

ACTIVATOR

AT132-AT Technical Description

Overview:

The function of the Activator is to broadcast a signal, which contains the Activator's ID. When a Tag passes through this field, it will wake up and broadcast that Activator's ID and the Tag's ID.

This information is then utilized by a local or remote system to determine such things as location/tracking of the Tag and to perform operations like opening a portal.

Block Diagram Description:

The power supply inputs 24VDC from a wall mount unit. The Activator both utilizes and converts the 24VDC to 12VDC and 5VDC.

The micro processor (up) operates from a single 5MHz crystal from which all timing is derived.

On power up, the micro processor is initialized, reads the Unit Number Switches (ID) and then steps through an automatic tuning loop. The 132 kHz transmitter is then tuned by sampling the output transmitter voltage and switching in tuning capacitors, via a triac bank, to obtain the best match to the antenna.

The antenna consists of a number of turns of wire, wound to achieve 100uH of inductance. A capacitance is added to resonate the antenna to the proper frequency.

The transmitter can be disabled externally via an optically isolated interface.

The programming connector is used to modify the micro processor's operation and can only be changed by the manufacturer.

Off board communications and some parameter changes can be accomplished via a serial (RS232) connection.

The display connector is not utilized at this time but can be used to perform either parallel or serial operations. Additionally this port can be used for I/O expansion.