

The Olympic Host Broadcaster: History and Evolving Role in the New Era

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Television, introduced on an experimental basis at the 1936 Berlin Olympics, became increasingly important as an Olympic-covering media with each Games held after World War II. Developments both of the Games themselves and of television technology since the 1964 Tokyo Olympics have been remarkable. Especially during the twenty-one-year term of International Olympic Committee (IOC) president Juan Antonio Samaranch starting in 1980, the Olympics and television achieved rapid growth in tandem, as if two inseparable wheels of a cart, thereby contributing enormously to the prosperity of the sports business on a global scale.

In July 2001, the IOC leadership shifted from Samaranch to Jacque Rogge, and broadcasting, too, began a major change toward the new century. This paper provides an overview of the historical evolution of Olympic broadcasting, primarily from the point of view of Japan. I hope that it thereby contributes to broadcasting research not just in Japan but in other countries by recording the history and advancement of host broadcasting and the results of our research on this subject.

On October 25, 2001, new IOC president Jacque Rogge gave a speech in Tokyo expressing his candid views on the challenges faced by the Olympic Games in the twenty-first century. The speech was essentially a rundown of the specifics of his idea for downsizing of the Games, the policy he had pledged to follow when he took office as IOC president in July.

The downsizing plan has two major components. One is that the 300 events fielded for the 2000 Sydney Olympics will be reduced to 280 at the 2008 Beijing Games. He also declared that the number of accreditation cards issued to people involved in the Games would be reduced, except those set aside for the media.

Strong opposition and intricate maneuvers on the part of the National Olympic Committees (NOCs) and the International Federations (IFs) must be dealt with before the plan can be implemented. Nevertheless, since development of the Olympics has always been discussed in conjunction with plans for *more* games and events, the idea of decreasing the number of events has a

refreshing ring. The bold shift from expansion to reduction was largely accepted in order to maintain the Olympic Games as the highest standard for sports meets.

The other component of the downsizing plan is to have the IOC establish its own organizations to support the local organizing committees of the Olympic Games (OCOGs), and that the host cities will avail themselves of support from these organizations, thereby cutting down on administrative costs. In his Tokyo speech Rogge said organizations necessary to operate the Games would not be set up from scratch each time, and underlined that the founding of professional and efficient organizations to remain permanent as the Games move from one host city to the next would be a key point in the streamlining of Olympic Games operations.

That remark reconfirmed the decision, adopted by the IOC Executive Board in May 2001, that in the area of broadcasting, one of the pillars of Olympic operations, the IOC would set up its own host broadcaster to produce and distribute international television and radio signals for Olympic events, starting with the 2008 Games.

Local organizing committees have mainly, after obtaining IOC approval, commissioned broadcasters of the host countries for host-broadcasting operations. Starting in 2008, however, a private company to be financed by the IOC will take care of host broadcasting as a permanent body and the IOC will bear direct responsibility for broadcasting. This marks a reform that will make it possible to efficiently accumulate and pass down technical production know-how and broadcasting technology that have been more and more complex and sophisticated with each Olympics.

This reform will enable the local organizing committees to curtail expenses for host broadcasting, and will prevent the replication of effort that commissioned host broadcasters must go through when they tackle the unfamiliar process of organizing for the first time each time the Games are held. President Rogge's determination to put to an end to the practice of starting from scratch for each Games means that Olympic broadcasting is now at an historic turning point.

THE ROLE OF HOST BROADCASTER

Although both are broadcasters, there is a big difference in the work and role of Olympic host broadcasters, which produce the international television signal, and Olympic rights-holding broadcasters from around the world. The difference may manifest itself most at the closing ceremony held on the final day of the Games. Just before the climax of excitement in the darkened arena following the extinguishing of the Olympic Flame, the IOC copyright is indicated at

the lower right side of the TV screen, marking the end of the sixteen-day host broadcasting of the Games.

Even after that, most rights holders switch to their own cameras and continue broadcasting. They replay video tapes and their commentators' repeated sentimental phrases about the friendship, peace, love, excitement, tears, farewells, and so on occasioned by the Games. This offers a striking contrast to the host broadcaster, which closes silently with the ending of the official events.

For broadcasters, the Olympics is an all-out "battle." Except for the rare low audience ratings of America's NBC at the 2000 Sydney Olympics, broadcasters in almost all countries have been satisfied with what they achieved through a few years' preparation and in the actual "battle" during the Games themselves, and their efforts have been highly praised.

The host broadcaster produces the international television signal distributed to rights holders in each part of the world, accommodates more than 100 broadcasters' representatives from around the world at the Olympic site, and supports their independent program production and coverage. The efforts of the host broadcaster, however, are rarely reported extensively or even recognized, which is probably because people usually target domestic broadcasting for evaluation.

Indeed, one might say that part of the host broadcaster's duty is to pass along, to the broadcasters gathered at the Olympics, the results of its four or five years of accumulated ingenuity and effort in preparation. Rights-holding broadcasters are professionals at serving viewers, and the services of the host broadcaster must meet the needs of these professionals. Although what it does differs by nature, the host broadcaster can be thought of as a professional on a higher plane.

From Representative Producer to Host Broadcaster

The English term "host broadcaster" entered Japan's broadcasting vocabulary relatively recently. Until the beginning of the 1990s, the term was so unfamiliar, even among the staff of the Japan Broadcasting Corporation (NHK), that it had to be explained each time it came up.

In his 1992 book, *Nihon supotsu hoso shi* [A History of Japanese Sports Broadcasting], specialist in sports broadcasting history Hashimoto Kazuo, rather than using the English term, describes NHK as undertaking the "representative production" (*daihyo seisaku*) for the broadcasting of the 1964 Tokyo Olympics and the 1972 Sapporo Winter Olympics. The term "host broadcaster" was used—with a Japanized pronunciation—for the first time at the Third IAAF World Track and Field Championship held in Tokyo in 1991. This occasion, in which the International Amateur Athletic Federation (IAAF) commis-

sioned the Nippon Television Network (NTV) for “representative production,” is the first that Hashimoto describes using the term “host broadcaster.” The Third World Track and Field Championship was thus the event at which the term host broadcaster became a fully accepted broadcasting term in Japan.

Against the backdrop of Japan’s rapid economic growth and the euphoria of the asset-inflated “bubble” (followed by its bursting), one large international sports event after another was held in Japan from the 1980s until the mid-1990s. Abundant funds, the infamous “Japan money,” drew top-class international sport competitions to Japan. Among such competitions, the IAAF World Championship was by far the largest since the 1972 Sapporo Winter Olympics.

When a large international competition takes place, broadcast rights are sold to many foreign broadcasters, which calls the host country’s level of broadcasting technology into question. This prompts awareness of the need for production and distribution of high-quality international video and audio signals. The spread of the English term host broadcaster in Japan since the 3rd World Track and Field Championship was the result of a phenomenal increase in opportunities for Japanese broadcasters to provide international services, an increase brought about by the coincidence of the ballooning Japanese economy with the upsurge of the sports business. Despite its short history, the World Track and Field Championship had grown to be the third largest sports meet in the world—next to the summer Olympic Games and the FIFA World Football Cup—by the time it was held in Tokyo in 1991.

NTV, which covered the championships, disappointed domestic viewers by featuring too many guest appearances and a boisterous atmosphere that threatened to obscure the purpose of covering the meet. Internationally, however, NTV won high praise for its remarkable achievement as a host broadcaster.

That was only ten years ago. At the time it was thought, both at home and abroad, that NHK was the only Japanese broadcaster capable of covering a sports meet of that scale. Boris Acquadro of the Swiss broadcaster SRG, one of the best known sport commentators in Europe, repeatedly shouted into the microphone just before the close of broadcasting on the final day of the Championships, “Au revoir de Tokyo. Merci, NHK. Merci, NHK!” Expressing his thanks for the excellent video production of the Japanese host broadcaster, he inadvertently mistook NTV for NHK. This simple assumption by one of Europe’s top TV experts probably suggests the level of awareness overseas about the Japanese broadcasting industry at that time. That episode also reflects the inconspicuous, low-profile nature of the host broadcaster despite the difficult and responsible role it plays—in stark contrast to the bylined reports of star commentators or writers.

Broadcasters have learned a great deal since the first days of “representative production.” In the NHK-edited *Hoso gojunen shi* [A History of Fifty Years of Broadcasting], published in 1977, representative production is defined as follows: “The basic policy of broadcasting the Tokyo Olympics was to materialize the Olympic ideal of overcoming nationalism while respecting the sentiments of the Japanese people in favor of their country’s athletes. The idea was to produce an international picture not partial to a particular nation or to individual athletes that broadcasters from around the world would send to their respective countries, needing only to add narration and commentary in their native language.” The book notes that this production policy resulted from NHK’s dissatisfaction with the few scenes of Japanese athletes appearing in the international picture at the preceding Rome Olympics. At the same time, NHK, which performed the role of “representative production” at the 1964 Tokyo Olympics, fully understood the basic concept of today’s host broadcaster.

Given the fact that it was the first time video was transmitted over the Pacific by satellite transmission (what Japan then called “space transmission”), NHK’s adoption of such a policy at that early stage reveals its production staff’s eagerness to provide fair services to the world despite its being Japan’s first time to host the Olympics.

Both *Nihon supotsu hoso shi* and *Hoso gojunen shi* introduce an interesting episode from the Tokyo Olympics that describes a lesson relevant even today. Using a single OB-Van (signal relay vehicle) that drove ahead of the leading group of runners, NHK broadcast the entire marathon event for the first time in the history of broadcasting. Other scenes were relayed from cameras set along the marathon course. The entire 42.195-kilometer course was covered, and the technique of broadcasting via a helicopter that directed the broadcast from the OB-Van took the world by surprise.

As it turned out, however, the race was dominated by Ethiopian athlete Abebe Bikila, while popular Japanese runner Tsuburaya Kokichi competed with other runners for second place. Abebe was running more than one kilometer ahead of Tsuburaya and the others, and since it was impossible for the big OB-Van to go back and forth between the two and cover them at the same time, Tsuburaya rarely appeared on the TV screen.

The *Mainichi shimbun*, one of Japan’s major dailies, commented, “[NHK] should have had the fixed cameras take care of Abebe and used the relay vehicle to cover the athletes competing for second and third place. It is most regrettable that this was not done.”

The need to deal with such frustrations—arising from the gap between international signal broadcasting, on the one hand, and unilateral signal

broadcasting to satisfy local viewers by showing as much of their countries' athletes as possible, on the other—is a challenge still faced today. Marathons are among the sport events that attract the most viewers in Japan. At the Tokyo Olympics, held in an era when there was little understanding of international television signals, NHK succeeded as the representative producer in broadcasting the world's first coverage of an entire marathon race; but at the same time it had to swallow the bitter pill of being unable to provide domestic viewers with more coverage of their favorite runner.

Toward Alleviating the Frustrations of the International Signal

Not until the 1984 Los Angeles Olympics, twenty years after the Tokyo Games, did the present practice of Olympic broadcasting, which makes possible both the fair broadcasting of all athletes in the Games and the production of unilateral signals catering to the interests of national viewers, really get started. Actually, even before the Los Angeles Olympics, the idea of host broadcasting production had made great advances at the 1972 Munich Games in the form of the Welt Programm (World Program), which produced an international signal for global distribution separate from the domestic broadcasting targeting the host country, West Germany. For the first time in the history of Olympic broadcasting an organization was established for this particular purpose. In that sense, it is not correct to say that production of a unilateral signal for domestic viewers to supplement the international signal began with the Los Angeles Olympics. The point is, however, that after Munich it took another twelve years for the host broadcasting ideal to gain wide dissemination and for the relevant technology to advance sufficiently to satisfy every nation's need for unilateral signal production at the Los Angeles Olympics.

