the floors
When employing video one-channel facilities, the video installation can be looped in the floors as well.

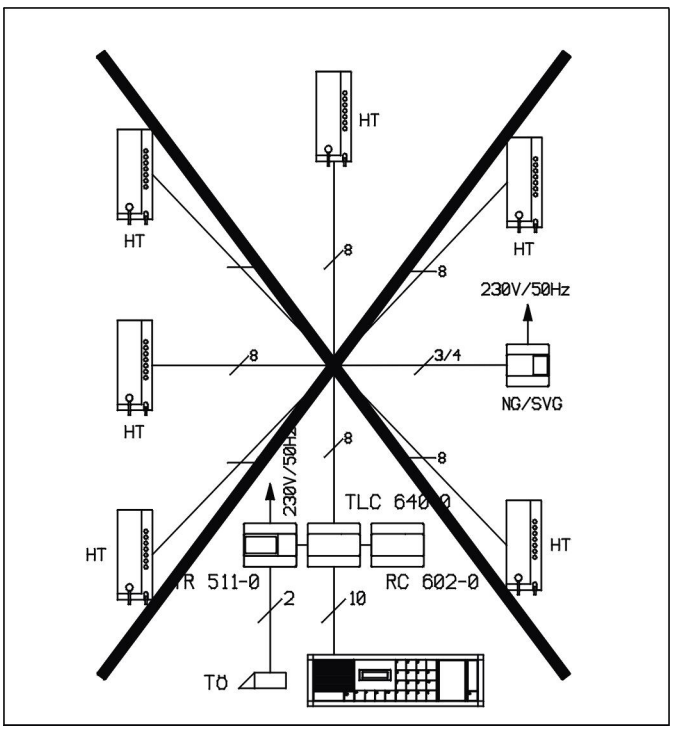


Installing telephones with a star-type connection to the floor distributor
When installing video multi-channel facilities, the coaxial lines must be laid with a star-type connection to the switching units.

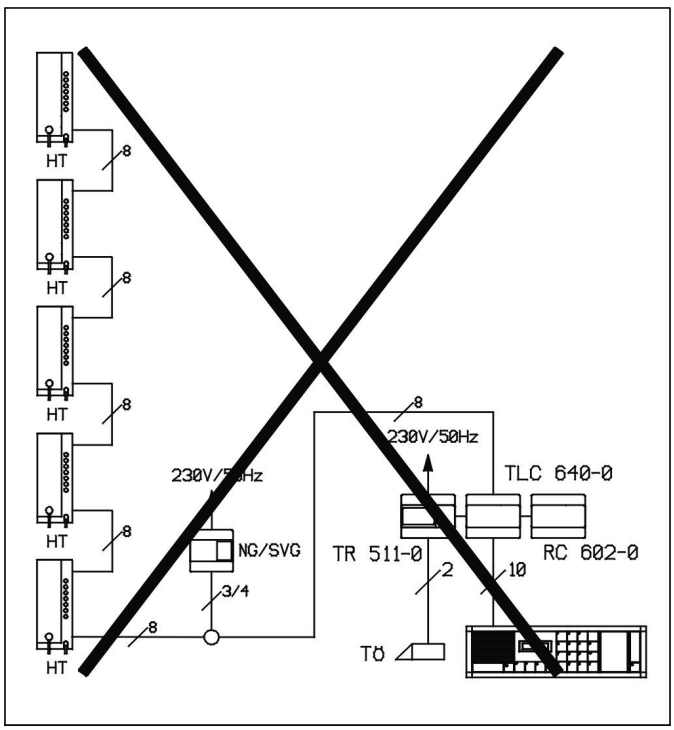
Trunk line system with several rising main groups



