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THE WHITE HOUSE

WASHINGTON February 15, 1975

MEMORANDUM FOR:

NANCY HOWE

VIA:

FROM:

SUBJECT:

RED CAVANEY PETER SORUM

MRS. FORD'S LUNCHEON FOR THE U.S. CAPITOL HISTORICAL SOCIETY "SOUND AND LIGHT" PROGRAM The 1925 F Street Club Tuesday, February 18, 1975

Attached at TAB A is the proposed schedule for Mrs. Ford's luncheon for the U.S. Capitol Historical Society's "Sound and Light" program.

APPROVE

DISAPPROVE

BACKGROUND

Mrs. Ford and Douglas Fairbanks Jr. are Co-Chairpersons of the National Advisory Board of the U.S. Capitol Historical Society's "Sound and Light" program which aims to raise several million dollars to support the program during the next several years. At the formal announcement of this program, and after a film preview at The Kennedy Center on Sunday, January 26, 1975, Mrs. Ford volunteered to host a luncheon for possible contributors.

Telegrams of invitation signed by Mrs. Ford and Mr. Fairbanks were sent to seventeen key potential contributors inviting them to a luncheon to be followed by a special screening of the Society's film "Washington: City Out of the Wilderness" to be held in the White House Theater. Mrs. Ford and Mr. Fairbanks will greet the potential contributors during the informal reception, host a table of nine guests for lunch, offer brief informal remarks, and thank the guests following the film showing.

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2/15/75 5:10 pm

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PROPOSED SCHEDULE

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MRS. FORD'S LUNCHEON FOR THE U.S. CAPITOL HISTORICAL SOCIETY "SOUND AND LIGHT" PROGRAM The 1925 F Street Club Tuesday, February 18, 1975

11:50 am

Mrs. Ford boards motorcade on South Grounds.

MOTORCADE DEPARTS South Grounds en route The 1925 F Street Club

[Driving Time: 3 minutes]

11:53 am

MOTORCADE ARRIVES The 1925 F Street Club.

Mrs. Ford will be met by: Mr. Jason, Host, 1925 F Street Club Mr. Fred Schwengel, President, U.S. Capitol Historical Society Mrs. Lynnette Lawson, U.S. Capitol Historical Society

11:55 am

Mrs. Ford, escorted by Fred Schwengel, proceeds to the reception area to greet Mr. Douglas Fairbanks, Jr. and members of the Advisory Board.

12:00 noon Invited guests begin to arrive and are escorted by Mr. Schwengel into the reception for introduction.

12:01 pm Mrs. Ford greets the first of twelve special guests in informal reception.

NOTE: Cocktail service will be provided.

12:29 pm Reception concludes and luncheon is announced.

12:30 pm Mrs. Ford proceeds to the dining room for luncheon and is seated.

12:31 pr	m	Luncheon is served.
1:30 pm	n .	Luncheon service completed.
1:31 pm	n	Mr. Schwengel rises, welcomes guests, and introduces Mr. Douglas Fairbanks, Jr.
1:34 pm		Mr. Schwengel introduces Mrs. Ford.
1:35 pm	Mrs. I	Ford offers remarks.
		NO PRESS COVERAGE
1:37 pm	Mrs. I	Ford's remarks conclude.
1:38 pr	a	Mrs. Lynnette Lawson reports on progress to date, responds to questions, and concludes program with announcement of White House film screening.
1:43 pm	n	Program concludes.
1:43 pm	Mrs. 1 for boa	Ford departs dining room en route motorcade arding.
1:45 pm		RCADE DEPARTS 1925 F Street Club en route Grounds.
3	н А. Х.	[Driving Time: 3 minutes]
1:48 pm	MOTO	RCADE ARRIVES South Grounds.
1:49 pm		Ford proceeds to White House Theater to ne guests.
1:50 pm	n	Guests arrive South Grounds and are escorted to Theater.
1:55 pm		The film "Washington, City Out of the Wilderness" begins.

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2:23 pm Film concludes.

2:23 pm Mrs. Ford thanks guests for coming and departs Theater en route living quarters.

2:25 pm

Guests depart South Grounds.

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United States Capitol Historical Society

200 MARYLAND AVENUE, N.E. WASHINGTON, D.C. 20515 (202) 543-4919

"Our Capitol: Freedom Speaks" The Sound and Light Program for the United States Capitol, Bicentennial, 1976.

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Mr. Fred Schwengel President United States Capitol Historical Society

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Board of Consultants Historical Consultants Officers of the Society National Advisory Board The History of Sound and Light

Budget

The United States Capitol Historical Society.

The United States Capitol Historical Society is a private non profit organization. Since 1962 it has encouraged an understanding and appreciation of the founding, growth and significance of the Capitol Building of the United States as a tangible symbol of our representative form of government. In its twelve-year history, the Society has undertaken research into the history of the Congress and the Capitol, and promoted discussion, publication and dissemination of the results of that research. The Society has provided several pieces of artwork and furniture for the building. USCHS has fostered an informed patriotism through studying the Capitol as a living memorial to the founders of our nation and as a promise to generations of Americans to come.

The responsibilities assumed by USCHS to educate and inform the public of their history may seem quite ambitious in a world in which confusion of identity and lack of credibility in established systems holds sway. But, in twelve years, USCHS has made deep inroads towards the fulfillment of those responsibilities. It has become unique among historical societies, both in its operation and in its efforts to serve the amateur historian, the professional scholar and the general public. The USCHS is a dynamic organization with an impressive record of accomplishments and a vigorous program for future development. Presenting history in a way that will appeal to all the people of our great nation has long been a goal of the Society. It treats the entire spectrum of American history made in the Capitol by the Congress from 1800 to today.

As another contribution to America's Bicentennial Celebration in 1976, the U.S. Capitol Historical Society has commissioned Francis W. Thompson to make a feature length color film on the history of Washington D.C. This film will be shown at the National Visitors Center in the reconstructed Union Station. The film will have a strong impact in helping people comprehend the meaning, the values and the achievements of our country.

The film chronicles the history of the city beginning with the concept of Pierre L'Enfant; the Capital's emergence to its present grandeur; historical events associated with the Capital; Washington as a place to live. The film utilizes old prints, daguerreotypes, prints of Matthew Brady and others, as well as current filming including spectacular footage of the Mall area of Washington obtained by helicopter.

What Is Son et Lumiere? A statement by Douglas Fairbanks, Jr. captures the esence of Sound and Light and most specifically Sound and Light at our nation's Capitol.

