

TECHNICAL DATA

Frequency range 1.5 to 29.999 MHz

Transmitter output power

- Full 1000 W ± 1 dB
- Reduced 500 W ± 1 dB

Modes of operation

- Frequency list scanning, programmable unrestricted
- Frequency list scanning, programmable unrestricted with automatic jamming
- Band searching, up to two bands simultaneously
- Band searching, up to two bands with automatic jamming
- Operation at single dedicated frequency, surveillance or jamming

List of friendly frequencies (forbidden for jamming)

up to 96

Jamming modulation sources

- Jamming modulation generator GEMOS
- Cassette recorder
- Telegraph key and
- Microphone

Jamming signal types (from GEMOS)

- Gaussian noise
- Carrier frequency FM modulated by Gaussian noise (FM noise)
- Linear FM signal (sweep)
- Binary FSK signal
- Tone
- Impulses, generated in pseudorandom manner or with predetermined time duration

All jamming signal parameters (sweep width, sweep time, bandwidth, binary FSK frequencies, etc.) can be varied by software means

Signal classification

- AM voice transmission A3E
- SSB voice transmission J3E
- Morse telegraphy A1A
- FSK transmission F1B
- Multichannel telegraphy transmission R7B
- Unmodulated carrier A0 noise
- Unknown modulation

The signal parameters like FSK mark and space frequency and the duration of Morse telegraphy impulses and pauses can be determined, too

Fast 1kW antenna tuner

- Tuning time
 - preprogrammed mode 20-50 msec
 - normal mode typically 400 msec
- Silent tuning
- VSWR < 2:1
- Number of preprogrammed channels typically 1024, programmable

Control

- stand alone mode: via built-in PC
- system mode: via line modem up to 56 kbit/s

Antenna subsystem

- Tx/ Rx whip antenna 10 m
- Tx/ Rx dipole antenna
- Rx active antenna
- Rx passive antenna (whip)
- Tx/Rx VHF communication antenna

Communication subsystem

- Telephone line using modem up to 56 kbit/s
- Option: Optical line terminal 8/155 Mbit/s
- VHF transceiver set

Power supply subsystem requirements

- 3-phase generator 3 x 380/220 V, 50 Hz, 15 kW
- Two battery 12 V / 135 Ah
- Maximum consumption 9 kVA, AC
24 A, DC

Environmental conditions

- Outside temperature -20 °C to +55 °C
- Temperature in the shelter +5 °C to +35 °C



Fast 1 kW antenna tuner

HF JAMMER 1 kW FULLY AUTOMATED RADIO SURVEILLANCE AND JAMMING SYSTEM

- HF band
- Frequency range 1.5 - 30 MHz
- Computer control
- Various automatic operating modes
- Output power 1 kW
- Complete signal analysis (including automatic real-time signal classification)



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Applications

HF JAMMER of 1 kW output power is the responsive jammer intended for jamming and deception of hostile voice and data radio communications in the frequency band from 1.5 MHz to 30 MHz. It can be used for jamming of tactical and strategic HF radio communications. The offered equipments are mounted in racks with shock absorbers, prepared for building in shelter on truck for mobile applications.

The jammer is fully automated and can be used in standalone mode or integrated in an adequate ESM/ECM system.

In the standalone mode operation the initial data are obtained from the PC keyboard. The operator-computer communication is simply performed through questions and offered answers using clicks and windows operating techniques.

In the system mode of operation the HF jammer is controlled by ESM/ECM control station via line modem.

