



JOTRON GROUP PRODUCTS

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www.jotron.com

Jotron Group introduction

Jotron AS develops and manufactures professional communication systems for all types of vessels and offshore constructions. Our core product range include GMDSS emergency radio equipment, EPIRB's, SART, AIS SART, Portable VHF Radio and Class A AIS. Additionally for use with SVDR systems a float free capsule combined with a sophisticated EPIRB module for storage of voyage data. Jotron AS also manufactures marking lights, personal strobe lights and SOLAS Approved lifebuoy / lifeboat lights.

Jotron Consultas AS is a specialist maritime software provider contributing to overall safety and efficiency in fleet management operations. Key products include; Loading Computer which meets the industry standards for loading calculations on most types of ships and rigs, and the Fleet Management Software suite providing a broad range of administrative software tools developed according to industry standards.

Jotron Phontech AS offers an extensive and flexible range of audio products which have been carefully designed and built for harsh maritime environments. The systems are in use worldwide on merchant ships, fishing vessels, tug boats, offshore supply vessels, as well as various navy ships and offshore oil and gas installations. Jotron Phontech supply solutions for the mandatory communication systems including public address (PA & PA/GA), automatic telephones (PABX), intercom, loud hailing, talk-back and sound reception.

Jotron SatCom AS has developed an innovative stabilized Ku-band VSAT antenna offering a simple and clean design. Using the latest technology allows high performance from a very compact and robust RF and electrical components. A broadband link using WLAN over coax up to the pedestal ensures fast remote or local upload of all software as well as powerful real time web based diagnostics with a webcam for inspection inside the radome.

Contact info: Back side cover

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MARITIME PRODUCTS

Tron 60S/GPS

Small, compact and sealed GMDSS EPIRB (Emergency Position-Indicating Radio Beacon). Complies to IMO, SOLAS regulation. Optimal visibility is achieved with high-intensity LED, located at the top of the antenna. No transport restriction due to the use of non-dangerous goods batteries. The new EPIRB is supplied either with a manual or float-free bracket.



Tron 40S/GPS MkII

GMDSS float-free satellite, EPIRB. 5 years warranty. Non hazardous battery. Compact model. Flexible mounting. Designed for fast and easy service and maintenance. Operates on the COSPAS - SARSAT frequency 406 MHz. Identification and positioning via satellite. Transmits also on the air traffic emergency frequency 121,5 MHz for homing. Complies with IMO/SOLAS/GMDSS regulations. MED and FCC approved. Service stations worldwide.



Tron AIS-SART

- Tron AIS-SART gives the exact location, with GPS precision
- VHF signals are being transmitted on AIS Channel A and B
- Position update - every minute

GMDSS Search and rescue transmitter. 5 years warranty. Non hazardous battery. Tron AIS-SART (search and rescue transmitter) is designed for use in search and rescue operations. Complies with IMO/SOLAS/GMDSS regulations. MED and FCC approved. Service stations worldwide.



Tron SART20

GMDSS 9 GHz radar transponder. 5 years warranty. Non hazardous battery. Tron SART20 (search and rescue radar transponder) is designed for use in search and rescue operations. Tron SART20 gives the exact location of the distressed indicated on the radar X-band display of any nearby ship, SAR vessels and aircrafts. Complies with IMO/SOLAS/GMDSS regulations. MED and FCC approved. Service stations worldwide.



MARITIME PRODUCTS cont.

Tron 45SX

Operates on the COSPAS-SARSAT frequency 406 MHz. Identification and positioning via satellite. Transmits also on the air traffic emergency frequency 121,5 MHz for homing. Easy mounting with bulkhead mounting bracket. Optional container for alternative use. Manual or sea water activation. Manual switch panel and strobe light. Light weight and small size. Standard 48 hours operational time.



Tron TR20 GMDSS HANDHELD VHF RADIO

Rugged VHF radio for emergency situations and regular use for onboard communications. Easy to operate by one hand or wearing gloves. Both display and keys have back light facility to ease operation in low light conditions. Channels: 21 channels, including channel 16. Watertight to IP67. Complies to ETS 300 225 and IMO/SOLAS/GMDSS regulations. MED and FCC approved.