The most spectacular and impressive of new theatrical art forms is undoubtedly what the French -- who invented it -- call "Son et Lumiere," but which we translate as "Sound and Light." tremendous popularity which "Sound and Light" productions have for
tremendous popularity which "Sound and Light" productions have for
abroad, testifies to the unique attraction of this
tum. Audiences by the tens of thousands, summer after
hear and are captivated by "Sound and Light" productions
famous places as the Palace of Versailles, at Les Invalides
poleon's tomb), the Chateaux of the Loire and elsewhere in France;
at the Tower of London, at Hampton Court Palace or St. Paul's
Cathedral in Great Britain; or at the Forum in Rome, the Acropolis in
Athens or at the Pyramids in Egypt, and so on.

By ingeniously combining the recorded voices of actors, symphonic music and sound effects with especially cued lights, playing on the whole or a part of the subject and alternating in intensity and location in accordance with the demands of the scenes being enacted, "Sound and Light" dramatizations recreate the great events of history on the actual sites where they took place, with the night sky as a magic backdrop.

When the program begins for the U.S. Capitol " Sound and Light" production. audiences will be seated at least 100 yards from the building's steps. Electronically sophisticated high-fidelity stereophonic loudspeakers and great numbers of lighting equipment will move into place, some rising from the gound by discreetly hidden hydraulic systems, and some that have been previously installed behind the windows of the building itself. Then from silence into stirring sound, from darkness into brilliantly designed lights, the dramatized story of the Capitol itself will start being told. "Sound and Light" productions stimulate the imagination in somewhat the same way as radio does but with the added visual element of ever-changing lighting effects on a real structural object, all of which heightens and emphasizes this extraordinary spectacle. In short, this remarkable medium, coordinating the talents of playwrights, actors and musicians with those of lighting designers and electronic specialists tells the dramatic highlights of great historic buildings or monuments with a unique and incomparable impact on audiences.

Why "Sound and Light" at the Capitol?

It is one of our most famous and historic buildings. It is ideally located with adequate space for people to see and hear. It is a fascinating and awesome building and is the first large structural "Trade Mark" of the great free people of the New World. It is a place where "We, the People" send our representatives to legislate for us. No other structure in the United States, on anything like such a big scale, has a more history-filled potential for a "Sound and Light" dramatization of the birth and growth of the United States. "Sound and Light" is an exciting experience: an elaborate, novel and artistic presentation which combines lights, music, sound effects and spoken historical narrative, and which will welcome audiences under summer stars and, in this production, against the background of the majestic Capitol Building. It will not only stimulate the viewer's imagination and awareness of our nation's fascinating past, but will encourage him to learn more. United States history remains vital and alive at the Capitol. As it is a major part of our legacy, it deserves our recognition -- and our pride. The "Sound and Light" program of the United States Capitol Historical Society will be a stirring, fascinating and shining homage to our heritage for all the world to witness and delight in for years to come.

The Project Study.

To plan in detail the construction of this Bicentennial program, the United States Capitol Historical Society retained Andre Weil and Pierre Arnaud to conduct a project study, now completed, at a cost of \$70,000. Since the U.S. Capitol Historical Society is a non-profit, educational organization utilizing no government funds whatsoever - and because it wants to serve history at its best, the cost of this project study was underwritten entirely from private sources.

"Our Capitol: Freedom Speaks" received the endorsement of Congress in a House Joint Resolution introduced by House Majority Leader Thomas P. O'Neill for himself, Mr. Gerald R. Ford, Mr. McFall, Mr. Anderson of Illinois, Mr. Pickle, Mr. Stephens, and Mr. Pettis, to provide for the project study and to accept a gift from the United States Capitol Historical Society. The resolution was unanimously approved by joint session of Congress on November 13, 1973 and passed into law on January 1, 1974.

The Project Study was presented under form of a rather voluminous printed document which included drawings, plans, pictures, etc. It involved, mainly:

- * the full technical study which determined the potentials of expression.
- * the full artistic study which is a synthesis of the given elements of the show as imposed on us by the monument itself, by history and by the message emanating from the country.
- * the full operational study, promotion and economical aspects. (These three phases are detailed hereunder.)

The study implied a certain time being spent gathering all of the information and elements required to do the work, meeting with persons concerned locally with the realization of the show and creating the necessary "state of mind" and psychological climate which leads to successful team-work.

The dual purpose was to guide in a very precise and demanding way the development of the scenes - letting, at the same time, the country and its representatives express themselves.

Three main areas are covered by the Project Study:

Technical Study: This is where everything started. It was the determination selection, materially, and at the same time the adaptation to a given site of fluctuating elements. It did not only include selection of sound and light sources, their location, their function, location of the control room and wiring constraints, but also brought solution to all subordinate problems such as accommodation of the public and access to the site, etc. This took into account that, by all means, the site and its environment should be preserved and respected.

Artistic Study: This was chiefly the technical story outline of the show which determined in advance its definition. Such a story outline is a synthesis of the three factors which generate the "message" necessary to create the form of expression. These three factors are:

> * The natural environment of the site. Analysis of this environment is the first step in the creation work - as is the contemplation by the painter of what he will transpose on the canvas.

* Study of the possibilities of evocation and stage effects as can afford jointly the technical installation and the site. It is a similar adaptation to that which a stage director has to face when he takes over a new theater. He has to work with the possibilities of what he is given and extract the gist of it.

* History, or the events which occurred there; how they are imbricated with the history of the country, history of people who have lived there, i.e. characteristics and features of a particular country, its qualities and weaknesses, all that should be tactfully mingled in the whole picture.

Such a method, obviously linked principally to the site, excluded the classical adaptation of a given script, as would be the case for cinema or the theater.

The three phases of this artistic study performed by the stage director always developed in full cooperation of the local personalities involved. There was

close involvement with historians and memorialists and other specialists who could give at the outset a synopsis of the events in question or a summary of their own feelings and knowledge and what could be retained therefrom.

The story outline determined what the sound and light effects would be, how long each sequence would last, where music should interfere and what sound documents would be used. It also proposed the general style of presentation of the show. It was the most important part of the staging and, therefore, could only be conceived by a specialists.

This outline was then passed on to the Board of Consultants (see Appendix) created for this purpose. This Board is not too numerous but is well representative of the various authorities or sections concerned. The technical story outline was then modified and developed as per their reactions and suggestions and this led to the final test and staging.

The Board of Consultants had a triple purpose:

* To secure the cooperation of cultural representatives, historical and archeological personalities, political figures and sometimes religious authorities, so that the show can be a collective expression of the whole country (notion of consensus);

* To correct errors or omissions in time, as once the realization starts, it is too late to make corrections (for obvious reasons of recording, programming, etc.)

* To avoid future eventual objections by including in the Board of Consultants all notabilities involved who might, subsequently, with reason or not, react against such or such detail and thus compromise the desirable unanimity of such a venture.

The purpose of the Board was exclusively to give advice and express remarks. Though in the course of the study the final script of the show was not given, the exact contents of the show were mentioned without any risk of misinterpretation. Also stated was by whom the final scrip would be made. As this point was of great importance to insure the best possible script quality, the stage director proceeded with the story outline only after consulting the various personalities and the basic sources of information.

