# ModuMixer X16
# TRISOFT H.D/S.D

# PRE–RELEASE
# OPEN SOURCE

U1
STM32U5F9NJHxQ

JP1 SolderJumper_2_Bridged — 3V3_MAIN — MCU_VDD
JP4 SolderJumper_2_Bridged — MCU_VDD — VDDA
JP2 SolderJumper_2_Bridged — MCU_VDD — VDDIO2
JP5 SolderJumper_2_Bridged — MCU_VDD — VDDUSB
JP3 SolderJumper_2_Bridged — MCU_VDD — VDDDSI
JP6 SolderJumper_2_Bridged — MCU_VDD

TP1 SWCLK
TP2 SWIO   M_USART_RX
TP3        M_USART_TX
TP4        M_USART_CLK
TP5

SWD Debug Interface
MOD Debug Interface

VDDIO2 decoupling
VDDIO2
C1 4.7u   C7 100n   C12 100n
GND

Analog VDD decoupling
VDDA
C18 100n
GND

MISC decoupling
MCU_VDD   VDDDSI   VDDUSB
SMPS
C2 10u   C8 100n   C17 100n
GND

VDD decoupling
MCU_VDD
C3 100n   C9 100n   C13 100n
GND
MCU_VDD
C4 100n   C10 100n   C14 100n
GND
MCU_VDD
C5 100n   C11 100n   C15 100n
GND
MCU_VDD
C6 100n   C16 10u
GND

VDDUSB   VDDSMPS
VDDIO2
VDDDSI
VDDA
VDD11USB
VDD11DSI
VDD11
VDD11
VDD
VDD
VDD
VDD
VDD
VDD
VDD
VDD
VDD
VBAT

VDD11 SMPS
Controlled internally by microcontroller

VUXSMPS
L1 2.2u
C19 2.2u
GND

VREF
C20 1u
GND

The microcontroller has an internal VREF supply, there is no need for an external voltage supply.
Do not draw current from this pin to guarantee stability in case the ADC is used

VSSSMPS   GND
VSSDSI    GND
VSSA      GND
VSS       GND

5V_MAIN

BZ1
Buzzer

R1
1k

BUZZER_M

BUZZER_CTRL — BUZZER_NPN_BASE

Q1
MMBT2222A

GND

**JP10**
SolderJumper_2_Bridged
OUT_L_PRE — MAIN_OUT_L_P
OUT_R_PRE — MAIN_OUT_R_P

SolderJumper_2_Bridged
**JP11**

HP_L
HP_R

**J4** Headphone output
Screw_Terminal_01x03

GND

MAIN_OUT_L_P
MAIN_OUT_L_M
MAIN_OUT_R_P
MAIN_OUT_R_M

**J2** Main output
Screw_Terminal_01x05

GND

**J5**
Conn_02x07_Counter_Clockwise
12V_MOD        14 MAIN_LM
GND            13 MAIN_LP
READY          12 MAIN_RM
M_USART_TX     11 MAIN_RP
M_USART_RX     10 CUE_LM
M_USART_CLK     9 CUE_LP
CUE_RP          8 CUE_RM

SW1
Enter
3V3_MAIN — ENTER_BTN

SW8
SW_Push
3V3_MAIN — BTN1

SW16
SW_Push
3V3_MAIN — BTN5

SW21
SW_Push
3V3_MAIN — BTN10

SW2
Up
3V3_MAIN — UP_BTN

SW9
SW_Push
3V3_MAIN — BTN2

SW17
SW_Push
3V3_MAIN — BTN6

**J3**
Conn_02x05_Counter_Clockwise
DSI_CKN    1    10 DSI_D1P
DSI_CKP    2     9 5V_MAIN
DSI_DON    3     8 DSI_PWM
DSI_DOP    4     7
DSI_D1N    5     6    GND

SW3
Down
3V3_MAIN — DOWN_BTN

SW10
SW_Push
3V3_MAIN — BTN3

SW18
SW_Push
3V3_MAIN — BTN7

SW4
Left
3V3_MAIN — LEFT_BTN

SW11
SW_Push
3V3_MAIN — BTN4

SW19
SW_Push
3V3_MAIN — BTN8

**J4**
Conn_02x06_Counter_Clockwise
LCD_RS    1    12
LCD_EN    2    11
LCD_D4    3    10 LCD_BL_PWM
LCD_D5    4     9 5V_MAIN
LCD_D6    5     8    GND
LCD_D7    6     7 LCD_RW

SW5
Right
3V3_MAIN — RIGHT_BTN

SW12
SW_Push
3V3_MAIN — BTN4

SW20
SW_Push
3V3_MAIN — BTN9

SW13
RotaryEncoder_Switch_MP
SCRUBBER_A — A    S1    GND
SCRUBBER_B — B    C    S2    GND
GND
MP
GND

SW6
RotaryEncoder_Switch_MP
ENCODER1_A — A    S1 ENCODER1_SW
ENCODER1_B — B    C    S2
GND
MP
GND

SW14
RotaryEncoder_Switch_MP
ENCODER3_A — A    S1 ENCODER3_SW
ENCODER3_B — B    C    S2
GND
MP
GND

SW7
RotaryEncoder_Switch_MP
ENCODER2_A — A    S1 ENCODER2_SW
ENCODER2_B — B    C    S2
GND
MP
GND

SW15
RotaryEncoder_Switch_MP
ENCODER4_A — A    S1 ENCODER4_SW
ENCODER4_B — B    C    S2
GND
MP
GND

Title: Digital Signal Processing

Sheet: /DSP/
File: DSP.kicad_sch

Size: A4
Date:
KiCad E.D.A. 8.0.4
Rev:
Id: 1/6

U10
DRV8833PWP

SLEEP
VCP
AISEN
BISEN

VINT
VM

FAULT

AIN1
AIN2
BIN1
BIN2

AOUT1
AOUT2
BOUT1
BOUT2

GND

NSLEEP    1
VCP    11
GND    3
GND    6

FADER_MOTOR_IN1    16
FADER_MOTOR_IN2    15
FADER_MOTOR_IN1    9
FADER_MOTOR_IN2    10

14    VINT
12    5V_MAIN

8

2    FADER_MOTOR_OUT1
4    FADER_MOTOR_OUT2
7    FADER_MOTOR_OUT1
5    FADER_MOTOR_OUT2

13

GND

R13
47k

5V_MAIN    NSLEEP

C69
2.2u

VINT

C70
2.2u

GND

5V_MAIN    VCP

C71
10u

5V_MAIN

GND

J7
Screw_Terminal_01x02

FADER_MOTOR_OUT1    1
FADER_MOTOR_OUT2    2

J8
Screw_Terminal_01x03

FADER_A    1
FADER_W    2
FADER_B    3

JP8
SolderJumper_2_Bridged

3V3_MAIN    FADER_A

JP9
SolderJumper_2_Bridged

GND    FADER_B