



Jerry Lewis' video assist system. (Photo by Bob Furmanek)

On the Set with Video Assist By Michael Frediani, SOC

Video assist and playback devices on the set are about as common as cops in donut shops. Yet what is one person's tool might well be another person's millstone. Most directors today wouldn't consider rolling a foot of film without first watching the scene played out on a monitor. Cries of "Can we get a hook-up?" are about as common as the words "Quiet for rehearsal!" And "they" want to see a picture even before the dolly track is laid out or the assistant has gotten his/her focus marks.

What was once a novelty is now a necessity, though most people would be surprised at just how long video has been a part of the film set.

One need only look back to one of America's best known comedians, Jerry Lewis, to discover the first major use of this device. As described in the book *The Jerry Lewis Films* by James L Neibar and Ted Okuda, Lewis explains the reason for and the path toward developing video assist.

The Beginning

What was originally called "Closed Circuit Television Applied to Motion Pictures" was created and devised by Jerry Lewis in September 1956. It was engineered and perfected by the Paramount Technical Departments under the supervision of Bruce Denny. Although others may have preceded Lewis, (Linwood Dunn, ASC recalls a visit to the ASC clubhouse by Al Simon from Great Britain demonstrating a video assist device prior to 1960) Lewis holds the patent on it.

It was 1960 when Lewis first used his video assist system while making his directorial debut on *The Bellboy* in Miami Beach, Florida. His device was described like this: A closed-circuit industrial type RCA Vidicon Camera mounted on the BNC film camera used as the production "A" camera. The television camera was equipped with a variable focal-length "zoom" lens that permitted it to match the scene content of all the BNC lenses except the 18mm wide-angle lens. The television camera shared the horizontal parallax of the finder and was compensated to the point of focus. The television camera also had a vertical parallax that must be adjusted to the average point of focus of each scene. However, as the camera was used in close-up position, it was necessary to use some judgment to protect headroom, rather than adjust only to the cross-hairs.

The television monitor, together with control equipment, weighed in at 200 pounds and was mounted on a small dolly. The equipment was of assistance not only to the director-actor but also to various members of the staff.

It was used in many more ways than anticipated. Some unexpected problems were encountered and either solved or endured.

Considerable maintenance was required on the television equipment because it had been used beyond specifications and had some inherent faults or limitations relative to motion picture standards. Spare equipment, borrowed from RCA, was regularly used.

Production Use

The novelty of the television equipment prevented an evaluation for the first days of shooting until a pattern of use developed. The television equipment operator found it necessary to determine if Jerry Lewis was to be an actor, director or both in the scene and to place the monitor where it could most easily be seen.

Jerry Lewis the director, used the monitor to see the scene as photographed. The action content within the film frame was reproduced fairly accurately. The director knew what the film camera was seeing and explanations by the camera operator were "unnecessary." During the rehearsal portion of the scene the director used the monitor to smooth action cues, entrances, crosses, etc., and also to see the effect of panning and dolly movements. Timing and movement of the scene in black and white were observed, and distracting background objects were shaded or moved.

Several times during tightly framed or critical scenes the director had the monitor turned in to the set so the actors could see mistakes of movement or position. This helped the actors understand the director and resulted in a correction of the fault. The monitor was similarly used to show the actor how to improve timing, avoid shadow and see the effects of anticipating cues.

Jerry Lewis the actor, frequently used the monitor to help compose and time a scene. Positions and movements relative to sidelines, headroom, shadow, etc, could be observed during rehearsal.

Often in ad lib scenes he could see the monitor either directly or with his peripheral vision and move within set limits. Although small, the television monitor showed the potential impressiveness of the Fountainebleau Hotel lobby, hotel entrance, airport and similar scenes.

Jerry Lewis as director-actor, used the monitor in several interesting ways. He would observe the action within a set prior to making a well-timed entrance. For example, in one scene in which the room was filled with ad-libbing girls, he was able from outside the room to see on the monitor the exact instant when the camera had a clear view of the door and hence to make a perfect entrance. At other times, after making an exit into awkward areas, he was able to see and direct the remaining scene from the monitor's position. Combinations of entrances and exits were made in this manner, and the scene was viewed from usually blind spots.

