

ALGE-TIMING

Speakersystem BANG



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

BANG

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 60065:2006
EN 60950-1:2006+A11:2009+A1:2010+A12:2011
EN 61000-3-2+A1+A2
EN 61000-6-4:2007
EN 61000-3-3:2013
EN 61000-6-3:2007/A1:2011/AC:2012

EN 61000-6-1:2007
EN 61000-6-2:2005
EN 55024:2010
EN 300422V1.2.2
EN 301489-1V1.8.1
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, 2013-11-12

ALGE-TIMING GmbH

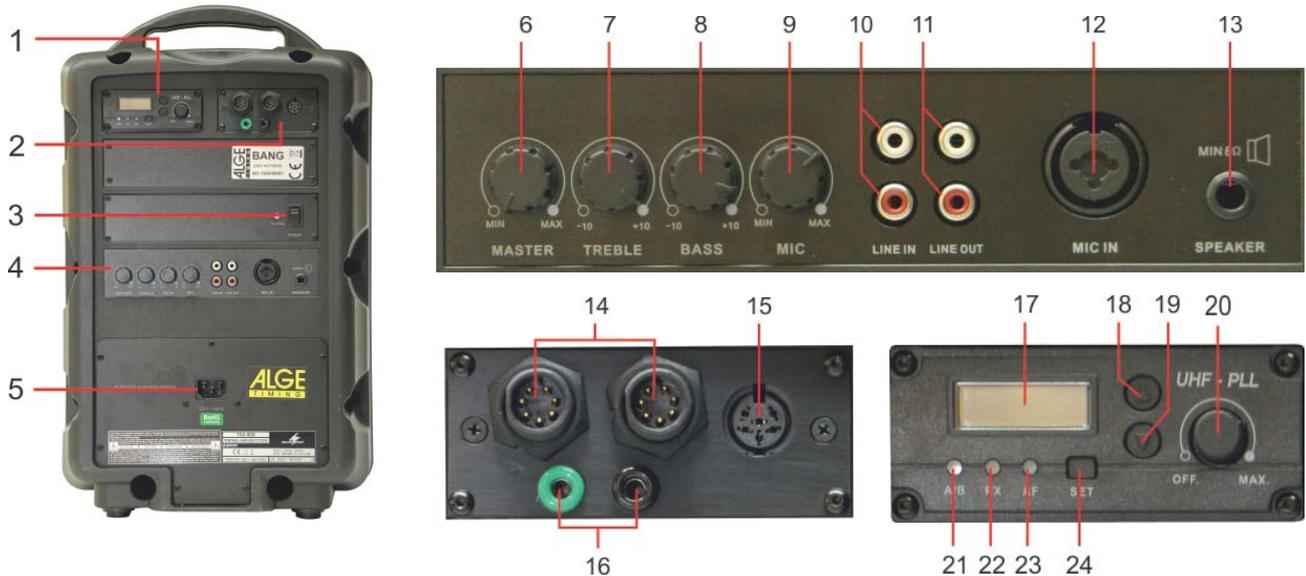


Albert Vetter
(CIO)

Table of Contents

1	Operating Elements and Connections.....	5
2	General.....	6
2.1	Setting up	6
2.2	Audio Connections.....	6
2.2.1	Inputs.....	6
2.2.2	Output LINE OUT	6
2.2.3	Passive Speaker System.....	6
2.3	Connections for Timing.....	7
2.4	Accessory	7
2.4.1	Weather Protection BANG-BAG	7
2.4.2	Tripod BANG-TRI	7
2.4.3	Headset Micro for BANG	7
2.4.4	BANG SPK	7
3	Commissioning	8
4	Operation	9
4.1	Multifrequency Receiving Unit for Headset Micro BANG-HS.....	9
5	Power Supply	10
5.1	Mains.....	10
5.2	Rechargeable Battery	10
5.2.1	Battery Operating Time.....	10
5.2.2	Charging Battery.....	10
6	Functions.....	11
6.1	Start Unit SU2 or SU3.....	12
6.2	Speech Amplifier SV4-S or SV4/SM	12
7	Technical Specifications.....	13
7.1	Amplifier and Speaker	13
7.2	Connections for Timing.....	13
7.3	Radio Receiver for Headset Micro BANG-HS	13