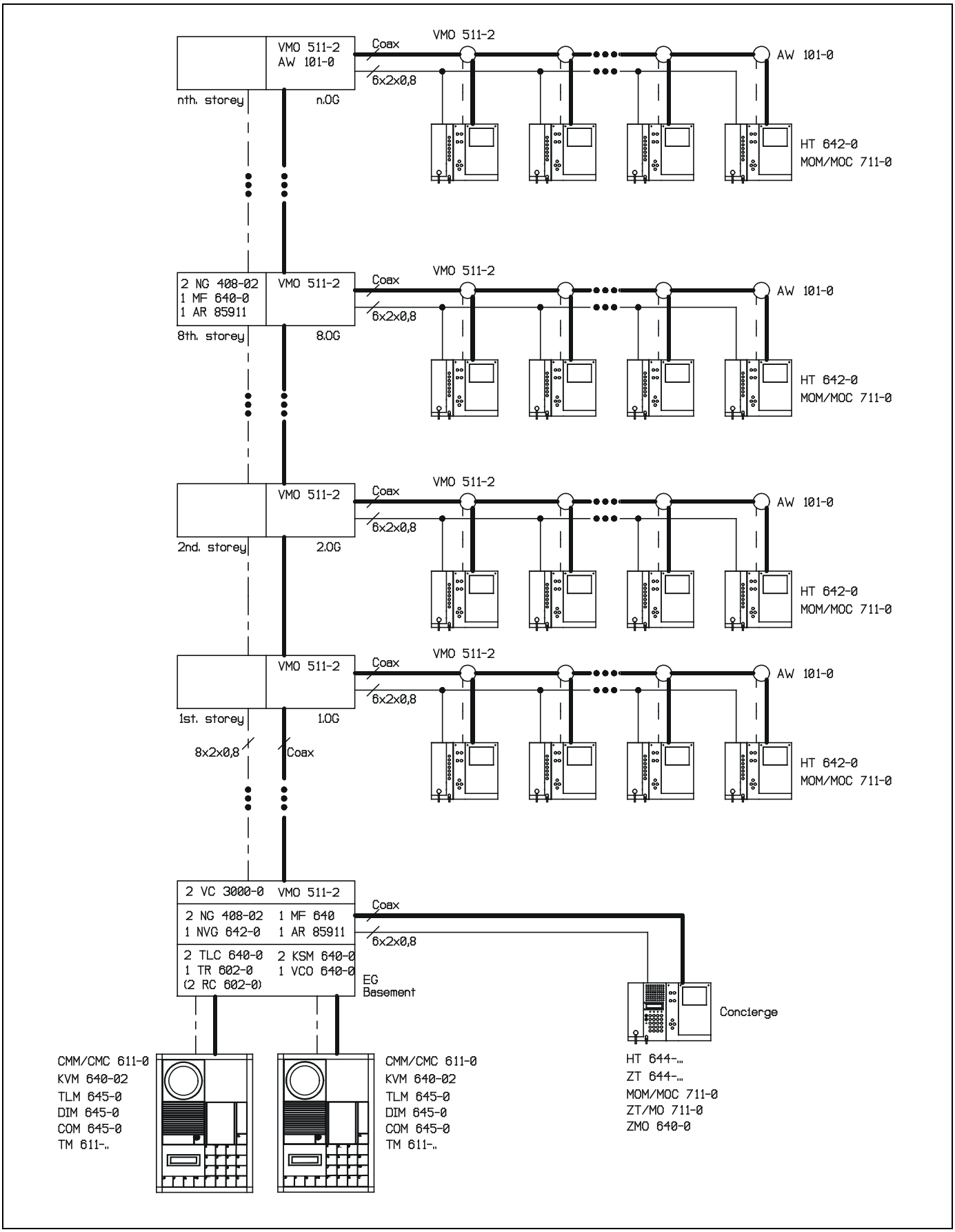
Pure star-shaped system (home run)



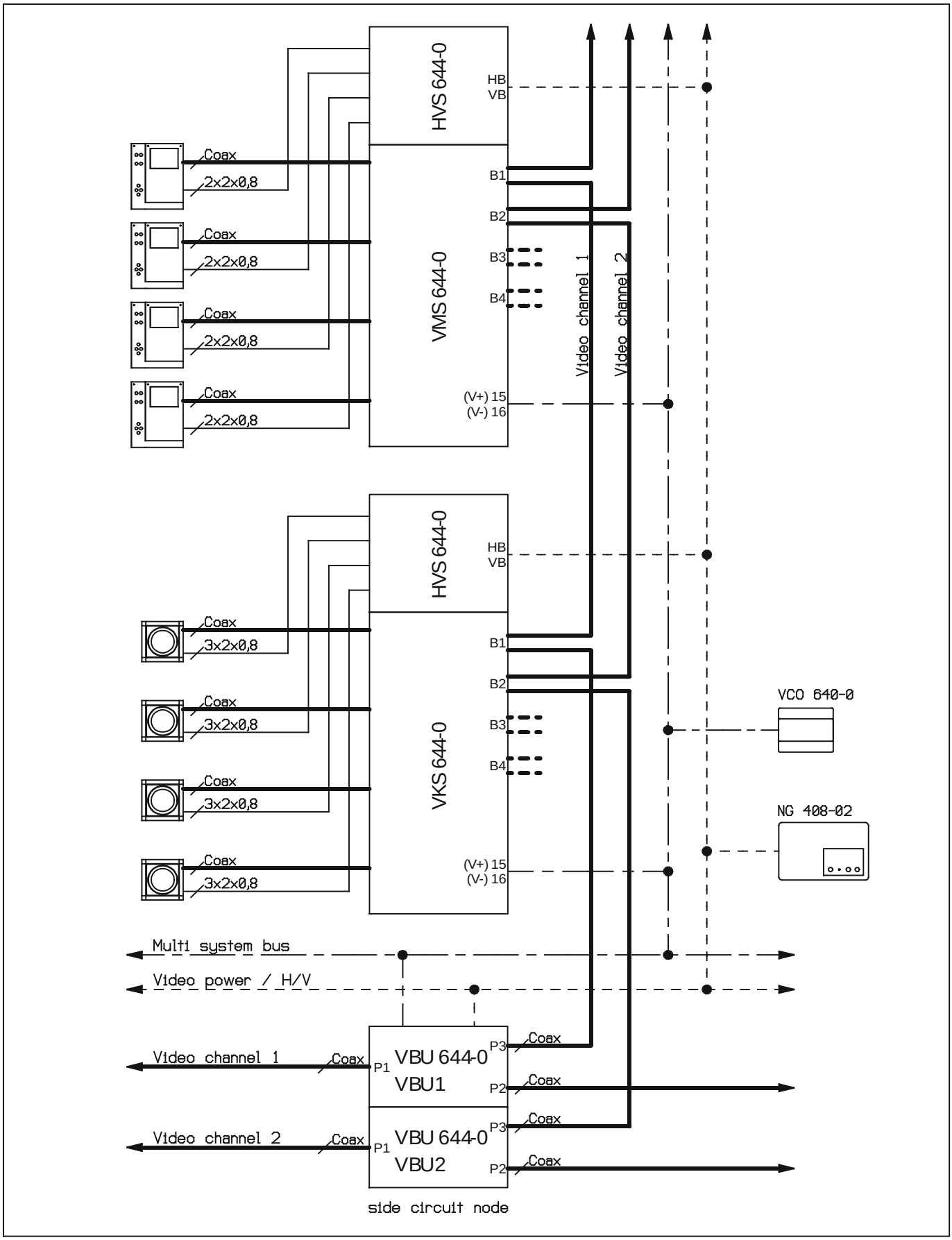
Pure connected trough system (dasy chain)