United States broadcaster ABC, the host broadcaster of the Los Angeles Olympics, produced live pictures of almost all the events (except for a few, such as shooting and archery), and transmitted them to the world. It also covered all the preliminary competitions as well as the finals, so each athlete participating in the events appeared in the international signal at least once. This development was epoch-making.

The interests of each nation's viewers vary widely depending on the sporting events and which athletes are participating. Images produced through uniform time distribution without consideration for individual athletes' skills are not fair, nor do they present an ideal international signal. Inevitably, television-style emotional production effects will be added to the international signal and exposure time for athletes will differ according to how much attention they draw. To deal with all these factors, ABC provided opportunities for rights-

holding broadcasters from around the world to produce unilateral signals by connecting one or two of their own cameras to the international signal.

The unilateral signal production formula was basically the same as that used since the Munich Games, but ABC made it possible for not just the host nation but other nations to produce pictures in accordance with the interests of their respective home viewers. That marked the start of a full-fledged effort to alleviate the frustrating limitations of the international signal by extending opportunities to produce unilateral signals. Consequently, viewers found themselves face to face with athletes from their own country performing in the limelight on the Olympic stage. The market value of both the Olympics and television soared.

At the Los Angeles Olympics, China participated in the Games for the first time since 1932 and China as well as African nations freed from colonial rule began to prove themselves upcoming powers in the world of sports.

Networks of free-to-air terrestrial broadcasting had been more or less established in most countries, a trend that had raised the broadcasting of sports events to the status of high profit programming and nurtured the TV ideal of bringing viewers images of events as they actually unfold.

As the number of participating nations, Olympic sports, and athletes rapidly increased, the Olympic movement grew to embrace the entire world. In the area of broadcasting, advances in satellite transmission technology worked to eliminate the lag in global time zones.

Partly because it was the first Olympics under Juan Antonio Samaranch as IOC president and Peter Ueberroth as Organizing Committee president, the Los Angeles Games are still criticized by some journalists for unleashing the forces of commercialism, resulting in the influx of professional athletes, over-expansion of the Games, and the steep increase of broadcast rights fees.

From the standpoint of television viewers, however, the 1984 Games were memorable as marking the metamorphosis of host broadcasting into the form we know today, namely, as broadcasting that shows the best of the Games with high-quality images and sound. In other words, through advances in technology, broadcasting that had relied on spectator sports for its growth raised the Olympics to the pinnacle of all spectator sports at the Los Angeles Games.

Diversified Role of Host Broadcaster

The duties of a host broadcaster are spelled out in the Media Guide appended to the Olympic Charter. In a nutshell, the host broadcaster's *raison d'être* is to produce the international signal for the Olympics, provide the facilities and services needed by the Olympic broadcast rights holders from around the

world, and set up and manage the International Broadcast Centre (IBC) as well as technical facilities at competition sites.

The international signal refers to the pictures and natural sound of the official Olympic events, including the sporting events, the opening, closing and medal awarding ceremonies, the IOC Session, and the press interviews. Other terms, such as international pictures and multilateral pictures, are also used, depending on the purpose of their use, but the meaning is the same.

Graphics (captions, etc.) in English (and sometimes French), as well as time and scoring information are superimposed on the images. The names (or trademarks/logos) of the sponsors of the computing and official timing machines used at the Olympic venues also often accompany the images. These are all part of the international signal.

This signal is provided to rights-holding broadcasters free of charge at the IBC, and from there the rights holders transmit signals to their home countries at their own expense. In other words, the price of the international signal makes up the core of the broadcast rights fees paid by rights holders.

For some Asian and African countries which, although holding broadcast rights, cannot afford to maintain space or transmitting and receiving equipment within the IBC, large broadcasting organizations from Asia, Europe, South Africa and other parts of the world with close links to these countries (such as ABU, EBU, and South Africa's SABC) and the host broadcaster cooperate in transmitting the signals to these countries on their behalf. The burden of expense involved in providing English commentaries for common use, as well as satellite circuits and other production costs, is passed on to users.

The host broadcaster was once called the "broadcaster of the host country," because a broadcaster within the country that hosted a sports meet, not just the Olympics, almost automatically assumed that role. The term was later shortened to host broadcaster as a more fitting broadcast term.

Today, for both the summer and winter Olympics, "host broadcaster" refers to an organization set up under the approval of the IOC to perform the job of broadcasting entrusted to it by the Organizing Committee for the Olympic Games (OCOG), on the basis of the Host City Contract. The official name of the host broadcaster is the Olympic Broadcasting Organization (OBO), but it is named for each Olympics by adding the initials of the host city, the year, etc. For example, it was ORTO '98 (Olympic Radio & Television Organization 1998) in the case of the Nagano Winter Olympics, and SOBO (Sydney Olympics Broadcasting Organization) in the case of the Sydney Olympics.

Host broadcasting once provided an arena for a nation to enhance its prestige in the area of broadcasting, displaying the host country's pride and the

level of its broadcasting technology. Nowadays, the scale of the Olympics has grown so large that the OBO is increasingly internationalized and specialized. It is now virtually impossible for the host nation's broadcaster to perform the duties of host broadcaster alone. The physical impossibility of a host-nation broadcaster shouldering the entire enterprise is not the only reason. Ever since live coverage of all the Olympic events began to be implemented according to the basic policy of the IOC's Radio and Television Commission (IOC-RTV Commission), highly specialized experience and know-how for broadcasting individual sporting events has become necessary in order to produce a high-quality international signal and to provide satisfactory services.

People tend to think that production of the international signal is the only job of the host broadcaster, but this is far from the truth. Another important role of the host broadcaster is to extend help in whatever way necessary to broadcasters from all over the world, which may vary widely in financial and technological capabilities, to enable them to broadcast the Olympics to the best advantage commensurate with those abilities. The job includes matters directly related to production, including securing camera positions and commentary positions for rights holders, booking services to secure transmission circuits extending from the competition sites to the IBC and then on to the international circuits; and venue management (instructions and guidance) to assure appropriate regulation of coverage of competition venues. The host broadcaster also takes care of logistics in general, helping the rights holders with their lodgings and transportation in cooperation with the Organizing Committee. It takes responsibility for more than 10,000 broadcast-related personnel from around the world during the Games, in all matters related to their broadcasting activities and daily lives.

The organization of the host broadcaster features two groups of experts: the core, "think-tank" group of around 200 specialists (about 50 for the winter Olympics) who spend four or five years integrating production and technology systems in preparation for an upcoming Olympiad, and a production team of some 3,000 contract professionals whose skills are mobilized at the time of the Games. The host broadcaster is a huge, specialized—and purely consumer-type—organization that spends more than four years making preparations for the sixteen-day Olympiad and is dissolved following the conclusion of the Games.

Spreading Tide of Internationalization

The host broadcasting of the 1988 Seoul Olympic Games was managed by the Korean networks Korean Broadcasting System (KBS) and Munhwa Broadcasting Corporation (MBC). Following the previous year's declaration

of national democracy and the holding of direct presidential elections for the first time in sixteen years, the Olympiad represented an important event from which the Republic of Korea would take a big step forward into the international community.

Named SORTO (Seoul Olympics Radio and Television Organization), the host broadcaster did not have adequate television production experience in all 260 events of the 23 sports to be held. It entrusted the production of four sports—gymnastics, equestrian events, sailing, and weight lifting—to NHK (Japan), BBC (Great Britain), CH10 (Australia), and ANB (TV-Asahi, Japan), respectively. As for the production of athletics coverage, in which techniques required for proper and orderly broadcasting of both track and field events are difficult, Raimo Piltz of YLE (Finland) personally led the South Korean production team.

The core staff of SORTO also included Guy des Ormeaux and Marcel Deschamps, both from Canada, Horst Seifart from West Germany, and a number of other experts who were pioneers in sports broadcast production in the early phase of the television industry. Serving as the brains of SORTO, they helped coordinate work with foreign broadcasters.

For many of the same reasons, ten years after Seoul, at the 1998 Nagano Winter Olympic Games, host broadcaster ORTO '98 mobilized an international team of experts from various countries for the first time in the history of the Japanese broadcasting industry. Television production of bobsleigh/luge, biathlon, and curling was totally unfamiliar to Japanese broadcasters. ORTO '98 did not hesitate to entrust the production to BBC, YLE, and CBC (Canada), respectively.

In ice hockey, superstars active in the North American professional league, the National Hockey League (NHL), participated for the first time in the history of winter Olympics. Japanese broadcasters had little confidence in their ability to direct the cameras and control switching to keep pace with the speed of players at the ice hockey Arena A, where strong teams from North America, Northern Europe, and Eastern Europe were to compete. CBC covered the games on behalf of the Japanese broadcasters, displaying high-level production techniques as sharp and nimble as the NHL players themselves. Thus was formed at the Nagano Winter Olympics the first international team in the history of Japanese television sports production.

Seoul and Nagano demonstrate how “the best is the standard” slogan—founded on the IOC-RTV Commission’s policy that the best games happen when television production is at its best—became firmly established. The broadcasting industry in both East Asian countries overcame language barriers, and the Olympics added further momentum to internationalization.

Since then, television production of the Olympics has advanced even further. It has now grown so diverse that it seems no longer adequate to describe it as mere "internationalization," as we can see from the composition of SOBO, the host broadcaster of the 2000 Olympic Games in Sydney, and the production teams organized then. The idea that the best is the standard reached the point at which it did not matter whether the broadcaster to be commissioned had the broadcast rights or not. As far as broadcasting was concerned, one could hardly tell which country hosted the Olympics.

Figure 1 lists the international production teams at the Sydney Games. International Sports Broadcasting (ISB) of the United States and the Seven Network (CH7), which had the rights to broadcast in Australia, formed the core of SOBO, commissioned as host broadcaster by the Sydney Olympic Organizing Committee. Headquartered in Salt Lake City, ISB is a private corporation directed by Manolo Romero, who served as the chief executive of SOBO. Engaging mainly in production coordination, ISB itself is not a broadcaster.

Figure 2, displaying a list of the international production teams and the number of staff members at the Nagano Games, helps emphasize the richly international composition of the host broadcaster at the Sydney Games. The comparison reveals that SOBO's production teams, including those of non-rights holders, were mainly from outside Australia, and that their international diversity was so great as to overshadow the Nagano Winter Olympics held two years earlier.

Some of the terms in these figures should be explained. "Feed number" means the number of international signals transmitted from the competition sites to the IBC. At peak times, images of nearly forty sporting events are being sent simultaneously, and the rights holders at the International Broadcast Centre choose either to relay the pictures live or to stock them on video tape, before sending them to their home countries. "Integrated feed" in the categories of athletics (track and field) and gymnastics refers to the images of top athletes selected by the host broadcaster and transmitted to the IBC when two or more events occur simultaneously within the same competition venue. This formula enables viewers to see the best athletes competing for medals even on the television of small broadcasters not equipped with receiving and transmitting devices for signal switching within the IBC.

