



# AIRPORT SOLUTIONS



# Destination Airport.

In the fast-moving airport environment, up-to-date information at the right time and place is absolutely vital. A modern airport without an advanced flight information display system providing high visibility flight, staff and baggage information is totally unthinkable. Large screen displays guiding the passengers have become a necessity.

But also the static advertising is gradually being substituted by digital large screen displays offering entirely new possibilities. A flexible mixture of sales promotion, video-clips and films is much more of an eye-catcher than any other type of advertising - infotainment rather than just advertising - a new source of future profit growth for the airports and a pleasant pastime for the passengers while waiting for their flights.

## Mission.

CONRAC's challenge is to provide their customers with the system solutions best fitted for their individual requirements. This means the ideal display technology, size, format, resolution for the information to be communicated. This means smaller sizes for check-in, mid-size for flight information or advertising, large screens for arrivals or departures, with the extra intelligence or an embedded controller if required. And this also means the design, colour, logo to suit airports', retailers' and architects' plans.



Warsaw Airport / Poland



Kuwait Airport / Kuwait



Changi Airport / Singapore

# Experience.

Founded in 1956 CONRAC has always provided innovative technology. Ever since the late 60's, CONRAC has been developing information display products for most demanding 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 airport business. Tens of thousands of public displays in over 200 airports 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. 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 the most demanding environments. Compliance with very strict quality regulations is monitored at all stages of the production process.

Extensive in-house test procedures ensure optimum performance and reliability. CONRAC is, of course, an ISO 9001 certified organisation.



Flat-screen production in Weikersheim

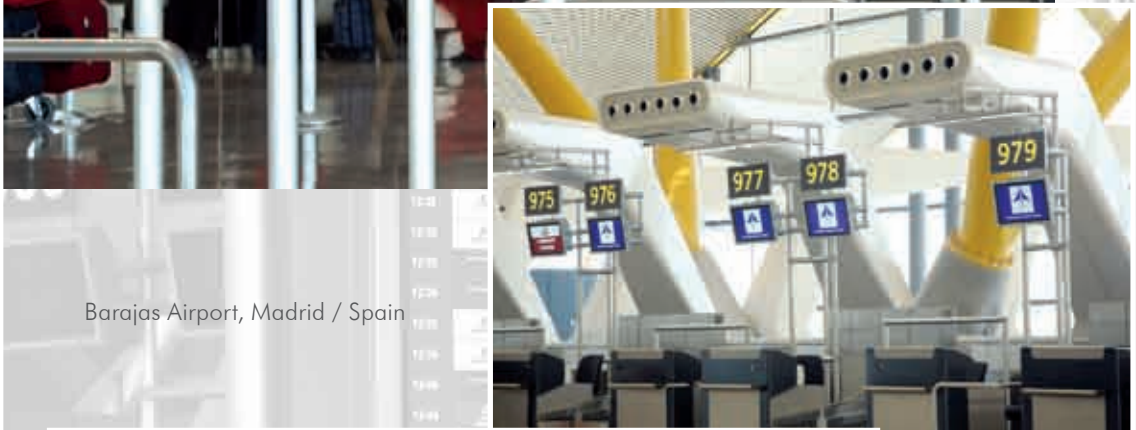


Flat-screen production in Weikersheim



CONRAC headquarters, R&D and production

AIRPORT SOLUTIONS



Barajas Airport, Madrid / Spain



**Airports choose CONRAC products since their introduction more than 35 years ago.**

**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. During all phases of development the target is a high-quality and durable product with low maintenance costs and incorporating the technology required for future uses.

## 24/7 Operation

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

## Performance

**Integrated controller.** CONRAC flat-screen displays with integrated Graphic Engine Board are intelligent terminals. Designed for 24/7 operation, this embedded solution offers an extremely reliable platform in networked applications. For maximum safety, the real time operating system runs on a compact flash card, avoiding failures, viruses and hackers. Remote monitor control allows monitoring and control of display settings such as stand-by, brightness and contrast, but also information such as temperature, maintenance status, etc. All displays are delivered with client display software including all licenses.

**Internal video interface.** The direct digital interface to the panel ensures superior image performance and efficient display control.

## 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 on a form-fit-and-function basis.

## Serviceability

**Modular design and easy access.** In busy airports, quick and easy access to the products' major components for maintenance purposes is essential to guarantee high availability. Time is money!

## Stability

**Robust fire-retardant aluminium housings** suitable for applications in public environments.

## Safety

**Laminated safety glass** with high efficiency anti-glare treatment, protecting the display from vandalism and ensuring the safety required in public areas. Furthermore, it allows cleaning without damaging the display panel. The anti-glare surface guarantees superior legibility from all angles.

**Protection against tampering:** external controls out of reach to avoid unauthorized accidental or deliberate interference.

