

Simplebus2 Mini hands-free door entry monitor

## Warning

## Intended use

This Comelit product has been designed and manufactured for use in the creation of audio and video communication systems in residential, commercial, industrial and public buildings.

## Installation

All activities connected to the installation of Comelit products must be carried out by qualified technical personnel, with careful observation of the indications provided in the Manuals / Instruction sheets supplied with those products.

## Wires

Disconnect the power supply before carrying out any operations on the wiring.
Use wires with a cross-section suited to the distances involved, observing the instructions provided in the system manual.
We advise against running the system wires through the same duct as power cables ( 230 V or higher).

## Safe usage

To ensure Comelit products are used safely:

- carefully observe the indications provided in the Manuals / Instruction sheets,
- make sure the system created using Comelit products has not been tampered with / damaged.


## Service

Comelit products do not require maintenance aside from routine cleaning, which should be carried out in accordance with the indications provided in the Manuals / Instruction sheets.
Any repairs must be carried out:

- for the products themselves, exclusively by Comelit Group S.p.A.,
- for the systems, by qualified technical personnel.


## Disclaimer

Comelit Group S.p.A. does not assume any responsibility for

- any usage other than the intended use
- failure to observe the indications and warnings contained in this manual.

Comelit Group S.p.A. reserves the right to change the information provided in this manual at any time and without prior notice.

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## Description

## 6721W

Wall-mounted hands-free monitor with full-duplex audio and 4.3" / 16:9 colour screen. Allows brightness level and ringtone volume adjustment; the ringtone can be customised by selecting one of several different melodies. With 5 touch-sensitive buttons with LED backlighting for audio operation, lock-release, self activation, switchboard call and Privacy function, plus a door status indicator LED. Floor door call management as standard. Option of adding 3 additional buttons with accessory art. 6734W. Complete with 2 dip-switches with 8 positions for user code programming and button programming. The backplate for wall mounting or domestic series box installation and the riser distribution terminal art. 1214/2C are included. The monitor can only be used in Simplebus2 systems. Dimensions (L x H x D): 115x160x22 mm.

## 6721W/BM

Wall-mounted hands-free monitor with full-duplex audio and 4.3" / 16:9 colour screen, plus hearing induction loop. Allows colour, contrast and ringtone volume adjustment; the ringtone can be customised by selecting one of several different melodies. With 5 touch-sensitive buttons with LED backlighting for audio operation, lock-release, self activation, switchboard call and Privacy function, plus a door status indicator LED. Floor door call management as standard. Option of adding 3 additional buttons with accessory art. 6734W. Complete with 2 dip-switches with 8 positions for user code programming and button programming. The monitor can only be used in 2-wire Simplebus2 systems. Dimensions (Lx H x D): 115x160x22 mm


1. $4.3^{\prime \prime} 16: 9$ LCD screen
2. Speaker and audio activation button
3. Touch-sensitive buttons
4. Loudspeaker volume control

- To increase the value, turn clockwise

5. Brightness control

- To increase the value, turn clockwise

6. Call volume adjustment (high - medium - low)
7. S1 DIP-switches $\langle\wedge\rangle$ Microswitches for assigning user code according to "Addressing table" on page 13)
8. S2 DIP-switches $®$ Multifunctional microswitches

DIP 1-2-3-4 for button function programming
DIP 5-6 for access to programming
DIP 7 for power supply voltage management. Default ON
! S2 DIP 7 must always be set to ON, even in systems with 4888C and 4888CU (as in the factory settings).
DIP 8 for setting main and secondary door entry monitor. Paragraph "Main and secondary door entry monitors" on page 7
9. Factory setting. Do not change!
10. Factory setting. Do not change!
11. CV 5 Jumper for video closure. In systems with more than one monitor connected in cascade, only the monitor furthest away must have CV5 closed.
12. Pin for securing terminal block
13. Space for housing additional button expansion (Art. 6734W)
14. Terminal block for system connection

L L Bus line connection terminals
CFP1 CFP2 Floor door call input

## Legend: buttons and indicator LEDs

- Press the desired button once to activate the associated function.

