72d Convention, October 6-10

This was a very large and successful convention. We have not developed a whole schedule of comparative statistics for recent conventions and we doubt the prospects of pay dirt in such a vein, for each convention has possibilities and successes peculiar to itself. Such a large and successful convention was nicely fitting as the last convention under Bill Kunzmann, retiring Convention Vice-President. Joe Aiken, as Program Chairman and Local Arrangements Chairman, made the most of the Society's going organization and momentum to build a papers program and he organized the multitude of local arrangements for responsible help by the many capable people in Washington who contributed very generously to the Convention.

A particularly identifiable aspect of the Convention was the seven sessions which comprised the International Symposiums on High-Speed Photography which John Waddell began to promote and develop about a year and a half ago. The success and the breadth of the Symposium were almost entirely the result of John Waddell's work, with associates on the High-Speed Photography Committee coming through with papers and with Joe Aiken anxiously watching and finally arranging the program and meeting facilities for the roster of papers as it rolled up to an unprecedented volume.

Mrs. Nathan D. Golden and Mrs. Joseph E. Aiken, cohostesses for the Ladies' Program, prepared a unique program which brought out 240 ladies for events which included a tea and reception by Mrs. Truman at the White House, the Society's 72d Semiannual Cocktail Hour, Banquet and Dance, a luncheon at the Columbia Country Club, an evening at the Academia of the Motion Picture Association of America, and a tea at the Greek Embassy.

Special arrangements were made by Max Beard for about 130 visitors to attend the session on Thursday Afternoon at the Naval Ordnance Laboratory, White Oak, Md. SMPTE members were welcomed by R. D. Bennett, Technical Director of the Laboratory, who explained the Laboratory's place in the defense program. The Signal Corps Mobile Television System brought the audience a view of certain outlying areas by microwave relay and television receivers. Shock waves in the supersonic wind tunnel were demonstrated.

Hotel and transportation arrangements were locally under Henry Fisher who made arrangements especially helpful for visitors from overseas and also facilitated the extensive program arranged for the ladies. Gerald J. Badgley was active in membership promotion along with Ray Gallo, Chairman of the Society's Membership Committee. Jim Moses gave a welcome assist as a Washington member to Len Bidwell who came from Camden for a customary stint of getting out a big week's worth of Convention publicity.

Under Convention Vice-President Kunzmann, convention registration was organized for Washington by Keith B. Lewis who had the assistance of Phil Cowett, Fred Gerretson, Max Kerr, Jim Moses, Bill Nagel and Howland Pike. This was a real job considering that, along with the tabulation of registration which follows, also to be dispensed were tickets for two luncheons, the banquet, the bus trip to the Naval Ordnance Laboratory, and theater passes and information. This was the way registration for the technical program went:

	Weekly	*Daily*	*Total*
Monday	241	35	276
Tuesday	58	85	143
Wednesday	33	165	198
Thursday	—	129	129
Friday	—	114	114
Total	332	528	860

Projection service for the sessions was organized by Carl Markwith with assistance by William Hecht, Wilson E. Gill, Ralph Grimes, William Youngs and Glen Ornstine. They supplied 16mm and 35mm

equipment for the technical sessions and also met the demands of five pairs of concurrent sessions. Public address and recording of discussion — of which there was a good deal — was under the direction of Jack Greenfield who had the assistance of Robert Dickinson, Richard Simpson, Mike Loria, and Ed Moore who was most effective in stepping into a late schedule for recording some high-speed photography papers, with equipment supplied by Wilson E. Gill.

Further refinements in the Society's public address and recording equipment may be forthcoming. Editorial Vice-President-elect Norwood Simmons has appointed the following committee to study the equipment: George Lewin as Chairman, Edwin A. Dickinson, Jack Greenfield and Fred Whitney.

Motion pictures for the opening of sessions were garnered and made into a coordinated film program by John V. Waller who was assisted by John E. Horton, Jack McCullough and Emerson Yorke. The roster included:

Jet Test, 16-B&W, Air Force

Timber & Totem Poles, 16-color, U.S. Dept. of Agriculture

This Theatre & You, 16-B&W, Motion Picture Assn.

Operation Greenhouse, 16-color, Atomic Energy Com.

