X Series

Elevate The Experience To Reach Your Goals
For your airline, passengers, and crew

FULLY DIGITAL IN-FLIGHT ENTERTAINMENT NETWORK

Build the experience

A custom solution with sustainable value

Panasonic, the world's leading supplier of in-flight communications and entertainment systems, is always working to take the in-flight experiences of your passengers, crew and airline to a higher level. Ensuring that your passengers are in-touch, informed and entertained. Helping to improve your crew effectiveness. Always providing your airline with sustainable value.

Panasonic's X Series In-Flight Entertainment (IFE) network offers you the most advanced system on the market and the X Series is based on extensive research and market trends.

The X Series portfolio—featuring a powerful network, high-speed communications tools, state-of-the-art entertainment content and awarding-winning peripheral devices—is a high return, completely customizable IFE solution.

Panasonic IFE experts will work with your team to design and configure an X Series IFE system to your specific requirements— a system customized for immediate results and optimized for long-term value.

Rich Content

PAC has a large selection unique in-flight applications

Ergonomic Devices

Select from a variety of industrial design award-winning handsets and displays

Modularity

Upgrade the head-end and/or seat-end without replacing the entire system or network backbone

Scalability

Customize the server size to match the size of your aircraft and/or passenger usage requirements

IT Standards

Leverage the greater network community— the network uses commercial standards and protocols like Ethernet, IP-based

Capacity

Manage future demand on bandwidth—a Gigabit backbone handles the growing demand on bandwidth as you add more applications to your network

LCD monitors
High resolution & high performance

15.4" LCD Monitor

12.1" LCD Monitor

The passenger experience

The most engaging content in the sky

Panasonic's Interactive Software Engineering Group, working with leading media and interactive software suppliers, develops and manages in-cabin content and services that can help you attract passengers, differentiate your airline brand and generate revenue.

We can help you select, customize and create unique in-flight applications and content that entertain your targeted demographics. You have the opportunity to brand a suite of applications and reduce total ownership costs through advertising, in-flight shopping and other ancillary revenue applications.

X series applications & services

Panasonic's X Series catalog features more than 50 engaging and exciting applications and services. Our continuous innovation in application development future-proofs the X Series IFE system and ensures sustained value for your investment.

Branding	Entertainment	In-Flight Services	Communication	Information	Services
Excite Interactive Menus	Audio & Video Music Playlist Movies TV Shows Satellite TV (eXTV) Personal Media iPod USB Media Player Sky Office Moving Map Voyager Broadcast Voyager Interactive Both powered by Airshow Games Over 200 Titles 2D, 3D and Multiplayer	In-flight Hospitality Shopping	In-flight Communicator Seat Chat Internet (eXConnect) Phone (eXPhone)	Live Text News GateConnect Magazine Rack Travel & Destination Entertainment Business & Finance Health & Well-Being Technology Literature Children & Youth	Personal Data Integration (PDI) OneMedia Advertising PAXUS Usage Surveys Payment Subsystem/Credit Card Processing

Premium Handset

The passenger experience

IFE configuration options

You have many options for configuring your own passenger IFE interface. The ability to "Mix and Match" monitors, mountings, applications and services creates a unique offering that reflects your brand and appeals most to specific passenger profiles.

Here are just four examples of the many ways that you could use the "mix and match" approach to put together your own passenger experience.

	Simple	Economical	Enhanced	Premium
Monitor Size	7" - 10.6" Touch Screen Smart Monitors	9" - 10.6" Touch Screen Smart Monitors	10.6" - 17" In-seat Smart Monitors	12.1" - 23" Console
Hardware	Seat Back or Arm Mounted Programmable Buttons	PCU or Premium PCU Seat Back or Arm Mounted Programmable Buttons	Standard Handset Seat Back or Arm Mounted	Premium Handset In-seat Smart Monitors
Applications	Audio/Video on Demand Games Moving Map Shopping	Audio/Video on Demand Games Moving Map Shopping	Audio/Video on Demand Games Moving Map Personal Media In-flight Communicator Advertising GateConnect	Audio/Video on Demand Games Moving Map iPod Integration Shopping Magazine Rack In-flight Services Passenger Data Integration (PDI)

7" Smart Monitor

The passenger experience

All parts are not created equal

The X Series IFE network leverages Panasonic's deep, worldwide legacy in consumer electronics. Our world-class manufacturing facilities in Osaka, Japan control and design all aspects of our display technology.

