

chapter eleven

Multiple-Camera Remotes

All of the formats in this book, except for this one, deal with the director's job in specific programming formats. Panel programs, musical productions, newscasts, and the other formats in this book make specific demands on the director and producer because of what the program is about. In this chapter we'll deal with the demands that stem from the director's working conditions—specifically working on location or at a “remote” site ... even if the remote site is right next door.

Remote sites are used because the locations offer unique possibilities. If it's a news event or a live documentary event—a space launch, for example—there is no choice. That's where the event is taking place, and that's where the production happens. If it's a concert or sporting event, the special qualities of the place command that site. Perhaps it's the largest coliseum in the area, and that's the only place big enough to accommodate the audience. Perhaps it's a sporting event, and it's the home team's stadium. The director/producer has to present that locale and the special qualities of that place to the audience as part of the event itself.

Being on location or at a “remote” helps you to understand how much you take for granted in a traditional control room. Once, while observing a production of *The Dukes of Hazzard*, I heard the director of photography tell the crew to begin setting up for the next shot. He said he'd shoot this one without any “gimmie's.” “Gimmies?” I inquired. “What's a ‘gimmie’?” He replied, “A gimmie is anything you want at the last minute ... you know, like ‘Gimmie, a special lighting unit, or a flag, or a different lens’ ... something you didn't count on but you'd like to have immediately.” Control rooms and studios have lots of gimmies. Almost everything you need is right there, and if something comes up—some new request, some particular lens, or certain audio gear—you're usually close to a storage room

or another studio or even a rental facility, where whatever it is that you need at the last minute can be found.

Only very large remote productions are equipped to supply a lot of last-minute gimmies. Even the biggest ones are usually more limited than most studio operations. Remote production requires detailed attention to the specific details of everything you're going to need *before* you get to the location.

The relationship of the truck to the site is also important. If it's possible to request a particular site for the truck, it's wise to choose one that is close to the event, particularly if it is the kind of event that allows for some rehearsal. Inevitably there will be times when the director will need to run to the performance area. After a while, “closer,” which means less running, is better. That being said, one can make some basic assumptions.

THE BASICS

Since this is about multiple-camera location work, one can assume that the remote unit, no matter how small, has the following:

1. Two or more cameras
2. Some kind of video switcher
3. Microphones
4. An audio board
5. A sync generator if it's not built into the switcher
6. Assorted cables for:
 - a. Video
 - b. Audio
 - c. Intercom
 - d. Power
7. Mounts—at least tripods (on wheels or not)

8. An intercom system to the camera operators, audio, record/playback, and assignable areas
9. Video monitors for the director/producer, including:
 - a. A camera monitor with the output of each camera
 - b. A line monitor
 - c. A preview monitor
 - d. A return monitor (to ensure that what you think is going out really is going out!)
10. A system of audio monitors for production and a return feed for:
 - a. Audio tech
 - b. Director/producer
11. Recording devices and/or transmission capability
12. Clocks to monitor
 - a. Tape or disk usage
 - b. Production time
13. Chairs
14. Desk space
15. Lighting for the control area
16. Storage area for items in the control area, including:
 - a. Tapes—hard drives
 - b. Scripts
 - c. Props
 - d. Clothes
17. Probably: A graphics generator
18. Possibly: A pencil sharpener and a coatrack
19. If it's a truck—definitely: air conditioning (A sweater or jacket is often essential.)

Trucks

Trucks come in various sizes. Sometimes “the truck” is no more than a cart on wheels (Figure 11.1), and sometimes it's a van or a smaller truck (Figure 11.2). It may also be a massive unit—50 feet or more—or a series of units (Figure 11.3).

The largest configurations feature as many as five or more trucks that include generator trucks and units with separate control rooms, an external recording room with tape decks and servers, and vehicles to handle video and audio linkups away from the actual production team.

Most of the newer trucks record and play back onto servers. Major productions will also bring in grip trucks, honey wagons with toilet facilities, makeup rooms, costume maintenance, generators, and the like (Figures 11.4 and 11.5).



Figure 11.1 This cart on wheels has a switcher, an audio board, a graphic generator, and monitors for each camera, preview, line, and return feed.

“DIRECTING TOYS”

One of the joys of directing large-scale remotes is that they often offer the opportunity to use unusual devices. Orson Welles once said that working in Hollywood was like being a child again and getting a wonderful new toy. Remotes can offer much the same pleasure. Even with just three handheld cameras and a miniswitcher, it's possible to find ways to play. It's often helpful to imagine what could be done with an unlimited budget.

Once, for a college production with a very limited budget, it was discovered that very high and very low shots could be obtained by mounting a handheld camera on a broomstick that served as a sort of unipod. The camera operator was able to hold the camera high over his head or shoot upside down or at a Dutch angle with the camera on the ground.

A kaleidoscope effect that usually takes a very expensive switcher or is a postproduced effect was created, live, by taking an idea from one of those “toys” called a Talidescope. The Talidescope is nothing more than a hollow tube with two small mirrors set into a “V” along the inside of the tube. It has a viewing hole at one end and an opening to the surroundings at the other end. That effect was achieved with two full-length mirrors from Wal-Mart that were placed in a V-shaped jig in front of a monitor. The picture in the monitor could be controlled from the switcher. One of the three cameras was placed in front of the monitor with the mirrors, and as the output of the other cameras was switched into the monitor, a moving kaleidoscope effect was achieved.

Small Analog

High Definition Serial Digital Large Analog **Small Analog** Video Flypacks

For the more cost effective sports and the majority of our corporate events, we offer several smaller analog mobile video production units. Most are 28'-40' long and offer the following standard equipment:

VIDEO SWITCHING

GVG 250 or 300 switcher; 20-24 inputs; 2-3 M/Es,
DVEous or Abekas A51 DVE (1-2 Channels)
2 channel Abekas A42 Still Store

GRAPHICS

Chyron iNFiNiT! 060 processor, 250mb zip drive

CAMERAS, LENSES, SUPPORT

Up to 4 Ikegami HK-343 CCD Triax Studio cameras
Up to 3 Ikegami HL-43 CCD Triax Handheld cameras
Canon 45x and 33x studio lenses, Canon 14x-16x handheld lenses

VIDEO TAPE

Up to 5 Sony Beta SP VTRs, DNF slo-mo controllers
EVS LSM Digital Video Recorder available on some units
1 Panasonic VHS VTR

AUDIO

Soundcraft or Mackie Audio Console, 24 inputs
1 DigiCart, 1 CD Player, 4 chnls compressor/limiters
Microphones as needed

COMMUNICATIONS

RTS 6 channel intercom system
RTS 4 channel IFB system
1-2 Telos Links, 1-2 QKT phone couplers
4-8 line Phone system

OTHER

2-4 Frame Syncs, (1) light kit, (2) 13" & (3) 9" Outboard Monitors
4,000' Triax, 2,000' Coax, 1,500' DT12 Audio Mult
Power Requirements: Single Phase, 200 amps, 208 volts

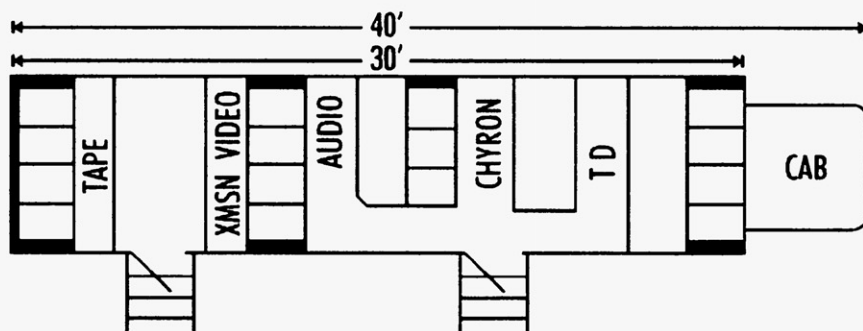


Figure 11.2 While this truck from Total Production Services is considered a “small analog” truck, it can shoot in both analog and digital formats.