Wait for approximately 1 sec. before pressing the same button again. Pressing the same button several times in quick succession will cancel the command.

## Description of buttons

AUDIO

- Press the button to answer an incoming call.

LOCK-RELEASE (default)*

- Press the key to activate the corresponding door lock.

1 ACTUATOR (default)*

- Press the key to activate the corresponding relay.

2 SELF ACTIVATION (default)*

- Press the key to access real-time viewing of the camera for the external unit.
$\wp$ RINGTONE IN SILENT MODE (Privacy)
- Press the key to enable silencing of the ringtone on receipt of a call from the external unit and from the switchboard.


## 345 ADDITIONAL BUTTONS* ${ }^{*}$

Art. 6734W Additional buttons kit - can be purchased separately.

## Indicator LED description

Flashing LED: incoming call
$G$ Steady LED in call: in communication
Steady LED in stand-by: Automatic Answer mode enabled
-O Flashing LED: incoming call
1 flash after pressing button: door open confirmed Slow flashing: door open
$\boldsymbol{\sim}$ Flashing LED: device in programming mode 4 flashes: system busy
Steady LED: silent mode enabled
3 flashes every 5 sec.: Automatic Lock-release on receipt of call function enabled

Other functions that can be programmed:

- AUTOMATIC LOCK-RELEASE ON RECEIPT OF CALL (Doctor mode) See paragraph "Pressing and holding keys on page 4
- AUTOMATIC ANSWER (Hands-Free function) See paragraph "Pressing and holding keys on page 4
- INTERCOM

Call from one internal unit to one or more internal units.

- CALL TO A MAIN OR SECONDARY SWITCHBOARD.
- PRIORITY CALL TO SWITCHBOARD ("PAN")
* To edit the default settings, see paragraph
"Button configuration" on page 8.


## Pressing and holding keys (Disabled by default from firmware version 2.2.0)

Pressing and holding keys adds further functions to the door entry monitor.

Carry out the procedure described below to enable - or disable, depending on the factory setting - the press and hold feature:
$\sqrt{ }$ Door entry monitor in standby.

1. Take note of the S2 DIP-switch settings.
2. Enter programming mode by setting S2 DIP-switches $1,3,5$ to ON. » the LED © flashes
3. Press 1 to enable (or press 2 to disable).
4. Make sure the -O key flashes 4 times and the confirmation tone is emitted.
5. Restore the initial configuration of the S2 DIP-switches.
"LED $\boldsymbol{\sigma}$ switches off

Once the procedure is complete, you will be able to enable the following functions:
Automatic lock-release on receipt of call (Doctor mode)
Automatic activation of the Lock-release relay on receipt of a call originating from the external unit.

- Press and hold (4 sec.) the programmed button to enable/disable the function.

Automatic Answer (Hands-Free function)
Automatic audio opening on receipt of a call.

- Press and hold (4 sec.) the audio activation button $\mathbb{G}_{\mathrm{G}}$ to enable/disable the function.


## Self Activation

- Press and hold (4 sec.) the programmed button to disable the function. (Enabled by default).


