

# START 16

PLL DIVERSITY UHF WIRELESS SYSTEMS

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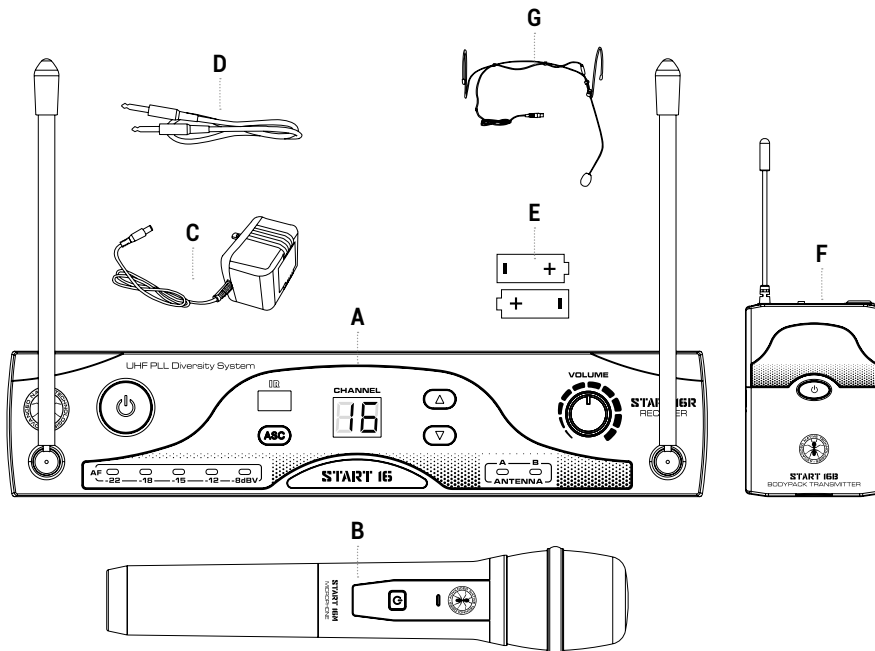
## PACKAGE CONTENT

### START 16 HDM Version with Handheld mic

- 1x START 16R receiver with built-in antennas - **A**
- 1x START 16Mw handheld dynamic microphone - **B**
- 1x External power adapter - **C**
- 1x Unbalanced 6,35mm (1/4") jack audio cable - **D**
- 2x 1.5 Volts AA batteries - **E**
- 1x User manual - Section 1
- 1x User manual - Section 2

### START 16 BHS Version with Backpack Transmitter and Headset mic

- 1x START 16R receiver with built-in antennas - **A**
- 1x START 16B backpack transmitter with built-in antenna - **F**
- 1x PH-90 ergonomic headset microphone - **G**
- 1x External power adapter - **C**
- 1x Unbalanced 6,35mm (1/4") jack audio cable - **D**
- 2x 1.5 Volts AA batteries - **E**
- 1x User manual - Section 1
- 1x User manual - Section 2



The warnings in this manual must be observed together with the **"User manual - Section 2"**.

## 1 | INTRODUCTION

Thank you for choosing a **A.N.T – Advanced Native Technologies** – product!  
In our **START 16** “PLL Diversity” wireless systems we have put our passion and our technological background gained over the years, to offer products that meet your needs, maintaining the quality over time.

**START 16** wireless systems operate in UHF band with 16 channels (frequencies). You may choose the operating frequency via buttons or via infrared using ASC feature.

Both versions of **START 16R** receivers adopt Diversity technology. They are equipped with two discrete antennas A and B, which are used to select at any moment the best radio signal. The antennas are fixed on the front panel of the receiver, but may be placed in an horizontal position by means of a junction present at their base.