Tron AIS TR-8000

Separate display and transceiver unit, 7" Touch Screen Display, compact design for easy installation. Console or desktop mounting, combined Junction-box/transceiver unit included, display rated to IP54. Compliant to in-land waterways requirements, easy ECDIS interface, software upgradable.



Tron AIS TR-2600

Designed to meet or exceed current specifications from IMO, IEC and IALA. TR-2600 with its dedicated Base Station Controller (BSC) can operate as a stand-alone unit, or together with a standby unit in a hot standby configuration. TR-2600 can easily be interfaced to customised coastal surveillance systems, combining radar and AIS surveillance. All configurations can be done via the 10Base-T Ethernet interface or via a RS-422/232 serial line.



MARITIME PRODUCTS cont.

S-VDR FLOAT-FREE STORAGE CAPSULE

Tron S-VDR CAPSULE is a GMDSS EPIRB with integrated GPS and also a Storage Media for S-VDR (Simplified Voyage Data Recorder). It will at all times have in store a loop of the latest 12 hours recorded data provided from the S-VDR system installed on board the vessel. Floating at the water surface keeping the S-VDR information available even if the vessel should sink. No need for expensive and time consuming under water search as required for a fixed capsule.



Tron SL-100

LIFE JACKET LIGHTS

SOLAS approval pending, sealed, small and compact, 5-years sealed battery (non dangerous goods). 1 Candela light intensity, unbreakable high intensity LED.



Tron SL-101

LIFE JACKET AND SURVIVAL SUIT LIGHTS

SOLAS approval pending, sealed, small and compact, 5-years sealed battery (non dangerous goods), 1 Candela light intensity, unbreakable high intensity LED.



Tron SL-300

LIFE BUOY LIGHTS

Approved according to SOLAS, sealed, small and compact, 5-years sealed battery (non dangerous goods). 2 Candela light intensity, unbreakable high intensity LED.



Tron SL-400

LIFE BOAT LIGHTS

Approved according to SOLAS, sealed, small and compact, 10-30 VDC external power and flange mount. >4,3 Candela light intensity, unbreakable high intensity LED.



PHONTECH COMMUNICATION SYSTEMS

CIS 3100 - COMMAND INTERCOM SYSTEM

Command Intercom System CIS 3100 is especially designed for important communication links onboard ships and boats. The new design is very compact, and the performance is extended by use of microprocessor technics. System **CIS 3100** consists of a line of 3 different master stations; type 3100 (5 ext.), type 3101 (10 ext.) and type 3102 (20 ext.), together with various quantities of substations of 9000 series. System **CIS 3130** consists of 1 master station type 3130, 1-4 remote stations type 3131/3132, and up to 15 substations selected from the standard range.



CIS 3100



CIS 3101



CIS 3102



CIS 3130



CIS 3132

BTS 4000 - BATTERYLESS TELEPHONE SYSTEM

System BTS 4000 is an emergency telephone system without the requirement for any external power supply. All energy required for 4-6 minutes of continuous operation is produced by the call generator. The system is equipped with a sophisticated, extremely low power amplifier with high power and low distortion output. The amplifier is integrated in one of the telephone units to reduce the installation cabling. The system may also be connected to 24 VDC power supply to ensure continuous operation under normal conditions. The system automatically switches to batteryless and emergency operation in case of mains failure.

The system is based on three types of units; 4050-single line (direct call), 4060-12 lines version and 4040-24 lines version. Any configuration needs one master telephone with a built-in amplifier, either 4051-single line or 4060-12 line version. For the 24 lines version a separate speech amplifier type 4000 is needed.



BTS 4060

DICS 6100 - DIGITAL INTEGRATED COMMUNICATION SYSTEM

The DICS 6100 Integrated Communication System is a digital communication system meeting all aspects of internal and external communication onboard ships. Based on the latest technology its flexible configuration is a cost effective solution for Intercom, Telephone, Public Address, Alarm, Loudhailing and Entertainment.



DICS 6113



DICS 6110



DICS 6112



DICS 6101



PHONTECH COMMUNICATION SYSTEMS cont.

SPA 1500 - PUBLIC ADDRESS SYSTEM

The SPA-1500 system is a standard marine Small Public Address system, especially designed to cover the need for PA and entertainment distribution on-board small and medium size vessels. This system has a very compact design, but promises much of the functionality of larger systems. The customers may choose between many optional functions/facilities, and thus obtain an almost tailor-made PA system.