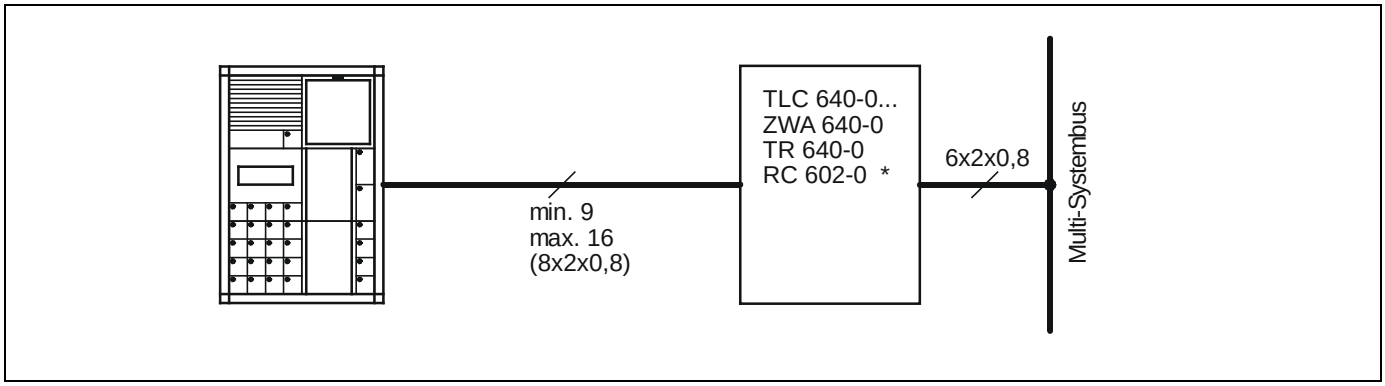
Principle wiring diagramm Single cannel video system