Crosscreek Television

Voyager 6

53' Expando Trailer

Video Production

3 deck (38'x 5' street side expando)
4 position mid deck
4 position back deck
Grass Valley Kalypso 4 ME with TRi
Color display Serial Digital Switcher.
Has 80 inputs 48 outputs, 6 internal
DVE's, and Peripheral Buss Control.
Gveious/ Dveious Dual Twin Serial
Digital DVE

Graphics

Chyron INFiNiT! 060 processor, 128
meg memory, 601, Transform II, 9 Gig
Hard Drive with external 2 gig Jazz,
250 ZIP and 230 Bernoulli. 2
keyboards
Duet LEX Dual Channel , CMIX
effects, GPI/O card, 72GB HD, 72GB
Clip Player, 2 GB Memory, CDRW
drive, Duet Keyboard, 19" display
monitor

Video Tape

4 Sony BVW-75 Beta SP VTR's
3 Sony DVW-500

1 Sony DVW-A500s
DNF ST-300 controllers.

1 EVS 4 Channel Video server
1 Fast Forward DDR w/ Lance
controller
(Truck is wired for 14 machines)

Cameras/Lenses

6 Sony BVP 900's Studio Cameras
Fujinon 70X and 66X lenses, 2X,
Macro and Vector 70 Heads with
Quickset Tripods.
3 Sony BVP 950 Handheld Cameras
with Fujinon 19X with 2X lenses
3 Sachtler Tripods.

*Fuji 4.8 Wide Angle Lens, 1 Sony
CA-905 Studio Build up kit for BVP
950. (Servo's available, Truck is wired
for 16 cameras).

*Available on Request

Audio

Soundcraft Series 5 Audio Console 56
Dual input Mono, 4 Stereo inputs, 16 X
Mix, 10 VCA Groups, 8 Groups, 8
mute groups, 12 Auxes. Mackie 1604
Portable Mixer, 1 Digi-Cart II (ZIP and
230 Bernoulli), 360 Systems Instant
Replay Hard Disk Recorder, Mini Disc
Player Recorder, Cassette Deck, CD
Player, DAT,
8 channels DBX Compressor/Limiters,
Tannoy and Hafler for Monitoring, ATI
Audio Distribution.

Monitoring

2 Sony 20" (program/Preview)
1 Sony 13" TD Monitor
81 Ikegami B&W
6 Sony 14" Color
8 Sony 8" Color

Intercom/Communications

RTS Adam System, 72 X 72
Expandable to 136 X 136,

4 KP98-7 Key panels with expansion
panels,
7 KP-32 Key panels,
1 Dual channel telephone IF,
12 powered channels of 2 wire
intercom,
16 channels of IFB,
20 Dual channel belt packs,
5 single channel belt packs,
2 Telos Links,
2 Getner Hybrids,
4 Couplers.
12 CO Line Phone System.
2 Motorola UHF Base stations,
6 hand held radios.

System Equipment

PESA Jaguar Video Router 64x64
Video/Serial Digital 64x32 Stereo
Audio, PESA Series V 48 X 80 Analog
Router.
Grass Valley Terminal/ Distribution
and A/D & D/A conversion.
16 DPS 470 A/D & D/A Frame Syncs

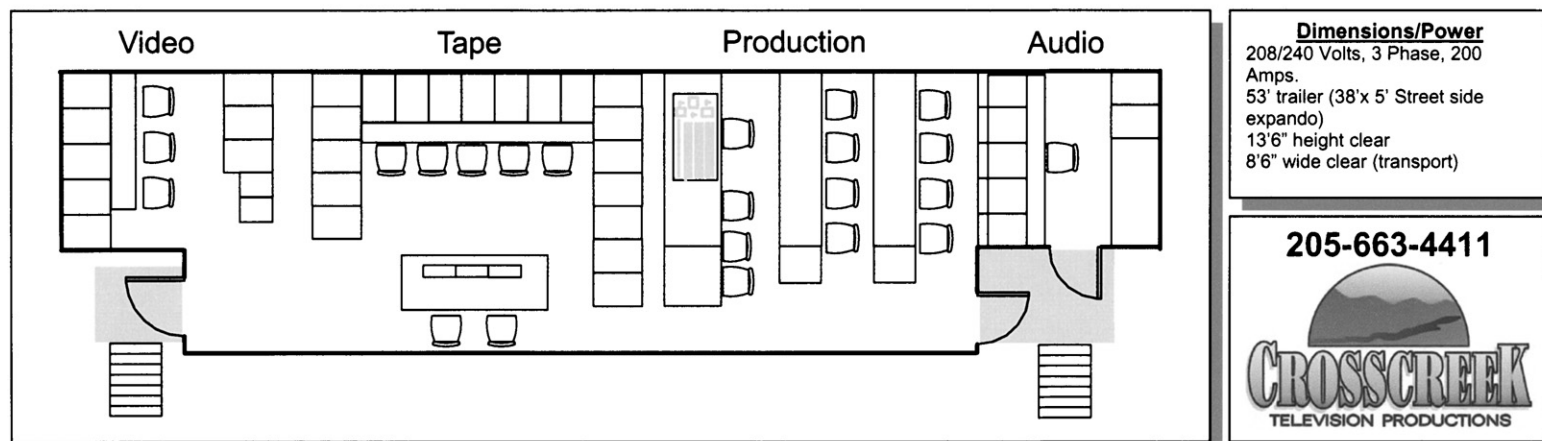


Figure 11.3

This truck from Crosscreek video is typical of the larger production trucks used for major events.



Figure 11.4 This truck is solely dedicated to the various cable, headsets, tripods, and miscellaneous engineering gear brought along to a major production.



Figure 11.5 These grip and lighting equipment carts are ready to be moved into place wherever they're needed.

JIBS AND CRANES

Most major remote performance events and many studio productions use jib arms and cranes. They make it possible to do graceful and exciting on-air moves. Several different kinds of jibs and cranes are available, however, and knowing what each will do and the crew or crews who know how to operate them is very important to the production.



Figure 11.6 This is a JimmyJib Lite with cable drive. It weighs 35 pounds and breaks down so it can fit into one portable case. Photo courtesy of JimmyJib.

The Jib

The jib is a boom arm set on a tripod or other stable support. The camera is mounted at one end of the boom. Counterweights and controls for maneuvering the camera are at the other end. In the case of a typical jib, such as the JimmyJib (Figure 11.6), the lens can get down as low as 6 to 10 inches from the ground (depending on the camera used), and then, with extensions, it has an 18-foot reach. The camera operator who usually works from the back end of the jib can pan, tilt, and/or move the arm either left and right or up and down. Other jib arms that are shorter or longer and have other kinds of characteristics for portability, stability, and personal preferences are available.

The Crane

Essentially, a crane is a large dolly with a jib arm. It is usually a four-wheeled cart with a jib arm that can be raised or lowered and swung or armed right or left. Sometimes the term “tongued” is used instead of “armed.” At one end is the camera mounted on a pan and tilt head, and at the other end are counterweights. Sometimes the arm is mounted on an actual truck for shots that are almost exclusively used in films. (Figure 11.7 shows one type.) Other cranes such as the Chapman Zeus, the Nike, or the Chapman/Leonard Maverick are used primarily in studio productions, but they are sometimes used at remote sites. These, as well as others used in



Figure 11.7 A Chapman Gryo-camera car Super VI on the road. This was configured with a vibration isolator and a gyro stabilized head. As configured, it's the kind of mount that's most often used in film or single-camera productions. Photo courtesy of Chapman/Leonard Studio Equipment, Inc.

multiple-camera television productions, require a three- or four-person crew that consists of a camera operator, a crane driver, a boom (or arm) mover, and/or a cable person (usually).

The Technocrane, which has a telescoping arm, is typical of what is currently very popular (Figure 11.8). Others such as the Chapman/Leonard Hydrascope 15 or 30 are also capable of the same telescoping maneuvers. Telescoping eliminates a

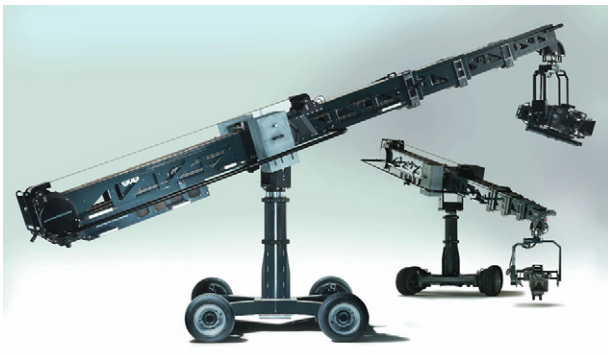


Figure 11.8 A SuperTechno mounted on wheels. Operation would include a remote computer drive and an operator to swing the arm. Technocrane courtesy of Orion Technocrane.

problem that is inherent in older fixed-arm cranes, and it offers significant benefits.

The Problem

When a rigid crane arm swings from camera left to right, the camera stays exactly the same distance from the center of the crane throughout the arc. Imagine that you're shooting a rock concert. The pedestal of the crane is in the audience at center stage. You want to swing the crane from camera left in a horizontal line all the way over to camera right. Unfortunately, you'd probably hit the lead singer standing center stage because the length of the crane's arm is fixed. The distance to the left and right of the stage might be 30 feet in each direction from the center, but the distance to the center of the crane to the center of the stage might be just 15 feet.

