PULLUPS & PULLDOWNS

R2 4.7K,1% — VDD — USART3_RX
R5 4.7K,1% — VDD — USART3_TX
R6 1K,1% — BOOT1 — GND

LED's

LED-PWR	R12 680,1%	Power	LED1 LED-RED,RA
LED-PTT	R13 680,1%	PTT	LED2 LED-RED,RA
LED-RT	R15 680,1%	Sync	LED3 LED-GRN,RA
LED-ERR	R16 680,1%	Clip/Error	LED4 LED-YEL,RA

GND

STLINK

CN1 HDR100-3
SWCLK — R19 22,1%
SWDIO — R20 22,1%
1 2 3
GND

SELF TEST

SH1
R4 4.7K,1% — VDD — TEST
J1 JMP-2PIN
GND

RESET

R3 4.7K,1% — VDD — NRST
C49 100nF,16V
SW5 SW-BOURNS-7914J
GND

STM32F405 CPU

VDD VDD VDD +5V +VIN
P13 P14 P15 P16 P17 P18 P19 P20
GND GND GND

AIN1 — C55 1nF,25V,0402 — GND
AIN2 — C56 1nF,25V,0402 — GND
DAC1_OUT — R55 0 Ohm
DAC2_OUT — R54 0 Ohm

U1A STM32F405

		PA0	23	PE0	97 PE0 — P5
		PA1	24	PE1	98 PE1 — P6
		PA2	25	PE2	1 PE2 — P7
		PA3	26	PE3	2 PE3 — P8
		PA4	29	PE4	3
		PA5	30	PE5	4
		PA6	31	PE6	5
		PA7	32	PE7	38
		PA8	67	PE8	39
VBUS		PA9	68	PE9	40
OTG_ID		PA10	69	PE10	41
OTG_DM		PA11	70	PE11	42
OTG_DP		PA12	71	PE12	43
SWDIO		PA13	72	PE13	44
SWCLK		PA14	76	PE14	45
P9 — NSS		PA15	77	PE15	46
		PB0	35	PD0	81 SELECT
		PB1	36	PD1	82 BACK
BOOT1		PB2	37	PD2	83
		PB3	89	PD3	84
		PB4	90	PD4	85
		PB5	91	PD5	86 OTG_OVR_CUR
		PB6	92	PD6	87
		PB7	93	PD7	88 BOOT0 — PTT FUNCTION
		PB8	95	PD8	55 EXT-PTT
		PB9	96	PD9	56 TEST
USART3_TX		PB10	47	PD10	57 CPPT
USART3_RX		PB11	48	PD11	58
		PB12	51	PD12	59 LED-PWR
		PB13	52	PD13	60 LED-PTT
		PB14	53	PD14	61 LED-RT
		PB15	54	PD15	62 LED-ERR
OTG_PWR_ON		PC0	15		
		PC1	16		
		PC2	17	PH0	12 OSC_IN
		PC3	18	PH1	13 OSC_OUT
		PC4	33		
		PC5	34		
		PC6	63	PC14	8
		PC7	64	PC15	9
		PC8	65		
		PC9	66		
P10 — SCK		PC10	78	NRST	14 NRST
P11 — MISO		PC11	79		
P12 — MOSI		PC12	80		
		PC13	7	BOOT0	94 BOOT0

Push To Talk (PTT)

VDD — SW1 SW-BOURNS-7914S — R57 470,1% — BOOT0
R1 10K,1% — GND

NOTE: SW1 HELD ON POWER UP FORCES BOOT TO SYSTEM MEMORY (STLINK)

