

Version-E20-01-24

Speakersystem BANG2



ALGE-TIMING

Manual

Important Information

General

Before using your **ALGE-TIMING** device read the complete manual carefully. It is part of the device and contains important information about installation, safety and its intended use. This manual cannot cover all conceivable applications. For further information or in case of problems that are mentioned not at all or not sufficiently detailed, please contact your **ALGE-TIMING** representative. You can find contact details on our homepage www.alge-timing.com

Safety

Apart from the information of this manual all general safety and accident prevention regulations of the legislator must be taken into account. The device must only be used by trained persons. The setting-up and installation must only be executed according to the manufacturer's data.

Never adjust the active speaker system to a very high volume. Permanent high volumes may damage your hearing! The human ear will get accustomed to high volumes which do not seem to be that high after some time. Therefore, do not further increase a high volume after getting used to it.

Intended Use

The device must only be used for its intended applications. Technical modifications and any misuse are prohibited because of the risks involved! **ALGE-TIMING** is not liable for damages that are caused by improper use or incorrect operation.

Power supply

The stated voltage on the type plate must correspond to voltage of the power source. Check all connections and plugs before usage. Damaged connection wires must be replaced immediately by an authorized electrician. The device must only be connected to an electric supply that has been installed by an electrician according to IEC 60364-1. Never touch the mains plug with wet hands! Never touch live parts!

Cleaning

Please clean the outside of the device only with a smooth cloth. Detergents can cause damage. Never submerge in water, never open or clean with wet cloth. The cleaning must not be carried out by hose or high-pressure (risk of short circuits or other damage).

Liability Limitations

All technical information, data and information for installation and operation correspond to the latest status at time of printing and are made in all conscience considering our past experience and knowledge. Information, pictures and description do not entitle to base any claims. The manufacturer is not liable for damage due to failure to observe the manual, improper use, incorrect repairs, technical modifications, use of unauthorized spare parts. Translations are made in all conscience. We assume no liability for translation mistakes, even if the translation is carried out by us or on our behalf.

Disposal

If a label is placed on the device showing a crossed out dustbin on wheels (see drawing), the European directive 2002/96/EG applies for this device.

Please get informed about the applicable regulations for separate collection of electrical and electronic waste in your country and do not dispose of the old devices as household waste. Correct disposal of old equipment protects the environment and humans against negative consequences!

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Declaration of Conformity

We hereby declare that the following product complies with the below stated standards. All components used by us are CE certified by their producer and are not modified by ALGE-TIMING GmbH.

We, **ALGE-TIMING GmbH**
Rotkreuzstrasse 39
A-6890 Lustenau

declare in sole responsibility that the electronic start device

BANG2

complies with the following standards/normative documents and in case of intended use complies with the basic requirements of R&TTE 1999/5/EC:

Telecommunication (TC)terminal device

Applied harmonized standards...

EN 60950-1:2006+A11:2009+A1:2010+A12:2011+A2:2013

EMC: EN 60065:2014
EN 61000-3-2:2014
EN 61000-3-3:2013
EN 61000-6-3:2007/A1:2011/AC:2012

EN 55024 : 2010 / A1: 2015
EN 301 489-17 v2.1.1. (2009-05) v2.2.1 (2012-11-01)
EN 300 328 v1.9.1 (2015-02)
EN 55022 : 2010 / AC : 2011
EN 300422V1.4.1
EN 301489-1V1.9.2
EN 301489-9V1.4.1

Additional information:

The product complies with the low voltage directive 73/23/EEC and EMC directive 2004/108EG and carries the CE sign.

Lustenau, 2016-11-12

ALGE-TIMING GmbH



Albert Vetter
(CIO)

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1 Control Elements and Connections



- 1 2 x LTW-socket for connection of timing and/or further speaker systems, e.g. BANG2, Start Unit SU2 or SU3, FLASH XL, SJ2, TM-SWIM
- 2 banana socket (green – black) for start line to timing device (NOC, Open Collector)
- 3 OLED display for status and settings
- 4 navigation buttons (arrow buttons) for navigating the menu
- 5 menu and confirmation button
- 6 tone control TREBLE
- 7 tone control BASS for mix signal
- 8 volume control for LINE IN
- 9 volume control for AUX
- 10 volume control for microphone at input MIC IN (16)
- 11 charging status of battery
- 12 controller MASTER for total volume of active box
- 13 input LINE IN (Cinch sockets) for stereo audio source with line output level, e.g. CD player
- 14 input LINE OUT
- 15 6.3 mm jack socket for BANG-SPK
- 16 input MIC IN (combination socket 6.3 mm jack/XLR, sym.) for connecting microphone
- 17 On/Off switch

Note: indicators/switches not described are irrelevant for timing.