1 Operating Elements and Connections



- 1..... UHF-PLL radio receiver for Headset micro BANG-HS
- 2..... Connections for timing
- 3..... On-off switch
- 4..... Amplifier controller und amplifier connections
- 5..... Mains (90 - 230 V~ / 47 – 63 Hz)
- 6..... Control MASTER for the master volume of the active speaker system
- 7..... Tone controls TREBLE for the mixed signal
- 8..... Tone controls BASS for the mixed signal
- 9..... Volume control for the microphone at the input MIC IN (11)
- 10..... Input LINE IN (phono jacks) for a stereo audio source with line output level, e. g. CD player, cassette recorder
- 11..... Output LINE OUT (phono jacks) for passing on the mixed signal, e. g. to a recorder or another active speaker system.
Note: The adjustments of the tone controls (7) affect the LINE OUT signal; the adjustment of the control MASTER (6), however, does not affect it.
- 12..... Input MIC IN (combined 6.3mm/XLR jack, bal.) for connecting a microphone).
- 13..... 6.3 mm jack SPEAKER for connecting an additional passive speaker system (minimum impedance 8Ω)
- 14..... 2 x LTW-jack to connect at the timing devices or further speakers (e.g. BANG, Start Unit SU2, Start Unit SU3, FLASH, TimeMaster)
- 15..... DIN-jack to connect starting devices (e.g. e-Start or start microphone SM8)
- 16..... Banana jacks (green and black) for the start line connection with the timing device (closing contact, open collector)
- 17..... Display to indicate the transmission channel or the radio frequency
- 18/19... Arrow keys:
 - to adjust the channel in the adjusting mode: key ▲ for channel selection “upward”; key ▼ for channel selection “downward”
 - to shortly indicate the radio frequency instead of the channel on display (21) for as long as the key ▲ or ▼ is kept pressed
- 20..... On-off switch and volume control
- 21..... Diversity LED A/B: shows red or green to indicate which of the two internal reception antennas A or B is presently active
- 22..... Reception LED RX: lights up when the transmitter is switched on and set to the radio frequency of the receiver
- 23..... LED AF for the audio signal received: lights up when an audio signal is received
- 24..... Button SET to call the adjusting mode for the transmission channel and to confirm the channel selection

2 General

ALGE-TIMING offers two different models of the active box (speaker-amplifier system) BANG:

- BANG wired speaker system
- BANG W radio speaker system

In this manual the model BANG is described. The model BANG W has a separate manual.

2.1 Setting up

The BANG is suitable for indoor use only. Protect it against dripping water and splash water, high air humidity, and heat (admissible ambient temperature range 0 – 40 °C).

The BANG can be setup free or on the ALGE tripod **BANG-TRI**. When using it outdoors it must be protected against rain or snow with the rain protection **BANG-BAG**. The rain protection must remain on the BANG during operating.

This active speaker system BANG is a combination of a 2-way speaker system and an amplifier with connections for a microphone and an audio unit with line output level, e. g. CD player or cassette recorder.

The BANG can be integrated in a timing system in order to create a simulated start gun sound or start tone. Additionally, it can acoustically output a false start tone.

The unit can either be operated from the mains or via the internal rechargeable lead gel batteries to be charged with the integrated charging part. Thus, the speaker system is ideally suited for mobile applications like sport events. It has a multi-frequency receiving unit operating with diversity technique* in the UHF range of 863.1 – 864.9 MHz. The frequency range is divided into 16 channels to be selected as desired.

2.2 Audio Connections

2.2.1 Inputs

A microphone and a stereo unit with line output level (e. g. CD player, DVD player, cassette recorder or MD recorder) may be connected as audio sources:

- Connect the microphone either via XLR plug or 6.3 mm plug to the balanced jack MIC IN (12).
- Connect the stereo unit with line output to the phono jacks LINE IN (10).

2.2.2 Output LINE OUT

The phono jacks LINE OUT (11) allow e. g. connection of a recorder or another active speaker system for PA application. At both jacks the mixed mono signal of the speaker system is available. The control MASTER (6) for the master volume of the active speaker system does not affect the signal at the output LINE OUT; the adjustments of the tone controls TREBLE (7) and BASS (8).

