TYPES OF MULTICAMERA PRODUCTIONS

Studio Systems

The studio system for multicam television goes back to the original live broadcast in 1928 of *The Queen's Messenger* (see Chapter 22: History of Multicamera Technology). The lighting director would light for all angles simultaneously with stands on the floor. It was 1951 when Desi Arnaz and his team took this system to the next level. He won a battle with the network to shoot film with multiple cameras for the *I Love Lucy Show* but also wanted to shoot live, in front of a studio audience. Arnaz’s team was the first to do it, and his innovation was to add the live audience and modify the set by hanging all of its lights so the cameras could move easily around on the floor during the shooting and between sets. Of course, this is slightly easier in a studio than on a remote shoot, since most of the gear in a studio does not have far to travel.

*I Love Lucy’s* staging and camera plan is still the same setup that we use today on sitcoms and variety shows except now there are more cameras and more sophisticated lighting. As Richard Wirth, technical director of *The Rachael Ray Show*, says:

*We have nine cameras available to us, all of different varieties. They would include three studio pedestal cameras, one Steadicam, one handheld camera, one jib, one rail cam, one robotic camera over the cooking service, and a fridge cam, which is a lipstick camera that’s inside the refrigerator.*

Wirth’s team overshoots the segments and then pulls them up with the live audience cutaways to tighten up the show. So even though it’s shot multicam with recorded ISOs, the show is switched live to a line cut and the editing is then done to cut the line cut down to time. The ISOs are used to cover the cuts or make Band-Aid-type fixes to the new master.

For news, talk, and game shows, multicam studios reign supreme. Some reality shows also use studio segments in combination with run-and-gun ENG-style remotes. This is the case with *America’s Next Top Model*, whose judging scene is shot on
Figure 3.1  (1951) A rare shot of original set for *I Love Lucy* with the bandstand scene. Notice Lucy peeking through on the left and the three cameras on crab dollys, hanging studio lights, and a live audience—all Desilu innovations. (Courtesy CBS/Getty Images.)

Figure 3.2  (2009) *The Late Show with David Letterman* stage at the Ed Sullivan Theater. (Courtesy CBS.)
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a soundstage with 20-plus cameras under controlled conditions on tripods with tethered cameras—which is about as unlike run-and-gun as you can get. The conference table scene where Donald Trump fires someone on *The Apprentice* is shot with 22 cameras in order to cover each contestant, The Donald, his associates, and groups of two and four people.

For *Top Chef* and *Iron Chef America*, a studio is used to shoot the kitchen competitions. Programs like *Rachael Ray*, *Late Night with David Letterman*, *Martha Stewart Living*, *The Daily Show with Jon Stewart*, and most nightly news programs all stay put in the studio, where a safe, tried-and-tested system gets put to use every day.

These studios are wired for multicam recording and audio, with house sync locking it all together, and most are recorded live to tape. Little editing is needed for the studio show; just quick fixes, censoring of profanities, or small last-minute cuts are made. Some shows are live on the air and require no editing at all. But the producers still record ISOs, like other multicam shows, and

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*Figure 3.3* Martha Stewart Show studio photo. (Courtesy Mark Forman, screeningroom.com.)

*Figure 3.4* Director Jerry Foley gathers his notes in the studio control room at the Ed Sullivan Theater before taping *The Late Show with David Letterman*. (Courtesy CBS.)
even feed signals directly to editing rooms usually located in the studio or on a nearby floor in the same building.

**No Edit, No Cry: The Daily Show with Jon Stewart**

For studio programs, the director is the ultimate editor, calling the shots live to tape or over the air. For *The Daily Show with Jon Stewart*, director Chuck O’Neil cuts the show live like a news show with tape roll-ins that are fairly quick and succinct. He adds over-the-shoulder graphics, keys, mats—all the things that you have in a regular news show. O’Neil elaborates:

*You have to be a little more aware of where you’re going and what you’re doing than with the single camera. I visualize where all of the cameras are going. My style, and the style that I’ve always incorporated, is that I try to put myself in the position of a viewer who is sitting at home and I’m trying to give them the shots that they would be thinking in their minds that they want to see.*

The whole point is to try to keep it as seamless and as live as possible so that you don’t have to edit. But editors, have no fear. There are still several cutters and three edit suites employed for the show. They’ll cut all the packages and do little fixes after the live show—like add a graphics, little tweaks on angles, and cut content to time—but for the most part they just fly right through the show.

Chuck O’Neil: *Sometimes we have to cut the interview down because Jon goes a little long, he finds the guest interesting and he will realize that he’s going long and he’ll do it on purpose and he’ll know in his mind where he wants the edit to take place. He’s very intelligent, very creative, one of the most amazing people I’ve ever worked with. When he delivers something, even in rehearsal, he’s thinking of the words and the mechanics and he knows if it works, if it doesn’t work, or how he wants to rearrange it immediately. He’s a brilliant editor on the fly.*

**Mobile Television Systems**

Let’s consider the general show sizes and requirements for multicamera production. The main categories are ENG/film-style shoots, fly-pack systems, and remote truck shows with large-scale mobile TV vehicles. The basic remote system comes in road cases or in racks inside a truck. There are separate components for inputting all the signals, monitoring, switching, correcting, and recording the signals. The systems come in all shapes and sizes and can be configured into custom packages based on your budget and needs.
Let’s break them down starting with the least expensive system—the studio in a box.

**Studio in a Box**

The NewTek TriCaster is literally a complete studio system that could fit in a few small cases. It’s the perfect solution for the super-low-budget remotes, classroom programs, or even...
streaming shows for the Web. TriCaster offers a few different models that can all be upgraded to its gold standard in portable live production, the model TriCaster TCXD300™. There are many other products in this category, from such companies as Rushworks, Broadcast Pix, J-Lab, and even Grass Valley.

The system can be set up solo or with a small team to create, broadcast, and live-stream just about any event—anywhere. It has a digital suite of studio tools like a multicamera switcher, virtual digital disc recorders, title generator, video transitions, keyer, audio mixer, and virtual live sets. Oh yeah, it’s HD.

![Figure 3.7 TriCaster TCXD300™ studio in a box. (Courtesy NewTek.)(Image)](image1)

![Figure 3.8a TriCaster used for a high school news show. (Courtesy Debbie Rein/Osceola Fundamental High School.)(Image)](image2)