## Flexibility

**Landscape and portrait mode** applications to suit all individual requirements.

# AIRPORT SOLUTIONS



Porto Airport / Portugal



## THE PROFESSIONAL DISPLAY SOLUTION FOR AIRPORTS.

**For airports, where 24/7 operation, utmost reliability and protection against vandalism, environmental effects like dust etc. are necessary, a Flight Information Display System using CONRAC Public Displays is the ideal choice.**

### Public Displays

#### Public Displays.

CONRAC offers a wide range of Public Displays covering all current screen sizes from small to extra large formats.

Due to the modular design of the products, many different configurations are possible:

- Public Displays for indoor use with IP20 housing
- Outdoor Displays with IP55 or even IP65 housing
- Chassis-only versions for installation in existing housings etc.
- OEM versions

The displays might even look the same, but the „inside“ can be completely different:

#### Public Display Monitors for connection to standard PC systems or external controllers

CONRAC's PD-series professional flat-screen displays in „monitor-only“ configuration are equipped with superior electronics offering state-of-the-art connectors, controls and functions. High-quality CONRAC signal processing boards make the most of the picture regardless of the signal source. Both PC and video performance are simply perfect.

#### Public Displays with integrated controller for networked systems

CONRAC flat-screen displays with integrated Graphic Engine Board are intelligent terminals. Designed for 24/7 operation, this embedded solution offers an extremely reliable platform in networked applications.

Remote monitor control allows monitoring and control of display settings such as on/off, stand-by, brightness and contrast, but also information such as temperature, maintenance status, etc.

The integrated controller facilitates landscape and portrait mode applications to suit all individual requirements.

A direct digital interface to the panel generates superior image performance without jitter, phase or scaling errors.

#### Different controller configurations can be realised:

For maximum safety, CONRAC offers their own real time operating system which protects against failures, viruses and hackers. This system runs on a compact flash card.

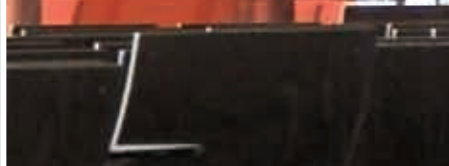
Alternatively, the integrated controller can be configured with Windows, Unix or Linux operating system.

If required, all displays are delivered with a client server software including all licenses.

For additional controller features there is the possibility to use Add-On Modules such as:

- WiFi Module for integration in a wireless network
- Video Rotator Module for real-time rotated video images for screens used in portrait mode
- TV-Tuner Module providing inputs for RF, S-video and CVBS signals
- HDTV Module providing support for the latest video formats

# AIRPORT SOLUTIONS



Charles de Gaulle Airport, Paris / France  
Aéroports de Paris

## THE SOPHISTICATED FIDS.

**Completing the range of airport-related equipment, CONRAC offers a sophisticated Flight Information Display System scalable to any size of installation.**

### MAXCS® Flight Information Display System.

MAXCS® is a highly innovative and future-proof product, easily adaptable to new operational needs at airports. System design in close co-operation with the customer ensures smooth operation and guarantees timely and reliable information of passengers and staff, trouble-free passenger handling as well as efficient and reliable procedures for freight and baggage handling.

MAXCS® controls all modern media e.g. WAP, SMS, etc. and offers full graphic and multimedia capabilities. The Page Editor and Page Configuration Tool which runs on each PC connected to the FIDS-Server allows easy import of new layouts.

Data handling is realised by standard database applications giving the customer the free choice. All interfaces are based on SQL or ODBC standards.

The most relevant interfaces are:

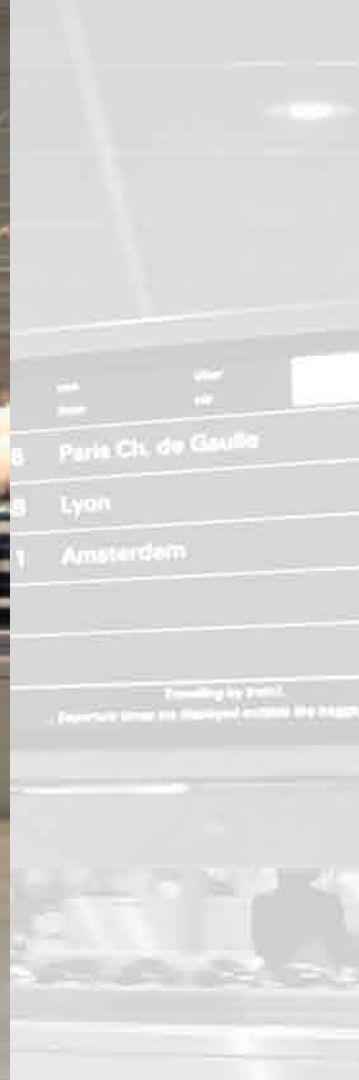
- AODB-interfaces (eg. UFIS, Inform, ISO, etc.)
- PostgreSQL
- Oracle OCI (Oracle Call Interface)
- Metar-Interface (Meteorological Aviation Routine Weather Report)
- FDI (FIDS Data Interface)
- Various text interfaces for data export and import

MAXCS®, CONRAC's information system offers state-of-the-art technology: Advanced features such as decentralised maintenance, remote status monitoring, flight tracking, wireless applications for operators, and many more.