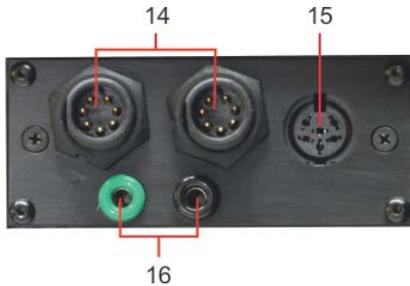
Note: The BANG is not provided with a volume control for the unit at the input LINE IN (10); i.e. the signal of the unit is always fed to the output LINE OUT at its input volume.

2.2.3 Passive Speaker System

If a speaker system (without amplifier) is additionally required for PA applications, it may be connected to the jack SPEAKER (13). The minimum impedance of the speaker system must be 8Ω. ALGE-TIMING offers the passive speakers BANG SPK as accessory for the BANG. You can connect on one BANG up to eight BANG SPK.

2.3 Connections for Timing

The BANG is connected with the timing system.



- 14.....2 x LTW-jack to connect at the timing devices or further speakers (e.g. BANG, Start Unit SU2, Start Unit SU3, FLASH, TimeMaster)
- 15.....DIN-jack to connect starting devices (e.g. e-Start or start microphone SM8)
- 16.....Banana jacks (green and black) for the start line connection with the timing device (closing contact, open collector)

2.4 Accessory

ALGE-TIMING offers the following accessory for the BANG:

2.4.1 Weather Protection BANG-BAG

The BANG is made for indoor use. For outdoor use of the BANG when it rains or snows the BANG needs a protection.

2.4.2 Tripod BANG-TRI

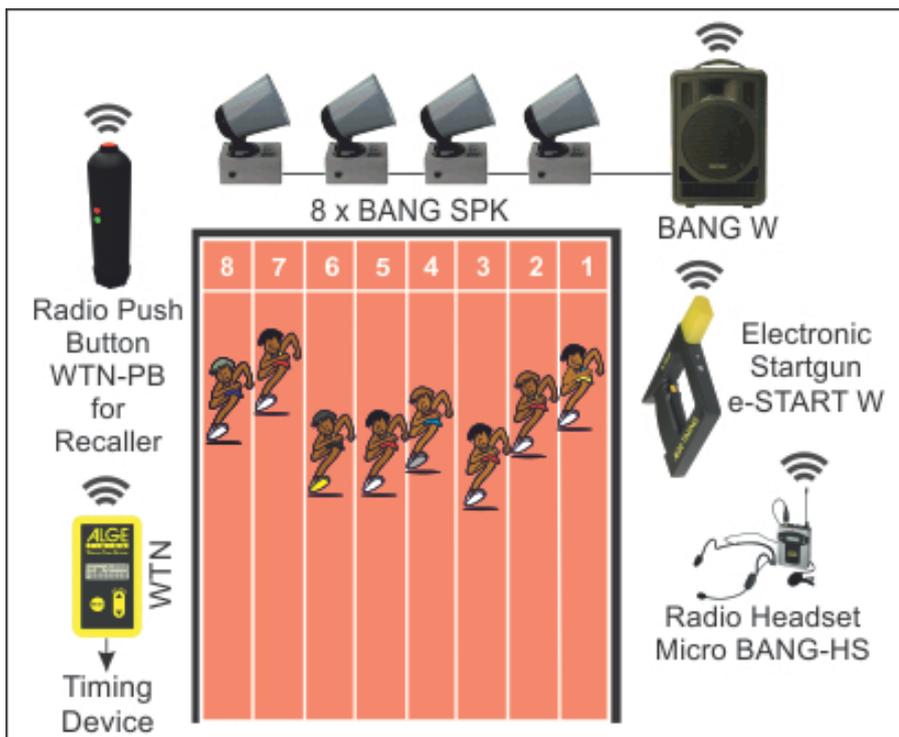
The BANG can be mounted on a tripod, when it should not be on the floor.

2.4.3 Headset Micro for BANG

With the headset micro **BANG-HS** it is possible to give commands to the athletes by radio (wireless connection).

2.4.4 BANG SPK

The passive speaker BANG SPK can be connected at the BANG (it is possible to connect a maximum of eight BANG SPK). It consists of a passive horn speaker with an output line of about 10 W. It has a fixed cable of 12 m (connection at BANG or BANG SPK and a speaker jack (RCA)) to connect additional BANG SPK.