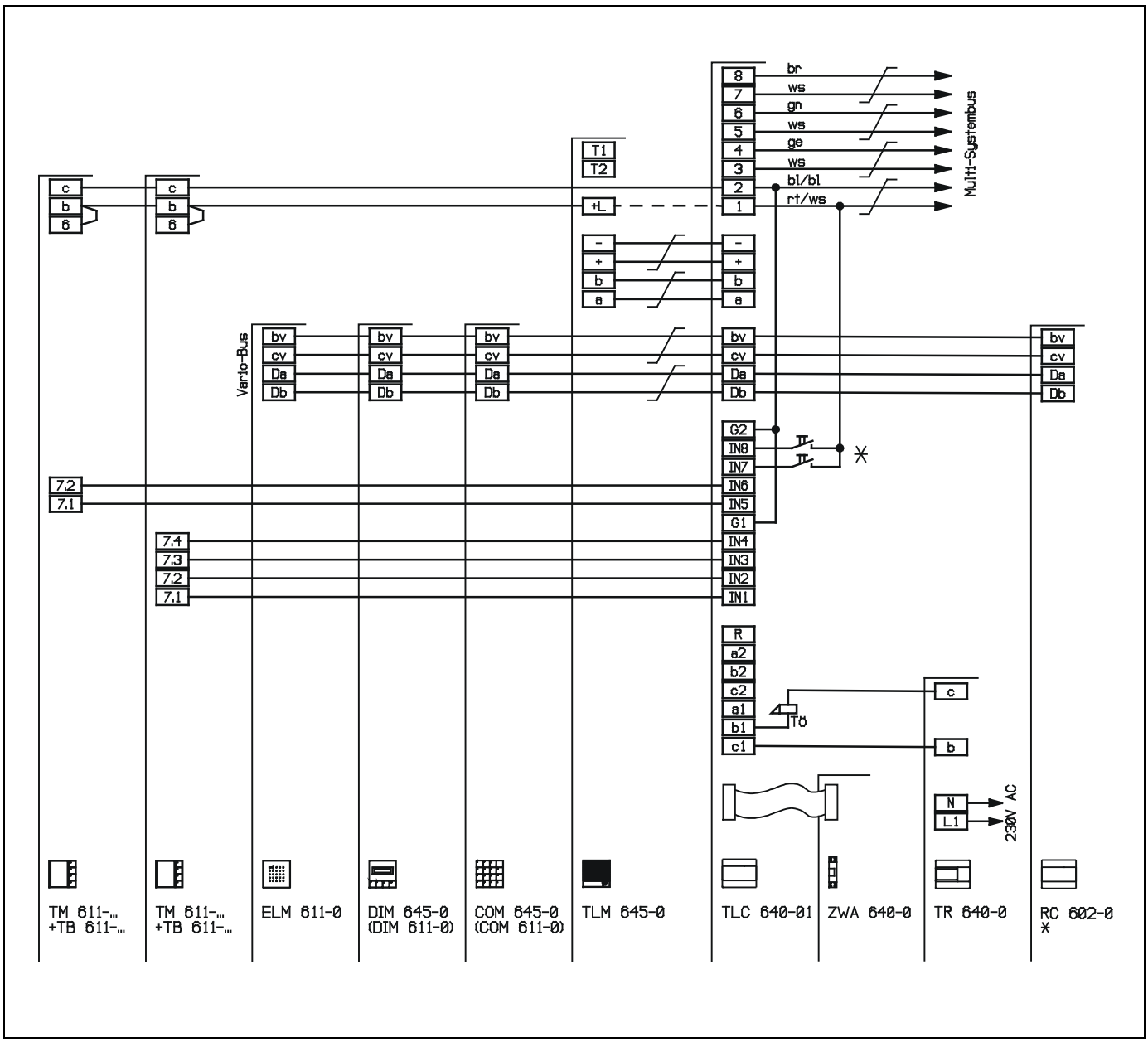


Principle structure diagramm Multi-cannel video system (displayed is only the video part)



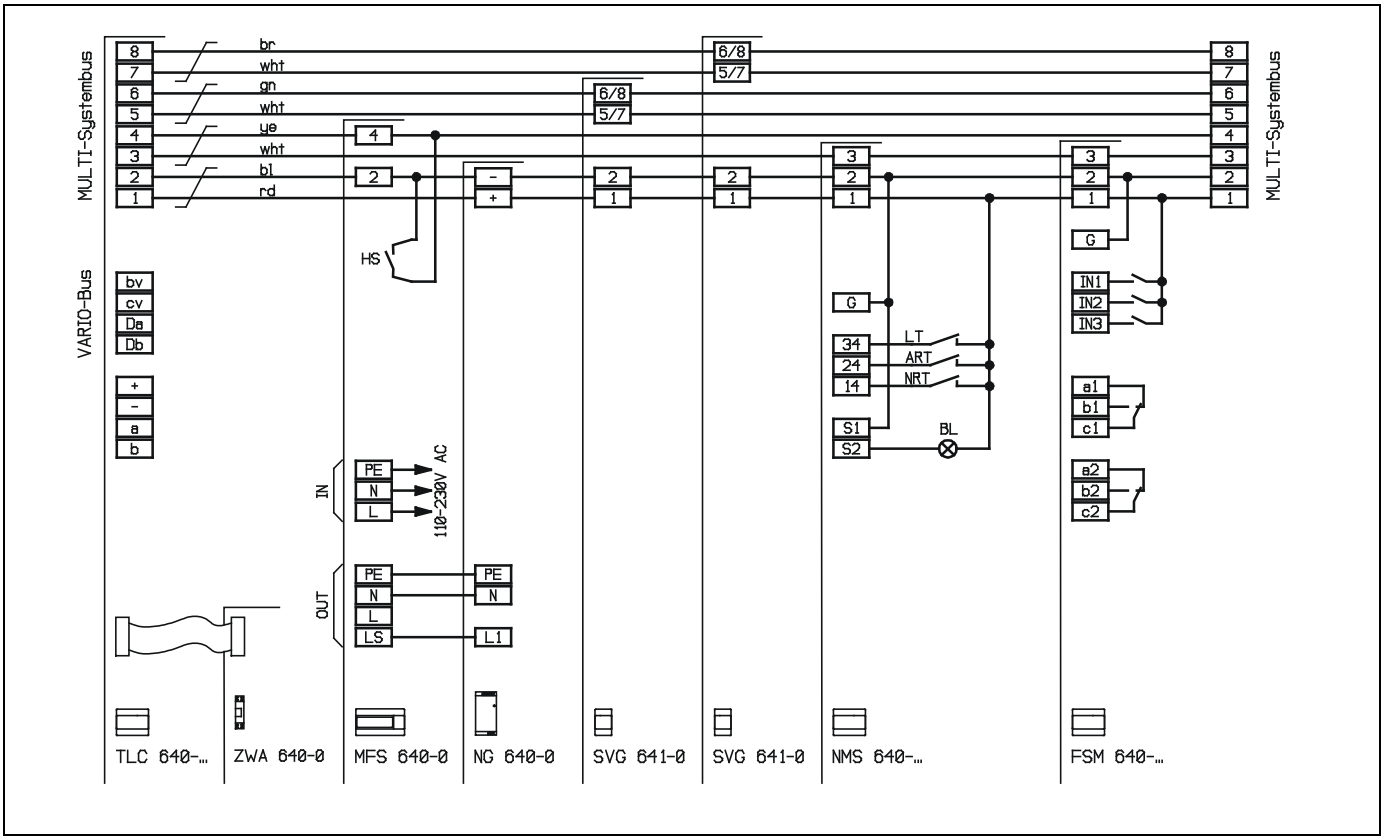
Door connection with Vario-bus modules and up to 6 push buttons