## Technical specifications

| GENERAL DATA | 6721W | 6721W/BM |
| :---: | :---: | :---: |
| Product height (mm) | 160 | 160 |
| Product width (mm) | 115 | 115 |
| Product depth (mm) | 22 | 22 |
| Product weight (g) | 500 | 500 |
| Product colour | White RAL9003 | White RAL9003 |
| Material | ABS | ABS |
| Surface mounting | Yes | Yes |
| Desk base mounting | Yes, with specific accessory | Yes, with specific accessory |
| COMPATIBLE SYSTEMS |  |  |
| Simplebus2 audio/video with power supply unit art. 4888C | Yes | Yes |
| Simplebus 2 audio/video with power supply unit art. 1210/1210A | Yes | Yes |
| Simplebus 2 audio/video kit with power supply unit art. 1209 | Yes | Yes |
| DISPLAY SPECIFICATIONS |  |  |
| Display size (inches) | 4.3" | 4.3 " |
| Aspect ratio | 16:9 | 16:9 |
| Resolution (pixels) | $480 \times 272$ | $480 \times 272$ |
| AUDIO SPECIFICATIONS |  |  |
| Magnetic induction function | No | Yes |
| Microphone | $6 \mathrm{~mm}(Ø)$, Omnidirectional | $6 \mathrm{~mm}(Ø)$, Omnidirectional |
| Loudspeaker | 36 mm (Ø), 40 Ohm, 1W | 36 mm (Ø), 40 Ohm, 1W |
| ELECTRICAL SPECIFICATIONS |  |  |
| Type of power supply | Power supply via video entry bus | Power supply via video entry bus |
| Power supply voltage | 22 to 34 VDC (Bus) | 22 to 34 VDC (Bus) |
| Minimum absorption (W) | 0.05 | 0.05 |
| Maximum absorption (W) | 8.8 | 8.8 |
| HARDWARE CHARACTERISTICS |  |  |
| Type of buttons | Capacitive | Capacitive |
| No. of programmable buttons for additional functions | 2 (5 with accessory art. 6734W) | 2 (5 with accessory art. 6734W) |
| Terminals | L L CFP1 CFP2 | L L CFP1 CFP2 |
| Removable terminals | Yes | Yes |
| SETTINGS |  |  |
| Loudspeaker volume | Yes | Yes |
| Mic volume | Yes | Yes |
| Ringtone volume | Yes | Yes |
| Display brightness | Yes | Yes |
| Screen contrast | Yes | Yes |
| Screen colour | Yes | Yes |
| ENVIRONMENTAL AND CONFORMITY SPECIFICATIONS |  |  |
| IP protection rating | 30 | 30 |
| Operating temperature ( ${ }^{\circ} \mathrm{C}$ ) | 5 to 40 | 5 to 40 |
| Operating humidity (max RH-\%) | 25 to 75 | 25 to 75 |
| Environmental class | 1 | 1 |
| Conformity and Certifications | RoHSII-2011/65/EU(EN 50581:2012), EMC 2014/30/EU (EN 61000-61:2007, EN 61000-6-3:2007+A1:2011) | RoHSII-2011/65/EU (EN 50581:2012), <br> EMC 2014/30/EU (EN 61000-6- <br> 1:2007, EN 61000-6-3:2007+A1:2011) |
| FUNCTIONS |  |  |
| Self Activation | Yes | Yes |
| Intercom calls | Yes | Yes |
| Actuator control | Yes | Yes |
| Switchboard call | Yes | Yes |
| Input for floor door call | Yes | Yes |
| Automatic lock-release on receipt of call (Doctor) | Yes | Yes |
| Automatic answer (Hands-Free) | Yes | Yes |
| Door open indication | Yes | Yes |
| Multiple address | Yes | Yes |
| Customisable ringtone | Yes | Yes |
| Alarm call transmission | Yes | Yes |

Installation


## 1B




## Connections



## Settings

## Main and secondary door entry monitors

In systems with power supply unit 1209, 1210 or 1210 A it is possible to set a maximum of 1 main door entry monitor. In systems with power supply unit 4888 C it is possible to set a maximum of 2 main monitors.

|  |  | MAIN | SECONDARY |
| :---: | :---: | :---: | :---: |
| S2 $®$ | DIP 8 | OFF | ON |
|  |  |  |  |

## Button configuration

By default the buttons control the functions in row A ("Standard configuration" table).
It is possible to change the default configuration of the buttons by changing the positions of S2 DIP-switches 1-2-3-4 on the rear of the door entry monitor to one of the combinations $(B-P)$ suggested in the table. All the buttons will change function.