We deliver award-winning industrial designs and innovations like exceptional display image, quality and contrast ratio, full-screen imagery, fast touch-screen and handset response and improved cooling design.

The newest LCD technology, developed as a result of joint research with Toshiba Matsushita Display Technology, features encryption to ensure compliance with industry security requirements for content protection.

eXpress
Red Dot Design Award

Standard Handset
Northwest IDSA Design Awards 2002:
Silver Award (concepts): eFX Inflight Entertainment Peripherals

Standard
Handset

eXpress Portable
Media Player

High Performing Smart Monitors

High resolution and high performance monitors capable of powering sophisticated applications are available in 7", 9", 10.6", 12.1", 15.4", 17" and 23" sizes. 9" and 10.6" Smart Monitors include three airline-defined programmable buttons to facilitate customization of content.

The Smart Monitors feature dedicated media decoding and optional graphics processors that use compact flash to store media and content. Using the Smart Monitors' processing capabilities, passengers have the ability to use Personal Electronic Devices (PEDs)—iPods, USB storage devices, cameras and laptops—as part of their in-flight experience.

Ergonomic Handsets & PCUs

Panasonic has made a significant investment in industrial design review to develop handsets and Personal Control Units (PCUs) with the features, comfort and cool look of today's home and office products.

Handsets and PCUs are available in both Standard and Premium models. The handsets feature user-friendly QWERTY keyboards and convenient credit card readers.

The slim designs provide flexibility for either seat back or seat arm installation and meet all seat design requirements.

The iPod Experience

X Series Smart Monitors enable passengers to watch their iPod media on their in-seat display. Passengers personalized media can be integrated with your airline's media selections. The iPod integration package includes:

iPod Authentication Service

Your aircraft becomes an authorized Apple accessory

iPod Power

Passengers are able to charge their iPods in flight to ensure power during and after the flight

iPod Remote Control

Passengers are able to control their iPod media using the Smart Monitor touchscreen or the Passenger Control Unit (PCU)

Apple iPod

The crew experience

Better tools for better service

The Crew Terminal (CT) or Crew Panel (CP) provides the main interface for IFE system control and maintenance, functions as a tool to increase crew efficiency and attentiveness, and provides a way to further enhance the passenger experience.

The Crew Terminal (12.1") and Crew Panel (10.4") feature large touch screen LCDs with an easy to understand and use interface that helps minimize mistakes and facilitate crew training.

The CT and CP feature USB ports for daily content loading and system information uploads. The CT can also include optional peripheral devices such as a printer, card reader or keyboard.

The construction of both the CT and CP help you meet your aircraft space and weight objectives. The slim and lightweight designs of the Crew Terminal and Crew Panel increase your installation options and do not require the weight of an additional LRU to convert AC to DC power.

User-friendly crew applications

Crew Messaging

Improves crew-to-crew and crew-to-ground messaging, including pre-defined messages
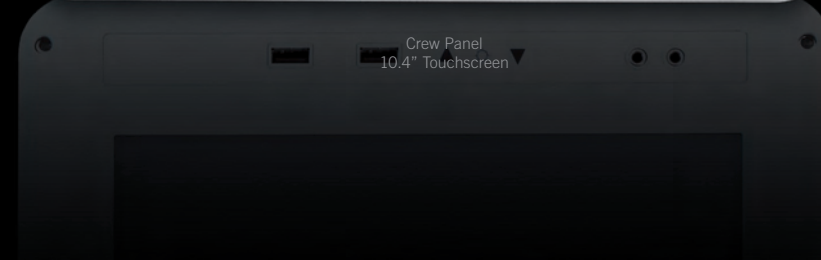
Crew Forms

Enables a "paperless cabin," automates tasks, reduces errors and improves efficiency

