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## D2 Channel Bank:

### System Aspects

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*This is the first of a series of articles describing the D2 Channel Bank—from initial conception, system design, circuit development, physical design, through manufacture, installation and service. Our objective is to provide a complete story of how one product progressed from identification of need through various phases leading from early planning to operating company application.*

*In this introductory article, the motivation for undertaking the development is pointed out, and the reasons for the choice of the various system parameters are discussed. The D1 Channel Bank, which was designed for exchange application, was the pioneer in digital channel banks. As a second generation channel bank developed for toll application, D2 could be expected to show significant advances over its predecessor. Of the many possible improvements, some would result in incompatibilities with portions of the existing plant. In such cases, engineering judgements were necessary to determine which of these were warranted by the performance improvements they allowed. This article documents the historical evolution of the D2 Channel Bank system parameters.*

#### I. INTRODUCTION

The first digital transmission system used for commercial telephone service was introduced by the Bell System in 1962. This system consists