## Basic configuration

|  | S2 DIP-switches |  |  |  |  | Mini Vivavoce |  |  | + Art. 6734W |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | DIP 1 | DIP 2 | DIP 3 | DIP 4 |  | -0 | 1 | 2 | 3 | 4 | 5 |
| A | OFF | OFF | OFF | OFF | - | AP | ACT | AI | ccs | D | PAN |
| B | ON | OFF | OFF | OFF |  | AP | CCS | AI | INT | INTb | D |
| C | OFF | ON | OFF | OFF |  | AP | INT | AI | INTb | ACT | CCS |
| D | ON | ON | OFF | OFF |  | AP | ACT | CCS | CCP | PAN | K |
| E | OFF | OFF | ON | OFF |  | ACT | ACT | ACT | ACT | ACT | ACT |
| F | ON | OFF | ON | OFF |  | AP | INT | ACT | CCS | CCP | INTb |
| G | OFF | ON | ON | OFF |  | AP | Al | D | K | CCS | CCP |
| H | ON | ON | ON | OFF |  | AP | INTb | INT | Al | INT | PAN |
| 1 | OFF | OFF | OFF | ON |  | AP | CCS | PAN | D | AI | INTb |
| $J$ | ON | OFF | OFF | ON |  | AP | K | CCS | PAN | CCP | AI |
| K | OFF | ON | OFF | ON |  | AP | CCP | K | PAN | ACT | INT |
| L | ON | ON | OFF | ON |  | AP | PAN | CCP | CCS | K | ACT |
| M | OFF | OFF | ON | ON |  | AP | INTb | AI | INT | ACT | D |
| N | ON | OFF | ON | ON |  | AP | INT | INT | INT | INT | INT |
| P | OFF | ON | ON | ON |  | NULL | NULL | NULL | NULL | NULL | NULL |
|  | ON | ON | ON | ON |  | PROG |  |  |  |  |  |

## Legend

| AP | Lock-release |
| :---: | :--- |
| ACT | Actuator |
| AI | Self Activation |
| $\mathbf{C C P}$ | Call to main switchboard [not available in KIT systems] |
| $\mathbf{C C S}$ | Call to secondary switchboard [not available in KIT systems] |
| K | Caretaker door-entry phone call |
| PAN | Priority call to switchboard [not available in KIT systems] |
| INT | Intercom call (general programmable or to selective address). <br> Single-family call default for Kit and Simplebus2 |
| INTb | Two-family intercom call [for KIT only] |
| D | Automatic door opening on receipt of call [Doctor mode] |
| NULL | No function |
| PROG | With these S2 DIP-switch settings, the buttons control the programmed functions as in "Advanced configuration" on page 9. |

## Advanced configuration

If the standard configuration settings (A-P) do not reflect requirements, the buttons can be programmed differently by carrying out the steps below.

After programming, set S2 DIP-switches 1-2-3-4 (PROG) to ON. With these DIP-switch settings, the buttons manage the programmed functions.
The buttons that are NOT programmed control the functions in row A ("Standard configuration" table).

## Intercom call

Introduction
By "General intercom call" we mean a call from a door-entry phone/door entry monitor to the devices (in the same apartment or another apartment) identified by the call address for the apartment (user code).
By "Intercom call to selective address" we mean a call from a door-entry phone/door entry monitor to a device (or several) identified by a specific (selective) address which is different from the call address for the apartment (user code).

General and selective intercom calls CANNOT be used together on the same riser!

## General intercom call: button programming

1. Take note of the S1 DIP-switch settings.
2. To enter programming mode, set S2 DIP-switch 6 to ON.
"the LED $\boldsymbol{\gamma}$ flashes

3. Refer to the table "Basic configuration" to identify a DIP-switch combination in which the intercom function (INT or INTb) corresponding to the button you want to program appears, then set the S2 DIP-switches.
Example: For button 1= Intercom (INT) set S2 DIP-switches 1-2-3-4 as specified in row "C" in the "Standard configuration" table.
4. Set the S1 DIP-switches according to the call address of the desired apartment.

See "Addressing table" on page 13
5. Press and release the button to be associated with the function.
" Correct procedure indication: the LED -O flashes for a few seconds and a confirmation tone sounds.
$\sqrt{ }$ when programming using several buttons, continue programming the next key by repeating the process from step 4 onwards
6. Exit programming mode by setting S2 DIP-switch 6 to OFF.
" LED $\boldsymbol{\sim}$ switches off

S2 ON

12345678
7. Set S2 DIP-switches 1-2-3-4 to ON.
8. Return S1 DIP-switches to the original combination.