2 General

The BANG2 replaces all three old BANG models. The BANG2 is supplied with not only cable connection but also with integrated WTN radio module.

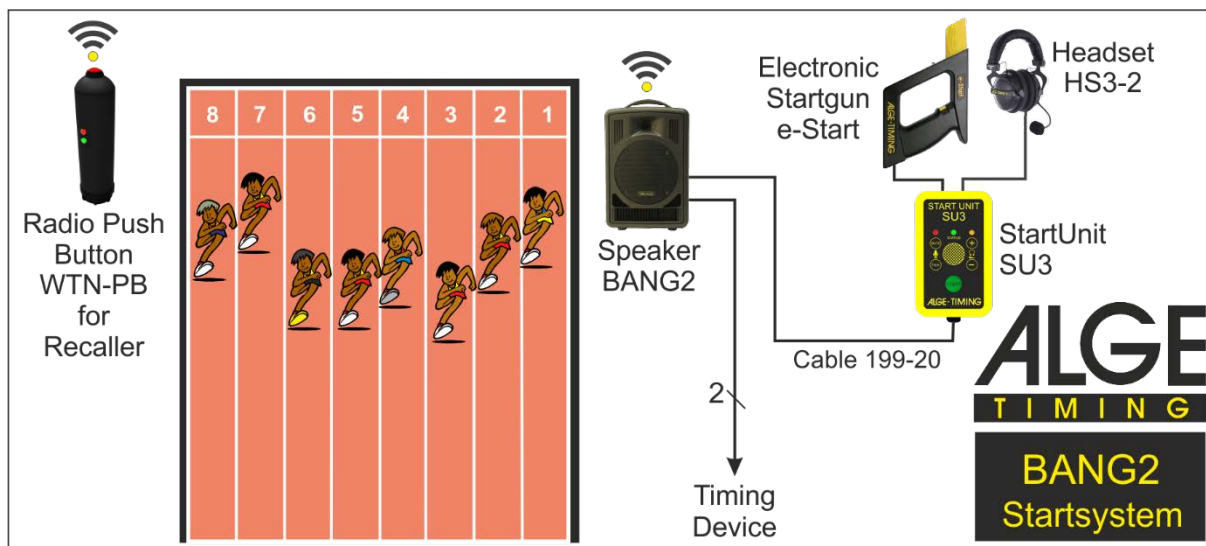
An OLED-Display serves as status indicator and for displaying the settings. This display automatically switches off after 30 seconds in order to save energy. On activating any incidence (start or pressing button), the display is reactivated automatically.

Settings are carried out with 3 control buttons.

2.1 Application

The BANG2 is used in the starting area of sporting events and acoustically outputs start and false start signal. Announcements such as starting commands can also be output via the active speaker. Starting devices (e.g. StartUnit SU3 and e-START) are connected with cable to the BANG2. In addition, the BANG2 can receive a further pulse device via radio which generates the false start signal (e.g. e-Start W or push button WTN-PB). Thus, the start assistant can move freely and does not have to regard any cables.

2.2 Installation



Use the BANG2 without weather protection only indoor. Protect it from dripping and splashing water, high humidity and heat (permitted temperature range 0 – 40 °C).

The BANG2 can be freely placed or mounted onto the **ALGE-TIMING** tripod **BANG-TRI** using the stand sleeve on the bottom. If it is raining, the BANG2 must be protected with the waterproof protection cover [BANG2-BAG](#) made from black synthetics (available as accessory). As long as it is raining or snowing, this cover has to remain on the BANG2 also during operation.

The active box BANG2 is a combination of a two-way loudspeaker system and an amplifier with connections for microphone and audio device with line output level, e.g. CD player.

The BANG2 can be connected directly to a timing system. So, a simulated starting shot or tone and/or false start signal can be output acoustically.

The BANG2 can be connected directly with a radio push button WTN-PB or e-Start W (with Wireless Timing Network WTN) for false start pulse. Thus, a simulated false start signal can acoustically be generated.

The device can either be operated with mains voltage or internal lead batteries that can be charged with the integrated charging device. The box is thus ideally suited for mobile use at sporting events.

