

4. Alpha channel, tending toward e-mail service, 50% alpha (messages around 200 characters in length), 45% numeric, 5% tone-only

7.6 Results of Calculations

The values estimated in the previous sections will be applied to Equation 1 on page 5 to estimate the maximum number of pagers for the four hypothetical channels above. The *bhcr* used is 20%.

| Channel mix | POCSAG | ERMES |
|--------------|--------|-------|
| Pure Numeric | 409k | 572k |
| Metropolitan | 335k | 516k |
| Heavy Alpha | 127k | 238k |
| Alpha/E-mail | 33.2k | 78.3k |

Table 1: Comparison of Channel Capacity for Four Hypothetical Channels

The main result, which is to be expected considering that numeric pages have very high overhead, is that capacity is improved by about 55% for a typical channel, despite the fact that the bit rate has been increased by about 160%. It is even less, only 40%, for a purely numeric channel. However, this is not the case with heavy alphanumeric channels, where the capacity was increased by around 90% and 135% when the messages get very long.