SPA 1500



SPA 1501



SPA 1506



SPA 1530

MPA 1600 - PUBLIC ADDRESS SYSTEM

The MPA 1600 is a marine and offshore Public Address System, especially designed to meet the requirements for PA/GA and entertainment distribution on-board ships and mobile offshore units. The system conforms to SOLAS, IMO and IEC regulations. Based on modular design and flexible configuration, the system covers a wide range of installation complexities from small single loop to fully duplicated systems utilizing total redundancy.



MPA 1601b



MPA 1601a



MPA 1603



MPA 1610



MPA 1600



PHONTECH COMMUNICATION SYSTEMS cont.

PAGA 1700 - PUBLIC ADDRESS & GENERAL ALARM

The Phontech 1700 PAGA is designed to meet the tough requirements for PAGA systems to the oil and gas - and other industrial applications, both off-shore and onshore. The system will distribute messages and alarms with special focus on ease of operation and safety, speech intelligibility, reliability and fault tolerance. In addition, the system has built in self test and monitoring functions for easy and cost efficient maintenance.



PAGA 1653



PAGA 1652



PAGA 1700

ICS 6200 - INTEGRATED COMMUNICATION SYSTEM

The new ICS 6200 Integrated Communication System is a digital communication system meeting all aspects of internal and external communication, information exchange onboard vessels, offshore installations and to/from onshore operation centres. Based on the latest computer technology, it's flexible configuration is a cost effective solution for Intercom, Telephone, Public Address, Alarm, Loudhailing and Entertainment.

The modern architecture allows for network connection including cascading, remote service and interface to/ from other IP based systems and components.



ICS MULTIMEDIAPHONE



ICS 62xx



ICS 6224

SR 8200 - SOUND RECEPTION SYSTEM

The Sound Reception System SR 8200 is designed to be used on a one man operated bridge to receive sound signals from outside the wheelhouse. The system is in accordance with Det Norske Veritas (DNV) Rules for Ships, Part 6 Chapter 8 - Nautical Safety.

SR 8200 system is an acoustic electronic navigation aid to enable the officer on watch to hear outside sounds within frequencies 70-820 Hz, inside a totally enclosed bridge as an additional aid to perform his outlook requirement. By means of 4 pcs microphones 8201 mounted suitable outside, the main central 8200 will reproduce and amplify incoming sounds, and indicated approximate direction from where the sound is received.



SR 8200



CONSULTAS MARITIME SOFTWARE

C-LOADING - LOADING COMPUTER SYSTEM

- a loading computer system based on a 3D geometric model of the hull and inner structure

Consultas Loading Computer in version 4 "C-Loading" is a Loading Computer system, in which all calculations are based on a 3D geometric model of the hull and inner structure. C-Loading is a modular software system consisting of a wide range of function modules which can be assembled together with great flexibility. The modularity yields a Loading Computer solution which is tailored to the needs and requirements of each particular vessel type.



FLEET MANAGEMENT SOFTWARE

We offer a wide variety of solutions to assist users' working processes within planned maintenance, inventory management, procurement, QSE, documentation, forms, certificates, voyage reporting and fleet operations. Consultas Fleet Management Software suite version 4 represent a new generation software for our clients. The software comes with a dashboard functionality containing system info, user admin and setup.



C-PURCHASE

• Supporting the process from vessels' requisition through procurement and cost control

Consultas purchase system is designed to enable efficiency through the entire process from requisition through to delivery and cost-control. A two ways flow of data between C-Spares onboard and C-Purchase at the office support a transparent purchase and supply process, with improved data quality and a good foundation for making right decisions at all levels in the organization.



C-BUDGET

• Accountplan, budget and voucher system with summary reports

Consultas budget system, in use by many leading shipping companies, is designed to fully cover the budget process between fleet managers and the fleet as well as continuous cost control of expenses occurring. A close link with all transactions taking places in C-Spares onboard and C-Purchase in the office provide both vessel and purchaser with a continuous follow up and cost control of actual expenses versus budget.



C-MAINTENANCE

• Planned maintenance system with job status signing

C-Maintenance - a tool to plan, manage and sign onboard planned maintenance. The functionality supports both a centralized and decentralized working process, complies with class requirements and industry demands for statistical overview on fleet-wide basis.