2.3 Starting

Before switching on, turn the controller MASTER (12) for total volume to MIN, then turn on the box with switch POWER (17). The switch glows during operation. In case it is blinking during operation with batteries, they are nearly empty and should be charged.

In order to prevent damage to the batteries by total discharge, a discharge protection executes in time an automatic deactivation of the device. Due to the self-discharge, the batteries can also be discharged when the device is not in use for a longer period of time. Therefore, make sure to observe the note in chapter power supply.

2.4 Connections for Timing

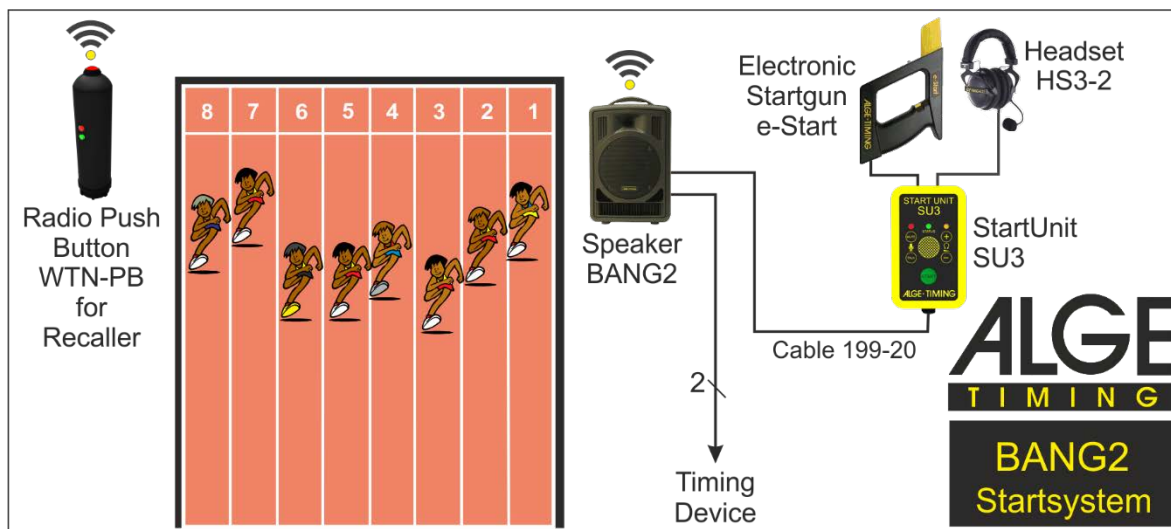
The BANG2 can be integrated into the starting system with various devices of **ALGE-TIMING**.

Starting devices (connection by cable):

- electronic starting device e-Start
- Start Unit SU2
- Start Unit SU3
- start microphone SM8 with speech amplifier SV4/SM and headset HS3-2
- push button 023-02 or 023-10
- photocell PR1a

False start devices (connection by cable):

- electronic starting device e-Start W
- radio push button WTN-PB
- WTN
- radio photocell PR1aW



The starting signal is always triggered with a C0 pulse.

Triggering a further C0 pulse within 5 seconds after starting pulse initiates the set false start signal.

A further pulse on the set false start channel within these 5 seconds also initiates the set false start signal.

Note: Every false start obligatory requires a start beforehand. This prevents accidentally triggering a false start before the starting signal.

Attention:

All devices of the WTN series (e.g. BANG2, e-Start W, WTN-PB, WTN) must be set to the same team!

2.4.1 Start Unit SU2 or SU3

The Start Unit SU2 or SU3 can be connected at the LTW-sockets (1) using cable 199-xx. Use the integrated microphone of the SU3 or headset HS3-2 to output commands for the athletes via loudspeaker box BANG2. Furthermore, communicating with the timing person with headset via start line is possible.



2.4.2 Speech Amplifier SV4-S or SV4/SM

You can connect a speech amplifier with headset at the banana sockets (2) for communicating with the timing person. This also requires installing a two-wire line from banana sockets to timing.



2.5 Audio Connections

2.5.1 Inputs

Possible sound sources could be a microphone and a stereo device with line output level:

- microphone either via XLR- or 6.3 mm jack plug to the symmetrically wired socket MIC IN (16)
- stereo device with line output to the Cinch sockets LINE IN (13)

2.5.2 Output LINE OUT

The Cinch sockets LINE OUT (14) can be used for e.g. a recording device or an additional active box BANG2 for sonication. Both sockets output the mono mix signal of the box. The controller MASTER (12) for total volume of the active box does not influence the signal at output LINE OUT but the settings of the tone controller TREBLE (6) and BASS (7).