Operational study: Two elements were seriously considered:

* Promotion, the elements of which are not being reviewed here but the importance of which can be imagined easily;

* Side sales and subordinate services, which may help amortize operational and promotional expenses.

Since the Project Study has now been completed, the show virtually exists. Everyone can imagine its means and limits and, when proceeding with the actual realization of the show, the important point will be to follow each data of the project study, which is a synthesis of the efforts and cooperation of all concerned.

Thus, the Project Study for "We, the People . . . Son et Lumiere" concerned itself specifically with the following areas:

a. Selection of the most suitable spot to place the public.

b. Description of the general meaning of the show, its basical mood beginning from the building itself and its evident symbolism.

c. The complete technical study and its implications; exact implementation, location and type of all the list and sound circuits, drawings and planning of the realization based on the imperatives of the architecture.

d. Definition and description of the electronic control equipment, outlining electrical installations, together with the specifications, quantities and functions of sound and light sources, electronic equipment, with all drawings and draft specifications necessary for the local contractor.

e. Costs of the control equipment and installation.

f. All the costs of the artistic production.

g. A first text including the proposed sequences, special effects and sound and light, and the duration of each sequence, thus giving a precise idea of what the show will be.

h. Location of central control room for equipment.

i. Definition of the complete "product", with its various elements such as access, frequency of performance, side-sales and necessary promotion and estimates of operating expenses.

APPENDIX

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The History of Sound and Light

The concept of "Son et Lumiere" was begun at a castle in France called Chambord in 1952. This presentation was the result of the collaboration between the Superi tendent of the castle who wanted to find a new way to animate the chateau at nigh and several innovative members of the research team of French Broadcast. It is little by chance that the different elements of a "Son et Lumiere" added up to one another; there was a recorded text - why not put it into dialogues and make a kin of radio program to which stereophonic effects would add to their deepness; and why not also modulate the light (dim lights when the mood is sad, more light whe the scene is gay).

No one realized at that time that one was witnessing the birth of the new means of expression and which would bring the historical narratives of the great physical structures of the world to life.

By 1953 the Chateaux of Chenanceau and Grosbois had begun sound and light programs. They met with great success with the public. There was a sound of a quality in these productions which nobody could hope for at the time (this was lon before Hi-Fi became well known). The synchronized light effects and this new sc coming from the right or the left, front or back astonished the European audiences

Unfortunately, at the same time some amateurs were often improvising some "Son et Lumiere", which rapidly failed, bringing a definite prejudice to the image. Th lasted until the second wave of professional "Son et Lumiere" finally began in Fra: and in other countries to reach first Athens, then Rhodes and the Pyramids. In France, there were the great shows at the Invalides and at Notre-Dame Cathedral Paris. (The latter was limited to two years because its tremendous success cause such traffic jams in the heart of Paris that the police requested its suspension). S were also developed at the Chateau of Azay-le-Rideau, in the Loire Valley, at the Cathedral of Vezelay, at Cannes, at the Castle of Compiegne; all of these drew large crowds. The "Son et Lumiere" at the Chateau of Chenanceau is now in its twenty first year of continuous running, and has played for over 3,000,000 spectat

Initially, the "Son et Lumiere" was produced through manual equipment, but today is fully automatic. First there was the electromechanic installation. Now, special electronic equipment brings a total fiability through its recordings of light and sound effects in frequency modulation giving tremendous possibilities which could not be obtained by hand operators.

Spain, Italy, Tunisia, Algeria, Switzerland, Belgium, Holland, and Israel, rejoint France in presenting nightly "Son et Lumiere" productions. With the multiplication of the shows, the number of specialists making the shows have dwindled because "Son et Lumiere" involves a very advanced technique both for the artistic conception, and for the electronic programming.

Two of the most well known and well respected producers of "Son et Lumiere" in the world are Pierre Arnaud and Andre Weil, Their productions have included:

> * Two shows at the Invalides in Paris, which have been in operation for 17 years.

* The Acropolis in Athens, which in the 14 years of its operation has drawn over 8,000,000 spectators. In its last season, this sound and light production attracted 80% of the visitors who passed through Ather

* The spectacular presentation at the Pyramids in Egypt which has been seen by over 2,000,000 men and women.

* The Persepolis "Son et Lumiere" in Iran was inaugurated in October, 1971 in the presence of fifty-seven soverigns and heads of state from all over the world.

* Other sound and light productions by Arnaud and Weil are attached as an appendix to this memorandum.

"Son et Lumiere," having reached its maturity, is now approaching new horizons in technique and production style. All those who have witnessed sound and light performances at one historical site, usually seek out more of them, because they know that the memory of their visit will remain more lively and more meaningful with the remembrance of "Son et Lumiere." Budget.

Technical Costs.

1. Control equipment: central control room and four satellite spaces; purchase and delivery of both hard and soft ware, installation, travel 540,000 expenses 2. Multiplexing system inside Capitol building to accommodate interior lighting and control circuits 84,001 3. Spotlights, fictures, stands, wiring, bunkers, concealment: estimated from current price lists for equipment. (Subject to bids) 520,000 4. Installation, excavation, labor, engineering and supervision (a rough estimate to be refined by final report) 2,500,000 SUB TOTAL TECHNICAL EXPENSES 3,644,00 Artistic Creation Costs. Conception, supervision, management, production, artists fees including: writers, historians, composers, musicians, narrators \$ 890,000 SUB TOTAL OF SHOW LESS SEATING INSTALLATION 4,534,00 Seating Installation 2,000,00 Endowment and Contingencies: Yearly operations, upkeep, and inflationary costs \$ 3,466,0 GRAND TOTAL \$ 10,000,00

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SOUND AND LIGHT PERFORMANCE SYSTEM FOR THE EAST FRONT OF THE NATIONAL CAPITOL

(93-23)

HEARING

BEFORE THE

SUBCOMMITTEE ON

PUBLIC BUILDINGS AND GROUNDS

OF THE

COMMITTEE ON PUBLIC WORKS HOUSE OF REPRESENTATIVES

NINETY-THIRD CONGRESS

FIRST SESSION

ON

H.J. RES. 736

TO PROVIDE FOR A FEASIBILITY STUDY AND TO ACCEPT A GIFT FROM THE UNITED STATES CAPITOL HISTORICAL SOCIETY

NOVEMBER 13, 1973

Printed for the use of the Committee on Public Works



U.S. GOVERNMENT PRINTING OFFICE WASHINGTON : 1973

26 - 353

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NANCY B. VITALI, Clerk

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H.J. Res. 736: To provide for a feasibility study and to accept a gift from the U.S. Capitol Historical Society_____ 1

TESTIMONY

Pickle, Hon. J. J., a Representative in Congress from the State of Texas; accompanied by Fred Schwengel, president, U.S. Capitol Historical So-ciety; George White, Architect of the Capitol; and William Maury, chief historian, U.S. Capitol Historical Society______

MATERIAL RECEIVED FOR THE RECORD

Ford, Hon. Gerald R., a Representative in Congress from the State of Michigan (House minority leader) statement	9	
ment O'Neill, Hon. Thomas P., Jr., a Representative in Congress from the State of Massachusetts (House majority leader) statement Schwengel, Fred, president, U.S. Capitol Historical Society, statement		

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jected onto the imposing facade of the east front of the
 United States Capitol, will re-create the evolution of Ameri can history, based on a foundation of thorough historical re search, subject to the following conditions:

5 (1) Such study and all expenditures connected
6 therewith will be borne by the United States Capitol
7 Historical Society.

