Wireless Lights and Sounds of Christmas Circuit Description

Receiver:

Power input is 120V AC.

Using C1, c2, r3, r4 as a AC coupling circuit provide DC voltage, and Z1, Z2 12v Zener and D1, D2 Diode 1n4001 provide 12v DC voltage. Using U1 LM7805 regulator provide 5v DC to IC PT 2272 decoder and IC PT4316 receiver IC.

Using U6 S78DL33 3.3V regulator provides 3.3v to IC GPC1122A control IC.

The PT4316 is a very low power consumption single chip OOK/ASK super-heterodyne receiver.

PT2272 will receive data from PT4316 through RS25.PT2272 will compare data, which is received, match the address as PT2272 hardware setting (PT2272 address pin A0 to A5).

When PT2272 Identified the valid control code. Pin 17 (VT pin) of PT2272 will give high voltage to IC GPC1122A pin IOC7.

Then GPC1122A will read 6 bits control code data from PT2272 (D0 to D5).

The GPC1122A had a pre-set program to control light flashing (receptacle).

When GPC1122A received a valid Control code. C0 to C3 On the IC GPC1122A will give High /Low signal to U4 MOC3020 Optoisolator to control T1 Triac BTA16 on and off, when Triac is "ON" AC current can pass though X7 receptacle.