2.5.3 Passive Loudspeaker Box

If an additional loudspeaker box (without amplifier) is required for sonication, it is connected to the socket SPEAKER (15). The impedance of the loudspeaker box must at least be 8 Ω. ALGE-TIMING offers BANG SPK as accessory. Up to eight 8 BANG SPK can be connected.

2.6 Status Display

After switch-on, the status is shown on the display. The display can be activated with the arrow buttons.

2.6.1 Possible Status Displays

“READY for start“ is shown when the BANG2 is ready for the next start. Additionally, the set starting mode is shown as symbol.

In case a start has already been carried out before, it is displayed if it was received by cable (“Start from cable“) or by WTN (“Start from WTN“). Thus, it is possible to determine from where the starting signal originated.

Should the connected SJ2 not be ready or if a short circuit is on the start line, the following status is displayed:

As long as this status is shown, starts cannot be executed.



2.7 Settings

The BANG2 has three buttons for operating: green menu and confirmation button (5) and two arrow buttons (4). Press the green menu button to open the corresponding menu. Navigate with the arrow buttons (4) through the setting. Confirm the desired setting with the green button. This also effects exiting the corresponding menu.

2.7.1 Start Mode

For proper functioning, the mode has to be set correctly suiting your intended purpose.

Note:

Generally, all devices should operate either with cable OR radio. Mixing these connection types could cause feedbacks and other effects. It is for instance not allowed to connect an e-Start to a wireless false start system.

An exemption is the combination of a cabled starting system and a radio false start system. This is specifically permitted.

2.7.1.1 Start Mode “Wired“

This setting is used if you employ a cabled system. In this mode, C0 from WTN is blocked as false start channel as otherwise this channel could also trigger a start and/or false start.

The starting signal (C0) is not transmitted via WTN.

No start (C0) signal can be received from WTN.

2.7.1.2 Start Mode “Wireless“

This setting is used if you employ a wireless system.

The start is triggered over C0 via WTN. The false start can be triggered via a further C0 or the set false start channel.

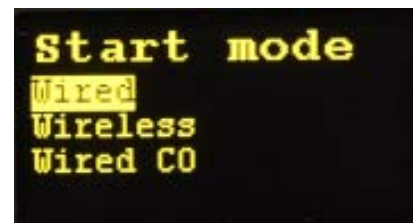
In this mode, the start signal as well as the false start signal can be output as pulse at a C0 connection. This could be necessary if for instance the connection to the finish is cabled.

2.7.1.3 Start Mode “Wired C0“

This mode is basically identical to the mode “wired“. The only difference is that the start signal is transmitted to C0 via WTN. This is necessary for one special application: cabled start but wireless connection to the finish.

Note:

This mode can cause problem and should if possible be avoided. If for example also an SJ2



is connected, the internal WTN module would immediately trigger a false start due to feedback. In this case the WTN module of the SJ2 would have to be adjusted to a different team as it cannot be deactivated.

2.7.2 “Start Sound“

This setting changes the sound that plays as starting signal.

Possible settings:

- Off (start sound deactivated)
- Bang (imitation of pistol shot, default setting)
- Beep (beep 1.8 kHz)
- Siren (false start siren)

2.7.3 “Start sound level”

This setting adjusts the volume of the start sound. It should normally be set at 100 %. The total volume is usually adjusted with the controller MASTER. Only change this setting if your application requires it.

2.7.4 “False start sound“

This setting adjusts the tone which is generated at a false start.

Possible settings:

- Off (false start sound deactivated)
- Bang (imitation of pistol shot)
- Beep (beep at 1.8 kHz)
- Siren (false start siren, default setting)

2.7.5 “False start level“

This setting adjusts the volume of the false start sound. It should normally be at 100 %. The total volume is usually set with controller MASTER. Only change this setting if your application requires it.

2.7.6 Setting of False Start Channel “WTN recall channel“

Set the timing channel for false start here. Only a false start can be triggered on this channel. Default setting is C4.

2.7.7 Setting of WTN Team “WTN radio team“

This setting adjusts the WTN team. Default setting is team 1.

Note: The same WTN team and the same timing channel have to be set in order to trigger the false start with a WTN-PB or e-Start W.

Separate Teams <S> = SINGLE

This setting is used if independent applications are carried out and nobody is permitted to use these devices as additional joint connection (e.g. when two teams train next to each other. Different radio channels can also be used.)