Passenger Data

Enhances the crew-passenger relationship and facilitates in-flight hospitality, meal & beverage service and on-board shopping

Maintenance

Increases maintenance efficiency with extensive BITE maintenance protocol

Crew Panel
10.4" Touchscreen

Choosing your head-end

Keeping the essentials in mind

Panasonic offers you three different head-end options to help you meet your cost, weight, power and application objectives as you customize your X Series system:

	Single Aisle Capacity with the Right Balance	Twin Aisle Capacity with Simplified Head-end	Maximum Capacity & Performance
Passengers	190	350	600+
Applications Options	30	50+	50+
Servers	System Controller (SC-A) File Server (FS)	Aircraft Interface (AI) Ethernet Switch (ES) Content Server (CS)	Aircraft Interface (AI) Ethernet Switch (ES) Media Server (MS) Disk Array (DA) File Server (FS)
Volume (MCUs)	8	16	26

Safeguard the passenger experience

Maintaining the connection

X Series equipment is designed and built to ensure an enjoyable experience for the passenger which includes:

Fallback Modes

The system will first isolate the failure and utilize paths as much as possible in order to maintain full functionality to as many passengers as possible

Local Seat Content

The eX2 Smart Monitors have 1 Gigabyte (GB) of Compact Flash for the storage of local data and applications

Pass-through Relays

All network hardware provides pass-through relays, which allow for network communications through an LRU that has lost power

Dual Internal Power Supplies

For airlines that decide to move beyond a robust single strand head-end, Panasonic has two additional options:

Mid Redundancy

- Additional Redundant Content Servers
- Fibre Channel (only available with eX2)

Full Redundancy
(only available with eX2)

- Redundant Head-end Servers
- Fibre Channel
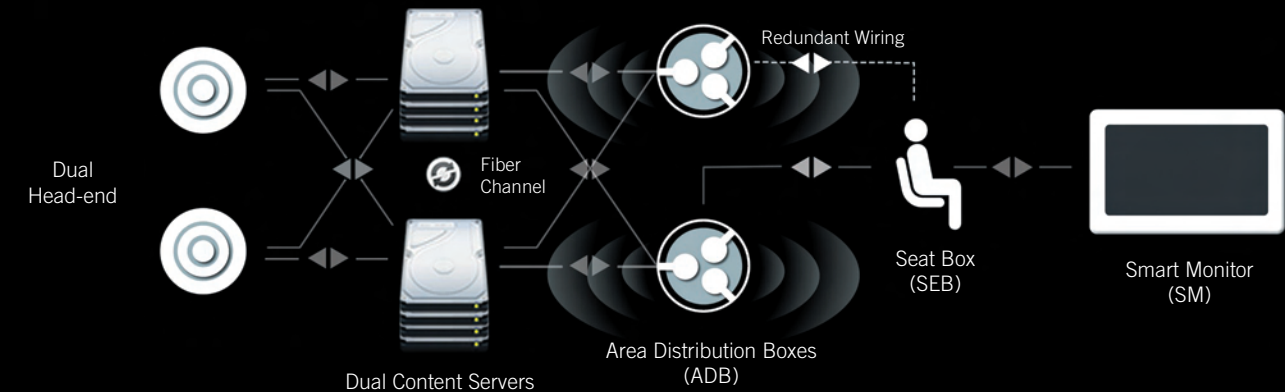- Redundant Wiring
- Seat Column Wired Loopback Cables

Roboust Single Strand System

Single Strand Head-end → Content Server → Area Distribution Box (ADB) → Seat Box (SEB) → Smart Monitor (SM)