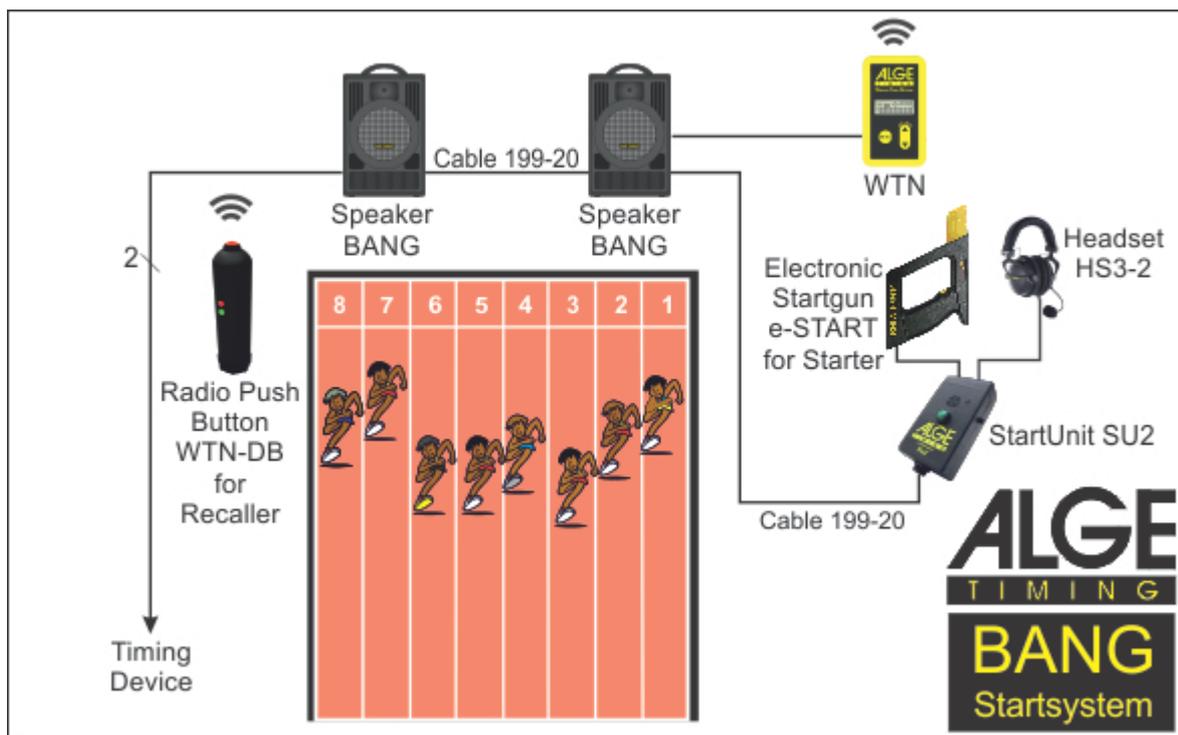
3 Commissioning

Prior to switching on, turn back the control MASTER (6) for the master volume to MIN first, and then switch on the speaker system with the switch POWER (3). The switch lights up during operation. If it starts flashing during rechargeable battery operation, the batteries are almost discharged and should be recharged.

To prevent damage to the rechargeable batteries by deep discharge during battery operation, a discharge protection automatically switches off the unit at the right time. However, due to self-discharge of the batteries, a deep discharge may also occur when the unit is not operated for a longer period of time. Therefore, always observe the notes in the chapter 5. Power Supply.

The BANG can be integrated with different devices from **ALGE-TIMING** as a start system:

- Electronic start gun e-Start
- Start microphone SM8 with speech amplifier SV4/SM and headset HS3-2
- Start Unit SU2
- Start Unit SU3
- BANG SPK
- Wireless Timing Network WTN



4 Operation

- Advance the control MASTER (6) for the master volume to such an extent that the subsequent adjustments can be heard well via the speakers.
- Switch on the desired signal sources and mix their signals with the corresponding volume controls or fade them in and out as required (always completely turn back the controls of the signal sources not used):
 - for the receiving unit/units (1): on-off switch and volume control (20)
→ 4.1 Multifrequency Receiving Unit for Headset micro BANG-HS
 - for the microphone at the input MIC IN (12): volume control MIC (9)
The input LINE IN (10) is not provided with an individual volume control; the volume of the signal source connected to this input can only be adjusted via the control MASTER (6) for the master volume.
- With the controls BASS (8) and TREBLE (7) optimize the sound of the mixed signal.
- With the control MASTER (6), adjust the final level for the master volume of the active speaker system, and then readjust the sound adjustments, if required.
- After operation, set the switch POWER (3) to the “off” position.

