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## **Specifications:**

Standard RF Frequencies: 173.8MHz, 174.1MHz, 174.5MHz, 175.0MHz  
(Others available on request)

### **Transmitter:**

RF Output Impedance 50Ω

Modulation: Direct FM

Beltpack Audio Input: 4 Pin Lemo Connector, Input level adjustable by user gain control  
Pin 1 Ground; Pin 2 +9v; Pin 3 Audio/+9v; Pin 4 Audio

Handheld Head Type: Dynamic

Battery: 9v PP3 Alkaline, Life Expectancy > 10 Hours

### **Receiver:**

RF Sensitivity: < 1μV for 12dB/Sinad

IF Bandwidth: 100kHz (IF 10.7MHz)

Audio Output: Unbalanced on 0.25" Jack, ∞ to -4dBm (Variable), Impedance 10kΩ

Power Supply: 12-18v DC, 250mA via external AC power adaptor

## **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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# **TRANTEC SYSTEMS**

## S3.5 Diversity Radio Microphone Systems

### Operating Instructions

### **General Operating Guidelines:**

Thank you for purchasing your Trantec S3.5 diversity system. The set up procedure for the system is detailed in these instructions and if followed will ensure your complete satisfaction with the product.

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. If you are using more than one system simultaneously, ensure they are all on different frequencies. It is wise to avoid placing the receiver near to computer or mobile telephone equipment, as this can create unwanted radio interference. As emphasised in these instructions, 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 is where the system is tested as the transmitter is walked around the area in which it is to be used. This will normally show up any problem areas, allowing you to try a new receiver location. 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 that it is not too large to exceed the transmitter's range, which is typically around 100m.

## ***Handheld Transmitter:***

### **Setting Up:**

To insert a battery, slide the microphone's collar round and slide down the body to reveal the battery compartment. Insert the battery observing the correct polarity.

Switch on the microphone using the switch on its base. The LED will light up if the battery is good. Note that the LED will extinguish when the battery needs replacing. The operating frequency is shown on the LCD screen.

To change the operating frequency, slide the microphone's collar round and slide down the body to reveal the two buttons near the LCD screen. Press the button nearest to the bottom of the microphone. The frequency will change and will be shown on the LCD screen. The button nearest to the LCD screen (if fitted) is not used.

## ***Beltpack Transmitter:***

### **Setting Up:**

Attach the external antenna and lapel microphone to the top of the beltpack.

To insert a battery, slide the side of the beltpack up and place the battery in the compartment observing the correct polarity.

Switch on the beltpack using the switch on the top. The LED will light up if the battery is good. Note that the LED will extinguish when the battery needs replacing. The operating frequency is shown on the LCD screen.

If necessary slide down the side of the beltpack and locate the audio gain control. Adjust this to set the audio gain as required, using the **AF PEAK** indicator on the receiver as guide.

To change the operating frequency, slide down the side of the beltpack and press the bottom button. The frequency will change and will be shown on the LCD screen. The top button (if fitted) is not used.

## ***Diversity Receiver:***

### **Setting Up:**

Fully extend the two attached antennas, and if possible set them with an angle of 90 degrees between them, giving an angle of 45 degrees between each antenna and the horizontal.

Connect the power adapter to the rear panel and link the audio output to your mixer or PA system.

The **POWER** LED will light up. If you have a transmitter on the same frequency as the receiver, then more LEDs may light up. These are explained in more detail in the next section.

Select the required operating frequency using the rotary switch on the rear panel, noting the frequency allocations printed near to it.

### **An Explanation of the Front Panel:**

When the receiver is muted, only the **POWER** LED will light up. When receiving, more LEDs are lit up as follows:

<b>RF LEVEL</b>	The strength of the received RF signal is indicated on these 4 LEDs.
<b>A</b>	This LED will be lit when the receiver is using antenna A to receive.
<b>B</b>	This LED will be lit when the receiver is using antenna B to receive.
<b>AF PEAK</b>	This LED will be lit to indicate that the level of the received audio signal is above +3dB.

### **Setting The Mute Level:**

The mute level can be adjusted if the receiver is picking up unwanted radio signals (due to intermodulation and other FM signals). In order to make this adjustment, the transmitter must be switched off. The receiver should now be muted. If it is not, then slowly adjust the **MUTE LEVEL** control until all unwanted signals are muted. Once you have done this, switch the transmitter back on and check its operation.

### **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. If using a beltpack system then first adjust the gain of your transmitter. The optimum setting for this will be found by first adjusting the transmitter gain so that the **AF PEAK** LED on the receiver just illuminates for the loudest signal that is likely to be transmitted. The gain should then be decreased slightly so that the LED never lights in normal operation. If the LED is lit, 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. Note that the transmitter gain for the handheld transmitter is factory optimised.

Once the transmitter gain is optimised, it is necessary to match the receiver's output gain to your mixing desk or PA system. Adjust the **GAIN** control to give the optimum level for your system. Adjusting this too high may cause distortion.