

**Panasonic**  
BUSINESS

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BUSINESS

**PASSION. CONNECTED. AT PYEONGCHANG 2018**  
PANASONIC AUDIO-VISUAL SYSTEMS CASE STUDIES





# PANASONIC AUDIO-VISUAL SYSTEMS FIRE THE IMAGINATION AT THE OLYMPIC WINTER GAMES PYEONGCHANG 2018

The Olympic Winter Games PyeongChang 2018 was staged February 9–25, 2018 in PyeongChang, Republic of Korea, under the theme “Passion. Connected.”

Despite frigid conditions at the open-air PyeongChang Olympic Stadium during the Opening Ceremony, Panasonic stepped up with provision, setup, and operation of state-of-the-art audio-visual systems for the event. About 80 of Panasonic's 30,000-lumens-class laser projectors were installed, immersing a central stage and specially shaped slope with vivid and seamlessly blended images. Dynamic projection-mapped visuals captivated spectators and TV viewers alike, with high brightness and imaging technologies making the mesmerizing production possible. Fast-moving images flawlessly resolved in bright and vivid color.

In addition to its AV technology, Panasonic provided end-to-end support encompassing broadcast solutions while offering on-site support including installation, production, system operation, and on-site services. Together, challenges were met in partnership with the organizing committee.

## PANASONIC AUDIO-VISUAL EQUIPMENT DEPLOYED



**Projectors**  
Total deployment: Approx. 230 projectors  
(Including approx. 80 units used for ceremonies)



**Professional Displays**  
Approx. 1,000 units



**Broadcast and Professional Video Systems**  
Multi-format Live Switchers 16 units  
Broadcast Cameras Approx. 50 units



**Professional Audio Systems**  
Deployed in 10 venues



TM IOC.

## Perspective

### Promoting World Peace Through Sport

Ever since the Olympic Winter Games Calgary 1988, Panasonic has committed to the Olympic Spirit of promoting world peace through sport. As a proud tournament supporter for more than a quarter-century, Panasonic actively pursues its role as a Worldwide Olympic Partner. Exemplifying “Sharing the Passion,” Panasonic helped bring the excitement of the Olympic Games to the world, uniting people from all cultures and backgrounds in a mutual love of sport.

At the Opening Ceremony of the Olympic Winter Games PyeongChang 2018, Panasonic helped create a vibrant performance with its high-brightness projectors. Not only supplying equipment, Panasonic also contributed support teams covering operation and maintenance of equipment throughout the event. Across venues, its LED displays, RAMSA speakers, and broadcast systems amplified excitement for athletes and spectators.