4.1 Multifrequency Receiving Unit for Headset Micro BANG-HS

- To switch on the receiving unit, advance the on-off switch and volume control (20) from the position OFF. The LED A/B (21) shows red or green depending on the receiving antenna A or B currently active.
- Leave the transmitter switched off for the time being. First set the receiving unit to a transmission channel which is free and interference-free:
 - Press button SET (24). The channel indication on the display (17) starts flashing.
 - As long as the channel indication keeps flashing (for approx. 10 seconds), the channel can be selected with the keys ▲ (18) and ▼ (19): key ▲ (18) for channel selection “upward”; key ▼ (19) for channel selection “downward”.
 - Confirm the channel selection with the button SET. (If the selection is not confirmed within 10 seconds, the unit returns to the channel previously adjusted.) If the LED RX (22) lights up after channel selection when the transmitter is switched off, interfering signals or signals of other transmitters are received on this channel. In this case, adjust the receiving unit to a different channel.
- It is possible to shortly show the radio frequency for the channel adjusted: as long as the key ▲ (18) or ▼ (19) is kept pressed, the display shows the frequency instead of the channel.
- If the transmitter is switched on and set to the same channel as the receiving unit, the LED RX (22) lights up to indicate reception of a radio signal. The LED AF (23) lights up if the transmitter transmits an audio signal of sufficient level on the radio frequency adjusted.
- Adjust the desired volume for the audio signal received with the control (20).

5 Power Supply

The BANG can be use connected to the mains or running on the internal rechargeable batteries.

5.1 Mains

To operate the active speaker system via a mains socket and/or to recharge the internal lead gel batteries, connect the mains cable provided to the mains jack (5) and to a mains socket (90 - 230 V~ / 47 – 63 Hz / 150 VA).

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

5.2 Rechargeable Battery

The BANG has two built-in lead gel batteries (each 12 V /3 Ah) for a mains independent use.

5.2.1 Battery Operating Time

The running time of the BANG using the internal batteries depends on the volume and the duration of active use (volume output).

Operating Time: about 3 to 4 hours at normal use

5.2.2 Charging Battery

When the active speaker system is connected to the mains, the automatic charging for the rechargeable batteries is always active. The LED CHARGE lights up:

Red: the batteries are being charged

Green: the batteries have been fully charged

For charging, it is not be necessary to switch on the speaker system with the POWER switch (5); however, it can be operated as usual during the charging process.

The charge control circuit prevents overcharge of the batteries; it is recommended, however, to disconnect the mains plug from the socket after charging if the unit is not used for a longer period of time. Always fully recharge the batteries prior to initial operation and after longer storage. If the POWER switch starts flashing during battery operation, the batteries are almost discharged and should be recharged as soon as possible.

IMPORTANT:

The rechargeable batteries of the BANG might be exhaustively discharged and as a result of this can be damaged. A deep discharge is possible in case the battery is either not charged at all for a very long time or if the BANG is constantly connected to the net supply.

We therefore recommend charging the rechargeable battery completely (12 hrs.) at least once a month in order to prevent such damage. For this, a timer clock might be of assistance that automatically turns on the net supply for the recommended period of time. The timer clock is especially helpful when the device is not used for longer periods (summer/winter break).