A look at the list of SOBO production teams reveals several striking features of the Sydney Games. One is a new development in the host country itself. CH7, which had the right to broadcast the Games in Australia, took charge of producing the international signal for aquatic events, but even rival local broadcasters, which did not have broadcast rights, joined in, providing

Figure 1. International Production Teams at the Sydney Olympics

Sport	Production Team	Feed Number
Opening/Closing Ceremonies	SOBO	1
Aquatics		
Swimming	CH7 (Australia)	1
Diving	CH7	1
Synchronized Swimming	CH7	1
Water Polo (Preliminaries)	CH7	1
(Finals)	CH7	1
Archery	SOBO	1
Athletics		
Integrated & Throws	YLE (Finland)	2
Track	BBC (Great Britain)	1
Vertical & Horizontal Jumps	NINE (Australia)	2
Marathon	TVE (Spain)	1
Race Walks	TVE	1
Badminton	SOBO	1
Baseball	SOBO	1
Basketball (Preliminaries)	NBC (U.S.A.)	1
(Finals)	NBC	1
Boxing	FOX SPORTS (Australia)	1
Canoe/Kayak		
Sprint	SRG (Switzerland)	1
Slalom	SOBO	1
Cycling		
Track	TVE (Spain)	1
Road Races	TVE	1
Mountain Bike	SOBO	1
Equestrian		
Jumping & Dressage	SOBO	1
Three-day Event	SOBO	1
Fencing (Preliminaries)	SOBO	1
(Finals)	MTV (Hungary)	1
Football		
(Preliminaries & Women's Finals)	VRT / RTBF (Belgium)	1
(Preliminaries)	CT (Czech Republic)	1
(Preliminaries)	ABC (Australia)	1
(Preliminaries)	SOBO	1

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Sport	Production Team	Feed Number
Football		
(Preliminaries)	TV2DK (Denmark)	1
(Men's Finals)	VRT / RTBF	1
Gymnastics		
Integrated	NHK (Japan)	1
Control A	NHK	2
Control B	NHK	2
Control C	NBC (U.S.A.)	1
Rhythmic Gymnastics	SOBO	1
Trampoline	NHK	1
Handball (Preliminaries)	DR-TV (Denmark)	1
(Finals)	DR-TV	1
Hockey	ABC (Australia)	1
Judo	TVP (Poland)	2
Modern Pentathlon		
Shooting	SOBO	0 (ENG)
Fencing	SOBO	0 (ENG)
Swimming	CH7	0 (Taped)
Riding	SOBO	1
Running	SOBO	1
Rowing	SRG (Switzerland)	1
Sailing	TVNZ (New Zealand)	1
Shooting	SOBO	1
Softball	TVNZ	1
Table Tennis	SVT (Sweden)	1
Tae Kwon Do	SOBO	1
Tennis	SOBO	2
Triathlon	TVE (Spain)	
Volleyball (Preliminaries)	SOBO	1
(Finals)	RTR (Russia)	1
Beach Volleyball	SOBO	1
Weightlifting	RTV-SLO (Slovenia)	1
Wrestling		
Greco-Roman	TVP (Poland)	3
Freestyle	TVP	3
Beauty Cameras	SOBO	7
(Total)	SOBO production team & 20	76
28 Sports/300 Events	other overseas broadcasting teams	

Source: SOBO Booking Office data.

Figure 2. International Production Teams at the Nagano Winter Olympics

Sport	Production Team	Number of Cameras	Number of Staff
Alpine Skiing Men's Downhill/Super Giant Slalom	NHK	29	144
Alpine Skiing Women's Downhill/Super Giant Slalom	NHK	29	127
Alpine Skiing Giant Slalom	TV Asahi	18	99
Alpine Skiing Slalom/Snowboarding Giant Slalom	Fuji TV	20	93
Nordic Combined (Slalom)	TBS Vision	13	41
Cross-country Skiing	NHK	45	183
Ski Jumping/Nordic Combined (Jumping)	NHK	15	73
Freestyle Skiing	TV Asahi	12	63
Snowboarding Halfpipe	NTV	12	61
Speed Skating	NTV	16	66
Figure Skating/Short-Track Speed Skating	TBS	14	66
Ice Hockey (arena A)	CBC (Canada)	19	47
Ice Hockey (arena B)	TV Tokyo	20	88
Biathlon	YLE (Finland)	25	116
Bobsleigh/Luge	BBC (Great Britain)	33	86
Curling	CBC (Canada)	11	46
Opening Ceremony	NHK	22	121
Closing Ceremony	TBS	17	88
Award Ceremonies	Local Broadcasters Consortium/Nagano Area	5	24
Press conferences at the MPC	TBS	2	15
Balloon camera systems	—	2	—
Aerial shots	—	2	—
Beauty cameras	—	5	—
	(Total)	386	1,647

Source: *Official Report of the 18th Winter Olympic Games*, Organizing Committee of the XVIII Olympic Winter Games, Nagano 1998.

production teams for other sports. ABC, Nine Network, and Fox Sports, all mentioned in the list, are CH7 rivals and had no broadcast rights. Olympic host broadcasting history has rarely seen such deep commitment by the non-rights holders in the host country.

Another marked feature is that broadcasters from Poland, Slovenia, Hungary, the Czech Republic, and Russia sent production teams to SOBO. This development is remembered as a refreshing one, for that was the first time that

countries in the former socialist camp had participated in host broadcast production.

There were cases in earlier Olympics in which television broadcasters of relatively small countries dispatched production teams to the host broadcaster and earned high international praise for their performance. Outstanding examples include coverage of the track and field events by a Finnish television broadcaster, of bicycle racing by a broadcaster from the Netherlands, and of sailing by a broadcaster from New Zealand. Prior to Sydney, however, Olympic broadcast production through international cooperation had been considered an opportunity for long-established broadcasters with some leeway in financial, technological and manpower terms, like BBC, NBC, and NHK, to demonstrate their ability. But in explaining the criteria for selecting production teams, SOBO chief executive Romero stated that even small countries often have highly specialized individuals and organizations.

Another feature of the Olympic broadcasting in Sydney was that, while entrusting the international production teams to take care of the main sports, such as track and field, swimming, and gymnastics, SOBO itself took charge of competitions whose television popularity was relatively low. This overturned the general image of a host broadcaster. As far as production of the international signal was concerned, SOBO as the core group was devoted to coverage of the opening and closing ceremonies.

The gathering of the best broadcast producers regardless of nationality was perfectly fitting both for a multi-ethnic, multicultural country like Australia and for the last Olympic Games of the twentieth century. It was also a development unprecedented in Olympic broadcast history.

The Olympics provides rapidly increasing opportunities for people like Finland's Piltz, who personally led the track and field television production at the Seoul Games, to temporarily leave their home broadcaster and display their outstanding talents as freelancers.

A fine example from Japan was Noshi Kenji, an NTV engineer. Noshi handled the booking of the IAAF World Championship held in Tokyo in 1991, the host broadcaster for which was NTV. His talents having been witnessed, Noshi was put in charge of host broadcast booking for the 1992 Barcelona Games, the 1994 Lillehammer Winter Games, the 1994 World Football Cup held in the United States, the 1996 Atlanta Games, the 1998 Nagano Winter Games, and the 2000 Sydney Games. For the Nagano Games he served as director of the Booking Office of ORTO '98.

It is noteworthy that Noshi's employer, NTV, did not have broadcast rights at the 1994 World Football Cup. Noshi joined the host broadcaster as requested, although doing so did not bring any direct benefit to his employer.

Booking is not something contracted out en masse to an affiliated organization. The job requires the extremely sophisticated expertise of individual specialists. In Europe and the United States, it is not unusual for specialists to leave their companies temporarily and return on a fresh contract after the sporting event is over. In Japan, where lifetime employment is the norm, Noshi's case was quite an exception.

Barna Heder of MTV (Hungary), who supervised the SOBO television production for the fencing events, is a former world championship-class fencer. His deep knowledge of both TV production and the sport meant that no one was better for the job. This explains why the internationally little-known MTV was able to play an important part in SOBO.

Clearly from these examples, internationalization of the host broadcaster has been realized as a result of the strong demand for professionals in very specialized fields.

This method of organizing production teams made up of top-notch specialists, placing top priority on the excellence of the organization and the hand picking of outstanding individuals, was nurtured by the European Broadcasting Union (EBU), which, making the most of its organizational capacity as a broadcast consortium, had covered numerous sporting events held in Europe every year. The "EBU pool operations" formula that began in 1953 has spread over the decades to the whole system of international signal production for the Olympic Games.

The way host broadcasters once organized themselves for the sake of the host country's national prestige has been changing. Now, the host broadcaster is becoming a core of professionals whose lineup is almost the same every two years the Games are held. Just as the Olympics have expanded globally, the host broadcaster that forms the crux of broadcast operations has been extending its organizational composition on a global scale.

World's Largest Broadcaster

An Olympiad is a sixteen-day event that draws the greatest attention of any event in the world. Images on the TV screen fill people with pure excitement. The international signal produced by SOBO at the Sydney Olympics covered all 300 events in 28 sports, and extended to a total of 3,400 hours. Viewer ratings were high in every country. In Japan, the ratings for the women's marathon, judo, and football events were extremely high.

The IBC, the world's largest broadcaster and the nerve center for global TV and radio coverage of the Games, is organized, dissolved, then reorganized every fourth year when the next summer Olympics takes place.

Let me list some figures that indicate the scale of Sydney's IBC and of the

system of Olympic broadcasts transmitted from Sydney to an estimated worldwide total of 40 billion viewers during the sixteen-day event.

- Total area: 70,000 sq. m.
- No. of broadcasting rooms: 1,600
- No. of studios: 35
- No. of TV and radio broadcasters and consortiums: 120
- Monitor room: 50 m. long and 2.5 m. high, equipped with 400 monitors to keep track of all the international and unilateral signals simultaneously
- No. of large antennas for the satellite earth stations set up within the IBC site: 15
- No. of telephones: 3,400
- No. of broadcasting personnel: 15,000 (of which 3,500 were related to the host broadcaster)
- Electric power used: Equivalent to use by a city of 30,000 population
- Total length of power cable: 300 km.
- Total length of video and audio cable within IBC: 3,500 km.

THE EVOLUTION OF HOST BROADCASTERS

Since World War II, the number of television cameras used by host broadcasters at the Olympic Games has increased sharply. Whereas just three television cameras were used experimentally at the Berlin Games in 1936, 80 cameras (74 black-and-white and six color) captured the Tokyo Games in 1964, 98 color cameras were in use at the Munich Games in 1972, and 250 at the Los Angeles Games in 1984. The number climbed further to 586 cameras at the 1992 Barcelona Games, and to 1,123 at the 2000 Sydney Games, the last Olympics of the twentieth century.

Over this period, the Olympic Games themselves developed rapidly, emerging from exploitation as an opportunity for state propaganda, weathering the Cold War era, and shifting from a stance of radical amateurism to the admission of professional athletes and practices. Broadcasting has also changed rapidly with the progress of technology.

This section looks back on the history of Olympic host broadcasters, tracing their evolution not only technologically but also in their approach to production. It draws partly on *Television in the Olympic Games: The New Era*, the report of the IOC symposium held under the same title in Lausanne, Switzerland in 1998, and partly on an interview with Manolo Romero, chief executive officer of SOBO and one of the most influential figures in the rapid reform of Olympic host broadcasting that has taken place since the mid-1980s (see bottom of p. 126 below).

The list of names of the host broadcasters for the summer and winter

Olympics since World War II, provided in Figure 3, may help readers unfamiliar with Olympic broadcasting to better understand the history presented below.

The Dawn of Olympic Television

The period covering the 1936 Berlin Games, the 1948 London Games, the 1952 Oslo Winter Games, the 1952 Helsinki Games, the 1956 Cortina d'Ampezzo Winter Games, and the 1956 Melbourne Games corresponds to the dawn of the Olympic television era. While the classification of so many Games into a single group ignores the considerable length of time and technical advances between the first and last was the heyday of radio and the lead-up to the rise of television as the top medium of sports broadcasting.

At a time when images of Berlin were often associated with Leni Riefenstahl's immortal films, the Berlin Games marked a pivotal moment in broadcasting history. Although produced with the same Nazi propaganda intent as Riefenstahl's films, television images of the Berlin Games were relayed not only within Berlin but also as far away as Hamburg and Leipzig, and were viewed by some 160,000 people at specially organized public exhibitions.

One television camera was installed at each of three sites: the main arena, the swimming stadium, and the marathon gate of the main arena. *Nihon supotsu hoso shi* [A History of Japanese Sports Broadcasting] quotes pole vault silver medalist Nishida Shuhei's impressions of the 180-scanning-line television images he saw at the Berlin athletes' village: "The picture was flickering, but it gave us a good grasp of what was happening in the events."