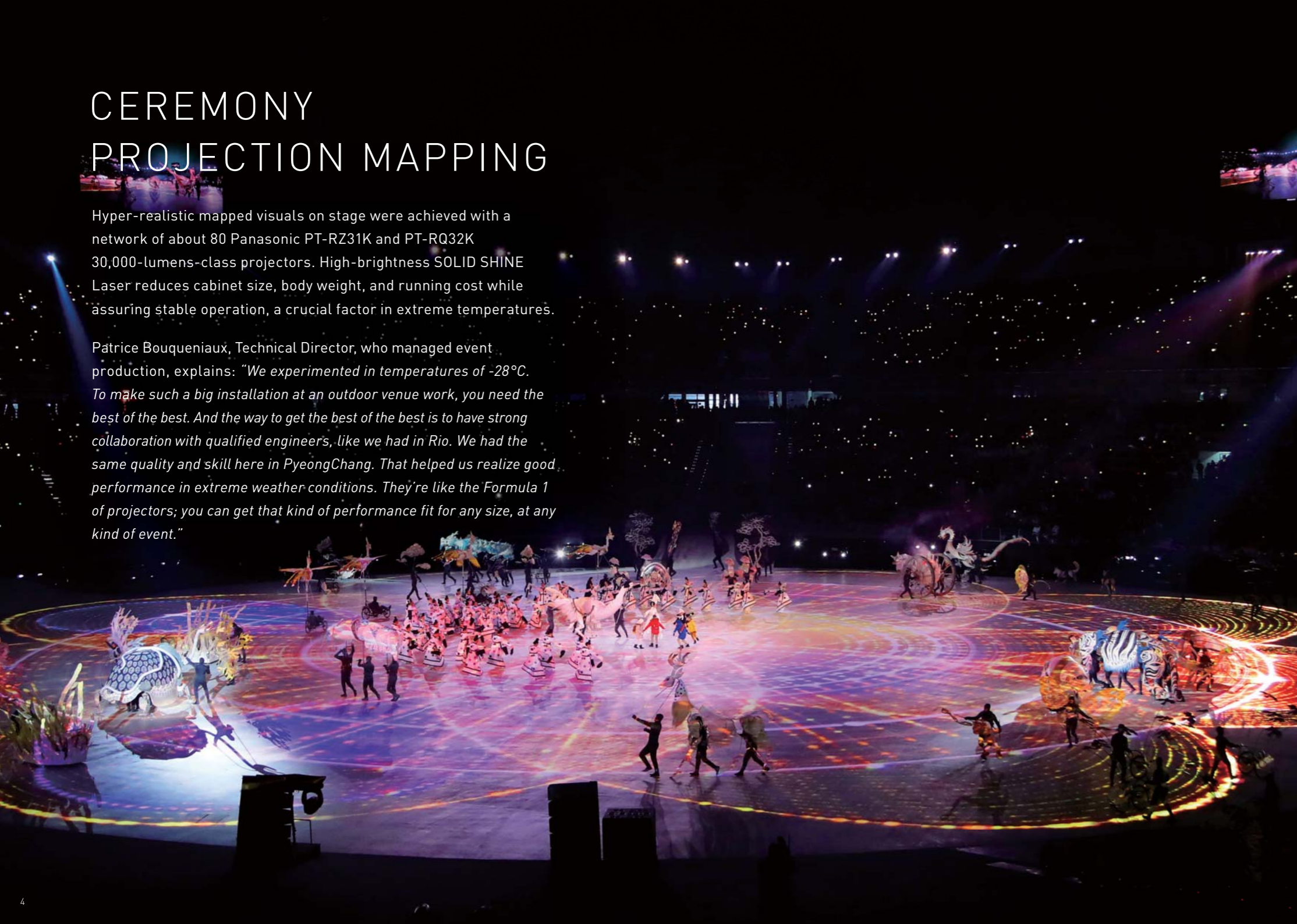
Following the Opening Ceremony, IOC (International Olympic Committee) President Thomas Bach affirmed Panasonic's key role at the Olympic Games, saying, “The partnership with Panasonic is an extremely powerful and successful one. Panasonic technology played an important role and made the crowd and the worldwide audience excited. Panasonic is for A Better Life and a Better World, and the IOC is for A Better Life and a Better World through sport. And we think, on this basis, we can together lead the Olympic movement to new heights.”



# CEREMONY PROJECTION MAPPING

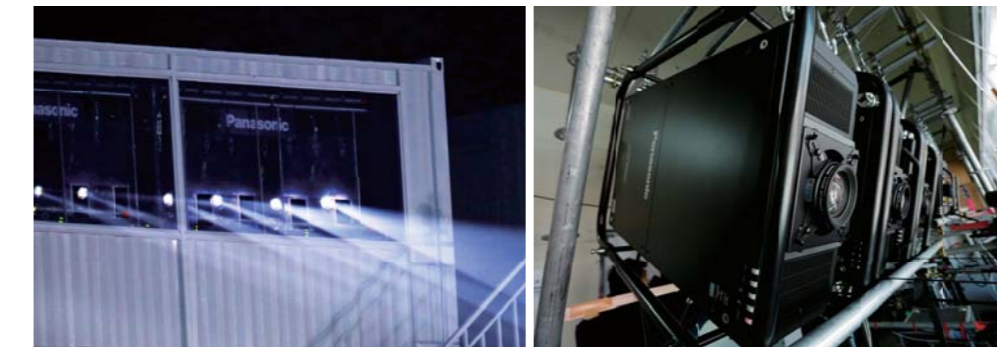
Hyper-realistic mapped visuals on stage were achieved with a network of about 80 Panasonic PT-RZ31K and PT-RQ32K 30,000-lumens-class projectors. High-brightness SOLID SHINE Laser reduces cabinet size, body weight, and running cost while assuring stable operation, a crucial factor in extreme temperatures.

