



# INDUSTRIAL SOLUTIONS



# Special Display Solutions for Special Applications.

Today, displays are used in virtually every environment. Active in the monitor business since 1982, CONRAC concentrates on the development and supply of displays and system solutions for niche market applications with very demanding requirements.

To provide the customers with exactly the display solution and technology needed for their individual requirements is CONRAC's challenge. As a medium sized, hence very flexible company, CONRAC's uncompromising approach is to be not only a supplier but also the customer's partner from the conceptual design of the product through development and prototyping to series delivery.

## Markets.

From the ship's bridge to submarines, from railway control to air traffic control, from the harshest environments to medical imaging and diagnosis, CONRAC products provide exceptional quality and reliability in extremely demanding applications.



Kelvin Hughes



Industrial Workstation



Thales

# Experience.

Founded in 1956 CONRAC has always provided innovative technology. Ever since the late 60's, CONRAC has been developing display products for industrial applications. From the first information boards, first flight information display systems, first microprocessor-based data terminals, the first high resolution CRT monitors to today's flat panel displays, CONRAC has at all times played a pioneering role in the display business. Thousands of installations worldwide speak for themselves.

# Innovation.

Thanks to an advanced R&D Department with unique expertise and a Product Management with global market knowledge, CONRAC always keeps a step ahead. Special R & D teams for the individual market segments create highly engineered products of exceptional quality and reliability. Committed to technologically advanced and cost-effective display solutions, the company constantly improves existing products and develops new ones, using only the latest and most reliable technologies.

# Reliability.

All products are developed for 24/7 operation. The components and solutions have been designed and thoroughly tested for applications in tough environmental conditions. Extensive in-house test procedures ensure optimum performance and reliability. Each product must survive the test procedures which would destroy standard solutions. Compliance with CONRAC's very strict quality regulations are monitored at all stages of the production process. CONRAC is, of course, an ISO 9001 certified organisation.



Flat-screen production in Weikersheim



CONRAC headquarters, R&D and production

INDUSTRIAL SOLUTIONS

INDUSTRIAL SOLUTIONS



Flat-screen production in Weikersheim



**CONRAC has a long tradition of supplying display products for niche market applications.**

**There are many reasons for this.**

Everyone knows that to buy at the lowest cost is not always the most cost effective solution. CONRAC's approach is to reduce the total cost of ownership. From the first steps of development to the final product or system, all aspects of further use, maintenance and support are being considered to supply high quality products which will last for a long time.

## Customisation

**Customisation and OEM design** have always been a CONRAC speciality. CONRAC's modular product design allows adaptation to individual requirements. From minor modifications of the existing products to complex mechanical customisations, user controls and electrical changes, CONRAC provides the specific product required. This flexibility paired with the latest technological advances guarantees a premium solution for the customers' applications.

## Approvals

**Approvals for specific applications** require certain procedures and documentation. Experienced in customisation and OEM design, CONRAC does not only offer the customisation of the products, but also the necessary documentation, certifications and approvals of the customised solutions.

## Reliability

**Industrial solutions for 24/7 operation**, designed and tested for continuous operation in most demanding environment, guaranteeing reliability, durability, and a low failure ratio and hence, a reduced cost of ownership. It goes without saying that CONRAC offers long-term service and support.

## Availability

**Long-term availability.** Unlike in the consumer flat-screen business, professional applications require long-term availability of the products. CONRAC guarantees product availability and continuity even years after the first delivery.

## Serviceability

**Highly engineered products with modular design** on superior quality level minimise maintenance costs. The modular design allows rapid and cost efficient service. The industrial display series features integrated monitoring of the operating hours for easy maintenance planning. Furthermore, CONRAC offers tailor-made service concepts.

## Stability

**Robust aluminium housings** are a must for all industrial units. Depending on the application even with special coatings, e.g. for added protection against humidity, salt water, etc. as well as IP65 front panels/housings or other protective measures. For mobile applications, a multitude of mechanical configurations and environmental protection systems are available. Examples are enhanced shock and vibration resistance as well as heat management systems.

## Logistics Concepts

**Supply Chain Management** and special logistics concepts for the customers' individual requirements can be arranged. One possibility is for example to maintain a kanban system ensuring immediate product availability. A long experience with these procedures has proven this to be a very efficient solution.

## Performance

**Own electronics platform.** All CONRAC products are equipped with a high-capacity electronics offering state-of-the-art functions, connectors and controls. It generates a superior image performance regardless of the signal source. Being the heart of the products, this electronics platform is consistently being refined by CONRAC's most experienced R & D engineers.