SELECT

VDD — R7 10K,1% — SELECT — SW2 SW-BOURNS-7914S — GND

BACK

VDD — R8 10K,1% — BACK — SW4 SW-BOURNS-7914S — GND

OSCILLATOR CRYSTAL

XTAL1 8.000MHz
OSC_OUT — R14 220,1% — XTAL-FY0800035 — OSC_IN
C2 20pF,16V — GND
C3 20pF,16V — GND

UART

3.3V TTL Levels
CN11 HDR100-3
USART3_TX
USART3_RX
1 2 3
GND

5.0V -> 3.3V PS

U2 LD3985M33R
+5V — VIN — VOUT — +3.3V
INH — BYPASS — GND
C6 1uF,16V — GND
C7 100nF,16V — GND
C8 10nF,16V,0402 — GND
C4 100nF,16V — GND
C5 1uF,16V — GND
R18 0 Ohm — VDD
R17 1K,1% — LED5 — LED-RED,V — GND

STM32F407 PWR CIRCUIT

VDD — FB7 FB — FB0805 — R10 47,1% — C10 1uF,16V
C11 100nF,16V — GND
C12 1uF,16V
C13 100nF,16V — GND

U1B STM32F405

	VDD5	11	VSS5 — 10 — GND
	VDD12	19	VSS4 — 27 — GND
	VDD4	28	VSS2 — 74 — GND
	VDD1	50	VSS — 99 — GND
	VDD2	75	
	VDD3	100	
	VREF+	21	VSSA — 20 — GND
	VDDA	22	VCAP1 — 49 — C14 2.2uF,16V — GND
	VBAT	6	VCAP2 — 73 — C15 2.2uF,16V — GND

R31 0 Ohm — C16 100nF,16V — GND
C17 10nF,16V,0402 — GND
C18 100nF,16V — GND
C19 10nF,16V,0402 — GND
C20 100nF,16V — GND
C21 10nF,16V,0402 — GND
C52 100nF,16V — GND
C53 10nF,16V,0402 — GND
C24 1uF,16V — GND

OTG USB INTERFACE

VDD — R25 10K,1% — +5V
U3 STMPS2141
IN — OUT — EN — GND — FAULT
R26 0 Ohm — OTG_PWR_ON
R24 47K,1% — VDD
C9 4.7uF,16V,TANT — GND
OTG_OVR_CUR

CN2 MOLEX-MINI-B-SMT

1	VBUS
2	DM
3	DP
4	ID
5	GND
6	SHIELD1
7	SHIELD2
8	SHIELD3
9	SHIELD4

VBUS
OTG_DM — R27 22,1%
OTG_DP — R28 22,1%
OTG_ID — R30 0 Ohm

U4 EMIF02-USB03F2

B3	VBUS	ID	A3
C3	D+OUT	D+IN	C1
D3	D-OUT	D-IN	D1
A2	DZ	PD1	B1
B2	PUP	PD2	C2
	GND		D2

GND

DATE	REVISION	ECN	REV	BY
04/21/14	Added to SourceForge Repository			RGB
04/25/14	Pre-Release to Prototype		A	RGB
05/28/14	Release for Review		B	RGB
06/13/14	Release for Prototype		B	RGB
10/13/14	Release For Production		C	RGB

Note: All non-polarized capacitors packages are 0603 unless otherwise noted.
Note: All resistor packages are 0603 unless otherwise noted.