Patrice Bouqueniaux, Technical Director, who managed event production, explains: *"We experimented in temperatures of -28°C. To make such a big installation at an outdoor venue work, you need the best of the best. And the way to get the best of the best is to have strong collaboration with qualified engineers, like we had in Rio. We had the same quality and skill here in PyeongChang. That helped us realize good performance in extreme weather conditions. They're like the Formula 1 of projectors; you can get that kind of performance fit for any size, at any kind of event."*



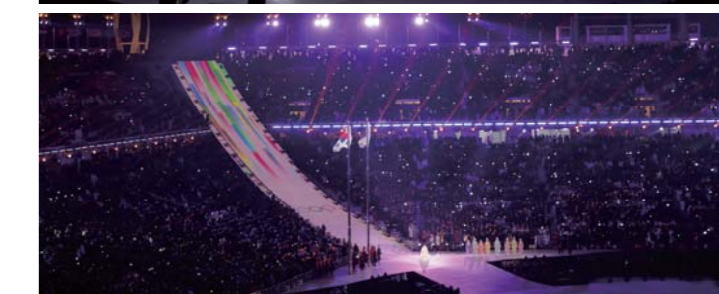
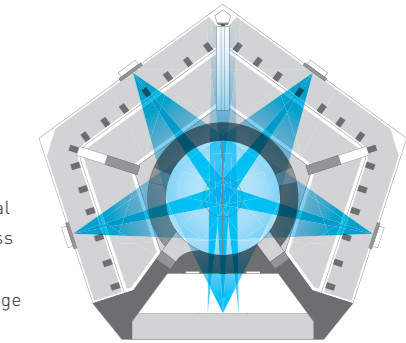
## Delivering Class-Beating Pictures in Extreme Conditions

Panasonic combated extreme conditions with "cabin" structures built to protect projectors from freezing air, controlling potentially disastrous temperature fluctuations during projection at the Opening Ceremony, Closing Ceremony, and festivities on ice.



## Engineered for Seamless Mapping

Projecting images across vast distances from around the pentagonal venue, Panasonic assured the success of each production with a variety of projection patterns under severe usage conditions.