CONSULTAS MARITIME SOFTWARE cont.

C-PROVISION

- **Vessel provision inventory system with ordering and stock control**

C-Provision enables the vessels to have a complete overview and control of the provision onboard with printing of requisitions and periodical reports. The Slopchest module enables printing of Slopchest price list and registration and printing of sale to crew. All necessary reports can easily be printed.



C-VOYAGE

- **Voyage planning, noon reporting and environmental accounting**

C-Voyage is available for both shipboard and shore office use. It enables the fleet to have a complete overview of the voyages with all data and reports. Daily transfer of data from the fleet provide the office with valuable information vessel(s) position, consumption analysis and environmental performance statistics.



C-EXPERIENCE

- **Tool for handling memos and sharing information and exchanging forms**

C-Experience is designed to standardise and improve information sharing within an organization. Internal and rational distribution, handling and sharing of memos, forms and documents. Data is stored by single or multiple categories.



C-SPARES

- **Vessel spare part inventory system connected to central office purchasing system**

Consultas spare part system is designed to enable efficiency in onboard spares and consumables inventory management. A two ways flow of data between C-Spares onboard and C-Purchase in office support a transparent purchase and supply process, improved data quality and foundation for making right decisions.



SATCOM

JOTRON B120

The Jotron B120 is an innovative stabilized antenna offering a simple and clean design. Use of the latest technology allows for high performance from very compact and robust RF and electrical components. A broadband link using WLAN over coax up to the pedestal, ensures fast remote or local upload of all software as well as powerful real time web based diagnostics with a webcam for inspection inside the radome.

The compact and robust designed platform can withstand the most demanding sea conditions. Our own designed advanced tracking receiver ensures optimum satellite tracking for all types of received carriers. Jotron B120 is fully flexible concerning integration with VSAT modems or other equipment. The Jotron B120 also gives full flexibility in combinations of satellite frequencies and polarizations including the super extended transmit band.



GROUND TO AIR COMMUNICATION

TR-810 VHF AM MULTI PURPOSE RADIO

The TR-810 is designed to meet future demands for a light-weight, rugged and flexible radio, specially designed for vehicle and desk-top applications. The flexible design is achieved by making the Operators Control Panel (OCP) detachable from the compact base unit. Communication between the two units is via standard CAT-5 cable. By being able to separate the OCP from the base unit, it opens up for three main user applications.

TR-810 variants: Desktop, Vehicle, Last Resort and Man Portable



7000 COASTAL VHF RADIOS

The VHF Coastal radio is for coast stations and offshore installations requiring high quality FM voice and digital selective calling (DSC) requiring FM voice and digital selective calling (DSC). The radio is intended for use primarily as a coast station providing communication between coast and ships. Jotron radios have a worldwide reputation for outstanding performance in harsh environmental conditions. The mechanical design of the transceiver is based on the well proven Jotron 7000 series. The radios got IP interface for VoIP, monitoring and control as well as a 4W E&M interface. Also available as separate receiver and transmitter.



7000 AIRBAND VHF RADIOS

The 7000 series VHF radios are intended for rackmounting at airports as well as onboard ships, oilrigs and helicopter-decks. The radio gives safe and easy ground to air communication. The radio combines excellent RF performance in congested areas, with advanced digital signalling technique, to cover the future radio communication needs for civilian authorities. Totally controlled by an ultra fast digital signal processor, makes the radio the ultimate choice for all professional ground to air communication, with easy control, no internal tuneable parts and improved reliability. The radios got IP interface for VoIP, monitoring and control as well as a 4W E&M interface. Also available as separate receiver and transmitter.



7000 AIRBAND UHF RADIOS

Jotron series 7000 UHF digital radios are designed to provide ground to air communication for professional users in the air defence frequency range. The radios provide excellent audio performance together with unmatched RF performance in tough electromagnetic environments. Voice over IP, AM and FM modulation, remote control via SNMP and high MTBF are factors that make this a necessary tool for the professional market. The radios got IP interface for VoIP, monitoring and control as well as a 4W E&M interface. Also available as separate receiver and transmitter.



GROUND TO AIR COMMUNICATION cont.