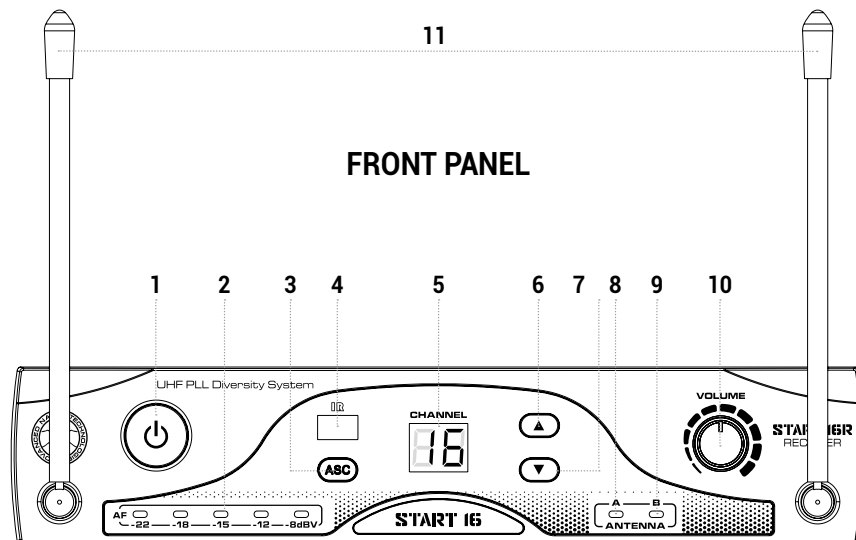
Please, dedicate some minutes to read this instruction manual in order to quickly achieve the best performances from this product.

For safety precautions, warranty and disposal, please refer to attached Section 2.

For further information about all **A.N.T** products catalog, please visit our website:

[www.ant-sound.com](http://www.ant-sound.com)

## 2 | DESCRIPTION



## 2.1 | RECEIVER - START 16R

### 1 POWER

Press this button on receiver front panel for 1" to turn ON/OFF the unit.

### 2 AF LEVEL METER

It shows the audio signal level. Avoid that the red LED (the rightmost one) remains lit continuously.

### 3 ASC

Press this button to achieve automatic channel (frequency) synchronization via infrared.

### 4 IR WINDOW

It allows the synchronization of the channel (frequency) with the transmitter. After pressing the ASC button, place the handheld microphone or beltpack transmitter close to this window and wait for the selected channel to stop flashing on the display. After the synchronization, the receiver's display is lit steadily on the selected channel (frequency).

### 5 DISPLAY

It shows the number of the activated channel.

### 6 UP

Press this button to scroll and select channel number in ascending mode from 01 to 16.

### 7 DOWN

Press this button to scroll and select channel number in descending mode from 16 to 01.

### 8 ANTENNA A

This LED turns on automatically when the unit is receiving a better signal from the antenna A.

### 9 ANTENNA B

This LED turns on automatically when the unit is receiving a better signal from the antenna B.

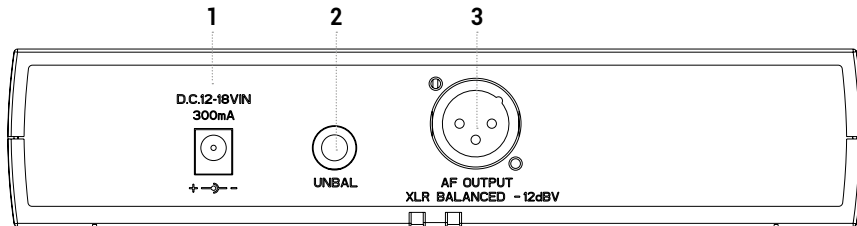
### 10 VOLUME

It adjusts the output audio level.

### 11 ANTENNAS

For the best signal reception, please place the antennas in a vertical position.

## REAR PANEL



### 1 "DC 12-18V" POWER SOCKET

Connect to this socket only the supplied power supply.

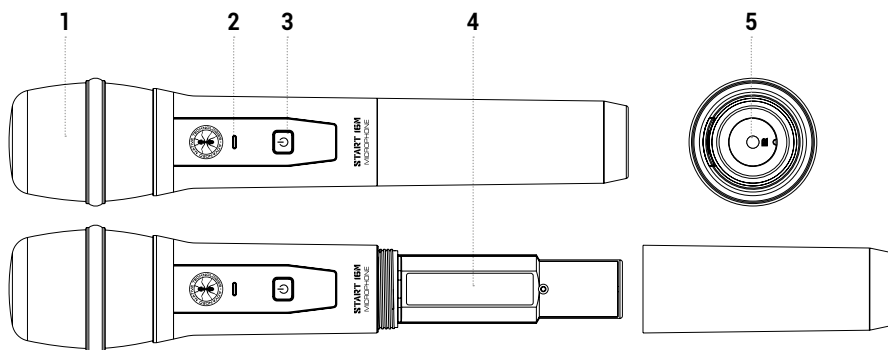
### 2 UNBAL

Unbalanced audio output with 6,35mm (1/4") jack. Connect this output into an unbalanced input of your mixer.

