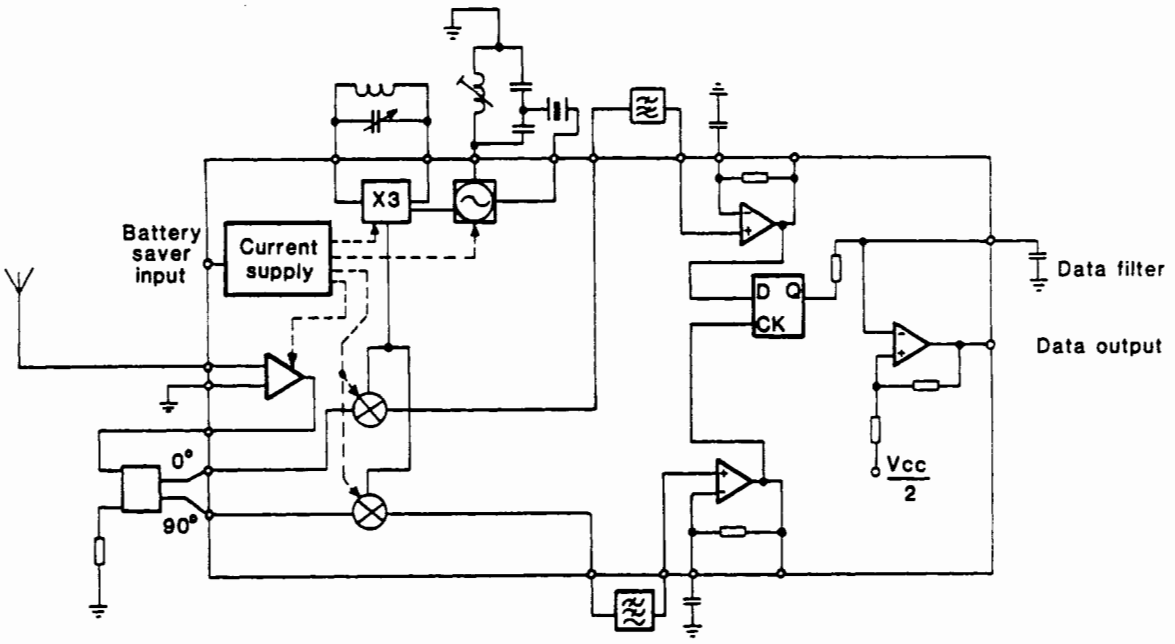

Figure 3 Receiver 1si configuration

employed. The design of these two items is a critical compromise such as to give maximum battery life whilst not impairing the overall sensitivity and at the same time achieving a probability of not correctly decoding on solid radio signals of better than one attempt in one million.

Successful decodes may be stored in memory mode and used to output an appropriate audio cadence. The audio output is also crystal controlled at 2048 Hz.

Miniature Pager Design

The totally integrated approach offers new possibilities in the ever-present trade-off between performance, cost, size and so on. In the present design it has been possible to substantially reduce the size over previous models whilst improving manufacturability. The small size, as well as enhancing the appeal of the product, makes the casework more rugged and this aspect is further improved by using a tubular one piece main case.

It is interesting to consider how far one can continue to reduce the size. The limiting factors are all the external interfaces - battery, antenna and acoustic output device. In each of these components a direct relationship exists between physical size and performance. It is to be expected that some slow progress will be made in batteries and possibly in new ferrites and ceramics such that a halving of dimensions might be seen. This would almost allow a 'credit-card' pager to be made, however until such advances in new materials become available, the unit presented here represents the current state of the art.

Conclusions

A new miniature pager has been described based on the application of 1si to radio via a new receiver architecture. This technique can be extended to other areas and we expect to find new applications for the technology.

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