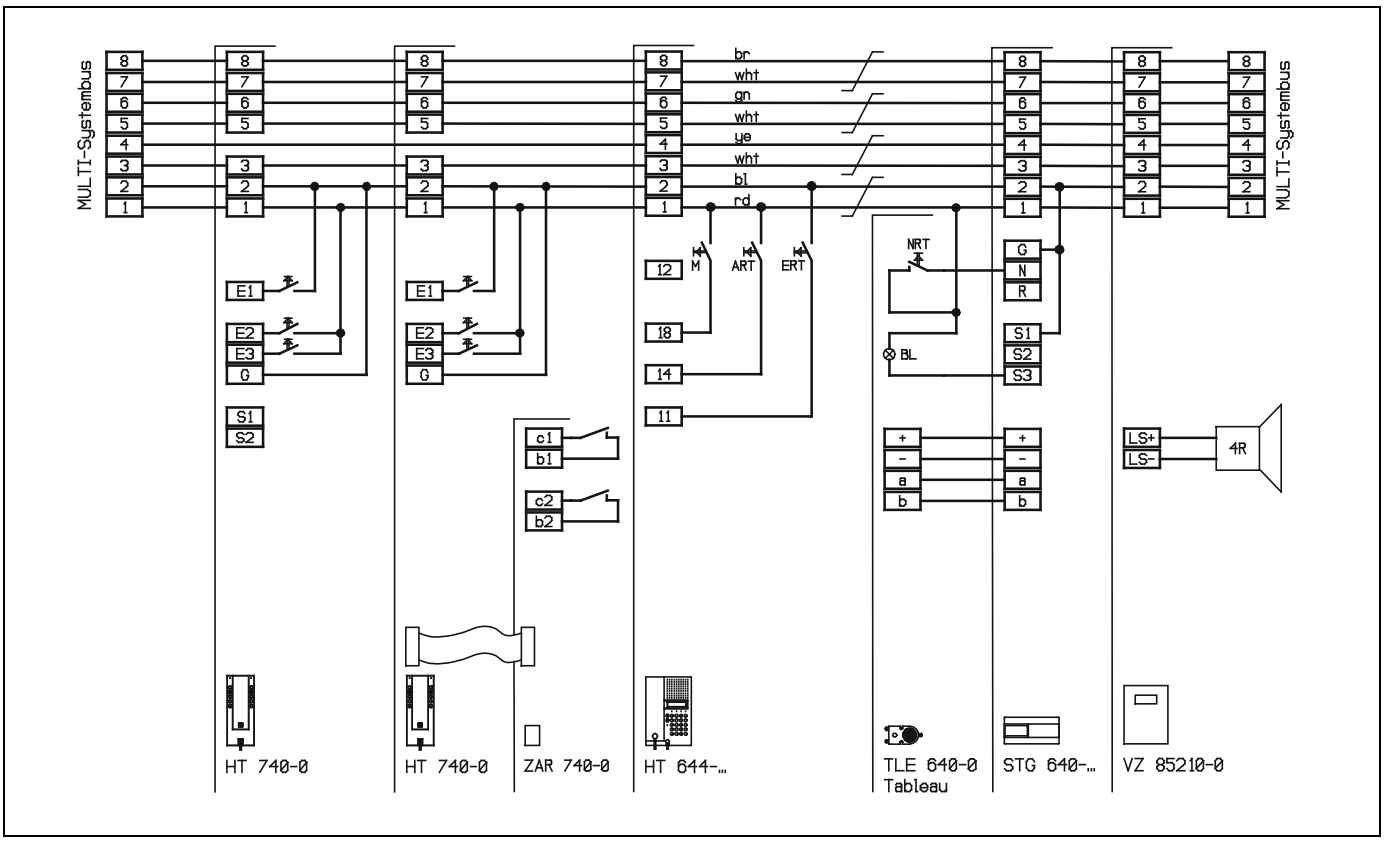


Each TLC 640-0.. can be connected with one ELM 611-..., one DIM 645-0, one COM 611-01, and one RC 602-... . A max. of 6 selectively-calling keys can be connected directly with the TLC 640-... unit. If needing more keys, they will be connected through the TME 640-... / TME 645-... .
The inputs IN7 and IN8 should be kept free for special applications, e.g. enabling functions. They should not be assigned to selectively-calling keys.

