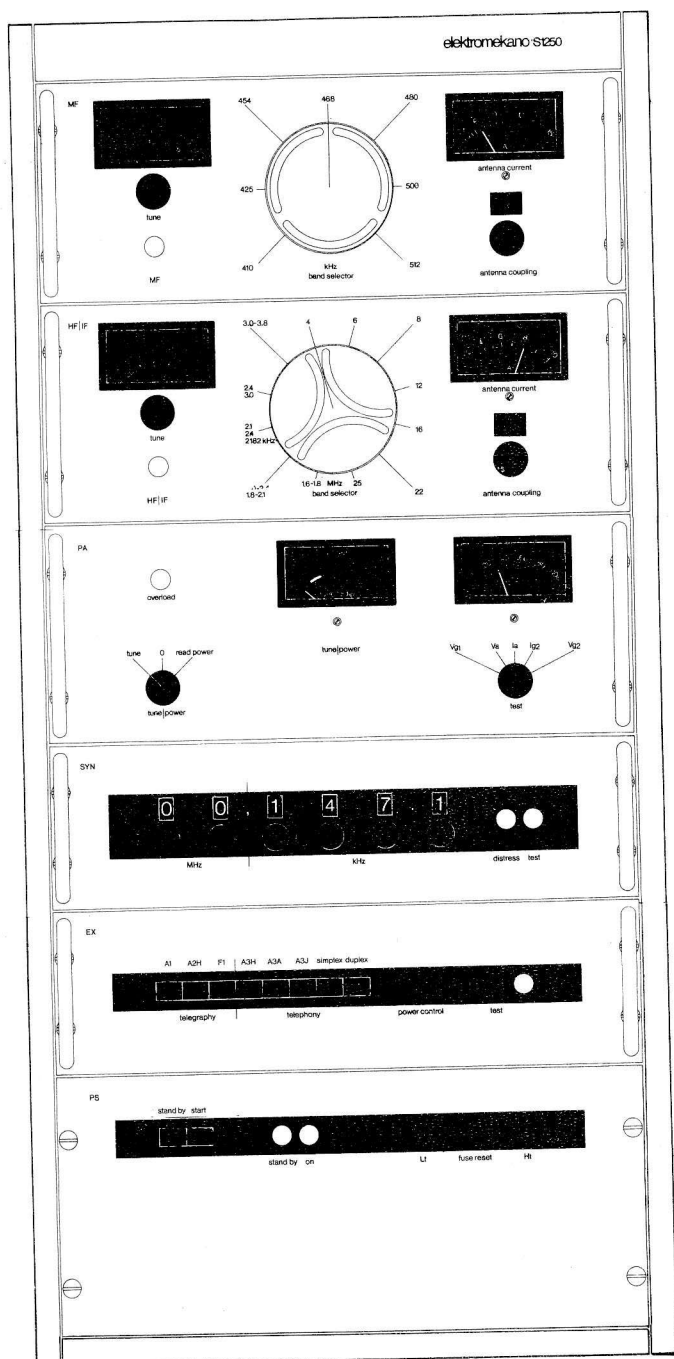


dansk radio aktieselskab



SSB-Main Transmitter

elektromekano S1250

full frequency coverage in all maritime bands by means of digital frequency synthesizer employing integrated circuits

extensive use of solid state devices for greater reliability

modular sub-unit construction facilitates servicing

simple operation

modern design

smaller size and weight reduce vibration-problems

Complying with the applicable rules
in the Radio Regulations, Geneva 1967,
and SOLAS, London 1960

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The ELEKTROMEKANO Type S 1250 is intended for use as a ship's main transmitter providing complete coverage of all frequencies in the maritime mobile bands for telegraphy between 405 and 535 kHz and of all frequencies in the maritime mobile bands for telegraphy and telephony between 1.6 and 27.5 MHz.

The transmitter complies with the relevant rules of the International Conference on Safety of Life at Sea (London 1960) and the Radio Regulations (Geneva 1957 and 1967), besides a number of national regulations. It also complies with the C.C.I.R. recommendation No.258-1 (Oslo 1966) in respect of S.S.B. equipment for maritime mobile use.

The transmitter consists of six panel units, the medium-frequency tuning unit, the high-frequency tuning unit, the power amplifier, the frequency synthesizer, the S.S.B. exciter and the power supply unit, which are housed in a single cabinet rack. The panel units are designed to conform to standard 19-inch rack dimensions.

SPECIFICATION

Frequency Ranges:

All desired frequencies are derived from a digital type synthesizer which covers the frequency range 0-30 MHz, the frequency increment being 0.1 kHz. The frequency synthesis method is based on phase-locking the output frequency to a fixed reference frequency. The transmitting frequencies are selected by six control knobs on the front panel of the synthesizer.

In the 405-535 kHz range the output circuit of the transmitter is pre-adjusted to seven different frequencies, 410, 425, 454, 468, 480, 500 and 512 kHz, which are selected by a single control knob. The antenna circuit is fine-adjusted by a separate control knob.