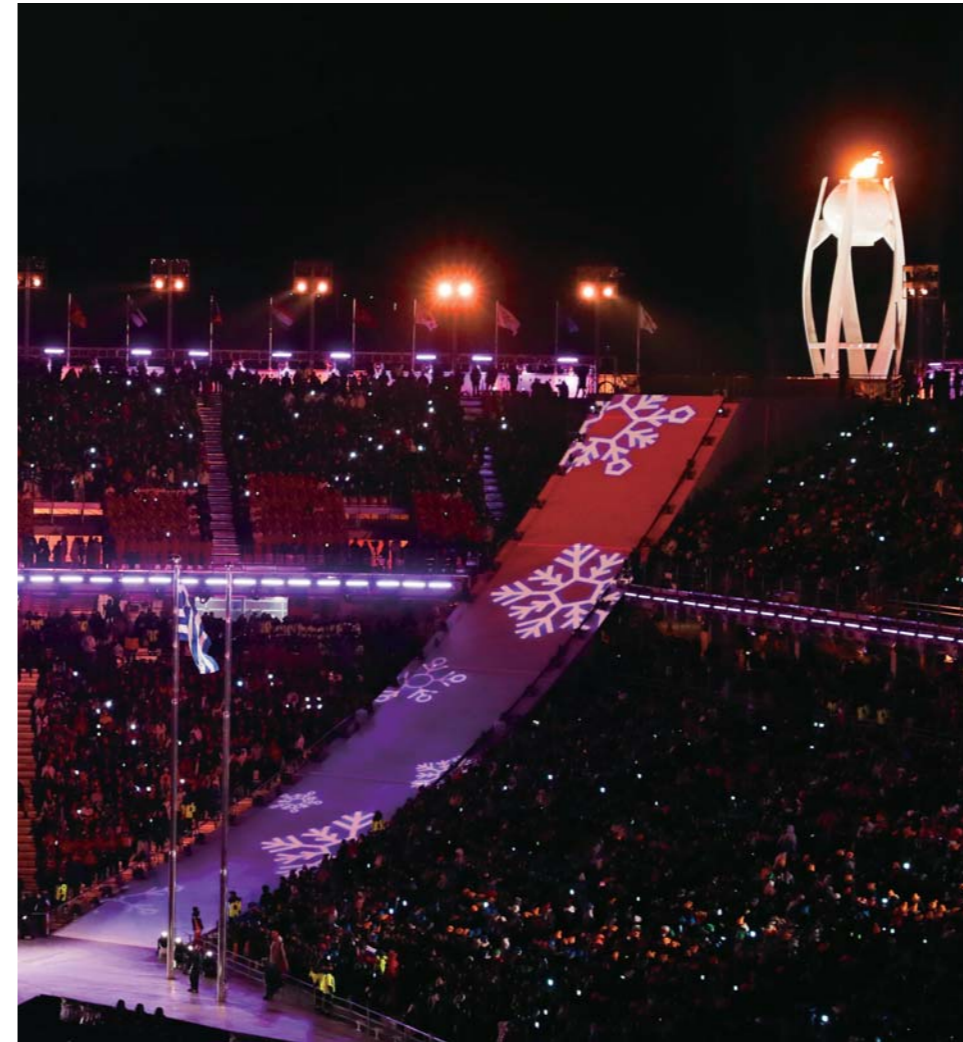




## OPENING CEREMONY [The Olympic Winter Games PyeongChang 2018]

### Panasonic Sets Peace in Motion

The Opening Ceremony, titled "Peace in Motion," began with the ringing of a nine-meter-high Bell of Peace in the pentagonal PyeongChang Olympic Stadium. Children appeared and took the audience on a journey through the past, present, and future under the gaze of PyeongChang 2018 mascot Soohorang, a white tiger. White tigers have long been considered guardian talismans in Korean culture. PT-RZ31K and PT-RQ32K units deployed around the arena brought the creative concept to life, with immense brightness and high resolution giving substance to the awe-inspiring sculptures of light. Every projector worked faultlessly throughout the event as the world looked on at the unfolding spectacle.



## CLOSING CEREMONY [The Olympic Winter Games PyeongChang 2018]

### Panasonic Breathes Life Into a Shared Creative Vision

After 17 days of intense competition, the Closing Ceremony told the story of "The Next Wave," which emphasized "the human spirit of perseverance." Another memorable Olympic Winter Games was coming to an end, but not before the Olympic message of peace was written large in the night sky over PyeongChang and around the world. Fireworks played in and around projection-mapped images and lighting effects above the athletes, support staff, volunteers, spectators, and TV viewers united in the moment.

