

Memorandum

Date: 05/01/00

Re: Model 48020 Circuit Description

The 900 MHz "Hand-Held Monitor and Television" model 48020 will be referred to as the equipment under test (EUT) in this report. The EUT is a nursery monitoring system designed to be a high quality audio, color video monitor for home use. This monitor will transmit audible sounds and color video to the Parent Unit. The frequency band chosen for this product is the 902-928 MHz band. This product is part of an ongoing family of nursery monitors provided by Safety 1st.

The Child unit operates on one of three RF channels. An external switch controls the channel selection.

Device Operation

When in transmit mode the microphone picks up the room sounds and amplifies the signal through an audio amplifier the color ccd camera picks up video in color under normal light conditions and in night mode uses infra red to see images.

The audio signal is controlled by an automatic gain control (AGC) circuit to limit the FM modulation. The amplified audio signal is coupled directly into the audio input of the Motorola MC44355 chipset.

The video signal is picked up by an image sensor. A light sensor and control determines whether there is enough light in the room and activates the LED's for night mode if necessary. The image sensor then couples the information into the Video input of the Motorola MC44355 chipset.

The video and audio is then combined in the Motorola MC44355 chipset and transmitted (RF Out) through an impedance matching network, attenuator, and tank circuits to the antenna.

An AC/DC wall adapter powers the unit.