In the 1.6-27.5 MHz range the output circuit of the transmitter is pre-adjusted to twelve different bands within the range, i.e. the bands 1.6-2.0, 2.0-2.4, 2.4-2.8, 2.8-3.2 and 3.2-3.8 MHz in the intermediate-frequency range, and the 4-, 6-, 8-, 12-, 16-, 22- and 25-MHz bands in the high-frequency range. These bands are selected by a single control knob while fine tuning of the circuit to the frequency in question is made by a separate control knob.

Frequency Tolerance:

Short Term (15 minutes): ± 10 Hz
Long Term (3 months): ± 30 Hz

Frequency Checking:

The reference oscillator circuit is so arranged that the reference frequency can easily be checked against a frequency standard, e.g. one of the 5-, 10- or 20-MHz standard frequency transmissions. An ordinary receiver may be used for detecting the signals (beat-note method).

Types of Emission:

Telegraphy: A1, A2H and F1 (tone-shift, TELEX).
On A2H the modulation frequency is approximately 800 Hz and the carrier suppression 5 to 6 dB below p.e.p.

Telephony: A3H, A3A and A3J.
The upper sideband is transmitted.

Output Power:

405-535 kHz: 400 W p.e.p. to antenna

1605-3800 kHz: 400 W p.e.p. to antenna

4-27.5 MHz: 1500 W p.e.p. to antenna

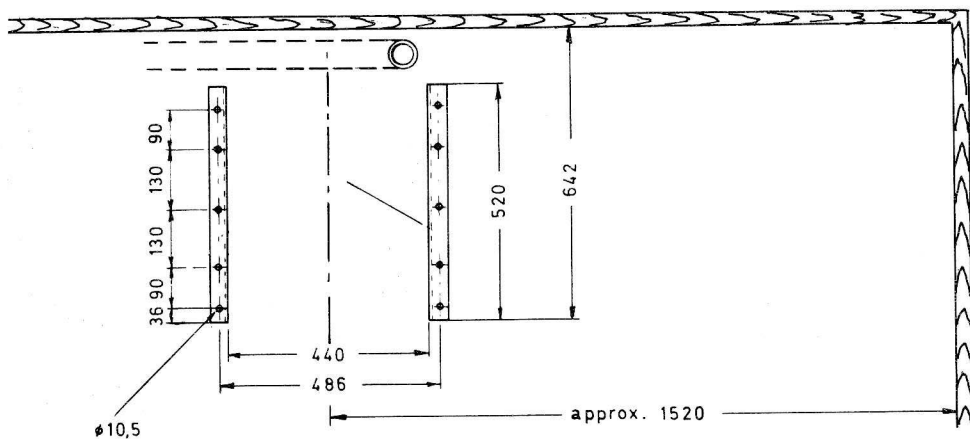
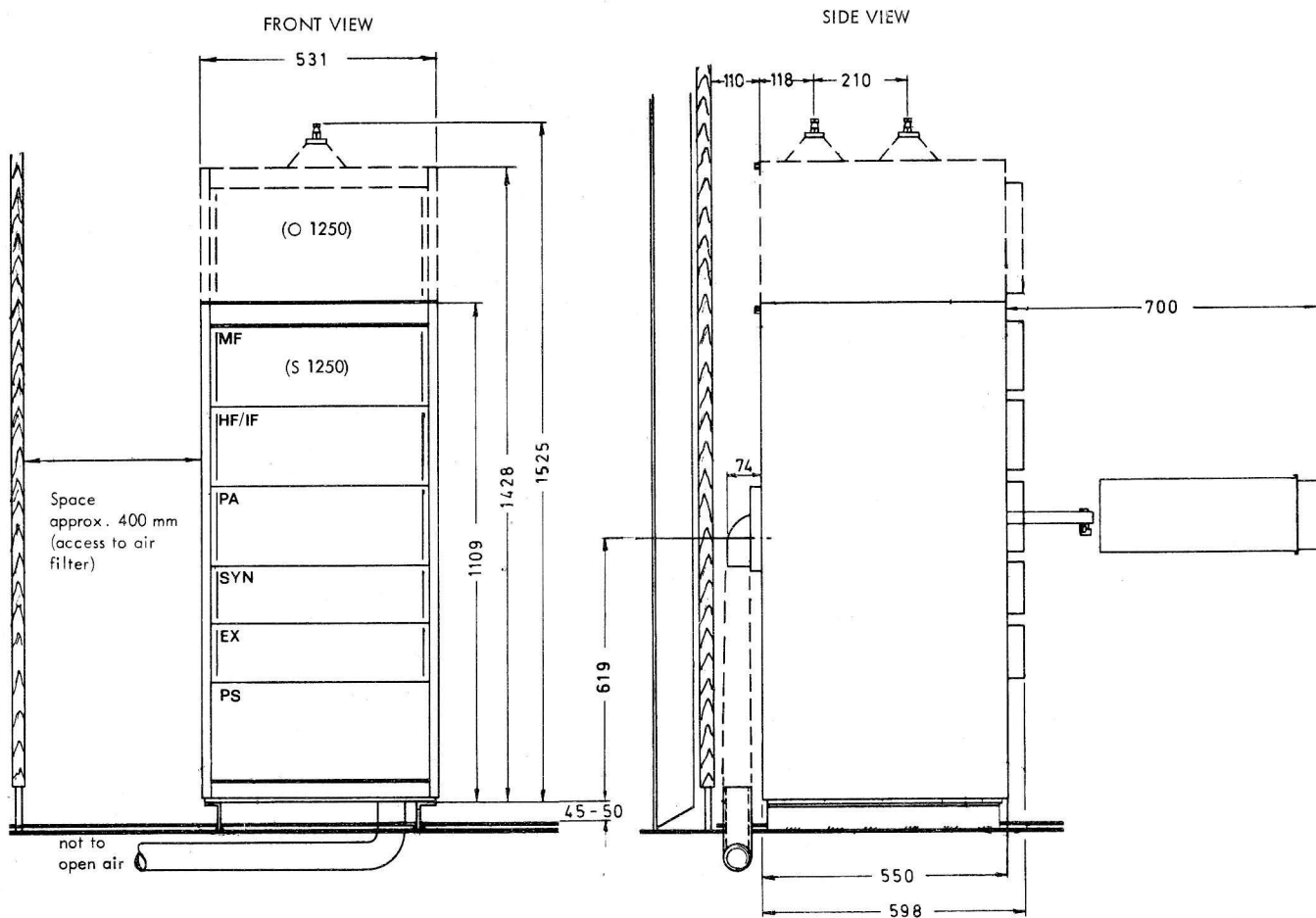
Power Reduction:

The output power can be reduced continuously from maximum output to zero.

Antenna Impedance:	The transmitter is intended for use on antennas with the following parameters: 405-535 kHz: From 1.9 Ω in series with 750pF to 3.6 Ω in series with 300pF. 1605-3800 kHz: From 6 Ω in series with 150pF to 40 Ω in series with 250pF and 8 μ H. 4-27.5 MHz: From 20 Ω to 2000 Ω (unbalanced).
Audio-Frequency Input:	Min. input voltage: 5 to 10 mV for full modulation. The input circuit is provided with attenuators for impedance matching and input level adjustment. Input for carbon microphone is standard. If required, a dynamic microphone may be used.
Audio-Frequency Band: Speech Compression and Peak Clipping:	350-2700 Hz within 6 dB. The A.F. amplifier includes a compressor which maintains the output power at an almost constant level, within 1.5 dB, for a microphone input level variation of 20 dB. In order to limit rapid signal peaks a clipper followed by a filter is inserted in the output circuit of the A.F. amplifier.
A.F. Distortion: Intermodulation Products:	Less than 10 %. In band: At least 31 dB below p.e.p. Out of band: 3rd order: At least 28 dB below p.e.p. 5th order: At least 38 dB below p.e.p. 7th order: At least 43 dB below p.e.p.
Spurious and R.F. Harmonic Suppression: Carrier Suppression:	At least 45 dB below the mean power of the fundamental. A3A: 16 \pm 2 dB below p.e.p. A3H: 5 to 6 dB below p.e.p. A3J: At least 40 dB below p.e.p.
Unwanted (Lower) Sideband Suppression: Hum and Noise: Unwanted Frequency Modulation: Keying Speed: Climatic Standards:	At least 45 dB below p.e.p. At least 45 dB below p.e.p. Less than \pm 10 Hz Up to 30 bauds (approximately 40 words/min.) The transmitter is designed and constructed to operate in ambient temperatures from -15 $^{\circ}$ C to +55 $^{\circ}$ C and in relative humidity up to 95 % at +40 $^{\circ}$ C.
Power Amplifier Valve: Power Supply:	Type 4CX1500B (8660) The transmitter is designed to operate from a 3-phase power source, 3x380 V or 3x440 V, 50 to 60 Hz. Mains voltage tolerance \pm 10 %.
Power Consumption:	Max. 3 kVA at a power factor of 0.95.
DIMENSIONS AND WEIGHT:	Height: 1300 mm (incl. antenna insulator) Width: 530 mm Depth: 600 mm Weight: approx. 220 kg

(All data are subject to possible alterations of design).

Outline and Mounting Dimensions S 1250 (O 1250)



All dimensions are in mm (NTS)

COMPLETE MARINE RADIO INSTALLATIONS ● RADIOTELEPHONE EQUIPMENT FOR SMALLER VESSELS ● MARINE RECEIVERS ● AUTO ALARMS
 DIRECTION FINDERS ● AUTOMATIC ALARM SIGNAL KEYS ● PORTABLE LIFEBOAT EQUIPMENT ● MOTOR LIFEBOAT EQUIPMENT
 SALINOMETER FOR FRESHWATER GENERATORS ● MEASURING INSTRUMENTS ● ECHO SOUNDERS FOR VERTICAL AND HORIZONTAL USE
 RADAR EQUIPMENT ● LORAN EQUIPMENT ● ANTI INTERFERENCE AERIAL EQUIPMENT FOR RADIO AND TV ● LOUDHAILER EQUIPMENT
 VHF MARINE TELEPHONE EQUIPMENT ● MAST AND ROD AERIALS ● FACSIMILE RECORDERS FOR WEATHER CHARTS. Please write for further details