S6000 Handheld
Instruction Manual

Introduction

Thank you for purchasing your Trantec S6000 Handheld.

If you require additional copies of these instructions, they can be obtained from our web site, http://www.trantec.co.uk, along with other information about the Trantec range.

> Background Information

The S6000 Handheld is a microprocessor controlled UHF transmitter, which can operate on up to 40 different channels. The exact selection of channels available will depend on how your system has been configured. The ability to change operating channel will be immediately useful when configuring for a multi-user site or where the presence of other radio microphone users may cause problems when using a fixed channel system.

> General Radio Microphone Operating Guidelines

Always try to locate the receiver as close as possible to the transmitter, as this minimises the chance of there being any drop-out. Although this is most unlikely with a diversity system, the greater the transmitting range, the greater the chance of problems. Always try to ensure a line of sight signal path between the transmitter and receiver - obstacles such as walls can significantly reduce the radio signal strength.

Obviously the transmitter and receiver must be on the same channel. If you are using more than one system simultaneously, choose a set of intermodulation free frequencies. Please refer to the channel listings in the Appendix as a guide to finding a suitable set of frequencies. Note that although your system may be capable of operating on channels other than the licence exempt ones, it is illegal to do this in the UK without first obtaining a licence. It is wise to avoid placing the receiver near to computer or mobile telephone equipment, as this can create unwanted radio interference.

Always operate any radio microphone system with its antennas fully extended. Always test a radio microphone system in the location where it is to be used by doing a “walk test”. This involves walking with the transmitter around the area in which it is to be used to test reception. This should show up any problem areas. By adjusting the location of the receiver, or even just the alignment of its antennas, it should be possible to obtain trouble-free operation over the desired area, provided it does not exceed the transmitter’s range, which is typically around 100m.

> **Guarantee**

All Trantec products are guaranteed for a period of one year from date of purchase against defects in materials and workmanship. In the event of a claim under guarantee the system should be returned to your dealer in its original packaging and with proof of purchase. Defects caused by modification, misuse or accident are not covered by the guarantee.

Due to our continual policy of research and development we reserve the right to alter specifications without prior notice.

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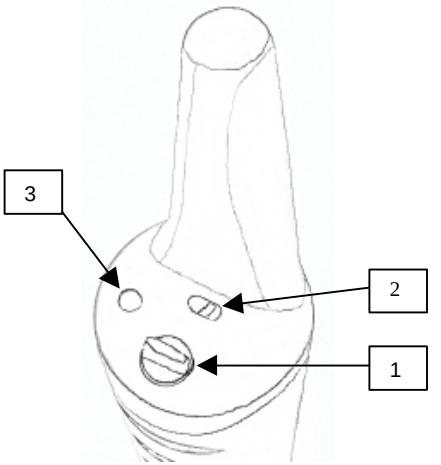
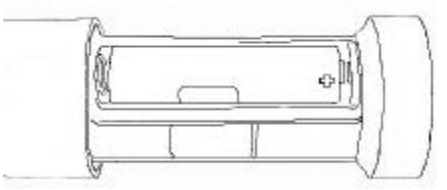
Transmitter Set-up

Open the microphone by twisting the latch (1) at the base anti-clockwise.



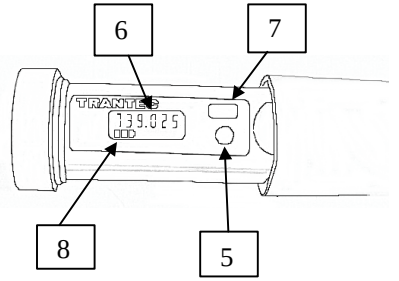
The sleeve then slides open to reveal a 1.5 V ‘”AA” alkaline battery holder on one side and an LCD, infrared port (7) and a screwdriver adjust on the opposite side.



Insert a battery into the holder, observing correct polarity and then slide the sleeve firmly back to a closed position. The sleeve will latch automatically. Turn the microphone on by switching the small toggle (2) located next to the moulded antenna. An LED (3) will light to signify the microphone is on. To confirm the operating frequency, open the sleeve again to see the frequency displayed on the LCD.

> **Changing the Transmitting Frequency**

Next to the LCD there is a screwdriver adjust (5). This is a dual-function digital switch. When the microphone is initially turned on the LCD (6) shows the current gain setting for a few seconds. It then displays the currently loaded frequency. The decimal point will flash for approximately 10 seconds, during which period the user can adjust the frequency, using a screwdriver. The decimal point will then stop flashing and the screwdriver adjust can now be used to configure the gain (see below). The operating frequency is stored permanently in non-volatile memory so it will remain the same even if the battery is removed.



The frequencies loaded into the transmitter can be changed via the infra-red port on either the receiver front panel, or a PALM Pilot. Both of these methods are described in the 6000/6001/6002 receiver instruction manuals.

The exact selection of channels available will depend on how the transmitter has been programmed in the factory. It can contain up to 40 unique channels, but your transmitter will not necessarily contain this many channels.

