

Introducing Palm Radio Infrared Link Technology



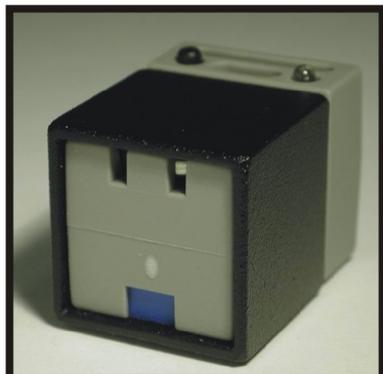
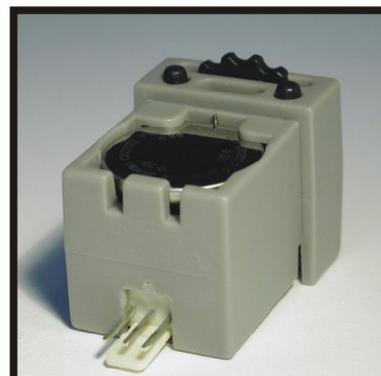
General:

In the past, we have been approached by customers who wanted us to develop a wireless connection between morse keys and the radio station to free up a key or paddle to be located wherever the operator finds it to be most comfortable. This goal seemed to be easily achievable at first, but because we wanted to integrate the new technology into our existing products like the Code Cube or the PPK (Palm Portable Key), physical space and battery power were the main limitations. A number of readily available technologies (rf signals, bluetooth etc.) were ruled out quickly and a infrared link soon proved to be the only way to success. After many experiments we have managed to develop what we now call "**Palm Radio Infrared Link Technology**". Two existing Palm Radio products have been equipped with this new technology, and a number of new ones have been created.



IR-Code Cube:

Our legendary Code Cube, equipped with the well-known PK4 from Jackson Harbor Press using specially customized Palm Radio software! Now an infrared LED at the back of the housing allows connections of up to 5m to the IR-Receiver or the IR-Sensor. Makes any existing Mini Paddle go wireless!



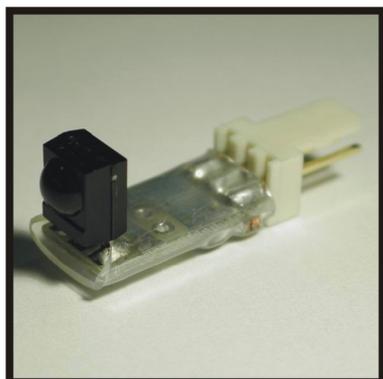
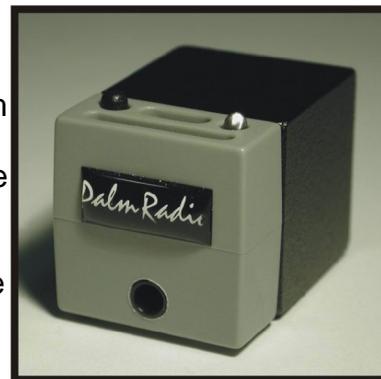
IR-Receiver:

Stand-alone miniature infrared receiver 25x25x35mm (1"x 1"x 1,4") for use with the IR-PPK, the IR-Code Cube or the IR-Transmitter. It is powered by a CR 2032, with auto power-off function. Current load standby is 1,5mA, with signal and tone 1,9mA. Battery life approx.100 hours (equals 600 QSOs of 10 minutes each)



IR-Transmitter:

The IR-Transmitter can be used with ANY straight key - just plug your key into the 3,5mm phone jack and get "on the wave"! The IR-Transmitter is equipped with a sidetone that can be muted or switched in frequency. A 3mm control-LED (red), battery powered (CR 2032) Works with the IR-Receiver and the IR-Sensor.



IR-Sensor:

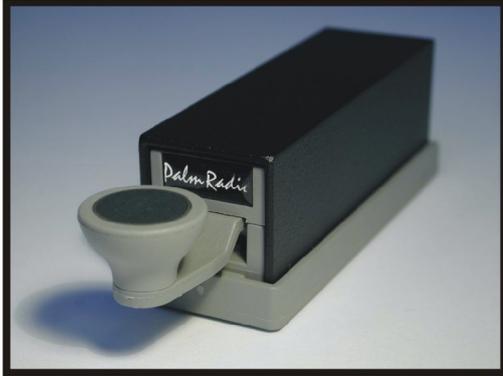
Miniature infrared receiver module, it is meant to be installed inside your favorite rig. Ideal for homebrew equipment. It has very low power consumption. PCB only 9x18mm (plus 3-pin Molex plug), control LED (SMD) on board. All parts SMD, a connecting cable with a 3-pin Molex plug is supplied. It is powered directly from your rig using any voltage from 5 to 15V at 1,5mA!



IR-Paddles

IR-Paddles:

Still in the development phase, not available yet! The proto works, but it still needs some time to manufacture this unit which is meant to be used with ANY BRAND paddles and the built-in keyer of your rig! Available this summer (2006)...stay tuned!



IR-PPK:

Our portable straight key, retractable into its housing. A precision mechanism for a superb "feel" of the key, with a unique system to adjust the arm tension and a precise adjustment of the contact gap with a supplied hex key. The integrated sidetone, mutable with 7 selectable frequencies makes it ideal to practice. It is powered by a CR2032 lithium cell.

Special notes on infrared links and their limitations:

Unlike data communication that uses an RF link (e.g. „Bluetooth“), optical rules must be kept in mind when using an infrared link. That means that the transmitter and the receiver communicate via a straight line or reflected path line-of-sight, via reflections from bright surfaces. Unfortunately the output power of the IR-LED can not be expanded arbitrarily because this would shorten operation time dramatically, also the relatively high internal resistance of the battery doesn't allow current pulses over 100 mA. This means that the range of operation is limited. Theoretically it would be 10 meters (30') with accurate orientation and clear line of sight, but it has purposely been reduced to approx. 5 meters. This reduces the possibility of interference and interrupts of the IR data transfer from direct sunlight to the IR-module TSOP 34840. Despite this attenuation, direct sunlight on the blue cover of the IR-RX should be avoided since it would at least reduce the operating range. Unfortunately most infrared remote controls that are used in consumer electronics use the same range of infrared waves - you should avoid using them at the same time as your IR-RCVR. This also applies to infrared computer mice, or IR links used in laptops and transmitters for IR headphones.