Single = corresponds to team 1, 2, 3, 4, 5, 6, 7, 8 or 9

Joint Teams <A> = ALL

This setting is used if e.g. several separate applications are in use next to each other. If different A teams are used with the same radio channel, the other A teams can be used as joint connections for data transfer. The data from the other team however is not used (e.g. several show jumping courses next to each other).

All = corresponds to team A, B, C, D, E or F

2.7.8 Delay Time Start Channel “Delaytime start“

This setting adjusts the delay time for the start channel in order to avoid bouncing.

The setting is also distributed to other WTN devices. 0.1 s is default setting.

Simple pressing on the arrow button changes the delay time in 1/100 s steps. Keeping it pressed changes the delay time continuously in 1/10 s steps.

2.7.9 Delay Time False Start Channel “Delaytime false s.”

This setting adjusts the delay time for the selected false start channel in order to avoid bouncing. The setting is also distributed to other WTN devices. 0.1 s is default setting. Simple pressing on the arrow button changes the delay time in 1/100 s steps. Keeping it pressed changes the delay time continuously in 1/10 s steps.

2.7.10 “Default“

In case you answer the question “Load default“ with „yes“ and green button, the default settings are automatically restored. Exit the menu with “No“ without changes.

2.7.11 Exit Settings “Exit“

Confirming the menu item “Exit“ results in displaying the status menu.

2.8 Accessories

ALGE-TIMING offers the following accessories for BANG2:

2.8.1 Weather Protection BANG2-BAG

Protection for outdoor use of the BANG2. When raining or snowing, the BANG2 has to be protected against wet conditions.

Note:

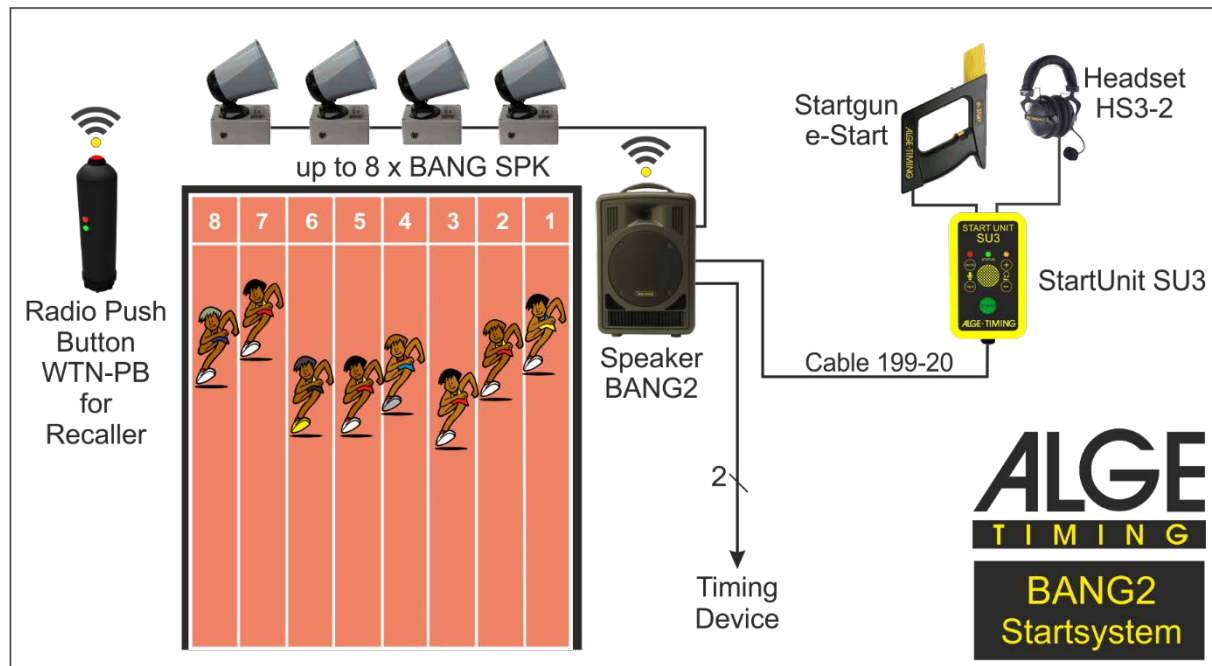
The old BANG-BAG does not fit to the BANG2.