8 (2) Upon completion of such study, the United 9 States Capitol Historical Society, at its expense, will 10 furnish the Architect of the Capitol a report detailing 11 the results of such study, installations and programs pro-12 posed, and estimates of cost required to implement such 13 project without expense to the United States, including 14 maintenance and operating expenses.

(3) The project may not be implemented, beyond
the report stage, except as provided in section 2 hereof.
SEC. 2. The Architect of the Capitol shall review such
report and submit the same, with his recommendations, to the
Speaker and majority and minority leaders of the House of
Representatives and to the majority and minority leaders of
the Senate.

If the project, as presented, with or without modifications, meets with the approval of such House and Senate officials, the Architect of the Capitol, notwithstanding any other provision of law, is authorized after such approval—

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(1) To accept in the name of the United States from the United States Capitol Historical Society, as a gift, such sum or sums as may be required to further implement such project, and such sum or sums when received, shall be credited as an addition to the appropriation account "Capitol Buildings, Architect of the Capitol".
(2) Subject to section 3 hereof, to expend such sum or sums for all items of equipment and other facilities required for the sound and light performance, and for any other items in connection therewith.
SEC. 3. The Architect of the Capitol, under the direction of the House and Senate officials designated in section 2 hereof, is authorized to enter into contracts and to incur such other obligations and make such expenditures as may be necessary to carry out the provisions of said section 2.

16 SEC. 4. Sums received under this joint resolution, when credited as an addition to the appropriation account "Capitol 17 Buildings, Architect of the Capitol", shall be available for 18 expenditure and shall remain available until expended. Fol-19 lowing completion of the installation, such sums may there-20 after be used by the Architect of the Capitol, in whole or 21part, to defray any expenses which he may incur for main-22tenance and operation. 23

SOUND AND LIGHT PERFORMANCE SYSTEM FOR THE EAST FRONT OF THE NATIONAL CAPITOL

TUESDAY, NOVEMBER 13, 1973

House of Representatives, SUBCOMMITTEE ON PUBLIC BUILDINGS AND GROUNDS OF THE COMMITTEE ON PUBLIC WORKS,

Washington, D.C.

The subcommittee met, pursuant to notice, at 2:07 p.m., in room 2167, Rayburn House Office Building, Hon. Kenneth J. Gray, chairman, presiding.

Mr. GRAY. The Subcommittee on Public Buildings and Grounds will please come to order.

I welcome all of our witnesses, and thank the members for coming. The order of business is H.J. Res. 736, to provide for a feasibility study and to accept a gift from the U.S. Capitol Historical Society.

We have as our first witness our very good friend and distinguished Member of Congress from Texas, Hon. Jake Pickle. We are always delighted to see him.

You may proceed in your own fashion, Mr. Pickle.

Mr. PICKLE, Mr. Chairman, I thank you, and I am pleased to appear before your committee today.

With me is Mr. Fred Schwengel, president of the U.S. Capitol Historical Society.

Mr. GRAY. I might add that Mr. Schwengel was a very distinguished member of this committee and made many valuable contributions to the work of this committee over the years.

Mr. PICKLE. With this particular historical committee is Mr. George White, Architect of the Capitol, and Mr. William Maury, our Chief Historian.

STATEMENT OF HON. J. J. PICKLE, A REPRESENTATIVE IN CON-GRESS FROM THE STATE OF TEXAS; ACCOMPANIED BY FRED SCHWENGEL, PRESIDENT, U.S. CAPITOL HISTORICAL SOCIETY; GEORGE WHITE, ARCHITECT OF THE CAPITOL; AND WILLIAM MAURY, CHIEF HISTORIAN, U.S. CAPITOL HISTORICAL SOCIETY

Mr. PICKLE. H.J. Res. 736 would provide for a feasibility study for a sound and light performance system for the east front of our National Capitol.

The resolution would also allow the United States, through the Capitol Buildings, Architect of the Capitol account, to accept gifts from the Historical Society. Before turning to the details of the legislation, I want to make a strong sales pitch for a Capitol sound and light production by 1976.

All of us could speak for hours on the glories of our Capitol and its meaning, as Daniel Webster did on July 4, 1851, at the occasion of laying the cornerstone for the Capitol extension.

I could speak of the march of pageantry on September 18, 1793, as George Washington led a parade across the Potomac and up to Jenkins' Hill to lay the Capitol's original cornerstone.

Upon bringing the memories to life of our Capitol and its entwinement with the story of the American people, I could then convince you that this story needs to be told, and shown visually in sound and light. I can speak of much pageantry that this Nation has seen and experienced.

Reading over the accounts of those two cornerstone layings in 1793 and 1851, we immediately feel the sense of pride and love people felt for this big white building near the Potomac.

In 1793, the people were still unsure of the future. Europe was being torn by war and revolution, and the new country of North America was still looked upon as a temporary nuisance by some of the leaders of Europe.

But the people were proud. To lay the cornerstone of a new, majestic building in a new capital city was one very meaningful way to swell up their chests and say, "We are something, and we are going to make it."

In 1851, a somewhat different spirit prevailed at the cornerstone ceremonies.

The Nation had grown and proven itself to be a wonderful experiment in civilized government.

Clouds hung over the horizon, however, for the Compromise of 1850 had just been struck.

But, even in these dark hours, the sense of pride and accomplishment pervaded thoughts when turned to the people's Capitol on Jenkins' Hill.

This feeling was eloquently put by B. B. Fench, Grand Master of the Masons, on that day in 1851 when he stated to the people present:

It was doubtless supposed that, when completed according to the plan then adopted, it would be of ample dimensions to accommodate all of the wants of the people by whom it was to be erected for ages then to come.

"To accommodate the wants of the people who erected it," this a beautiful thought and should be cherished by all people for it should describe not only our Capitol but our Government.

Mr. Chairman, a sound and light show can bring all this to a visual and audible experience.

Sound and light shows have been shown for many years in Europe to great advantage. The interplay of sound and light bouncing off an impressive building is a most effective way to show history.