#### Installed equipment



3-Chip DLP™ Projector  
**PT-RQ32K**



3-Chip DLP™ Projector  
**PT-RZ31K**

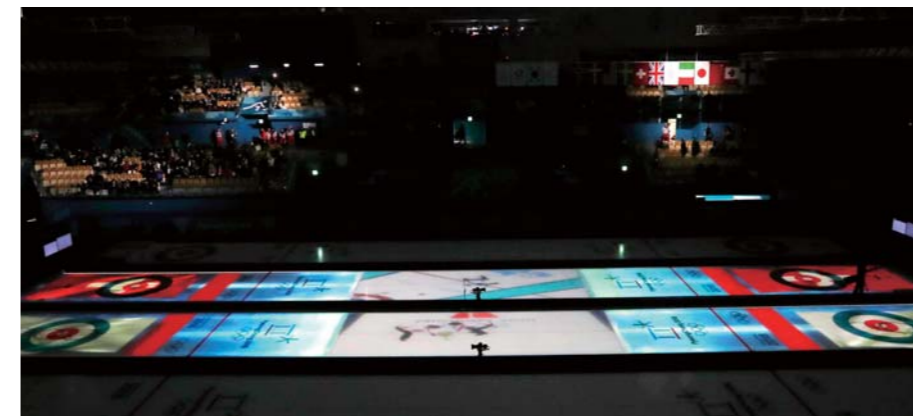


# PROJECTORS AT COMPETITION VENUES

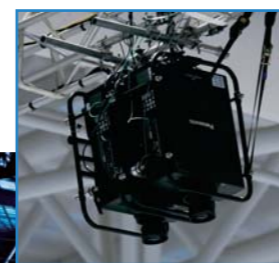
Stunning visuals at various competition venues were delivered by SOLID SHINE Laser projectors. Flexible installation, high brightness, and high contrast performance offered by Panasonic 3-Chip DLP™ projectors heightened the excitement with vivid full-color and monochrome images.



Projection mapping with four PT-RZ31K units at the Gangneung Ice Arena.



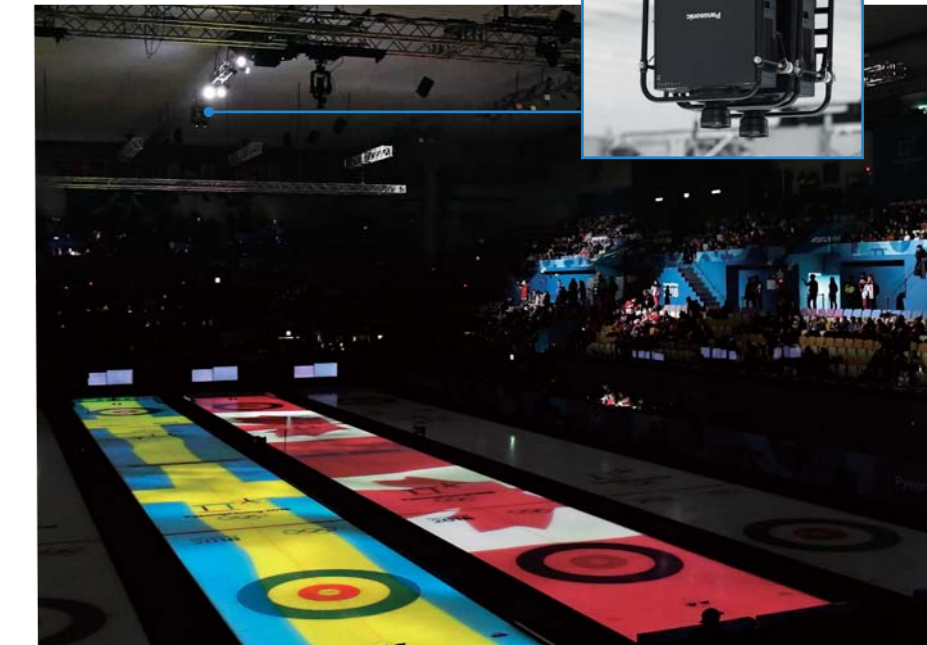
With quad-lamp system assuring effective backup and guaranteed image display together with excellent native contrast and color, the PT-DZ21K2 units turned ice to fire at the Gangneung Curling Centre.



The *de facto* large-scale events projector, the ever-reliable 3-Chip DLP™ PT-DZ21K2 delivers high brightness of 20,000 lm. Easy operability streamlined the setup of dual projectors to provide projection at the Gangneung Oval.



Fitted with accessories, PT-DZ21K2 units had flexibility to project downwards from frames attached to scaffolding at the Gangneung Curling Centre. This configuration enabled vivid floor projections from a very long throw distance.



## Installed equipment



3-Chip DLP™ Projector  
**PT-RZ31K**



3-Chip DLP™ Projector  
**PT-DZ21K2**





# PRO DISPLAYS AT COMPETITION VENUES

Competition venues at PyeongChang 2018 were expected to be the coldest in the history of Olympic Winter Games. Panasonic supplied its tough TH-47LFX60 all-weather, all-purpose outdoor signage displays along with various indoor displays and monitors, conveying the exciting atmosphere together.