## Latest Technology

**Use of the latest, most advanced display technology** guarantees superior quality.

# SHIP DISPLAYS

CONRAC offers a wide range of highly engineered Marine Grade LCD/TFT Displays specifically designed to withstand the harsh maritime environment. The SD-Series (Ship Display-Series) meets the stringent demands of the international standards for Maritime Navigation and Radio Communications Equipment & Systems and ECDIS (Electronic Chart Display Information System).

Used for ECDIS, Radar, ARPA (Automatic Radar Plotting Aid) or ship control, the displays' superior performance provides very clear and readable images regardless of the ambient light conditions.

## Products.



### **wideECDIS® MultiTask Monitors LCD/TFT Displays / 16:10 Format**

With the highly innovative wideECDIS® series of MultiTask Monitors, CONRAC continues to set the benchmark and introduces an entirely new generation of wide screen Radar and ECDIS displays.

The new 16:10 wide screen format allows to dramatically increase the amount of information displayed which is important for compliance with the new Radar standard.

The superior picture performance of the wideECDIS® monitors is achieved with high performance full HD (High Definition) panels in combination with CONRAC's latest state-of-the-art electronics.

Available screen sizes are 20, 26 and 27 inches, available with metal cabinet and as chassis-only versions for easy integration in customised housings or consoles.

### **LCD/TFT Displays / 4:3 Format**

High resolution multi-frequency TFT displays specially designed for shipborne applications.

Screens range from 17 to 23 inches and are available in various configurations: with metal cabinet, rack-versions, bracket-mount versions and chassis-only versions for easy integration in customised housings or consoles.

### **OEM-Versions**

Customised displays are available on request.



Kelvin Hughes / Raytheon Marine

# Features

## Features.

### Wide dimming range.

During night-time operations in bridge and wheelhouse environments it is vital to optimise the display brightness to the ambient light conditions for night vision capability. CONRAC offers fully dimmable displays.

### Contrast enhancing safety glass.

The use of laminated safety glass with high efficiency anti-glare treatment does not only maximise security and protect the display but also enhances image contrast.

### Special operating concept.

CONRAC's COS (Customised Operation System) allows adjustment of brightness alternatively using the traditional potentiometer control, hot keys or the integrated intelligent ALC (Ambient Light Control).

### Approvals.

Approved/built to meet IEC 62288 as well as IEC 61174 (ECDIS), EN 60936-1 (Radar), EN 60945 (Navigation), CONRAC Ship Displays are the ideal solution for the use in Integrated Bridge Systems.

### Extended temperature range.

Climate control and display heating for highly reliable operation under extreme temperatures.

### Corrosion protection.

Robust seawater resistant aluminium housing treated to protect from corrosion.

### Shock and vibration resistance.

Enhanced shock and vibration resilience ensures stable operation and long lifetime under critical ambient conditions.



Kelvin Hughes Integrated Bridge System  
Screen format 16:10



Kelvin Hughes Integrated Bridge System  
Screen format 4:3



Kelvin Hughes  
Queen Mary II

# ATC & INDUSTRIAL DISPLAYS

CONRAC provides a comprehensive range of high performance displays for very demanding industrial environments and Air Traffic Control. The highly engineered ID ATC-Series (Industrial Display/ATC-Series) meets the compulsory requirements of safety-related applications such as ATC, railway control, etc. All displays feature advanced performance characteristics and exceptional mechanical construction.

## Products.

### **LCD/TFT Displays / 4:3 Format 17" to 23" high resolution monitors**

High resolution multi frequency TFT displays specially designed for demanding industrial applications such as for example control rooms or control centers for traffic, air traffic or railway control.

Screens range from 17 to 23 inches and are available in various configurations: with metal cabinet, rack-versions, bracket-mount versions and chassis-only versions for easy integration in customised housings.



### **LCD/TFT Displays / 1:1 Format 28" 2K x 2K monitor**

High performance monitor for use as main display for ATC controller work positions. The display outperforms earlier generations of 2K x 2K LCD displays in almost every respect. Since its introduction, the 2K x 2K display has one of the largest installed bases worldwide. CONRAC's 2K x 2K monitor offers an extremely low cost of ownership due to long-life backlights and heat management.



### **LCD/TFT Displays / 16:10 Format 30" high resolution monitor**

High performance wide screen monitor used for example in industrial, medical and ATC/ATM applications such as those found in simulation or training. Unlike commercial PC monitors of the same format, the 30" ATC display has been designed to withstand more hostile operational conditions.