PCB1	SPKR1
SM1000C	SPKR
PRINTED CIRCUIT BOARD	SPEAKER, SM1000

ROWETEL

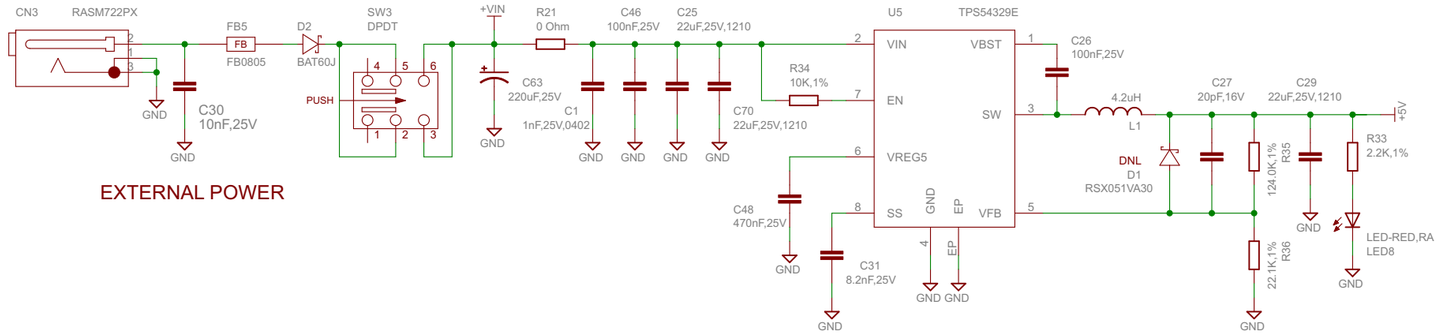
TITLE: SmartMic Circuit Board

Document Number: SM1000-C — REV: C

Date: 10/21/2014 3:25:12 PM — Sheet: 1/2

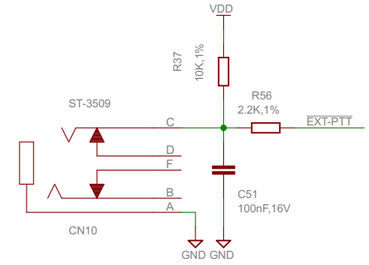
DATE	REVISION	ECN	REV	BY
04/21/14	Added to SourceForge Repository			RGB
04/25/14	Pre-Release to Prototype		A	RGB
05/28/14	Release for Review		B	RGB
06/13/14	Release for Prototype		B	RGB
10/13/14	Release for Production		C	RGB