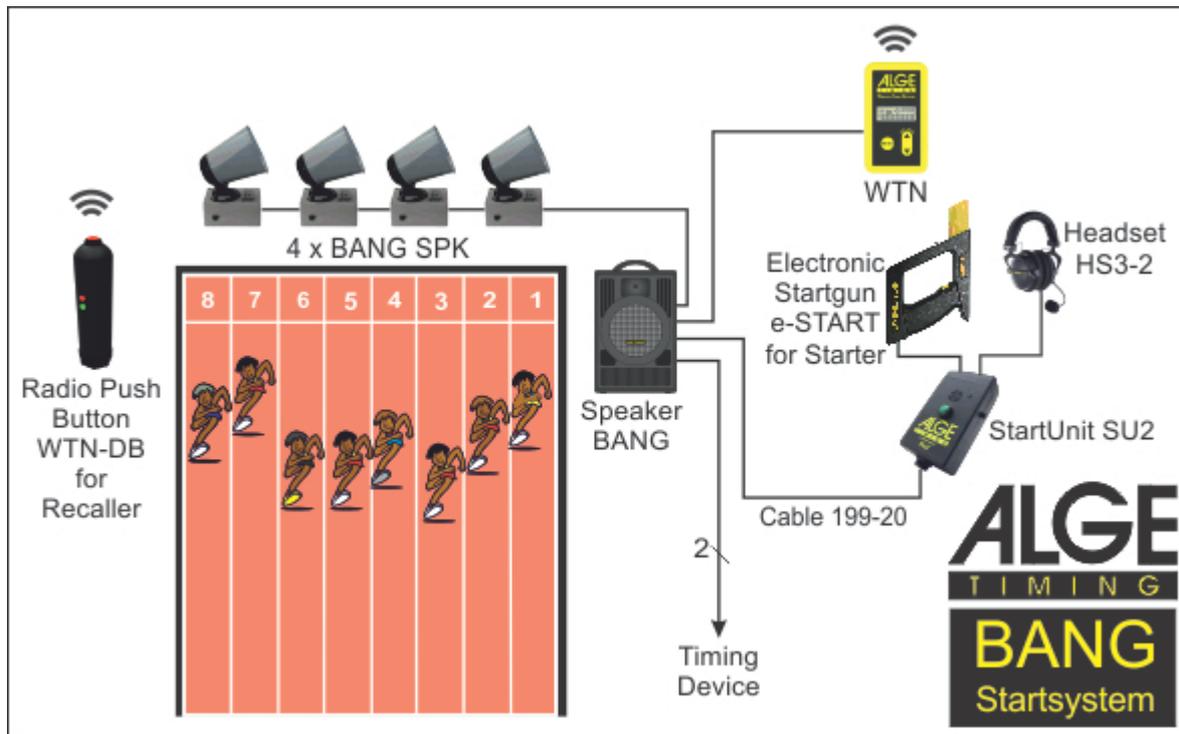
6 Functions

If you receive a start impulse at the BANG from a device that is connected to one of the two identical LTW-jacks (14) or to the DIN jack (15) you get a start sound output.

The start sound can be adjusted from the producer (ALGE-TIMING) as „gun sound“ or „horn sound“. The start sound cannot be adjusted by the operator (the BANG needs a different software).

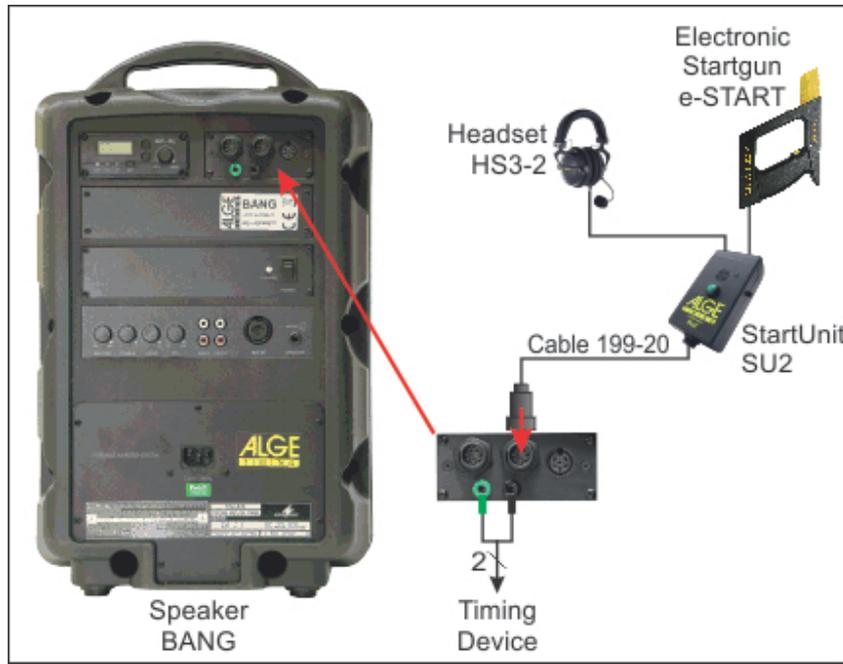
The BANG outputs a start impulse to trigger a timing device (closing contact) via the green and black banana socket (16).

