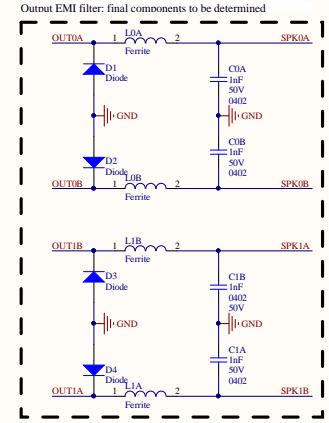
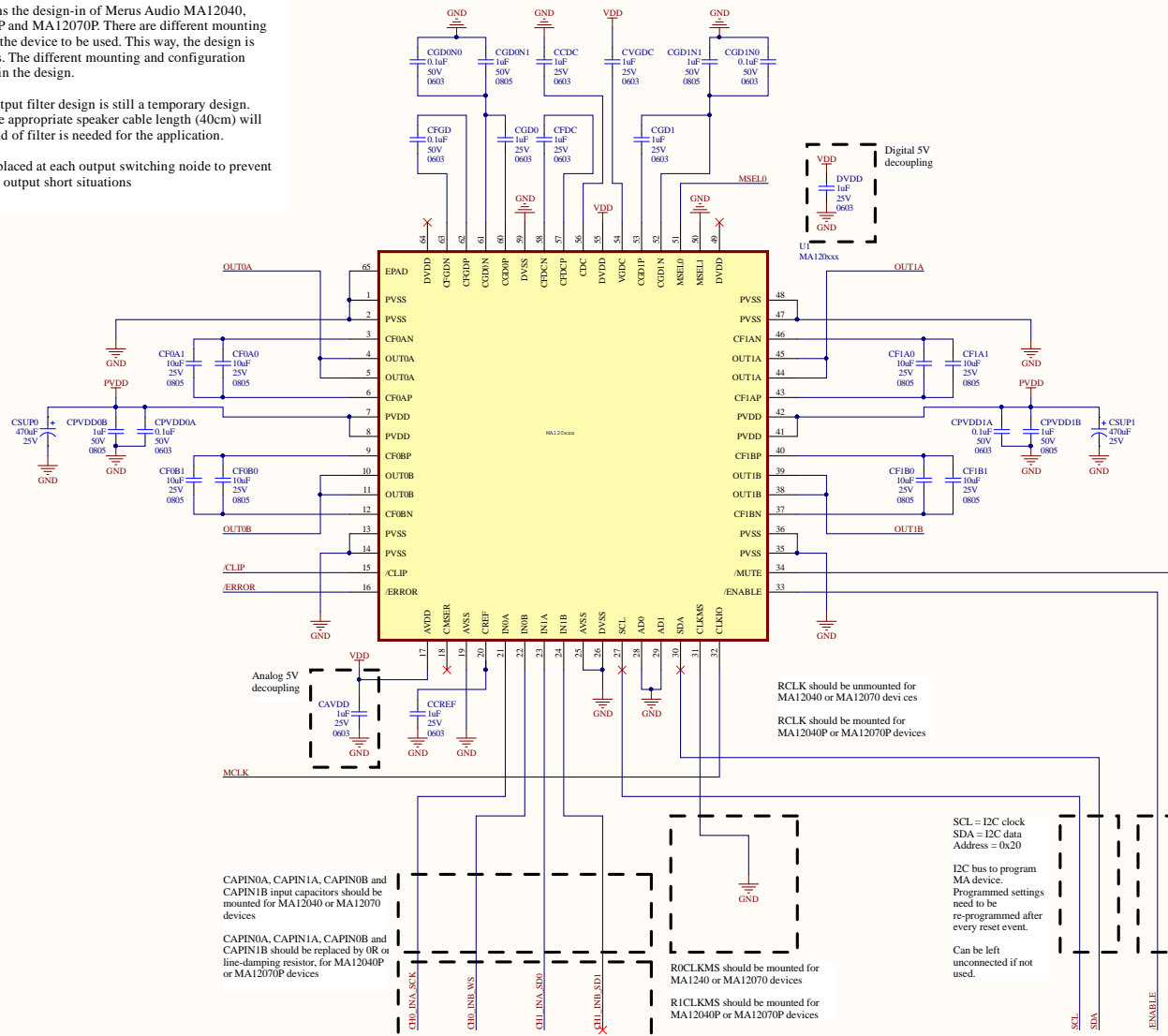
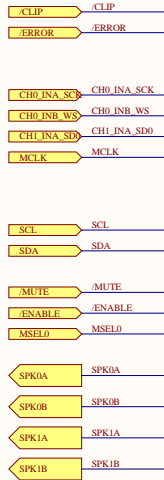


Author: Rien Oortgiesen  
Date: 16-11-2017  
Version: 1.2

Description: This schematic contains the design-in of Merus Audio MA12040, MA12070, MA12040P and MA12070P. There are different mounting options depending on the device to be used. This way, the design is suited for all 4 devices. The different mounting and configuration options are annotated in the design.

Please note that the output filter design is still a temporary design. Measurements with the appropriate speaker cable length (40cm) will have to show what kind of filter is needed for the application.

Protection diodes are placed at each output switching node to prevent chip substrate stress at output short situations



CAPIN0A, CAPIN1A, CAPIN0B and CAPIN1B input capacitors should be mounted for MA12040 or MA12070 devices

CAPIN0A, CAPIN1A, CAPIN0B and CAPIN1B should be replaced by 0R or line-damping resistor, for MA12040P or MA12070P devices

MA12040 and MA12070 analog input:  
Left channel: CH0\_INA and CH0\_INB  
Right channel: CH1\_INA and CH1\_INB

MA12040P and MA12070P digital input:  
Bit clock: SCK  
Word clock: WS  
Audio data (2 ch): SDO

Note: for MA12040P and MA12070P BTL configuration:  
SD1 can be left unconnected. SDO contains left and right channel data.

RCLK should be unmounted for MA12040 or MA12070 devices  
RCLK should be mounted for MA12040P or MA12070P devices

RCLKMS should be mounted for MA1240 or MA12070 devices  
R1CLKMS should be mounted for MA12040P or MA12070P devices

SCL = I2C clock  
SDA = I2C data  
Address = 0x20  
I2C bus to program MA device.  
Programmed settings need to be re-programmed after every reset event.  
Can be left unconnected if not used.

Device is enabled by pulling /ENABLE low  
Device is unmuted when /MUTE is pulled high  
For pop-free start-up it is recommended to add a delay of 10ms between enable and unmute.

Panda Reference Design		
Size	Number	Revision
C		1.0
Date:	1/10/2020	Sheet of
File:	M:01_General_ma12040_design_in_schematic	By: Rien Oortgiesen