The Solution

The arm of the Technocrane is a series of hollow square steel beams nested inside one another. They are capable of being extended and retracted from a remote position. This means that if we are shooting the same rock concert and wanted to swing the crane from the stage left position all the way over to the stage right position, the arm could be retracted as it swung toward center stage so as it passed the singer, the arm could be shortened to accommodate the shorter distance of the singer to the center. As the arm continued the move, past the singer, it would be extended so it could go all the way out to the other end of the stage.

The ability to extend and retract allows the director to create wonderful moving shots that are now part of the viewing audience's expectations. The Technocrane can be further enhanced with a remote head that is called a "Z-Head." It pans, tilts, and swings, but it also adds a "z-axis" that is controlled by a foot pedal, which allows for live "traveling" Dutch angles. (A traveling shot is one that is moving. It is panning or tilting, or both, as the shot is being done.) The Technocrane literature says, "We've pulled off some amazing traveling shots like moving under the lid of a grand piano or into a tiny cottage window."

The director's job in this kind of production is to find some new way or new time to use the gear and to find new ways to work with the crews that are available. One of the joys of such work is that the crews and the gear makers are constantly trying to do even better, and they often succeed.

In the next sections, we'll look at three major kinds of programming formats that are common to remote production and see how the demands of location work affect the director's and producer's choices. These are the remote multiple-camera formats we'll be examining:

1. Presentational material: concerts, plays, operas
2. Sports: not all sports, but theoretically all
3. News and documentary events: planned events like national conventions, elections, and swearing-in ceremonies, as well as those that are unplanned real-time events, such as breaking news or disasters

It is, of course, impossible to cover every possible remote or every situation that might occur on every location. In fact, the expression "The Devil is in the details" is particularly appropriate for any consideration of remote broadcast production. Each remote is different, and each has many details. This chapter can examine only the essentials.

It would be difficult to find a remote director or producer who didn't appreciate the absolute necessity of having a state-of-the-art remote unit with a knowledgeable crew on hand, but that is not what this book is about. While there is some material relevant to engineering, it is not about the details involved in the engineering of remotes. It is not about location concerns, such as hotel accommodations, or legal concerns, or even the arrangements for transmission and related technical considerations. It is about the director's and producer's actual broadcast production concerns, with the belief that the engineering staff will take care of their areas, no matter how difficult that may be. Engineering may have a particularly difficult task because of the nature of the venue, the needs of the production, and/or the limitations and opportunities presented by the production package. In all cases, the necessity of working under circumstances that are almost always demanding tends to bring together only those who are skilled in their jobs and are very responsible, positive, and supportive.

An examination of remote broadcasting must also consider two major differences that affect production. The first is the question of whether or not the production is really live. Productions such as the Oscars and the Emmys and other such productions are aired as they happen. Others, such as the Olympics, may be aired "as live" after the actual event has taken place in order to accommodate

viewers in a different time zone. This kind of production has a different feel from those that are designed to be edited. If it's live, it happens. Then it's over, and there's no going back. When production stops are built in, events or songs may be repeated. Shots may be added later to cover mistakes or to fulfill specific needs. That ability to recreate a moment creates a different tension and gives a different feel to the production.

The second major difference is that some sports, such as baseball or football, happen every week during the season, and the crew that covers such events are part of a very short list of excellent engineers and technicians who have worked together and have worked out a course of action that covers most situations. Working on the same thing every week gives them very important insights and skills.

Documentary events and concerts happen infrequently. Therefore, a producer and crew may work together just four or five times a year or even less. Additionally, such events require that the "talent" and director/producer work in a more direct fashion than would be true for those who work on sporting events. For example, the producer of the *Academy Awards* broadcast has a closer relationship to the host of the program than the sports producer does to any of the pitchers on the team. The nature of the event creates a kind of dynamic that may affect the production.

TECH BOOKS

Perhaps the most significant working document that is a part of all of these remotes is the "Tech Book" (sometimes referred to as the "Production Book"), which lists all the relevant crew, gear, and recording or transmission requirements. Whenever possible, in every format, there is a production manager or technical producer who creates a Tech Book for the event. His or her job in creating the Tech Book is to try to cover all possible technical questions regarding the event. Only in the case of emergencies or natural disasters is this book omitted. Even then there is probably a standby Tech Book waiting to be used.

The Tech Book is usually 20 to 30 pages long and contains all the vital material that's important to the production. It answers questions about:

1. The venue: including all addresses, phone numbers, maps, and directions

2. The crew: positions, phone numbers, e-mail addresses
3. The equipment: what's included, how, when, and where it functions
4. Recording or transmission requirements
5. Rehearsal and recording schedule

Following is a template from an internationally broadcast entertainment special. The categories are the same as those found in sporting events and news and documentary events. The template has remained the same for many years, with changes in camera models, or other gear simply exchanged for whatever has passed out of use. Some of the material here isn't relevant for all remotes. A broadcast of a local high school game, for example, would probably not require international routing. The important thing is the material that is relevant.

Page 1: Lists location, overall schedule, names, titles, and phone numbers and extensions for all producers, director, and major production and generator trucks.

Page 2: Lists all domestic and international transmission data: routing, circuit, account numbers, start and end dates, and times.

Page 3: Lists all satellite transmissions and pertinent data.

Page 4: Lists all pre- and postshow transmission data.

Page 5: Page 1 of the equipment list: cameras (how many? what kind?), tripods (how many? what kind?), lenses (how many? what kind?), record decks (how many? what kind?), monitors (how many? what kind?), mics (how many? what kind?), spare batteries (how many? what kind?), and so on ([Figure 11.9](#)).

Page 6: Page 2 of the equipment list includes facilities for prompters, monitors, walkie systems, robo-cams, power plans, and utility production truck.

Page 7: Production schedule for first day: 6:30 A.M.—6:00 P.M.; setup crews.

Page 8: Production schedule for second day: 6:30 A.M.—6:00 P.M.; test systems.

Page 9: Production schedule for third day: 6:30 A.M.—7:00 P.M.; rehearsals.

Page 10: Production schedule for fourth day: 8:30 A.M.—midnight; rehearsal and live production.

Page 11: Continuation of schedule for live production day and strike.

Page 12: List of cameras, positions, lenses, supports, and accessories (sticks? robo-head? etc.); notes (moves during production, when and where, etc.).

Page 13: List of video monitors: placement, source, black-and-white/color, color correction if needed.

Page 14: List of video/audio feeds, including video format, audio feed description, formats.

Page 15: List of videotape machines, including function, location, video/audio routing.

Page 16: Continuation of record/playback machines.

Page 17: Continuation of record/playback machines.

Page 18: Mics and IFB (interruptible foldback—headsets for internal communication). Who gets what microphone? How is it designated? Where is it located? What kind is it? How long is it needed in each location? Who gets IFB? Where are the positions? What kind of IFB? How long is it needed in each position?

Page 19: Specific IFB routing lines 1–30. The number, user, type, headset, location, tied to, and notes.

Page 20: Specific IFB routing lines 31–60.

Page 21: Private line assignments. Channel, label, description, code for users—for example, director=DIR.

Page 22: Walkie assignments. Operator name, channel assignment, location, type, headset, links.

Page 23: Phone list, including line number, function (research coordinator, engineering, production), where placed, notes.

Page 24: Notes.

Page 25: Credential list.

Page 26: Cable management—kind of cable, from/to, length of run, notes.

Page 27: Map of venue with camera positions outlined.

