



»» ColumBus

THE MOST ADVANCED NAVIGATION
AND INFO-TAINMENT SYSTEM
FOR PUBLIC TRANSPORT VEHICLES



Modern and functional design

Behind the Columbus design is the painstaking research for solutions aimed at offering the best vision conditions, guaranteeing passenger safety, and simplifying scheduled and unscheduled maintenance.

Columbus not only offers high performance and functionality, it also has a modern line that blends perfectly with the style of the most modern buses. All cables and brackets are concealed inside the outer casing in order to enhance the aesthetic harmony of the system.



» Technology in motion

Columbus is the multimedia video device for Public Transport Companies wishing to enrich their passengers' travelling experiences with useful and interesting information. With a modern and functional design, Columbus is a robust and reliable system that guarantees ongoing service and easy maintenance.

Superior image quality

Passengers on modern buses are now able to enjoy increasingly more comfortable travelling conditions and they expect a television onboard which offers professional information and entertainment services. Everything calls for higher quality images, guaranteed by the superior videos and technology we use to reproduce them. Columbus consists of wide-angle, high-resolution videos with excellent colour yield and is fitted with a high-performance graphic motor for more fluid and brilliant images, offering greater comfort to even the most demanding passenger.

Robust and environment-friendly construction

Columbus has been designed to resist against the considerable mechanical stress induced by vibrations during bus running, ensuring correct ventilation thanks to an adequate dust filtering system. Moreover, solutions have been adopted for making them more vandal-proof. Special care has been taken in the use of recyclable materials and the researching of solutions for minimising electricity consumption while taking into account the running and stopping conditions of the buses.

Open software architecture

The Columbus software architecture has been designed with an eye to full integration of all the onboard systems and the need to use various networks, even simultaneously, for short and long-range connections in real time. Based on the robust and reliable Linux operating systems, Columbus is designed for the installation of the BusEngine and BusMobile application software – developed by Ciemme Sistemi for the use of editing and operating room services – that are necessary for presenting the video programmes and travel information.



EnvGuard®
Always under control

Columbus is equipped with exclusive EnvGuard® technology that offers permanent control of the technical environmental viewing parameters, guaranteeing optimal operating conditions constantly.

The functional status and main technical parameters of the viewing are transmitted regularly to the operating room – even when the bus is stopped in the depot – in this way allowing for more rapid and targeted intervention for ensuring maximum continuity of the service of the closed circuit video.



» Technical Characteristic

Approvals:

Safety	EN 60950 2002-12 (CEI 74-2); Ed 5
EMC	EEC Directive 95/54

Geographical Position:

GPS Module
12 channels "all in view"
First acquisition time < 40 sec

Long Range Connectivity:

GSM/GPRS module
MODEM 900/1800 MHz

Short range Connectivity:

Wi-Fi Module
IEEE 802-11B Standard

Video Resource

Video layout	2 x 17" display in a 15:9 range
Graphic resolution	1280*768 pixel
Colors	256'000
Technology	LCD-TFT
Total LCD lamps	2 + 2 EnvGuard® supervised

Mass Memories

Solid state	256MB
Hard Disk	20/40GB anti shock
Anti Corruption Data	EnvGuard® supervised

Software Platform

Operating System	Linux
Kernel	Ver. 2.4.25
Graphis Library	X11R6
EnvGuard® Driver	can be customized
System Boot and Shutdown	EnvGuard® supervised

Tele Diagnosis

Supervised	EnvGuard®
Log of parameters	on Solid state Memory
Wake - up	warm start < 1sec
Battery	Cold start. 2 min. (programmable) Lead Acid hermetic

Input Interfaces

Line and destination indicator (Aesys/Ameli)
Optoisolated inputs:
Door bus status (open or closed)
Next stop
Odometer
Tiket seller status (ok, reserve, empty)

Digital interfaces

Ethernet	2 x 10/100 Mbps
USB	1 channel
Serial	1 x Rs232 1 x Rs 485
IrDA	Service reserved EnvGuard® supervised

Enviroment and Mechanics

Color	can be personalized
Operating Temperature	-10° +60° C EnvGuard® supervised
Ventilation	forced air with 3 fan EnvGuard® supervised
Non Operating Temp.	-40° +65° C
Input Supply	+18V a + 36V EnvGuard® supervised
Power	180W EnvGuard® supervised
Sytand by power	70mW EnvGuard® supervised
Weight	20Kg
External Dimension	570 x 620 x 290 mm

Antennas

1 x GSM/GPS
1 x Wi-Fi