School for Dogs, 35-B&W, RKO

Screen Actor, 16-B&W, Motion Picture Assn.

Shining Rails, 16-color, Gen. Electric

Gambling, 16-B&W, Navy

Small Town Editor, 16-B&W, State Dept.

Shoemaker & The Hatter, 16-color, Mutual Security Agcy.

Costume Designer, 16-B&W, Motion Picture Assn.

Representative Instructional Films, 16mm Maint., Various

Arch Against The Sky, 16-B&W, Gt. Lakes Steel Corp.

Unlocking The Atom, 16-B&W, Universal

Let's Go To The Movies, 16-B&W, Motion Picture Assn.

Tanglewood, 16-B&W, State Dept.

Screen Writer, 16-B&W, Motion Picture Assn.

There were more persons than usual from overseas, many of them coming for the International Symposium on High-Speed Photography (see photo). A highlight of the Symposium was the High-Speed Photography Luncheon on Wednesday noon when A. C. Keller spoke on "The Economics of High-Speed Photography" which is published elsewhere in this *Journal*. John Waddell was master of ceremonies to welcome an overflow crowd in the luncheon hall. There were several of the Society's officers and Governors at the High-Speed Luncheon. John Frayne, Editorial Vice-President, spoke briefly about the accomplishments of the High-Speed Photography Committee and assured the High-Speed photographers of the Society's continuous policy to help in every way possible, believing that the interests and activities of high-speed will be served well within the Society's organizational structure which permits integrated activity of varying but related interests and which at the same time brings the benefits of mutually sharing in facilities, overhead and man-hour costs.

It was of some interest to note not only at the High-Speed Luncheon but also at the high-speed paper sessions that a sizable fraction of those attending had registered for the entire week and also that quite a few persons shuttled between high-speed and the concurrent session in order to hear particular papers. This may or may not be an indication of greater diversification of high-speed people's interest, to include phases of laboratory practice, optics or sound.

The highest attendance at a session was 247 on Tuesday afternoon for Karl Freund's paper "Shooting Live Television Shows on Film." It was read by John Boyle in the absence of the author who is currently on a rigid four-days-a-week Hollywood television schedule. The paper was tainted with entertainment possibilities by showing on a sizable screen a film of *I Love Lucy* which demonstrated the cameraman's problem.

The only other sessions to draw over 200 were two of the seven sessions of the International Symposium on High-Speed Photography. During the high-speed sessions there was some filing in and out for particular papers but, during the first two

Five of the world's foremost specialists on high-speed photography discuss program for largest international symposium on the subject at the 72d Semiannual Convention. Left to right: Dr. Hubert Schardin of Weil Am Rhein, Baden, Germany, Director of the French Ordnance Laboratory at St. Louis, France, and world authority on ballistics photography; Dr. Carl Jennergren, of the research staff of the Swedish Ordnance Laboratory at Stockholm; W. D. Chesterman, of the Royal Naval Scientific Service in London, author of the first English text on high-speed photography; Gilbert Ruellan, Managing Director of the Andre Debrie Establishment, French manufacturers of motion picture equipment; and Major P. Naslin, of the research staff of the French Ordnance Laboratory of Vincennes, co-author of the world's first text on high-speed photography, published in 1950.

days of high-speed, attendance held to an average of 150. By Friday apparently even the high-speed photographers' fibers and capacities were taxed, for then attendance averaged 80.

The Monday evening television session and the Thursday evening 16mm maintenance sessions held the rapt attention of about 80 throughout. Other sessions not previously mentioned ranged from 125 to 175.

There were fourteen committee meetings held during the Convention, many of them lasting for several hours. Reports of these appear in the Engineering Activities column in this *Journal*.