2005 EMMY AWARDS - EQUIPMENT LIST

QTY GAME CREEK VIDEO provides:	
13	Sony HDC 1500 HHs
3	Osprey's w/ Build Up Kits for 21 x 7.8 Lens Fujinon or Cannon (for teleprompter cam)
2	Hard Cam Build Up's w/ Sticks for 72 x Lens Fujinon or Cannon (for teleprompter cam)
8	Tripods (Truck Compliment)
5	Canon 11 x 4.7 angle lens or equivalent
6	Canon 21 x 7.8 angle lens or equivalent
2	Canon 72 x Lenses w/ stabilizer, servo & manual zoom
2	HD EVS Machines 6 Ch w/ Monitoring.
1	HD EVS Machines 4 Ch w/ Monitoring
1	Spot Box
10	DVW A500's or DVW500 or equivalent (Please have shop backup standing by.)
1	DVW HD500's Record Decks or equivalent. (Please have shop backup standing by.)
2	DVD Player
1	VHS Deck
2	Miranda De-Embedders (sp?) for Deko Audio
3	KVM Extenders for Dekos
5	External Router Heads XY or 64 Button.
5	Throw Down Analog Video DA's
4	20" color monitors
9	13" color monitors
70	9" color monitors Refer to Video Monitor Tab, can substitute with 20" monitors using quad splits
4	AJA Converters (SDI to Component)
12	Throw Down Audio Monitors
2	Digicarts (1 w/ Zip drive)
6	Full KP Intercom Panels
3	Telos Link s or equivalent (AD Coord., Research Coord., Fashion Police Coord.)
1	Clear Comm. 2 – 4 Wire Adapter
45	25' Black XLR Cables
22	RE 50 Stick mics
3	Sony ECM 77 Lavalier Mics
22	Shure FP-23 Mic Pre-Amps
	Batteries for Mic to Line Amps
16	Hard Wire IFB Boxes
TBD	Lightweight headset (outside of production compliment)
13	(DT108?) Camera Head Sets
	BP325's Versacam Will Provide
	Cable Troughs - Truck Compliment (Generator Company is providing)
	Sleeving (for cables in case of rain) & tarps!
2	Cable Carts
1	DT12 Checker
	Rain bags for all Cams and Bags for DT12 and Triax Bells

Figure 11.9 A page from the Tech Book for an *Emmy Awards* program. While this year's program probably used different hardware, the template is significant because of the way it presents the material. Each year's show will simply update the previous year's Tech Book for the specific piece of gear and the quantity to be used.

PRESENTATION MATERIAL: CONCERTS, PLAYS, AND PRESENTATIONAL EVENTS

Every location and each type of presentation brings its own opportunities and challenges. For the director that means “How can I get the most out of this location?” A look at a few different kinds of musical and comedy stage presentations will demonstrate the differences that location work brings.

Stage

Award programs, telethons, amateur performances, comedy clubs, and the like usually take place at remote sites. In many ways they are similar to in-studio productions. There is usually a stage or performance area. There is talent, and the talent works from that defined stage area. However, there are differences.

The production is often more confined at a remote site than it is at a studio. The size of the venue is apt to be different from a studio. Acceptable camera positions can't be taken for granted. The cameras take up seating or table space. At major events, other organizations may be fighting for the same key shots or locations. The audience's line of sight is obstructed by the television cameras and crew. At a club, waiters have to be rerouted so that they don't cross in front of the cameras.

Remotes offer special challenges to the audio crew. There may be problems in arranging microphones for choruses and for the audience's response. A club's public address system and speakers contribute to the noise level created by waiters, customers, and cash registers and must be considered. Suppressing those sounds may require a change in the way the club operates. Cable position must always be considered, both for safety and for the sake of appearance. The production company should address any potential problem prior to arrival on location. A concern peculiar to remotes and not apt to be obvious is performers who unexpectedly leave the stage and work in the audience. It's useful to have a fallback position for such moments.

Let's look at an amateur night at a local comedy club. The problems would be similar to those incurred at a performance at a college dorm “rec room,” YMCA, or similar location. In some ways, shooting this kind of an event is very simple for the

director. There's the mic and, hopefully, on a raised stage there's the performer.

Minimum coverage consists of the following:

1. A camera dead center on the performer that is on a platform so it is raised over the heads of passing waiters, audience members walking to the restrooms, and so on. Because all the action is on the floor, unexpected crosses are taken for granted, and the director can just hope that the passing traffic doesn't either stop to chat or cross in front of the camera in the middle of a punch line. Essentially, this is the cover shot.
2. Another camera placed so it's set for reverse angles for when the audience laughs and applauds. It's also used to get profile shots of the performer. If the performer does go out into the audience, this camera will probably be used to cover that action.
3. If a third camera were present, the safest place for it would be near the center camera so it could have a different shot from the center camera's. This camera might be on a tripod or be handheld. With an isolated feed it's the “go-to” camera when something interferes with the center camera's cover shot.
4. In the best-case scenario, there is a handheld camera that can roam through the venue. This camera would be used to shoot either audience reaction or the performer if that seemed appropriate—for example, if the performer addressed the camera as if it were a person.

Light and Sound

The two most frequent problems, which are also those that plague most student productions, are light and sound. Light requires the following considerations:

- There must be sufficient light to see not only the performers but the audience as well, and to “carry” the performers if they go into the audience.
- For broadcast purposes the audience light levels may need to be controlled by the television crew. This is because the audience light level in club settings is usually very low. In fact, the audience is often in darkness. Sometimes the problem is resolved by painting the audience with gelled lights.

Sound requires these considerations:

- The sound level needs must be adjusted so the microphones exclude many of the usual ambient comedy club/nightclub sounds, such as orders being taken, cash registers or computers beeping, guests talking, and so on.
- Additional mics are needed to record audience reaction.
- Additional microphones may be needed if musicians are present.
- It may be wise to have the house PA system run by the television crew so the levels are consistent with what's needed for the broadcast.
- If the sound level from the performance is apt to be particularly loud, special headsets may be needed.

Whenever possible, it is prudent to record an isolated feed of a wide shot of the event, as well as a line cut of the same event, which may or may not include the wide shot. If all the cameras are isolated and there is a line cut as well, the entire event can be reedited and perhaps remixed in postproduction.

Popular Music: Rock and Roll, Country, and Jazz

Let's assume that we're going to shoot a special for one of the cable networks. The broadcast will come from a stadium, and it is material for which the director does not have a score. Some things will remain the same as when the production is shot in a studio. It's best to dedicate a camera, sometimes two, to the lead singer or performer. Guitarists and electric bass players tend to be right-handed, so a camera left position is usually a necessity.

One of the significant differences between directing remote and studio performances is the time frame. The remote may require a very long and large setup and simply one performance, as is the case for the opening ceremony to the Olympics. Also, two or more performances may be taped and edited into one broadcast performance. There may be days of rehearsal and one mostly rehearsed performance. Road tours may not offer the director "on-camera" rehearsal time, but there is often ample time to view the performance or single-camera tapes prior to actually shooting.

Unless it is a live-to-air performance, a great deal of the material will be reworked in postproduction.

The chances are that all the cameras and a line feed will be recorded. Portions of the audience will be specially lit, and members of the audience, especially photogenic members, will be placed strategically for shooting purposes.

The working relationship with the performers and their management team is subject to a number of considerations. DVD sales and the marketing possibilities of musical events, as well as the public relations value of the broadcast, bring both a very cooperative attitude and the potential for interference. It is at those times when outside sources hope to impose their vision on the production that a strong producer is most appreciated.

Preproduction

Since most performance remotes give a director just one chance to get it right, preproduction is very important. There certainly are times where a director is brought in to shoot an event without any preproduction work. Once I was flown in to shoot a three-day country music festival without ever seeing a ground plan, a routine, a list of the gear, the crew, or even a list of the performers. I learned later that it was a very successful program, but I felt like I was shooting a telethon, where "safe" was always a better choice than "creative."

Let's assume that the production group has been hired early in what is to be a national tour of a popular singing star. Usually the director would be familiar with the artist's work but would still want to contact the artist and road managers as early as possible. The director would want to see a number of performances and the actual venue where the concert was to be performed. It would be helpful if, as in the case of a studio production, the director arranged for a number of crew chiefs to see the performances and the venue.

Lighting Director

The road production has its own lighting director and crew. It's the job of the broadcast lighting director to work with the artist's lighting director to make sure that the needs of the television production are met. Most of the time the intention is to let the home audience get a sense of what the live concert is like, and that includes maintaining the integrity of the stage lighting. Usually, the lighting for the road show will remain intact and is adequate for broadcast purposes. It is likely, however, that the broadcast group will want to augment the stage

lighting with additional units to light both the audience and the exterior of the venue itself.

Senior Audio

The road production has its own senior audio technician and crew. It's the job of the senior audio technician to work with the show's audio crew to ensure the broadcast feed and yet maintain the integrity of the artist's audio effects. There may be times when the broadcast takes a feed from the artist's audio output, so the feed to the television truck comes through a sound truck. The truck takes a separate feed to a multichannel recorder and then feeds the television truck either all the channels or a "mix" that is adequate for shooting but that will be enhanced at a later sweetening session. Audio, either show audio or broadcast audio, will need to work with the following:

- Program audio—mixed or unmixed.
- "Foldback" to the musicians, which amplifies the voice of the singer back to the musicians either through speakers or headsets.
- "House audio" (public address—PA) for the audience.
- Private intercom for cameras, the stage manager, lighting, and others related to the broadcast.
- The private intercom will need to be heard over the music and the roar of the crowd.
- And, finally, sometimes phone lines.

Television Location Manager

The television location manager is probably one of the producers. It is his or her task to oversee all the technical elements of putting together the crews, mobile units, communication, phone lines, intercoms, and recording and transmission elements necessary to create the television special. This would be someone who is familiar not only with the gear and the crews needed but the budget of the production as well.

