FLIGHT INFORMATION DISPLAY SYSTEM
FOR ARAXOS NATIONAL AIRPORT
(GREECE)

TECHNICAL SPECIFICATIONS
REF: 500.192_0

FLIGHT INFORMATION DISPLAY SYSTEM (FIDS)
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1. SYSTEM’S ARCHITECTURE

1.1. PHYSICAL ARCHITECTURE

The typical architecture of the Flight Information Display System, FIDS, is shown in the figure below:

![System Architecture Diagram]

- **Public Address System Server**
- **Operational Terminal**
- **FIDS Database Server**
- **Airport Network**
- **Staff Monitors**
- **CRT Monitors**
- **TFT Screens**
- **Leaf Boards**
- **Other Airport Systems**
As it can be realized from the schematic diagram above, all the equipment in the system is connected to the multi-service network of the airport, allowing a great flexibility to determine the best physical position of each information display.

At the same time, all the communications of data and messages between the FIDS equipment are made following the Internet Protocol (IP).

Using these standards, the update and the easy growing or improvement of the system are guaranteed, being the system totally capable of growing the future needs, for example of higher number of terminals or new devices associated to the information system.

The public Information System of IKUSI includes the supply of all the necessary elements for the correct operation of the system, as they can be, the terminal screens, brackets for the screens, workstations, server, software licences. Data and power cabling will be supply by the own Airport.
1.2. BASIC HARDWARE

The equipment that will be installed is the:

1.2.1. FIDS HOST

Based on a server having the next hardware and software main features:

Hardware

✓ 1 server with Intel Xeon architecture.
✓ 2 SCSI mirrored Hard Disk of 72 Gbits Hot Swap and redundant power supply Hot Swap.

Software

✓ Mirroring Software
✓ LINUX Red Hat Enterprise operating System.
✓ ORACLE 8.1. Data Base User License or Higher
✓ E-SIP FIDS Software Licence

1.2.2. WORKSTATIONS

The workstations are the perfect tools for the Terminal Operator. The System Administrator can do the configuration of the FIDS by means of a Graphical User Interface (GUI). Whit the following features:
Hardware

- Intel Pentium IV
- 512 MB DDR RAM Memory
- 80 GB Hard Disk
- Ethernet 10/100/1000 LAN connection.

Software

- Windows XP Pro Operative System.
- Browser Software for the access to the Data Base of the FIDS.

1.2.3. 32" INTELLIGENT TFT DISPLAY

The TFT displays with LCD technology and Terminal Integrated Controller. The features are the following:

- 32" size TFT Display and 16:9 aspect ratio.
- Terminal Integrated Controller, with Intel Pentium Processor or similar and storing enough capability for the management of the information for the displays.
- Automatic reset device of the Information processor unit (WatchDog), which restart the Terminal Intelligent Controller, after a specific time period, in the case of the device malfunction.
- Brackets for the holding of the TFT Display and Intelligent Terminal Controller, wall or ceiling mounted, depending of each information point location needs.
The brackets have a special processing against the oxide and double epoxy paint coat.

1.2.4. LCD BOARD

Supply of new LCD boards with a mosaic modules of 141 dots. The new LCD boards include an Intelligent Terminal Controller under the IP protocol, doing the installation, configuration and maintenance better than the RS485 protocol.

- LCD Boards of 1 line per 30 characters for Departures Information, for the Checking Counters Hall.
- LCD Boards of 2 lines per 27 characters for Departures Information, for the Boarding Gates.
- LCD Boards of 2 lines per 21 characters for Arrivals Information, for the Baggage Reclaim Belts.
- The features of Intelligent Terminal Controller are the same that the TFT Display.

1.2.5. ETHERNET EQUIPMENT

A stand-alone switch, SuperStack 3 Switch 4400, by 3Com will substitute RS485 Interface with Intelligent Terminal Controllers. The topology will be star based. The main features of the equipment are:
✓ This type of equipment belongs to a family with several configurations related to the amount of ports available: 12, 24, 48 ports.