12 - 15VDC -> 5.0VDC

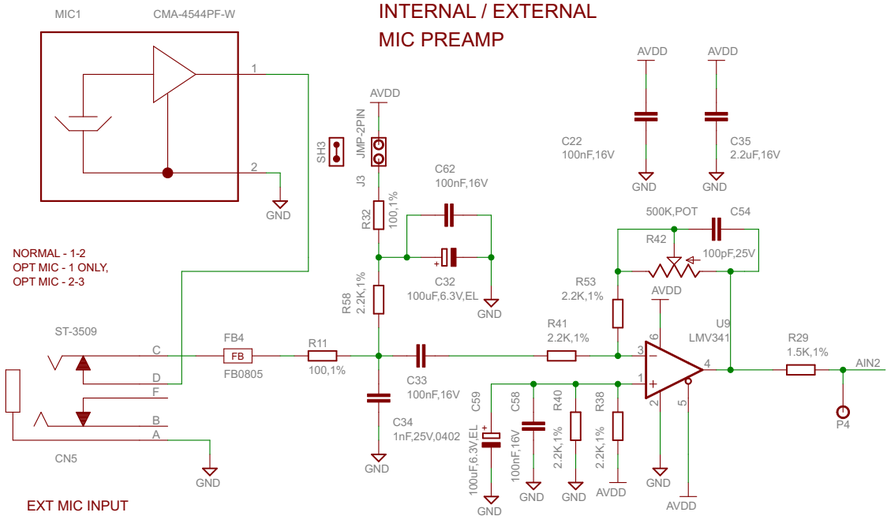


EXTERNAL POWER

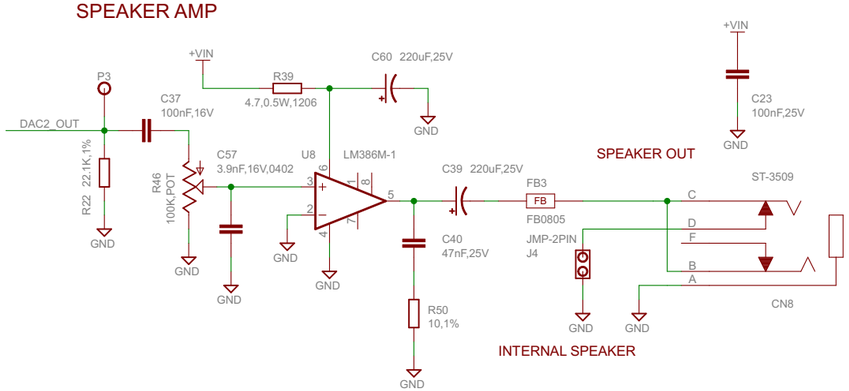
EXT. PTT INPUT



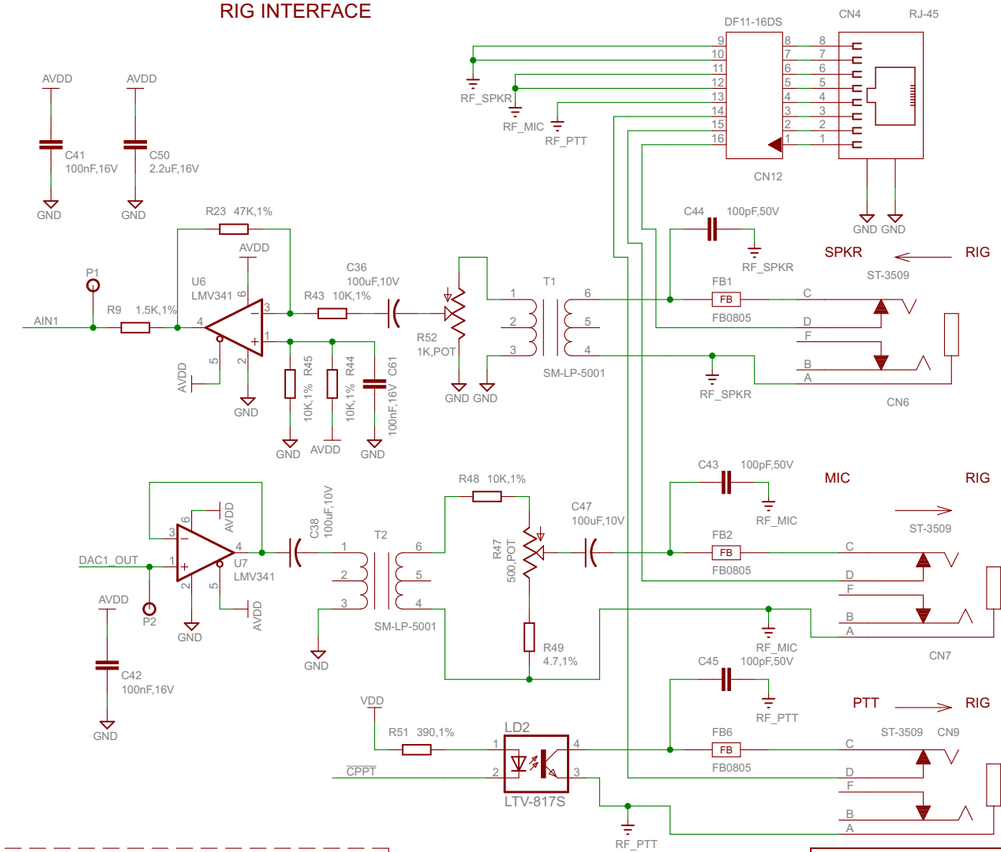
INTERNAL / EXTERNAL MIC PREAMP



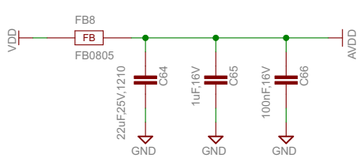
SPEAKER AMP



RIG INTERFACE



VDD -> AVDD POWER SOURCE



ROWETEL

TITLE: Smart Mic Circuit Board

Document Number: SM1000-C

REV: C

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