

MW 100 W RADIOBEACON "OFF-SHORE" INSTALLATION

The radiobeacon RBT 9300 P is designed to equip "off-shore" platforms. Associated with the "Daisy" antenna, the transmitting range of this radiobeacon is around 200km (over sea propagation).

This radiobeacon constitutes a dual transmission unit in the 200-535 kHz range.



We developed the study of this radiobeacon in order to hit the following targets :

- high performances and utmost reliability,
- fast and simple installation and easy setting into service,
- easy maintenance.

The addition of a telemonitoring unit TSV 9400 P allows to monitor and to remote control the NDB.

INSTALLATION

Installation in a radio room :

Rack of 36 U, designed to accommodate the following :

- two transmitters EBT 9300 P, adjustable up to 100W NON/A1A - NON A2A,
- one automatic change-over unit BRB 9300 P, compliant with I.C.A.O. requirements,
- one charger/power supply unit.

Installation outside (on derrick, on a revolving support or on a holding mast) :

- Automatic tuning unit UAA 9400 P, in a waterproof cabinet,
- Daisy' antenna DASD 100 NM or :
- Automatic tuning unit DAA 9400 P, in a waterproof cabinet,
- one "long wire" helideck antenna system.

NOTE: *If the installation in a radio room is impossible, the radiobeacon may be installed in a waterproof cabinet, close to the antenna.*

CHARACTERISTICS OF THE TRANSMITTER EBT 9300 P

- **Power supply voltage :**
48 V d.c. (typical)
- **Frequency range :**
200-535 kHz - synthesized 100 Hz steps
- **Output power :**
Adjustable up to 100 W (400 W peak) on a 50 ohms load.
The power stage is composed of 4 "Mosfet" transistors mounted in "H", "D" class
- **Consumption for a 100 W carrier :**
< 3.5 A (carrier non keyed)
- **Modulation type :**
NON/A1A - NON/A2A
- **Modulation frequency NON/A2A :**
1020 Hz \pm 50 Hz, 400 Hz \pm 25 Hz
- **Distortion :**
< 5% at 95% modulation
- **Harmonic frequencies :**
< -45 dBc at the transmitter output
< -65 dBc after antenna
- **Spurious frequencies :**
< -45 dB compared with the carrier
- **Programming of the code signal :**
Up to 5 letters or numbers
- **Keying cycle :**
20 s in NON/A1A and 15 s in NON/A2A
Dot duration 120 ms. Possibility of indicating stand-by transmitter and power supply alarm between 2 code signals
- **Operation temperature :**
-20°C to +55°C
- **Storage temperature :**
-40°C to +70°C
- **Presentation :**
Drawer unit for 19" standard rack, height 2 U

RBT 9300 P

CHARACTERISTICS OF THE CHANGE-OVER UNIT BRB 9300 P

The change over unit ensures three functions :

- programming of the transmitters by means of LCD's and three control keys,
- checking of the operation,
- display of the parameters.
- **Programming :**
RF frequency, modulation type, modulation frequency, code signal
- **Display of the parameters :**
Supply voltage, direct power, reflected power, modulation rate in A2A, RF frequency, transmission type, modulation frequency, code signal
- **Change-over criteria :**
 - **Mode NON/A1A :**
Carrier reduction of more than 3 dB, absence of keying
 - **Mode NON/A2A :**
Carrier reduction of more than 3 dB, reduction of the modulation rate of more than 4 dB, absence of keying.
- **Telemonitoring of TSV 9400 P :**
The change-over unit has an interface series type RS232 for telemonitoring. The telemonitoring system is optional and permits to transmit the following information :
 - programming parameters,
 - d.c. supply voltage,
 - direct power,
 - reflected power,
 - transmitter On,
 - NDB alarm information,
 - emergency stop information.Allows to set into service or stop the NDB.
- **Dummy antenna :**
A 50-ohm load is incorporated in the rack, in order to enable the adjustment of the transmitters
- **Presentation :**
Drawer unit for 19" standard rack, height 2 U

CHARACTERISTICS OF THE "DAISY" ANTENNA DASD 100 NM

This antenna is based on the principle of the terminal capacity antenna, which gives a gain of about 6 dB compared with a classical antenna of same height.

It complies with the tightness standards and is mounted on 6 dampers.