Director

Generally speaking, the director of any event wants to know who, what, where, and when. Those questions pertain to both the artists and the venue.

1. *Who* is being shot?

- Who are the artists involved?
- What are they doing?
- What's the rundown of the program?

- What numbers are being performed and in what order? (This is answered with a show routine.)
 - Where do the performers stand/sit in relation to one another? (This is answered with a ground plan.)
 - Other notes: Do the performers go out into the audience? Are there special entrances or exits that should be covered?
2. *Where* is it taking place?
- Which venue? Where is it?
 - What problems, limitations, or special features does the venue present?
 - Is the action on a stage, on a ball field, in a swimming pool?
 - What kind of stage or field or pool?
 - Raised platform stage?
 - End or center of the arena?
 - Dimensions of the field or pool?
 - How can the opportunities be maximized and the limitations minimized?
3. *When* is it being shot? Essentially, this is the timeline.
- When can I see the performers?
 - When can I see and discuss the venue?
 - When are rehearsals being held and with what facilities?
 - When is there a rehearsal with equipment?
 - When is the shoot? Daytime? Dusk? Late at night?
 - When can I shoot inserts and pickups (if such can be made available)?
4. *What* else do I need to know?
- Are there fireworks, smoke, or special effects happening at some time during the performance? When and where? How will I know about it in time to shoot it?
5. Miscellaneous questions:
- Are there feeds to be integrated? What are they? How long are they? How are they handled?
 - Are there roll-ins? What are they? How long are they? How are they handled?
 - Are there contractual considerations? What are they? How are they to be handled?

Finally these two points must be answered:

1. What is there about this performance at this location that is special and that offers opportunities to make the most of what's happening?
2. What have I missed?

The most important questions that confront a director in preproduction are how to maximize the shooting of the performers and how to make the most of the location itself. The location, and the audience, if there is one, becomes “the set” and “the setting.” If it’s a stadium, then the stadium and the crowd must become a part of the televised event, just as it is in real life. By the same token, the intimacy found in a location such as a comedy club, its smaller surrounding and audience, must also be made a part of the television performance.

In order to plan the shoot, the director would like to see the performance or have worked with the performers prior to the actual television shoot. These are the fundamental tools:

1. A ground plan of the venue and, perhaps more important, a ground plan of the artist’s stage area, including instruments and speaker placements
2. A sense of the performance . . . musical, comedy, dance, and so on
3. A rundown of the event

Neither an actual ground plan nor a performance rundown may be available. A sketch drawn by some member of the artist’s road crew may have to suffice. The danger with such a sketch is that it may leave out information that in the sketcher’s opinion is irrelevant. For the sake of this chapter, let’s assume that the director knows the work of a rock band, which will serve as our model. A copy of the ground plan, a probable rundown, and some tapes of prior concerts are all available. The rundown may change while the group is on stage, but any indication of the program and its order will be a help to the director. It gives the director and the lighting director a chance to establish a lighting and shooting “mood” for a number or, if they’re not running that element of the program, to know what lighting and other effects are apt to be coming up.

We’ll also assume that the director has been able to visit the venue where the special will be shot and has attended some of the road shows prior to shooting the special. Also, there are a few weeks between the beginning of the road show and when the special will be taped. How will the director proceed given all the who, what, where, and when information?

In a general sense, the director will consider what he or she feels is the essence of the group and how to best present that. In a very general sense, the appropriate style and way of shooting are specific

to most kinds of music. Country music usually looks different from rock and roll, which looks different from jazz or classical music. Rock and roll performances are often filled with exciting theatrical devices such as fireworks, smoke, and videos. Shooting Dutch angles, lots of moving handheld shots, and very quick cuts are appropriate to rock and roll. Even within that genre, different rock and roll groups demand different approaches. Most of the time, shooting a classical music concert with a rock and roll visual treatment would be inappropriate to both the music and the audience.

The location, too, suggests ways of being seen. A blimp, for example, would be nice for a stadium shot whether the music was classical or rock. The director might also consider the use of a cherry picker, an underwater mount, or a helicopter.

Postproduction

Once the shooting is finished, the production goes into its postproduction phase. If the production is a major one, all, or at least most, of the cameras will have been recorded individually, and a line-switched feed may also be a part of the mix. Furthermore, there may be a number of different performances, perhaps recorded in different cities, that will all be a part of the finished production. Preparation for the edit consists of the same steps as those that would be taken for a studio production.

The recordings are logged and annotated. Sometimes this is done with the director or the director and producer, and sometimes it is previewed and logged by an editor who creates a “select reel.” Prior to the actual edit, the producer, or the producer and the director, as well as the talent and their representatives, go over what they think will become a part of the finished production. After a cut is finalized, the audio that will have been recorded digitally onto 24 tracks with time code is taken to an audio sweetening session. There the music is remixed and then replaced into the final show.

I asked Eric Feder, the supervisor of International Operations for *E! Entertainment*, what the tech setup would be for an imaginary Kennedy Center production. This was his reply:

It all depends on the number of cameras, and thus, the budget. I would assume that since you say it’s a live show that’s being edited for a later broadcast, it’s being cut for timing reasons. In this case, the producers should know in advance what they can easily cut out of the show (prerecorded tape

packages or a live musical number, for example) that the shorter version of the show can do without. In this case, if, for example, there were eight cameras on the show, I would guess there would be two main cameras in the back of house area, in the middle or toward the back of the audience, that have a large teleprompter underneath them. I would then add one or two jib cameras, two handheld cameras that roam the aisles for audience reaction, and two more cameras on stage for presenters walking on and off and for the musical acts. The Kennedy Center Honors may use more cameras than this, but I would consider that to be a minimum for this kind of event, with musical acts and an audience. For ISO records for a cutdown, I would choose to ISO record both of the main cameras in order to cut acceptance and presentation speeches shorter (as well as for posterity, so the footage can be used in future shows without on-screen graphics). I would then ISO record the two handheld stage cameras for the musical acts to cut them shorter, as well. As far as the two audience cameras and the jib camera, those are sort of non-time essential shots. Shots from those can probably be stolen from one part of the show to another without too many people noticing. For those, and most other cameras, I would probably do a single VTR with a subswitcher or router so the director or producer (maybe even the TD) can switch around and throw some good footage into that deck during the show.

Classical Music

In some ways classical music is very easy to shoot. The players are usually seated, and you can work from a score, so you know what instrument will be taking the lead and when. With sufficient preproduction, which includes analyzing the score, there are seldom any surprises. The rules regarding shooting remain the same as they would be for shooting in a studio. The instruments and the score are the same whether the performance is in a studio or an outdoor band shell. The key shots of the conductor, the first violin, and the wide shot are all the same. However, in a studio there is usually ample floor space for moving cameras around the orchestra, and that's not usually true in a band shell. It is possible to place a camera close to some of the instruments, the players' faces, the notes, the players' hands, and so on, but it's often impossible to get camera positions at the side of the stage or backstage. Often the shell itself is raised, and the camera position from the audience will yield a shot that looks up, missing

many of the players in the orchestra. Nevertheless, outdoor symphonies are broadcast, and the location itself offers unique shooting opportunities. A typical multiple-camera setup for the shooting of a symphony orchestra at a remote site might be designed like this:

Camera 1: At cam left. Preferably on a wheeled tripod. Electronic field production (EFP) viewing, which is to say that the viewfinder is a small monitor built onto the camera, and the zoom and focus are on the handle of the camera. The camera's responsibility is to get the following:

1. The conductor from the first violin's position
2. If possible, another shot of the conductor from over the tympani's head at the back of the band shell, as well as the audience
3. Tympani head on and from the side
4. Wind players who are seated stage left (camera right)
5. Audience
6. Side view or "down-the-line" view of the violins

Camera 2: At the front of the orchestra on a crane or jib with wheels and a moving arm. This may have its viewing, as well as its zoom and focus, at a remote location, usually at the back or base of the crane.

1. Master shots of any of the players
2. Shots past the conductor. The problem with its use is that it blocks the audience's view.

Camera 3: Even in situations where the audience is at a steep angle to the stage, a platform is almost always a necessity. Typically a platform is arranged somewhere in the middle or back of the venue. The camera on the platform is on a tripod and has a traditional EFP mounting and a long lens capable of getting close-ups at the shoulder, or at least chest shots. At the widest setting, it affords the director the second head-on shot of the orchestra with lots of audience in the foreground.

1. A wide shot
2. A shot of the conductor's back and arms as he or she is conducting
3. A head-on or three-quarters shot of selected instruments
4. Shots of the audience—both over their heads and side shots of people listening or applauding

Camera 4: A handheld camera with electronic news gathering (ENG) mounting. This camera has the zoom and focus on the lens, and the operator views the scene through an eyepiece attached to the camera. Ideally, the camera is mounted on a quick release tripod placed camera right.