### **OEM-Versions**

Customised displays are available on request.

# Features

## Customised operating concept.

CONRAC's COS (Customised Operation System) allows adjustment of brightness alternatively using the traditional potentiometer control, hot keys or the integrated intelligent ALC (Ambient Light Control).

## Universal proprietary controller.

CONRAC's proprietary controller boards offer flexible input options: DVI, VGA, CVBS and S-Video inputs to suit any signal.

## High resolution.

Resolution formats of up to 2048 x 2048 are ideally suited for Air Traffic Control applications.

## Special backlight control.

Active decay compensation - an integrated special backlight control system - allows to compensate the loss of brightness of the backlights resulting in an extended display lifetime.

## Extended temperature range.

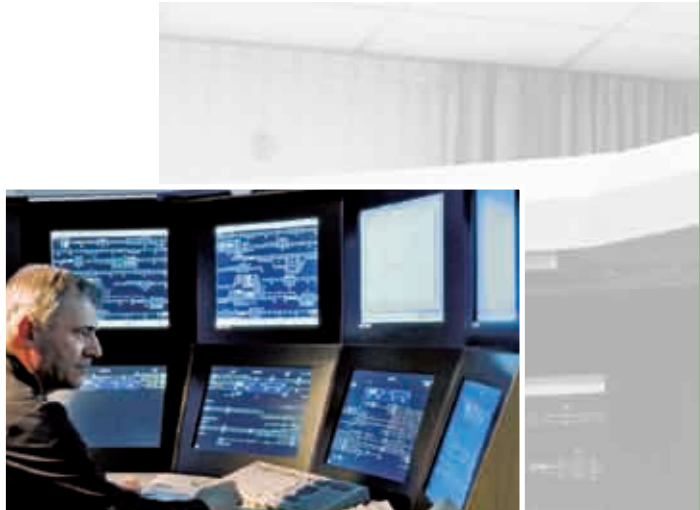
Climate control and display heating for highly reliable operation under extreme temperatures.

## Shock and vibration resistance.

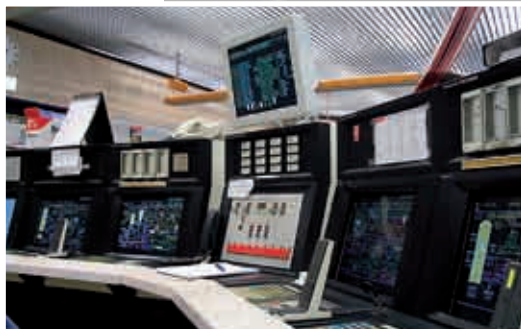
Enhanced shock and vibration resilience ensures stable operation and long lifetime under critical ambient conditions.

## Contrast enhancing safety glass.

The use of laminated safety glass with high efficiency anti-glare treatment does not only maximise security and protect the display but also enhances image contrast.



Railway control, ÖBB



Process control, Honeywell



Traffic control, BVG

# AUTOMOTIVE DISPLAYS

CONRAC offers a broad range of ruggedised LCD/TFT displays specially designed to withstand the toughest environmental conditions. A variety of features such as electromagnetic environmental interference protection, enhanced shock and vibration resistance, extended temperature range and many more make these displays ideal for the most demanding applications. Examples are mobile use in vehicles and shelters, ship- and airborne use, simulation and applications involving extreme magnetic interference.

## Products

### Products.

#### LCD/TFT Displays / 4:3 Format

Ruggedised high resolution multi frequency TFT displays specially engineered for use in harsh environmental conditions.

Screen sizes range from 15 to 20 inches. The AD-Series Displays (Automotive Displays) are available with rugged metal cabinet or as rack-/console-mount version.



#### LCD/TFT Displays / 16:9 Format

CONRAC's AD-Series of large screen full colour LCD/TFT displays uses superior full HD (high definition) panels. The wide screen displays are the ideal solution for the display of electronic charts, tactical situation reports and automation control information. The screen sizes offered range up to 57 inches, available with metal housing and additional shock mounts.



#### OEM-Versions

Customised displays are available on request.



## Features

### Features.

#### Shock and vibration resistance.

Enhanced shock and vibration resilience ensures stable operation and long lifetime under critical ambient conditions.

#### Extended temperature range.

Climate control and display heating for highly reliable operation under extreme temperatures.

