



NDB (Non-Directional-Beacon) Radio Transmitter

ALL-IN-ONE !
**NEW GENERATION NDB WITH ULTIMATE
CAPABILITY**
EASY AND LOW COST INSTALLATION
COVERS WORLDWIDE NDB SPECIFICATIONS

JTM-30C 100W PEP or 250 W PEP

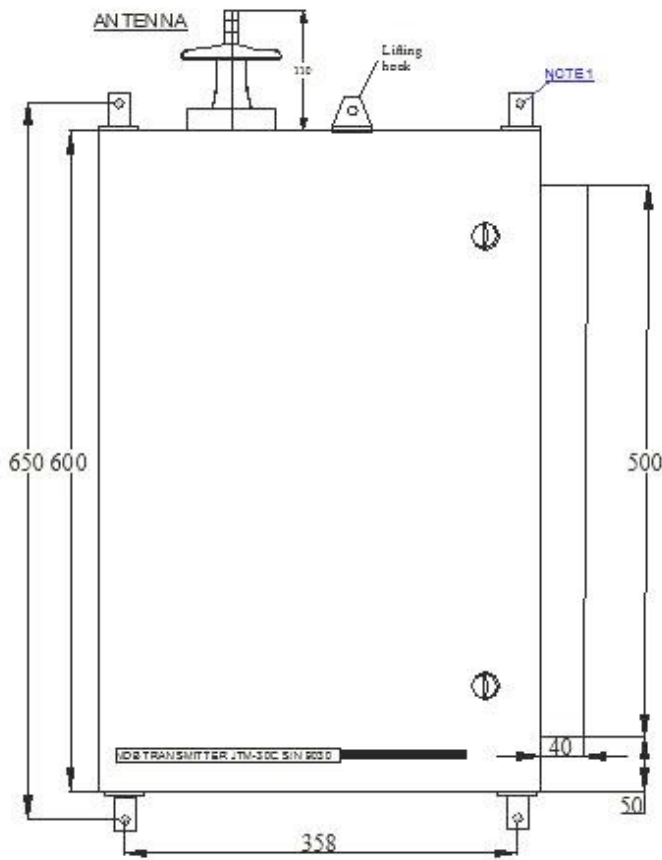


Transmitter Cabinet

IP66 protected

PC display

Control & Monitoring



NDB Transmitter B Active 11:11:18 MULTI SITE

Transmitter_A Transmitter_B System Event Log Calendar

Transmitter B Link sync

TRANSMITTER STATUS

ACTIVE TX ON CARR. MOD.