At the 1948 London Games, the BBC, which had experience in televising

Born in Seville, Spain in 1941, Manolo Romero graduated from the Madrid University Faculty of Technology, and entered the Engineering Department of TVE. Since his first participation in EBU pool operations at the 1968 Mexico City Olympics, he has taken part in broadcast operations at all the summer and winter Olympics and World Football Cup. Having won widespread recognition for his ability as head of the host broadcaster at the World Cup 1982 in Spain, he moved to ABC in the United States and took charge of the host broadcast production of the 1984 Los Angeles Olympics. He subsequently served as managing director of host broadcasting for the 1992 Barcelona Olympics, the 1994 FIFA World Cup in the United States, the 1996 Atlanta Olympics, the 2000 Sydney Olympics, and the 2002 Salt Lake City Winter Olympics. He will also supervise host broadcasting of the 2004 Olympics in Athens and the 2006 Winter Olympics in Torino. Since he became a member of the IOC-RTV Commission in 1985, Romero has had a decisive influence on host-country Olympic broadcasting, even in those Games when he was not directly involved in broadcasting. He is Technical Adviser to the IOC and a member of the RTV Commission.



Figure 3. Olympic Host Broadcasters After World War II

Summer Olympics	Host Broadcaster	Winter Olympics	Host Broadcaster
1948 London (Great Britain)	BBC		
1952 Helsinki (Finland)	FBC Radio	1952 Oslo (Norway)	NRK Radio
1956 Melbourne (Australia)	AUBC Radio	1956 Cortina d'Ampezzo (Italy)	RAI
1960 Rome (Italy)	RAI	1960 Squaw Valley (USA)	CBS
1964 Tokyo (Japan)	NHK	1964 Innsbruck (Austria)	ORF
1968 Mexico City (Mexico)	Telesistema Mexicano	1968 Grenoble (France)	ORTF
1972 Munich (West Germany)	DOZ (Deutsches Olympisches Zentrum)	1972 Sapporo (Japan)	NHK
1976 Montreal (Canada)	La ORTO	1976 Innsbruck (Austria)	ORF
1980 Moscow (USSR)	USSR National Television & Radio Commission	1980 Lake Placid (USA)	ABC
1984 Los Angeles (USA)	ABC	1984 Sarajevo (Yugoslavia)	JRT
1988 Seoul (Korea)	SORTO	1988 Calgary (Canada)	CTV
1992 Barcelona (Spain)	RTO'92	1992 Albertville (France)	ORTO'92
1996 Atlanta (USA)	AOB	1994 Lillehammer (Norway)	ORTO'94
2000 Sydney (Australia)	SOBO	1998 Nagano (Japan)	ORTO'98
2004 Athens (Greece)	AOB*	2002 Salt Lake City (USA)	ISB
2008 Beijing (China)	OBS	2006 Torino (Italy)	ISB

Based on: IOC ed., *Television in the Olympic Games: "The New Era"*

* Athens Olympic Broadcasting, the core of which is ISB.

sports, having broadcast the Wimbledon tennis tournament since before World War II, became the first broadcaster to cover a single Olympic sport with more than one camera. This was the start of the era of multi-camera coverage, whereby the broadcast switches among pictures provided by several cameras at once. Over the 16 days of the Games, the BBC produced a total of 64 hours and 27 minutes of live coverage. This coverage was limited to Great Britain, however, and all the international broadcasts of the London Games were by radio.

Radio was still the leading broadcast medium at the time of the Oslo Winter Games and Helsinki Games in 1952. Japan, by then on the road to recovery from its defeat in World War II, was able to return to Olympic participation at Helsinki. But the television age had yet to dawn in Japan itself, where television broadcasting did not begin until February 1, 1953, the year later.

The Cortina d'Ampezzo Winter Games and the Melbourne Games in 1956 marked two important milestones. At Cortina d'Ampezzo, Radiotelevisione Italiana (RAI) broadcast Olympic skiing events live for the first time in history. The pictures were relayed simultaneously to several countries in Western Europe via the EBU's land line (Eurovision), making this the first ever Olympics in which television pictures were relayed to viewers outside the host country. The EBU had already set up a system for joint production and televising of regional sporting programs in 1953, with the establishment of Eurovision, which linked its main member organizations, and the simultaneous launch of its "pool operations."

The summer and winter Games of 1956 are remembered as the first instances of a relationship between television and money in the Olympics, and both cases involved the EBU.

RAI paid a fee to the Cortina Organizing Committee. The concept of broadcast rights had yet to gain currency, and this payment was regarded at the time, according to former EBU Controller of Sports Richard Bunn, as a kind of "disturbance fee."

The choice of this term proved all too appropriate. At the Opening Ceremony, the ice skater who carried the Olympic Torch on the last leg of its journey tripped over an RAI camera cable. In those early days, television broadcasters did not even think to run the cables underneath the ice. Because of such incidents, the aptness of the term "disturbance fee" is still remembered at EBU today.

At the Melbourne Olympics, disputes over payment for coverage meant that not even filmed images of the Games were televised in Western Europe. The EBU refused to pay the amount demanded by the Melbourne Organizing Committee, claiming that, as an association of broadcasting organizations, there was no reason that it should. This meant that it could not even fly back

filmed images to be broadcast some days after they were shot. Such were the experiences of Olympic broadcasters in the years before people realized that sports telecasting would soon become a business of enormous magnitude.

The following year, the U.S.–Soviet “race for space” began in earnest when the Soviet Union successfully launched Sputnik 1, humankind’s first artificial satellite, on October 4, 1957. Herein lies the reason for defining Olympic coverage up to the Melbourne Games as the dawn of the television era, the period of Olympic broadcasting that came just before our ability to transmit pictures instantaneously across entire oceans and continents.

The First Generation

The Rome, Tokyo and Mexico City Games of 1960, 1964 and 1968, respectively, may be regarded as the first generation of Olympic host broadcasting. With the introduction of broadcast rights and the effective contraction of global time and distance through satellite transmission, the commercial value of Olympic broadcasting skyrocketed from that time on. In Romero’s view, however, these three Games should be distinguished from subsequent ones because the images from the domestic broadcasts in the respective host countries were used unaltered for international broadcasts.

The Rome Games were the first at which broadcasters paid the Olympic Organizing Committee fees under the banner of broadcast rights. The EBU and the American broadcaster CBS each paid \$600,000, while Japan’s NHK paid \$50,000. These were the first steps in a sports industry that subsequently grew at a phenomenal rate.

Production was handled by RAI, following its efforts four years earlier at the Cortina Winter Games, and the Rome Games were televised via Eurovision to nineteen European countries. CBS and NHK, however, relied on film and videotape sent by air, and radio remained the top medium for on-the-spot commentary.

A noteworthy feature of broadcasting at the Rome Games was that CBS carried out the first large-scale coverage, dispatching a huge number of television reporters, camera operators, and other experts, and producing a program focused on American athletes. After Rome, American television networks continued large-scale production of unilateral signals at all subsequent Olympic Games. CBS also laid a special land line from Rome to Paris, where the pictures were recorded and sent to New York by regular airliner flights.

Meanwhile, Japan’s NHK experimented with transmitting pictures by short wave. After reshooting the 24-frames-per-second 16-millimeter film provided by RAI at eight frames per second, it then transmitted the pictures to Tokyo at a speed of 30 seconds per frame. With a video signal format of 175 scanning

lines, an hour of transmission resulted in only 15 minutes of footage. Nonetheless, the process attracted considerable interest from other countries' broadcasters as a means of long-distance television transmission. For the first time in history, moving pictures were being transmitted halfway around the world.

The broadcasting technology adopted by RAI also made Rome the first Olympic Games at which images were recorded on videotape. In place of kinescope recording, which converted cathode-ray tube images into 16-millimeter film, videotape enabled playback of Olympic action just moments after it was shot.

At the Tokyo Games in 1964, NHK amazed the world with numerous technical firsts, including live color transmission of the Opening Ceremony, complete live coverage of the marathon, the introduction of slow-motion video, and the use of headsets by commentators. Of all such technical firsts at the Tokyo Games, none had as great an impact on subsequent Olympic Games as the use of satellite relay, and Tokyo was the first Olympiad to be described in the Japanese press as the "television Olympics."

Hoso gojunen shi reports that over the fifteen days of the Tokyo Games, a total of 31 hours, 49 minutes and 21 seconds of coverage was relayed via Syncom III, a satellite in geo-stationary orbit over the Pacific Ocean.

According to this account, the signal was sent from Japan via the Syncom III satellite to a 27-meter-wide parabolic antenna at Point Mugu, California, where it was restored to television signal, then relayed via AT&T's microwave link to New York for broadcast all over the United States. For Canada's CBC, the signal was sent from Point Mugu via microwave link to the NBC studios in Burbank on the outskirts of Los Angeles, where it was copied onto video tapes. The English and French versions were then sent by jet plane to Toronto and Montreal, respectively, from where they were broadcast throughout Canada. The EBU program, meanwhile, was relayed by microwave from Point Mugu to the Montreal airport, where it was copied in a mobile video unit. The tapes were then flown by jet plane to Hamburg in West Germany, where the signal was relayed (via microwave) to Brussels, Belgium, and then converted into the appropriate local formats and broadcast throughout Europe.

In this way, the Tokyo Games were broadcast via satellite relay by NBC for a total of 5 hours and 4 minutes; by CBC for 14 hours, 18 minutes and 17 seconds; and by the EBU for 12 hours and 27 minutes. The success of satellite relay made Olympic coverage possible on a global scale overnight.

NBC's unexpectedly short broadcast time stemmed from the fact that it had signed its broadcast rights contract prior to the advent of satellite relay. The contract limited its exclusive rights to film and video recordings, which meant that the pictures transmitted live via satellite could be used by CBS, ABC and

other competitors that had not signed rights contracts. That is why NBC took the unprecedented step of deliberately reducing its satellite broadcast time. It had paid one million dollars for its rights to broadcast the Tokyo Games, almost double the amount CBS had paid for its rights to cover the Games in Rome.

As exemplified by the case described above of the Japanese marathon runner who lagged too far behind the lead runner to be shown in the coverage, NHK's "representative production" adhered to the principle of impartial coverage even at the expense of its domestic service. This did not mean, however, that the international service was always its top priority, and the way in which the images produced were used for domestic broadcasting was essentially the same as in previous Olympic Games. At that time, the practice of establishing an Olympic host broadcaster separately from NHK and devoted to producing images for international audiences, had not yet begun.

Another important technical development at the Tokyo Games was the advent of slow-motion video. Revolutionizing the way not only the Olympics but all sports were viewed on television, slow-motion video thereafter became one of the main forces behind the flourishing of both television and sport.

The Mexico City Games in 1968 were the first to be covered under an internationalized production system. The rights to domestic coverage were held by Telesistema Mexicano, the precursor of Televisa, today the largest broadcaster in Central and South America. At the time, however, Telesistema lacked the technical and human resources needed to televise the Games adequately.

The host broadcaster functions were therefore shared among various broadcasters working with Telesistema under a joint production system, with America's ABC, Japan's NHK, Canada's CBC, and the EBU sending production personnel as well as color-TV mobile units and other equipment. An operations base called the Central Facility was set up in an existing communications facility in Mexico City to concentrate functions in the same manner as today's IBC. However, although they all used the NTSC format (television format with 525 scanning lines), the American, Japanese, Canadian and Mexican broadcasters were slightly different from one another in terms of technical advancement and production approach, and coordinating their varying methods was extremely difficult. This was where the EBU, which did not use the NTSC format, made its contribution in the form not of equipment but of technicians, directors and other skilled personnel with coordination know-how built up through the "pool production" system used for EBU Sports since the EBU's establishment fifteen years earlier.

