

SUGGESTION:
 This output signal line should drive with low impedance signal source.
 If the source impedance is high, then you'll hear much TPA3116D2 noises.

ISSUE:
 Bad mixing circuit design.
 U1 output will be short when RV2 is set at CW position.
 Not enough low source impedance for LFP section.

SUGGESTION:
 R12 is too low impedance. Affects cut-off frequency.
 Better to move between C9 and R8
 or raise impedance.

SUGGESTION:
 GNDPWR will not be stable when +BATT shaking.
 Better to change connection to GNDPWR

SUGGESTION:
 GNDPWR will not be stable when +BATT shaking.
 Better to change connection to +24V

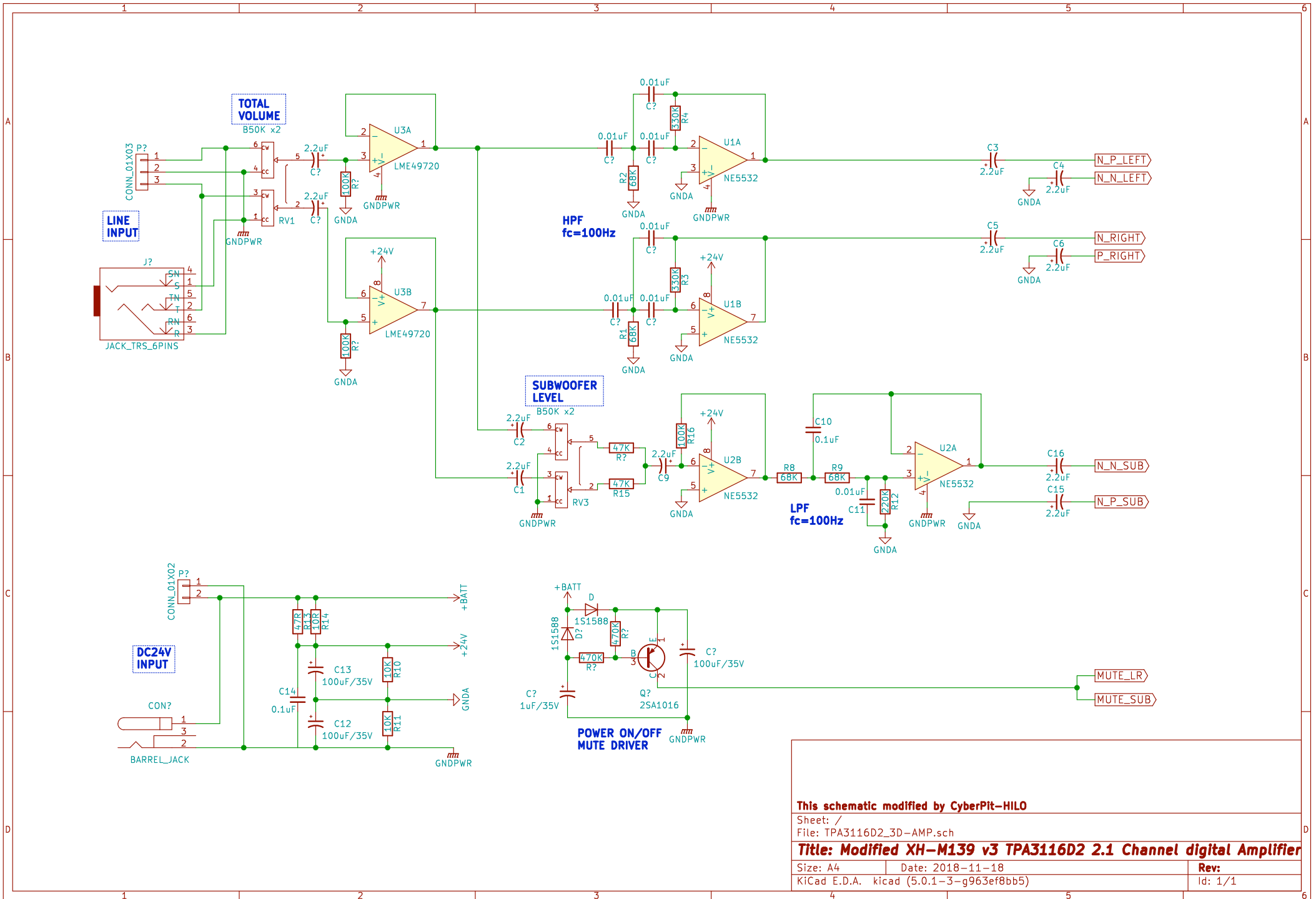
ISSUE:
 NO Muting function provided!
 Too much POPs

