

ABSTRACT

A microprocessor based diagnostic system for
the ND-20 switch line cards FRC-21
FRC-26 and FCR-24M

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Development of an automated testing equipment for the ND-20's reed cards involves understanding how the switch controls the cards, replicating a similar interface system as that used in the switch and obtaining an Algorithm for controlling the system.

In this Thesis a method of implementing such a diagnostic system using a ZILOG Z8671 microprocessor was investigated. Also some cost savings was taken into consideration by the use of modified relay cards for the interface from an old existing system.

The testing of the system was done by subjecting the reed cards to a diagnostic test by the system and cross-checking the cards manually. The equipment developed performed satisfactory with only three incapacibilities, first: the inability to check for discontinuity of reed contacts, second: the system was unable to precisely identify a bad line relay in FRC-24M, since there were a pair of eight line relays in parallel and the equipment could not identify an open circuited reed coil efficiently. However, these problems were all discussed and possible solutions were suggested.