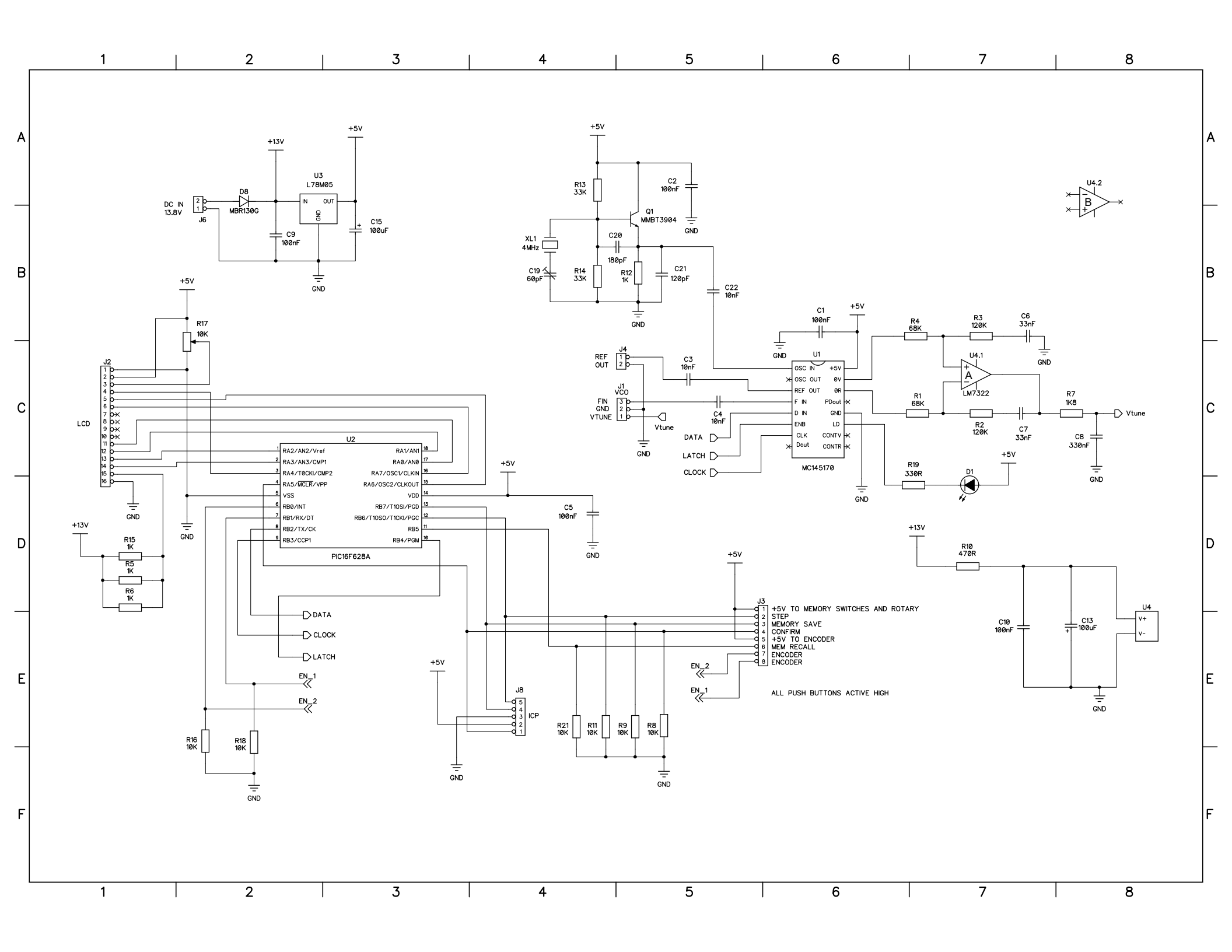
DC IN 13.8V
J6
D8
MBR130G
U3
L78M05
IN
OUT
GND
+13V
+5V
C9 100nF
C15 100uF
GND
R13 33K
C2 100nF
Q1 MMBT3904
XL1 4MHz
C20 180pF
C19 60pF
R14 33K
R12 1K
C21 120pF
C22 10nF
U4.2
B
R17 10K
J2
LCD
U2
PIC16F628A
RA2/AN2/Vref
RA3/AN3/CMP1
RA4/T0CKI/CMP2
RA5/MCLR/VPP
VSS
RB0/INT
RB1/RX/DT
RB2/TX/CK
RB3/CCP1
RA1/AN1
RA0/AN0
RA7/OSC1/CLKIN
RA6/OSC2/CLKOUT
VDD
RB7/T1OSI/PGD
RB6/T1OSO/T1CKI/PGC
RB5
RB4/PGM
C5 100nF
R15 1K
R5 1K
R6 1K
DATA
CLOCK
LATCH
EN_1
EN_2
R16 10K
R18 10K
J8
ICP
R21 10K
R11 10K
R9 10K
R8 10K
J4
REF OUT
J1
VCO
FIN
GND
VTUNE
Vtune
C3 10nF
C4 10nF
C1 100nF
U1
OSC IN
OSC OUT
REF OUT
F IN
D IN
ENB
CLK
Dout
+5V
0V
0R
PDout
GND
LD
CONTV
CONTR
MC145170
R4 68K
R3 120K
C6 33nF
U4.1
A
LM7322
R1 68K
R2 120K
C7 33nF
R7 1K8
C8 330nF
R19 330R
D1
J3
+5V TO MEMORY SWITCHES AND ROTARY
STEP
MEMORY SAVE
CONFIRM
+5V TO ENCODER
MEM RECALL
ENCODER
ENCODER
ALL PUSH BUTTONS ACTIVE HIGH
R10 470R
C10 100nF
C13 100uF
U4
V+
V-