

## Chapter IV



### APPLICATIONS AND CONCLUSIONS

#### Introduction

The concept of frequency modulation technique and the block diagram of a data translator have been described in previous chapter. The prototype has been constructed and the photographs are shown in Figure 42 to Figure 44 for top view, front view and rear view respectively. All electronics components used in the prototype such as integrated circuit, transistor, resistor etc., can easily be found in local market at a reasonable price. The total cost of a data translator is approximately 1,000 baht.

#### Applications

The data translator can be used in signal processing at very low frequency especially in industrial application.

Some applications are listed below for easy reference. (4)

1. Chemical analysis such as gas chromatography, electrophoresis, etc.
2. Mechanical measurements such as strain, liquid, gas flow, pressure, torque, etc.
3. Physical measurements such as temperature, humidity, etc.

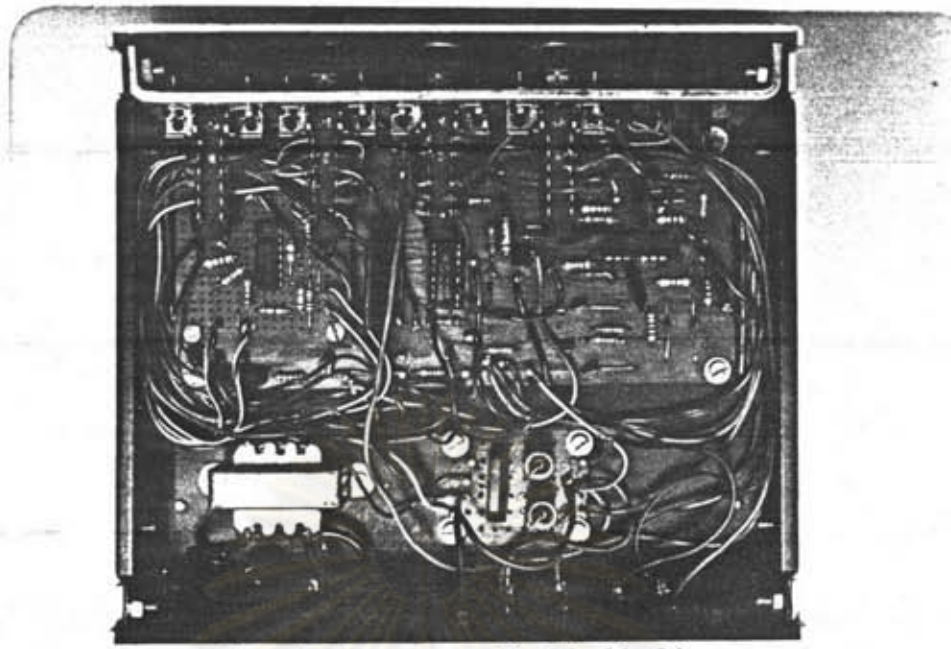


Figure 42 : Top view of data translator

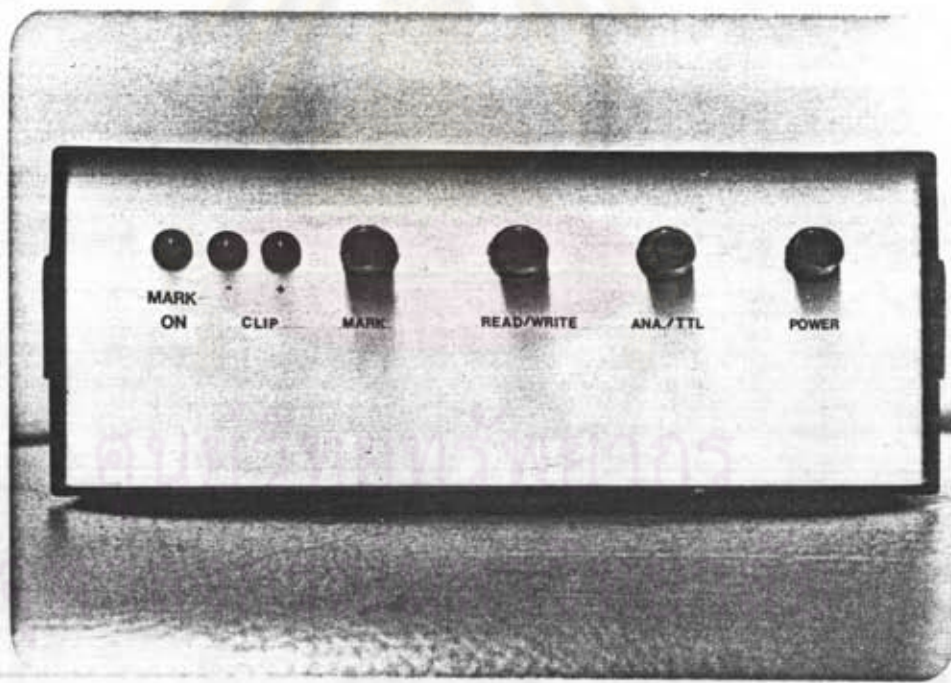


Figure 43 : Front view of data translator

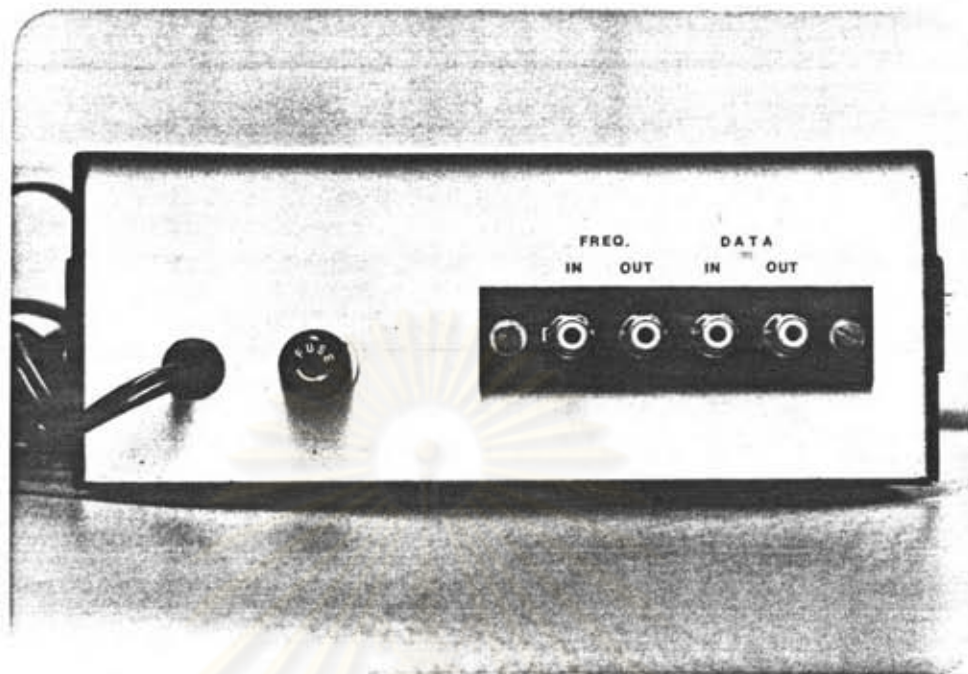


Figure 44 : Rear view of data translator

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## Conclusions

The over-all performance of this data translator is satisfactory within the required specification. The amplitude and waveshape response for both analog and digital signal is acceptable. However, for those who need more accurate reproduced signal, tape recorder with speed control is recommended since the stability of speed play an important role in reproduced signal accuracy. The inter-related signal can also be recorded simultaneously by using a combination between a number of data translator and a multi-channel recorder.

## Some Suggestions for Future Research

For future research study, it may be recommended to develop the data translator which can be used as a tape control unit of the micro-computer since the digital data response is remarkable and high enough for the transfer rate of micro-computer. Such developed data translator will need additional information and command from central processor unit, and can be integrated as a control unit for tape recorder into the personal computer.

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