✓ Stacking equipment is allowed, that is, it is possible to link many devices to make the system have more ports.

✓ The fixed configuration ports are Ethernet 10/100 in copper.

✓ The equipment has uplink ports for connection to the backbone or for stackability among 10/100 copper Ethernet, Fast Ethernet 100FX in fiber, Gigabit Ethernet or ATM based equipment depending on the network to be installed.

✓ Failure automatic recovery using Spanning Tree to reassign links in failure case.

✓ It also has a tool kit for equipment management, so as to facilitate the remote management by Simple Network Management Protocol (SNMP), Telnet client, BOOTP and Trivial File Transfer Protocol (TFTP).

✓ Configuration and monitorization management of VLAN Virtual Networks.

✓ Traffic monitorization on the ports.
2. SYSTEM FUNCTIONALITY

All the data involved in the operational management of the airport is stored on the ORACLE database in the FIDS Host Computer. FIDS receives these data from the airport DBS (AODB) or manually (if there is not DBS on the Airport), and stores them for its internal use and as a backup copy for using it when a communications failure occurs.

The FIDS Oracle Data Base, at least, stores the following information (but it is not limited to):

- Basic data management (seasonal flights scheduling, list of Airports and Airlines, etc.)
- Means and resources related data (list of facilities and equipment available at the airport)
- Means and resources allocation related data
- Season Schedule Flight Information
- Weekly Schedule Flight Information
- Next-day flight information
- Dynamic flight status of the day

The resource management and operation information, includes:

- Airport resource information management.
- Check-in counter information management.
- Open / close time for Check-in counter
The system can work, automatically, connected to the Airport DBS, manually (if there is not an DBS on the Airport) or semi-automatically, when both types of operations are combined.

On the other hand, the FIDS system is prepared to manage all the information that is needed in the daily operation of the airport. This operational system, interchange real time and scheduled information with the other systems at the airport and, depending on the configuration rules established and stored in the database, distributes the proper information to each terminal to be presented to the airport users or used in any other convenient way.

The flight and operational information data is updated receiving the information from the other Airport Operational Systems like DBS, CS / DS, etc., through the Airport Communications Network using the IP protocol. In case the communication with these systems is interrupted, the FIDS application software allows the authorized user to manually interact with the contents of the database, generating from the updated information the necessary information flow for the FIDS passenger information terminal equipment. In this way, the FIDS system avoids the whole information on the airport to collapse in case of a particular system failure.

As mentioned before, the system provides full independency and flexibility, allowing manual GUI operation to update all information via the provided Graphical User Interface. Authorized technical staff is able to browse the content of the database and performs human adjustment. Terminal Users are provided for operating this function, which will be installed a GUI that operate under Windows System.
In case the networking between the Server and the Controllers is lost, information is updated at the moment that recovers the communications between the Server and the Controllers.

From the technical point of view, FIDS system is based on a client-server architecture and uses the most advanced programming techniques and languages. Java, C, C++ and other very well-known programming languages are used depending on the application and implementing each functionality and application using the most suited technology for it.

On the functional level, FIDS system is very flexible and can be adapted to the operational needs of the airport.

The application software, using the flight information data and the terminal configuration data (LCD layouts information and TFT Screens Information pages) design all necessary templates that are going to be stored on the Data Base Servers. These patterns will have different formats of presentation of the information, depending on the average associate (Boarding Gates, Baggage Claims, General Information, etc.)

The system, processing real time flight information, allows to update and control all the display information and display style as per the preset display requirements. The administrator of the system has also the possibility of modifying, the time of presentation of the pages in the screens.

The Intelligent Terminal Controller, installed with the display equipment (LCD Boards and TFT screens), through the Airport Communication Network and using the IP standard
protocol receives from the Communication Servers, all the modification flight information data or configuration commands and update the state of the display terminal with it. The data sending from the Server to the Terminals is made by means of the communication protocol denominated multicast. In this way the information modified in the Database immediately is updated in all the affected terminals of the Airport.