2.8.2 Tripod BANG-TRI

Tripod for mounting the BANG2

2.8.3 BANG SPK

BANG SPKs are loudspeaker for connecting to the am BANG2. Up to eight BANG SPKs can be connected. The BANG SPK consists of a passive loudspeaker with output of approx. 10 W. It has a fixed cable of 12 m (connection to BANG2 or BANG SPK) and a loudspeaker socket (cinch) for further BANG SPK.



3 Operation

- Turn on the controller MASTER (12) for total volume this far that the following settings are easily audible on the loudspeakers.
- Turn on the desired signal sources and mix their signal with the corresponding volume controls or as required blend in or out the signals (completely turn off the controllers of unused signal sources):
 - for microphone on input MIC IN (16): volume control MIC (10)
 - For input LINE IN (13) no separate volume control exists. The volume of the signal source on this input can only be controlled with controller MASTER (12).
- With controllers (7) – BASS and (6) - TREBLE– optimize the tone of the mix signal.
- With controller MASTER (12), adjust the final level for the total volume of the active box and maybe correct the tone settings.
- After operation switch POWER (17) to “off”.

4 Power Supply

The BANG2 can be supplied from mains or internal rechargeable batteries.

4.1 Mains Connection

If the active box BANG2 is to be supplied via mains socket and/or the internal lead-gel-batteries are to be charged, connect with enclosed mains cable to mains connection (5) and to a socket (90 - 230V~/47 – 63 Hz/150VA).

Mains connection: 90 - 230 V~ / 47 – 63 Hz / 150 VA

4.2 Battery

The BANG2 has two integrated lead-gel-batteries (each 12 V/3 Ah) for off-grid operation.

4.2.1 Battery Operating Time

The operation time of BANG2 with battery operation depends on set volume and duration of active use.

Operating Time: approx. 3 to 4 hours at normal use

4.2.2 Charge Battery

During mains connection of the active box, the automatic charging for the batteries is activated and the charging indicator LED CHARGE glows (next to on/off switch).

- red light: batteries are being charged
- green light: batteries are completely charged

The does not have to be switched on with POWER (17) for charging but can be used as normal during charging.

The charge protection circuit prevents the batteries from being overcharged. The mains plug should anyhow be unplugged from the mains socket when the device is not used for a while. Before first operation and after storing the device for a while, the batteries should always be completely charged. If the POWER switch blinks during battery operation, the batteries are nearly discharged and should be charged as soon as possible.

ATTENTION

It could happen that the batteries of the BANG2 are exhaustively discharges and are thus damaged. An exhaustive discharge is possible when the battery is either not charged for too long or if the BANG2 is constantly operated at mains connection.

We highly recommend to **completely charge (12 hours) the batteries at least once a month** to avoid such damage. E.g. a clock timer could be used for automatically switching on the mains supply for the recommended period. This is especially helpful for periods during which the device is not used (summer or winter breaks).

5 Technical Data

5.1 Amplifier and Loudspeaker

<i>amplifier performance:</i>	80 WMAX/50 WRMS
<i>frequency range:</i>	70 – 16 000 Hz
<i>loudspeaker system:</i>	20 cm woofer (8") and 2.5 cm tweeter (1")
<i>input MIC IN</i>	sensitivity: 6 mV connection: XLR/6.3 mm phone jack, sym.
<i>input LINE IN</i>	sensitivity: 800 mV connection: cinch
<i>output LINE OUT</i>	level: 1 V connection: cinch
<i>output SPEAKER:</i>	6.3 mm phone jack for passive loudspeaker system (impedance min. 8 Ω)
<i>tone control:</i>	bass: ±15 dB/100 Hz treble: ±10 dB/10 kHz
<i>temperature range:</i>	0 – 40 °C
<i>power supply:</i>	via mains voltage (90 - 230 V~ / 47 – 63 Hz / 150 VA) or internal lead gel batteries (2 × 12 V / 3 Ah)
<i>battery operating time:</i>	up to approx. 3 – 4 hours
<i>dimensions:</i>	305 × 510 × 265 mm (w × h × d)
<i>weight:</i>	approx. 14.8 kg

5.2 Connections for Timing

2 x LTW socket: connection to start system and/or further loudspeaker systems, e.g. BANG2, SU2, SU3, FLASH XL, SJ2

1 x banana socket (green – black): starting signal output (normally open contact)



5.3 Radio Module WTN for Timing

transmitting frequency: 2.4 GHz band, 16 adjustable teams
transmitting power: 10 mW
range: approx. 300 m at free visibility

Subject to changes and misprints

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