The Luncheon and Banquet were organized by Nate Golden who put them on with a strict schedule. The awards presented at the Banquet will be described in the December *Journal*. Nate Golden arranged for speakers from the three service branches. Their remarks before the Get-Together Luncheon were impressive and warmly received. The speeches are abstracted below. One of Joe Aiken's special plans for this Convention was to feature the Signal Corps Mobile Television Unit. This and other television plans were under Ralph N. Harmon and Col. C. S. Stodter. W. P. Dutton was most helpful in the planning but unfortunately was ill at Convention time. The Get-Together Luncheon program was picked up by the Signal Corps Mobile Unit and sent to the Pentagon. The program included speeches abstracted as follows:

Ranking photographic authorities of the Army, Navy and Air Force confer with Peter Mole (second from left), President of the Society of Motion Picture and Television Engineers, on luncheon program opening the Society's 72d Semiannual Convention at the Hotel Statler, Washington, D.C. The military experts, who were guest speakers at the luncheon, are (left to right) Major General George I. Back, Chief Signal Officer of the Army; Brig. Gen. Brooke E. Allen, Chief of Staff of the Military Air Transport Service and, until recently, Commanding General of the Air Photographic and Charting Service of the Air Force; and Capt. A. D. Fraser Chief of Naval Photography in the Office of the Chief of Naval Operations.

Get-Together Luncheon Remarks by President Mole

A short time ago I had occasion to review the history of engineering in the motion picture industry, and I was reminded repeatedly of the mature judgment and wisdom that our predecessors in this Society had contributed to the progress of motion picture technology. They played an important part in the development of sound and color motion pictures and standardization, all of which are commonplace today.

We are on the threshold of another era of progress. I am sure we will all agree that the movies and television can not only live together but can supplement and strengthen one another. The record of cooperative engineering within our Society, which extends across both fields, is already an impressive one, and through such efforts we have sounded a note of profound encouragement for both the economic and the technical future of the field in which most of us make our daily living.

This week here in Washington, some of our most distinguished members will be discussing questions of serious importance to the future of theater television. Last week a significant event occurred when Cinerama, a development many years in the making, was first demonstrated to the public in New York. The week before, large-screen theater television enabled thousands from coast to coast to witness the championship bout between Rocky Marciano and Jersey Joe Walcott. More people saw the telecast in movie theaters than were actually in attendance at the fight. Now, none of us can predict in exactly what direction theater television will develop. Nor can we foretell the future of Cinerama, or that of the several new systems of motion picture color.

But one thing is *certain* — these technical developments and the excitement they have created, within and outside our field of professional engineering, are together the most encouraging symptoms to appear in the past ten years. They are evidence of a new, widespread, and healthy interest in the technical future of both motion pictures and television. I sincerely hope they will spark a chain reaction that will eventually stimulate each one of us, working together in this Society, to accomplishments greater than any we have yet attained.

Excerpts From Address by Gen. George I. Back

It is a distinct pleasure for me to join with you at the opening session of your 72nd Semiannual Convention and to be given the opportunity of presenting some of my thoughts regarding motion pictures and television within the Army.

Broadly speaking, the Signal Corps, in keeping with its responsibility for providing an integrated communications system for the Army, must be prepared to transmit information (or what we call intelligence), whatever its form may be. This intelligence may be transmitted as the spoken word, the written message, or in the form of a pictorial representation. It may be directed to a single person or to several addressees at different places throughout the world. It may also be intended for mass distribution to thousands.

In the process of transmission, intelligence may take many and varied forms as it is transformed through electronic, mechanical magnetic or photographic processes. But whatever the processes employed, they must be designed to provide a thoroughly integrated, but flexible, system which will deliver the message accurately and rapidly.

The motion picture has served the Army well through two world wars. The sound motion picture is doing the same important job in the Korean conflict, as a medium for training our forces, as a means for promptly acquainting the American public with our operations in combat, and finally as a means of pictorially documenting military history as it is written. Of possible interest is the fact that seventy million man-hours of military training are accomplished annually by the Army through the use of training films. Furthermore, many of these films are extensively used by our allies after the script has been rescored in the appropriate language, thus creating a unity of military thinking and a better understanding of mutual security problems. Similarly, in the field of research and development of military equipment, methods and tactics, the motion picture has become an irreplaceable tool, since it provides a means for repeated analytical study of critical phases of a given operation, whether it be a military maneuver or the testing of such weapons as the atomic bomb or the guided missile.