The system allows monitoring, control and management of all display equipment, which includes:

- Allowing browse and authorizing modification (including updating) to such detailed information as configuration, stored information, etc for Intelligent Terminal Controllers attached to individual piece, group or type of display equipment, and providing software delivery function.
- Allowing the setting of start/stop using of individual piece, group or type of display equipment with software.

The system has tools for management of the flight information and graphics. The software allows easy adjustment and modification of the displayed content, formats and styles and displaying them on the display equipment. The system functions includes:

- Transmiting without delay and distortion the compiled flight information or pictures on control computer to the designated individual piece, group or type of display equipment for display.
- Selecting formats properly edited by the system or self-defining formats for designated individual piece, group or type of display equipment.
- Providing notice display function. When the information is added, the system automatically sends it to the designated individual piece, group or type of display equipment for display.
Providing multiple display modes for display equipment (flashing, dynamic lines, alternation).

From any workstation connected to the FIDS LAN and the appropriate software (Internet Browser 5.5 or higher), could access to these tools. The user roles or different access levels are given by the administrator and he can generate users and passwords as airport conditions requires.

The system provides maintenance tools for FIDS data, this includes:

- Aviation data such as code and logo for airlines, type of aircraft, type of flight service, nature of flight, flight status code and sign, etc.
- Ground service data: codes for places, types of ground services, etc.
- Other related data.

The FIDS supports remote maintenance provided by IKUSI, for the resolution of the incidences that could happen in the System. This support is supplied free during the warranty period and can be engage after finish the validity of the same.
2.1. FIDS INPUT TERMINALS

As mentioned before, there are many functions that can be done to control and manage the FIDS System. All these functions are carried out form a comfortable and Windows based Graphic User Interface (GUI). The function keys and the patterns for the system configuration are suppressed, becoming the navigation by the screens simpler for the user.

In order to provide the airport with the tools and utilities it needs to manage the operational possibilities of the software in a simple and convenient way, IKUSI’s FIDS (e-SIP) includes the following utilities for the configuration, maintenance and use of the Public Information System.

All these utilities are provided in an only software package, so that to the end user it is to him comfortable and fast, to make the queries, modifications or supervision of the system.

2.1.1. ACCESS TO THE SYSTEM

From the main module of the application users can access any of the tools it comprises via an operator terminal. Based on a PC running the Windows XP Pro operating system, Internet browser (Internet Explorer 5.5 or Higher) and connected to the airport network it has an initial introductory screen where users can enter their name and password. Users are given customized access depending on the user group to which they belong. Therefore they must first be added to the system. The main menu of the application is shown in the next figure.
2.1.2. DEVICE CONFIGURATION AND ADMINISTRATION EDITOR

The Device Configuration and Administration Editor of the FIDS, it allows to see the configuration of the devices by means of a hierarchic tree, but also is possible to obtain a view of all the airport's information points using a full graphics interface. The interface provided is extremely flexible and allows different users to have different views of the airport to meet their individual requirements. For example, to obtain a logical zone layout you can define a new logical zone view and all the information points are reorganized on-screen to adapt to the new view. Display filters, conditions, properties, etc. can be assigned to logical groups of devices with shared characteristics.
This module is also used to add, delete or configure the various information points that make up the public information system. Each point of information is individually configured through a IP address. This allows that all the modifications of the terminals are of individual type and they only affect to the terminal designated by the authorized user.

It allows you to configure the installed devices in a graphical and interactive way. Both the physical and logical organization of each device is defined in the airport network, as is the information to be displayed and the format in which to display it.

The figure on the right shows the main screen of the system configuration and administration module. From here all the information about the specific logical properties of each element in the FIDS system is managed.
From the Configuration and Administration Editor you can access one of the most powerful module in e-SIP.
2.1.3. THE ACTIVATION FILTERS OR CONDITIONS EDITOR

This editor allows you to edit the conditions that will subsequently be used by the various modules of the information system.