What better place is there for such a show than the East Front? Imagine the lingering light of twilight, people gathering around

the East Front, and the well-balanced, artistic performance of light and sound bouncing and reverberating through the night air, rekindling our past to build our dreams for the future. We know though that a project such as this must be the best. None of us would ever want to have a part in anything that would not do justice to our beautiful and historical Capitol.

Because this is so, I come before you today urging favorable action on House Joint Resolution 736.

This resolution authorizes the United States Capitol Historical Society, under the direction of the Architect of the Capitol, to prepare a feasibility study for a sound and light show for the East Front.

a feasibility study for a sound and light show for the East Front. The study would be of the desirability of such an undertaking and the items of equipment needed.

May I interject here that everyone agrees that during the daylight hours there is to be no appreciable visible sign that sound and light equipment is in place.

Under the resolution, as introduced by our colleagues, Thomas P. O'Neill, Gerald Ford, John McFall, John Anderson, Bob Stephens, Jerry Pettis, and myself, all expenses of the study will be borne by the United States Capitol Historical Society.

Section 2 of the resolution provides that the Architect of the Capitol review the study and submit it, along with his recommendations, to the Speaker, and majority and minority leaders of the House and Senate.

If these House and Senate officials approve of the Architect's report, the Architect can then accept gifts to implement the project.

Section 3 of the legislation allows the Architect, under the direction of the House and Senate leaders, to make expenditures in carrying out the proposal.

Any money left over on the study can be used to defray the expenses of the light and sound show according to section 4, as well as turned over to actual construction of the project.

Mr. Chairman, I want to emphasize strongly that the Congress, through its leaders and the Architect, has the final say-so on the sound and light show.

This legislation does not allow something to be created and placed into operation without congressional guidance.

I also strongly emphasize that this legislation will cost the taxpayer nothing. The study and project is to be funded entirely by gifts. The Historical Society will not be back asking for appropriations.

Thus, Mr. Chairman, House Joint Resolution 736 is a good, sound approach to implementing the idea of a sound and light program.

In conclusion, let me say that we live in a troubled time for our Government. Some say that democracy has been stepped on. Others say fairplay has been thrown out by nay-sayers.

No matter how you or I feel about current strife, the Capitol stands. The Republic endures.

In another time, more troubled than now, work on the majestic dome, connecting the two greatest legislative bodies in the world, continued unabated.

During this time, many said that it was wasteful and wrong to continue the effort during the war.

As the dome neared completion, John Eaton of Ohio brought this up with the great President Lincoln. Lincoln answered simply, "If people see the Capitol going on, it is a sign we intend the Union shall go on."

Such glory and faith need to be told. H.J. Res. 736 is a mechanism for this.

The sound and light may be seen in a great many cities all over the world, particularly in Europe. We think it can be the culmination of our great bicentennial presentation to the country if we could have such a program in 1976 for the public view.

It has been submitted on a bipartisan basis, and I think that it is an exciting and worthwhile project. And we hope this committee can gather the committee's approval and move through this session of Congress so the feasibility study can get underway and, hopefully, within 3 to 6 months be able to make this study to the Architect of the Capitol.

Mr. GRAY. I thank you, my colleague, for a very important and forthright statement. I certainly want to join you in your sentiment and feelings. This seems to be a worthy cause and I hope to see it moved along as a project as soon as possible.

I want to yield to the very distinguished colleague from Tennessee, who wants to introduce our next witness.

Mr. BAKER. Mr. Chairman, I would like to commend our colleague, Congressman Pickle of Texas, for his interest in this project.

I cannot imagine any objection but, of course, some objection will arise from some corner, but I cannot imagine any substantial objections that anyone would have for a project such as this. But, principally, I would like to welcome back to this committee, Fred Schwengel, our colleague in the House and colleague on this committee, and express the pride which we feel on this side of the aisle, particularly for the work he has done in the Historical Society, the effort that he has made in pursuing the interests of light and sound production, having gone to Europe, not at Government expense, but at the expense of the Historical Society which has provided the principal investigation.

And he is just a tremendous man, and we appreciate him, and are glad to have him testifying before this subcommittee today.

Mr. SCHWENGEL. Thank you very much, Mr. Baker, and members of the committee. And I think I should say, to the members of the committee and to the members of the staff, it is good to be back in this room and in this atmosphere with all of you.

Together we worked for so many, many things for this great Nation.

I recall one of the greatest things we did, we answered one of the great freedoms that I called freedom of movement of men and goods.

Within this committee was born a magnificent plan to build the Interstate highway, and with this we aided and abetted the American economy and help brings about a better way of a more rewarding life for all Americans.

Mr. Chairman, I could go on and on, but I must get to the subject of this hearing. We have statements, Mr. Chairman, from both Congressman Tip O'Neill, or Thomas P., the latter is correct, and Congressman Gerald Ford, soon, hopefully, to be Vice President.

I ask unanimous permission to file their statements and my own statement in the record at this point.

Mr. GRAY. Without objection, we will have those printed in the record at this point.

[The statements referred to follow:]

STATEMENT OF HON. THOMAS P. O'NEILL, JR., A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MASSACHUSETTS

Mr. Chairman, as the Majority Leader of the U.S. House of Representatives, I am very pleased to present this statement of support on behalf of H.J. Res. 736 before the Public Works Subcommittee on Public Buildings and Grounds chaired by the distinguished gentleman from Illinois, Ken Gray.

Those of us who serve in the Congress take great pride in the accomplishments and endeavors of the United States Capitol Historical Society, which, since its inception in 1962, has provided research and information on the historical background and traditions of the legislative branch of government with the Capitol edifice itself as the focus of the Society's programs.

To remind all Americans of their proud and noble heritage, the United States Capitol Historical Society has published a best-selling history of the Capitol, "We the People," read by thousands of Americans who visit the nation's capital each year, and a calendar for members of Congress, as well as a book to educate children about the major monuments and government buildings in Washington, D.C., "Our Nation's Capital Coloring Book".

The United States Capitol Historical Society has promulgated an ambitious program of educating the American populace in the history and meaning of perhaps one of the most extraordinary buildings in the world, the U.S. Capitol that tangible symbol of America's representative form of government. For, within the walls of the hallowed Capitol, a "free people have expressed their collective will in terms of legislation that has shaken the world and advanced man's march toward individual dignity and material well-being. Here, art and architecture recall the leaders and issues that have shaped the nation's destiny."

Now, the United States Capitol Society has embarked on an important and unique project to contribute to the American Bicentennial Celebration in 1976. The project, called "Son et Lumière", involves a dramatic interplay of light, music, narrative and sound effects without the use of live actors, which, projected onto the imposing facade of the East Front of the U.S. Capitol, will create the evolution of American history.