While military applications of the sound film continue to multiply, television has become available as another medium for the transmission of sound and pictures, a medium which offers tremendous possibilities with its potential of speed and accuracy. Although the full military possibilities of television have not yet been determined, we have for some time been engaged in exploring its manifold applications. In this work we have been guided by our past experiences in the pictorial communication field. Many possible applications for military television suggest themselves. To mention but a few:

Distant tactical observation of military positions and actions from the ground and air.

Bringing distant or relatively inaccessible subjects into many training classrooms simultaneously.

The tactical briefing of widely separated commanders.

Guidance and control of land vehicles and light aircraft.

Close-up observation of the action and effect of our weapons.

Mass dissemination of important information in pictorial form to reserve and civilian components of the armed services and to the public at large.

These are only a few of the suggested fields of employment. I believe, however, that they indicate the trend of military thinking toward full utilization of this new method of communication.

Incidentally, the Signal Corps is pleased to be able to bring to this convention the Mobile Television System which is being used in our fundamental explorations of television's possible military applications. This equipment embodies much of the engineering skill which you engineers have contributed to the development of the television medium and emphasizes the spirit of scientific cooperation that exists between your industry and the Signal Corps. Needless to say, we in the Army are grateful to you for the splendid assistance we are receiving from you.

I should like to point out here that the Army has recognized the need for complementary development and utilization of television and sound motion pictures in order to obtain the maximum effectiveness of both media, just as you engineers have recognized that the two are complementary and compatible, rather than exclusively competitive. Only television can reproduce an event at a distant point instantly, but only motion pictures can record and retain the image of that event. By combining the electronic immediacy of television with the photographic retentiveness of the motion picture, we can have available to us the maximum facility possible in pictorial communication. For this reason, the Army has placed the responsibility for development of both media in the hands of the Signal Corps, thus assuring full coordination in their development.

In closing, I should like to appeal to you for continued assistance and cooperation in the research and development field in both sound motion pictures and television. This is essential if we are to provide our combat forces with the best that industry can produce. By that I mean techniques and equipment which will insure complete reliability under field operating conditions, optimum performance characteristics consistent with the state of the art, and reasonable cost under conditions of mass production. Any lesser goal will not be good enough.

Excerpts From Address by Gen. Brooke E. Allen

. . . . The Air Force is privileged to have both in uniform and as civilians members of your distinguished Society. The closer our association with you the easier it will be to accomplish our job for the Air Force. Be assured that we fully appreciate the accomplishments of the scientists, the engineers and the technicians in your field, and we gladly join ranks with you and propose to do our full share toward the advancement of the art.

When I received my invitation to speak to you, I was in command of the Air Photographic and Charting Service, which constitutes one of the family of operational services under the Military Air Transport Service. Shortly thereafter I was transferred to my present position as Chief of Staff of the Military Air Transport Service.

Since it was my responsibility to establish the Photographic Service, it is close to my heart, and I could not possibly forego a chance to explain its missions and aims to you.

I should like to go back a bit in order to get the record straight. Photography since its inception has been vitally important to the military. Aerial photography began to have meaning when intelligence photographs were laboriously taken from captive balloons in the war between the states. A century ago, an ingenious Frenchman made a map of Paris on the basis of photographs taken from a balloon. Out of that simple beginning grew the science of military photography.

The development of motion picture photography has made it possible to document photographically the live action of the battlefield, on land, on the sea and in the air. The vital military importance of such a photographic record is obvious, just as every football coach insists on a motion picture record of Saturday's game for Monday's critique.

Under the Unification Act of 1947, the Department of the Air Force was given complete responsibility for its own photographic functions. This did not, however, result in the automatic establishment of a satisfactory organization to perform those functions.

Instead, the photographic responsibility became scattered among the major air commands without overall control,

supervision or coordination. This was simply one of the growing pains connected with the establishment of the Air Force as a separate Department along with the Army and the Navy.

It was not strange, therefore, that the outbreak of hostilities in Korea found the Air Force unprepared to meet its photographic requirements in an efficient and organized manner. The Army and the Navy, on the other hand, were well prepared to document their combat activities with photography, so essential for operational purposes. When the Chief of Staff of the Air Force became aware of the situation, he directed the immediate establishment of a photographic service to satisfy the most urgent requirements of the Air Force.