This international cooperation in the broadcasting of the Mexico City Games was a great success. However, because it was a system for pooling

images produced separately by four broadcasters and one broadcasting union—that is, as a kind of image exchange—it was essentially different from what was later referred to as the internationalization of host broadcasting. The great difficulties caused by the approach of sharing independently produced images at the Mexico City Games are still talked about in the industry today. Nonetheless, having arisen from broadcasters' mutual need to compensate for one another's deficiencies, this international cooperation was one of the accidental fruits of the local conditions in Mexico.

The Second Generation

The second generation of host broadcasters were those of the 1972 Munich Games, the 1976 Montreal Games, and the 1980 Moscow Games. This was a period in which the Games were plagued by terrorism and boycotts, and the shadow of politics fell on Olympic television production as well.

The Munich Games saw the organization of the first production system aimed specifically at providing an international service. With the provision of an international feed called the Welt Programm, what is today known as the host broadcaster production method was established. In that sense, it could be said that the history of the Olympic host broadcaster system began in Munich. It was then that the West German broadcasters ARD and ZDF formed the Deutsches Olympisches Zentrum (DOZ) under the direction of Horst Seifart, one of the leading figures in the early years of EBU Sports.

Drawing a clear distinction between the domestic broadcast and the Welt Programm, DOZ followed a production policy for the latter without catering to domestic viewing trends in West Germany. For the domestic service, its approach was almost identical to today's unilateral signal production, using a mixture of international signals and pictures taken with its own cameras.

It is worth noting in this connection the extraordinary independent coverage of the Munich Olympics by the East German national broadcaster DDR-TV. Having stopped joint participation with West German athletes since the previous Games in Mexico, and having already secured its place as a major sporting power, East Germany refused to allow the DOZ-produced international signal to be relayed to its side of the wall that bisected the country. Instead, DDR-TV carried out a unique independent coverage of all the Olympic events using ENG cameras. It was at the Munich Games that ENG cameras, by then in widespread use by most of the world's broadcasters, replaced 16-millimeter film cameras as the main instrument of unilateral Olympic coverage, but East Germany's decision ironically meant that live coverage of the Games could not be seen in the very next country. DDR-TV adopted the same approach for its coverage of the next Olympic Games in Montreal, forfeiting

of its own accord television's intrinsic and distinguishing ability to show what happens as it happens. Whatever the political roots of this decision, the results were meaningless independent broadcasts.

The period of politicization of the Olympic Games continued through the Montreal Games in 1976, the Moscow Games in 1980, and the Los Angeles Games in 1984, with repeated boycotts over racial discrimination and issues stemming from the Cold War. Nonetheless, in the history of the development of the Olympic host broadcaster system, the present study takes the Moscow Games as marking the end of the second generation. The reason for this is that, in just four years between the Moscow and the Los Angeles Games, the difference in the nature of international broadcasts by host broadcasters was equivalent to an evolutionary leap of several generations.

The Third Generation

Up to the end of the 1980s, the evolution of the Olympic host broadcaster system underwent three major transitions: in Tokyo in 1964, in Munich in 1972, and in Los Angeles in 1984. The Tokyo Games were a showcase of the emerging race in development of space technology; pictures were beamed instantly across the Pacific, virtually eliminating time-difference gaps on a global scale. The Munich Games featured the first Olympic host broadcaster organized for the express purpose of providing an international broadcast service. The Los Angeles Games were the first for which the host broadcaster actively recruited broadcasting professionals from both within the host country and abroad.

The Los Angeles Games marked a radical change in both the host broadcaster and Olympic broadcasting. The factor that most characterized broadcasting at these Games was the nature of international cooperation. At the Mexico City Games, international cooperation among broadcasters from the United States, Japan, Canada, Europe and host Mexico took the form of sharing images that each had produced separately. At the Los Angeles Games, the host broadcaster was ABC, which held the rights to the American domestic Olympic broadcast. This time, however, the ABC actively incorporated into its own organization production crews from foreign broadcasters skilled in producing particular kinds of special events. Member organizations of the EBU, in particular, sent numerous crews to cover sports relatively unfamiliar to Americans, such as equestrian events, covered by the BBC, and football. While this form of cooperation resembled previous efforts in that broadcasters strove to compensate for each other's weak points, the shift from parallel to vertical organization in this case was a fundamental one.

The second new feature of broadcasting at the Los Angeles Games was that international cooperation took place not only between organizations but also

in the form of recruiting individuals from other organizations. The pattern for this was set when Manolo Romero, who had headed the host broadcaster for the 1982 FIFA World Football Cup in Spain, was hired by ABC to produce the international signal for the Los Angeles Games.

Third, the practice of adding unilateral signals to the international coverage, a production method used by DOZ at the Munich Games, was taken a step further. As in the episode concerning the coverage of marathon runner Tsuburaya Kokichi at the Tokyo Games, the frustrating limitations of the international signal have been a perennial headache for broadcasters from all countries. In Los Angeles this problem was alleviated by showing all athletes in all events at least once on the international signal, and having each broadcaster then mix the international signal with its independently produced images. This dual system largely resolved the frustrations with the international signal, which naturally varied from broadcaster to broadcaster. As a result, EBU broadcasters and those from various other countries, including Japan, Canada and Australia, actively focused their coverage on athletes from their respective home countries, a practice until then uncommon among non-American broadcasters.

The ABC-produced international signal was criticized both within the United States and abroad, curiously enough, for being biased toward American athletes. Manolo Romero has responded to this criticism by arguing that, because the program shown on monitors in the Main Press Center (MPC) was ABC's domestic version, this created a false impression of American bias that then came to dominate international opinion. Although the charge of bias was leveled not only by newspapers but also by rights-holding broadcasters from various countries, this is probably more correctly interpreted as a result of the superior ability and presence of American athletes. Fair coverage does not mean rigid, artificial uniformity. Even so, the addition of an international signal feed to the MPC, a practice followed at the next Olympic Games in Seoul (1988) and continued at all Olympics since, is aimed at averting the complaints of bias that were voiced in Los Angeles.

Another aspect of unilateral coverage at the Los Angeles Games that had a considerable impact was NHK's experimental use of a high-definition (HD) television camera. Since then, NHK has gradually introduced full-scale HD coverage of all summer and winter Olympics except for the Calgary Winter Games in 1988.

The fourth major development at the Los Angeles Games was the start of the key role played by the IOC Radio and Television (RTV) Commission. Under a proposal by IOC President Juan Antonio Samaranch, the RTV Commission was formed in 1981 from the two commissions for radio and

television that had previously split off from the IOC Press Commission. Sir Lance Cross, an IOC member from New Zealand who had come from a broadcasting background, was appointed the first RTV Commission chairman. With this new organ, the IOC took the initiative in overhauling Olympic broadcasting, a task it had previously left up to the broadcasters themselves.

After the 1988 Seoul Games, the RTV Commission, now under the chairmanship of Dr. Kim Un Yong (Republic of Korea), began actively engaging broadcasting experts and strengthening its influence and leadership role in all facets of Olympic broadcasting, including host broadcaster production and independent broadcasts for individual countries.

The Los Angeles Games, while thus the scene of numerous reforms and improvements, also marked the end of an era in that the IBC no longer included a facility for film processing. The role of 16-millimeter film in Olympic television coverage had ended, and all images were now recorded on video tape. This symbolized the final passing of the “good old days” of Olympic broadcasting and the beginning of a new age.

The 1988 Seoul Games (discussed in more detail in a previous section) were the first to be held in an Asian country other than Japan, and were characterized by a considerable narrowing of the East-West gap in Olympic television coverage.

The Fourth Generation

The five summer and winter Olympics of the 1990s—Albertville, Barcelona, Lillehammer, Atlanta, and Nagano—comprise the fourth generation of Olympic host broadcasting. The distinguishing feature of this period was that the host broadcaster was now incorporated into the local organizing committees, and the role of broadcasting was explicitly recognized as an important aspect of the overall operation of the Games.

In line with this change, the names of individual broadcasters no longer appeared in the official names of the successive host broadcasters. As is clear from Figure 3 ([p. 127]), up to and including the Games of the 1980s, the name of the Olympic host broadcaster in each case was that of the relevant broadcaster in the host country, the only exceptions being DOZ in Munich, La ORTO in Montreal, and SORTO in Seoul. From the 1990s, however, the names of all host broadcasters changed to variations on “Olympic Broadcasting Organization” (the official host broadcaster name according to the IOC Media Guide) with the name of the host city, or the initials “RTV” and the relevant year.

This change in naming was brought about by an amendment to the IOC Media Guide, made just prior to the 1992 Barcelona Games, that redefined

host broadcaster as not necessarily a broadcaster of the host country. This stipulated that the broadcasting system the RTV Commission aimed to create would not be limited to host countries, and institutionalized the process of building an international organization. In practice, that process of internationalization had already begun due to the particular circumstances of the Mexico City and Los Angeles Games, as described earlier; but with this written stipulation, the creation of an international Olympic broadcasting system gained considerable momentum.

RTO '92, the host broadcaster for the Barcelona Games, included medium-size EBU member organizations—from countries such as Denmark, Sweden and Belgium—that had no previous experience in Olympic host broadcasting. Counting individuals hired from other broadcasters, RTO '92 had a staff representing more than fifty nationalities.

Another major change during this period relates to the flow of funds. Previously, contracts for broadcast rights were made between the organizing committee and broadcasters. From the Barcelona Games on, however, the IOC negotiated the rights directly with broadcasters from all over the world. The flow of revenue gained from broadcast rights also changed: the IOC now disbursed the money to the local organizing committee for each Games, to the various National Olympic Committees (NOCs) and International Federations (IFs), as well as to itself, at a ratio of 6:3:1. Under the new system, the organizing committee provides for the host broadcaster's budget out of the funds thus allocated to the committee, and is invested with administrative control of and responsibility for the host broadcaster.

This was a systematic reorientation away from the idea that broadcasting should be entrusted to broadcasting experts, and toward the idea that broadcasting played a crucial role in the operation of the Olympic Games. This transformation of the host broadcaster system thus reflected IOC president Juan Antonio Samaranch's view of sport and broadcasting as the two indispensable wheels of the one cart.

During the same period, the fees for Olympic broadcast rights rose sharply. In conjunction with this increase, the improvements to the broadcast service that began with the Los Angeles Games—including coverage of all events and all athletes, and more opportunities to produce unilateral signals—were further enhanced in the 1990s. Figure 4 shows the change in fees for Olympic broadcast rights for the United States, Europe and Japan from the 1980 Moscow Games to the 2008 Beijing Games.

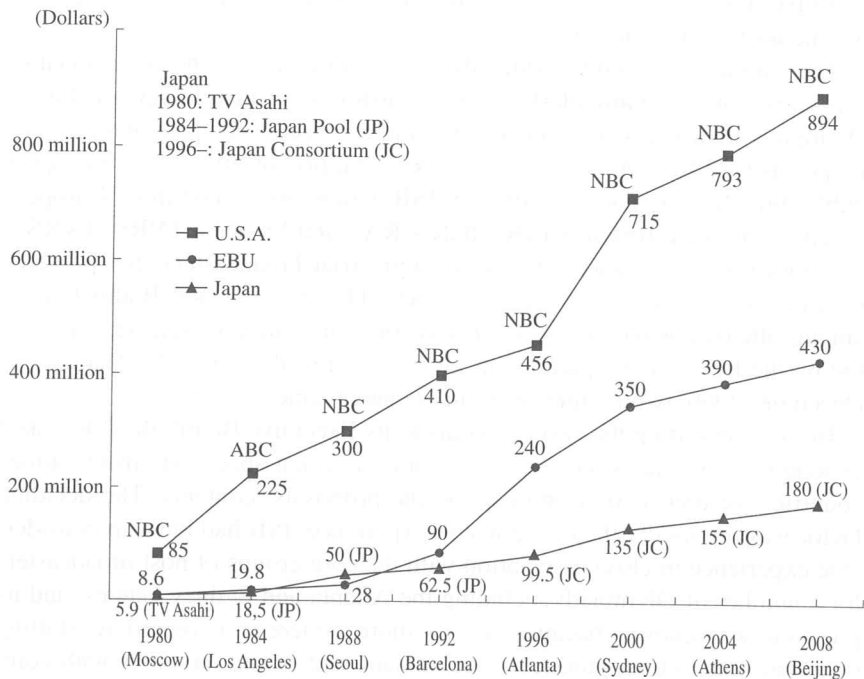
The internationalization of the host broadcaster system—described by Manolo Romero as akin to creating a small UN organization—has displayed distinctive aspects at each of the Olympic Games held since the process

began. In Albertville and Barcelona, the coverage reflected European tradition and the free-spirited Latin character. In Lillehammer, it limelighted the robust, wholesome spirit of Norway, and was acclaimed as the best winter Olympics coverage ever. In Atlanta, despite technical defects in the computer systems, the host broadcaster operations reflected the cheerful, easygoing American temperament.