RUN TX POWER [W PEP] 111

MAN. TUNE TX CURRENT [A] 5,6

AUTO LEVEL VSWR 1,2

IDLE AMP TEMP. [C] 17

STOP AMBIENT TEMP [C] 28.3

SETUP

RF FREQUENCY 410,000 kHz READ

MODULATION TYPE MORSE N0N/A2A BLOCK B

RF POWER [%] 100 AM LEVEL [%] 95 MSK [BAUD] 50 TX RESET

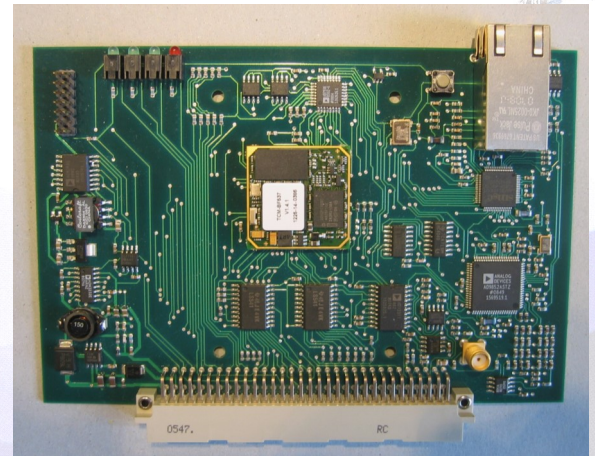
SEQUENCE TYPE UNTIL: UP-DATE

INTERVAL [MIN.] 35 RATE [CPM] 10 TONE [Hz] 400 SAVE

MORSE MESSAGE VVV VVV VVV QTG DE TES

TRANSMITTER INFO PWR CORR. 0.31 ALARM ACTION No shutdown RESET ACTION Halt TX SW VER. 11.3 TX TYPE [W] 100W CONFIG

NDB Exciter



NDB Remote Control

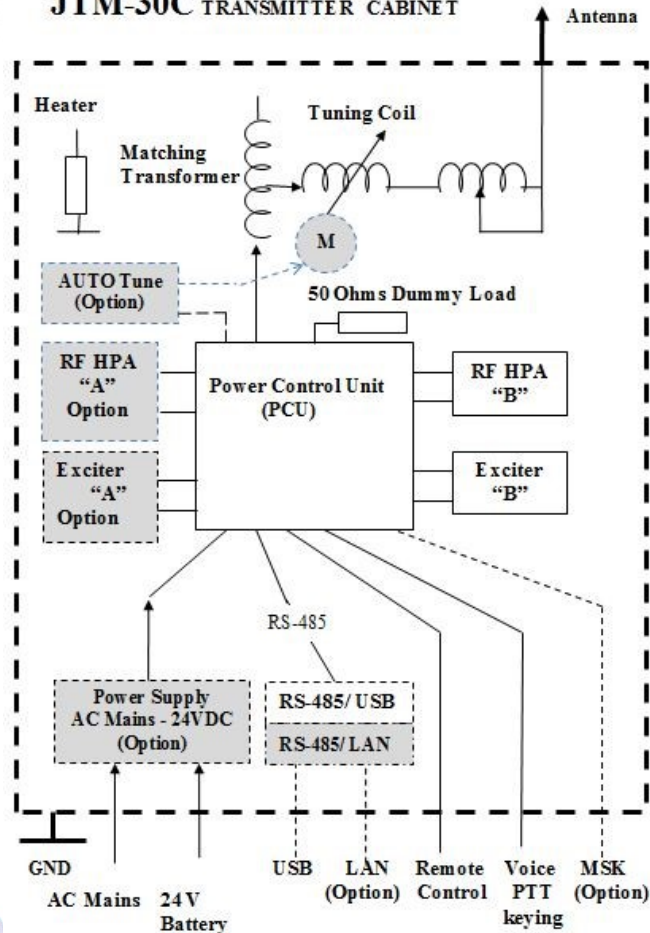
Options

1. DUAL Transmitter version
2. 250 W PEP RF Output from Amplifier
3. AUTO Tune version
4. AC /DC Power Supply arrangement (x)
5. Remote Control Units
6. RS-485/LAN converter arrangement
7. MSK Modulation

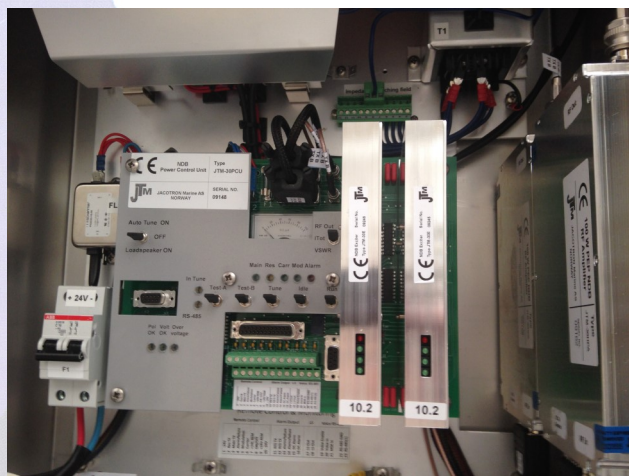
(x) As Single or Dual AC input power supply



NDB Non-Directional Radio Beacon



PCU, Exciter & HPA



The JTM-30C transmitter consists of one self contained unit (“all-in-one”) including Antenna Tuning & Matching circuits and all Transmitter functions all mounted inside an IP66 weatherproof and ruggedized cabinet.

As option a Power Supply (AC Mains to 24VDC), diode switching for DC Battery input, and JTM-485/LAN Interface box may be installed inside same Transmitter Cabinet.

The transmitter itself may be powered from any 24V DC source of energy and supply 100W PEP alternatively up to 250W PEP from the RF Amplifiers

The JACOTRON Marine JTM-30C is a Non-Directional Radio Beacon (NDB) Transmitter designed for onboard use on oilrigs and ships, as well as for other applications.

The JTM-30C is available in two different RF Power output versions (100W PEP or 250W PEP) and in:

Single NDB Transmitter configuration with one complete transmit chain

Dual NDB (or Redundant) Transmitter. This configuration has two complete transmit chains with fault detection/reporting and automatic changeover, common Antenna Tune.

Transmitter tuning to match the antenna impedance is a manual procedure. **Auto Tune Unit** is offered as an option.

The equipment is built upon a totally new concept for NDB transmitters utilizing digital Exciters. The transmitters have the following main features:

The carrier frequency may be tuned in steps of 1 Hz from 190 kHz to 2MHz. The output power is maximum 100W PEP, alternatively 250W, Peak Envelope Power (PEP) max from RF Power Amplifier. The Exciter provides full power control of the carrier. Frequency generation by Direct Digital Synthesis featuring high linearity and stability of carrier and modulation, low noise and excellent frequency accuracy.

The transmitters operate with N0N/A2A, N0N/A1A, or N0N/A3A emission. **MSK modulation is available as an option.**

A Timer function enables four different operational modus:

- ◆ Continuous operation with automatic keying repetition
- ◆ Transmit one Morse keying sequence only
- ◆ Transmit repeated Morse sequences with specified intervals
- ◆ Transmit the Morse keying seq. once for every spec. interval

Exciter enables programming of up to four (4) individual Morse sequence (Ship ID)

Flexible control & monitoring from a local PC via JTM485/USB2 unit or from any PC connected Internet via JTM-485/LAN unit.