### 3 AF OUTPUT

Balanced audio output with XLR-M socket. Connect this output into a balanced input of your mixer.

## 2.2 | HANDHELD WIRELESS MICROPHONE - START 16M



### 1 GRILLE

It protects the microphone capsule from impacts and/or accidental falls and it reduces the noise of the plosive.

### 2 POWER ON AND BATTERY STATUS INDICATOR

GREEN: Transmitter activated (ON), charged batteries.

RED: Immediately replace the batteries.

**WARNING:** battery life is about 8 hours, but it may vary according to the usage conditions.

### 3 ON/OFF

Press this button for 3" to turn on or off the wireless handheld microphone.

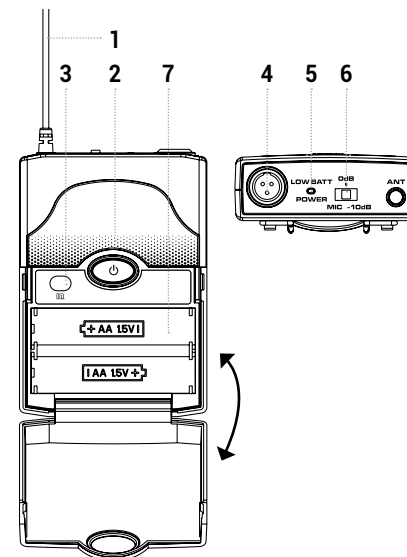
### 4 BATTERIES COMPARTMENT

To access the battery compartment unscrew the lid counterclockwise, and screw the lid clockwise to close it. Remove the batteries from the receiver when not in use for extended periods.

### 5 IR WINDOW

It allows the synchronization of the channel (frequency) with the receiver. After pressing the ASC button, place the bottom of the wireless microphone close to the IR window of START 16R receiver and wait for the selected channel to stop flashing on the handheld display. After the synchronization, the receiver's display is lit steadily on the selected channel (frequency).

## 2.3 | BELTPACK TRANSMITTER - START 16B



### 1 ANTENNA

It allows the transmission of the signal.

### 2 ON/OFF

Press this button for 3" to turn ON or OFF the beltpack transmitter.

### 3 IR WINDOW

It allows the synchronization of the channel (frequency) with the receiver.

After pressing the ASC button, place the beltpack transmitter close to the IR window of START 16R receiver and wait for the selected channel to stop flashing on the handset display. After



the synchronization, the receiver's display is lit steadily on the selected channel (frequency).

#### 4 MINI XLR-M INPUT

Connected to this input the supplied PH-90 Headset or the signal of other sound sources.

#### 5 POWER ON AND BATTERY STATUS INDICATOR

GREEN: Transmitter activated (ON), charged batteries.

RED: Immediately replace the batteries.

#### 6 GAIN SELECTOR

There are three different gain settings:

Mic: for supplied headset microphone and other microphones

0 dB: low output level instruments

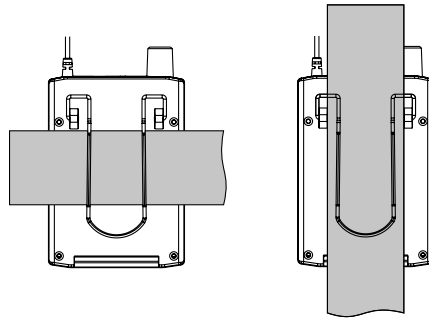
-10dB: high output level instruments

#### 7 BATTERIES COMPARTMENT

To replace the batteries, lightly press on the sides of the cover and lift forward. Take out the old batteries, and insert two new batteries (respecting the compartment icons) then close the lid. Remove the batteries from the receiver when not in use for extended periods.

#### WEARING THE BELTPACK RECEIVER:

Clip the receiver to a belt or to the shoulder strap of your guitar. For better fastening reliability it's preferable to secure it as shown in the figure, then fasten it in a way that the belt is tight from the clip.



### 3 | TIPS FOR BETTER USE OF THE SYSTEM

- Aim the transmitter to the receiver to achieve a "direct visual contact" between devices, without any interposed obstacle.
- Avoid placing the receiver near metal objects/surfaces or close to digital equipment (CD players, computers, etc.).

