

ALL THE COMPONENTS USED IN THESE SCHEMATICS MAY BE PURCHASED ONLINE FROM
REYNOLDS ELECTRONICS: [HTTP://WWW.RENTRON.COM](http://www.rentron.com)

PIC12C508 GENERATES 38KHz OR 40KHz CARRIER FREQUENCY

THE STAMP OR OTHER MICROCONTROLLER CAN CONTROL THE PIC FREQUENCY CHIP BY CONTROLLING GPIO.0 AND GPIO.3

DEFAULT (NO JUMPERS)
38KHz CARRIER
FREQUENCY GENERATOR = ON

CARRIER ON/OFF CONTROL

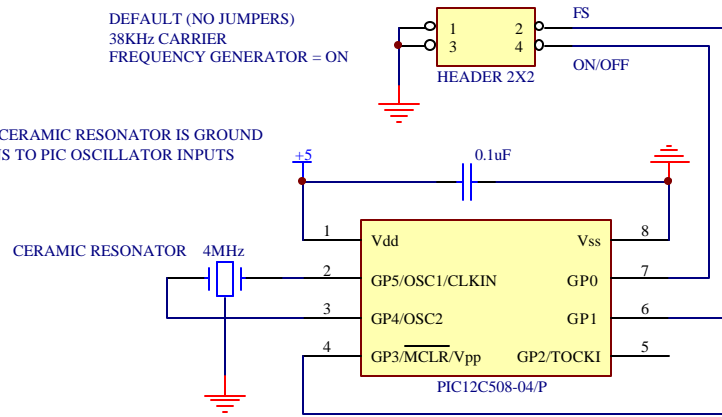
FREQUENCY CONTROL (38-40KHz)

GPIO.0 = HIGH (LOGIC 1) CARRIER = ON
GPIO.0 = LOW (LOGIC 0) CARRIER = OFF

GPIO.3 = HIGH (LOGIC 1) FREQUENCY = 38KHz
GPIO.3 = LOW (LOGIC 0) FREQUENCY = 40KHz

NOTE:
INTERNAL PULLUPS ARE USED ON THE PIC12C508 SO (NO CONNECTIONS) ARE REQUIRED FOR A LOGIC 1 (HIGH)
SIMPLY GROUND THE CONTROL INPUTS OR LEAVE OPEN (NO CONNECTION) AS NECESSARY

NOTE:
CENTER PIN OF CERAMIC RESONATOR IS GROUND
REMAINING PINS TO PIC OSCILLATOR INPUTS



74HCT132 PIN #14 = VCC, PIN #7 = GND

38 - 40 KHz CARRIER



NAND SCHMITT TRIGGER



PNP
2N4403

5.1

IR-LED

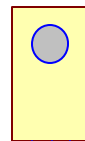
IR-LED

DATA INPUT CAN BE FROM ANY ENCODER IC, A BASIC STAMP, PIC OR 8051
USE THE BASIC STAMP SEROUT COMMAND TO SEND SERIAL DATA TO THE TRANSMITTER INPUT

DATA IN

DATA OUT

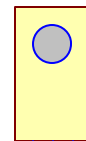
PNA4602M
38KHz IR MODULE



RECEIVER FOR STAMP OR PIC

DEMODULATED SERIAL DATA OUT

PNA4602M
38KHz IR MODULE



RECEIVER FOR DECODER IC

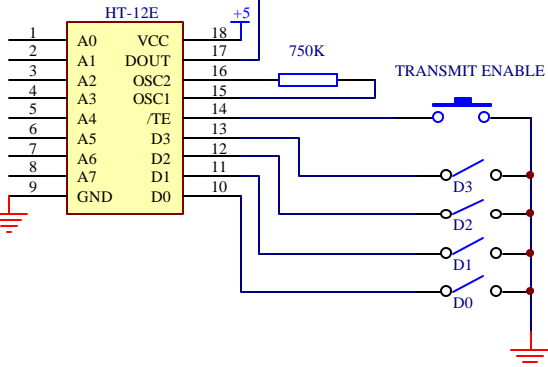
+5

10K

OUT TO DECODER IC



NPN
2N2222



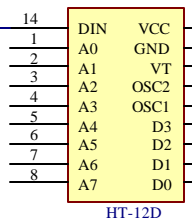
USE ADDRESS PINS TO CONTROL MULTIPLE RECEIVERS WITH MATCHING ADDRESSES

Title INFRARED REMOTE CONTROL & DATA COMMUNICATIONS		
Size Orcad A	Number	Revision
Date: 4-Feb-2001	Sheet of	
File: C:\CAD\SCHEMATICS.Ddb	Drawn By:	

