Claims

1 – Method for accessing a radio channel in a communication system comprising a plurality of terminals (10n) communicating with one another by radio links, a terminal (10n) being equipped with transmission and/or reception means (11n, 12n), a processor (13n) suitable for executing steps of the method, characterized in that it uses an access protocol based on a communication frame (F) made up of a plurality of slots S(1), .., S(S+2), the first S slots each comprising two mini-slots, the first mini-slot MS1 comprising a request to send data signalling message RTS or data, the second mini-slot MS2 comprising a "ready to receive" signalling message, CTS, or data, the slot (S+1) containing a message of RTS type or data, the slot (S+2) containing a message of CTS type and an acknowledgement message placed at the end of the frame in order to acknowledge one or more transmissions taking place on the radio channel.

2 – Method for accessing a radio channel according to Claim 1, characterized in that a frame F is divided into (M+1) mini-frames MF, each mini-frame MF having structure of the frame of Claim 1 and for the first M mini-frames, the first mini-slot MS1 of the slot (S+2) contains a CTS message or a partial acknowledgement message P-ACK.

3 – Method for accessing a radio channel in a communication system comprising a plurality of terminals (10n) communicating with one another by radio links, a terminal (10n) being equipped with transmission means and/or reception means (11n, 12n), a processor (13n) suitable for executing steps of the method, characterized in that it implements at least one signalling channel SIG distinct from a data channel DATA, that it uses an access protocol based on a communication frame (F) made up of a plurality of slots S(1), .., S(S+2), the SIG channel taking up the RTS signalling mini-slots, [MS1, SIG] and CTS [MS2, SIG] organized in S+1 slots, the DATA channel taking up the S+1 data slots DATA, [S, DATA], and the last ACK slot S+2 of the DATA channel, the last slot S+2 on the SIG channel is not used, the S+1 signalling slots of the SIG

channel corresponding to the S+1 data slots of the DATA channel, the unused last slot on the signalling channel SIG corresponding to the ACK slot of the DATA channel.

4 – Method for accessing a radio channel according to Claim 3, characterized in that it uses at least one signalling channel distinct from a data channel, and in that a frame is divided into (M+1) mini-frames MF and in that the last mini-frame MF(M+1) has structure of the frame of Claim 3, and in that:

- for the SIG channel, the first M mini-frames are used, each made up of (S+2) slots, the (S+1) slots being each made up of a mini-slot for the RTS messages and a mini-slot for the CTS messages, the last slot contains a mini-slot for the partial acknowledgement messages P-ACK and a neutralized mini-slot,
- on the DATA channel, the first M mini-frames are used, each made up of S+2 slots, the S+1 first slots are for data messages, the last slot S+2 is made up of a neutralized mini-slot and a mini-slot for the acknowledgement messages ACK.

5 – Method according to Claim 3, characterized in that the frame F on the signalling channel SIG is made up of, at the level of the first "S+1" slots, three mini-slots distributed as follows: a first mini-slot MS1 for the sending of the RTS messages, a second mini-slot MS2 for the sending of the messages of CTS type, and a third mini-slot MS3 for the sending of the messages of CAC type.

6 – Method according to Claim 4, characterized in that it uses a frame made up, at the level of the first "S+1" slots of each mini-frame MF on the signalling

12 – Frame for the use of a synchronous network with TDMA access, characterized in that it further comprises the following elements:

- the frame is divided into "M+1" (M >= 0) mini-frames MF(f),
- the last mini-frame MF(F+1) takes on the exact form of the frame of Claim 11,
- the first "S" slots of each mini-frame MF each contain two mini-slots MS1, MS2,
- the first mini-slot MS1(s) of each slot s contains a signalling message of RTS type, or data,
- the second mini-slot MS2(s) of each slot s contains a signalling message of CTS type, or data,
- the first mini-slot of the slot "S+1" of each mini-frame [MS1(S+1), MF] contains an RTS message or data,
- the second mini-slot [MS2(S+1), MF] contains data,
- the last slot "S+2" of a mini-frame MF is defined as follows:
  - in the first "M" mini-frames: the first mini-slot of the slot "S+2", MS1(S+2) of each mini-frame MF contains signalling messages of CTS or P-ACK (partial ACK) type, the second mini-slot "S+2", MS2(S+2), contains an acknowledgement signalling message of ACK type,
  - in the last mini-frame MF(F+1): the first mini-slot [MS1(S+2), MF(F+1)] of the slot "S+2" contains a message of CTS type, the second mini-slot [MS2(S+2), MF(F+1)] contains an acknowledgement signalling message of ACK type.

13 – Frame intended to be used in a synchronous network with TDMA access implementing at least one signalling channel SIG distinct from a data channel DATA, characterized in that it comprises at least the following elements:

- the frame is supported by two radio channels that are distinct, a signalling channel SIG and a data channel DATA,
- the SIG channel takes up the RTS and CTS signalling mini-slots organized in S+1 slots, the last slot S+2 on the SIG channel is not used,

- the DATA channel takes up the S+1 data slots DATA and the acknowledgement slot ACK,
- the S+1 signalling slots of the SIG channel correspond to the S+1 data slots of the DATA channel, the unused last slot on the SIG channel corresponds to the ACK slot of the DATA channel.

14 – Frame for the use of a synchronous network with TDMA access, characterized in that it comprises at least the following elements:

- the frame F is divided into M+1 with M≥ mini-frames MF(1),.., MF(M+1) on a signalling channel and a data channel that are distinct from one another,
- the last mini-frame MF(M+1) takes on the form of the frame of Claim 12,
- the signalling channel SIG takes up the RTS, CTS and P-ACK signalling slots, the data channel DATA takes up the data slots and the ACK slots,
- on the signalling channel SIG, the first "M" mini-frames MF are each made up of S+2 slots,
- the first "S+1" slots are each made up of a mini-slot for the RTS messages, [MS1, MF, SIG] and a mini-slot for the CTS messages, [MS2, MF, SIG],
- the last slot (S+2) contains a first mini-slot [MS1(S+2), MF, SIG] for the partial acknowledgement messages P-ACK and a neutralized (unused) second mini-slot [MS2(S+2), SIG], [MSn, MF(M+1)],