If the BANG receives another start impulse within 5 seconds of the first start impulse it outputs a false start sound (several honks within a short time).



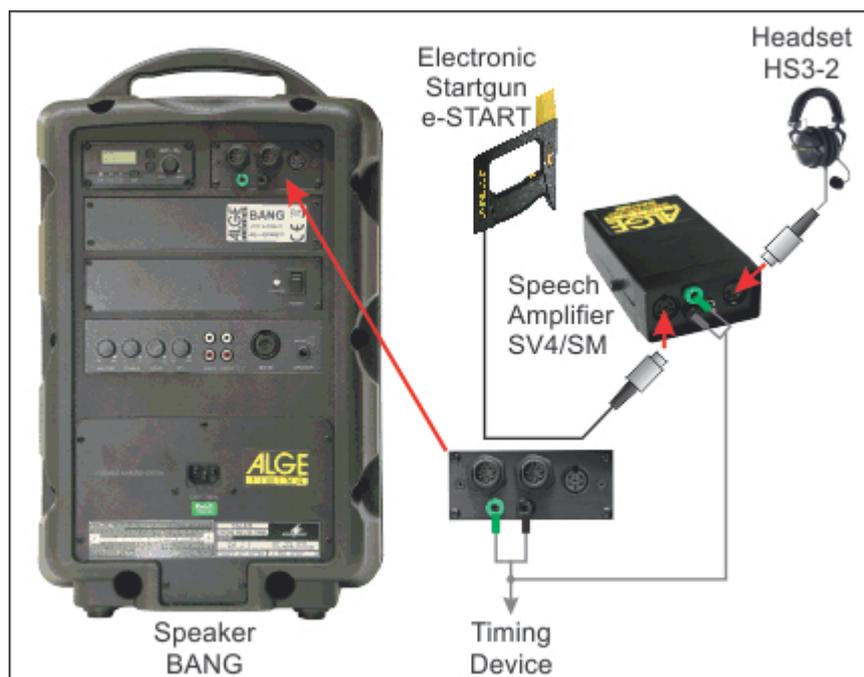
6.1 Start Unit SU2 or SU3

The Start Unit SU2 or SU3 can be connected at one of the two LTW jacks (14) with cable 199-xx. With the built-in microphone of the start unit you can give oral commands to the athletes through the BANG. Further, you can connect a headset to communicate with the timing operator.



6.2 Speech Amplifier SV4-S or SV4/SM

You can connect a speech amplifier with headset at the banana socket (16) to communicate with the timing operator. Connect a two wire cable parallel at the banana socket to the timing device (start impulse).



7 Technical Specifications

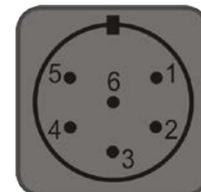
7.1 Amplifier and Speaker

<i>Amplifier Power:</i>	80WMAX/50WRMS
<i>Frequency Range:</i>	70 – 16 000 Hz
<i>Speaker System:</i>	20 cm (8") bass speaker and 2.5 cm (1") tweeter
<i>Input MIC IN</i>	Sensitivity: 6 mV Connection: XLR/6,3-mm-Klinke, sym.
<i>Input LINE IN</i>	Sensitivity: 800mV Connection: phono jack
<i>Output LINE OUT</i>	Level: 1 V Connection: phono jack
<i>Output SPEAKER:</i>	6.3 mm jack for a passive speaker system (minimum impedance 8Ω)
<i>Tone Controls:</i>	Treble: ±15 dB/100 Hz Bass: ±10 dB/10 kHz
<i>Ambient Temperature:</i>	0 to 40°C (32 to 104 F)
<i>Power Supply:</i>	via the mains voltage (230 V~/50Hz/150 VA) or the internal rechargeable lead gel batteries (2 × 12 V /3 Ah)
<i>Operating Time:</i>	with internal battery about four hours
<i>Dimensions:</i>	300 × 470 × 230 mm (W × H × D)
<i>Weight:</i>	ca. 11.2 kg