And it is for this reason that I have sponsored H.J. Res. 736, to provide for a feasibility study to determine the desirability of installing within the United States Capitol grounds all items of equipment necessary for the sound and light production of the evolution of American history, emphasizing the Capitol edifice itself. All expenditures for the study will be borne by the United States Capitol Society, and upon completion of the study, the Society will furnish to the Architect of the Capitol a report detailing the project, who in turn will make recommendations to the Speaker, Majority and Minority Leaders of the House and Senate. Once the project has been approved by these officials, the Architect will accept from the U.S. Capitol Historical Society a gift of whatever sum is necessary for the expenditure of equipment for the light and sound production.

I wish to encourage all my colleagues on this Committee to endorse this resolution. For the light and sound production will be a kind of landmark for America, since very few of these productions have been presented outside Europe. I have seen "The Forum" in Rome which I understand the "Son et Lumière" will model. I can truly say that if "Son et Lumière" is anything at all like "The Forum," then I am all for it, 100%.

It seems to me that a more impressive and beautiful contribution to our Nation's Bicentennial could not be imagined or desired, and I call upon this Committee to report out this resolution without delay.

STATEMENT OF HON. GERALD R. FORD, A REPRESENTATIVE IN CONGRESS FROM THE STATE OF MICHIGAN

Mr. Chairman, I speak as a Member of Congress and as a member of the Board of Trustees of the United States Capitol Historical Society on H.J. Res. .736. First, let me say that I have been aware of the United States Capitol Historical Society since its founding in July of 1962. Since that time the Society has produced some publications that are excellent reminders of our heritage and history. The coloring book for children, the calendar, especially for Members of Congress and the book "We, The People" are praiseworthy publications.

The purpose of the Society is stated in its membership certificate, which reads: "Its program is to encourage a better understanding of American History through the spread of information on the founding growth and significance of the United States Capitol as a symbol of free representative government."

The Society has heeded the admonition of President Kennedy to "Ask not what your Country can do for you, ask what you can do for your Country" and expressed by President Warren Harding, at an earlier time, who said it as follows: "—In this great fulfilment we must have a citizenship less concerned about what the Government can do for them and more anxious about what they can do for the Nation." Eloquent and dramatic evidence that the Society responds to the opportunity to give can be seen daily as we witness the program of the Art work by Allyn Cox in the Capitol. The cost of this work, \$90,000.00, is underwritten by the Society. They have also made other noteworthy contributions.

They seek now, with the passage of H.J. Res. 736, to greatly increase its program to display and tell the story of our Country. And as stated in the Joint Resolution—"To provide for a feasibility study and to accept a gift from the United States Capitol Historical Society."

The Joint Resolution also provides for development and production of a Sound and Light program and—"To accept in the name of the United States Capitol Historical Society, as a gift, such sum or sums as may be required to further implement such project, and such sum or sums when received, shall be credited as an addition to the appropriation account 'Capitol Buildings, Architect of the Capitol'. Further subject to section 3 hereof, to expend such sum or sums for all items of equipment and other facilities required for the sound and light performance, and for any other items in connection therewith.

"The Architect of the Capitol, under the direction of the House and Senate officials designated in section 2 hereof, is authorized to enter into contracts and to incur such other obligations and make such expenditures as may be necessary to carry out the provisions of said section 2."

It is my hope that H.J. Res. 736 will be approved by this Committee, and passed by the Congress, so that the feasibility of this project may be determined at the earliest practicable date.

STATEMENT OF FRED SCHWENGEL, PRESIDENT, U.S. CAPITOL HISTORICAL SOCIETY

Mr. Chairman and Members of the Committee: Thank you for this opportunity you have given me to be back before my former Committee, in the presence of members with whom I served so many years. I have pleasant and intriguing memories of my time here where we served together to serve the people's interest in so many ways.

Thank you also for giving the United States Capitol Historical Society the opportunity to appear in behalf of H.J. Res. 736 and for other purposes.

With me today are Mr. George White, the Architect of the Capitol, and Member of the Board of Consultants for Sound and Light; William Maury, Chief Historian of the Society, Secretary of the Board of Consultants for Sound and Light; Mr. Arthur B. Hanson, a member of the Executive Board and Attorney for the Society; Congressman J. J. Pickle, Member of the Board and a member of the Executive Committee of the Board; Dr. Melvin Payne, the Vice President of the Society and President of the National Geographic Society.

The Society's purpose as stated in its constitution is:

"To encourage in the most comprehensive and enlightened manner an understanding by the people of the founding, growth and significance of the Capitol of the United States of America as the tangible symbol of their representative form of government to undertake research into the history of the Congress and the Capitol and to promote the discussion, publication, and dissemination of the results of such studies; to foster and increase an informed patriotism . . . (by) the study of the living memorial of the founders of this nation and the continuing thread of principles as exemplified by their successors." The United States Capitol Historical Society is chartered in Washington, D.C. in accordance with the laws of the United States as a nonprofit, educational organization.

Founded in 1962, the U.S. Capitol Historical Society has grown into a dynamic organization with an impressive record of accomplishment and a vigorous program for future development. It is unique among America's historical societies both in its operation and in its efforts to serve the amateur historian, the professional scholar, and the general public. It treats the entire spectrum of American history as it was made in the Capitol by the Congress, its members, and leaders from 1800 to the present.

Abraham Lincoln once said in a message to Congress: "Fellow-citizens, we cannot escape history. We, of this Congress, and this Administration, will be remembered in spite of ourselves. . . The fiery trail through which we pass will light us down, in honor or dishonor, to the latest generation." It is the fiery trail with which the Capitol Historical Society concerns itself, a promise to Mr. Lincoln, if you will, to light the past to the present generation.

MEMBERSHIP BENEFITS

For each member, the United States Capitol Historical Society provides a beautiful certificate suitable for framing, with the crest of every state embossed on it, and a pocket-size membership card. The Capitol dome, a six-page newsletter filled with society announcements, activities, and historical articles is mailed directly to your home or office quarterly. And once each year the entire membership is invited to attend our annual meeting in Washington, D.C. In addition, members are entitled to receive all publications, with the exception of We, The People, and products of the society at reduced prices.

PUBLICATIONS AND PRODUCTS

We, the People: The Story of the United States Capitol, Its Past and Promise was published by the United States Capitol Historical Society in 1963. Winner of a Freedoms Foundation award in 1964, this beautiful book is now in its 9th edition and has been published in five foreign languages: French, German, Italian, Portuguese, and Spanish.

National Capitol Portrait, a collection of three great volumes—The White House: An Historic Guide; We, the People: The Story of the United States Capitol; Equal Justice Under Law: The Supreme Court in American Life—is available as a specially bound set. Profusely illustrated in full color, each title weaves good history into the fabric of official Washington.

A larger set, National Capitol Profile, includes the three above mentioned books plus two additional volumes—The Presidents of the United States of America and George Washington: Man and Monument. All gift books are produced in full color and presented together in a maroon slipcase stamped in gold.