TH-47LFX60 at the Alpensia Ski Jumping Centre.



Panasonic has the edge for outdoor applications as proven by the exemplary performance of its TH-47LFX60 at ski venues including the Alpensia Cross-Country Skiing Centre.



TH-47LFX60 displays information with IPS panel for wide-angle visibility at the Olympic Sliding Center.



Viewers were kept up to speed at the Phoenix Snow Park courtesy of Panasonic professional outdoor displays.

Events with sub-zero temperatures at the Yongpyong Alpine Centre placed uncommonly tough demands on the TH-47LFX60, which came through with flying colors.



■ Installed equipment

Outdoor Signage LCD Display  
**TH-47LFX60**



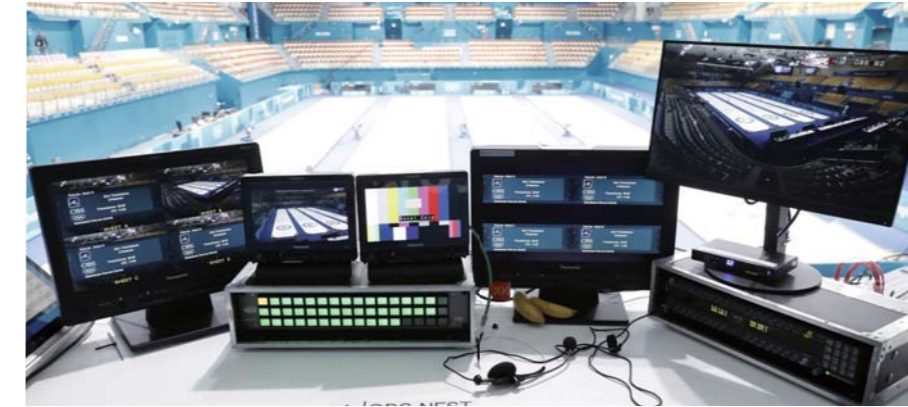




# BROADCAST AND PROFESSIONAL VIDEO SYSTEMS AT COMPETITION VENUES

Panasonic has been official supplier of professional video systems since Barcelona 1992. Panasonic's recording format, equipment, and on-site experience has made it the foremost choice for Olympic Games organizers for 26 years, with Panasonic's advanced P2HD broadcast camera system most recently introduced at Rio 2016. Further, its 2ME Live Switcher (AV-HS6000) is popular with operators for its ability to switch or superimpose two or more video sources to competition venues, press centre, the International Broadcasting Centre (IBC), and other locations, facilitating efficient workflow.

The Panasonic AJ-PX5000G Camera Recorder in action at the Alpensia Ski Jumping Centre.



A variety of professional video systems installed at the Gangneung Curling Centre facilitated smooth and professional broadcasting.

AJ-PX5000G is ready to capture historical moments at the Gangneung Ice Arena while meeting needs for broadcast workflows in the networking age.



Intuitive operations while viewing source video or using the display as a sub-panel made possible with 2ME Live Switcher at the Phoenix Snow Park.



## Installed equipment



Memory Card Camera Recorder  
**AJ-PX5000G**



2ME Live Switcher  
**AV-HS6000**





# PROFESSIONAL AUDIO SYSTEMS AT COMPETITION VENUES

The RAMSA audio system was developed specifically for the Olympic Games. Its durable design withstands severe conditions such as strong wind or low temperature. Whether installed far away or nearby the listener, RAMSA delivers a more uniform sound level than conventional speakers. RAMSA next-generation line-array speakers debuted at PyeongChang 2018 with improved clarity and higher power, ramping up the excitement at venues including the Alpensia Ski Jumping Centre, YongPyong Alpine Centre, Gangneung Olympic Park, and in particular, Phoenix Snow Park.

John Paul Giancarlo, Associate Director of Games Technology & Energy (IOC)\*, commented: *"We had all the extreme sports, such as half-pipe, slope-style, and aerials at the Phoenix Snow Park, and it's all-new RAMSA equipment installed there. It's really a show, and we wanted to create an almost rock 'n' roll youth environment. Having Panasonic RAMSA equipment there just gives a fantastic sound and environment for people to take away."*

\* International Olympic Committee.