The Nagano Winter Games were particularly interesting in this regard. While fundamentally eager to learn from other countries, in other respects Japan is a proud nation very conscious of maintaining face. That the Japanese broadcasting industry succeeded in organizing for the first time such a large-scale international team testifies to the progress made in Olympic broadcasting.

The fourth generation of the host broadcaster system, from Barcelona to Nagano, brought institutional changes for organizing host broadcasters, as well as active team participation in the host broadcaster organization by the world broadcasting community as a whole. In conjunction with the global spread of the Olympic movement, these efforts by the broadcasting industry

Figure 4. Summer Olympic Broadcasting Rights Fees Since the 1980 Moscow



have steadily improved the quality of the international signal with every Olympic Games held.

The New Generation

The new generation of Olympic host broadcasting is here defined as covering the 2000 Sydney Games, the 2002 Salt Lake City Winter Games, the 2004 Athens Games, and the 2006 Torino Winter Games. The latter two, being future events, cannot be included in a historical account. Nonetheless, insofar as organizational experts have replaced broadcasters as the main protagonists in the host broadcaster system, the Sydney and subsequent Games are in the same evolutionary group.

ISB, which together with host-country Australia's Seven Network formed the core of SOBO for the Sydney Games, singlehandedly organized the host broadcaster for the Salt Lake City Games, and will continue to do so for the Athens and Torino Games. This system represents one of the most dramatic changes in Olympic broadcasting history.

As I pointed out earlier while describing the nature of SOBO, ISB is not a broadcaster but a small-scale private enterprise specializing in organization-building and production coordination. As a representative of the broadcasters of all participating countries, this company is entrusted with the task of creating the host broadcaster organization.

The circumstances under which the host broadcaster for the Athens Games was chosen were a particularly graphic illustration of the changing nature of Olympic broadcasting as it moves into a new phase of its development. Two proposals vied for IOC approval, one by a coalition of three major European public broadcasters and the other by ISB acting alone. The three European broadcasters were Britain's BBC, Italy's RAI, and France's TVRS. TVRS is the consortium of France's free-to-air terrestrial broadcasters that provided international signals when EBU members TF1, F2, F3, and Radio France, among others, hosted the 1998 FIFA World Cup. The IOC rejected the joint bid by the BBC and its partners in favor of that of the solo ISB. That was in December 2000, two months after the Sydney Games.

Before submitting the two proposals to its Executive Board, the IOC asked experienced producers, engineers and other relevant specialists from various countries for their expert opinions on the proposals' contents. The deciding factor was reportedly the difference in experience: ISB had built up considerable experience in close association with the core groups of host broadcasters for a number of Olympiads including the Atlanta and Sydney Games, and its proposal was chosen because it was more concrete in regard to staffing (appointing directors, producers, technicians and so on), contacts with com-

panies that would provide technical equipment (official suppliers), crisis management, and so on.

Another important factor was that non-broadcaster ISB was more highly regarded for its organizational capabilities in building up system integration for core groups over a long period of time. This means that the criterion for evaluation had shifted to whether or not the applicant organization could accumulate and pass on the know-how required to guide the host broadcaster to success in such an enormous undertaking as the Olympic Games in an efficient and sustained manner.

That such long-established and leading European Olympic broadcasters as the BBC and RAI lost their bid to a lone, non-broadcaster private company was a source of considerable surprise in broadcasting circles around the world. Furthermore, no broadcasters from host country Greece even came forward as candidates for the job. While the term "host broadcaster" derives from "broadcaster of the host country," it may now be said that the connection with the host country has become entirely a matter of history.

It would clearly be rash, however, to conclude that the traditional influence of major broadcasters such as the BBC and RAI was diminished by this IOC decision. Nor, of course, does it mean that the cooperation of broadcasters, whether host-country broadcasters or not, is no longer needed in the production of the international signal, the backbone of Olympic broadcasting. On the contrary, the appointment of non-broadcaster ISB as host broadcaster must be understood as necessitating the cooperation of the world's broadcasters on an even broader scope than ever before.

The notion, however, of broadcasters as the main actors, as far as Olympic broadcasting is concerned, is a thing of the past. Competence is now measured by a different yardstick. Covering the Sydney, Salt Lake City, Athens and Torino Games, in the new generation of Olympic host broadcasting the key competence is choice of the right specialists from all over the world and skill at organizing them into an effective unit.

Just six months after appointing the host broadcaster for the Athens Games, the IOC launched another momentous reform: a plan to establish a permanent host broadcaster. In an executive decision in May 2001, the IOC announced it would replace the existing system under which the host broadcaster is commissioned by the organizing committee of each Olympic Games, with one whereby, beginning in 2008, host broadcaster functions will be performed by a private company funded by and under the direct supervision of the IOC. With the IOC providing eighty percent and Manolo Romero the remaining twenty percent of the finance, the company, to be based in Lausanne and called the Olympic Broadcasting Service (OBS), will be a permanent produc-

tion company for producing the international signal for all subsequent Olympic Games.

As mentioned at the beginning of this paper, IOC president Jacque Rogge explains the establishment of the OBS as aimed at curtailing administrative costs through further professionalization, and at maintaining continuity and consistency of the system from one host city to the next.

The method of creating the host broadcaster by concentrating the capabilities of existing broadcasters around the ISB as organizational nerve center effectively began with the 1996 Atlanta Games. With the excellent results of the 2000 Sydney Games, the effectiveness of this approach was widely acknowledged, including by the IOC and rights-holding broadcasters. That the ISB will continue to be in charge of host broadcaster organization for the next two Olympic Games—in Athens and Torino—attests to the widespread acceptance it has gained as the most effective method for achieving the ideal of “the best as the standard.” The launch of the OBS as an IOC-governed entity to be directly responsible for Olympic host broadcasting is an extension of the same approach.

One final matter deserves mention before this section on the new generation is closed. High-definition (HD) television, produced by NHK alone since the 1984 Los Angeles Games, was incorporated as part of the international signal for the first time at the Games in Salt Lake City. This partial inclusion of a HD signal into the conventional international signal, which is designed for standard 4:3 ratio television screen, was a bold experiment and one that has opened a new page in the history of Olympic host broadcasting. A report, in which I discussed this topic at length, was published in the February 2002 issue of *Hoso kenkyu to chosa* (published by NHK), and I have added it in adapted form as the final section of this essay.

From its beginnings at the Berlin Games, Olympic television broadcasting has transformed and evolved with the changing times and with each new Olympic Games. While the rate of that change has in fact been far from slow, at the dawn of the twenty-first century Olympic broadcasting reached a historic turning point beyond which those past changes seem to have occurred at snail's pace. If the period from the Sydney Games to the Torino Games is the new generation of Olympic host broadcasting, that beginning with the Beijing Games in 2008, when the OBS goes into action, should be called the “ultra-new generation.”

INCREASING DEMAND FOR UNILATERAL SIGNAL

Even for experienced television producers, the deployment of over two hundred television cameras throughout a single sporting venue is no mean feat. Figure 5 provides an overview of cameras deployed at the opening ceremony of the Sydney Games by SOBO for the international signal and by the various rights-holding broadcasters for their respective unilateral signals. Rights holders deployed live cameras for their unilateral signal in order to show their respective home-country athletes for as long as possible by mixing the host broadcaster-produced international signal with their own. The result was an impressive array of 77 live cameras for rights holders and 90 ENG cameras, in addition to SOBO's 45 cameras.

The sharp rise in the number of unilateral cameras was the result of a combination of factors, including an increase in the number of participating countries and athletes, a surge in viewer interest in various countries, a sharp upswing in fees for broadcast rights, and the greater convenience of equipment and materials.

The profusion of unilateral cameras is the Achilles' heel of international Olympic coverage, which has long been developed on the basis of a common understanding of fair coverage. After first appearing at the Rome Games, for a long time unilateral coverage was the exclusive domain of American television. Since the Los Angeles Games, however, the number of unilateral cameras—including those for standard television in Europe, Australia, Canada and so on, and those for NHK's high-definition broadcast—has increased with every successive Olympics, reaching a phenomenal total of 167 (counting ENG cameras) at the Sydney Games.

Under these circumstances, it is only natural that the roles of the host broadcaster and the international signal should come into question. The key challenges from now on are how to avert another, even greater profusion of unilateral cameras, and how to accommodate such large numbers of them in the limited space of sporting arenas.

One method that has been tried with considerable effect is ComCam, a small camera positioned in the commentary positions. The ComCam system was first used by EBU Sports International Inc. (ESI), which produced the international signal at the 1994 FIFA World Football Cup held in the United States. ESI was established by EBU for the purpose of host-broadcasting the World Cup, and on that occasion, too, Manolo Romero was the new company's chief executive. The ComCam was originally installed in the commentary positions for taking shots of commentators, but with further development of

Figure 5. Opening Ceremony TV Cameras: 2000 Sydney Olympics

ENG Cameras		Live Cameras		Remarks
Broadcasters	Number	Broadcasters	Number	
SOBO	0	SOBO	45	Includes 13 cameras on the field
NBC (U.S.A.)	5	NBC	27	
CH7 (Australia)	4	CH7	12	2 cameras on the field
CBC (Canada)	0	CBC	4	1 camera on the field 1 camera on the field
JC (Japan Consortium)	2	JC	3	
		HDTV (NHK)	5	
		3D HDTV(NHK)	3	
ABU (Asia-Pacific Broadcasting Union)	8	TVB (Hong Kong)	1	
		ATV (Hong Kong)	1	
CTSP (Taiwan)	1	CTSP	0	
EBU (European Broadcasting Union)	44	BBC (Great Britain)	1	
		ARD / ZDF (Germany)	5	
		RTE (Ireland)	1	
		FT2 / 3 (France)	3	
		RAI (Italy)	1	
		YLE (Finland)	1	
		NRK (Norway)	1	
		DKT2 (Denmark)	1	
		TVE (Spain)	2	
OTI (Organizacion de la Television Iberoamericana)	16	GLOBO (Brazil)	1	
		TELEVISA (Mexico)	1	
TVNZ (New Zealand)	1	TVNZ	0	
ASBU (Arab States Broadcasting Union)	5	ASBU	0	
KP (Korean Pool)	3	KP	0	
CAPPY (Official Film)	1	CAPPY	3	2 cameras on the field
Total	90	Total	122	

Source: SOBO Booking Office data

zoom and other functions, it could be used by remote control to capture slow-moving events such as the parade of athletes at the Opening Ceremony. Romero predicts that effective use of ComCams would keep the number of unilateral cameras in any single arena to around fifty. Another new expedient that has saved camera space is the unification of the high-definition and international signals, a measure implemented at the Salt Lake City Games.