## Intercom call to selective address: button programming

1. The steps illustrated in paragraph "Assigning a selective address" should be carried out on the devices involved in the intercom call.
2. Take note of the S1 DIP-switch settings.
3. To enter programming mode, set S2 DIP-switch 6 to ON.
" the LED ff flashes

4. Refer to the table "Basic configuration" to identify a DIP-switch combination in which the intercom function (INT or INTb) corresponding to the button you want to program appears, then set the S2 DIP-switches.
5. Use the S1 DIP-switches to set the selective address of the device you wish to call. Table B.
(i) For group calls, simultaneously set the desired selective addresses (max. 3) to ON.
6. Press and release the button to be associated with the function.
" Correct procedure indication: the LED -O flashes for a few seconds and a confirmation tone sounds.
$\sqrt{ }$ when programming using several buttons, continue programming the next key by repeating the process from step 5 onwards.
7. Exit programming mode by setting S2 DIP-switch 6 to OFF.

$$
\text { " LED } \boldsymbol{\AA} \text { switches off }
$$


8. Set S2 DIP-switches 1-2-3-4 to ON.
9. Return S1 DIP-switches to the original combination.

Selective intercom address

|  |  | TABLE B |  |  |
| :---: | :---: | :---: | :---: | :---: |
| Code | S1 DIP-switch ON | Code | S1 DIP-switch ON |  |
| 1 | 1 | 4 | 4 |  |
| 2 |  | 5 | 5 |  |
| 3 | 3 | 6 | 6 |  |


| Code | S1 DIP-switch ON |  |
| :---: | :---: | :---: |
| 7 | 7 |  |
| 8 | 8 |  |

## Assigning selective address

(Steps only need to be carried out for "Intercom call to selective address" programming)

| 1. | 2. | 3. | 4. |  |
| :---: | :---: | :---: | :---: | :---: |
| Take note of the S1, S2 settings and restore them when | S1: Set an address. <br> (Table B) <br> Example: 3 | S2: Set the DIP-switches as shown in the figure. |  | OK prog: |
| programming is complete. | S1 |  |  | X KO prog: ${ }_{\text {\% }}$ |

Assign one of the 8 addresses available in TABLE B to each device involved in the intercom call.

- You can assign the same selective intercom address to a maximum of 3 devices.


## Deleting the selective address of the door entry monitor

| 1. | 2. | 3. |  |
| :---: | :---: | :---: | :---: |
| Take note of the S1, S2 settings and restore them when programming is complete. | Set the DIP-switches as shown in the figure. <br> S2 |  | OK prog: X KO prog: |

## Generic actuator, coded actuator

## Generic actuator: button programming

1. Take note of the S1 DIP-switch settings.
2. To enter programming mode, set S2 DIP-switch 6 to ON.
" the LED $\boldsymbol{\mathcal { \delta }}$ flashes
3. Refer to the table "Basic configuration" to identify a DIP-switch combination in which the actuator function (ACT) corresponding to the button you want to program appears, then set the S2 DIP-switches.
4. Set all the S1 DIP-switches to the ON position.
5. Press and release the button to be associated with the function.
" Correct procedure indication: the LED -O flashes for a few seconds and a confirmation tone sounds.
6. Exit programming mode by setting S2 DIP-switch 6 to OFF.
" LED $\boldsymbol{\sim}$ switches off
7. Set S2 DIP-switches $1-2-3-4$ to ON.
8. Return S1 DIP-switches to the original combination.