RAMSA speaker at the Phoenix Snow Park.



With conventional speakers, sound suffers from attenuation: it weakens with distance. Line-array systems minimized this attenuation so that all spectators in vast Olympic Games venues could enjoy the clear, high-quality sound regardless of seating.



RAMSA line-array speakers deployed in the most challenging environment: outdoors and in cold, windy conditions at the Gangneung Olympic Park.



RAMSA speakers were deployed to deliver crystal clear, immersive, and dynamic sound to every corner of the venue at the Alpensia Ski Jumping Centre.



Installed equipment



2-Way Speaker

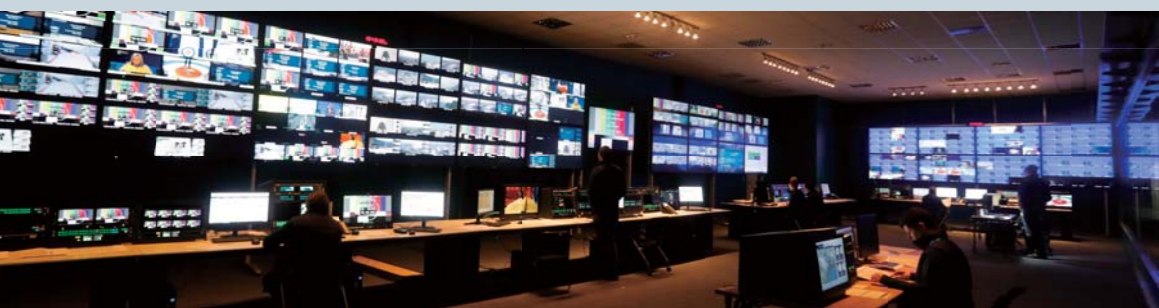


Line Array Speakers



Subwoofer





## PANASONIC OPERATION SUPPORT

### INTERNATIONAL BROADCAST CENTRE (IBC)

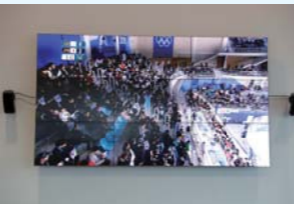
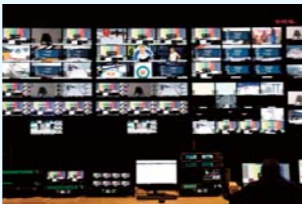
IBC served as the base for the press and broadcast media covering PyeongChang 2018. Inside the venue, NHK and Olympic Broadcasting Services (OBS) collaborated to create an 8K theater using four Panasonic PT-RQ32K 4K+ projectors. The installation proved a breathtaking forum from which to view the events as they unfolded.



8K theater at IBC.



Resident support team.



Supporting operation with various audio-visual equipment.

### MAIN OPERATION CENTRE

Panasonic's dominance in the creation of seamlessly spectacular yet easy-to-install video walls is on record, yet the company continues to refine and improve its displays to provide even better performance. The Main Operation Centre at PyeongChang 2018 features 11 sets of four-panel video walls for monitoring, with the new TH-55VF1H chosen for its phenomenal detail and off-axis color accuracy and clear visibility thanks to Full HD IPS panel technology.



### MAIN PRESS CENTRE



TH-55LFV70 video-wall displays x 9 units.



Light and compact AK-UB300 4K Multi-Purpose Camera.

### OLYMPIC VILLAGE



New-generation AJ-PX800G camera-recorder for news gathering.



[PT-DZ13K + ET-D75LE95] x 2 units.