PNA4602M
38KHz IR MODULE

RECEIVER FOR DECODER IC

NPN
2N2222

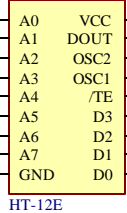


HT-12D

LED

VCC
POWER SWITCH

OUT TO 74HCT132

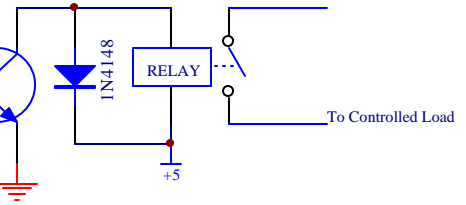


HT-12E

TRANSMIT ENABLE

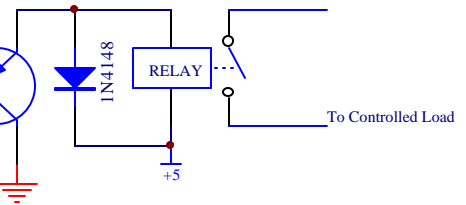
Connect To Output

NPN



Connect To Output

PNP



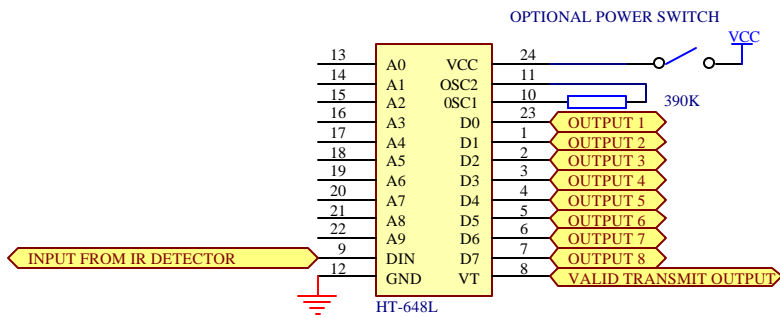
Use 1N4148 or similar "fast-switching" diodes for flyback protection of transistor

NOTE: The /TE-pin can be used with a switch to initiate each transmission, or connected directly to circuit GND for continuous transmit.

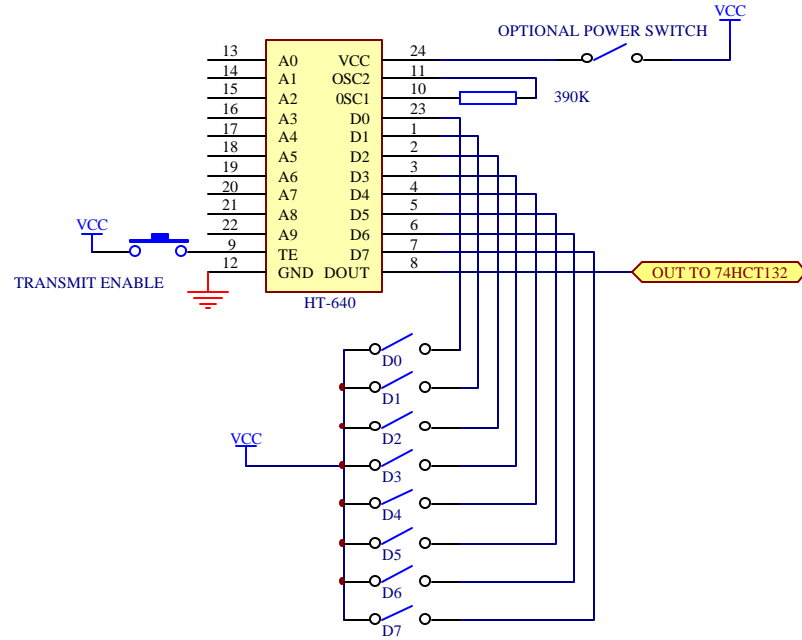
The data switches can also be slide type switches instead of push-button. Move a slide switch or any number of switches to the logic state you wish to see on the receiver's outputs, and press /TE to send this logic value to the receiver.

