

1984 - 2014



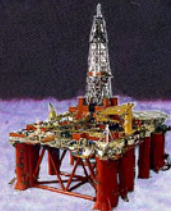
*Years of Quality*

# **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



## **TELE SUPPLY A.S**

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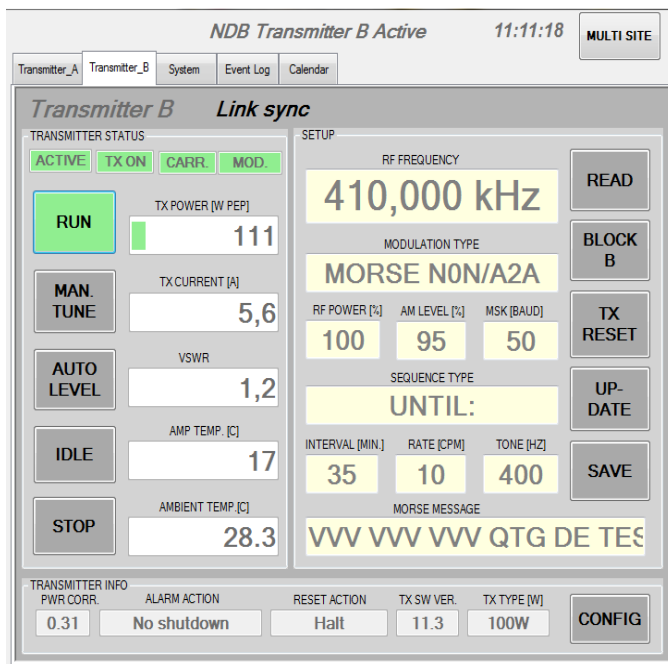
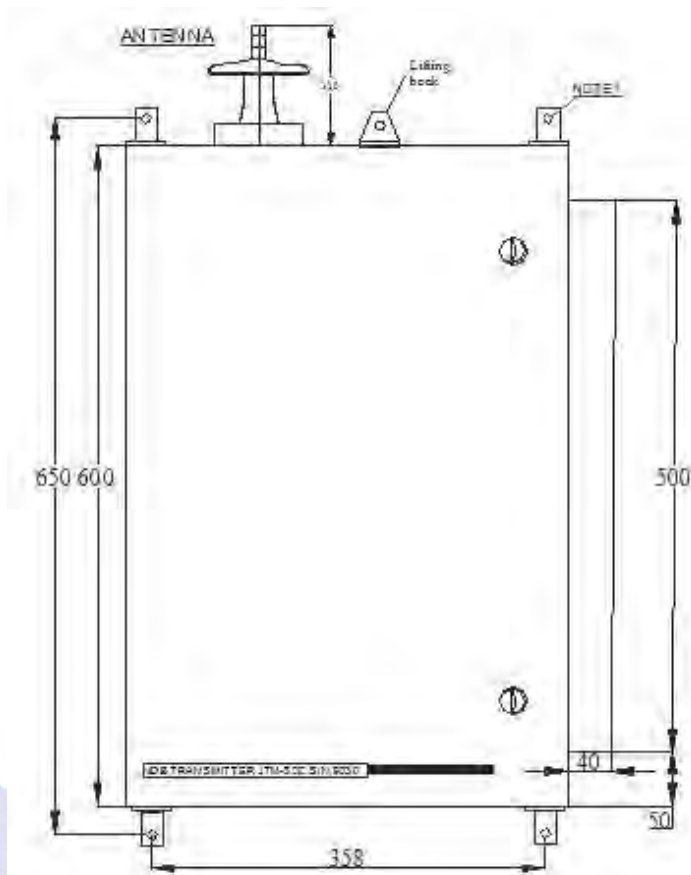


# Transmitter Cabinet

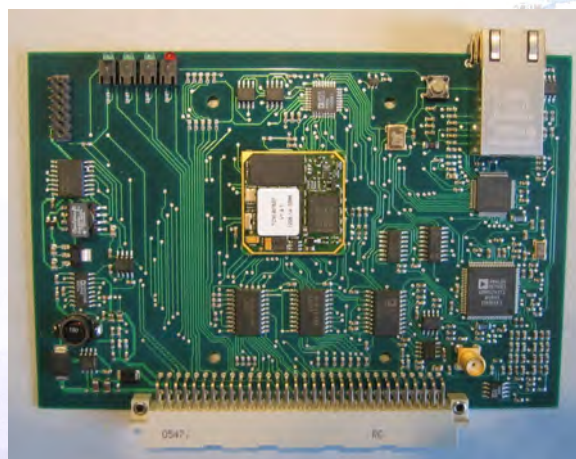
## IP66 protected

# PC display

## Control & Monitoring



## NDB Exciter



## Delivery Alternatives:

### Basic delivery

**NDB Transmitter Type JTM-30C, 100 WPEP, Manual Tuning, operating from 24V DC, without Power Supply and Remote Control Unit.**

**RS-485/USB Converter, SW and Documentation is included in basic version**

### 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

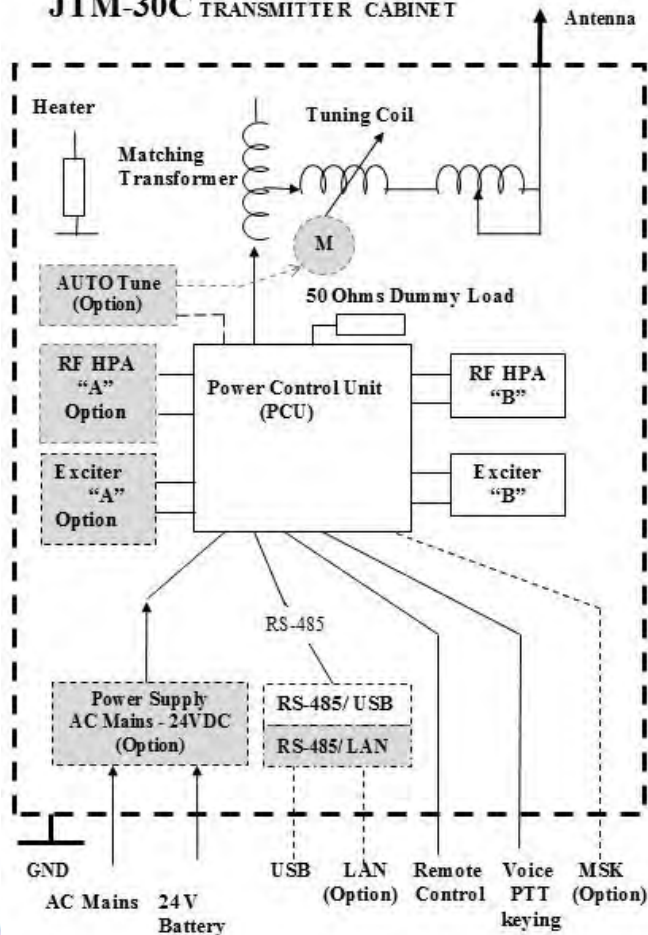
(x) As Single or Dual AC input power supply



## NDB Remote Control



## JTM-30C TRANSMITTER CABINET



## 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 RS-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 equipment may be monitored & controlled from remote located Remote Control, from a local PC, or from any PC worldwide if transmitter supplied with RS-485/LAN Interface box.

## NDB Non-Directional Radio Beacon

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 RS485/USB unit or from any PC connected Internet via RS-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 RS-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 RS-485/USB or RS-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 unattended 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.

A heater element is installed inside the cabinet to reduce humidity at low temperatures.

# 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	:	250W (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!

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