Music-Player Clone

CONTROL BUTTONS

SW1
SW_MEC_5E
R1 10k
MENU_BTN
+3V3
C1 100nF
GND

SW2
SW_MEC_5E
R2 10k
UP_BTN
+3V3
C2 100nF
GND

SW3
SW_MEC_5E
R3 10k
DOWN_BTN
+3V3
C3 100nF
GND

SW4
SW_MEC_5E
R4 10k
LEFT_BTN
+3V3
C4 100nF
GND

SW5
SW_MEC_5E
R5 10k
RIGHT_BTN
+3V3
C5 100nF
GND

SD-CARD MODULE

U1E
74LVC125
+3V3
14 VCC GND 7
GND

U1A
74LVC125
R6 3.3k
SD_MOSI
2
3
GND

U1B
74LVC125
R7 3.3k
SD_SCK
5
6
GND

U1C
74LVC125
R8 3.3k
SD_CS
9
8
GND

U1D
74LVC125
R9 3.3k
SD_MISO
12
11
GND

+3V3
+3V3
GND

J1
Micro_SD_Card
1 DAT2
2 DAT3/CD
3 CMD
4 VDD
5 CLK
6 VSS
7 DAT0
8 DAT1
SHIELD 9
GND

AUDIO OUT

U6
MAX98357AETE
BCLK 16 BCLK
DIN 1 DIN
GAIN_SLOT 3
LRCLK 14 LRCLK
4 SD_MODE
VDD 8
OUTN 10
OUTP 9
EP 17
GND 15
GND

FB1 FerriteBead
AUD_N
FB2 FerriteBead
AUD_P
C7 10uF
C8 0.1uF
+3V3
GND
GND

C21 220pF
C9 220pF
GND

Connecting Gain to GND
sets gain to 12dB

Ferrite — select w/high Z at high F,
low-Z at low F. Try to block
everything >1MHz or so

AUD_P T
AUD_N R
          S
J2
AudioJack3

MOUNTING HOLES

H1 MountingHole
H2 MountingHole
H3 MountingHole
H4 MountingHole

SCREEN

4.2V_BATT
SCL
SDA
GND
1 GND
2 VCC
3 SCL
4 SDA
U3

RESET AND CHIP EN

SW6
RST
+3V3
R11 10k/5%
1 2
C6 100nF/50V
GND

CLOCK

Y1
40MHz
C18 22pF
C19 22pF
GND

R13 10k
TDO

U5
ESP32C3
CHIP_EN 7
XTAL_P 30
XTAL_N 29
XTAL_32K_P 4
XTAL_32K_N 5
SPIHD 19
SPIWP 20
SPICS0 21
SPICLK 22
SPID 23
SPIQ 24
VDD3P3 2
VDD3P3_RTC 11
VDD3P3_CPU 17
VDD_SPI 18
VDDA 32
MTMS 9
MTDI 10
MTCK 12
MTDO 13
U0RXD 27
U0TXD 28
LNA_IN 6
GPIO2 25
GPIO3 16
GPIO8 15
GPIO9 25
GPIO10 25
GPIO18 26
GPIO19
GND 33
SCL
SDA
SD_SCK
SD_MOSI
BCLK
SD_MISO
MENU_BTN
RIGHT_BTN
LEFT_BTN
SD_CS
UP_BTN
DOWN_BTN
VDD_SPI
DIN
LRCLK
GND

CHIP POWER

+3V3
C15 1uF
C14 100nF
C12 100nF
C13 100nF
C16 100nF
C17 100nF
+3V3
C20 1uF
GND
GND

UART 0

4
3
2
1
J4
UART
R14 499R
GND
+3V3
SD_MISO
MENU_BTN
RIGHT_BTN
LEFT_BTN
SD_CS
UP_BTN
DOWN_BTN

POWER

J3
TP4056_CONN
2 4.2V_BATT
1
C11 100nF

U4
AMS1117-3.3
3 VI VO 2
1 GND
C10 100nF
+3V3
D1 LED
R12 220R
GND

*Connect ON/OFF switch between
battery and
TP4056 charging module

SW8
ON/OFF

FLASH MEMORY

U2
W25Q128JVS
8 VDD_SPI
VCC
CLK
DI(IO0)
DO(IO1)
IO2
IO3
GND 4
CS 1
6
5
2
3
7
0 Ohm
GND