

TRANTEC SYSTEMS

OPERATING INSTRUCTIONS

S400IEM In-Ear-Monitor

Introduction:

Thank you for purchasing your Trantec S4000IEM system. All systems incorporate a stereo transmitter and one or more stereo beltback receivers.

The set up procedure is detailed in these instructions and if followed will ensure your complete satisfaction with the product.

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 S4000IEM is a UHF stereo system with an easy to use microprocessor controlled synthesised receiver and transmitter which can operate on up to 32 different channels which can be arranged in up to 4 banks. The exact selection of channels available will depend on how your system has been programmed in the factory. The ability to change operating channel will be immediately useful in any situation where the system is to be used at varying locations, where the presence of other radio microphone or IEM users may cause problems when using a fixed channel system.

- **General IEM Operating Guidelines:**

Always try to locate the transmitter as close as possible to the area where the receivers will be used, as this minimises the chance of there being any drop out. 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. The IEM transmitter should not be placed too close to any radio microphone receivers. Note that although your system may be capable of operating on channels other than the license exempt ones, it is illegal to do this in the UK without first obtaining a license. It is wise to avoid placing the transmitter or receiver near to computer or mobile telephone equipment, as this can create unwanted radio interference. As emphasised in these instructions, always operate any IEM system with its antennas fully extended. Always test an IEM in the location where it is to be used by doing a 'walk test'. This is where the system is tested as the receiver 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 transmitter location. By adjusting the location of the transmitter, or even just the alignment of its antenna, 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.

- **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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S4000IEM Transmitter:

- **Setting Up:**

Connect the antennas at the rear and connect a sound source using either the XLR or jack connectors. Use the rear panel switches to adjust the input level and to select stereo or mono operation. Connect the mains power adapter to the **DC IN** rear panel connection and to the mains supply. **Always and only use the Trantec power supply provided with your system.** The transmitter will start on whatever frequency it was last set to.

- **An Explanation of the Front Panel and Options:**

In normal operation the transmitter will display the current frequency and a VU meter showing the average of the left and right inputs, unless the **Display Name?** Option has been selected (see below), in which case a user name will be displayed rather than the VU meter. This facility is useful in situations where you need to know who is using which channel.

To view a large VU meter showing the average of both inputs, press the **L+R** button. Pressing either button will return you to the normal display. To view two separate VU meters, one for each channel, press the **L R** button. Pressing either button will return you to the normal display.

The three LEDs indicate stereo or mono operation and that the audio limiters are limiting the input signal. If this is happening constantly, reduce the input signal or change the level switch on the rear panel.

- **Configuring the Receiver:**

All configuration is done using the two front panel push buttons. To change the configuration first enter the **SETUP MENU** by pressing both buttons together. The following options are available from the menu, in this order:

1. **CHANNEL CHANGE**
2. **BANK CHANGE**
3. **PROGRAM INFO**
4. **NAME INPUT**
5. **DISPLAY NAME?**
6. **RETURN?**

To scroll through these options, press the **Δ** button. To select a particular option, press the **SELECT** button. The results of selecting a particular option are outlined individually in the sections that follow. Note that any changes made to the configuration are stored in memory in the receiver, and will thus not be lost when power is disconnected.

- **Selecting CHANNEL CHANGE:**

Initially the current channel's frequency is displayed. Press or hold down the **Δ** button to scroll through the available channels. When you reach the required new frequency, press the **SELECT** button to choose it. The receiver will immediately switch to the new frequency, and the normal display will return.

- **Selecting BANK CHANGE:**

The current bank is displayed. Pressing the **Δ** button will change to the next bank. Pressing the **SELECT** button will choose the bank being displayed to become the current bank, and will then return you to the normal display. Note that doing this will reset the current frequency to the first in the new bank, so it will probably be necessary to change the frequency after changing the bank.

- **Selecting PROGRAM INFO:**

This will display information on the program in the receiver. To clear this information, press the **SELECT** button to return to the normal display.