After almost a year of careful study and planning, the scattered but related activities of the Air Force were reorganized under a single command, which was designated the Air Photographic and Charting Service. The principal elements of the Photographic Service are:

The Photographic Documentation Group;

The USAF Photographic Center;

The Mapping and Charting Group; and

The Aeronautical Chart and Information Center.

The units of these activities are of necessity scattered from Korea through Europe, to North Africa and the Middle East. Wherever the global mission of the Air Force requires its operation, there also you will find units of the Air Photographic and Charting Service.

I should like to emphasize that during the year in which the Photographic Service was being organized and firmly established, photography did not stand still. During that first year our Combat Camera Unit in Korea piled up over 300 combat missions and exposed more than 225,000 feet of motion picture film in combat. The Unit ran up an outstanding record of awards and decorations and took their combat losses along with the fighting units.

Today we are happy to fall in step with the pace set by you television engineers. We have brought the field of electronics into a firm position in our organization. Indicative of how we are accomplishing this in the Photographic Service is the fact that the production division has a split title. It is called the Motion Picture and Video Production Division. In this Division we have affected a marriage of these two fields without any of the initial rivalry that ran through industry when the motion picture and the television people first eyed each other warily from opposite sides of the fence.

It was a matter of firm pride to think that I was connected with the creation of a video production unit in the Air Photographic and Charting Service. The mission of this unit is built around the high-speed concept, completely mobile with the latest electronic equipment. This unit is now undergoing the equipping phase prior to an operational shakedown.

It was established on an experimental basis to ascertain as early as practicable the applicability of television to the operational and training mission of the Air Force.. Part of their portable equipment is a 16mm rapid processor which was first presented, I believe to the Society at your convention in Chicago in April 1950. As you know, this machine presents a ready-to-project print beginning ninety seconds after initial photography.

As the author of any new work takes great pride in crediting his source material, we do so with a bow of great appreciation to industry and to our elder services — the Army and Navy. Throughout all of our efforts, we have maintained liaison with industry, with the experiments conducted by the universities and colleges throughout the country and the work done by the Navy in its Special Devices Center at Sands Point and, of course, with the Army's "Operation Caravan."

No great degree of imagination is required to see unlimited possibilities in the application of TV to technical, flight and combat crew training, and through kinescope recordings the preparation of training films with celerity and informality hitherto impossible. What we lose in artistry, we gain in speed and volume.

I have given you a rough sketch — yesterday, today and tomorrow — of photography and television in the Air Force. Your meeting here in Washington seems to key note high-speed. In the Air Force we are trying to keep our thinking and our planning in that same key — to keep the pace that you are setting.

In discharging its global mission in photography and television, the Air Force is seeking every means to get information faster and better and to put it to its maximum use in the shortest time. As you television engineers know the television circuit can be the shortest and speediest route from live action to finished film. This is of major importance to us today. As you engineers come up with new methods, new techniques, faster and better ways to accomplish our mission, you can be sure that the Air Force matches your zeal with our own desire. We are proud to serve with you in the search for better ways of getting the job done.

It is a constant but exciting challenge. We are happy to be able to join you in it. As for the future, the course seems clear ahead of us. To coin a phrase, we have now become airborne and over our first and most difficult obstacles. As for the rest, the horizons are unlimited.

Excerpts From Address by Capt. A. D. Frazer

. . . . In the Navy, we use motion pictures extensively and the requirements for the use of television are continually expanding.

Entertainment motion pictures provide probably our greatest morale booster. Every ship and station has movies and I can tell you from personal experience that when the movies do not arrive or they cannot be shown for some reason the boys are very unhappy. We are, of course, dependent on the motion picture industry for these films and are deeply appreciative of the service provided and the technical improvements that have been made to give us better sound and color for the adverse conditions encountered in shipboard screenings.

In our military use of motion pictures, the largest single requirement is in the field of training films. We also use them extensively for test and evaluation of new equipment. This is especially true in the guided missile program where high-speed motion picture photography has become most valuable.

Recording of Naval operations for historical purposes and evaluation is of great importance. There is a growing need for motion pictures in combat briefing.

Boat crews that have to approach a hostile beach during an amphibious operation can learn a great deal from seeing movies of the beach area made previously.

