

The Reverse Dial

After quite a bit of searching without success to find the background as to why a small number of countries used a "reverse numbered" decadic dial, **I have decided to present my own theory and ask for comments from the "experts"**.

The "Reverse Dial" has always appeared to be a legacy that Telcos had to accommodate when any new equipment was approved and purchased for connection to their networks.

New Zealand and Norway are two countries where the dial numbering (shown in the following pictures) in the decadic systems was (almost) the reverse of nearly every other Western country.



"Reverse Dial" (NZ, Norway)



"Conventional Dial"

The key similarity between New Zealand and Norway's electromechanical telephone systems installed in the mid-1930's was their simultaneous use of the ROTARY 7D telephone exchanges.

While the ROTARY 7D system didn't by itself require a different numbering layout on the dial, it did have some unique features. It followed on from the ROTARY 7A and then 7B and was one of the first systems in the world use a "register" - a device to receive, count and store the dialled number. The number storage capability in the "register" contributed to the 7D's flexibility to meet the very different needs of Telcos and their own network requirements. It was able to accommodate -

- Open or Closed Numbering plans
- Flexibility for 1st choice, plus alternate routing arrangements.
- Both-way circuit operation on trunk routes.

The presence of the register also allowed the digits (decadic pulses) received from the subscriber's dial to be converted to any other numbering scheme for switching to the required outlet - or telephone number.

In such an environment, I will now theorise that the designers of a new network, *with the advantage of blank sheet of paper* could well assume that the more common dial layout was in fact "reverse". Because we often view circular faces as clock-like we tend to read them accordingly. That means that it is actually more "normal" to a person viewing a telephone dial, to read the numbers in a clockwise manner.

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Although the "0" on the dial gives 10 decadic pulses, it is in fact symbolising a zero, and the numbers advance from zero to nine. For example, in a telephone exchange consisting of 100 numbers, the numbering scheme is 00 to 99. So, we see that regardless of the number designation on the dial, the first finger hole produces one pulse and the last finger hole produces 10 pulses

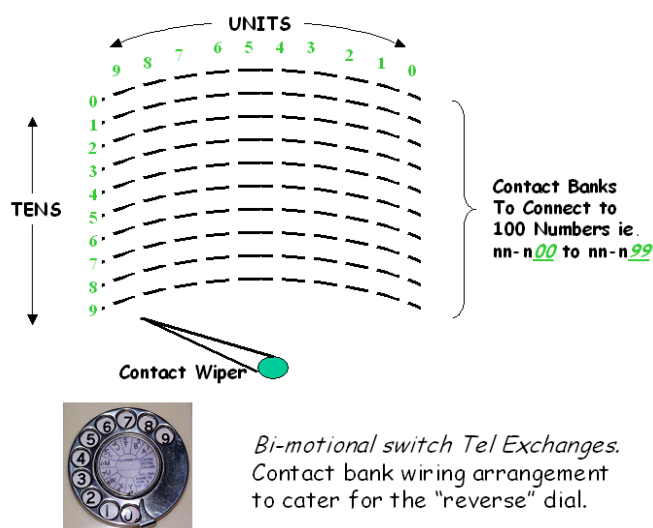
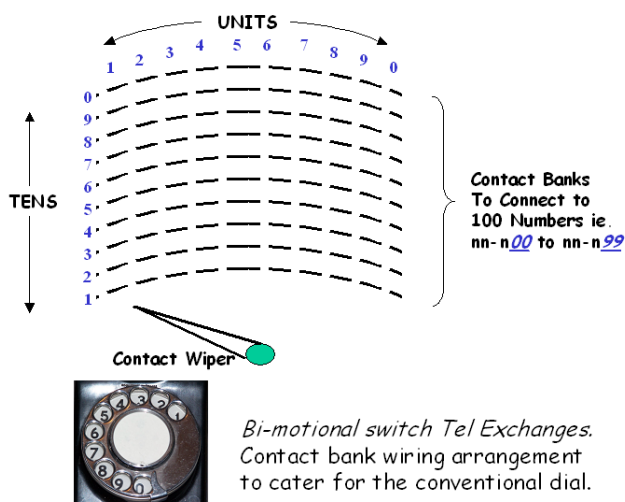
So, if we just go back for a moment to the early ROTARY 7D telephone exchanges, the engineers had the flexibility in the switch to accommodate this theory and then install telephone dials that conformed more closely to the normal way that we would read numbers around a circle.

Their decision though, did cause some problems later.

Throughout the world there followed a general movement to electromechanical telephone exchanges using Uniselectors and Bi-motional selectors. These were manufactured by a wide range of companies in the US, UK and Europe.

That meant that the later New Zealand exchanges that were installed had to have special wiring arrangements to accommodate the legacy of all of the telephones that had been installed with the "reverse" dial.

Simple enough in itself, but it did introduce extra cost for "local arrangements" with the difference shown in the following diagrams.



Selector wiring for those countries using the "conventional" dial layout

Selector wiring for those countries using the "reverse" dial layout

So, my question for all of the switching experts is:
Is it the "Reverse Dial" or the "Conventional Dial" which is reversed??

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