

PLANNING OF THE AUTOMATIC TELEPHONE USING RADIO 450

( ATUR 450 )

NETWORK EXPANSION

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## **Summary**

Kelana Jaya was chosen as one of the network base stations which needs expansion due to high congestion and it requires eight additional channels by the year 1994.

Since all the frequency group that can be repeated for Kelana Jaya creates a high interference with the neighbourhood stations, so it is decided to add more channels in Sea Park base station. This is because, the Sea Park base station coverage can cover up the congested subscriber from Kelana Jaya base station.

The neighbourhood base stations for Sea Park that uses the same frequency group F1 are Kenny Rise2, Bukit Besi and Shah Alam1. So it is required to determine the Co-channel Interference between Sea Park (i.e. the carrier) with the interferer stations that are Kenny Rise2, Bukit Besi and Shah Alam1. The purpose is to ensure that frequency group F1 can be used at Sea Park base station with minimum interference.

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Public land mobile radio telephones were first introduced in Malaysia in 1964 with the commissioning of one Master Station at Bukit Besi in Kuala Lumpur. This single base station was only capable of offering service to residents of Kuala Lumpur and adjoining areas. Calls were setup via operators and the subscribers could communicate with subscribers in the wire line network.

Automatic service was introduced in 1976 with the KARFON system. Coverage was extended beyond the Kuala Lumpur area and included a major portion of the State of Selangor. The network operated in the VHF band from a single base station at Bukit Besi and comprised three sub-networks with a total of 20 radio channels. While it was more popular than the first mobile telephone system, the limited service area and number of radio channels restricted its capacity to below 500 subscribers. A peak of 483 was reached in 1984 but subsequently the figure dropped slowly after the introduction of the Automatic Telephone Using Radio (ATUR) system.