Multi- system bus: Connection the power supply and control units

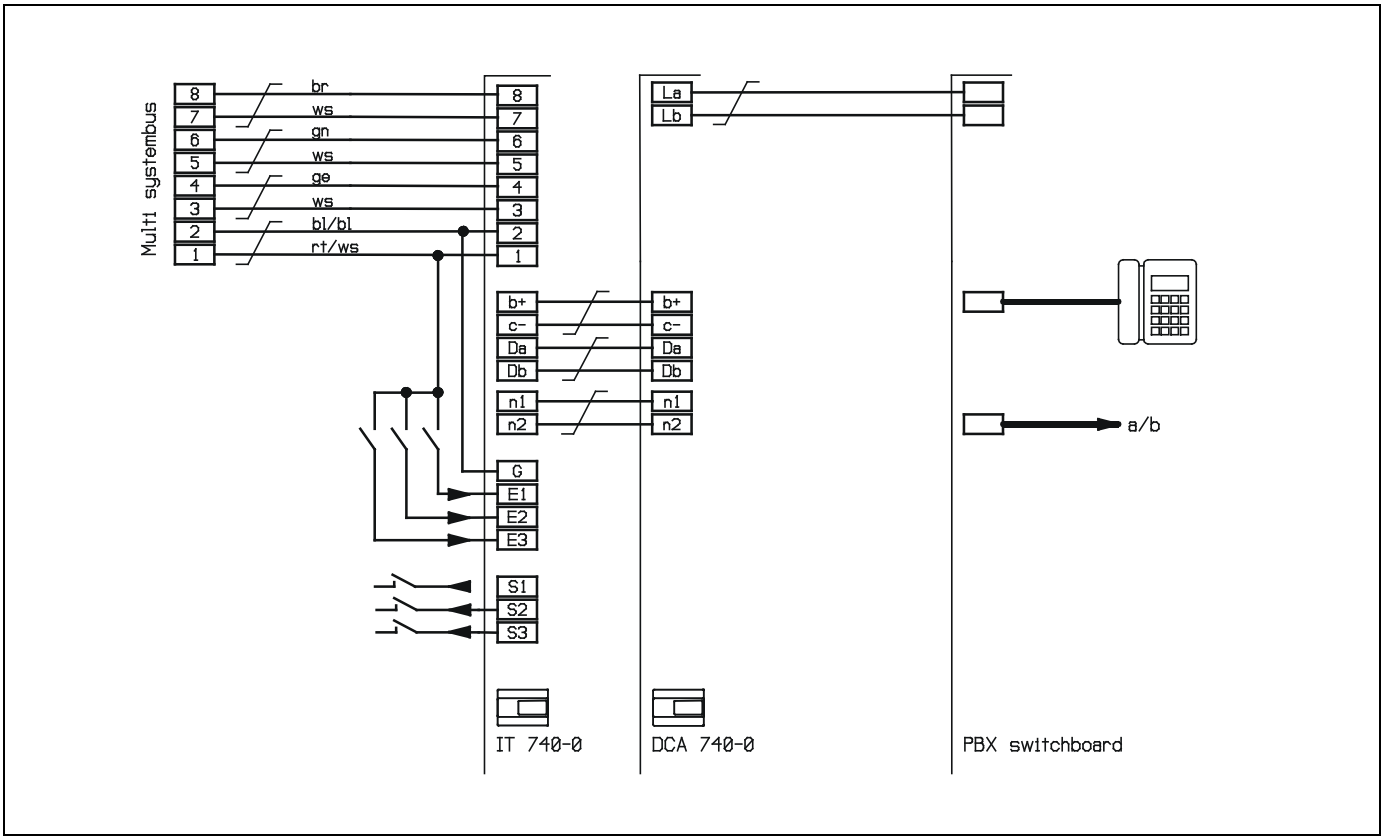


Multi-system bus: Connection the handsets and lift stations

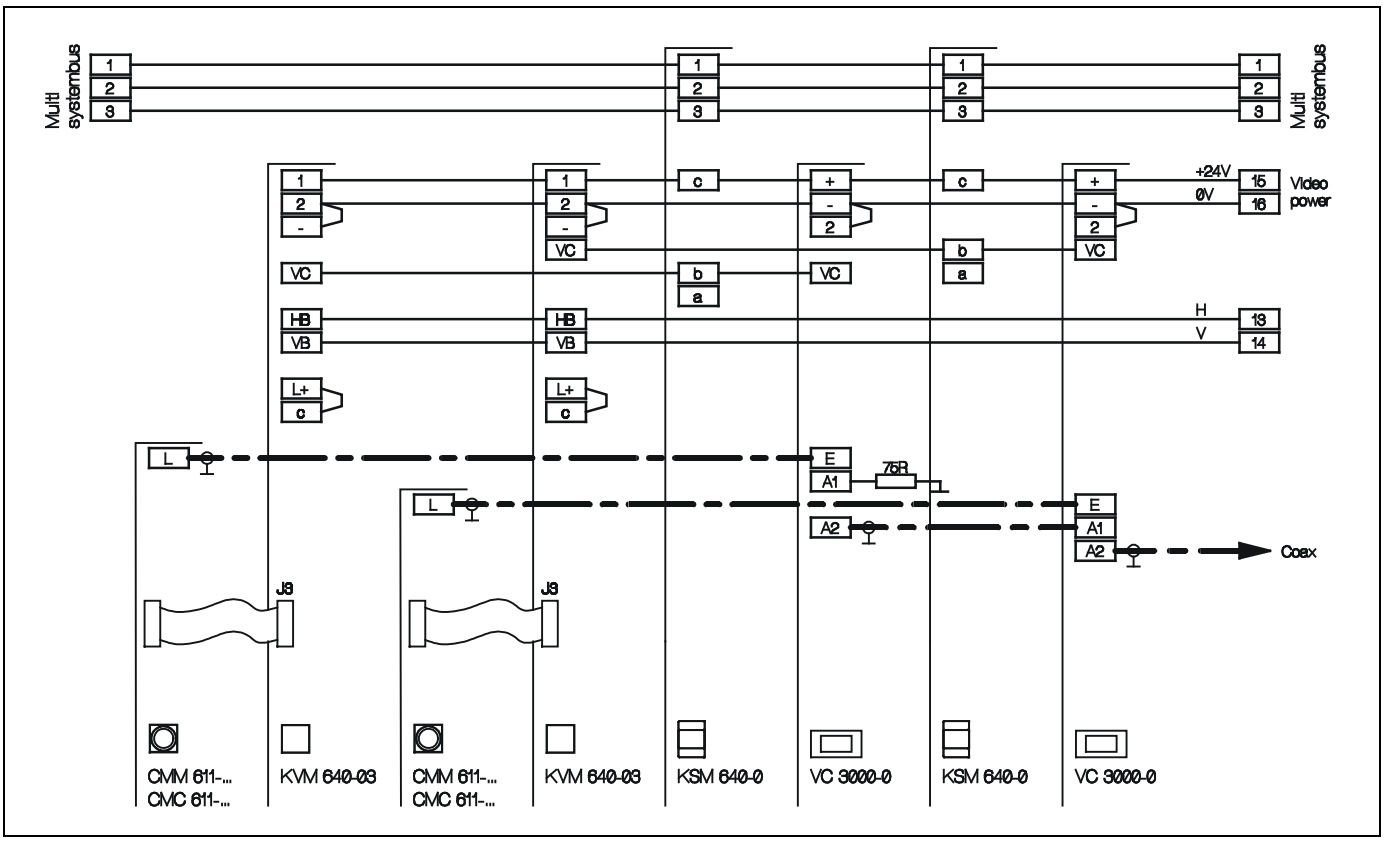


All subscribers are interconnected by means of the 8 wire system bus in parallel, and can be connected at any position in the network

Connection the DCA/IT 740-0 SET (PBX line)