## Coded actuator: button programming

1. Take note of the S1 DIP-switch settings.
2. To enter programming mode, set S2 DIP-switch 6 to ON.
" the LED $\mathbb{f}$ flashes
S2

$\Rightarrow$ 12345678
3. Refer to the table "Basic configuration" to identify a DIP-switch combination in which the actuator function (ACT) corresponding to the button you want to program appears, then set the S2 DIP-switches.
4. Set the S1 DIP-switches with the desired code, according to "Addressing table" on page 13
5. Press and release the button to be associated with the function.
" Correct procedure indication: the LED -O flashes for a few seconds and a confirmation tone sounds.
6. Exit programming mode by setting S2 DIP-switch 6 to OFF.
" LED $\boldsymbol{\sim}$ switches off

7. Set S2 DIP-switches 1-2-3-4 to ON.
8. Return S1 DIP-switches to the original combination.

## Other functions: button programming

1. To enter programming mode, set S2 DIP-switch 6 to ON.
" the LED $\boldsymbol{\sim}$ flashes

2. Refer to the table "Basic configuration" to identify a DIP-switch combination in which the desired functions corresponding to the buttons you want to program appear, then set the S2 DIP-switches.
Example: For button 4= Self Activation (AI) and button 5 = Call to Secondary Switchboard (CCS), set S2 DIP-switches 1-2-3-4 as specified in row $M$ in the "Standard configuration" table.
3. Press and release the buttons involved in the change.
" Correct procedure indication: the LED -O flashes for a few seconds and a confirmation tone sounds.
4. Exit programming mode by setting S2 DIP-switch 6 to OFF.
" LED $\boldsymbol{f}$ switches off

S2 ON
ㅍTTT․․․
12345678
5. Set S2 DIP-switches 1-2-3-4 to ON.

## Programming range

Take note of the S2, S1 settings and restore on completion of programming


## Changing the ringtone

1. Press and hold -O for 6 sec .
» a confirmation tone is emitted
» the LED $\boldsymbol{\Omega}$ flashes
$\sqrt{ }$ the procedure can only take place while the system is in standby; otherwise the LED $\widetilde{\mathbb{X}}$ will flash 4 times to inform the user that the system is busy
2. Press and release -O
once ( 1 confirmation tone is emitted) to change the ringtone for calls from the external entrance panel
twice (2 confirmation tones are emitted) to change the ringtone for calls from the switchboard.
3 times (3 confirmation tones are emitted) to change the ringtone for intercom calls made from the door entry monitor.
4 times (4 confirmation tones are emitted) to change the floor door call ringtone.
Any further pressing of the button repeats the sequence described above.
3. Press and release 1 to scroll through the available ringtones in sequence.
4. Press the 2 buttonto confirm selection of the last ringtone heard and to exit change ringtone mode.

> » a confirmation tone is emitted
" LED $\boldsymbol{\sim}$ switches off

## Programming reset

## Factory settings:

- Button functions for the S2 DIP-switches 1-2-3-4 combination
- Intercom address absent
- Range function and min./max. addresses absent
- Ringtone reset
- Input IN 1 - IN $2>$ LED (default)
- "Automatic answer", "Automatic door opening on receipt of call" and "Silent" mode disabled

| 1. | 2. | 3. |  |
| :---: | :---: | :---: | :---: |
| Take note of the S1, S2 settings and restore them when programming is complete. | Set the DIP-switches as shown in the figure. <br> S1 <br> S2 $\Rightarrow$ |  | OK prog: <br> X KO prog: $\times 10$ |