Several times, particularly during lineups of the bellboys that included Jerry, he would observe the action from his position. If such a lineup were panned through close-ups, Jerry could direct the action until the camera was ready to move in on him.

It might be interesting to note that few actors had enough self-discipline to avoid looking at the monitor and that it was usually necessary to turn the monitor away from the actors during takes. When Lewis was not in a scene he would watch the action unfold on the monitor. When asked by The Operating Cameraman why some actors resent not having the director beside the camera during a take Lewis said pointedly, "If they had real talent they wouldn't resent anything."

Yet there were times when the monitor was not used exclusively by Lewis during filming of *The Bellboy*. After being used for lineups, rehearsals, etc, it was in a position to be seen by others.

At such times it was used or shared by members of the staff and crew in various ways. Associate Producer Ernest Glucksman used the monitor many times to view rehearsals and takes and sometimes after discussions with Lewis, changes were made. Cinematographer Haskell Boggs, ASC used the monitor to evaluate set-ups. Arthur Schmidt the editorial supervisor and Claire Behnke the script supervisor used the monitor when access to the set was restricted by equipment. The set painter Gene Acker sometimes used the monitor to locate highlights to be dulled down. The assistant directors viewed the monitor occasionally to observe empty areas to be filled or crossed with extras.

"Toward the end of the picture," Lewis continues, "there were two instances in which the monitor was used to hold back noisy audiences. During a long dolly shot in the Fountainebleau gallery, an audience of about 35 people were kept quiet while observing the 'Stanley being dragged by man with suitcase' sequence. Again, while in the restricted Barcelona lobby during the telephone booth and other sequences, the monitor helped hold down an interested and quieter audience of about 50 people. It is belatedly obvious that the monitor, or an extension monitor, could have assisted us on more occasions."

(Go to On the Set with Video Assist - Part 2)

On the Set with Video Assist -
Part 2

Production Problems



Outdoors the contemporary monitor must be shielded in order to be usable.

The general problems encountered were due to equipment limitations, last-minute planning, inexperience and under-anticipation of the number of uses the television equipment would find. Lights were the most severe problem.

It was necessary not only to gobo (shield) or move the monitor to avoid direct light but also to place the monitor in areas where it could be most easily seen without the director or actor being blinded by nearby lights. Ambient light reflected from floors, walls and ceilings faded the picture, and it was often necessary to increase the monitor's brightness and contrast beyond recommended limits to obtain a good picture. It was also necessary to adjust the television camera control system continuously to maintain a good picture during rehearsals and light changes.

Outdoor scenes imposed a limit on the monitor that could be met only by using a contrived shadow-box on the monitor. Daylighted objects are ten or more times brighter than the maximum brightness of the monitor and it was necessary to view the monitor within the shadow-box for several seconds while awaiting eye accommodation.

Power to operate the equipment was obtained from 115 volt AC convenience outlets. During the airport jet scenes it was necessary to use 300 feet of AC cable. The drop in voltage caused a delay in equipment warmup time, and the first shot was "missed" by the television equipment. At the golf course, the nearest AC was 800 feet away and although an effort to locate a portable AC generator was made, it was not practical to follow through.

"As a personal note," Lewis stated "it is my carefully considered opinion that the use of the television equipment resulted in saving shooting time, that it was an aid to the director and other members of the staff and that after its novelty passed, it became part of the company equipment."

Yet more than three decades after its introduction Lewis remains embittered by the fact that he is not duly recognized for his achievement. He stated recently to The Operating Cameraman, "We work in a strange industry when an innovation of this kind has been kicked under the rug for almost 40 years. They (the film community) haven't appreciated the work of an innovator because he's a pratfall comic so I won't dignify them with any further comment about my device!

It's not worth it to me
anymore."