7.2 Connections for Timing

<i>2 x LTW jack:</i>	Connection with start devices or further speakers e.g. BANG, SU2, SU3, FLASH
<i>1 x DIN jack:</i>	Connection with start devices e.g. e-Start or start microphone SM8
<i>1 x Banana Socket (green – black):</i>	Start output signal, normally closed contact, open collector)
<i>DIN jack:</i>	1timing channel C0 (start input) 2status 3ground 4power supply output (+10 VDC _{out}) 5empty 6empty



7.3 Radio Receiver for Headset Micro BANG-HS

<i>Receiving Unit:</i>	PLL- multifrequency receiver in diversity technique
<i>Range:</i>	ca. 30 m
<i>Radio Frequency:</i>	863.1 – 864.9 MHz, divided into 16 channels



Channel CH	Frequency	Channel CH	Frequency
1	863.1 MHz	9	863.2 MHz
2	864.1 MHz	10	864.2 MHz
3	863.6 MHz	11	863.7 MHz
4	864.6 MHz	12	864.7 MHz
5	863.3 MHz	13	863.4 MHz
6	864.3 MHz	14	864.4 MHz
7	863.8 MHz	15	863.9 MHz
8	864.8 MHz	16	864.9 MHz

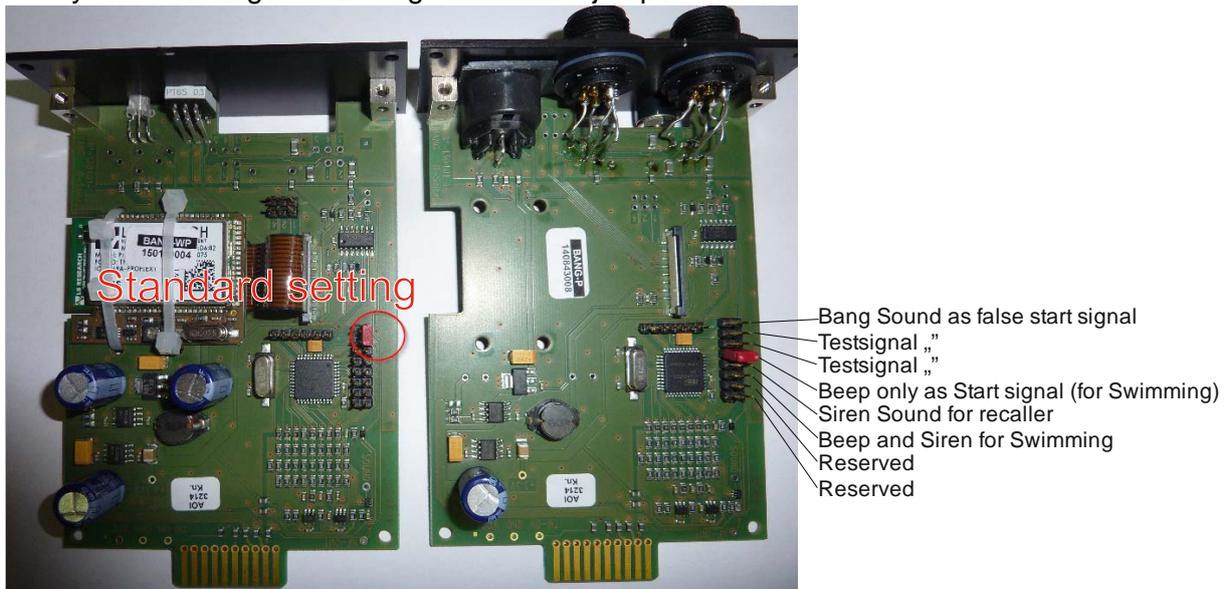
8 Special Settings

For various sports and applications it can be necessary to change a setting of the Bang. First you have to switch off the Bang. Open the red marked screws.



When the screws are removed, you can pull out the unit.

Now you can change the setting with the red jumper:



After finishing the setting plug the unit in the Bang again. After that you have to fix the screws again.

Hint:

The Settings „Beep as Start signal“ and „Siren Sound“ are available since March 2015.

The Settings „Beep and Siren for Swimming“ are available since May 2015.

Subject to changes

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