

CLAIMS

- 1) A reconfigurable radio remote unit (1) for distributed antenna systems, comprising:
 - a plurality of integrated radio frequency boards (2) each dedicated to a
5 respective frequency band, and
 - configuration means (4, 5, 6, 7, 8) for remotely selecting said frequency bands and/or for setting the power level of said frequency bands, wherein said configuration means comprise:
 - activation/deactivation means operatively connected to said radio
10 frequency boards and configured for remotely activating or deactivating each of said radio frequency boards; and power setting means operatively connected to said radio frequency boards and configured for remotely setting the power level of each of said radio frequency boards.
- 15 2) The reconfigurable radio remote unit (1) according to claim 1, wherein said power level is selected from a plurality of predefined power levels.
- 3) The reconfigurable radio remote unit (1) according to claim 1, wherein said configuration means (4, 5, 6, 7, 8) comprises at least a control unit (4)
20 operatively connected with said plurality of integrated radio frequency boards (2).
- 4) The reconfigurable radio remote unit (1) according to claim 3, wherein said control unit (4) comprises at least a configuration table (9) containing a plurality
25 of setting parameters for each available frequency band and/or for each available power level.
- 5) The reconfigurable radio remote unit (1) according to claim 4, wherein, for each available frequency band and/or for each available power level, said setting
30 parameters comprise: Automatic Level Control parameters, Gain parameters, Current Threshold parameters.
- 6) The reconfigurable radio remote unit (1) according to claim 5, wherein said

control unit (4) comprises at least a microprocessor (10).

7) The reconfigurable radio remote unit (1) according to claim 1, wherein said configuration means (4, 5, 6, 7, 8) comprises at least a control unit (4) operatively connected with said plurality of integrated radio frequency boards (2) and wherein, for each of said integrated radio frequency boards (2), said activation/deactivation means (5) comprise at least a power amplifier (5) with an enabling/disabling port (11), wherein said enabling/disabling port (11) is operatively connected with said control unit (4).

10 8) The reconfigurable radio remote unit (1) according to claim, 1 wherein said configuration means comprises at least a control unit (4) operatively connected with said plurality of integrated radio frequency boards and wherein, for each of said integrated radio frequency boards (2), said power setting means (6, 7) 15 comprise at least an attenuation circuit (6, 7) operatively connected with said control unit (4).

9) The reconfigurable radio remote unit (1) according to claim 8, wherein, for each of said integrated radio frequency boards (2), said attenuation circuit (6, 7) 20 comprises at least a digital attenuator (6) and an Automatic Level Control (ALC) circuit (7) operatively connected with said digital attenuator (6).

10) The reconfigurable radio remote unit (1) according to claim 1, wherein each of said integrated radio frequency boards (2) comprises at least a band-pass 25 filter (15) for passing a respective and predefined frequency band.

11) The reconfigurable radio remote unit (1) according to claim 1, comprising a single main radio frequency board (3) provided with said plurality of integrated radio frequency boards (2) dedicated to respective frequency bands.

30 12) A reconfigurable distributed antenna system comprising at least a reconfigurable radio remote unit (1) according to claim 3 and at least a master unit (24), wherein said master unit (24) comprises at least a supervision module (25) operatively connected with said control unit (4) of said at least a

reconfigurable radio remote unit (1).

13) The reconfigurable distributed antenna system according to claim 12,
wherein said supervision unit (25) comprises an integrated OMT (Operation and
5 Maintenance Terminal) unit configured for accessing and setting said at least a
reconfigurable radio remote unit (1).

14) The reconfigurable distributed antenna system according to claim 12,
wherein it comprises at least a management unit (26) provided with at least an
10 OMC (Operation and Maintenance Centre) software (27) operatively connected
with said at least a supervision unit (25) and configured for accessing and
setting said at least a reconfigurable radio remote unit (1).

15) The reconfigurable distributed antenna system according to claim 14,
15 wherein it uses an authentication procedure for verifying if the OMC software
(27) is authorized to check and/or modify the frequency band configuration
and/or power level configuration of said at least a reconfigurable remote unit
(1).

20 16) The reconfigurable distributed antenna system according to claim 13,
wherein it uses an authentication procedure for verifying if the OMT unit is
authorized to check and/or modify the frequency band configuration and/or
power level configuration of said at least a reconfigurable remote unit (1).