For easy operation several optional software tools are available. Examples are:

- WebData applications allowing to view flight information and look-up tables from the entire database of the FIDS
- DMU (Device Monitoring Utility) allows to view information displayed on the displays connected to the FIDS system.
- DaViS (Data Visualization Staff) intended to view flight information, look-up tables, flight history and season-preview flights from the entire database. The users can define the desktop layouts according to the individual requirements.

Hardware  
Software  
Installation  
Service



Frankfurt/Main Airport / Germany





**Makes your display last longer.**

The typical requirements of public information systems, 24/7 operation and static images, are very demanding on the displays used. As a result of extensive R&D, decades of direct experience in the field and very close cooperation with key suppliers, CONRAC has implemented vital functions into their Public Display Series to guarantee trouble-free operation and to prolong lifetime.

### All Public Displays:

**eALC**  
Ambient Light Control

Automatic adjustment of the brightness depending on surrounding light conditions, maximises the image quality, prolongs display lifetime while minimising power consumption.

**eTCS**  
Temperature Control System

Active temperature control, monitors the heat level and controls the fans.

**eDPR**  
Dynamic Pixel Refreshing

A special system driving the TFT cells avoids image sticking and increases display lifetime considerably.

**ePXS**  
Pixel Shifting

Continuous shifting of the entire image in different directions prevents image sticking. At normal viewing distance, this is almost not visible. If required by the application, the shifting level can be adjusted manually.

**eSPM**  
Soft Picture Mode

An intelligent scaling mechanism smooths out extreme contrast transitions. This process avoids the so called boundary line image sticking, which occurs at „sharp“ transitions (e.g. black to white). If required, the degree of „softening“ can be adjusted manually.

### Monitor versions only:

**eDNC**  
Dynamic Noise Control

Intelligent algorithms suppress the „noise“ typical for analog signals, while optimising image performance.

**eDCC**  
Dynamic Contrast Control

A very complex technique allows incessant correction of both the backlight brightness and contrast of the TFT cells, resulting in a natural, very high-contrast image. Additionally, this results in a reduced power consumption.

**eBWE**  
Black and White Expansion

Optimises the display of very small details. Particularly in dark areas, even the smallest details - not visible on conventional displays - can be displayed generating an extremely brilliant and high-contrast image.

**eTMM**  
True Movie Mode

True Movie Mode uses special algorithms allowing film reproduction (DVDs) in amazing quality. This applies not only to commercial standard definition DVD material, but also to DVD films in HD 1080i (e.g. Blu-Ray).