1. Extreme close-ups of players head-on to the violins and profiles of wind and brass instruments
2. Dutch angles—shots in which the camera is canted so the bottom frame of the camera is off the horizontal axis and the picture appears to be going uphill on one side or the other. May be used to shoot the “gate” to the venue, or surroundings, such as the park, the front of the stadium, and so on.

Camera 5: A tripod mount camera EFP mount at the camera right position. Essentially, it has the same shots as camera 4, but it can be used to intercut with camera 4’s head-on shots of the violin section. Normally, it gets the close-ups, since it’s on a fixed tripod, and camera 4 gets a Dutch angle, a wide shot, or some other shot that the fixed tripod would preclude.

SPORTS: THE ULTIMATE REALITY PROGRAMS

There are no particular rules that cover the handling of all sports. Each sport is different. There are, however, some generalizations that one can make about shooting sports. Most people categorize sports as being team sports or individual sports. Sometimes they are seen as being contact or noncontact sports. Television directors add a different perspective to this kind of analysis. They must see sports as falling into one of three basic categories that relate to shooting the event:

1. *Line, or back and forth:* This includes basketball, football, hockey, soccer, and tennis, which are the major televised sports. It also includes badminton, field hockey, lacrosse, polo, water polo, and individual sports like fencing. To a lesser degree it includes sports that go in one direction such as archery, bowling, handball, jai-lai, racquet ball, and, for that matter, pool and horseshoes.
2. *Ring or circle sports:* This includes baseball, horseracing, and track.
3. *Form:* This includes gymnastics, ice skating, field events in track, as well as equestrian events, horse and dog shows, and obedience trials.

Of course, many more sports could be listed here. Perhaps poker can be included, and a sport like boxing, for example, might be considered both a ring sport (it takes place in a “ring”) and a back-and-forth sport (the line of 180 degrees between the boxers). While some sports—competitive logging events, for example—don’t easily fall into such categories, the consideration of sports events in terms of line, circle, or form lets the director call upon principles of presentation that are as old as the medium itself.

180 Degrees

The first major consideration might well be “the line of 180 degrees.” In order to help the audience understand the opponents’ relationships, the cameras have to be on one side or the other of an imaginary line passing through the participants. To achieve this, camera placement requires key camera positions on one side or the other of that imaginary line. Once it crosses over, confusion may ensue. There are, however, even more exceptions. In some sports—baseball for example—breaking the line is common. We see the pitch from a camera in center field, and when the ball is hit, the view is changed to cover the runner. Right and left are switched, and we just accept it. In NASCAR or other such races, the profusion of cameras is so great, including shots from car-mounted cameras, that the viewer abandons the sense of direction. It becomes essential in such events to regularly include a shot that is wide enough to keep the viewer informed as to who is in the lead. In football, basketball, or any of the back-and-forth sports, we accept the shots into the dugout, the coach’s area, or the close-ups that might confuse screen direction, but we see these only when “the play” is not in action.

Cross-Shooting

While the master shot for line games is almost always in profile, there are many occasions in which we’d rather see the players head-on rather than in profile. That can only be accomplished with

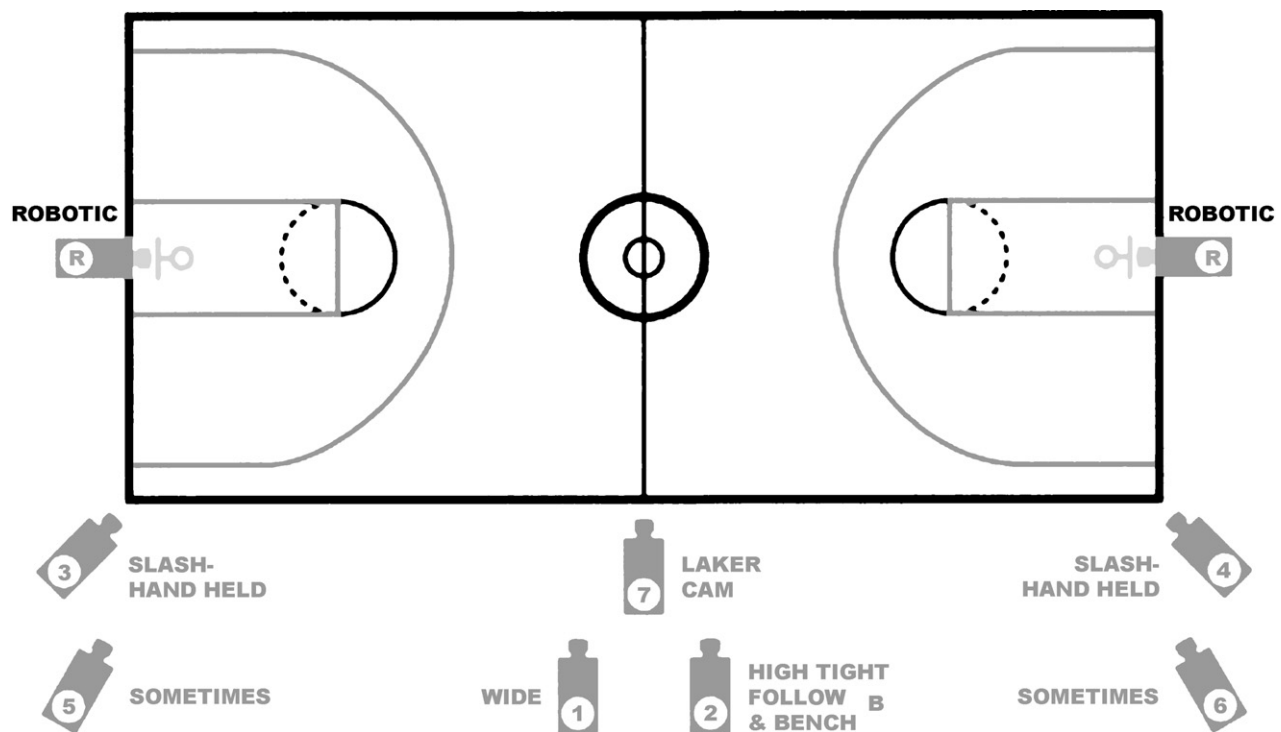


Figure 11.10 A typical plan for camera placement for a basketball game. This placement is used to broadcast Los Angeles Lakers games.

opposing teams by cross-shooting. Camera 1, at the far left of the field, gets the team going from right to left. Camera 3 ... (or camera 12, or whichever camera is at the far right of the field) shoots those players going the other way—from left to right.

Camera Positions

The camera positions for line sports, circle sports, or form sports are determined by the needs of the sport, the availability of the hardware, and the locations available to the production company (Figure 11.10).

Line Sports

In line sports the two key spots are high in the center of the arena, or field. One camera gets the wide shot, and another camera gets a closer shot. The next two cameras that are added are on the field and work as follows:

1. From the outside in “slash cameras,” as in basketball

2. Playing back and forth from the center line to wherever the action occurs, as in football
3. Working from the center line facing the players on their side of the net, as in tennis

In tennis, the master shot, rather than being from the net at the center of the court, faces the net and is high enough to see both the near and far court, as shown in Figure 11.11.

Circle Sports

Any type of racing—a car, horse, ice, or track event—requires shooting with cameras that report the action in a wide shot. However, any shot that’s wide enough to see all the action turns the competitors into nothing more than colored dots in the distance. Closer shots are needed, so cameras are placed around the track, and the sense of continuity is briefly abandoned. The audience is disoriented from the continuous line of the race and instead is offered a lot of intercut views of the race, including point-of-view shots from car-mounted cameras, as well as graphic and animated materials. Along the

