CLAIMS

1 – Method for establishing a communication link for a mobile user in a high-frequency HF communication system comprising at least one transmission site (1) and at least one reception site (2), the two sites being remote from one another by a distance D, characterized in that it comprises at least the following steps:

- at the reception site (2), scanning the signals or frequencies of interest f_{int} (410i) for a given communication using a wideband receiver (23) configured for a listening band which is strictly greater than the instantaneous band of all the possible modulated signals, estimating the level of energy received on the scanned frequencies (412) by a correlation computation of the received signals and detecting whether the signals received on said wideband receiver comprises a request to establish a communication link between the mobile user and the communication system,
- when the signal comprises a request to establish a communication link, then transmitting this request to establish a link at the level of a transmitting equipment and to a control module HUB (17) which checks whether the communication request has been detected within a fixed period (414),
- when the request is not received within the fixed period, then the reception site goes into a listening and polling phase,
- when the request has arrived within the fixed period, (416), the control module at the reception level checks whether it is possible to establish a communication link by querying the transmission site and checking that the transmission site has the resources for establishing the requested communication link and starting the communication process (417) based on configuration information computed by the transmission site, otherwise returning to step of scanning the received signals.

2 – Method according to Claim 1, characterized in that, for a fixed frequency FF request, the call is carried out on one and the same frequency.

3 – Method according to Claim 1, characterized in that, for an automatic link establishment (ALE) request, the call is carried out successively or in parallel on several frequencies of different values.

4 – Method according to Claim 1, characterized in that the direction of arrival of the signal (418) is computed and this information is transmitted to the transmission site (1) to determine the transmission configuration available for a given configuration.

5 – Method according to one of Claims 1 or 4, characterized in that it comprises a step in which the computed configuration is compared with a set of existing configurations and, if a better configuration exists, then the HUB module transmits the new configuration parameters for the communication process or processes to the driven equipment items (amplifier, matrix, etc.).

6 – Method according to one of Claims 1 to 5, characterized in that it analyses the content of the communication request and, based on the priority of the communication, it frees up resources used by a current communication to reassign them to this new communication.

7 – Method according to one of Claims 1 to 5, characterized in that, on reception of a communication request, the method suspends a current communication to transmit a wait indication to the new communication.

8 – HF communication system comprising at least one transmission site (1) and one reception site (2), the two sites being separated by a distance D chosen to avoid the disturbances from the transmission site on the reception site, characterized in that:

- the transmission site (1) comprises at least several transmitters (14i) linked to a set of transmitting antennas (16j), an HF control module (17),
- the reception site (2) comprises a wide band receiver (23) and an HF control module (24),
- said HF control modules at the transmission site and at the reception site are adapted to execute the steps of the method according to one of Claims 1 to 7.