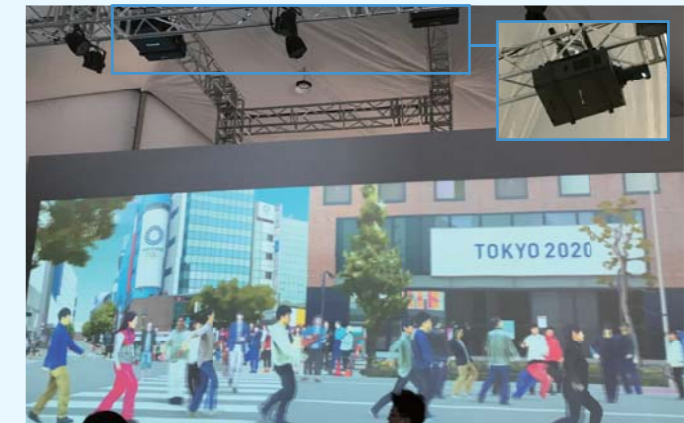
## OTHERS

### TOKYO 2020 JAPAN HOUSE

#### A MESSAGE OF CHANGE FROM TOKYO 2020

TOKYO 2020 JAPAN HOUSE introduced the world to Olympic Games Tokyo 2020 and the attractions of its host city, including Japanese culture, cuisine, and natural beauty. Part of the exhibition within comprised Panasonic LF80 Series displays, while PT-DZ21K2 3-Chip DLP™ projectors paired with ET-D75LE95 ultra-short-throw lenses projected pictures taken in a booth onto a large screen to entertain visitors.

Director General (CEO) of Tokyo 2020 Organizing Committee, Mr. Toshiro Muto, has an even bigger vision for the approaching event. "Sport has the power to change the world and our future," he says. "We want Tokyo 2020 to be the most innovative and world-changing games ever. We hope that the Olympic and Paralympic Games will offer an opportunity for change, for a new era, to bring positive change to the world. We look forward to welcoming many people from around the globe to Tokyo and to the Games. And we hope they have an opportunity to come in contact with many aspects of our culture and art."

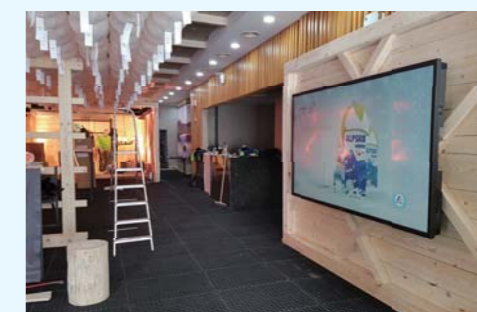


[PT-DZ21K2 + ET-D75LE95] x 2 units.



Slim-design LF80 professional displays offer clean and simple presentation.

### SLOVENIA HOUSE



Large and durable TH-98LQ70 4K professional displays x 2 units.



# SUPPORT FACILITIES



# INSTALLED EQUIPMENT AT PYEONGCHANG 2018

## 3-Chip DLP™ Projectors (Laser Models)



PT-RQ32K



PT-RZ31K



PT-RZ12K



## Ultra-Short-Throw Lenses



ET-D75LE90/D75LE95  
Note: For 3-Chip DLP™ Projectors

## 3-Chip DLP™ Projectors (Lamp Models)



PT-DZ21K2



PT-DZ13K



## 1-Chip DLP™ Projector (Lamp Model)



PT-DZ680



## Space Player



PT-JW130



## 4K UHD LCD Display



TH-98LQ70

## Full HD LCD Displays



TH-70LF50 (Discontinued model)  
[Standard]

Note: SF2H Series successor model also available.



TH-55LF80/49LF80/42LF80  
[Standard]



TH-55VF1H/55LFV70  
[Video Wall]



TH-47LFX60  
[Outdoor Signage]

## P2 Memory Card Camera Recorders



AJ-PX5000G



AJ-PX800G



AJ-PX380G



AG-HPX610

## Cinema Camera



AU-EVA1

## Live Switchers



AV-HS6000



AV-HS450

## P2 Memory Card Portable Recorder



AG-HPD24

## LCD Monitor



BT-LH2170 [Discontinued model]

## Speakers



2-Way Speaker



Line Array Speakers



Subwoofer

\* The availability of RAMSA varies depending on the country.

Note: Products featured here comprise just some of the Panasonic products used at PyeongChang 2018 only. Lineups do not represent the full Panasonic Audio-Visual Systems.