

### TRANSPORTABLE 50W MW NDB

The transportable NDB 50W RBT9300MS has been designed to meet the requirements of temporary and fast installations: assistance for approach and landing of helicopters on any field.

The radiobeacon is installed in a waterproof cabinet placed flush with the ground and connected with another waterproof cabinet (antenna automatic tuning unit system).

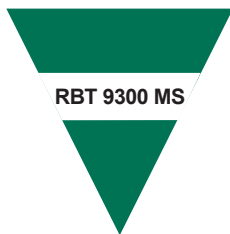
This unit may be supplied either by mains 230V, or by external 24V d.c.

Designed for military operations, this NDB can be used as a "locator" on insolated working site and shipped for offshore oil prospection.



#### Constitution of the equipment:

- Waterproof 7U cabinet RBT9300MS containing:
  - a 50W A1/A2 transmitter EBT9300MS-24,
  - a programmer PGM9200MS,
  - a 24V/50A rectifier MPSU1500,
  - a battery assembly BAT24V/7AH,
  - a 50ohms load CHF9300MS,
  - a VHF remote control TLC9200 (option).
- Waterproof 12U cabinet DAA9400MF containing:
  - an automatic tuning device DAA9400MF.
- RF antenna bag containing:
  - two U supports,
  - a 8m whip antenna in 8 parts or:
  - a 8m umbrella antenna in 8 parts,
  - an insulator,
  - a set of 3 guys.
- Ground system bag containing:
  - a ground plane made up of 6 conductors on reels,
  - installation accessories (stakes, hammer).



RBT 9300 MS

## EBT9300MS-24 TRANSMITTER CHARACTERISTICS

- **Power supply voltage:**  
24 V d.c. (typical)
- **Frequency range:**  
200-535 kHz - 100 Hz step
- **Output power:**  
Adjustable up to 50W (200W peak) on 50ohms load. The power stage is constituted of "Mosfet" transistors installed in "H", "D" class
- **Consumption for 50W carrier:**  
< 3.5 A (carrier non keyed)
- **Modulation mode:**  
NON/A1A - NON/A2A
- **Modulation frequency in NON/A2A:**  
1020Hz  $\pm$  50Hz, 400Hz  $\pm$  25Hz
- **Distortion:**  
< 5% at 95% of modulation
- **Harmonic frequency:**  
< -45 dBc at the transmitter output  
< -65 dBc after antenna
- **Spurious frequency:**  
< -45 dB compared with the carrier
- **Code signal programming:**  
Up to 3 letters
- **Keying cycle:**  
20s in NON/A1A and 10s in NON/A2A  
Dot duration 120 ms. Possibility of indicating power supply on battery between 2 code signals
- **Signaling:**  
Battery operation
- **Operating temperature:**  
-20°C to +55°C
- **Storage temperature:**  
-40°C to +70°C
- **Presentation:**  
Drawer unit for 19" standard rack, 2U heigh



RBT9300MS CABINET

## PGM9200MS PROGRAMMER CHARACTERISTICS

It permits the following functions: display the transmitter parameters, programming the configuration of the transmitter (frequency - code signal - mode...).

- **Frequency programming:**  
200-535kHz (100Hz steps)
- **Power supply (d.c. voltage):**  
By means of the maintenance connector of the transm.
- **Programming of the code signal:**  
Up to 3 letters
- **Programming of the modulation type:**  
NON/A1A - NON/A2A
- **Telemonitoring (option):**  
PRB9300MS programmer takes the place of PGM9200 programmer. It has a RS232 output, associated with a GSM modem and a TSV9400S software, it permits to telecontrol and remote the NDB.

## MPSU1500 RECTIFIER CHARACTERISTICS

It supplies power 24V= to the whole NDB and ensures the charge of the battery.

- **Input voltage:**  
230V,  $\pm$ 15%, 47-63Hz
- **Power factor:**  
> 0.98 in rated charge
- **Performance:**  
90% in rated charge
- **Output power:**  
24V,  $\pm$ 0.5%, 50A
- **Battery:**  
24V/7AH (1 hour autonomy)

## TLC9200 REMOTE CONTROL CHARACTERISTICS

- option -

It allows the activation of the radiobeacon from the plane, via the transmission of a carrier wave on the VHF channel.

- Activation with time delay that allows the transmission during 30 or 60 minutes,
- Activation with the possibility of stopping the transmission with the help of a new VHF call,
- Maintenance of the VHF carrier during 10s in order to trigger or disable the station.

It is installed in the RBT9300MS cabinet, instead of 1U panel. The VHF antenna is fixed on the DAA9400MF cabinet.

- **Power supply (d.c. voltage):**  
24V
- **Radiobeacon's authorized consumption:**  
8A
- **Operating range:**  
118-144MHz
- **Channel spacing:**  
25kHz
- **Triggering level:**  
Set up from 1 to 20 $\mu$ V
- **Activation of the radiobeacon:**  
10s
- **Duration of the transmission sequence:**  
30 or 60 minutes (at user's discretion)

## DAA9400MF AUTO TUNING UNIT CHARACTERISTICS

It ensures the tuning and his automatic maintenance for the whip antenna or umbrella antenna, despite the possible variations of the tuning capacity caused by the climatic conditions on the site.

It is presented in the form of a 12U waterproof cabinet.

- **Supply voltage (d.c.):**  
24V (typical)
- **Consumption :**  
< 300 mA
- **RF carrier power:**  
50W NON/A1A - NON/A2A
- **Antenna impedance connection:**  
50 ohms
- **Antenna impedance adaptable:**  
5 - 7.5 - 10 - 15 - 20 - 25 ohms
- **Measuring on 50 ohms:**  
Forward power, reflected power, antenna intensity
- **Visual signaling:**  
Power supply, carrier, modulation, limit stop
- **Lightning protection:**  
Spheres discharger placed inside the cabinet

## ANTENNAS CHARACTERISTICS

These ANT9400P umbrella antenna and ANT9400F whip antenna have been designed for temporary installations. They can be erected by two people in less than an hour.

They are made up of the following sub-assemblies:

- a mast made up of seven 1m elements,
- an insulated mast foot, fixed to the cabinet,
- three antenna guys,
- four antenna guys 3.20m conductors (ANT9400P).

The antennas are assembled in the horizontal position and then erected. The ground plane is essential to the operation of the antennas and is made up of six 40m conductors on reels.

- **Frequency ranges:**
  - ANT9400F: 260-535 kHz
  - ANT9400P: 205-650 kHz
- **Max. admissible power:**  
50W A2A
- **Antennas capacitance:**
  - ANT9400F: 120pF
  - ANT9400P: 170pF
- **Antenna fabric bag weight:**  
22 kg
- **Ground plane and accessories fabric bag:**  
25 kg
- **Antenna height:**  
8m

*NOTE: ANT9400P umbrella antenna with a superior capacitance is more suitable for a NON/A2A transmission.*



DAA9400MF CABINET

RBT 9300 MS

#### RBT9300MS CABINET

- Width : 535 mm
- Depth : 690 mm
- Height : 400 mm
- Weight : 41 kg

#### DAA9400MF CABINET

- Width : 535 mm
- Depth : 630 mm
- Height : 620 mm
- Weight : 35 kg



#### RF ANTENNA BAG

- Length : 1100 mm
- Width : 430 mm
- Height : 220 mm
- Weight : 22 kg

#### GROUND SYSTEM BAG

- Length : 470 mm
- Width : 360 mm
- Height : 220 mm
- Weight : 25 kg