These conditions refer to the various values that the database fields can take, together with a further series of variables, such as flight numbers, etc.

This editor makes it possible to assign a specific format to an information point depending on the defined condition, e.g. to change the font used for a flight depending on its characteristics, etc.

2.1.4. MANUAL OPERATION: FLIGHT EDITOR

This editor allows you to manually access, monitor and, if necessary, make changes to the flight information displayed by the Public Information System. This allows the data to be managed locally in the event of the connection with the airport DBS going down.

This editor makes it possible to display valid passenger information even when the rest of the systems in the airport are unavailable. It therefore provides a backup to automatic system operation.

These editors allow users to:
Display all the flight-related information on the system in a variety of formats.

Keep the system running by allowing manual updating of the data in the event of the DBS’s going down.

Modify specific flight fields directly on the Public Information System.

When a flight field is updated, the stored information will only affect the modified field so that all the other fields can be updated directly from the DBS. There is a general flag which defines whether a manual modification should be retained when new data arrives from the DBS.

It is possible to apply a filter to flight information so that only one particular type of flight is displayed or only certain aspects of the information. A noteworthy feature of the editor is its high degree of flexibility.

Its functionality is provided through a series of QUERIES in the flight editor (see the Manual Operation figure).

When one of these QUERIES is selected only those flights that match its selection criteria are displayed.

These selection criteria can be based on any of the data in the system database, which gives this system of flight selection considerable power and flexibility.
QUERIES and their selection criteria are defined in the system for each user, thus making them fully customisable. This allows you to define precisely what information each user can access and how it is to be displayed.

Users can modify the fields displayed in the editor dynamically if they have the necessary access privileges.

Manual operation
2.1.5. SCHEDULED FLIGHTS EDITOR

Using the GUI designed for this function, operator can introduce in advanced the seasonal program of the airport. These data are stored in the database and can be modified with data sent by the airlines or manually introduced by the operator.

The daily operational data will be extracted from these and transferred to the daily schedules database in order to be accessible to the rest of the airport systems.

---

**Schelude Editor**
2.1.6. TABLE MANAGEMENT

Management of auxiliary tables, companies, airports, comments, additional information, etc.

This tool is used to show information of the system database by means of shown interface. It is possible to select the table that is going to be shown and, for each table, which fields will be included.

In each table you can:

- Add a new record.
- Add a record using an existing record as a model.
- Modify a record that is already on the database.
- Delete.
- Look for a specific record based on various criteria.
- Print a table or part of a table.

This tool allows you to manage all the tables in the information system database.

It also gives you access to the data relating to the information devices. This means that users with a detailed knowledge of the database structure can modify the data directly rather than from the Device Editor.

Access to the various tables and the privileges assigned are restricted according to each user's profile.
2.2. COMMUNICATION WITH OTHER SYSTEMS

The FID system interacts with the other systems at the airport via well-defined interfaces that can be adapted to the operational needs of the installation.

This interchange of information can be bi-directional or uni-directional according to the specific subsystems and type of data to be sent.

All the information can be transferred from one system to each other using many different methods and formats.

IKUSI suggests to do it in a text file based way because it allows to keep under control the eventual failures that a concrete subsystem can suffer, maintaining the other operational subsystems up and running. Obviously, the format of the file and the data contained in it depends on the subsystems to be related.

This transfer method must be considered a suggestion based on the IKUSI’s experience but this is not a limitation of the system. Other transferring philosophies can be considered (sockets, ftp, etc.).

The system can work, automatically, connected to the Airport DBS, manually (if there is not an CDB on the Airport) or semi-automatically, when both types of operations are combined.

On the automatically operation model, the flight information data is updated receiving the information (scheduled and next-day information) from the Airport CDB through the
Airport Communications Network using the IP protocol. In case the communication with the CDB (DBS) is interrupted, the FIDS application software automatically generates the next-day flight schedule based on the season and weekly flight schedule stored in the FIDS database.