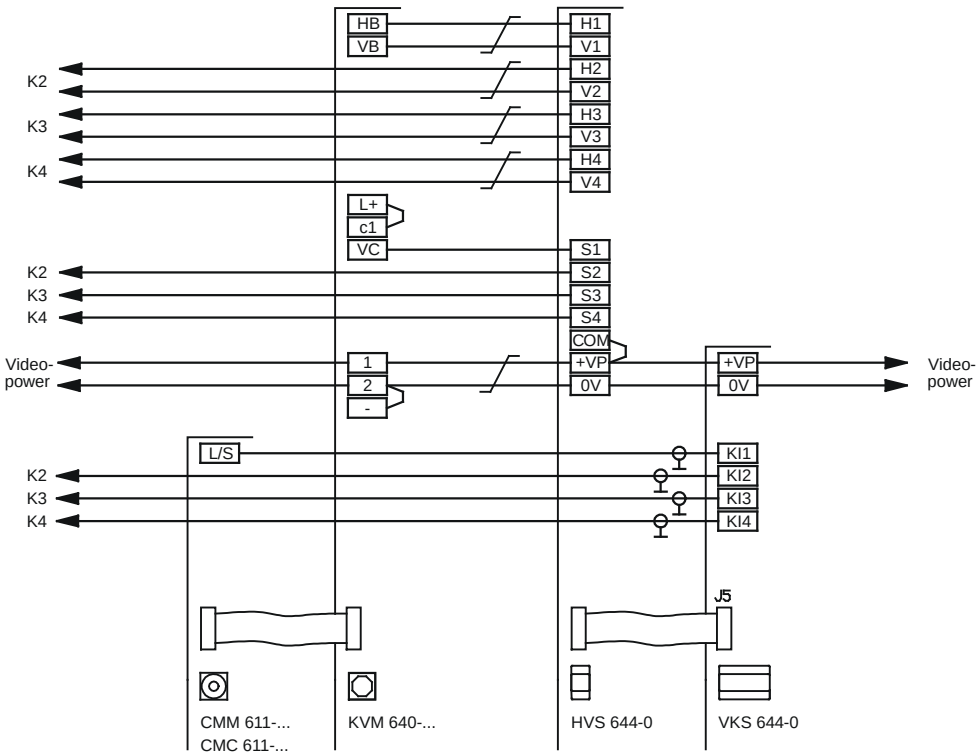


Camera connection at single cannel video systems

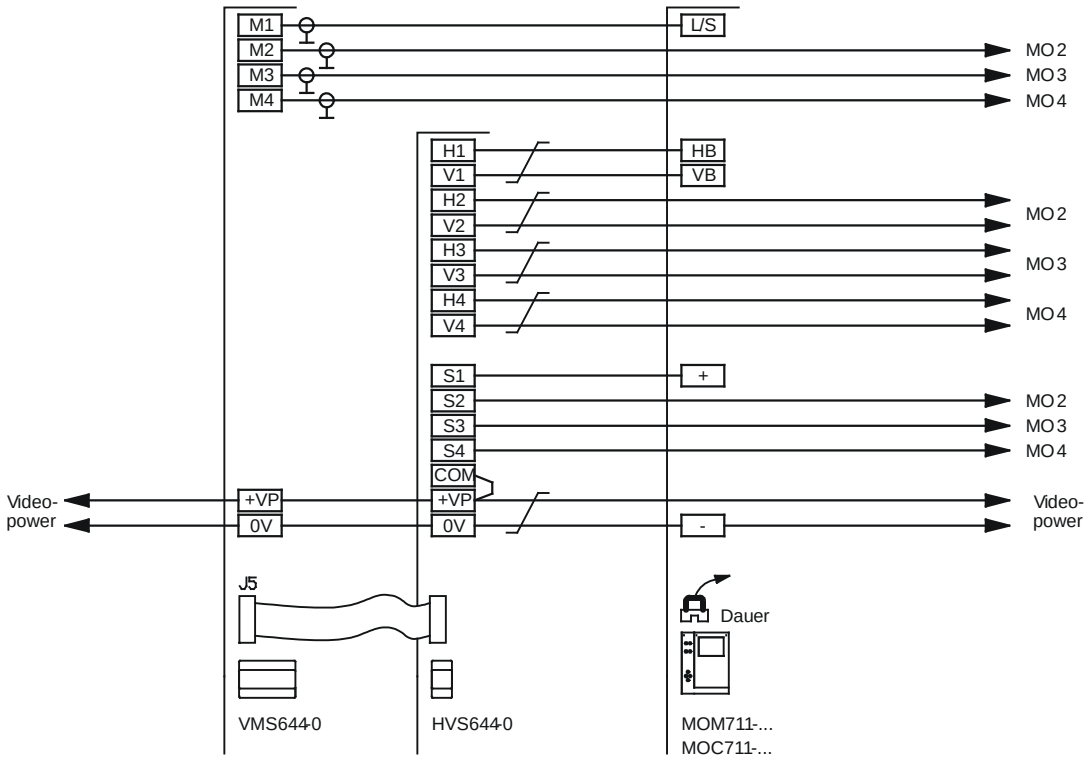


For more detailed wiring information refer to diagramms in the product-information sheets to the respective units, please.

Multi-channel video system: Connection of a camera



Multi-channel video system: Connection of a monitor



Detailed wiring diagrams will be created individually for each project. For further information, refer to diagrams in the product-information sheets to the respective units, please.

Multi-channel video system: Connection of coaxial bus, H/V bus, power supply