[Capt. Frazer spoke briefly of the Navy's training film program — this was described in detail by Cronenwett and Timmons in the July 1952 *Journal*.]

In the development and test of new equipment, motion pictures have proven to be invaluable. This has been particularly true in the evaluation of equipment that operates faster than the eye can follow or the mind record. A few examples are:

Wind tunnel tests of sonic and transsonic airfoils;

Instrument recordings of tests of new aircraft;

Recording of instrument readings of tele-metered flights of guided missiles;

Determination of explosion;

Phenomena of new types of weapons and explosives and their effect on naval equipment; and

Verification of proper sequence and operation of a series of functions in various mechanical and electrical devices.

Many of these uses will be discussed in detail in later sessions of your Convention.

On our larger ships, and especially in aircraft carriers, we have motion picture camera equipment for recording various aspects of naval operations. These are used for historical recording, and for study to improve the execution of various maneuvers and to detect deficiencies in equipment.

Training in the basic techniques of motion picture photography is given to all students at the Navy's photo school at Pensacola, Florida. A specialized course at the same location is also conducted for a limited number of advanced students.

The motion picture industry in Hollywood very generously operates a comprehensive on-the-job training course for selected personnel. This program has proven to be most beneficial and provides a phase and completeness of instruction that is not possible of attainment in a service school.

In the field of television, the Navy has

been active in development work since before World War II. Television control of drone aircraft was successfully demonstrated and used in the South Pacific by the Navy in 1944. More recently, as reported in the press, it has been used successfully in Korea.

The employment of television for Naval purposes opens many new possibilities. Improvement in the equipment will, however, be necessary. Needed are further reduction in size and weight of camera and transmitting equipment, and considerable improvement in reliability under very adverse operating conditions with substantial increase in reception distance. These requirements sound somewhat contradictory but I am confident that the industry can solve the problems.

Photo recording of television and cathode-ray tube images has been carried out in the Navy for some time. This utilization has progressed to the point where much of the work is done automatically. There is still room for progress, however, in the development of new and more sensitive emulsions and more rapid processing of these emulsions. Results obtained along these lines, to date, have been very gratifying. In the field of group instruction, television has been used experimentally and the Navy Special Devices Center is continuing study of this medium. Test instruction has been quite satisfactory and indicated a good percentage retention of transmitted information. Closed circuit, broadcast, and kinescope methods have been used in this program. The feasibility of using this system for briefing purposes and group instruction within task forces at sea is under development for evaluation.

The uses of television in the testing and examination of devices and equipment for naval employment are almost limitless. Small television cameras can be placed within equipment where it is physically impossible for a human observer to be under such conditions as: limitations of space, atmospheric conditions, high G forces, high temperatures, or severe vibration. There are many more.

The Navy is vitally interested in new developments in the field of television and motion pictures. Their parallel use holds great promise for the future. We look to the Society of Motion Picture and Television Engineers for future developments that will make past successes seem insignificant by comparison.

Engineering Activities

72d Convention Thirteen Engineering Committees held meetings at the 72d Convention in Washington, D.C., October 6–10. This in itself made for lively, efficient meetings. The schedule was tight and required the use of mornings, afternoons and evenings — including the "morning after" the Wednesday night banquet. On several occasions there was hardly time for the chairs to cool as one meeting adjourned and another was called to order. The meetings successfully furthered standards activity and provided opportunities for the exchange of "shop" talk.

Standards activity is at a very high level today. In addition to the development of new standards required by growth and changes in the industry, the Society is in the process of actively reviewing (in accordance with ASA rules) all standards currently over three years old. The highlights of this activity as discussed in the various committee meetings will be presented below and also in the December *Journal*.

Film Dimensions Dr. E. K. Carver, Chairman, was unable to be present and his alternate, Dr. A. C. Robertson, chaired the meeting. The status of active projects was reported as follows:

PH22.1, Alternate Standards for Positive or Negative 35mm Raw Stock Film — This proposal was published for trial in the September 1951 *Journal*, approved by the Standards Committee in July 1952, by ASA Sectional Committee PH22 and SMPTE Board of Governors in October 1952 and is presently before the Photographic Standards Correlating Committee.