- Place the receiver in such a way that is far from a wall and that is at least 1 meter (about 3 feet) above the floor.
- Cell phones, two-way radio equipment or similar devices may disturb the radio transmission between the transmitter and the receiver, so they should not be used close to the transmission system.

### 4 | TROUBLESHOOTING

PROBLEM	LEDS	SOLUTION
No sound or very low sound level.	Receiver ON/OFF LED turned off.	Make sure the unit is properly connected.
Power LED turned off.		Make sure the power supply is properly connected to the receiver.
Receiver RF LED turned on.		Raise the volume. Raise gain on transmitter. Check the connections between receiver and amplifier or mixer.
Receiver RF LED turned on. Transmitter LED turned on.		Don't place the receiver close to metallic objects. Check that the transmission space ("visual contact") between transmitter and receiver is free. Approached the transmitter to the receiver. Make sure the transmitter and receiver share the same frequency.
Batteries status LED is red.		Replace batteries.
Distortion or unwanted interferences.	Receiver RF LED turned on.	Remove possible sources of interference such as CD players, computers, digital broadcast sources, etc.
Increasing distortions.	Batteries status LED is red.	Replace batteries.
Great intensity difference when the same source is via cable, or in case of connection with other guitars or microphones.		Set properly the transmitter gain selector and the receiver volume.



## 5 | TECHNICAL SPECIFICATIONS

RECEIVER - START 16R	
Type	Diversity
Modulation	FM
Frequencies range	863-865MHz
Channels	16
Antennas	x 2, adjustable and fixed on front panel
Frequency response	60Hz - 15.000Hz (±3dB)
Transmission optimisation	Pilot tone
THD	<1%
Audio outputs	Balanced XLR, unbalanced 6,35mm (1/4") jack
Balanced output level	+ 10dBu
Controls	Power, channel up, channel down, ASC, volume
Indicators	Channel number, antenna A/B, 5 LEDs level
Dimensions (W x H x D)	212 x 44 x 115 mm (8.34" x 4.52" x 1.73")
Weight	400 g (0.4 oz.)

HANDHELD MICROPHONE - START 16M	
Modulation	FM
Frequencies range	863-865MHz
Channels	16
Type	Dynamic
Polarity	Cardioid
Frequency response	60Hz - 15.000Hz (±3dB)
Output power	10mW
Controls	ON/OFF
Indicators	Power and battery status
Power supply	2 AA 1.5 Volts batteries
Operating time	>10h with alkaline batteries
Length	254 mm (10")
Max diameter	52.5 mm (2.06")
Weight	250 g (0.25 oz)

BELTPACK TRANSMITTER - START 16B	
Modulation	FM
Frequencies range	863-865MHz
Channels	16
Input	DC powered Mini-XLR for PH-90 Headset
Frequency response	60Hz - 15.000Hz (±3dB)
Output power	10mW
Controls	Gain (3 steps), ON / Standby / OFF
Indicators	Power and battery status
Power supply	2 AA 1.5 Volts batteries
Operating time	>10h with alkaline batteries
Dimensions (W x H x D)	64 x 90 x 23 mm (2.51" x 0.91" x 3.54")
Weight	80 g (0.08 oz)



6 | NOTES | NOTE | NOTIZEN

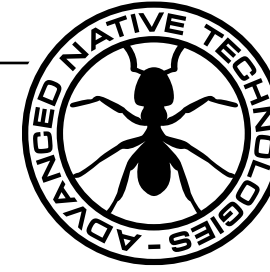
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6 | NOTES | NOTE | NOTIZEN

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**ENG** The information contained in this manual have been carefully drawn up and checked. However no responsibility will be assumed for any incorrectness. This manual cannot cover all the possible contingencies which may arise during the product installation and use. Should further information be desired, please contact us or our local distributor. A.E.B. Industriale Srl can not be considered responsible for damages which may be caused to people and things when using this product. Specifications and features are subject to change without prior notice.

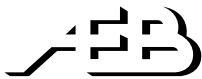


The batteries supplied with the system can be recycled. Please dispose of them as special waste or return them to your specialist dealer. In order to protect the environment, only dispose of exhausted batteries.

Made in China







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