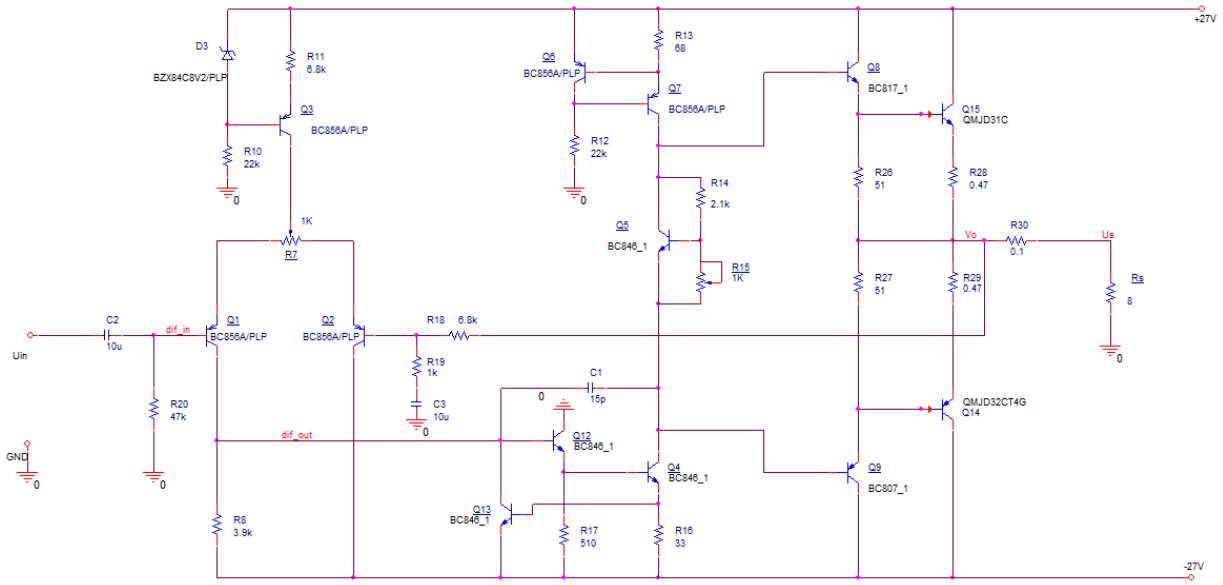
Schema amplificatorului audio de putere cu puterea de 30W este prezentata in figura 1