4000-SERIES UHF/VHF MULTIMODE DIGITAL RADIO

The Jotron 4000 series Multimode Digital Defence Communication Radio is intended for military communication applications. The radio is a multi purpose, multimode radio system covering both VHF and UHF ground to air band. The series 4000 radio system meet the present and future requirements of the ground to air communication. The equipment is highly modular with a construction for very rugged conditions. The modules fit in a standard 19-inch, 3 HU high subrack.



RRC 7700 - REMOTE RADIO CONTROLLER

VoIP based remote system –touchscreen operated. Operates up to 8 Transceivers from a single remote position. Multiple operators may utilize same radios from different positions. Uses IP technology to transfer both Voice and control data. Requires no voice switch – standalone system. Cost-effective alternative to conventional Voice Switches for Small/Medium size installations.



ICU - INTERFACE CONTROL UNIT

The ICU is intended to provide remote interface for ground station control, thus it has an ethernet connection to facilitate communication. The ICU and all of its functions can be remotely managed over SNMP using the particular MIB. The ICU used as an alarm interface can receive up to 18 digital inputs, 14 analog inputs, 7 current inputs and make this information remotely available. These inputs can be connected to various sensors to monitor the ground radio installation or building conditions. Optional GSM add-on module can be fitted to send SMS upon programmed events logged by ICU.



ARC MkII - AUDIO REMOTE CONTROL

This is an Audio Remote Control in 19" sub-rack format. The unit uses 4wire E&M format to transfer RX audio, TX audio, PTT and squelch. The ARC has intercom possibility: Several operators of the same radio can connect their ARC units in cascade as one master and several slave units. Internal loud-speaker with volume control, connections for headphone & microphone.



GROUND TO AIR COMMUNICATION cont.

DRC - DATA REMOTE CONTROL

The DRC is a Data Remote Control unit giving the remote operator access to all features of the Jotron 7000 and 9000 family of ground to air communication system. It can be used alone or together with the ARC, as a complete remote control unit with audio, PTT and access to all the radio features. The DRC operates with an RS-485 serial line. The DRC is a standard 3HU high and 21TE wide module, suitable for installation in a control panel or a 19" rack.



ORC - OPERATORS REMOTE CONTROL

The ORC is an Operators Remote Control unit that lets the operator select between preset frequencies on one or more radio units. The frequencies are stored in the radios and it shows the current operating frequencies. With the help of the up and down buttons on the front panel of the unit, up to 30 preset channels can be recalled. 4 different radios can be controlled at the same time, typically these are 1 main and 1 standby transmitter plus 1 main and one standby receiver, i.e. 4 radios operating at the same frequency.



APM - AUDIO & PTT MODEM

The Audio and PTT Modem (APM) is designed for use in ground to air communication systems that requires long distance remote control of audio, PTT and control signals through a two or fourwire leased telephone line. The system consists of one local and one remote unit. Both units are 1HU high (19 inches). The remote unit will be located together with the radio units and the local unit will be located together with a Voice Switch, ARC or similar.



RACS III - REMOTE ACCESS CONTROL SYSTEM

MS Windows based PC program for remote control and supervision of radio systems. The software enables the user with full access to all monitoring and control parameters on all radios on all sites connected via LAN. The program has an intuitive graphical interface which gives the user instant status of the system down to module level in the radio. The program stores all the events, and reports instantly the historic availability of the system. PC is not supplied by Jotron.



GROUND TO AIR COMMUNICATION cont.

SITE CONTROLLER

The site control unit acts as a remote interface unit between radio units on a site and a central computer or VCCS. The unit will interface all Jotron made radios to the local site network, regardless of the physical interface used by the radio. A central computer network may access this local site network by using the site controller as a gateway. In this way, a radio site can be monitored and controlled entirely using an RS232 line with a speed of only 19200 baud. The network structure is based fully on the internet protocol, using the well proven PPP (point to point protocol) over the RS232 line, for robust interface using any physical link.



VHF AND UHF POWER AMPLIFIERS

The Jotron Power Amplifiers are high performance Power Amplifiers, designed to operate together with the Jotron VHF and UHF airband radios. The units are designed to meet all the stringent requirement from the civil aviation professionals in the world. Following versions are available:

VHF amplifiers: PAV-200, PAV-100

UHF amplifiers: PAU-100, PAU-50 and PAU-100mil





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