But Steven Spielberg is compelled to add, "Ever since Jerry Lewis inaugurated video playback in the 1960s, it has continuously proven to be a benefit to directors, with some notable exceptions. Using playback is not unlike "sneaking" your movie in front of your entire cast and crew and although when things are going swimmingly this is a valuable morale-booster, it could also turn your leading actors into Siskel and Ebert, thereby inviting a day-one collaboration between director, actor, producer and most certainly the camera operator. Some film makers welcome this collaboration as I have in the past; other film makers I know decry it."

No matter what the circumstances that take place on the set, what counts is that the shot designed is the shot delivered. How often as camera operators have we heard "cut-print" at the conclusion of a shot only to have to jump from the dolly and explain to the director that there were certain elements of the scene that were unsatisfactory composition-wise or for other problematical reasons? When a director views the scene he or she is looking and listening to a myriad of things and it stands to chance that something may occasionally be overlooked. That is why the camera operator must be ever-vigilant to the smallest details and not leave anything to chance. Believing that the director or script supervisor will catch an oversight on the part of the operator, actor, boom operator or others only creates a false sense of security to the detriment of the operator. Cinematographer George La Fountaine, ASC (Hope & Gloria) states, "Just because a shot is on a monitor doesn't mean it's good or right. The director who's looking at it may be hearing the words but not seeing the move or wondering if his agent has made that certain deal. I never hesitate to make something better.

Never. Even if
it's the director's favorite shot."

As fast as we are asked to shoot each scene we must remember that the next day's dailies are viewed under more subdued conditions by the director and producers with more critical eyes. La Fountaine recalls first seeing video assist in 1960 at Paramount Studios which was Lewis' second effort with his video assist device on a picture entitled *The Ladies Man*. "I visited a huge four- or five-storied set. Jerry was directing himself and W Wallace Kelley, ASC was the cameraman. The set (described by noted film critic Leonard Maltin as "the real star of the movie") was a Hollywood hotel for aspiring actresses and built all the way to the perms. The face of the building had been removed to provide the camera with an open view of what seemed like thirty rooms. Each apartment was occupied by a pretty starlet and fully dressed with furniture. Lewis watched his stand-in's rehearsal on a floor monitor as an immense crane followed the stand-in from the topmost floor, down halls and stairs to the lobby in one continuous shot. A small video camera mounted above the Mitchell BNC swing-out finder provided Lewis with a black and white approximation of Kelley's lens.

Granted, the video image was crude. But it gave frame lines and a reasonable perspective of what the camera was seeing. I worked in live television at the time so I was more impressed with the set than the electronics. At KTLA-TV we had just succeeded in placing a live camera aboard a helicopter so seeing the film guys using our tool was a kick.

Coming out of live television I was never intimidated by video assist. I've heard many of the arguments: 'It slows things down,' 'Everyone's a cameraman,' etc. My feeling is the more we agree with the placement of the product, performance or action the better. Before video assist I remember once soothing a commercial client with the words, 'Wait 'til you see it, you'll like it.'" La Fountaine adds, "He didn't."

George Turner former editor of American Cinematographer magazine remembers when he first saw video assist on a set years ago. "Many people didn't want to use it because they were afraid that by watching a monitor they would become hypnotized by it... turns out they were right!" Turner notes that as a production illustrator in 1982 on the set of One From the Heart, "director Francis Coppola has probably been the staunchest supporter of it to date."

The Crew

Often not mentioned in this mix of getting the shot is the dolly grip. With more and more TV dramas trying to emulate feature style shots with TV budget constraints the operator and dolly grip are thrust into situations that at first seem unattainable with the time allotted. Steadicams, cranes and remote controlled cameras are now part of what is normal practice on most sets. Tight lenses during over-the-shoulder shots while the camera slides across the floor are commonplace. A good dolly grip has an innate sense of what the operator sees, sort of his own "parallax view." With experience and quick reflexes the dolly grip can make an instantaneous adjustment with the nuance of an actor's head tilt in order to maintain the designed shot. With video assist as a tool that job becomes easier. More often than not the dolly grip is asked to do a great deal of thinking on his/her feet in order to help the operator maintain the desired composition. This in effect makes the dolly grip another component of the camera team, a virtual co-operator.