- **Height :**
1.40 m
- **Diameter at the top :**
4.40 m
- **Mass :**
98 kg
- **Frequency range :**
200-700 kHz (self SED 20 100)
- **Admissible power :**
100 W NON/A1A - NON A2A
- **Impedance :**
50 ohms

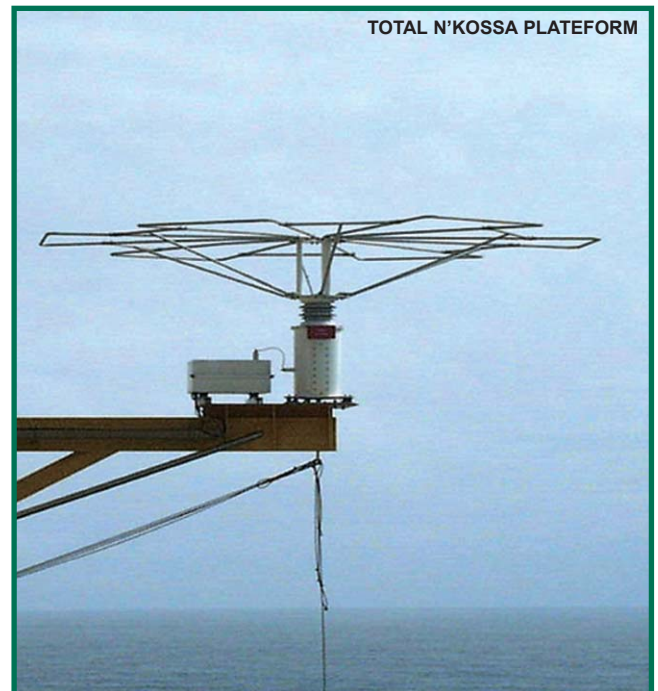


CHARACTERISTICS OF THE AUTOMATIC TUNING UNIT UAA 9400 P

Its ensures the automatic tuning unit of the radiobeacon antenna despite the possible variations of the tuning capacity caused by the fluctuations of the climatic conditions on the site.

It is housed in a waterproof cabinet equipped with dampers and is installed at the base of the "Daisy" antenna.

- **Power supply :**
48 V (typical)
- **Consumption :**
< 200 mA
- **RF carrier power :**
100 W NON/A1A - NON/A2A
- **Input impedance :**
50 ohms
- **Impedance transformer :**
2.5 - 5 - 7.5 - 10 - 15 - 20 ohms
- **Measure on 50 ohms :**
 - direct power
 - reflected power
 - antenna intensity
- **Lightning protection :**
Spheres discharger located on the cabinet

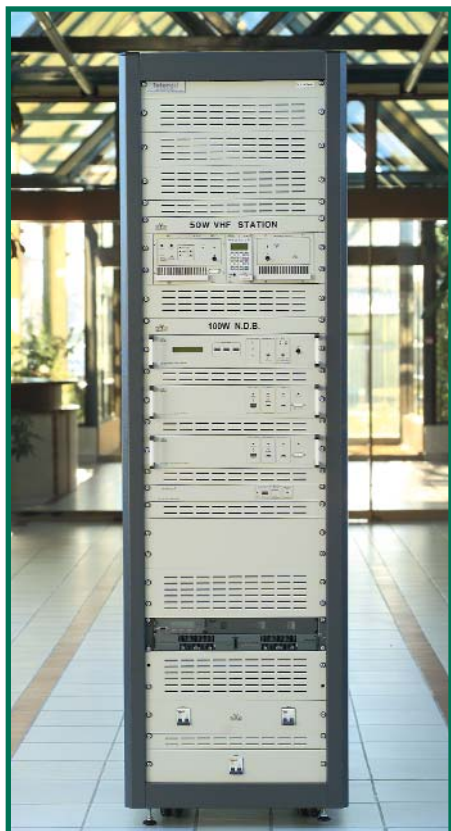


RBT 9300 P

CHARACTERISTICS OF THE AUTOMATIC TUNING DEVICE DAA 9400 P

It has the shape of a waterproof cabinet, equipped with bumpers. It is installed on the helideck platform and ensures and keeps the tuning of the "long wire" antenna, despite the possible variations of the tuning capacity, caused by the climatic conditions on site.

- **Power supply :**
48 V (typical)
- **Consumption :**
< 200 mA
- **RF carrier power :**
100 W NON/A1A - NON/A2A
- **Impedance of connecting antenna :**
50 ohms
- **Impedance of adaptable antenna :**
2.5 - 5 - 7.5 - 10 - 15 - 20 ohms
- **Measure on 50 ohms :**
 - direct power
 - reflected power
 - antenna intensity
- **Lightning protection :**
Spheres discharger located on the cabinet



VHF 50 W EQUIPMENT AND RADIOBEACON
ON TOTAL PLATFORM

CHARACTERISTICS OF THE "LONG WIRE" ANTENNA ON HELIDECK PLATFORM

The antenna is installed in the plane and around the helideck platform. The antenna wires goes round the platform and is isolated from the platform by fiberglass rods. The automatic tuning unit DAA 9400 P is right under.

- **Fiberglass rods :**
12, lenght 2 m
- **Antenna wire :**
Cable inox diameter 3 mm
- **Frequency range :**
200-700 kHz
- **Admissible power :**
100 W NON/A1A - NON A2A

