

如何運用並聯饋電單端輸出變壓器 Parallel Feed Output Transformer Application

並聯饋電出力線路是 **Western Electric** 在 1930 年代時使用
Parallel feed topology was applied by Western Electric in the 1930's

線路優點

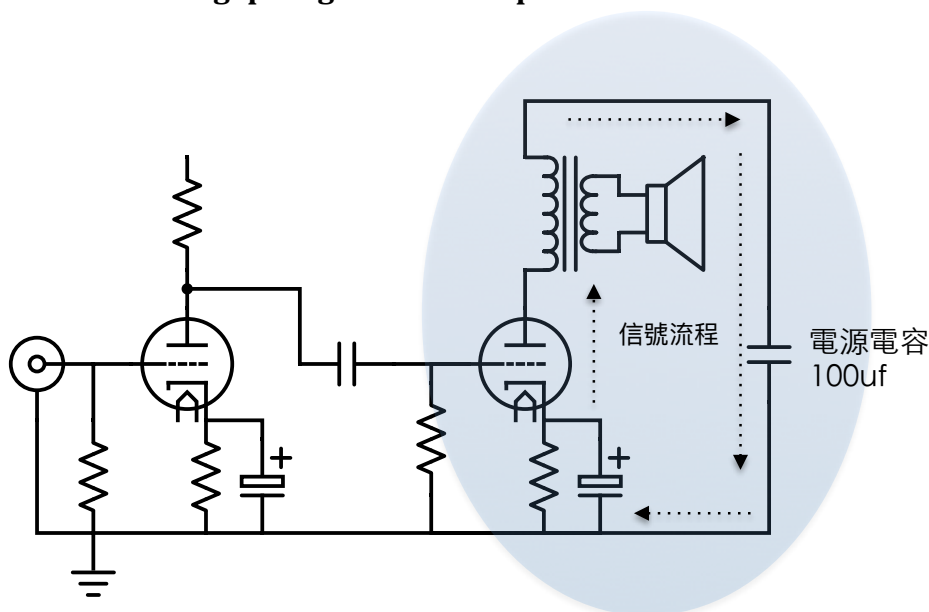
- 並聯饋電輸出變壓器不需要氣隙 “air gap”。變壓器材料可用高端鎳鋼片 (nickel)。
- 信號流程由屏級抗流圈隔離音質較差的電源電容，同時增加電源供應抑制比率 (greater power supply rejection ratio)。
- 不需耐 DC 電流輸出變壓器會增加頻率響應 (improved frequency response)。
- 並聯饋電電容可用高端款型例如 Teflon (鐵袂龍), paper-in-oil (油浸紙介), polypropylene (聚丙烯)。

Design features of parallel feed output transformers

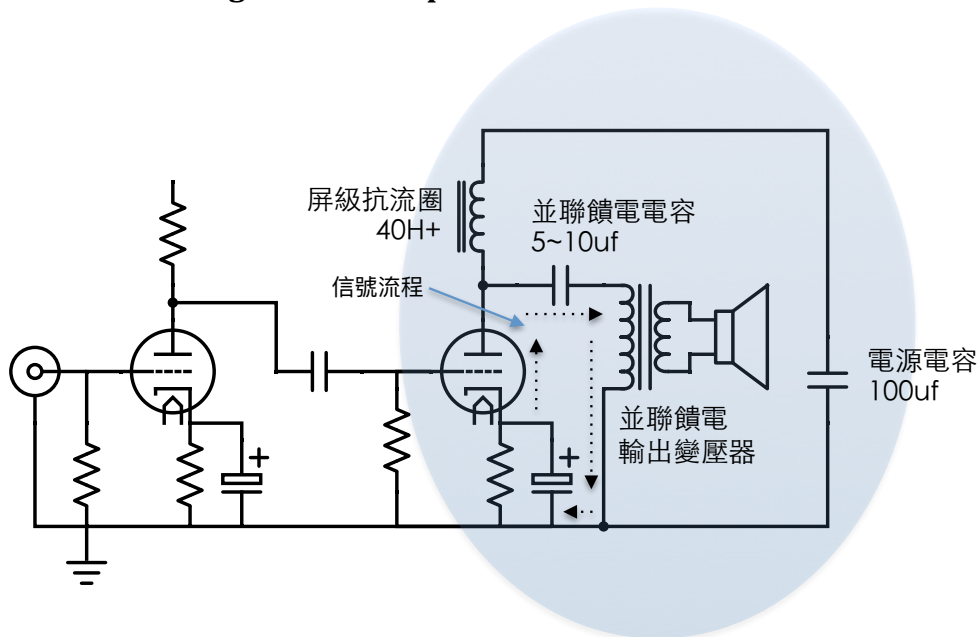
- There is no “airgap” so high perm materials such as nickel and cobalt can be used. Nickel and cobalt provide a much more detailed and delicate sound, yet simultaneous able to respond to dynamic swings.
- The combination of parallel feed output transformer and plate choke provides greater power supply rejection ratio, resulting in a lower noise floor.
- The combination of individually optimized designs for parallel feed output transformer and plate choke yields improved frequency bandwidth.
- Removes electrolytic power supply capacitor from the signal path – parallel feed capacitor values are substantially smaller so high quality types such as Teflon, paper-in-oil, and polypropylene can be used.

傳統單端真空管出力線路

Traditional air gap single ended output circuit



並聯饋電單端真空管出力線路
Parallel feed single ended output circuit



並聯饋電輸出變壓器與屏級抗流圈建議配對
Recommended parallel feed transformer-plate choke pairing

真空管 Vacuum tubes	並聯饋電輸出變壓器 Parallel feed trans	屏級抗流圈 Plate choke	並聯饋電電容 Capacitor value
300B 高電流 (80ma)	TFA-2004 (3K ohm) EXO-050 (5K ohm)	BAC-80 (80ma)	5~8uf
300B 標準電流 (60ma) WE 275A	TFA-2004 (3K ohm) TFA-2004 jr (3K ohm)	EXO-003 (60ma)	6~10uf
2A3 WE 275A	TFA-2004 jr (3K ohm) EXO-35 (2.5K ohm) EXO-36 (2.5K ohm)	EXO-003	6~10uf
845(低電壓) KT-88 (triode) 6550 (triode) 6L6GC (triode) EL-34 (triode)	EXO-050 (5K ohm)	BAC-80	6~10uf
45 71A 6BQ5 (triode) 6c45pi WE 417A	EXO-45 (5K ohm) EXO-46 (5K ohm) TL-818 (5K ohm)	BCP-15 (40ma) Dowdy (40ma)	5~8uf (BCP-15) 2~5uf (Dowdy)
6c45pi WE 417A 7788 (triode) 71A	B7 preamp (前級用)	Dowdy	2~5uf (Dowdy)