This schematic tear down by CyberPit-HILO

Sheet: /
 File: TPA3116D2_3D-AMP.sch

Title: XH-M139 (ver.3) TPA3116D2 2.1 Channel digital Amplifier

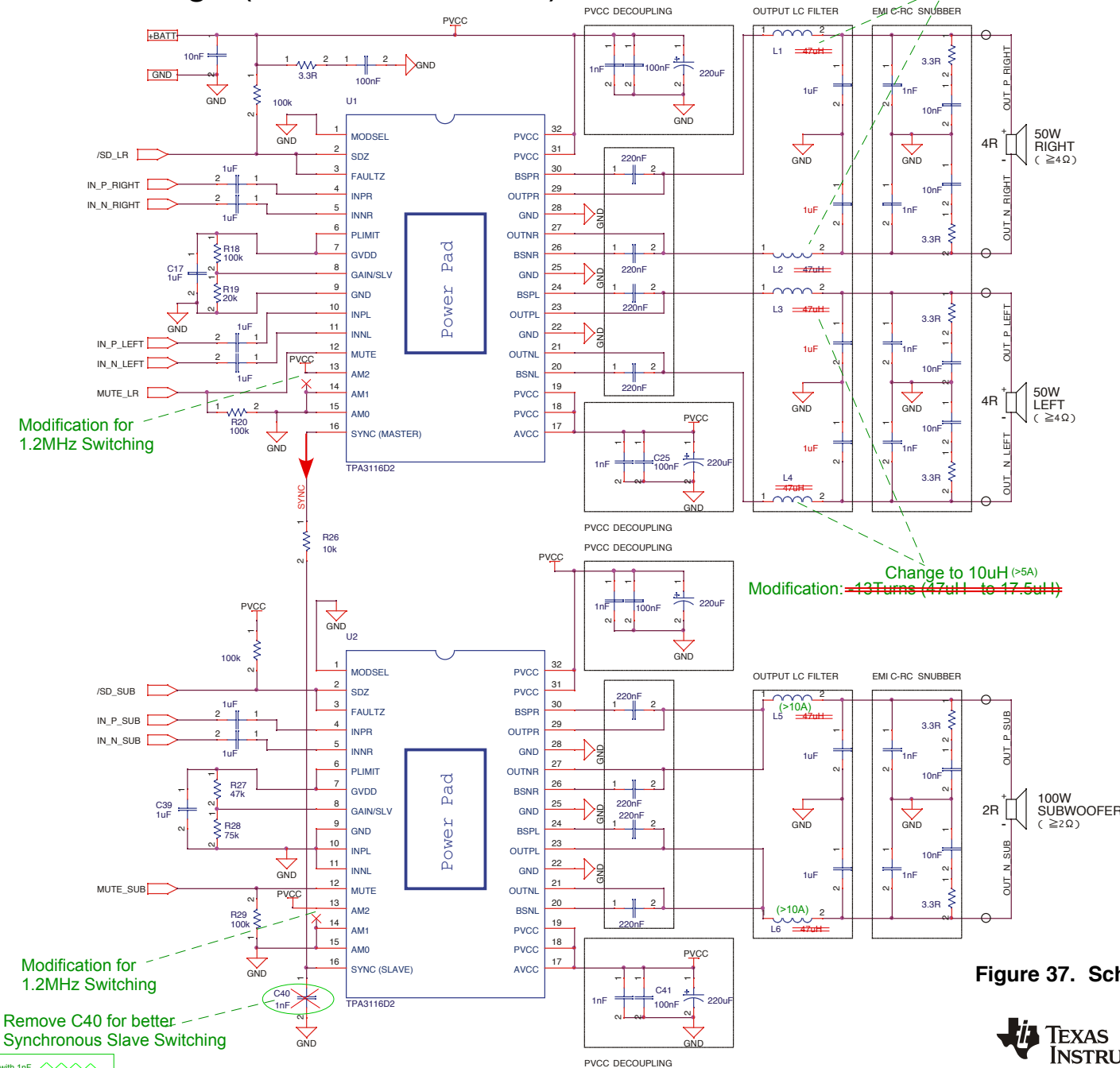
Size: A4	Date: 2018-11-18	Rev:
KiCad E.D.A. kicad (5.0.1-3-g963ef8bb5)		Id: 1/1



This schematic modified by CyberPit-HILO

Sheet: /	
File: TPA3116D2_3D-AMP.sch	
Title: Modified XH-M139 v3 TPA3116D2 2.1 Channel digital Amplifier	
Size: A4	Date: 2018-11-18
KiCad E.D.A. kicad (5.0.1-3-g963ef8bb5)	Rev: 1/1

Power-Stage (After Modification)



注記:

XH-M139のパワー段の回路はTI社のデータシートと殆ど同じ構成だったので部分的に修正し転載しました。 故にリファレンス等の詳細は実物の基板とは異なります。

改造箇所:

- (Pre-Stage)
- ・初段にLME49720によるバッファーを追加
 - ・L/R出力に多重帰還型のHPFを追加
 - ・2段重ねのサテライトSP用VRを削除
 - ・SUB信号用モノラル化ミキサーを追加
 - ・SUB信号用LPFの定数の見直し
 - ・Opアンプ中点電圧用抵抗の基準点見直し

- (Power-Stage)
- ・スイッチング周波数を400kHzから1.2MHzに
 - ・ON/OFF時のミュートング駆動回路を追加
 - ・スレーブ同期用のクロック信号入力のCを削除
 - ・出力LPFのインダクター巻数変更したが結局
→磁気飽和しにくい大電流対応の10uH品に交換

Figure 37. Schematic



Copyright © 2016, Texas Instruments Incorporated

www.ti.com

park8.wakwak.com/~hilo/
2017, 9/24 CyberPit-HILO

with 1nF **TPA3116D2**
Removed **SLOS08F-APRIL 2012-REVISED FEBRUARY 2017**