LAPORAN PROJEK TAHUN AKHIR
KURSUS DIPLOMA KEJURUTERAAN ELEKTRONIK
KAJIAN KEJURUTERAAN, I.T.M., SHAH ALAM

STEREO ENHANCER

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NOVEMBER 1985

PREFACE

Stereo means simply stereophonic sound or extra-directional reproduction and has nothing to do with quality of reproduction or hi-fi.

In practice, sufficient 'directional' information to create at least a considerable difference compared with a single speaker or monophonic system can be obtained by splitting the whole sound content into two channels, each containing logical or selected 'directional' content, each channel being played back through its own speaker, suitably located relative to listener for optimum.

With the arrival of Stereo Enhancer, hi-fi enthusiast has more freedom when listening to stereo. They can be wherever they choose in a room and still have good stereophonic without governed by so call optimum position set by the distance between the two speakers. Merely by adjusting the enhancer knob, good stereo effect can be created in any position in a room.

This project is based on a article which appeared in March, 1985, of Electronic Australia. The project was then consructed by using locally available components.

ACKNOWLEDGEMENTS

"In the name of Allah, Most Gracious, Ever Merciful."
"Praise the name of You Lord, The All-Highest,
Who has created and fashioned,
Who has proportioned and guided."
AL-Quran 87: 1-3

All types of perfect praise belong to God alone, the Lord of all the world. May His blessings on His prophet Muhamad, and all (members of) his family, and on his companions.

We are greatly in debted to whoever participated in the accomplishment of this project especially to our project supervisor Pn. Kamariah Ismail, for her encouragement and sincere wish, who advised and assistant us througout that bring about the success of our project. Our gratitude and acknowledgement are also due to all technicians of their help in providing the components and facilities for the construction and testing the project.

We also wish to express our appreciation to all those who have devoted every hours and his leisure time, either directly or indirectly motivated us towards the successfulness of our project.

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1.1 General

Stereophonic sound reproduction is generally preferred to monophonic reproduction because the former provides a sense of direction to two groups of sound sources. Noemal stereophonic reproduction provides a reasonable illusion of orchestral presence, wherein the instruments are distributed left and right instead of occupying a single source, as in monophonic reproduction. As the listener moves toward the back of the room, stereophonic sound coloration changes.

This change result from reveberation in the listening area; the listener experiences more of direct sound from the left and right speakers near the front of the room, but also experiences more of the reverberation sound near the back of the room.

There is an optimum listening position, and there is a region of good stereophonic perspective. It is evident that the stereo effect will be largely lost if the L and R speakers are mounted side by side, or only a short distance apart (at least 3 metres seperation). There are many ways of overcoming this problem. One of is by using 'Stereo Enhancer'.

Figure 1.1 (a) shows the sterephonic sound coloration changes and stereophonic perspective region is shown in figure 1.1 (b).