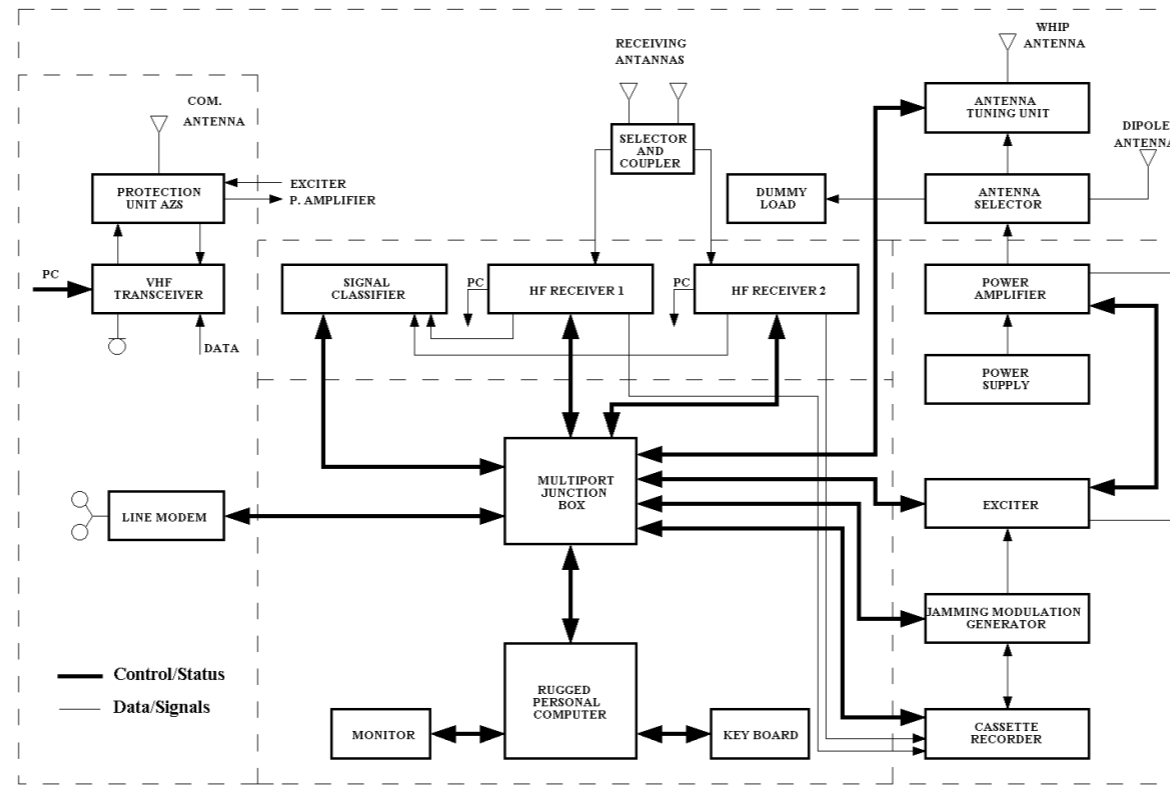
Basic configurations

HF Jammer contains:

- HF Exciter, 1.5 - 30 MHz,
- Power Amplifier 1kW, 1.5 - 30 MHz, including harmonic rejection filters, Tx/Rx switch, and power supply unit,
- HF Jamming Modulation Generator,
- HF Receiver, 250 kHz - 30 MHz, two units,
- HF Signal Classifier,
- Intercom-unit,
- Antenna Tuning Unit AAP-1000,
- Dummy Load,
- Rugged PC (Industrial version),
- Communications Transceiver set, VHF,
- Transceiver protection unit AZS,
- Line Modem, 56 kbit/s,
- Option: Optical line terminal 8/155 Mbit/s
- Tx /Rx Whip Antenna set,
- Tx /Rx Wideband Dipole antenna,
- Rx Wideband Antenna,
- Rx Wideband Active antenna,
- Rx antenna multicoupler and selector.

10 kW HF Jammer

- The Same concept and configuration,
- 10 kW Power output,
- Tx/Rx 10 kW Wideband Dipole Antenna



HF Jammer - block diagram



HF Jammer - inside

Main features

HF Jammer offers enhanced radio surveillance and signal analysis capabilities relying on the unique concept of two search receivers and signal classifier unit. The solid state amplifier, high-speed antenna tuner and efficient software algorithms enable a very short jammer reaction time.

Jammer Control software made in Visual C++ (Windows PC operating systems) enable control of all function of HF Jammer:

- Radio surveillance and jamming algorithms:
 - Frequency list scanning,
 - Frequency list scanning with automatic jamming,
 - Band searching,
 - Band searching with automatic jamming,
 - Operation at the single dedicated frequency,
 - Signal classification,
 - Spectrum monitoring.
- Control of radio receivers, exciter, signal classifier, jamming modulation generator, cassette recorder, antenna tuning unit and line modem.
- Control of 1 kW power amplifier via exciter
- Remote control of HF Jammer via line modem



HF Radio Signal Classifier and HF GEMOS