To stimulate interest in the age group where minds are most impressionable, the society has published Our Nation's Capitol Coloring Book, an entertaining and educational work that appeals to children of all ages. There are fifty-two illustrations of Washington for coloring, each with a one-page description written in a personal interesting, and informative manner.

A fourth publication that is particularly useful is our "We, the People Calendar," available in September through August or January through December versions. Highlighted by a color photograph of the Capitol at twilight, each date block has a special note of some event of the past... a daily record of momentous occasions.

All products made available by the U.S. Capitol Historical Society are prestige items of esthetic value and historical interest. These include greeting and Christmas cards, postal cards, slides and color prints of the Capitol, as well as laminated place mats (set of four), corresponding coasters (set of eight) and a large color poster of the Capitol at twilight.

MEMBERSHIP

The United States Capitol Historical Society is privately financed, patriotically activated and charged with a profound sense of mission. It looks to Congress, the executive and judicial branches of Government and most of all, to the people of the United States for support. The society provides in its constitution for different membership classifications in order to extend its ranks as widely as possible. Ranging from that of individuals, whether children or adults, to business firms, corporations, and other organizations, these classifications are as follows:

Supporting member	\$5
Contribution member	\$10
Share member	\$100
Patron member	\$500
Sustaining member	\$1,000
Family membership	\$10
Organization membership (schools, libraries, church and civic groups,	
historical and business association)	\$25

Society members, regardless of classification, share equal benefits and are not expected to pay dues or contribute funds for society operations. Money received for membership is deposited in a special fund to finance research, new projects, and additional publications.

The society invited you to join with it in the important work of preserving and interpreting our Capitol's history. Membership is open to anyone who is interested; it is not limited just to Washingtonians, or even to Americans. The minimum membership fee is \$5.00. Other classes of membership are available for those who wish to support—beyond the cost of the benefits they receive—the society's efforts to serve the Capitol and the nation.

Mr. Chairman, I would like at this point to insert in the record a brief outline of the Historical Society's brochure on our Bicentennial programs. This is the material we are using to promote our programs. Also I am attaching a copy of the Report of Sound and Light Trip, that was made to Europe by our Board of Consultants for Sound and Light to investigate those projects and consult with the producers. I believe this information will be of value to you and to members of your committee.

REPORT OF SOUND AND LIGHT TRIP

To gain as much information as possible about the new theatrical form son et lumière (known as sound and light in the United States) before sponsoring such a presentation themselves, the United States Capitol Historical Society, with financial help from General Electric Corporation, sent a three man fact finding team to visit productions in Europe and the Middle East in the first week of October 1971.

The team was composed of: George White, the Architect of the Capitol; William Coblenz, the Chairman of the Board of Consultants for Sound and Light of the U.S. Capitol Historical Society; and William Maury, the Historian and Editor of the Society. In an addendum to this report there is background information on the three.

In five days of intensive travel the team was able to observe shows in Strasbourg, France; Jerusalem, Israel; Athens, Greece and Paris, France. All of these productions were under the technical direction of M. Pierre Arnaud. M. Arnaud is recognized as probably the best and certainly the most experienced figure in the sound and light field, and the team considered itself very fortunate in having a chance to converse at length with M. Arnaud about all aspects of sound and light. Not committed to M. Arnaud before the trip, it was part of the group's objective to determine the worthiness of M. Arnaud's productions. In all the sites visited, except Paris, the team was able to make extensive tours around and in those areas featured in the productions. The tours of the areas were extremely helpful in giving to the team an understanding of what elements should be included in making up a production. The team also found that a building, such as our Capitol, while it may be impressive even dramatic, when viewed in the light of day appears an entity whose story is to be found in its entirety. Sound and light on the other hand can draw the attention to one facet of a building and by telling its story increase the understanding and appreciation of the building as a whole.

In two cities, Strasbourg and Jerusalem, the team had the extreme good fortune of talking with the leading citizens about the problems encountered in and the benefits of making a sound and light show. In talking with Pierre Pfilmlin, the mayor of Strasbourg, great consideration was given to discussions of what topics should be included in the thirty-two minute show. M. Pfilmlin, who is quite knowledgeable about the history of his city, was quite pleased with the production, despite the great concentration on the history of the Cathedral at the expense of the city as a whole. Mr. Teddy Kolleck, the mayor of Jerusalem, was helpful on two counts. First he was able to talk knowingly about the history of his city, and secondly be brought up the idea of conversing with all the diverse elements of the city of Jerusalem before deciding on the thrust and the elements to be included in the production.

The productions had certain elements which can be considered as central to the development of any sound and light production. In all cases but one, Athens, there was a central figure or concept which tied the widespread story together. In Strasbourg continuity was found primarily in the change and development of the Cathedral. This idea is somewhat abstract, but it is effective in the production. In Jerusalem the thread was carried by a stone from the original wall of the Fortress, By referring back to the stone after each change in direction of the fortress the viewer is always able to know where in history he is. Probably the most effective development of a unifying theme was found in the production at L'Hotel des Invalides in Paris. Here, the story was told by "L'Aiglan," Napoleon Bontparte's son. By allowing this neutral character to carry the production it was possible to focus the viewer's attention on the monument rather than on any of the multitude of famous people who are buried there. The show in Athens, which had no central theme, was the least effective show. It was good in demonstrating that sound and light productions are not capable of being historical narratives, but are in essence a new form of theatre.

The group was impressed by the time limitations which present themselves in this new art form. The length of the show should probably not exceed thirty-five minutes. The one show, Jerusalem, which did exceed this time limit became somewhat wearing to two members of the group. As theatre it is important to note that the placement of the audience area was in an outside court yard and there was a proper distance between audience and monument. In Strasbourg the audience was seated within the exquisite Gothic cathedral and a proper space relationship was established, but in Athens the audience was seated about one and a half miles away from the ruins. (This great distance destroyed the necessary relationship between the monument and the audience. It was generally felt that unless the audience could pick up some of the detail of the monument much of the show would be lost.

The music, its phasing and its tempo, plays an important part in sound and light productions. Great care should therefore be taken in the selection of the composer of the musical score to ensure the complete effectiveness of the score.

It is probably correct to say that as in most theatre, the most important aspect of the show is the script, the spoken word. Without doubt, it is here that the sound and light show has the greatest chance to impress or offend. It was felt that the scripts while generally good were often to bombastic and too chauvinistic. More subtlety should be used in the presentation of Our Capitol. Since the core of the script is historical it is extremely important to obtain a careful selection of historical facts to be used, a balance between good and unfortunate aspects of historical fact must be obtained for history and truth to be served. In his shows Mr. Arnaud often used relatively insignificant historical points to carry the narrative of the story. Whether this is the best for us is something that must be discussed in some detail before the development of the script for the production of Our Capitol.