On the other hand, the system provides full independency and flexibility, allowing manual GUI operation to update all information via the Terminal User through the Airport Operator. Authorized technical staff is able to browse the content of the FIDS database and provide human adjustment. Terminal Users are provided for operating this function.

The airport can always depend on IKUSI to offer continual integration support during the installation of any systems, thus guaranteeing the success of any effort. Nevertheless, it is always useful to maintain a high grade of communication between any implicated parties, and setting aside time for adequate testing before attempting to install a production quality system.
3. **SYSTEM PERFORMANCE**

The system is able to handle a flight information capacity of passenger traffic of over 30 million passengers year with 60 departures/landings at peak hour (for example Madrid-Barajas Airport). If the annual passenger traffic rises, the system is ready for expansion.

The system supports the normal simultaneous operation of minimum 1,500 display terminals (LCD boards or TFT screens).

The system supports an operating mode for continuous normal operation for 7 days a week, 24 hours a day, with a life cycle of minimum 15 years.

The system ensures a max. 10 minutes of monthly average trouble recovery time and maximum of 1 hour of recovery time for the most serious trouble. In case of serious trouble the system is provided with emergency measures to ensure that part of the key display equipment could continuously provide flight information to passengers.

Information introduced into FIDS from the Airport DBS or other information input equipment is stored into the FIDS database within 3 seconds.

After receiving the data, the system allows their display on the display equipment between 2 and 10 seconds. This time depends on the capability of the Network.

All single or concurrent information inputted manually is displayed on the display equipment between 2 and 10 seconds. This time depends on the capability of the Network.
The operation at the management and control workstation allows no distinct waiting time.

The display equipment provides clear and stable display without obvious shadow, flicker, flutter, inconsistent color and distinct scanning effects. The LCD display presents no distinct difference of brightness on the display modules.

When display ads or pictures, the display equipment provides continuous and complete pictures at a min. speed of 25 frames per second.

Unless otherwise indicated, an average trouble-free time of min. 20,000 hours and average equipment usableness rate of min. 99.95% is available for key equipment, and average usableness rate for all display equipment of min. 99.5% is maintained.

In case conflicts appear during the execution of the above performance requirements, IKUSI will give proper solutions for approval by the Owner before the execution.
4. NETWORK REQUIREMENTS

The FIDS Network system works under an Ethernet 10/100/1000 Mbps LAN Network, with IP communications protocol, NFS and multicast facility.

The Host Computer and the Servers are connected to the Ethernet Airport Network and the communication between them is using TCP-IP protocol and NFS facility.

FIDS display terminals, TFT screens, will be connected to the network, using the Intelligent Terminal Controller. This is equipped with an Ethernet Network Interface, and using the TCP-IP protocol and the multicast facility, they receive the information from the communication servers to update all display terminals.

The LCD Board is the only equipment with a RS485 interface with the Intelligent Terminal Controller.

IKUSI will provide all the technical requirements, diagrams and network layouts to the Airport Authority after signing the contract, to ensure the correct interoperability and interconnection of the FIDS equipment and between the FIDS equipment and the rest of the IT equipment.
5. DEVELOPMENT AND SOFTWARE MAINTENANCE TOOL KIT

In the development of the system, there have been used exclusively standard programming languages and communication protocols, being all of them widely used all over the world.

For the application, C, C++, Java programming languages and their compatible technologies like ODBC, SQL based data access, J2EE, etc. have been used. Moreover, all the communications along the system are based in the well known standard IP (Internet Protocol).

Of course, the same can be said about the Data Base and the Operating Systems used in the system. Oracle, LINUX Red Hat, and Microsoft Windows XP give to the system robustness, reliability and maintainability. In this way, the future development and maintenance of the application and the whole system can be assured.

From the point of view of the application, maintenance of the data-base and the configuration used by the installed equipment, can be done easily from the supplied Graphic User Interfaces (GUI’s). As it is described in the paragraph related with software functionality, different application GUI’s allow the user to do, at least, the following tasks:

- Modifying the operational parameters of the system.
- To insert/delete/modify terminal equipment and their associated functional characteristics.
✓ Achieving any kind of modification of the registers contained in the auxiliary tables of the data base that are used for additional but essential configuration tasks (airports IATA name, companies, etc.)

