

## EXHIBIT H – Operational Description

FCC ID# PYUCONSOLE4

## **Console Description of Operation**

The console and dial are part of perception analyzer system used in marketing research. The console polls dials and receives back from the dials data corresponding to each participant reaction.

Both console and dial are essentially FM data transceivers and they both employ identical superheterodyne scheme receivers with 10.7 Mhz IF. The data rate is 4.8 kbps and the deviation is set to 60 kHz pp. All the clock signals for the console are derived from single TCXO 16.000.00 Mhz with +/- 5ppm frequency stability. This defines tuning frequency accuracy.

The transmit path includes synthesized RF oscillator, buffer and power amplifier. All those components are incorporated into transceiver IC. To suppress harmonics and reduce RF leak to antenna the low pass filter and transmit-receive switch are used. To improve reception in the office environment console has two channels – channel zero works with vertical polarization antenna and channel one works with horizontal one. Console uses quarter wave monopole antennas which are permanently attached to the PCB. There are 6 operating frequencies 905, 908, 911, 914, 917 and 920 Mhz. Console and dial are both operate at one frequency.

All functions are controlled by microprocessor. The computer talks to the console and collects all the data received from the dials. Also the service and maintenance commands such as battery voltage check and receive signal strength are incorporated.