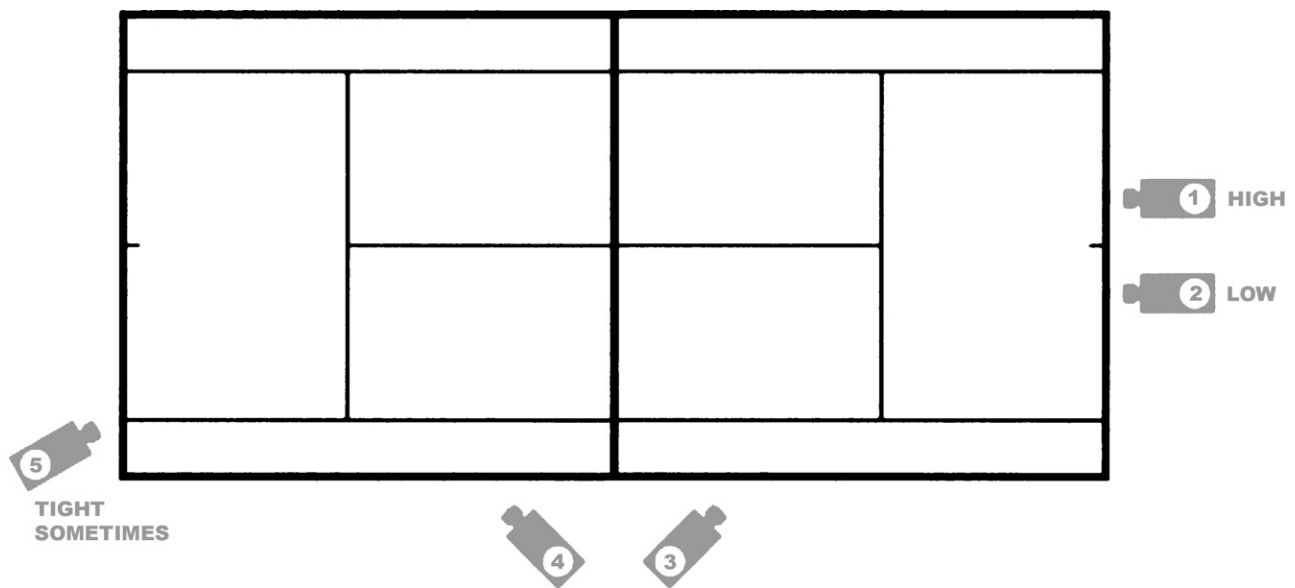


Figure 11.11 A typical plan for camera placement for a tennis match.

way, medium shots are included to keep the audience aware of the actual standings in the race. Finally, a “crossing-the-finish-line” shot, as the race ends, is essential.

Baseball is certainly one of the most popular sports-in-the-round. It requires a great deal of preproduction and a knowledge of the conventions that have been established. Let’s look at the production of a game. Prior to going out to shoot the game, the director will have a camera assignment meeting that creates or, more likely, revisits a well-established game plan that allows him or her to call shots without having to directly ask the crew for them. Once the game begins, there is no time to assign shots, so the plan is put in place. It’s based on the same logic that works for computer programs: “If . . . , then go to.” If there’s a right-handed pitcher and a right-handed hitter, then go to these camera assignments. If there’s a right-handed pitcher but a left-handed hitter, then go to these camera assignments. Once the game has begun, the director relies on the camera assignments for each camera and situation and expects that the shots will be there when they’re needed.

A typical baseball layout requires at the very least shots of the following:

1. *The pitcher* (high home): Usually from behind the catcher and high. This camera follows the ball into the field and stays wide as the cover shot.
2. *The right-handed batter* (high first): Right-handed batters are covered from high first. When the ball is hit, this camera goes to the fielder who catches (or misses) the ball. When there is more than one runner on base, this camera stays with the second runner.
3. *The left-handed batter* (high third): Sometimes the batter is left-handed and is covered by high third. This camera carries the runner to first base. If there is more than one base runner, this camera stays with the lead runner.
4. *The pitcher-batter-umpire or batter-umpire* (tight center): This shot comes from center field on a long lens.

Hardware

The hardware has gotten better. There’s more of it, it’s cheaper, and it can do more things. In fact, this is one area that clearly delineates the “haves” and the “have-nots.” A college or high school multiple-camera crew may simply have two or three cameras for shooting the event. A major league baseball team, like the Los Angeles Dodgers, may be covered by 12 or more cameras with operators, as well as 2 or more additional robotic cameras, and 4 or more still-store or instant-replay devices. They also have two or three dedicated video sources for graphics and animation. Their audio needs include a great

deal of gear in order to cover the sounds of the game, the announcers, the commercial inserts, the intercom, and so on.

Crews

Beyond the rules of the game and the hardware are the crews. Crew members start by being very responsible and by being the best or, at least, one of the best at whatever they do. Those who came before them set the bar that must now be surpassed. In their formative years, they arrive early and leave late, and if called upon, they do what no one else will. As they continue, they still arrive early and still work hard. All those around them are working in the same way, and after a while they have the advantage of working at their job for years.

Additionally, since freelance crew members work on many kinds of remotes, they bring techniques from one kind of production to the next. The solution to a problem that was encountered while working on a sporting event—for example, perhaps a way of treating graphics or animation—may be carried over to the presentation of a musical event or a live awards show. The graphic wipes and animation used in some nightly news programs are similar to the templates first seen in the presentation of sports background packages.

Finally, high on the list of crew priorities on all remotes from high school productions to major network events are those who can keep the technical operation functioning no matter what crisis occurs.

Director

Once a baseball game is underway, the director calls for the shots discussed in his earlier camera assignment meeting. These are well-planned scenarios that are designed to cover whatever situations come up. He or she doesn't give "directions" during the game. There just isn't time. The director just calls out shots and filled-in graphic templates: "Take 6. Key X, Key Y. Lose XY. Take 4. Take 1." The TD and the camera and video operators will have anticipated each of those calls. The graphics operators will have had X and Y waiting. No one will tell the graphic operator—who's keeping on-air track of balls, strikes, outs, innings and score—anything. He or she will continue with the updates. That information will remain keyed over whatever else is happening on the screen.

Producer

The producer has a list of events or material to be inserted during the pause between pitches and asks the director to run those events at appropriate times. Thus, we see the prepackaged statistics, reruns of past events, statistical graphics, and contractual events, such as shots from the blimp, field advertisements, and so forth.

Form Sports

In sports where form is essential, such as gymnastics, figure skating, and equestrian events, the rules that govern the shooting are the same as those that serve for a scripted drama. Crossing the line of 180 degrees may confuse the audience, so you should cross-shoot when possible. Always be mindful of the background so it enhances the action and isn't confusing. In a larger sense the shooting of such events, when it is intended to be more than just a record, requires a sense of what is attractive and what constitutes the drama of the situation. Figure skating is a useful sport to consider in terms of form. The director needs to show both the grace and the speed of the skater. The skater's form shows up well against the plain white of the ice. The speed shows up well against the passing faces in the audience. The director must choose a "when" and a "way" to go from shot to shot that let the audience in on the event. The choice depends on the following:

- The skaters: their strengths and weaknesses
- The routine: fast or slow, modern or classic
- The television equipment:
 - What kind
 - How much
 - Where it's placed
 - The crew

Given a gymnastic performance or an equestrian event rather than figure skating, the same criteria will exist, but the kind of isolation that white ice affords is missing. That white ice and the lone skater seen starkly against the ice create a graphic picture that is very dramatic. In its place, the director of the gymnastic or equestrian event must find those elements in the surroundings that enhance the event itself. For gymnasiums it may be the lights or the vastness of the space around a single figure working through a routine. The director's job is to find a way to tell the story and do so in a visually attractive and appropriate manner.

One thing that is common to all sports is the drama of the event. It can be seen in a close-up of a tennis player's face. That concern and drama are also evident in the face and body language of the gymnast's coach, or the coach of any ball game, for that matter. It is also in the faces of the other competitors, as well as in the actions of the spectators and their relationship to the game. The director of any sporting event is on the lookout for dramatic elements of the sport that add to the excitement of the event.

Game Rules

Inevitably, the rules of the sport, like the time spent in the huddle during a football game, or the "tempo" of the sport, such as the time between points in a tennis match, dictate some of the conventions that have become a part of our viewing experience. In order to fill those "holes," we've come to expect instant replays, graphic chalk talks, and a great deal of "color" conversation during those moments.

Ultimately, preproduction is even more critical on a remote production than in the studio because there's no place to "get stuff" —in other words, no "gimmies." You have only what you brought.

NEWS AND DOCUMENTARY EVENTS

All news events—all broadcast events, for that matter—come in one of two varieties: those events where you know what will happen and those where you don't.

The engineer-in-charge of President Nixon's trip to China in 1972, one of the earliest major remotes, was asked how long it took CBS to prepare for that broadcast. "Six months," he responded. He was then asked how long it took CBS to gear up for the Kennedy assassination in 1963. That took one half-hour, he explained, and by then every piece of equipment at the CBS network was dedicated, or ready to be dedicated, to the event.

The first part of our discussion about "event" production involves the preparation and production of major news events such as national conventions, elections, swearing-in ceremonies, NASA shuttle launches, and real-time events like funerals and disasters. The preparation and production for these kinds of broadcasts are similar to those for a

graduation ceremony, a grand opening ceremony, or any similar public event.

Some news events are inevitable, and stations maintain a kind of "doomsday" library for such times. For example, at the time of his death, Pope John Paul II was 84 and had been in poor health for some time. It's safe to say that the networks had gathered biographic material to be aired immediately after he died. Other events, such as 9/11, require the massing of whatever equipment and personnel are available to cover the event as well as possible. There are no guidelines in place.