✓ To perform any task related with inserting, deleting, modifying users, groups of users, their associated capabilities and their access conditions to the system.

✓ Accessing historical data about intelligent equipment inputs and CS/DS actions.

✓ Diary maintenance tasks, for instance:
  - Checking terminal equipment operating situation
  - To send commands to the terminal equipment (ON, OFF, reinit, reset, etc.)
  - To stop and launch the application
  - Inspecting messages given in log files
  - Etc.

✓ And, in general, any task related with the normal use of the system.

The system allows the maintenance, configuration, diagnosis and the correction of possible software failures, of remote form, through an external connection, as telephone modem connection or Internet. The advised option is by means of a Internet connection, configuring in the Firewall of the Internet Server of the airport, the access to certain IP addresses, so that they can make the pertinent workings of maintenance during the period of guarantee.
6. DISPLAY CONTENT. GRAPHICAL CAPACITY

IKUSI’s Flight Information Display System (FIDS) allows the operation of any kind of flight that follows the IATA rules (commercial, code share, etc.).

FIDS receives operational information from airport DBS and, depending on the established operating rules and relationships, manages this information in such a way that the desired information and in the needed format is presented to the passengers. These rules and relationships allow the system to present with different patterns information about regular or code share flights, information about a cancelled flight or about one that is boarding or delayed, and so on…

Via the Pattern Editor GUI, the final aspect of the information shown to the user can be managed. Fonts, Colours, alternative text or information, graphics etc. of every flight and in every condition can be changed and easily defined.

The system allows display of related information according to the locations of the display points in the operation flow. The display formats of the system is designed based on an artist principle of clear, harmonious and aesthetic.

The information displayed by the system includes flight information, pictures, ads, notices, weather information and other related information.
The display formats are totally configurable and will be commissioned based on the Airport needs. This configuration will include but not limited to flight code sharing, flight combination, flight delay, flight cancellation, flight connection, change of boarding gate, mixed flight boarding or other display processing involving in civil aviation business.

The system allows to display single screens or several screens combined to one group to display different flight information.

The system allows the user to define and set the flight information item number on each screen so to accommodate the flight traffic for airport operations and actual needs.

In banks of TFT display, if one of the screens does not work due to a trouble, the system is able to accommodate the information to the next screen.

The system allows the sequential display of flight record that meets the agreed conditions in preset period of time on the valid display equipment. This will be set by users.

In banks of TFT monitors, when the amount of flight information needed to be displayed exceeds to the display limits of valid display equipment, the system allows fixed screen in N-1 displays and the last one to displays by scrolling.

Some notices can be displayed by scrolling in the last line of designated one screen or a group of screens without interference with the normal display of flight information.

The system allows to display different format of content in different windows.
The display equipment provides diversity of display modes (e.g. horizontal scroll, up-down scroll, time display, etc.) easy set by software.

The system allows display by switching between Cyrillic and English or display in combined Cyrillic and English characters.

The system allows to make a difference in display for flights with respect to code sharing, combination, delay, cancellation, on boarding, departed and arrived, connection and flight involving domestic and international routes.

Logos can be displayed in compliance with national and international convention.

When there is little flight traffic to display, any screen in blank can be setting to display notices or ads.

The system provides the necessary flight information to give the exact direction guidance in accordance with the specific locations of the individual display points.

The system displays the following but not limited to:

✓ Comprehensive flight information.
✓ Guidance for check-in.
✓ Information for check-in counter.
✓ Guidance for boarding.
✓ Boarding gate.
✓ Arrival information.
Guidance for baggage claims.
Information for arrival baggage belt.
Information for arrival baggage unloading.
Information for departure baggage loading.
Flight information in lounge for leisure.
Display do other (information on security inspection and information on immigration).