JTM PC SW enabling both “Single Site” and “Multi site“ operation. In “Multi Site” modus it is possible to monitor & control up to ninety (90) world-wide remote located NDB Transmitter from one (1) PC over Internet through the JTM-485/LAN interface box.

The equipment is equipped with functions for monitoring of Power of carrier, modulation and failure.

Through the RS-485 interface, the following parameters may be read and/or programmed:

Carrier frequency - RF power - Modulation type - Morse - Audio or MSK (option) - Modulation depth - Morse tone frequency - Keying rate. Four different Morse messages can be typed in as plain text. Four different Morse sequence types may be selected.

The JTM-485/USB2 or JTM-485/LAN interfaces as remote control also has a built-in non-volatile memory sufficient for storage of the entire transmitter configuration, and enabling stand-alone un-attended operation. Saving the configuration in solid-state memory is controlled via the PC

In addition to the PC interface, the JTM-30C also offers an optional Remote Control Unit that can be attached via a separate galvanic isolated port to provide simple operation of the transmitter from a remote location. The Remote Control Units may be connected in chains to more than one location.

ELECTRICAL & MECHANICAL CHARACTERISTICS

| | |
|---|---|
| Versions of NDB equipment (all-in-one) | : Single – Dual Transmitter chain versions |
| Antenna Tuning inside Transmitter Cabinet | : Manual (AUTO-tune Option) |
| Modules inside Transmitter Cabinet | : Antenna Tuning, HPA, Exciter, PCU, PS, RS-485/LAN |
| External units | : Remote Control(s), RS-485/LAN |
| Comply to | : ICAO and other applicable requirements |
| The Transmitter itself operates from | : 24V DC +30% / -10% |
| Protection against | : Wrong polarity, overvoltage and overheating |
| AC Power Supply (option) | : AC mains 85—265 VAC input |
| Ambient operating temperature | : -35°C to + 55°C (Outdoor) |
| Humidity Transmitter & Power Supply | : up to 95% at + 40 °C (Outdoor) |
| IP Protection (transmitter) | : IP66 (Outdoor) |
| Indoor equipment (Remote Control) | : +10 °C to + 45 °C |
| Frequency range (by synthesizer) | : 190 to 2000 kHz in step of 1 Hz |
| Frequency stability | : 2,5 p.p.m. |
| RF Power Amplifier (Output adjustable) | : Up to 100W PEP (into 50 ohm), alternatively |
| RF Power Amplifier (Output adjustable) | : Up to 250W PEP (into 50 ohm) |
| Harmonic and spurious attenuation | : More than 60 dB below carrier |
| Noise and hum attenuation | : More than 40 dB below carrier |
| Power consumption (full power) RMS | : 175W (100W PEP) version and 300W on (250W v.) |
| Antenna impedance (resistance) | : R = 2 to 25 ohms |
| Antenna capacity | : C = 150 to 500 pF |
| Types of emission | : N0N/A1A, N0N/A2A or A3E |
| Modulation tone | : Any frequency 300-1350 Hz. Typical 400/1020 Hz. |
| Audio input for AM voice broadcasting | : 0 dBm 600 ohms with push-to-talk capability |
| Modulation AM (adjustable) | : 0 to 95%, max 5% distortion (Tone & voice) |
| Minimum Shift Keying (MSK) | : Option (RS-232 and serial input) |
| Morse Identification code and speed | : Any combination of code (512 bits), 3 -20 wpm |
| Morse sequence arrangements | : Continuous, One time, Once every, Until |
| Timing / Interval for operation | : 1 minute to 100 minutes |
| Monitoring and alarms | : RF output & keying seq., DC failure, TXA / TXB |
| Remote Control Unit (via wires) | : ON/OFF/Remote and LEDS for monitoring |
| Remote Control & Monitoring (from PC) | : Total Control & Monitoring from a PC via RS-485 Interface, by wires at distance up to 500m |
| “Single Site” and “Multi Site” operation | : Control & Monitoring of up to ninety (90) NDB Transmitters possible over Internet from one (1) PC |
| Transmitter Dimensions & Weight | : Height : 600 mm + Insulator 110 mm : Width : 400 mm + heat sink 40mm : Depth : 320 mm |
| Weight Transmitter Cabinet w/internal PS | : Weight : 34,0 kg (Single), 35,6 kg (Dual) |
| Transmitter Cable Glands | : 4 pcs PG16 + 1 pc PG29 |
| Power Supply (Option) | : Installed inside Transmitter Cabinet |
| Remote Control Dimensions & Weight (for installation in 19” Panels) | : Height : 110 mm : Width : 250 mm : Depth : 45 mm : Weight : 0,35 kg |

Subject to change without notice!



This product
fully comply to
CE and RoHS
Requirements.