

200 W MF RADIOBEACONS NON/A1A - NON/A2A

The RBT 9400 NDB's have been developed in order to meet the operational needs of the Civil Aviation regarding en-route procedures. The equipment is compliant with I.C.A.O. requirements.

The RBT 9400 equipment, associated with the "Daisy" terminal capacity antenna, constitute a low-cost simple installation, "NDB" type.

Its performances are quite interesting since even at a very low altitude, significant carriers are obtained.

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

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

The NDB is synthesized, step 100 Hz. The output power is adjustable up to 200 W carrier on 50 ohms. Keyers are integrated in the transmitters. The identification signal may be transmitted in NON/A1A or NON/A2A. The equipment configuration (frequency - mode - code) is stored in EEPROM and can easily be modified from the change-over unit.

The RBT 9400 equipment is composed of :

- 2 transmitters EBT 9400,
- 1 automatic change-over unit BRB 9400,
- 1 charger/power supply unit, single or dual (option),
- 1 24 U or 36 U rack designed to receive the equipment above.



RBT 9400

OPTIONAL EQUIPMENT

The optional equipment include :

- **TSV 9400 *** :
Telecontrol system,
- **RCB 9200 P - RCB 9200 B *** :
Control receivers,
- **PSE 9300 *** :
Transmitter selection control.

* See specific documentations.

TELERAD NDB's

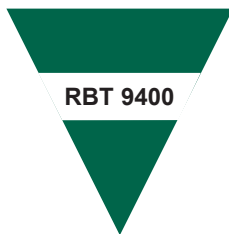
- **RBA 9300 T *** :
50/100 W VHF solar energy/remote controlled
- **RBM 9300 *** :
100 W transportable,
- **RBT 9300 *** :
100 W NON/A1A - NON/A2A,
- **RBT 9300 P *** :
100 W offshore installation,
- **RBT 9300-24 *** :
50 W NON A1/A-NON A2/A
24 V power supply

* See specific documentations.



TELERAD

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EBT 9400 - GENERAL CHARACTERISTICS

- **Power supply voltage :**
48 V d.c. (typical)
- **Frequency range :**
200-535 kHz (100 Hz step)
- **Output power :**
Adjustable up to 200W (800W peak) on 50 ohms load.
The power stage is constituted of 8 "Mosfet" transistors installed in "H", "D" class.
- **Consumption for 50W carrier :**
< 6,5A (carrier non keyed)
- **Modulation mode :**
NON/A1A - NON/A2A
- **Modulation frequency in NON/A2A:**
1020 Hz \pm 50 Hz, 400 Hz \pm 25 Hz
- **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 :**
20 s in NON/A1A, 10 s in NON/A2A
Dot duration : 120 ms. Possibility of indicating standby transmitter and power supply on battery between 2 code signals
- **Operating temperature :**
-20°C to +55°C
- **Storage temperature :**
-40°C to +70°C
- **Presentation :**
Drawer unit for 19" standard rack, 4 units height



BRB 9400 - GENERAL CHARACTERISTICS

The change-over unit BRB 9400 has been specially designed for RBT 9400 radiobeacon; it insures the following functions :

- Programming of the transmitters by means of LCD's and 3 control keys (frequency - code - mode).
- Checking of the operation, with changing onto the standby transmitter in case of failure of the normal transmitter.
- Display of the functioning parameters of the radiobeacon.
- Transmission of telemonitoring information.

Its characteristics are the following :

- **Programming of the frequency :**
200-535 kHz (100 Hz step)
- **Maximum admissible power:**
200 W carrier (800 W peak)
- **Power supply :**
48 V d.c. (typical)
- **Code signal programming :**
Up to 3 letters
- **Modulation mode programming :**
NON/A1A - NON/A2A
- **Programming of AF frequency :**
400 Hz or 1020 Hz (NON/A2A)
- **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 :**
 - NON/A1A mode : carrier reduction of more than 3dB, absence of keying
 - NON/A2A mode : carrier reduction of more than 3dB, modulation rate reduction of more than 4dB, absence of keying
- **Telemonitoring :**
The change-over unit has a RS232 serial port for telemonitoring. The telemonitoring system is optional and permits to transmit the following information :
 - programming parameters,
 - power supply voltage,
 - direct power,
 - reflected power,
 - transmitter switched on standby,
 - absence of mains,
 - limit stop information (for tuning unit),
 - external informations.
- **Telesignalling :**
Station on standby. Good operation of the change-over unit
- **Dummy antenna :**
A 50-ohm load is incorporated in the change-over unit, in order to enable the adjustment of the transmitters
- **Operating temperature :**
-20°C to +55°C
- **Storage temperature :**
-40°C to +70°C
- **Presentation :**
Drawer unit for 19" standard rack, 2 units height

RBT 9400

POWER SUPPLY RECTIFIER

The rectifier unit 48V 2 x 30A is associated with an assembly of leadproof batteries with a minimum capacity of 140AH.

Input specifications :

- **Input voltage :**
230 V a.c.
- **Input voltage :**
180-264 V a.c.
- **Frequency range :**
45-65 Hz
- **Input protection :**
 - protection against input rejection,
 - limitation of riging current,
 - protection against overload,
 - protection against overvoltage.

Output specifications :

- **Nominal power :**
54 V at 25°C
- **Adjustment :**
39.5 to 56.7 V d.c.
- **Nominal current :**
2 x 30A
- **Short-circuit protection**
- **Operating temperature :**
-10°C to +45°C
- **Storage temperature :**
-40°C to +85°C
- **Presentation :**
Drawer unit, 2 units height

AERIAL ASSOCIATED WITH THE NDB RBT 9400

The aerial, associated with the NDB RBT 9400, is :

- The "Daisy" antenna * and the automatic tuning unit UAA 9400 *.

* See specific documentations.

NOTE

In the case of a site with an aerial already installed, the automatic tuning device DAA 9400 T may be associated with the existing pylons and T antennas.

MAINTENANCE TOOL

In the absence of a change-over unit, the programmer PGM 9400 * permits the configuration of the transmitters and the display of the measures.

* See specific documentation.