At the Sydney Games, a clever idea had the effect of giving the international signal the appearance of a unilateral one. In the Women's Marathon, Japan's Takahashi Naoko, who eventually won the event, wore an amulet (*o-mamori*) attached to the waist of her running wear. Usually kept in a small silk pouch, an *o-mamori* is a common item in Japan, and in domestic coverage of road races, tight shots of such amulets are a standard way of adding variety to the picture. Watching their domestic broadcast of the Sydney Olympic marathon, it therefore seemed only natural to viewers in Japan that Takahashi's *o-mamori* was shown in close-up numerous times throughout the race. Many no doubt presumed that Japan Consortium (JC), the Japanese rights holder, had dispatched a motorcycle-mounted unilateral camera especially to cover Takahashi.

In fact, however, JC did not have a unilateral camera covering the lead group of runners; even if it had requested one, SOBO would probably not have allowed it for fear of too many camera units disrupting the race.

The SOBO-appointed production team for the Sydney marathon was Spain's TVE. One might wonder, therefore, about the repeated close-ups, since to anyone not familiar with *o-mamori* and their significance, Takahashi's would look just like a small piece of cloth, pretty but otherwise unexceptional.

The fact of the matter was that NHK producer Nakamura Makoto had told the TVE director about the significance of Takahashi's *o-mamori* prior to the race. The quick-witted response of the Spanish team to this information had the effect of making the international signal look like it was taken by a unilateral camera prepared by JC, while also spicing up the international coverage of the marathon event, which otherwise tends to be visually rather monotonous. Nakamura, who was then head of the SOBO production team for the international signal of the gymnastics, had worked with TVE's Pedro Rozas on the international signal production since the Barcelona Games, and it was due to this connection that his idea for the Takahashi race coverage was taken up with such alacrity.

This episode vividly illustrates the nature of the host broadcaster as a gathering of professionals many of whom work together from one Olympic Games to the next.

RIGHTS HOLDERS PUT TO THE TEST

The system of Olympic broadcasting is expected to remain stable at least up to 2008. One reason for this is that the host broadcasters for all Olympic Games up to and including that year have been decided. Another is that, with contractual agreements on Olympic broadcast rights for all major countries also extending to 2008, the lineup of rights holders is also fixed until then. Accordingly, there is no evidence of factors that might cause the quality of Olympic broadcasting to deteriorate, at least until 2008.

Success in maintaining and improving the quality of Olympic broadcasting as a whole, including the international signal, depends not only on the competence of the host broadcaster as “host” but also on that of the rights holders as “clients.” The holders of Olympic broadcast rights up to 2008 have sufficient professional experience and competence, built up over many years, to inspire confidence that there will be no decline in the quality of their broadcasts.

By rights holders’ “competence” I mean their capacities backed up by production capability and experience, i.e., their all-round abilities as broadcasters to prepare scrupulously and know what they can and cannot expect from the host broadcaster. Serving as a kind of self-regulation mechanism, and functioning in harmony with the host broadcaster’s leadership, such all-round competence on the part of rights holders is the foundation upon which the overall operation of today’s stable Olympic broadcasting system rests. Despite the surge in demand for unilateral coverage, as illustrated at the Opening Ceremony at Sydney, the competence of rights holders is the most crucial element preventing Olympic broadcasting operations from slipping into chaos.

How long, one may wonder, can such a healthy host-client relationship continue? While the IOC maintains a basic policy of prioritizing free-to-air broadcasters, in reality no one can predict what will happen after 2010, when the broadcast rights environment is expected to change radically. In this light, the two FIFA World Football Cup events of 2002 and 2006 will serve as useful barometers of the future direction of broadcasting at super-scale sporting events, including the Olympic Games.

In terms of total amount paid, broadcast rights for the FIFA World Cup far exceed those for the Olympic Games. This is due largely to the emergence of numerous satellite and cable television operators as rights holders. The participation of subscription (fee-incurring) broadcasters gives viewers a wider range of choice and provides more diverse opportunities for enjoying sports on television. Leaving aside the debate over ensuring universal access, this is

unquestionably one of the processes by which sports broadcasting is developing.

However, many providers of subscriber-paid broadcasts belong to a new breed of rights holders which, lacking sufficient capacity for producing their own programs, make up the bulk of their daily programming by replaying programs they have purchased from others. The chief merit of such fee-charging broadcasters is that, with numerous service channels, they are able to show the same sporting event on multiple channels each offering a different angle on the action. For the 2002 Japan-Korea FIFA World Cup, for example, the Japanese subscription satellite operator Sky PerfecTV, which paid almost double what the terrestrial network Japan Consortium paid for its rights to cover the event, will show all sixty-four matches on more than five different channels (on which different angles will be fed).

Anticipating such diverse services, the World Cup host broadcaster, Host Broadcast Services (HBS), is planning to provide, in addition to its regular international coverage and for an additional fee, an unprecedented kind of international signal featuring such innovations as "tactical feed" and "team A & B feed." However, if "tactical feed" means coverage from a single wide-angle camera positioned high above the field, while "team A & B feed" is exclusively for showing both team benches from a telephoto lens up in the stands, then at the next World Cup many rights holders will demand to have similar cameras of their own so that they too can provide a better service. This suggests the potential for another profusion of unilateral signals. It remains to be seen whether or not those rights holders can effect the same kind of self-regulation based on host-client mutual trust that we see in today's Olympic broadcasting. It is in these respects that the 2002 FIFA World Cup will serve as a telling test of what lies ahead in big-event broadcasting.

When measured in terms of broadcast rights fees, the IOC has temporarily ceded the claim to the world's biggest sporting event to FIFA, but no one expects this situation to be the same after 2010. The interim is certain to bring a tremendous diversification of sportscasting media and a gradual subdivision of broadcast rights, which currently favor free-to-air coverage, into a variety of rights. The proposal made by the IOC New Media Commission in December 2000 to create Internet rights beginning in 2010 is just one aspect of that imminent process of fragmentation.

Who will address the growing demands of unilateral coverage as various media emerge and make the most of their distinctive features? How will the limited space available at sporting venues be shared among the growing number of broadcasters? It is not only the host broadcaster's capabilities that will be tested. The crucial factor, rather, is likely to be broadcast rights holders' capacity for self-control, backed up by their production capabilities. In the

new era of Olympic broadcasting, it is the competence of rights holders that will be put to the test.

BEYOND SALT LAKE CITY*

The Salt Lake City Winter Olympic Games began amid an atmosphere of unprecedented vigilance. Of the event's total operating budget of 1.3 billion dollars, some 300 million, or just over twenty-three percent, was spent on anti-terrorist security measures. Reflecting heightened concern since the September 11 terrorist attacks, this security budget was the first of such enormous proportions in the history of both the winter and summer Games.

The Salt Lake City Games also made history in the area of Olympic television production. For the first time ever, the Olympic host broadcaster produced and transmitted to the world the Olympic international television signal using high-definition (HD) cameras. However, the HD signal itself was not broadcast worldwide. Host broadcaster International Sports Broadcasting (ISB) used both regular NTSC cameras and HD cameras, converting the HD signal into NTSC format for inclusion as part of the international signal. This report describes the HD system that ISB and NHK tried out for the first time, and considers the direction that HD television and the Olympic international signal can be expected to take from now on.

The HD Project

After the 1998 Winter Olympics in Nagano, ISB director Manolo Romero presented to NHK a proposal for implementing HD coverage of the Games in Salt Lake City. His idea was to incorporate into the host broadcaster's production system some of the HD cameras that NHK planned to use for its own broadcast, convert the HD signal into NTSC format, and include it in the international signal. Meanwhile, NHK would carry out its own HD programs for Japanese viewers as originally planned. The proposal called for the creation of a special HD Project in which broadcasters other than NHK that wished to receive the HD signal could participate by sharing the production expenses.

An engineer from Spain, Romero had for many years displayed great acumen in producing the international signals for such events as the Olympic

*The final section of this article is adapted from an essay by the author originally written in December 2001 and published in Japanese as "Soruto Reiku hatsu sekai e: Gorin kokusai eizo ni HDTV hatsu-saiyo" [From Salt Lake City to the World: First Adoption of High-definition Television for the Olympic International Signal], *Hoso kenkyu to chosa*, February 2002, Nihon Hoso Kyokai (NHK).

Games and the World Football Cup, and had a favorable impression of NHK, which had been producing its own HD broadcasts of major sporting events since the latter part of the 1980s. However, he had to deal with the knotty problem of how to allocate the limited camera space available at competition venues. For unilateral broadcasts in the NTSC or PAL formats, each broadcaster can produce a signal tailored to its home-country audience simply by connecting one or two of its own cameras to the international signal. For the HD format, however, unless the broadcaster can secure use of enough HD cameras and suitable camera positions, as sports television its coverage would be incomplete. Because of the incompatibility of the HD format with standard television formats, the method of simply adding the minimum required number of HD cameras to the basic international signal is not an option. For this reason, NHK's HD productions, while internationally recognized for their technological excellence, had long been a thorn in the side of host broadcasters in terms of providing adequate camera positions at sporting venues. By incorporating the HD coverage into the international signal, Romero's proposal was aimed at going some way toward alleviating the camera space problem.

There are many sports in the Winter Olympics for which adequate camera space cannot be obtained, such as at the top of the ski jump venue. For such positions, usually it is impossible to deploy unilateral cameras in addition to the cameras for the international signal. The host broadcaster, however, is always given top priority in the allocation of camera space, and the more project participants the lighter the burden of production costs. For NHK, Romero's proposal was a godsend.

In this way, the HD Project led by ISB and NHK was launched. HD cameras would be incorporated into production of the international signal at the ski jumping (including the Nordic combined), figure skating (and short-track speed skating), speed skating, and ice hockey venues, and at the opening and closing ceremonies. America's NBC announced its participation in the project. NBC was to provide a nationwide HD broadcast for the United States with the same content as NHK.

Double Switching

The technical side of the HD Project's production system was complicated and required considerable expertise. For each of the venues mentioned above, the Project positioned around ten HD cameras, five or six of which were used jointly for the HD and international signals while the remaining four or five were used exclusively for HD programs.

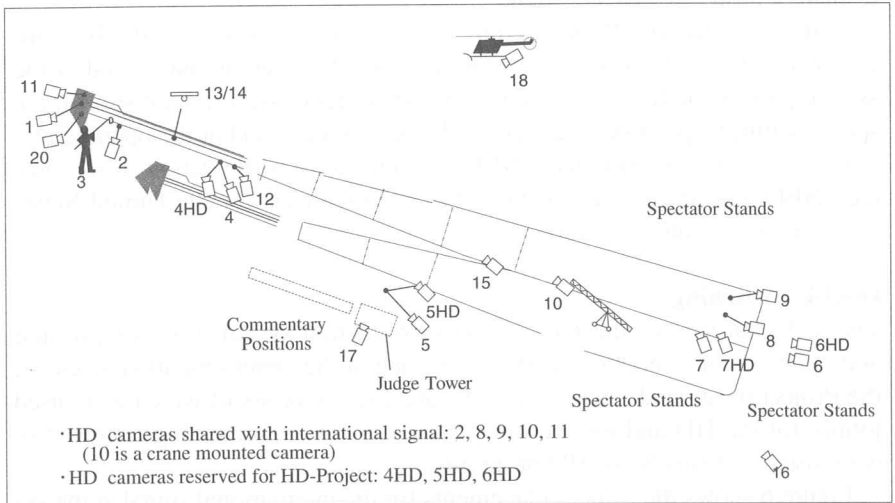
Figure 6 shows the camera placements for the international signal at the ski jumping venue (K-120). Of the total of twenty cameras, cameras 2, 8, 9, 10,

and 11 shared HD cameras used for the international signal as well. The pictures they provided were converted into NTSC format and mixed with other NTSC coverage to form part of the international signal. Meanwhile, the HD Project provided a comprehensive, independent HD signal by combining the unconverted pictures from cameras 2, 8, 9, 10, and 11 with those from the HD-only cameras 4HD, 5HD, 6HD, and 7HD.