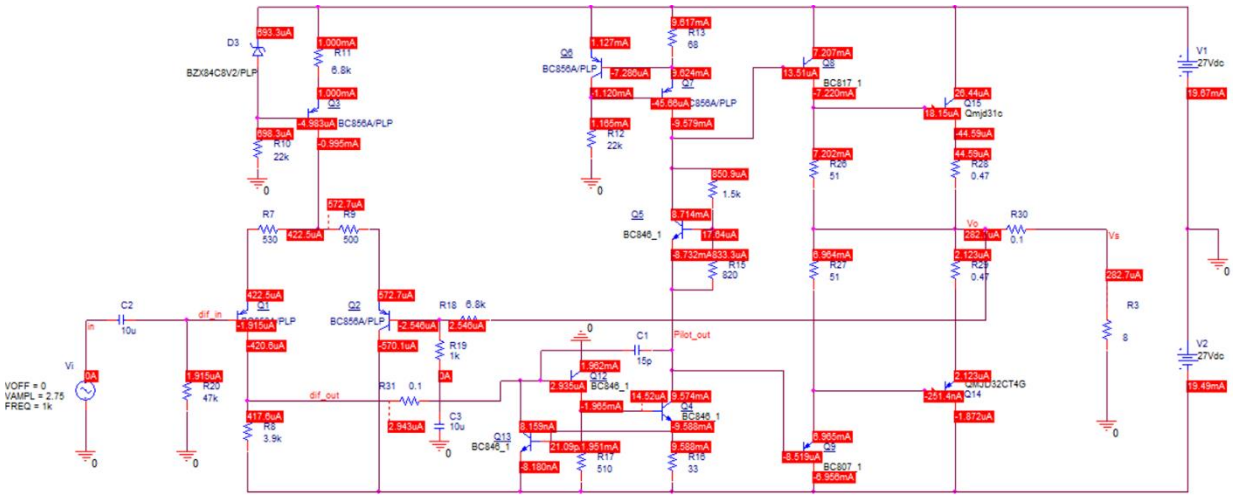


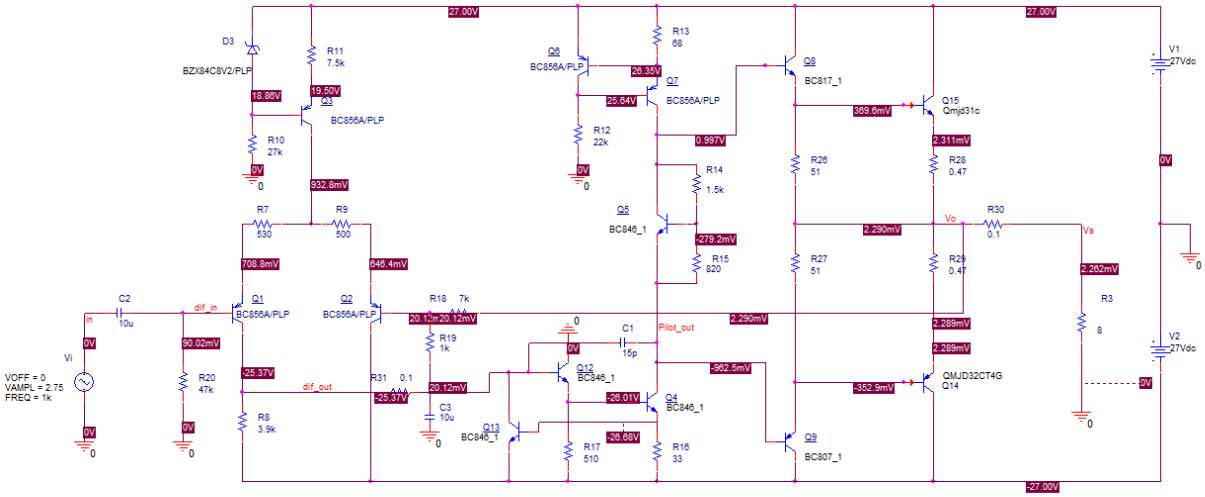
Rezistoarele au toleranta de 5%.

Simularea amplificatorului se putere

- *Simulare PSF*

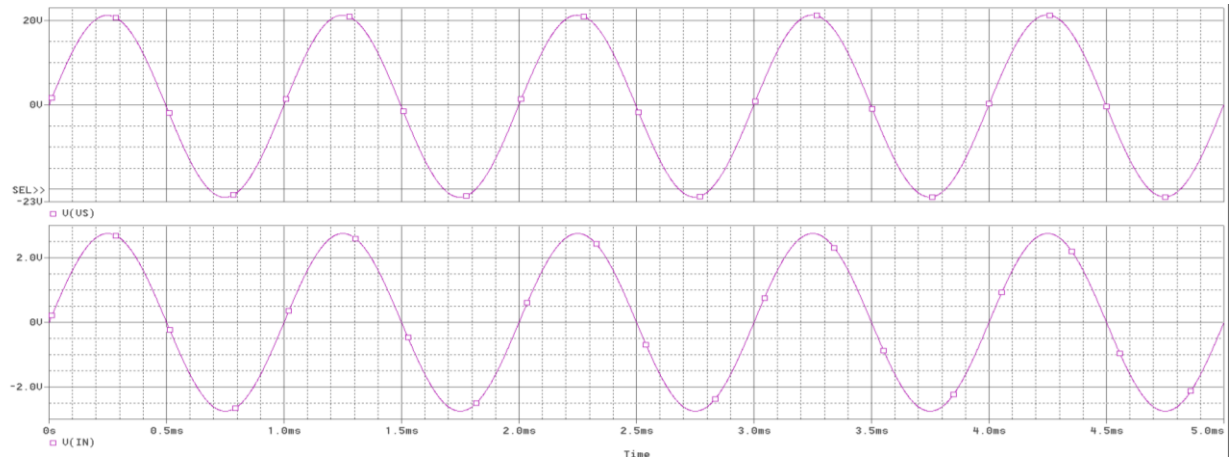
- PSF-ul amplificatorului de putere



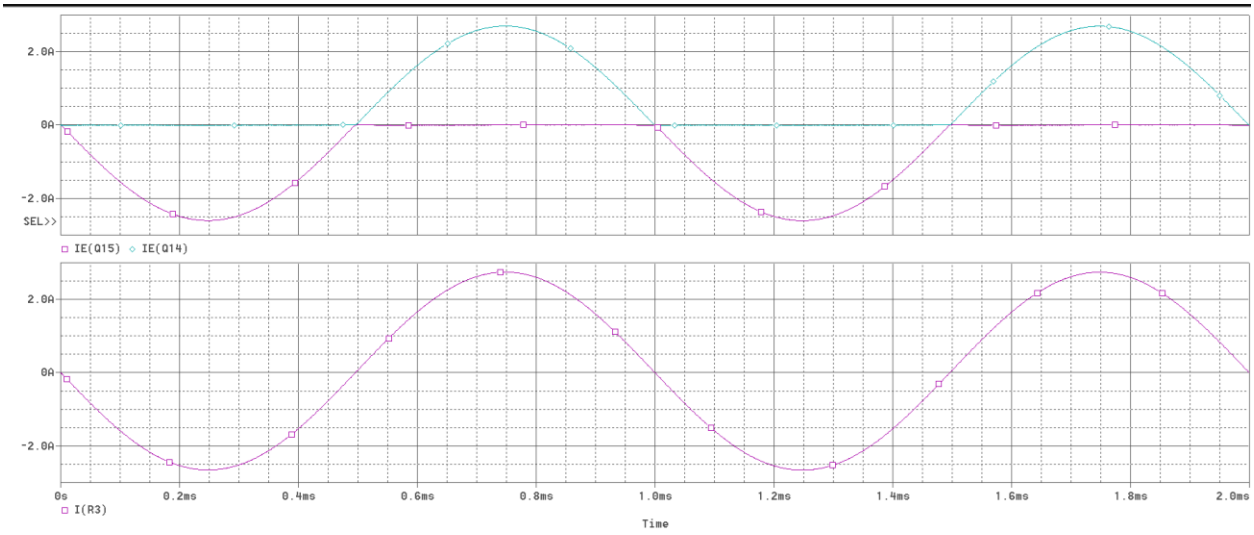


➢ *Simulare in domeniul timp si vizualizarea formelor de unda*

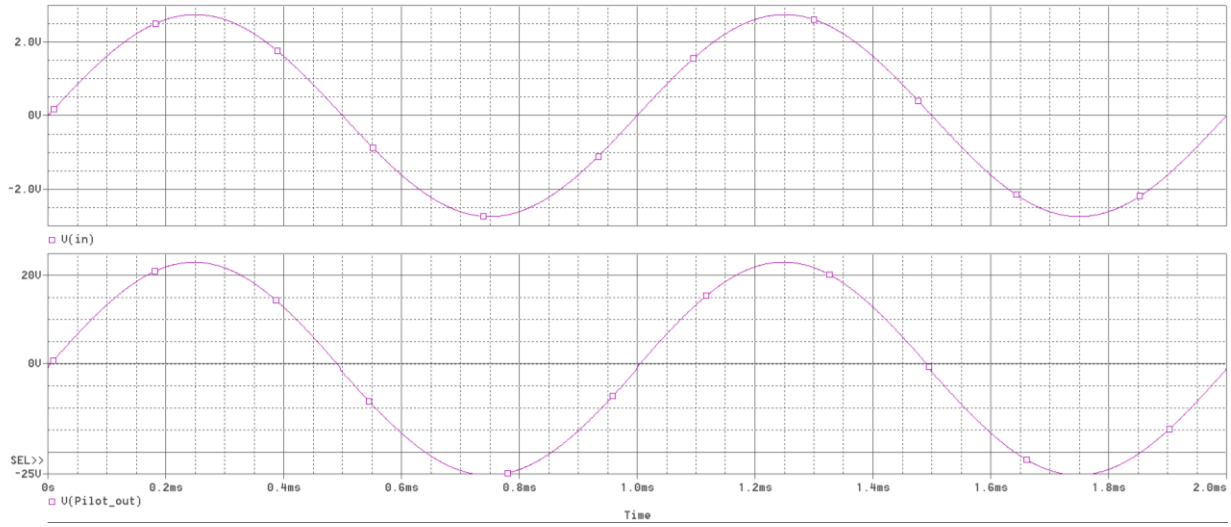
- Tensiunea la intrare si pe sarcina



- Curentii prin sarcina si prin tranzistorii finali pentru tensiunea maxima la intrare

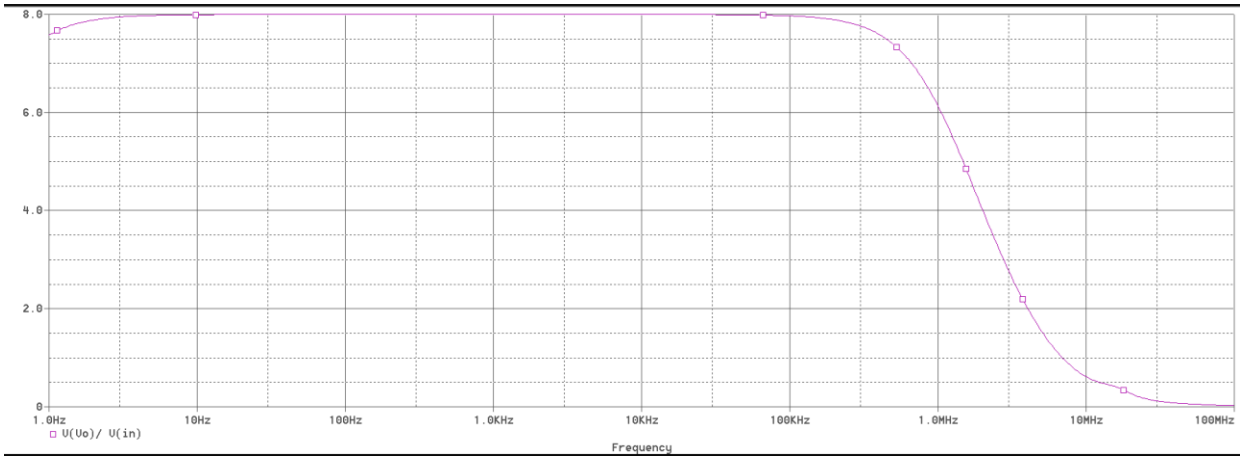


Tensiunea la iesirea amplificatorului pilot Q4

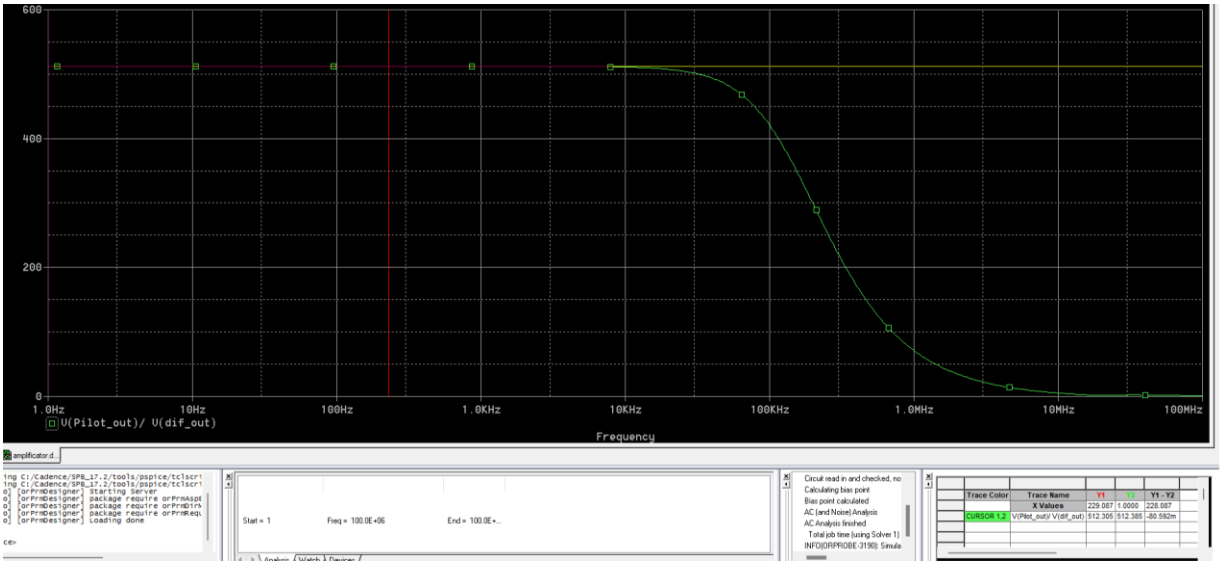


- *Simulare in domeniul frecventa si vizualizarea amplificarilor si impedantelor etajelor*

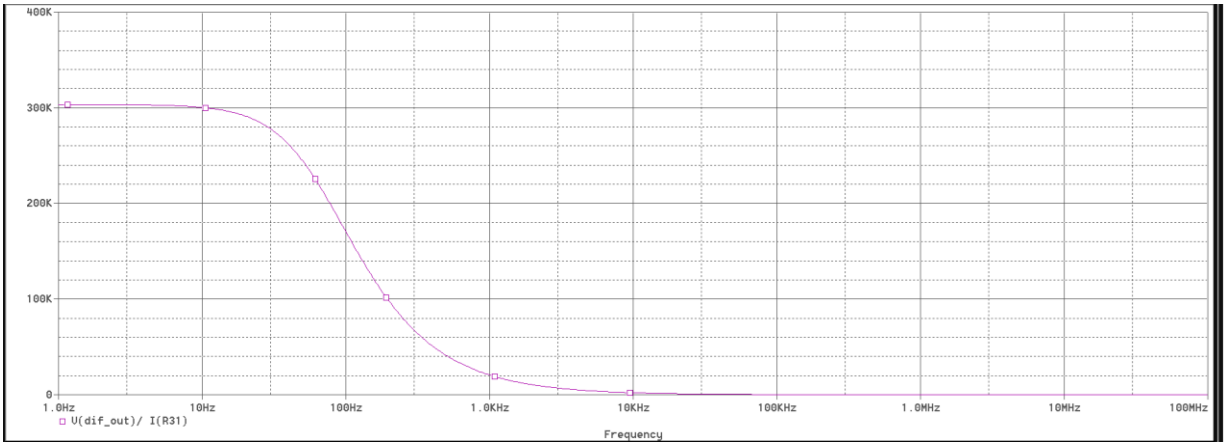
- Amplificarea in tensiune la iesirea amplificatorului (Uo/Uin)



- Amplificarea etajului pilot este 512

- 

- Impedanta de intrare in etajul pilot este

- 

- Simulare rezistenta echivalenta in colectorul tranzistorului pilot.

Este rezistenta de iesire din multiplicalorul Vbe (de ordinul k·re ≈ 12Ω pentru k=4 si re=3ΩΩ) serie cu rezistenta sursei de curent cu reactie care este mare. Simularea rezistentelor de iesire din fiecare circuit separat si rezistenta de iesire totala este prezentata in figurile urmatoare:

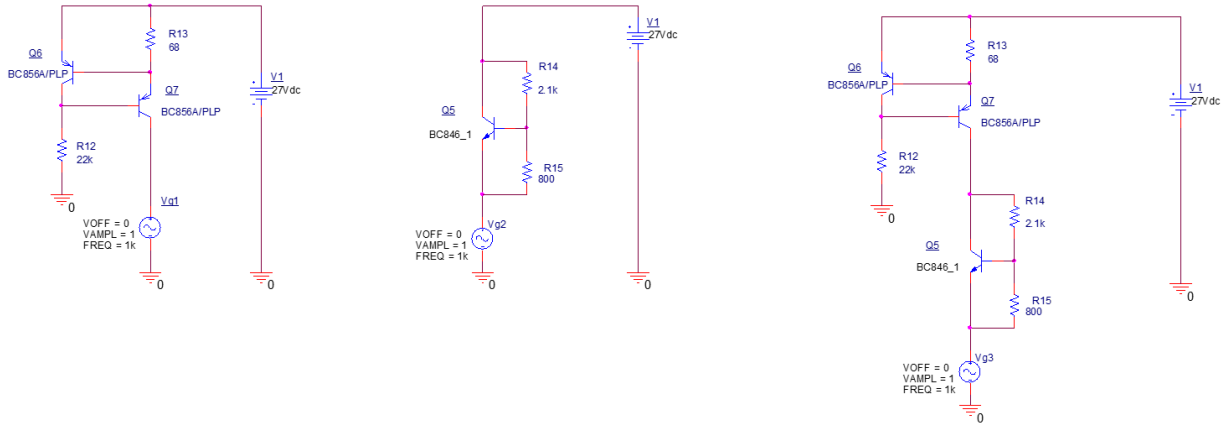
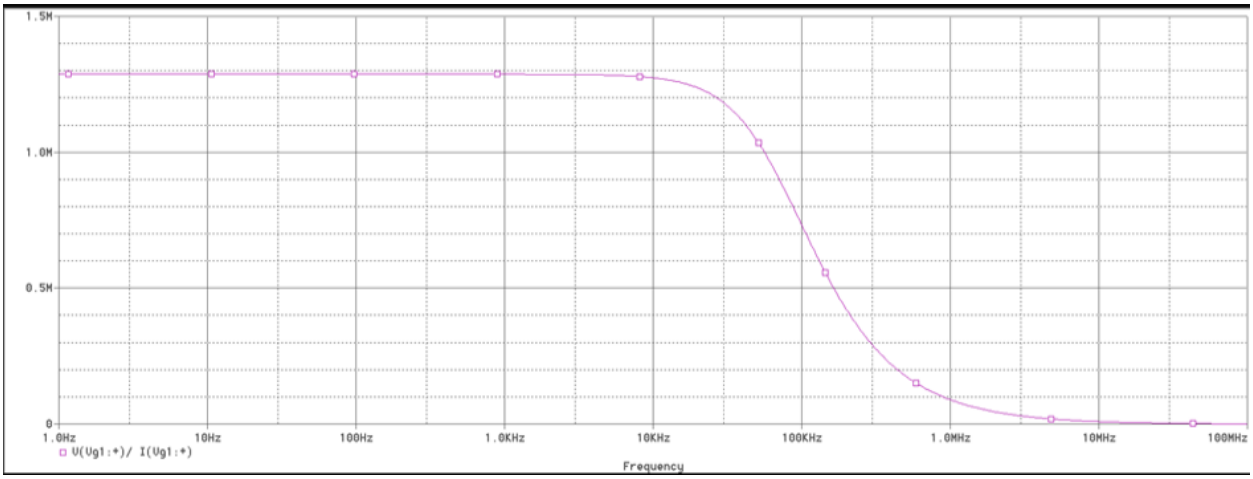
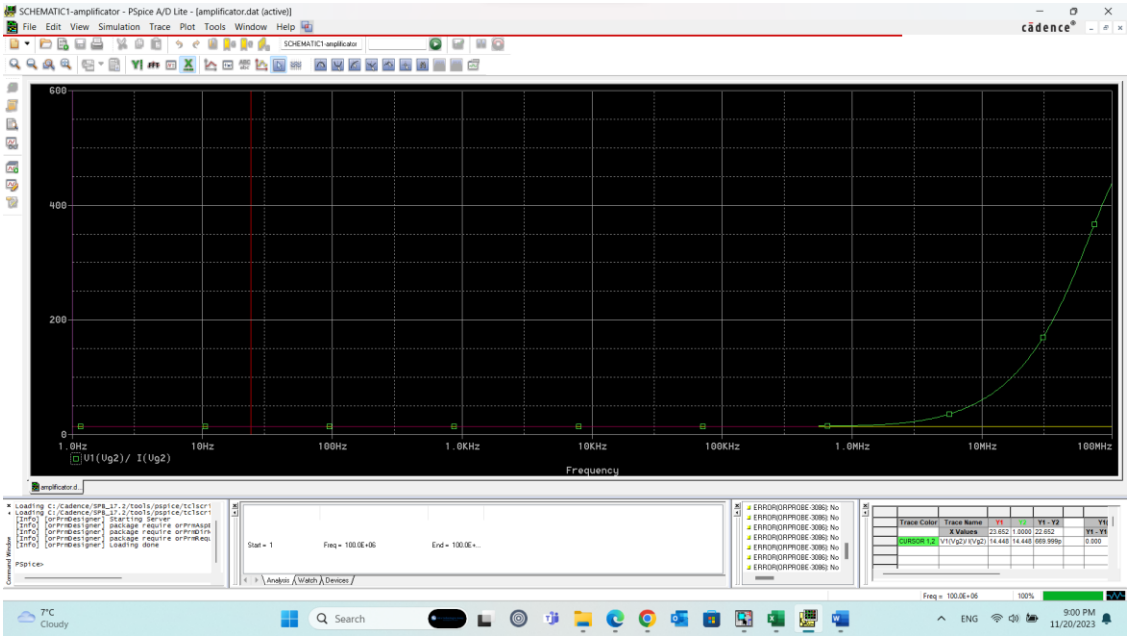
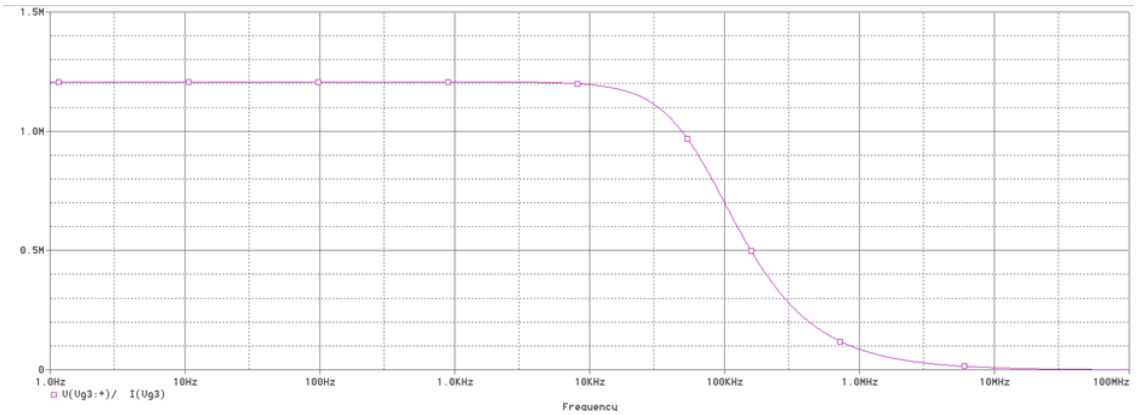


Fig. 1 Schema de simulare a rezistentei (impedantei) de iesire din circuitele din colectorul tranzistorului din etajul pilot



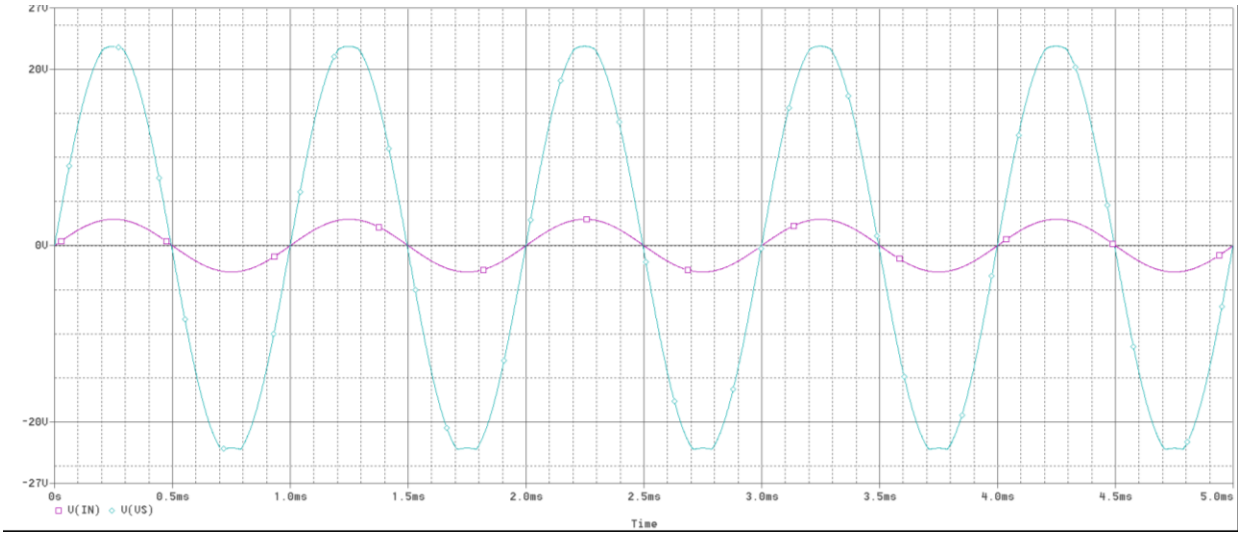


Impedanta de iesire a multiplicatorului de Vbe este 14.4 Ohm in simularea Pspice.

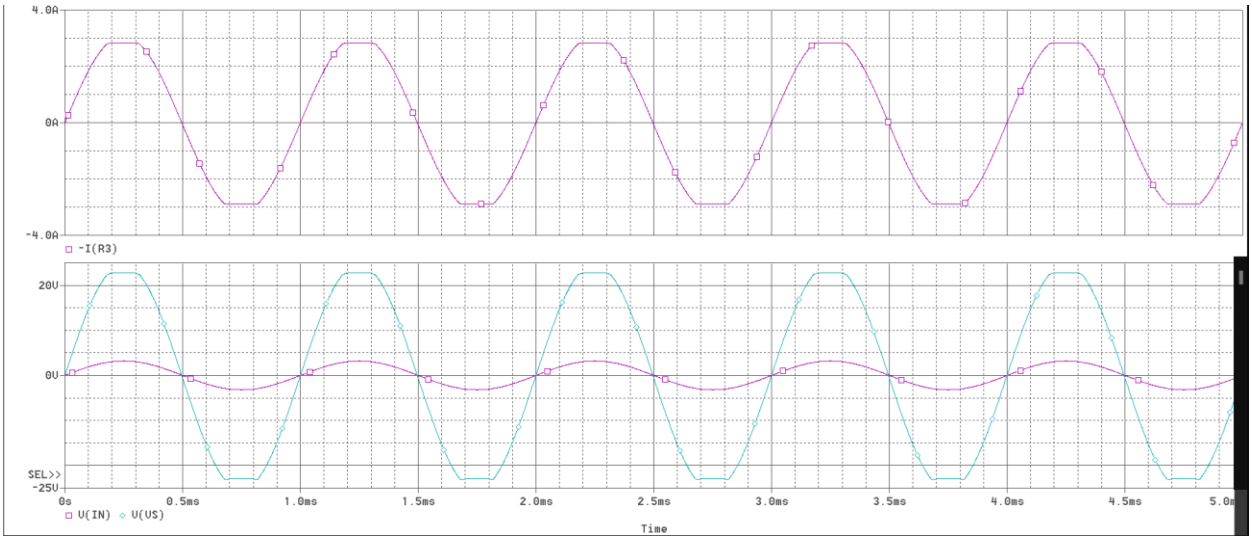


- Limitarea etalujui de iesire la aplicarea unei tensiuni la intrare mai mari decat tensiunea maxima

Limitarea tensiunii la iesire pentru Ui= 3V:



Limitarea tensiunii si a curentului prin sarcina pentru Ui= 3V:



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