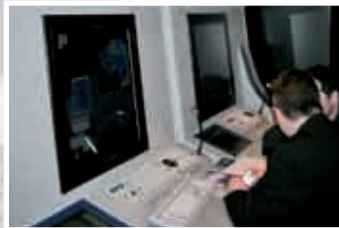


# References.

**Alabania** Tirana **Algeria** Alger **Argentina** Buenos Aires (Airports Ezeiza and Aeroparque Buenos Aires) ■ Santa Cruz ■ Cataratas de Iguazu ■ Honduras ■ Mendoza ■ San Miguel ■ Cordoba **Austria** Graz ■ Innsbruck ■ Linz ■ Salzburg **Belgium** Brussels (Zaventem Airport) **Brasil** Rio de Janeiro (Galeao Airport) **Cameroun** Yaounde-Nsimalen ■ Douala **China** Hainan **Colombia** Bogota (El Dorado Airport) **Croatia** Dubrovnik **Egypt** Luxor ■ Hurghada ■ Marsa Alam **Estonia** Tallinn **Ethiopia** Addis Ababa **Finland** Helsinki-Vantaa **France** Bordeaux ■ Cannes ■ Chambéry ■ Grenoble ■ Marseille ■ Montpellier ■ Nice ■ Nouméa ■ Paris (Aéroports de Paris) ■ Perpignan-Rivesaltes ■ Strasbourg ■ Toulon-Hyères **French Guyana** Cayenne (Cayenne Rochambeau Airport) **Germany** Berlin (Airports Schoenefeld and Tegel) ■ Bremen ■ Cologne-Bonn ■ Dresden ■ Duesseldorf ■ Frankfurt (Rhein-Main-Airport) ■ Hanover ■ Karlsruhe (Baden-Baden Airport) ■ Leipzig ■ Muenster-Osnabrueck ■ Munich (Munich II) ■ Niederrhein Airport ■ Stuttgart **Great Britain** Birmingham ■ Bristol ■ Guernsey ■ Manchester **Greece** Athens (Airports Athens and Sparta) ■ Alexandroupoli ■ Hania ■ Heraklion ■ Kalamata ■ Kavela ■ Kefalonia ■ Kerkira ■ Kos ■ Mikonos ■ Mitilini ■ Preveza ■ Rhodes ■ Samos ■ Santorini ■ Skiathos ■ Thessaloniki ■ Zakynthos **Italy** Alghero ■ Bari (Aeroporti di Puglie) ■ Bologna (Guglielmo Marconi Airport) ■ Catania ■ Lamezia ■ Pescara ■ Rome **India** Bombay ■ New Dehli **Iran** Mashad **Jordan** Amman **Kosovo** Pristina **Kuwait** Kuwait City **La Réunion** Airport Roland Garros **Latvia** Riga **Lebanon** Beirut **Lithuania** Vilnius **Luxembourg** Luxembourg Airport **Namibia** Windhoek **Nigeria** Abuja ■ Lagos **Pakistan** Islamabad ■ Lahore **Paraguay** Asunción (Silvio Pettirossi Airport) **Poland** Gdansk ■ Warsaw (Frederic Chopin Airport) **Portugal** Cabo Verde (Praia Airport) ■ Lisbon ■ Azores (Pico Airport) ■ Porto **Romania** Cluj ■ Sibiu ■ Timisoara **Russia** Moscow (Airports Domodedovo and Sheremetyevo) ■ Cherepovec ■ Kaliningrad **Saudi Arabia** Jeddah ■ Dahrhan (KFIA) ■ Riyadh (KKIA) ■ Taif ■ Bisha ■ Medina ■ Tabouk **Senegal** Dakar (Léopold Sedar Senghor Airport) **Singapore** Singapore (Changi Airport) **South Africa** Cape Town (D.F. Malan Airport) ■ Durban ■ Johannesburg **Spain** Madrid (Barajas Airport) ■ Ciudad Real (Don Quijote Airport) **Sri Lanka** Colombo (Bandaranaike Airport) **Sudan** Khartoum Airport **Sweden** Arlanda ■ Landvetter **Switzerland** Geneva ■ Zurich **Tahiti** Tahiti Faa'a Airport **Turkey** Antalya **United Arab Emirates** Dubai ■ Adis Abeba **USA** New York (J.F.K.-Airport) ■ San Francisco **Yemen** Aden

Extract only

# AIRPORT SOLUTIONS



WZ	AB	GF	SW	SS	SW	ABF	SWP
200	17	04	1340			010	2000
200	12	05	11810	24-00		010	2000
200	12	06	10890	24-00		010	2000
200	13	00	10000	00-00		010	2000
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200	13	04	11741	18-15		010	2000
200	14	14	10012	11		010	2000
200	15	10	1011	14-00		010	2000
200	15	11	1017	14-00		010	2000
200	15	11	10118	14-00		010	2000
200	15	14	1004	24-00		010	2000
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200	15	20	10020	00-00		010	2000
200	15	22	10010	00-00		010	2000
200	15	24	10020	00-00		010	2000
200	15	24	1000	00-00		010	2000

# Further Products.

## Business Displays

Large screen displays for dynamic digital signage applications such as POS/POI/POW ■ stand-alone displays with integrated media-player ■ OEM versions



## Outdoor Displays

Large-screen displays for outdoor applications ■ IP55 protected ■ monitor-only versions ■ with integrated controller for networked applications ■ customised configurations ■ OEM versions



## Industrial Displays

Flat-screen displays for demanding industrial applications ■ cabinet, rack-/console-mount and chassis-only versions ■ special control concept ■ OEM versions



## ATC/ATM Displays

Flat-screen displays for ATC/ATM applications ■ different diagonals and display formats ■ 2K x 2K displays ■ cabinet, rack-/console-mount and chassis-only versions ■ special control concept ■ OEM versions



## Automotive Displays

Ruggedized flat-screen displays for most demanding applications, e.g. for mobile use ■ different diagonals and display formats ■ extended shock, vibration and temperature range ■ cabinet, rack-/console-mount and chassis-only versions ■ OEM versions



## Ship Displays

Special flat-screen displays for radar, navigation and ECIDS applications ■ different diagonals and display formats ■ wideECIDS® MultiTask Monitors ■ cabinet, rack-/console-mount and chassis-only versions ■ wide dimming range ■ special control concept ■ OEM versions



 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.

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