Following are shown different possibilities to give general visual information to passenger or staff. Of course, these are only operational examples but it is important to remark that are being used currently in other installations made by IKUSI.
6.1. TFT SCREENS DISPLAY EXAMPLES

6.1.1. BOARDING GATE

IBE 8831

HORA  
07:10

DESTINO  
BARCELONA

OBSERVACIONES  
BOARDING

REMARKS

attention to the change of boarding gate announcement (…)

6.1.2. BOARDING GATE WITH INFORMATION OF THE CURRENT AND FOLLOWING FLIGHT

IBE 8831

HORA  
07:10

DESTINO  
BARCELONA

OBSERVACIONES  
BOARDING

REMARKS

PROXIMO VUELO - NEXT FLIGHT

AUA 3215  
BELGRADE  
BOARDING 17:10

attention to the change of boarding gate announcement (…)

500.192 Technical specifications - FIDS.doc
### 6.1.3. BOARDING GATE WITH INFORMATION OF A CODE SHARE FLIGHT

<table>
<thead>
<tr>
<th>IBE 8831</th>
<th>BAW 9875</th>
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<tbody>
<tr>
<td><strong>HORA DE EMBARQUE</strong></td>
<td><strong>BOARDING TIME</strong></td>
</tr>
<tr>
<td>07:10</td>
<td>07:10</td>
</tr>
<tr>
<td><strong>DESTINO</strong></td>
<td><strong>TO</strong></td>
</tr>
<tr>
<td><strong>BARCELONA</strong></td>
<td><strong>BARCELONA</strong></td>
</tr>
<tr>
<td><strong>OBSERVACIONES</strong></td>
<td><strong>REMARKS</strong></td>
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<tr>
<td><strong>EMBARQUE</strong></td>
<td><strong>BOARDING</strong></td>
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<tr>
<td><strong>PROXIMO VUELO - NEXT FLIGHT</strong></td>
<td></td>
</tr>
</tbody>
</table>

Attention to the change of boarding gate announcement (...)

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### 6.1.4. BOARDING GATE WITH “LAST CALL” REMARK

<table>
<thead>
<tr>
<th>IBE 8831</th>
<th>BAW 9875</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HORA DE EMBARQUE</strong></td>
<td><strong>BOARDING TIME</strong></td>
</tr>
<tr>
<td>07:10</td>
<td>07:10</td>
</tr>
<tr>
<td><strong>DESTINO</strong></td>
<td><strong>TO</strong></td>
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<td><strong>BARCELONA</strong></td>
<td><strong>BILBAO</strong></td>
</tr>
<tr>
<td><strong>OBSERVACIONES</strong></td>
<td><strong>REMARKS</strong></td>
</tr>
<tr>
<td><strong>ULT. LLAMADA</strong></td>
<td><strong>LAST CALL</strong></td>
</tr>
<tr>
<td><strong>PROXIMO VUELO - NEXT FLIGHT</strong></td>
<td></td>
</tr>
</tbody>
</table>

Attention to the change of boarding gate announcement (...)

---
6.1.5. BOARDING GATE WITH “NOW BOARDING” REMARK AND THE FOLLOWING BOARDING FLIGHT

<table>
<thead>
<tr>
<th>IBE 8831</th>
<th>BAW 9875</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HORA DE EMBARQUE</strong></td>
<td><strong>BOARDING TIME</strong></td>
</tr>
<tr>
<td>07:10</td>
<td>07:10</td>
</tr>
<tr>
<td><strong>DESTINO</strong></td>
<td><strong>TO</strong></td>
</tr>
<tr>
<td>BARCELONA</td>
<td>BILBAO</td>
</tr>
<tr>
<td><strong>EMBARQUE</strong></td>
<td><strong>BOARDING</strong></td>
</tr>
<tr>
<td><strong>OBSERVACIONES</strong></td>
<td><strong>REMARKS</strong></td>
</tr>
<tr>
<td><strong>PROXIMO VUELO - NEXT FLIGHT</strong></td>
<td></td>
</tr>
<tr>
<td>AUA 3215</td>
<td>BELGRADE</td>
</tr>
</tbody>
</table>

attention to the change of boarding gate announcement (...)