Addressing table

| Code | $\begin{gathered} \text { DIP-switch } \\ \text { ON } \end{gathered}$ | * NOTE: Code 240 is reserved for the porter switchboard |  |  |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1 | 1 | 31 | 1,2,3,4,5 | 61 | 1,3,4,5,6 | 91 | 1,2,4,5,7 | 121 | 1,4,5,6,7 | 151 | 1,2,3,5,8 | 181 | 1,3,5,6,8 | 211 | 1,2,5,7,8 |
| 2 | 2 | 32 | 6 | 62 | 2,3,4,5,6 | 92 | 3,4,5,7 | 122 | 2,4,5,6,7 | 152 | 4,5,8 | 182 | 2,3,5,6,8 | 212 | 3,5,7,8 |
| 3 | 1.2 | 33 | 1.6 | 63 | 1,2,3,4,5.6 | 93 | 1,3,4,5,7 | 123 | 1,2,4,5,6.7 | 153 | 1,4,5,8 | 183 | 1,2,3,5,6.8 | 213 | 1,3,5,7,8 |
| 4 | 3 | 34 | 2.6 | 64 | 7 | 94 | 2,3,4,5,7 | 124 | 3,4,5,6,7 | 154 | 2,4,5,8 | 184 | 4,5,6,8 | 214 | 2,3,5,7,8 |
| 5 | 1.3 | 35 | 1,2,6 | 65 | 1.7 | 95 | 1,2,3,4,5.7 | 125 | 1,3,4,5,6.7 | 155 | 1,2,4,5,8 | 185 | 1,4,5,6,8 | 215 | 1,2,3,5,7.8 |
| 6 | 2.3 | 36 | 3.6 | 66 | 2.7 | 96 | 6.7 | 126 | 2,3,4,5,6.7 | 156 | 3,4,5,8 | 186 | 2,4,5,6,8 | 216 | 4,5,7,8 |
| 7 | 1,2,3 | 37 | 1,3,6 | 67 | 1,2,7 | 97 | 1,6,7 | 127 | 1,2,3,4,5,6,7 | 157 | 1,3,4,5,8 | 187 | 1,2,4,5,6.8 | 217 | 1,4,5,7,8 |
| 8 | 4 | 38 | 2,3,6 | 68 | 3.7 | 98 | 2,6,7 | 128 | 8 | 158 | 2,3,4,5,8 | 188 | 3,4,5,6,8 | 218 | 2,4,5,7,8 |
| 9 | 1.4 | 39 | 1,2,3,6 | 69 | 1,3,7 | 99 | 1,2,6,7 | 129 | 1.8 | 159 | 1,2,3,4,5.8 | 189 | 1,3,4,5,6.8 | 219 | 1,2,4,5,7.8 |
| 10 | 2.4 | 40 | 4.6 | 70 | 2,3,7 | 100 | 3,6,7 | 130 | 2.8 | 160 | 6.8 | 190 | 2,3,4,5,6.8 | 220 | 3,4,5,7,8 |
| 11 | 1,2,4 | 41 | 1,4,6 | 71 | 1,2,3,7 | 101 | 1,3,6,7 | 131 | 1,2,8 | 161 | 1,6,8 | 191 | 1,2,3,4,5,6,8 | 221 | 1,3,4,5,7.8 |
| 12 | 3.4 | 42 | 2,4,6 | 72 | 4.7 | 102 | 2,3,6,7 | 132 | 3.8 | 162 | 2,6,8 | 192 | 7.8 | 222 | 2,3,4,5,7.8 |
| 13 | 1,3,4 | 43 | 1,2,4,6 | 73 | 1,4,7 | 103 | 1,2,3,6,7 | 133 | 1,3,8 | 163 | 1,2,6,8 | 193 | 1,7,8 | 223 | 1,2,3,4,5,7,8 |
| 14 | 2,3,4 | 44 | 3,4,6 | 74 | 2,4,7 | 104 | 4,6,7 | 134 | 2,3,8 | 164 | 3,6,8 | 194 | 2,7,8 | 224 | 6,7,8 |
| 15 | 1,2,3,4 | 45 | 1,3,4,6 | 75 | 1,2,4,7 | 105 | 1,4,6,7 | 135 | 1,2,3,8 | 165 | 1,3,6,8 | 195 | 1,2,7,8 | 225 | 1,6,7,8 |
| 16 | 5 | 46 | 2,3,4,6 | 76 | 3,4,7 | 106 | 2,4,6,7 | 136 | 4.8 | 166 | 2,3,6,8 | 196 | 3,7,8 | 226 | 2,6,7,8 |