With the advent of the small onboard monitor first-assistants now have the ability to see what the operator sees, enabling them to become better operators when the opportunity arises. They can see what is actually in frame thereby giving a hint as to where the focus should be placed in some cases. Also it is a silent way of cueing "focus racks" where necessary.

Those assistants who work on the sets without video assist gain the same type of parallax vision that dolly grips learn when, for example, the operator has to cut the camera because an over-the-shoulder didn't work out. With time they can tell what isn't working for the operator. Adding the onboard monitor takes that ability away from the assistant yet if they have time to look away from the actor and up at the monitor it is a newer form of education in composition.

Producer/director Robert Singer (Cujo, Lois & Clark) was a long time holdout, not wanting to rely on the monitor until he discovered while watching dailies on a show some years back that he wasn't getting the kind of exacting over-the-shoulder compositions that he had designed. With video he found that once the operator was able to watch a rehearsal on the monitor he could emulate the set up and then Singer could spend more time watching the scene directly. He adds, "When I work with an operator that I can trust it makes my job a lot easier."

Director W Richard Lang, Jr (James Michener's Texas) states that "at first it was unusual not looking directly at the performance but after the initial newness wore off I found it to be very advantageous. I have yet to see a video screen hurt a great performance or sadly, to hide a poor one. Since I work mostly in TV the close-up coverage gives me an image size that makes performances easy to evaluate. Although sometimes, for whatever reasons, I slip back into the old dinosaurian habit of actually looking directly at the actor."

Lang continues, "It is truly a great tool. For instance it means not having to weigh on and off the Chapman or climb up a twenty foot parallel. Being able to "see" how much of the actor was covered or blocked. Did the arm move pan/tilt/swish/stop and flow from one element into the other with the right tempos? Was it Kubric, Capra or crap? So much of this art/craft is opinion. Each of us is unique. Long live la différence... But the video assist is still just a tool. Like a hammer or a saw it can help make beautiful things or butcher them. It depends entirely on the carpenter."

The Sound Mixer

Just as the monitor is a tool for directors, dolly grips and assistants, it is also utilized by the production sound mixer. Joseph Geisinger, CAS (The Jungle Book, Showgirls) states, "I received my training prior to the advent of video assist, so my point of reference was solely aural. With the video tap I now have a visual reference as well. This added dimension is valuable to me. In order to prevent overall diminished audio quality due to phase problems or "boominess" only one mic can be used at a time. So in multiple mic situations a visual aid helps me to decide which mic to use and when.

Video assist also helps me to anticipate the unpredictability of actors. The energy level (volume) and physical direction that a line reading will be given is important information. This information allows me to make instantaneous adjustments with greater accuracy.

A through the lens visual reference puts me in a position to assist the camera operator by keeping the boom operator informed of the frame lines. I have the ability to communicate with the boom operator (via a private line that doesn't go onto the recorded track) when the mic is getting too close to the frame lines." Geisinger adds, "It is always a concern of mine to get the mic as close to the actor as possible in order to alleviate background noise yet at the same time I never want the mic so close that it becomes a distraction to the camera operator. I feel that it is unfair for the operator to be watching the mic rather than the scene. Often in the past when I really needed a direct eyeline to the actors I found that my sound cart was in the way of camera, grip or electric so with video assist I can remove myself and my equipment from the set."

(Go to On the Set with Video Assist - Part 3)

On the Set with Video Assist -
Part 3

One Hundred Dollars a Day



The small monitor is for video assist.

Owen Marsh, SOC the renowned and now retired camera operator recounts his first experiences with video for The Operating Cameraman: "I first encountered video assist around 1961 during the filming of the MGM/Cinerama feature How The West Was Won. I had the opportunity to help Peter Gibbons the Cinerama machinist/technician/inventor, develop a video assist unit. The video cameras were mounted on top of a wild Cinerama camera which was in turn slung beneath a helicopter. The TV monitors were in the 'copter cabin and by viewing the pictures we were able to direct the pilot where to fly.

