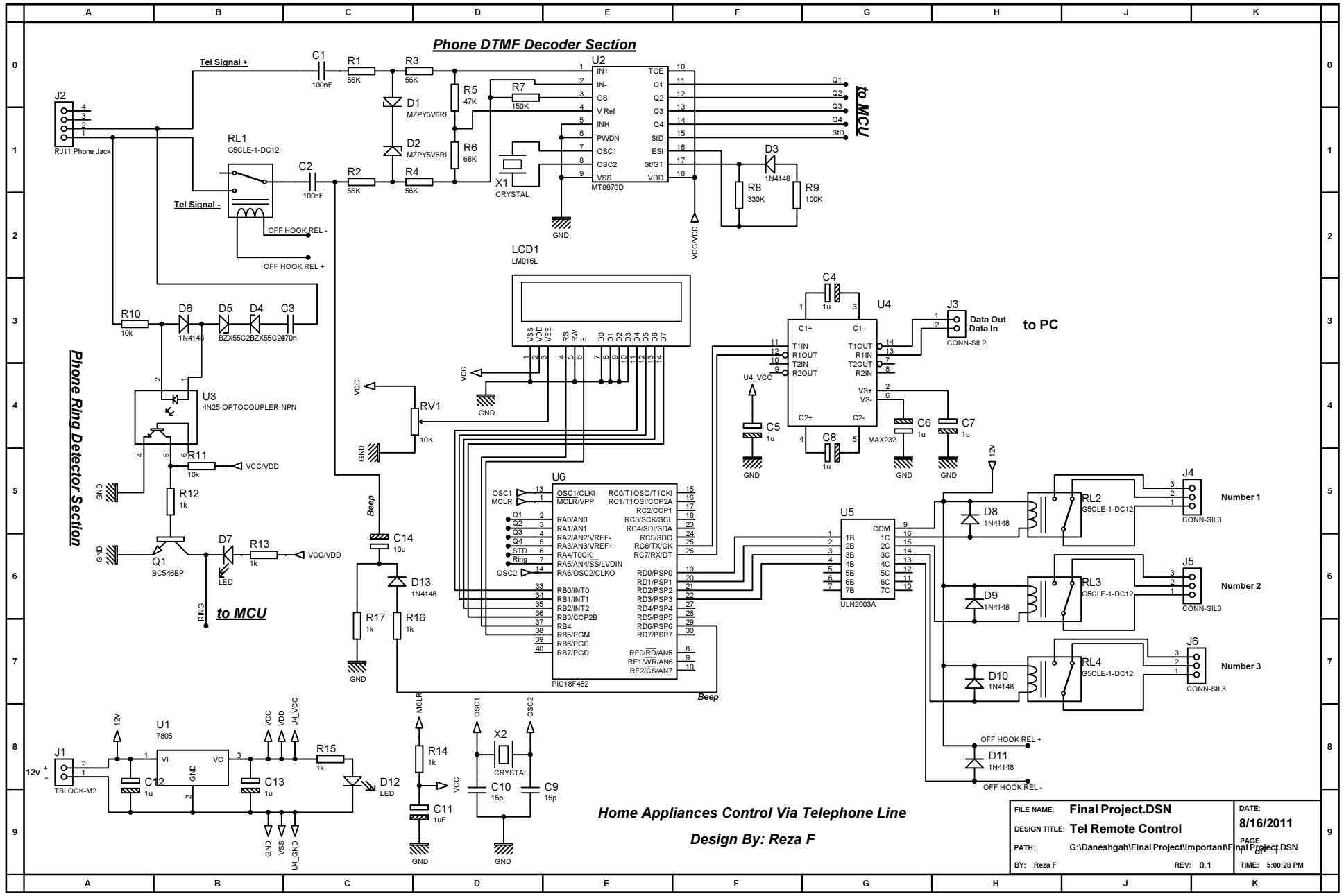
Phone DTMF Decoder Section
Tel Signal +
Tel Signal -
J2
RJ11 Phone Jack
RL1
G5CLE-1-DC12
OFF HOOK REL -
OFF HOOK REL +
C1
100nF
C2
100nF
R1
56K
R2
56K
R3
56K
R4
56K
R5
47K
R6
68K
R7
150K
D1
MZPY5V6RL
D2
MZPY5V6RL
U2
IN+
IN-
GS
V Ref
INH
PWDN
OSC1
OSC2
VSS
TOE
Q1
Q2
Q3
Q4
StD
ESt
St/GT
VDD
MT8870D
X1
CRYSTAL
D3
1N4148
R8
330K
R9
100K
GND
VCC/VDD
to MCU
LCD1
LM016L
VSS
VDD
VEE
RS
RW
E
D0
D1
D2
D3
D4
D5
D6
D7
VCC
GND
RV1
10K
C4
1u
U4
C1+
C1-
T1IN
R1OUT
T2IN
R2OUT
T1OUT
R1IN
T2OUT
R2IN
VS+
VS-
C2+
C2-
MAX232
U4_VCC
C5
1u
C6
1u
C7
1u
C8
1u
J3
Data Out
Data In
CONN-SIL2
to PC
Phone Ring Detector Section
R10
10k
D6
1N4148
D5
BZX55C2V7
D4
BZX55C2V7
C3
.070n
U3
4N25-OPTOCOUPLER-NPN
R11
10k
R12
1k
D7
LED
R13
1k
Q1
BC546BP
RING
to MCU
Beep
C14
10u
D13
1N4148
R17
1k
R16
1k
U6
OSC1/CLKI
MCLR/VPP
RA0/AN0
RA1/AN1
RA2/AN2/VREF-
RA3/AN3/VREF+
RA4/T0CKI
RA5/AN4/SS/LVDIN
RA6/OSC2/CLKO
RB0/INT0
RB1/INT1
RB2/INT2
RB3/CCP2B
RB4
RB5/PGM
RB6/PGC
RB7/PGD
RC0/T1OSO/T1CKI
RC1/T1OSI/CCP2A
RC2/CCP1
RC3/SCK/SCL
RC4/SDI/SDA
RC5/SDO
RC6/TX/CK
RC7/RX/DT
RD0/PSP0
RD1/PSP1
RD2/PSP2
RD3/PSP3
RD4/PSP4
RD5/PSP5
RD6/PSP6
RD7/PSP7
RE0/RD/AN5
RE1/WR/AN6
RE2/CS/AN7
PIC18F452
U5
1B
2B
3B
4B
5B
6B
7B
COM
1C
2C
3C
4C
5C
6C
7C
ULN2003A
12V
D8
1N4148
D9
1N4148
D10
1N4148
D11
1N4148
RL2
G5CLE-1-DC12
RL3
G5CLE-1-DC12
RL4
G5CLE-1-DC12
J4
J5
J6
CONN-SIL3
Number 1
Number 2
Number 3
OFF HOOK REL +
OFF HOOK REL -
U1
7805
VI
VO
GND
J1
12v
TBLOCK-M2
C12
1u
C13
1u
R15
1k
D12
LED
U4_GND
VSS
R14
1k
C11
1uF
X2
CRYSTAL
C10
15p
C9
15p
MCLR
OSC1
OSC2
Home Appliances Control Via Telephone Line
Design By: Reza F
FILE NAME: Final Project.DSN
DESIGN TITLE: Tel Remote Control
PATH: G:\Daneshgah\Final Project\Important\Final Project.DSN
BY: Reza F
REV: 0.1
DATE: 8/16/2011
PAGE: 1 of 1
TIME: 5:00:28 PM