- **Selecting NAME INPUT :**

This allows you to enter a user name which can be displayed in the normal display. The user name can be up to eight characters long. In order to change the name from this option, the name is displayed with a cursor under the first character. Pressing or holding down the **Δ** button will scroll through the available characters at the cursor position. Pressing the **SELECT** button will move the cursor along one position. Pressing the **SELECT** button on the last character in the name will return you to the normal display. It will be necessary to change each of the eight character locations in turn. If you miss the character you want, simply scroll round until it comes back again.

- **Selecting DISPLAY NAME?:**

This allows you to configure whether or not the user name is displayed in the normal display. Pressing the **Δ** button will toggle this setting on and off. Pressing the **SELECT** button will return you to the normal display.

- **Selecting RETURN?:**

This will return you to the normal operating mode and should be used when setup mode was selected unintentionally.

S4000IEM Receiver:

- **Setting Up:**

Screw the external antenna into the antenna connector on the top of the beltpack. The antenna can either be a short wire or a helical type. Under no circumstances should the length of a wire antenna be shortened. Neither should a wire antenna be coiled up or wrapped with the audio lead - this will reduce the performance of the receiver.

Slide the side of the beltpack up and place a 9v (MN1604) battery in the compartment observing the correct polarity and with connectors facing into the case. Connect your stereo headphones or earpiece to the minijack socket.

Switch on the beltpack using the combined power switch and volume control and adjust the volume as required. The red LED will light up if the battery is good. Note that the LED will extinguish when the battery needs replacing. The LCD will display the current channel and the green LED will light up if the unit is receiving.

- **Changing the Transmitting Channel:**

Slide down the side of the beltpack to reveal two small push button switches.

Whilst the beltpack is switched on, press and hold the switch nearest to the base of the beltpack until **FrEq** is displayed on the LCD. Releasing the switch at this stage will advance the transmitting frequency to the next frequency. Continuing to hold down the switch will scroll through the available frequencies, and whatever frequency is displayed when the switch is released will be chosen as the transmitting frequency. This setting is stored in memory within the beltpack and will be retained even when the beltpack is switched off.

- **Changing the Current Bank:**

Slide down the side of the beltpack and locate the two push button switches as described above.

Whilst the beltpack is switched on, press and hold the switch nearest the top of the beltpack until **BAnc** is displayed on the LCD. The current bank (displayed at the bottom of the LCD) will then scroll through the available banks (up to 4 in total). Release the switch when the desired bank is shown, and this will become the current bank. After changing the current bank, it will probably be necessary to choose the desired transmitting frequency from the new bank as described above. This setting, like the transmitting frequency, is stored in memory and will be retained even when the beltpack is switched off.

Technical Summary:

Transmitter Details:

- Up to 32 frequencies, in up to 4 banks
- Available configured on any standard UHF channel between 60 and 70, with a 32MHz bandwidth
- Internal Stereo AF limiters with fast attack and visual indicators
- Mono/Stereo transmission is rear panel selectable
- Stereo Line Input (-10dB / +4dB selectable, balanced on XLRs or unbalanced on jacks)
- Fully microprocessor controlled with easy to use front panel data wheel
- Large front panel LCD can show stereo VU meters, RF frequency or user name
- User name can be set from the front panel

Receiver Details:

- Frequency, channel and bank configuration same as for transmitter
- Combined power and volume control knob
- Dual conversion receiver topology with high dynamic range front end for optimum image and interference rejection
- RF bandwidth < 180kHz - will work on standard radio mic channels
- Output on standard stereo mini jack for connection of earpiece or headphones (4Ω-32Ω)
- Fully microprocessor controlled
- Top panel LEDs indicate RF signal and power/battery low
- Reverse Battery Protection
- Unique soft mute system
- LCD indicates frequency and bank
- Powered by single MN1604/PP3 9v battery, average life 8 hours

System Specifications:

Frequency Response: 40Hz to 15kHz
Stereo Separation: 40dB (typical)
Signal to Noise Ratio: 80dB (minimum)
Typical Range: Up to 100m, line of sight