6.1.6. EXAMPLES OF GENERAL INFORMATION WITH REMARKS

<table>
<thead>
<tr>
<th><strong>HORA</strong></th>
<th><strong>COMPANÍA</strong></th>
<th><strong>VUELO</strong></th>
<th><strong>DESTINO</strong></th>
<th><strong>MOSTRA COUNTER</strong></th>
<th><strong>OBSERVACIONES</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>09:30</td>
<td>ACA 6495</td>
<td>PARIS-ORLY</td>
<td>111-120</td>
<td>EMBARQUE</td>
<td></td>
</tr>
<tr>
<td>07:00</td>
<td>AFR 8870</td>
<td>LONDRES</td>
<td>112-200</td>
<td>CANCELADO</td>
<td></td>
</tr>
<tr>
<td>07:05</td>
<td>ELG 3254</td>
<td>CANNES</td>
<td>110-039</td>
<td>EMBARQUE</td>
<td></td>
</tr>
<tr>
<td>08:18</td>
<td>ABD 7889</td>
<td>SIDIY</td>
<td>010-010</td>
<td>RETRASADO</td>
<td></td>
</tr>
<tr>
<td>08:40</td>
<td>ABH 9456</td>
<td>PALMARCIA</td>
<td>020-020</td>
<td>EMBARQUE</td>
<td></td>
</tr>
<tr>
<td>09:57</td>
<td>BMA 5487</td>
<td>NUEVA YORK</td>
<td>000-000</td>
<td>CANCELADO</td>
<td></td>
</tr>
<tr>
<td>10:12</td>
<td>BIB 1125</td>
<td>BILBAO</td>
<td>023-023</td>
<td>EMBARQUE</td>
<td></td>
</tr>
<tr>
<td>10:32</td>
<td>IBE 1131</td>
<td>BARCELONA</td>
<td>100-000</td>
<td>CANCELADO</td>
<td></td>
</tr>
<tr>
<td>10:43</td>
<td>DAL 6687</td>
<td>SANTIAGO</td>
<td>032-032</td>
<td>RETRASADO</td>
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</tr>
<tr>
<td>11:08</td>
<td>DMO 7782</td>
<td>MADRID</td>
<td>040-040</td>
<td>EMBARQUE</td>
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<tr>
<td>12:36</td>
<td>EMI 2215</td>
<td>LONDRES</td>
<td>042-042</td>
<td>EMBARQUE</td>
<td></td>
</tr>
<tr>
<td>13:00</td>
<td>AAF 7782</td>
<td>BARCELONA</td>
<td>060-060</td>
<td>RETRASADO</td>
<td></td>
</tr>
</tbody>
</table>
6.1.7. BAGAGGE BELT WITH ONE FLIGHT

![Image of bagagge belt with one flight]

6.1.8. BAGGAGE BELT WITH THREE FLIGHTS

![Image of bagagge belt with three flights]
6.1.9. BAGGAGE BELT WITH SIX FLIGHTS

<table>
<thead>
<tr>
<th>AirEuropa</th>
<th>MADRID</th>
<th>JKK 6548</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Airlines</td>
<td>NEW YORK</td>
<td>AAL 5488</td>
</tr>
<tr>
<td>Canadian</td>
<td>TORONTO</td>
<td>CDN 2154</td>
</tr>
<tr>
<td>Austrian Airlines</td>
<td>VIENA</td>
<td>AUA 5487</td>
</tr>
<tr>
<td>American Airlines</td>
<td>WASHINGTON</td>
<td>AAL 2573</td>
</tr>
<tr>
<td>AirEuropa</td>
<td>BARCELONA</td>
<td>JKK 6548</td>
</tr>
</tbody>
</table>

NOTE: All the presentation formats, fonts and assigned colours must only be taken as examples and can be modified easily by the user.