My impression at the time was that we had a wonderful tool which could have many applications in the filming of pictures. This proved to be true but also false.

It takes a cinematographer or director who is extremely well-educated in the art of camera operating to have any beneficial input to offer an experienced camera operator. They as the boss can tell you what they want but should leave the method of getting there to their operator. If you were to ask for a number I would say possibly about 10% of the above are so qualified.

Over the years the video assist, like many other cinema tools, has been over used. The use by a director who is also the actor in the scene is invaluable and well-founded, but more and more you find the video assist being used by directors who are not secure in their decisions and need the assurance of a committee's vote before they can accept a shot. The use as a "toy" to shoot multiple takes, run them back and forth, have everyone who is in the "booth" put in their opinions then choose the maybe three or four that you want to see on film is, in my opinion a waste of time and money and an insult to the camera operator who after every take has the opportunity and obligation to say "Good" or "Let's do it again." Marsh recounts the time when he worked on the Gene Wilder feature, *The World's Greatest Lover*, at Fox in 1977. The star was the director, producer, writer, and even wrote the music. "The star/director and the cinematographer became such slaves to the video assist that the little green canvas "TV room" would cost us hours a day. On one occasion we were to shoot a process shot with the principals in front of a train window with the process screen outside the train. To make the shot I had to use a Mitchell Mark II which was synched-up to the process projector but would not accept the video assist that we were using on the Panaflex. So we set up the Panaflex next to my camera and ran it locked-off without an operator just for the video while I made the actual shot with the Mark II.

After we had done about eight takes the "group" retired to the canvas booth to watch the videos. For about ten minutes all was silent, then the voices began to get louder and louder. You could finally hear the director yelling "If you don't fire him, I will." With that the cinematographer came out of the booth, walked over to me and told me that I was through. When I asked the reason he explained that the director couldn't believe that I had made eight takes without once tilting up with him, the actor, when he stood up to get his suitcase from the overhead rack; that his head had gone out of the frame every time. It was only then that the DP noticed the second camera which he had forgotten, the Panaflex, locked-off with no operator and no film.

The production manager was by this time on the set and the call had gone out for another operator. While they were all apologizing to me and asking me to stay I had only one thing to say: 'One hundred dollars a day for the insult of having to use a video assist, for the rest of the picture.' Well they paid it and since that day whenever someone said that there would be video assist on a camera that I was going to operate my stock remark was 'One hundred dollars a day for the insult' and if they didn't want to pay it I didn't work for them."

Marsh concludes, "I guess what I'm trying to say is that if the cameraman and/or the director doesn't trust the operator's word on a shot and feels he needs a video monitor so he can check on or correct him or if he himself is so unsure of his ability to judge a take while it is being shot and has to look at it over and over then he should either get a new operating cameraman or quit because one of them does not belong in the movie industry. It's a tool, not a crutch."

Sol Negrin, ASC (Blood Rush) president of International Photographers Local #644 has had an opinion concerning video on the set since he first encountered it on a commercial in 1982. "In some respects it's annoying because agency people had their varied opinions in regard to the takes and you shot footage more than necessary because of indecisions.

At least in theatrical or television narrative material it's the director who makes the decision concerning performance."

Concerning the collaborative effort the DP shares with the operator Negrin states, "If I know the operator well and have worked with him often, I know I can rely on his taste. Communication is essential to make certain that he is following your ideas but I will also give allowance for his aesthetics. I certainly will respect his decision for improvement or correction for a scene made. If one can convince the director after he/she approved the take that it could be done better then the attempt should be made."

As to the use of color video playback on the set Negrin replies, "I do not approve, because it give a false illusion as to what you are photographing of the actual scene. Psychologically disturbing since the video assist color and the film image will be different. In commercials agency people can easily be contaminated by this illusion." Cinematographer George Spiro Dobie, ASC (Sister, Sister) president of International Photographers Guild Local #659 adds, "Color video assist is a useful tool if used for staging purposes only. Some new producers tend to judge the quality of our lighting by the video assist-which is wrong and dangerous."