Title Remote Control Schematics For Infrared		
Size Orcad A	Number	Revision
Date: 9-Feb-2001	Sheet of	
File: C:\CAD\SCHEMATICS.Ddb	Drawn By:	

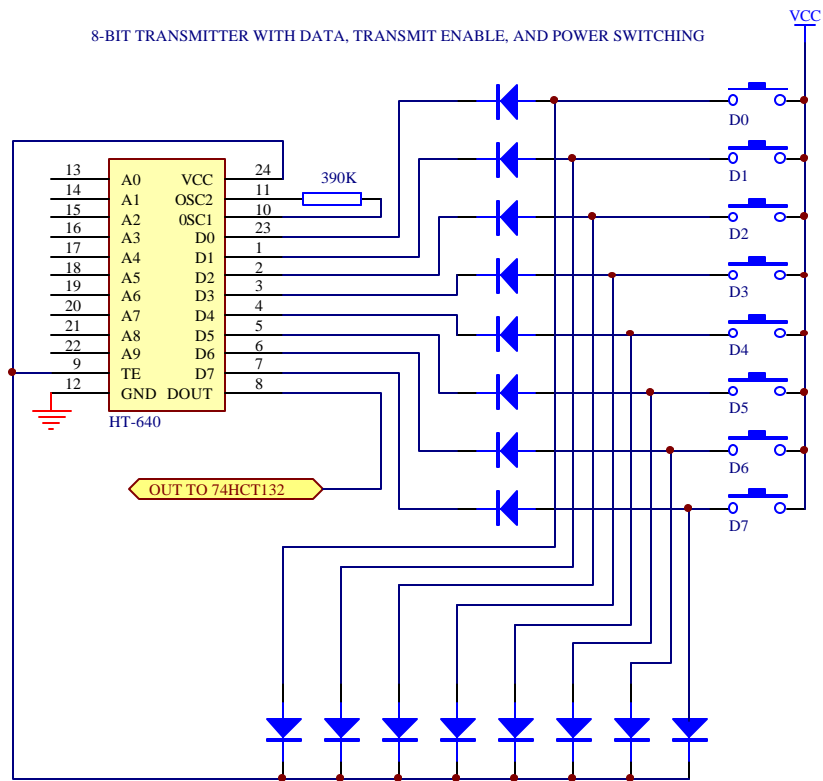
8-BIT RECEIVER



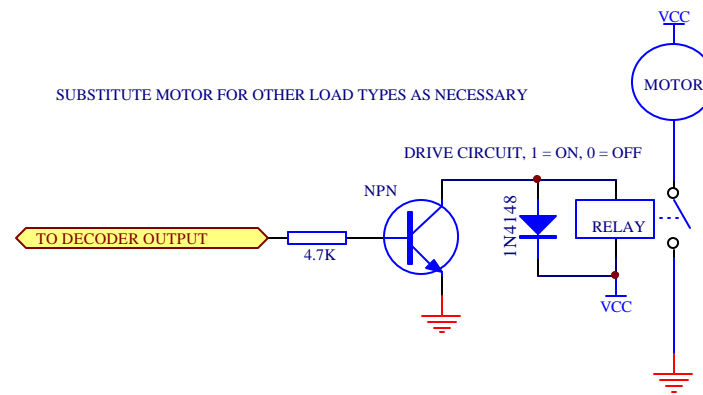
8-BIT TRANSMITTER



8-BIT TRANSMITTER WITH DATA, TRANSMIT ENABLE, AND POWER SWITCHING



SUBSTITUTE MOTOR FOR OTHER LOAD TYPES AS NECESSARY



Title		
8-Bit Encoder/Decoder Circuits		
Size	Number	Revision
Orcad A		
Date:	9-Feb-2001	Sheet of
File:	C:\CAD\SCHEMATICS.Ddb	Drawn By: