

CHAPTER 9

CONCLUSION AND RECOMMENDATION

It has been attempted in this research to find out the way for designing a converter that will result in high efficiency, light weight and small size. Several converters of various specifications are designed and causes of their losses are investigated. It is found that there are a great amount of power losses in the core, the transistors and the base-bias resistances R_1 and R_2 . To minimize core loss the optimum core size, and optimum frequency must be selected. The optimum value of the feedback voltage will reduce the losses in the base-bias resistances to a minimum. The appropriate selection of transistors will reduce transistor losses. As a result of this study, the Design Criteria and the Design Procedure are obtained. The examples in the chapter 5 show that converters designed according to this procedure yield the required power output with high efficiency.

In this research only a push-pull, common-emitter, one-transformer converter is investigated. This circuit is the one which is used widely because of its simplicity and high efficiency. Other converter circuits may possess advantages in some applications. Thus, it is recommended that those circuits be investigated for further work. Also the core material used in this study is ferrite. Some other material, thus, should be investigated.