| 17 | 1.5 | 47 | 1,2,3,4,6 | 77 | 1,3,4,7 | 107 | 1,2,4,6,7 | 137 | 1,4,8 | 167 | 1,2,3,6,8 | 197 | 1,3,7,8 | 227 | 1,2,6,7,8 |
| 18 | 2.5 | 48 | 5.6 | 78 | 2,3,4,7 | 108 | 3,4,6,7 | 138 | 2,4,8 | 168 | 4,6,8 | 198 | 2,3,7,8 | 228 | 3,6,7,8 |
| 19 | 1,2,5 | 49 | 1,5,6 | 79 | 1,2,3,4,7 | 109 | 1,3,4,6,7 | 139 | 1,2,4,8 | 169 | 1,4,6,8 | 199 | 1,2,3,7,8 | 229 | 1,3,6,7,8 |
| 20 | 3.5 | 50 | 2,5,6 | 80 | 5.7 | 110 | 2,3,4,6,7 | 140 | 3,4,8 | 170 | 2,4,6,8 | 200 | 4,7,8 | 230 | 2,3,6,7,8 |
| 21 | 1,3,5 | 51 | 1,2,5,6 | 81 | 1,5,7 | 111 | 1,2,3,4,6.7 | 141 | 1,3,4,8 | 171 | 1,2,4,6,8 | 201 | 1,4,7,8 | 231 | 1,2,3,6,7.8 |
| 22 | 2,3,5 | 52 | 3,5,6 | 82 | 2,5,7 | 112 | 5.67 | 142 | 2,3,4,8 | 172 | 3,4,6,8 | 202 | 2,4,7,8 | 232 | 4,6,7,8 |
| 23 | 1,2,3,5 | 53 | 1,3,5,6 | 83 | 1,2,5,7 | 113 | 1,5,6,7 | 143 | 1,2,3,4,8 | 173 | 1,3,4,6,8 | 203 | 1,2,4,7,8 | 233 | 1,4,6,7,8 |
| 24 | 4.5 | 54 | 2,3,5,6 | 84 | 3,5,7 | 114 | 2,5,6,7 | 144 | 5.8 | 174 | 2,3,4,6,8 | 204 | 3,4,7,8 | 234 | 2,4,6,7,8 |
| 25 | 1,4,5 | 55 | 1,2,3,5,6 | 85 | 1,3,5,7 | 115 | 1,2,5,6,7 | 145 | 1,5,8 | 175 | 1,2,3,4,6.8 | 205 | 1,3,4,7,8 | 235 | 1,2,4,6,7.8 |
| 26 | 2,4,5 | 56 | 4,5,6 | 86 | 2,3,5,7 | 116 | 3,5,6,7 | 146 | 2,5,8 | 176 | 5,6,8 | 206 | 2,3,4,7,8 | 236 | 3,4,6,7,8 |
| 27 | 1,2,4,5 | 57 | 1,4,5,6 | 87 | 1,2,3,5,7 | 117 | 1,3,5,6,7 | 147 | 1,2,5,8 | 177 | 1,5,6,8 | 207 | 1,2,3,4,7.8 | 237 | 1,3,4,6,7.8 |
| 28 | 3,4,5 | 58 | 2,4,5,6 | 88 | 4,5,7 | 118 | 2,3,5,6,7 | 148 | 3,5,8 | 178 | 2,5,6,8 | 208 | 5,7,8 | 238 | 2,3,4,6,7.8 |
| 29 | 1,3,4,5 | 59 | 1,2,4,5,6 | 89 | 1,4,5,7 | 119 | 1,2,3,5,6.7 | 149 | 1,3,5,8 | 179 | 1,2,5,6,8 | 209 | 1,5,7,8 | 239 | 1,2,3,4,6,7,8 |
| 30 | 2,3,4,5 | 60 | 3,4,5,6 | 90 | 2,4,5,7 | 120 | 4,5,6,7 | 150 | 2,3,5,8 | 180 | 3,5,6,8 | 210 | 2,5,7,8 | *240 | 5,6,7,8 |

## System performance and layouts

For further information of system performance and to view installation layouts, click on the system type that best meets your requirements:

- Audio/video kit for the creation of audio-video systems for individual residences
- Building Kit audio/video system for the creation of audio-video systems for small apartment blocks
- SBTOP audio/video system for the creation of audio-video systems for residential complexes.

