STAR∗TRAK User Manual Addendum
Spread Spectrum Radio Card.

1. Introduction

The STAR∗TRAK wireless motion capture system uses a Direct Sequence Spread Spectrum (DSSS) radio link transmitting in the 2.4 GHz band. Spread spectrum technology spreads the output power across a wide bandwidth. Since the DSSS signal is low level and wide band, it is not intrusive to other equipment. Another advantage of DSSS is its high noise immunity due to the correlation coding used for the spreading the signal.

2. Operation

The Star∗Trak system automatically detects if the radio board has been installed and operates it automatically with out any operator intervention. The operator can only change the RF channel though a setting on the system software.

The Radio Board has the capability of operating on 14 separate Radio Frequency (RF) channels. Not all channels are available in all countries. The system software is configured to be country specific. Only the RF channels allowed for operation in a particular country will be available to the STAR∗TRAK system. Detailed instructions for choosing available frequencies are given in the STAR∗TRAK manual. The table below list the frequencies available in a particular country.

Channel	FCC/IC USA/ Canada	ETSI Europe	France	Spain	MKK Japan
1	2412 MHz	2412 MHz			
2	2417 MHz	2417 MHz			
3	2422 MHz	2422 MHz			
4	2427 MHz	2427 MHz			
5	2432 MHz	2432 MHz			
6	2437 MHz	2437 MHz			
7	2442 MHz	2442 MHz			
8	2447 MHz	2447 MHz			
9	2452 MHz	2452 MHz			
10	2457 MHz	2457 MHz	2457 MHz	2457 MHz	
11	2462 MHz	2462 MHz	2462 MHz	2462 MHz	
12		2467 MHz	2467 MHz		
13		2472 MHz	2472 MHz		
14					2484 MHz

Table 1

For all countries except Japan, the initial communication channel is 10. After a communication link is established, the software shifts the radio board frequency to the channel selected by the user. Only the frequencies that are authorized for a particular country can be selected.

Warning

The STAR*TRAK radio board is configured at the factory for a particular country of operation. If the user moves his or her system to a different country, then it is possible the radio board could transmit on a frequency that is not legal to use. If you plan to move your system to another country, consult table one. If the frequency of operation is not authorized, call Polhemus Technical Support for the system modification procedure.

It is recommended that the user leave the RF channels at the factory settings. If there appears to be interference, then use the system software to change channel settings.

3. Specification

Temperature Range	0° C to 40° C.
Frequency Range	See Table 1
RF Link Range	100 meter (open studio)
Output Power	30 mW max (adjusted at factory)

4. Antenna Installation

The antennas are permanently fixed to the unit at the factory. **Do not attempt to change the antenna. This unit has been designed to comply with FCC RF exposure requirements Any attempt to modify the unit or the antennas could cause the user to receive RF energy into the body tissue at levels that exceed the federal standards.**