#### EMI / Contrast enhancing safety glass.

The use of a special EMI glass with high efficiency anti-glare treatment does not only maximise security and protect the display but also enhances image contrast and reduces EMI.

#### Corrosion protection.

Robust seawater resistant aluminium housing treated to protect from corrosion.



6057 AD - Frigate F124

**Special operating concept.**

CONRAC's COS (Customised Operation System) allows adjustment of brightness alternatively using the traditional potentiometer control, hot keys or the integrated intelligent ALC (Ambient Light Control).

**Approvals.**

Approved to the relevant standards for mobile applications. Further approvals on project requirements on request.



Thales

# MEDICAL DISPLAYS

CONRAC develops and produces customised display solutions specifically designed for medical applications such as MR, CT, X-ray, ultrasound, endoscopy and patient monitoring.

CONRAC has been active in the research and development of solutions for highly demanding applications for many years. Based on the extensive experience, CONRAC developed a special solution for applications involving severe magnetic interference. This unique technique guarantees absolutely distortion-free performance in MR applications with magnetic fields of up to 3T.

## Features

**Features.**

- Customised design according to Corporate Identity
- Special operation concepts
- Remote control
- Customised OSD structure
- Compatibility with existing installations (special signal timings)
- Fibre optic input
- Customised signal inputs
- Gamma correction according to DICOM / CIE-LAB
- Defined factory set-up of the displays according to DIN 6868-57
- UL 2601 / EN 60601 approval
- Environmental testing (IEC 68-2)



 developed / designed / made in Germany

As an internationally operating company, CONRAC develops and produces High Performance Displays and Display Systems for professional and industrial applications.

We target OEM customers and project business in niche markets.

Headquarters:

CONRAC GmbH  
Lindenstrasse 8  
D-97990 Weikersheim  
Germany  
Tel.: +49-7934-101-0  
Fax: +49-7934-101-101  
E-mail: [info@conrac.de](mailto:info@conrac.de)  
[www.conrac.de](http://www.conrac.de)

Subsidiaries & Sales Offices:

CONRAC FRANCE  
7 rue Saint Christophe  
60300 Baron  
France  
Tel.: +33-3-44 54 96 99  
Fax: +33-3-44 58 55 09  
E-mail: [info@conracfrance.fr](mailto:info@conracfrance.fr)  
[www.conrac.fr](http://www.conrac.fr)

CONRAC Asia  
Display Products Pte Ltd  
82 Genting Lane #05-04  
Singapore 349567  
Tel.: +65-67 42 79 88  
Fax: +65-6747 39 33  
E-mail: [sales@conrac-asia.com](mailto:sales@conrac-asia.com)  
[www.conrac-asia.com](http://www.conrac-asia.com)

CONRAC MENA FZE  
Unit WB 03 - Block I /  
Warehouse 11 - Airport FZE  
PO Box 54592  
Dubai - United Arab Emirates  
Tel.: +9714-29 94 009  
Fax: +9714-29 95 587  
E-mail: [info@conrac.ae](mailto:info@conrac.ae)  
[www.conrac.ae](http://www.conrac.ae)

CONRAC South Africa (Pty) Ltd  
Block C  
Lifestyle Riverfront Office Estate  
Bosbok Road, Randpark Ridge  
Randburg  
South Africa  
Tel./Fax: +27-12-667 6055  
E-mail: [info@conrac.co.za](mailto:info@conrac.co.za)

CONRAC LTDA  
Latin America  
Carrera 14 # 96 - 82  
Bogotá  
Colombia  
Tel. / Fax: +57-1-34 65 338  
E-mail: [info@conrac.com.co](mailto:info@conrac.com.co)  
[www.conrac.com.co](http://www.conrac.com.co)

CONRAC Sales Office  
Southern Europe  
Via R. R. Garibaldi 30  
I-00145 Rome  
Italy  
Tel.: +39-06-45 43 92 02  
Fax: +39-06-45 43 91 79  
E-mail: [info@conrac.it](mailto:info@conrac.it)  
[www.conrac.it](http://www.conrac.it)

CONRAC Sales Office  
Northern Europe  
Pålsjöгатan 66  
S-25440 Helsingborg  
Sweden  
Tel.: +46-42-212 939  
Fax: +46-42-212 948  
E-mail: [info@conrac.se](mailto:info@conrac.se)  
[www.conrac.se](http://www.conrac.se)

*Technical specification subject to change without prior notice.*

GM 760.0130 - industrialsolutions\_rev01