"In narrative films," Negrin states, "video assist is a boon to the director for performance and concept. For the DP he certainly gets a good idea of the framing and how well the scene was executed. In commercials it has drawbacks because several individuals may draw varied opinions of how the framing of the scene should be. If your agency people are new to the field insecurity is noticeable."

Dobie who first encountered the quad system on Barney Miller in the 1980's felt compelled to sit next to the director facing the action. "With my left eye I watched the quad monitor and with my right eye I watched the actors. They felt our presence. They didn't look up into thin air to talk to the director or cinematographer." Dobie concludes by reflecting, "In the beginning I hated the system but now I love it. It helps me to 'educate' producers/writers who become new directors.

The shots are there and what you see is what you get (framing). I give my input to improve composition and to protect coverage of the scene."

The Rental House

Alan Albert, Executive Vice President at Clairmont Camera remembers first sending out black and white tube type video assists on their Arri BL-2 cameras around 1976. "Shortly afterwards video taps for Arri-3 cameras were developed by John Clap, CSC, Arriflex and Jergens Camera Service," recalls Albert. "The first practical color video assist was around 1987-88. We now send video assist out on commercials 90-98% of the time, TV movies and episodic 70-80% and theatricals hover at about 50% with video." As to the choice between color vs. black and white Albert estimates that 10% of Clairmont's cameras go out with color taps, the majority being CCD type vs. tube and that virtually all commercials now use color.

Through the Viewfinder

From another operator's viewpoint Paul Babin remembers video as a staple of his existence since becoming a film operator in 1984. "Prior to '84 I had worked for several years as a video camera operator so the experience of someone scrutinizing my work in real time was not new to me.

As I think back it's hard to remember which shows have had video assist and which didn't. I think most of them have. And my vagueness of memory points, I guess, to the fact that video assist hasn't been all that intrusive. In those few instances where directors or DPs have critiqued my framing via the monitor it's usually been justified. In a couple of instances weak directors with nothing better to do needed to establish some authority and offered some patronizing suggestion based on what they saw in the monitor. But again those have been seldom.

Always, between takes or during set-ups, Spielberg would catch me napping and suggest that if I framed the shot the way it was at that moment, 'there would be hell to pay!'

In general I've found video assist to be a helpful tool in communicating to the director, especially in situations where you want to suggest a variation on an agreed upon set-up or offer a new idea altogether. It's imperative for the director of photography to know what he's lighting. It's very easy to place the DP and director in front of the monitor and execute the move so all are agreed-that's the shot!"

As recently as 1992 with director Peter Weir on *Fearless*, Babin and Director of Photography Allen Daviau, ASC began production without video assist. Babin notes, "It wasn't until we got into cramped practical locations and the script supervisor was losing her mind trying to keep up that we put on the tap. Weir is very committed to his actors and wanted to be near camera when rolling. He's part of a dying breed." Babin adds with some chagrin, "I think a lot of us as operators feel the consequences of the 'director in the next room' syndrome. So often the actors yearn for feedback after a take. The nearest human contact is often the operator. I think this separation of directors from their actors caused by video is the worst consequence brought on by the technology. Though I can appreciate how seductive seeing the camera's view is during the take."

Babin thinks that currently one of the best uses of video technology is Jim Cameron's "VID-Stick," a viewfinder which accepts Zeiss or Primo lenses with an attached video tap and RF transmitter. Cameron holds the VID-Stick in one hand and a Walkman TV/recorder in the other. "He lines up his shot, records the lineup rehearsals which he operates and hands the tape to the operator for a 'guide track.' This works especially well for all the numerous Steadicam shots Cameron employs in his movies."

Whether video assist and playback on the film set is used as a tool or as a crutch or both during any given day, chances are you will encounter it more often than not.

With the constant advances in technology that affect everybody's lives every day and in every way we must learn how to make it work for us whether we are camera operators, cinematographers, actors or directors.

"In any case," Spielberg notes, "video playback is not going anywhere and must remain an optional filmmaking tool for the director."