> **Changing the gain**

After the decimal point has stopped flashing, the screwdriver adjust can now be used to configure the gain. The LCD displays between 0 and 9, with 0 being the minimum gain and 9 the maximum. The gain is stored permanently in non-volatile memory so it will remain the same even if the battery is replaced.

> **Optimising the Gain of your system**

In order to achieve the best possible audio performance from your radio system, it is worth spending a few minutes setting the optimum gain level.

Adjust the gain of your transmitter so that at maximum audio level, the receiver AF bar display is at +3 dB. If this level is surpassed then distortion is likely. The optimum setting will vary according to who is using the microphone and how close the microphone is placed to the mouth.

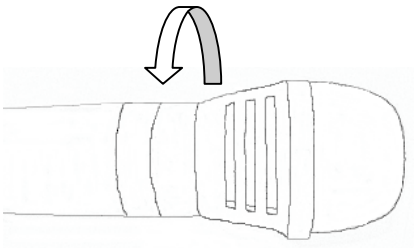
Once the transmitter gain is optimised, it is necessary to match the receiver's output level to your mixing desk or PA system. This is described in the manual for your receiver.

> **Battery monitoring**

The battery voltage is displayed on the LCD of the transmitter and is shown in three segments (8). The first goes out when 60% of the battery life has expired, the second goes out at 80%. The battery level is sent over the RF link and can be monitored from the receiver.

> **Head selection**

The S6000 microphone can be used with a variety of different head options. The head capsule can be removed by grasping the grill and unscrewing the capsule assembly anti-clockwise at the point arrowed.



This capsule can be replaced with a variety of different capsules depending on the application or the personal taste of the user.

Appendix

Frequency Guide for the UK

Channel 69 (854 MHz – 862 MHz) is the only channel available throughout the entire UK. Other frequencies in the UHF band are available regionally. More information can be obtained through the JFMG (Joint Frequency Management Group).

The following set of channel 69 frequencies, recommended by JFMG, is stored in your transmitter on delivery. (Other frequency sets can be provided for special orders). This set has been calculated to be intermodulation free, so it should be possible to operate them all simultaneously, although other radio sources may cause interference that prevents this. A licence is required to operate UHF radio microphones in the UK. This is also the case in most other countries - consult the relevant authorities in any country before using the system there.

Number (1-16)	**Channel**
1	854.900
2	855.275
3	855.900
4	856.175
5	856.575
6	857.625
7	857.950
8	858.200
9	858.650
10	858.975
11	859.500
12	860.400
13	860.900
14	861.200
15	861.550
16	861.750

Licensing
If you have any enquiries regarding licensing then please contact:

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Web: **www.jfmg.co.uk**
Out of hours:
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Technical Specifications

Frequency Range:
662-734 MHz, 734-806 MHz, 798-865 MHz
Frequency Arrangement:
40 Frequencies on a 25 kHz grid
Output Power:
2 Power settings 10 dBm / 13 dBm @ 50 Ohms
Nominal Deviation: 25 kHz
RF Harmonic & Spurious Radiation:
< -54 dBm
Frequency Stability: < 10 kHz
Power Consumption:
150 mA, 1.5 V “AA” Alkaline Battery
Battery End Point: 1.0 V
Operating Time: > 12 hours (Typical)
AF Frequency Response: 70 Hz – 18 kHz
AF Gain:
10 Step Gain (Input level 0 dB to -22 dB)
Dimensions: 270 mm x 35 mm
Weight: 280 g
Regulatory information: Fully meets requirements of ETS300-422/455 & FCC

Delivery includes

1 x radio microphone transmitter body
(microphone head to be ordered separately)
1 x microphone clamp
1 x instruction manual
1 x zipped pouch
1 x foam windshield

Suitable receivers

S6000 rack system, S6001 & S6002

Order codes

S6000 Dynamic Handheld Mic

798 ~ 865 MHz Black	**S6000DTX834B**
798 ~ 865 MHz Silver	**S6000DTX834S**
734 ~ 806 MHz Black	**S6000DTX775B**
734 ~ 806 MHz Silver	**S6000DTX775S**
734 ~ 806 MHz Black J	**S6000DTX775B/J**
734 ~ 806 MHz Silver J	**S6000DTX775S/J**
662 ~ 734 MHz Black	**S6000DTX705B**
662 ~ 734 MHz Silver	**S6000DTX705S**

S6000 Condenser Handheld Mic

798 ~ 865 MHz Black	**S6000DTX834B**
798 ~ 865 MHz Silver	**S6000DTX834S**
734 ~ 806 MHz Black	**S6000DTX775B**
734 ~ 806 MHz Silver	**S6000DTX775S**
734 ~ 806 MHz Black J	**S6000DTX775B/J**
734 ~ 806 MHz Silver J	**S6000DTX775S/J**
662 ~ 734 MHz Black	**S6000DTX705B**
662 ~ 734 MHz Silver	**S6000DTX705S**

Information on adaptors for other manufacturers capsules is available on request.

(BBM Electronics Group Ltd cannot be held liable for any damage to third party capsules that are attached to any Trantec product)

This symbol indicates that this piece of electrical/electronic equipment must be disposed of separately from normal waste at the end of its operational life. Please dispose of this product by taking it to your local recycling or collection point.