The producer's job at an anticipated news event is to make sure that whatever is needed to cover the event is available. Often two (or more) producers will be present on such a remote. One works with the staff involved in the event, such as the media liaison for the Democratic Party, or the media liaison for NASA etc., and the other will work with the technical aspects of the production, serving as a link between the physical plant, the convention center, the hotel ballroom, the launch site, and so on, and the production crew and gear required for the production. They also work with engineering to set up the necessary phone and transmission links and lines. They will be responsible for creating and maintaining the Tech Book for the event.

Even in the smallest production, the producer must work with those involved with the event and work with the crews and gear required to broadcast them. Sometimes an event occurs without warning. Then the station just does whatever it can to carry the story. The newsroom becomes central headquarters. Field crews are sent out. The director and producer or producers make up the broadcast as they go along. They know they have to produce a run-down—even if it's a handwritten note scrawled on a piece of paper—that will help others such as graphics, audio, talent, and so on know what's needed and what's coming up next. As the event progresses and more staff are brought to the event and the control area, the time may come when there is some sense of organization to the broadcast. At the first moments, whoever is available takes over, and each area does the best it can with whatever is available.

Preproduction

Where the events are anticipated, the news director and/or the producer of the broadcast contact the producer of the event, perhaps a political party, for example, and the venue's staff. An appointment is then set up to survey the location—perhaps a

convention center. The survey team would include representatives from nonbroadcast participants:

1. The media director of the political party or his or her assistant
2. The director of the venue or the operations director or his or her assistant
3. The chief-of-crew or crews representing stagehands and others who work at the venue and who need to be involved in the broadcast
4. A representative from whatever organization or organizations will be handling transmission issues, phone lines, up-links, and so on

The survey team also includes representatives from the broadcast group:

1. The broadcast producer and the technical producer who will be compiling the Tech Book either at the initial survey or soon after another survey takes place. The following are included in this survey:
 - a. The director
 - b. The engineer-in-charge
 - c. An audio specialist
 - d. The lighting director
 - e. Chief-of-crew representing the stagehands

The concerns are universal and are based on what has to be accomplished. If it were a college production, meetings between the event coordinator and the production team would have to be arranged to work out the details of the broadcast. At a convention, some of the questions are: Is there a booth in place, or does one have to be constructed? Is there a strictly limited network feed, as might be the case for a presidential debate, or are all the stations bringing in their own hardware and crew?

Sometimes the answers to these questions limit what can and cannot be done. How long is the event? A national political convention is longer than a swearing-in ceremony. How much lead time is there at the venue? If there is only a week, that may limit construction. When will there be access? Is there 24-hour access? Are there some tasks that can be accomplished while some other unrelated event is taking place? For example, can some cables be put in place at the convention center while a trade show is occupying the space? Which cables can be installed—audio, video, lighting? Where can they be installed and when? At the university graduation ceremony, the questions might revolve around

access to the gymnasium or track, but the intent would be the same.

At the networks, the director will take it for granted that audio and video, as well as proper lighting, will be delivered for the platform, the on-air correspondents, and the “house” in general. Intercom (IFB), even over the roar of the crowd, will also be taken for granted. It is likely that the director will be working from a large truck parked adjacent to the venue in line with a number of other trucks. Then the key questions become:

1. How many cameras are needed?
2. How many are available?
3. What kind of placement will be allowed?
4. What does audio need? How can its needs be fulfilled?

Often questions arise about building and placing platforms for camera mounts in the audience. Such platforms eliminate seats in the audience, which results in a conflict between the needs of the audience and the broadcast crews. The needs of each of the networks, the major cable operators, and international must be met. Everyone will want the same key positions. Some of the shots may be pool feeds, although backup positions in case of problems are very much a part of everyone’s plan.

The key shots at a political convention are different from those at a space shot, which is different still from a state funeral, a royal coronation, or a college graduation. It’s not the intention of this chapter to offer the procedure for every type of event, since each has its own specific requirements. What follows here is an indication of the minimum a director would try to arrange in a typical political convention, knowing that some shots may be pool feeds.

This is somewhat similar to the setup that would be appropriate for a graduation ceremony:

1. The podium in a close-up
2. The podium in a medium close-up
3. The podium in a wide shot

The director will want at least two head-on shots of the podium, perhaps a waist shot and a chest shot, in order to be able to switch from one view to the next. Isolated feeds of each camera will be very useful in the future for editing purposes.

4. A reverse over the podium to the audience and/or a profile shot, as well as a cross-two shot featuring the graduate accepting the degree

5. A shot of the audience and a cross-two shot featuring the presenter awarding the degree, as well as:
6. Camera positions for commentators
7. Camera positions for interviews and introductions, such as “There’s the delegation from Ohio” or “Also attending today’s ceremony is . . .”

Recognizing that anything can change at any time, the director and producer will work out a game plan for the coverage of the event. They will go over the routine for the event and the seating chart. They’ll note who speaks and in what order, as well as who will be in the audience and where they’ll be seated. They’ll want to determine if there is anything in the routine that might affect the recording of the event. Will a state or national seal be required? If it is a university graduation, is a university seal or mascot available? How will that be made available to the truck? What “supers” will be needed as identifiers? While the entire event may not be broadcast, the entire event will probably be recorded.

Production

During the production of the event, the director deals with the next shot. He or she will certainly be aware of events that are to unfold: “The president will be speaking tomorrow night at 8:00 EST” or “This session will end at about 10:00 P.M.” or “We’re going to need a station breakaway soon.” But the immediate concern, as is the case with a news program, is what’s happening immediately. More specifically, “air” has already happened or is in the process of unfolding. There’s nothing one can do about that. So what’s next? The director is relying on the producer and the producer’s support staff to supply all of the relevant material in a timely fashion. Changes are handled before they get to the director, with the full awareness of the repercussions if the information doesn’t get to the right people in enough time for them to do something about the changes.

Postproduction

No real postproduction is involved for live events such as these. However, the material can be of vital interest to news or documentary departments, for public relations purposes, and for historical archival needs. Thus, logging the material is essential. Time code or a time line is noted at the beginning and

end of significant speakers or events, and those notes or copies travel with the actual tapes, disks, or files. Production notes are maintained on file along with the archived material.

REVIEW

Significant remote formats are:

1. Presentational material: concerts, plays, operas, and so on
2. Sports
3. News and documentary events:
 - Television conventions such as a line of 180 degrees and those that pertain to cross-shooting are fundamental to all production whether in the studio or on location.

Remote camera positions are determined by:

1. Needs of the event
2. Availability of the hardware
3. Locations available to the production company
 - Jibs and cranes of various styles and configurations are significant directors’ tools.
 - Preplanning for all remotes includes a “Tech Book,” sometimes referred to as the “Production Book,” which lists all the relevant crew, gear, and recording or transmission requirements.

The Tech Book answers questions about:

1. The venue: address, phone numbers, maps, directions, and so on
2. The crew: positions, phone numbers, e-mail addresses, and so on
3. The equipment: what’s included, how, when, and where it functions
4. Recording or transmission requirements
5. Rehearsal and recording schedule

The two most frequent problems on all remotes are:

1. Light
2. Audio

Presentation

1. Lighting may have to augment the available light.

2. Audio, either show or broadcast, will need to work with:
 - Program audio—mixed or unmixed
 - “Foldback,” which amplifies the voice of the singer to the musicians via speakers or headsets
 - “House audio” (public address—PA) for the audience
 - Private intercom for cameras, stage manager, lighting, and others related to the broadcast
 - Phone lines—sometimes
3. Generally speaking, the director of any event wants to know who, what, where, and when.

A director’s fundamental tools are:

1. A ground plan of the venue and of the artist’s stage area, including instruments and speaker placement
2. A rundown of the event
3. Knowledge of the remote: performance, sports, or event

Sports

A sports director sees sports as falling into one of three basic categories that relate to shooting the event:

1. Line sport
2. Circle sport

3. Form sport
 - Preproduction includes camera assignments prior to actual shooting so the director’s camera and graphic instructions are kept to a minimum.

News and Documentary Events

All news events—all broadcast events, for that matter—come in one of two varieties:

1. Events in which you know what will happen
 - The producer’s job at an anticipated news event is to make sure that whatever is needed to cover the event is available.
2. Events in which you don’t know what will happen
 - When an event occurs without warning, the station does whatever it can to carry the story.

Logging news and documentary footage is essential:

1. Time code or the time line is noted for significant speakers or events, and those notes or copies travel with the actual tapes, disks, or files.
2. Production notes are maintained on file along with the archived material.