A basic method of video switching was used to follow the athletes' movements. First, camera 2 (a shared HD camera) provided the main picture of close-range shots of the athletes up to the start of each jump. This camera provided the same images to both the international signal and the HD Project, albeit in different formats. Next, the international signal switched to camera 4 (NTSC) to follow the jumper's run down the in-run section (jump slope) to the point of takeoff. The HD Project covered the same part of the movement from a reserved HD camera (4HD) in the same position as camera 4. Similarly, the jumper's flight was captured separately by cameras 5 and 5HD from the same position and angle. Then, for the jumper nearing the braking zone after landing, two shared HD cameras positioned in that area, cameras 8 and 9, provided pictures for both the international signal and the HD Project.

This new method of video switching resulted in two notable features of the international and HD Project signals. First, in the international signal, the most dynamic action of the event was shot with NTSC cameras, while the role

Figure 6. International Signal Camera Positions for Ski Jumping (K-120)



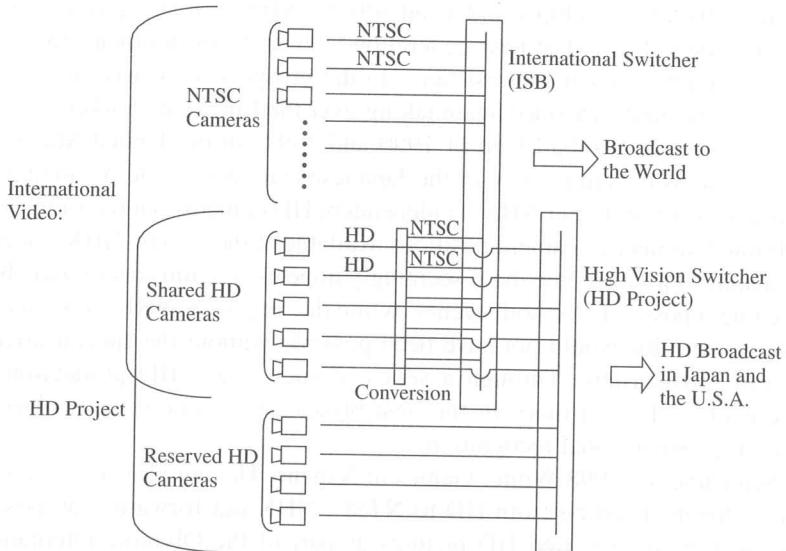
(Based on: ISB Production Manual)

of the shared HD cameras was limited to tighter shots of the athletes when they were relatively inactive. A similar pattern of camera assignment was followed at the other HD-covered events. Because HD television is unquestionably the most vivid format for capturing the dynamism of sports, this method of camera assignment seems at first glance contrary to reason. I will return to this question later.

The second feature of the switching system is that it has a dual structure, ISB controlling the operation and switching of the shared HD cameras, and the HD Project directing only the reserved HD cameras. In live sports coverage, quick and precise camera switching is vital. For that reason, it is usually an ironclad rule to have the simplest control structure possible, with a single chain of command and all staff working as one. For the ski jumping at K-120, where skiers hurtle down the slope almost thirty stories high at speeds of around ninety kilometers per hour, the production of visually coherent images depends on perfectly timed video switching.

As shown in Figure 7, this switching system is complicated, and gives the director for the HD Project no control at all over the shared HD cameras.

Figure 7. Video Switching System for the HD Project



Instructions for Camera Operation and Video Switching
 ISB: NTSC and Shared HD Cameras
 HD Project: Reserved HD Cameras Only

Moreover, in judging when to take pictures from shared HD cameras into the HD broadcast line, the HD Project director has to carefully monitor, by both eye and ear, the ISB director's directions to the shared HD cameras, lest they pan unexpectedly to a different angle during the take. Such a difficult production system could not have been set up unless ISB and the HD Project had considerable mutual trust and confidence in their respective technical abilities.

“Different Media”

NHK's HD coverage of the Olympics began at the 1984 Games in Los Angeles, where it used only one HD camera to follow the men's 200 meter sprint. The HD coverage was widely applauded for conveying a different kind of impact from that provided by the regular signal, which employed video switching among a number of cameras. Over the subsequent period, including the 1988 Games in Seoul, the 1992 Winter Games in Albertville, and the 1992 Games in Barcelona, NHK expanded its HD coverage with each successive Olympics.

Together with the 1990 World Football Cup in Italy, the two Olympics of 1992 marked the most difficult phase of the early period of HD production. This was when the Eureka formula, a different form of high-definition television from the one developed independently by NHK, was being developed in Europe, where the field of next-generation television development was therefore characterized by fierce resistance to the prospect of American software and Japanese hardware once again taking over the European market.

For the World Football Cup of 1990 and 1994 (in the United States), on both occasions the elimination of the Japanese team during the Asian qualifying rounds ostensibly put NHK's independent HD cameras out the running for the limited number of camera positions available at the events. NHK nonetheless managed to overcome these seemingly hopeless circumstances and obtain HD camera positions for both events. While due in part to NHK's own fervent commitment, this would not have been possible without the special favor of the host broadcasters. Through a series of such cases, HD production has since evolved from a thorn in the host broadcaster's side into an object of increasing international recognition.

Then came the 1998 Winter Games in Nagano. Having already used a system of downconverting from HD to NTSC, NHK put forward a proposal to transmit format-converted HD pictures as part of the Olympic international signal from Nagano. The idea met with opposition based on the fact that HD format is designed for television screens with a 16:9 dimensional ratio, while NTSC format is for screens with a ratio of 4:3. Major broadcasters such as the BBC argued that, because the two formats would require different methods of

capturing fast-moving sports action, even if the HD cameras kept the featured athletes in the center of the picture frame, it would be impossible to avoid the effects of the wide-screen format in the resulting picture. In light of these concerns, the IOC rejected the proposal.

IOC Technical Advisor Manolo Romero described this clash over coverage of the Nagano Games as the “different media” discourse. The argument was that, in the process of television’s development, HD television, being recognized as the best format currently available and requiring different expressive skills and techniques because of the different dimensional ratio of HD television screens, should be treated as an entirely different medium as far as the international signal is concerned.

Let me illustrate the point with the example of a ski jumper soaring through the air. Camera 5 (see Figure 6), an NTSC camera, first keeps the athlete’s on-screen image fairly large, then pulls back to a smaller image as the jumper is about to land. Meanwhile, camera 5HD shoots at a slightly pulled-back size throughout the jump, “deliberately” including the landing and passing surroundings. In order to enhance the picture’s impact and sense of speed, the two formats employ different screen sizes. It is to this difference in presentation method that Romero refers by the term “different media.”

The seemingly incongruous system of camera assignment used at the Salt Lake City Games was a result of the same argument. As long as the international signal is transmitted in standard television formats such as NTSC and PAL, this view is likely to remain a basic principle of the signal’s production.

However, HD television has transcended the bounds of NHK’s unilateral production. While HD television’s intrinsic advantages for sports coverage are not fully exploited, this has been counterbalanced by the placement of HD cameras in positions where it is normally difficult to deploy unilateral cameras, such as at the top of the ski jump.

Because the next few Olympics—the 2004 Games in Athens, the 2006 Winter Games in Torino, and the 2008 Games in Beijing—will all be held in countries using the PAL television format, there is no guarantee that the HD Project will continue in exactly the same way after Salt Lake City. The differences between the summer and winter Games must also be taken into account.

On the other hand, ISB will continue to be the host broadcaster in Athens and Torino. Furthermore, beginning with the 2008 Beijing Games, when the Olympic Broadcasting Service (OBS) becomes the permanent host broadcaster, the international signal will be produced under policies consistent from one host country to the next. This suggests the potential for continuation and development of the HD Project.

NHK broadcast a total of 260 hours and 15 minutes of HD programs from

Salt Lake City. NBC aired HD television for 24 hours a day throughout the event, albeit in a time-staggered broadcast. As someone who was involved in NHK's earliest overseas HD operations, I was deeply moved by the fact that these two broadcasts carried the same content.

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ABBREVIATIONS OF BROADCASTERS' NAMES

Asia Pacific

ABC: Australian Broadcasting Corporation (Australia)

ABU: Asia Pacific Broadcasting Union

ANB: Asahi National Broadcasting Company (TV Asahi; Japan)

CH10: Network Ten (Australia)

CH7: Seven Network (Australia)

Fox Sports: Foxtel (Australia)

Fuji-TV: Fuji Television Network (Japan)

KBS: Korean Broadcasting System (Korea)
MBC: Munhwa Broadcasting Corporation (Korea)
NHK: Japan Broadcasting Corporation (Japan)
NTV: Nippon Television Network (Japan)
Nine: Nine Network (Australia)
TBS: Tokyo Broadcasting Service (Japan)
TV-Tokyo: Television Tokyo Channel 12 (Japan)
TVNZ: Television New Zealand (New Zealand)

Europe

ARD: Arbeitsgemeinschaft der öffentlichrechtlichen Rundfunkanstalten der Bundesrepublik Deutschland (Germany)
BBC: British Broadcasting Corporation (Great Britain)
CT: Czech Television (Czech)
DDR-TV: Deutsche Demokratische Republik Television (Former German Democratic Republic)
DR-TV: Danmarks Radio-Television (Denmark)
EBU: European Broadcasting Union
F2: France Télévision 2 (France)
F3: France Télévision 3 (France)
MTV: Magyar Televizio (Hungary)
RAI: Radiotelevisione Italiana (Italy)
RTBF: Radio-Télévision Belge de la Communauté Française (Belgium)
RTR: Russian State Television and Radio Broadcasting Company (VGTRK; Russia)
RTV-SLO: Radio Television Slovenija (Slovenia)
SRG: Schweizerische Radio und Fernsehgesellschaft (Switzerland)
SVT: Sveriges Television (Sweden)
TF1: Télévision Française 1 (France)
TV2DK: TV2 Denmark (Denmark)
TVE: Radio Televisión Española (Spain)
TVP: Telewizja Polska (Poland)
VRT: Vlaamse Radio en Televisie (Belgium)
YLE: Yleisradio Oy (Finland)
ZDF: Zweites Deutsches Fernsehen (Germany)

USA

ABC: American Broadcasting Company
CBS: Columbia Broadcasting System
NBC: National Broadcasting Company

Other

CBC: Canadian Broadcasting Corporation (Canada)

SABC: South African Broadcasting Corporation (South Africa)

Televisa: Grupo Televisa (Mexico)

Host Broadcasters

AOB: Atlanta Olympic Broadcasting (1996 Atlanta)

CTV: CTV Television Network (1988 Calgary)

DOZ: Deutsches Olympisches Zentrum (1972 Munich)

ESI: EBU Sports International Inc. (1994 FIFA World Football Cup, USA)

FBC: Radio Finland Broadcasting Corporation (1952 Helsinki)

HBS: Host Broadcast Services (FIFA World Football Cup, 2002 Korea/Japan, 2006 Germany)

ISB: International Sports Broadcasting Inc.

JRT: Jugoslovenska Radio Televizije (1984 Sarajevo, former Yugoslavia)

La ORTO: La Olympic Radio Television Organization (1976 Montreal)

NRK: Norsk Rikskringkasting (1952 Oslo)

OBS: Olympic Broadcasting Service

ORF: Österreichischer Rundfunk (1964 Innsbruck)

ORTF: Organization de la Radio Télévision Française (1968 Grenoble)

ORTO '92, ORTO '94, ORTO '98: Olympic Radio Television Organization (1992 Albertville, 1994 Lillehammer, 1998 Nagao)

RTO '92: Radio Television Organization '92 (1992 Barcelona)

SOBO: Sydney Olympic Broadcasting Organization (2000 Sydney)

SORTO: Seoul Olympic Radio Television Organization (1988 Seoul)

TSM: Telesistema Mexicano (1968 Mexico)

TVRS: Television Radio Services (1998 FIFA World Football Cup, France)

USSR STRC: USSR State Television & Radio Committee (1980 Moscow)