In Information Theory literature, several interesting channel models are used for Multi-Access communications. Research considered coding for these channels and also calculations of channel capacity were performed. In calculating capacity, we show the difference between the conditions posed by Information Theory where a fixed set of users always transmit information and the networking counterpart where a particular set of unknown transmitters try to communicate with their respective receivers.

We give some concluding results on the following models:

- M-ary Pulse Position Modulation channel as used by Cohen et al. in frequency hopping random access[1]. We give superimposed code constructions in [9]. These codes are to be used in a multi-user concept where the set of active users is small compared to the total amount of potential users;

- M-user T-frequency channel as for instance described by Chang and Wolf[2]. This channel model detects the presence of input frequencies (with or without intensity) We extended the calculations to the networking “unsynchronized” situation [7];

- Adder channel with and without intensity information, see [8];

- XOR channel. Especially, coding aspects were considered in [5,6,8];

- Switching channel, introduced at the Swedish-Soviet workshop as a non-trivial two access channel, [10]. Code constructions are given in [11].