Mid Redundancy System
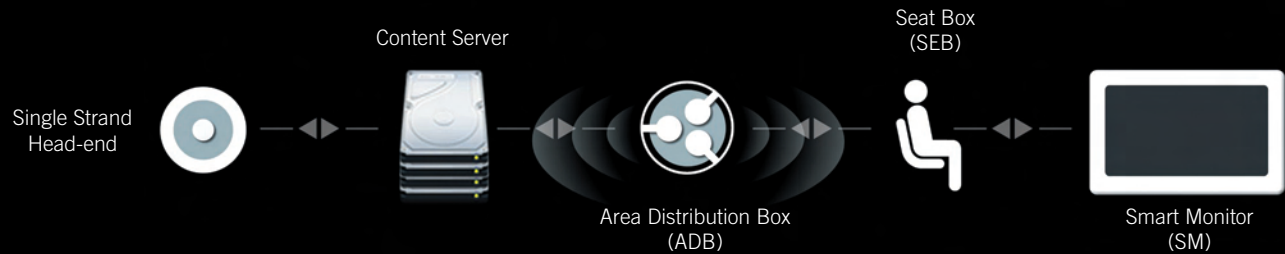
Single Strand Head-end → Fiber Channel / Dual Content Servers → Area Distribution Box (ADB) → Seat Box (SEB) → Smart Monitor (SM)
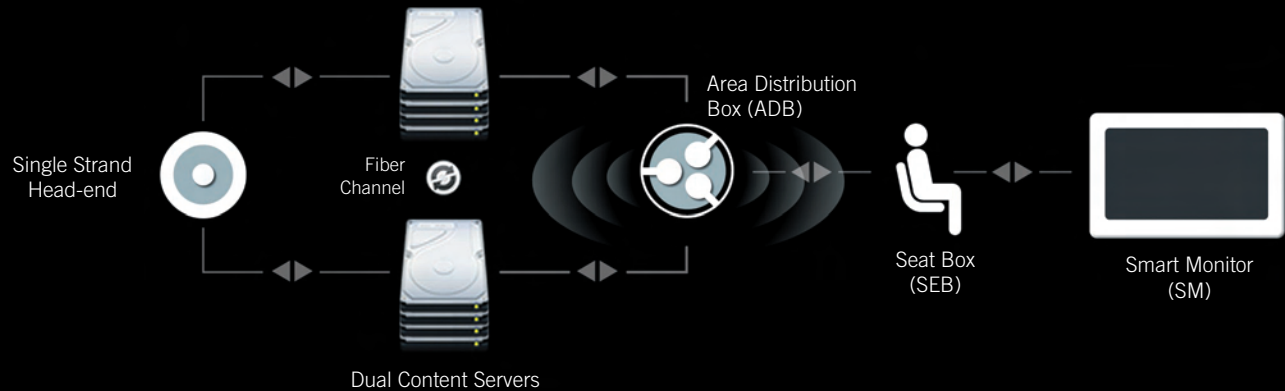
Full Redundancy System (only available with eX2)

Dual Head-end → Fiber Channel / Dual Content Servers → Area Distribution Boxes (ADB) / Redundant Wiring → Seat Box (SEB) → Smart Monitor (SM)

Choose your network

Innovative design. Flexible installation.

The X Series requires fewer Seat Boxes with more mounting options that provide a lower cost and more passenger space than previous systems.

In the Dual Box solution, the AC/DC converter is in the Seat Power Module (SPM) with the functional components housed in the DCSEB to help keep the boxes cool. The DCSEB can support up to eight displays and peripherals.

The Seat Boxes can be installed at any angle to save space and increase passenger comfort. Slim design and connectors make for a clean install.

Choose from three different options to provide the level of applications and performance you need.

Basic Functionality

• 50+ Application Options

Integrated Power

• 50+ Application Options
• Personal Electronics Device (PED) Power

Premium with Integrated Power

• 50+ Application Options
• Highest Display Performance for Large LCD
• Personal Electronics Device (PED) Power

Life. above & beyond

Innovation with you in mind

Panasonic has been enhancing passenger experiences for over 29 years, leveraging an over $4 billion annual corporate electronics R&D budget in the production of the newest generation of in-flight entertainment products. We have participated in many IFE "firsts" and the X Series is no exception. It was designed with you and your passengers first in mind.

We have optimized system functionality. Increased system efficiency. Developed a lightweight, powerful and compact system architecture. And we have designed it with new levels of service and modularity to help you build a unique passenger experience.

Panasonic. Elevating the Experience

Panasonic

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