On a more technical level, the group found that those shows which were given in more than one language are presented in different languages at different times. Thus, in the show in Jerusalem there were three performances each night; one in English, one in French and one in Hebrew. A member of the Philips production team who accompanied the group on the tour noted that it might be possible to have several languages broadcast at one time to several distinct areas. In passing he noted that the use of headsets to obtain the multilingual show would be disastrous for the effects needed.

In all of the productions seen Philips equipment was used. The Philips Company claims to have most experience in this type of production. However, whether they should, either singly or in conjunction with other companies, be involved in the production of the show on the Capitol is something to be considered with great care. Mr. White, who has great experience in the electronics field, does not feel that Philips equipment is unique as to capabilities. He notes that their equipment is sophisticated but that there are producers of sophisticated electronics equipment in the United States. It should be noted too that there is a close affiliation between M. Arnaud and Philips Company. This relationship needs clarification before the services of M. Arnaud are requested. Another point of concern is the effect that exposed pieces of equipment have on the appearance of the monument during the day. In all the edifices visited some evidence of the sound and light show could be seen by the daytime visitor. Every daytime evidence of sound and light must be eliminated in Our Capitol.

In summary, the central truth to be derived from the four shows is a religious, almost mystical reverence for the substance of history. It was felt by all members of the team as well as by M. Arnaud that of all the modern buildings in the world none offers better promise for the development of such an emotion than our Capitol. However, to insure that historical truth is not sacrificed to obtain good drama, the society must obtain the services of an excellent historian and or writer. The person selected must not only have impeccable scholarly credentials, but must as well have an artistic eve for selection of detail. Extreme caution should be exercised to insure that the script does not preach. Mayor Teddy Kolleck's idea of showing the script to the many factions of the city before the production of the show is a lesson from which we can benefit. The limitation of time and space must be thoroughly understood. It must also be understood that the production for the Capitol cannot fit into a mold adapted to European shows. Our Capitol is a living monument, not ruin of the past or a mausoleum for time honored heroes. Consideration of this difference must play a critical part in the development of this production. In addition it should be noted that because the history of the Capitol is so relatively short there exist on file and record the images and voices of the people who made history there. Whether advantage can be taken of these should be left to the discretion of the producer of Our Capitol.

In all the shows seen M. Arnaud maintained the inherent dignity of the edifice featured in his production. It is for this reason that the group as a whole felt that M. Arnaud and his company should be involved in our production. To what extent M. Arnaud's involvement exists is a point that deserves a great deal of thought and deliberation. Prior to any commitment a feasibility study as to costs, protection of scenery and crowd control aspects should be initiated and completed. In meeting costs it is important to note that the productions seen on the trip varied mightily as to country and age. Because of this M. Arnaud's partner noted that an effective comparison of costs between the shows viewed and the show at the Capitol is of little value. Other investigations in this area have shown that the productions in the United States are not comparative because they are too old, too small or because they grew by accretion. To insure the effective completion of this task a small group of knowledgeable, talented and responsible people, serving under an effective chairman, should be formed to coordinate all activities.

It must be that our production, the script, the music and the lighting maintain the dignity of the Capitol. And while it is impossible to compress the history of the Capitol into a thirty minute show it must be that at all times history is served by the production. It might be wise, even at this early date, to consider scripting future shows that could develop aspects of the Capitol not fully explored in the first production.

After returning from the trip Messrs. White, Coblenz and Maury were able to hear the tape of the sound and light production done by Mr. Dan Klugherz for Independence Hall in Philadelphia. This production, "A Nation Is Born," has been moderately successful. However, it was felt that the production was not up to the caliber of those by M. Arnaud. Fault was found in the length, some fiftytwo minutes in the narrative style, it was an attempt at a history lesson, a chronology and in the music, too much use of "Yankee Doodle." It was felt that these failings lead to a script of poor dramatic qualities, there was no central theme to rivet the attention and the history was more or less what could be read in any eighth grade text. Finally the script included many events with full sound effects which occurred oute far away from the building.

A reading of Benjamin Greeberg's proposed script "The Building of America" showed many of the same faults that the Klugherz tapes had. The major fault of both is their tendency to make the show a historical narrative.

Being aware of the pitfalls should enable the producers of Our Capitol to avoid them. And, as Capitol Architect White summed up, "Provided that it is accomplished with the highest possible levels of quality, competence and integrity, I am persuaded that this medium offers a fantastic opportunity to build and enhance the spirit of democracy in the hearts of the millions of people who will have an opportunity to witness the presentation."

We (the people) <u>are</u> the U.S. Capitol...



...Historical Society

U.S.C.H.S.

Without us, the citizens of the United States, the U. S. Capitol Historical Society would not exist. Without USCHS, many important contributions to the understanding of our national heritage would not have been made. Since 1962, USCHS, a private, non-profit organization, has encouraged an understanding and appreciation of the founding, growth, and significance of the Capitol Building of the United States as the tangible symbol of our representative form of government.

In its ten-year history, the Society has undertaken research into the history of the Congress and the Capitol, and promoted discussion, publication, and dissemination of the results of that research. USCHS has fostered an informed patriotism through studying the Capitol as a living memorial to the founders of our nation, and as a promise to generations of Americans to come. The President of the Society is The Honorable Fred Schwengel, and the Board of Trustees includes many senators, representatives, and other governmental leaders—the membership is made up of us, the citizens of the United States.

The responsibilities assumed by USCHS to educate and inform the public of their history may seem quite ambitious in a world in which confusion of identity and lack of credibility in established systems holds sway. But, in ten years, USCHS has made deep inroads toward the fulfillment of those responsibilities. It has become unique among historical societies, both in its operation and in its efforts to serve the amateur historian, the professional scholar, and the general public. The USCHS is a dynamic organization with an impressive record of accomplishments, and a vigorous program for future development. Presenting history in a way that will appeal to all the people of our great nation has long been a goal of the Society. It treats the entire spectrum of American history, made in the Capitol by the Congress, from 1800 to today.

BICENTENNIAL PLANS

As members of the U.S. Capitol-Historical Society, we (the people) will contribute greatly to America's Bicentennial Celebration in 1976. Although 1976 seems far in the future, it is now that we must begin our preparation for that momentous occasion. Two major projects are in the offing as our contribution.

FILM

The first is a half-hour film portraying Washington as the hub of the United States, and the Capitol Building as the forum of the nation. The film will show: the city as it exists today; the

grand concept laid out by Pierre l'Enfant; the emergence of the Capitol Building from its modest beginnings to its present grandeur; Washington as a place to live; the Capitol as the heart of our national life. Great care is being taken to make the film historically accurate and to convey the magnificence, the vitality, and dominating influence of our Nation's Capital. This film will be shown at the Visitors' Center being constructed at Washington, D.C.'s Union Station, and will be made available for showing on national television, and at schools and selected theaters across the country. USCHS believes the film will have a strong impact in helping people comprehend the meaning, the values, and the achievements of our country as symbolized and conveyed by the U.S. Capitol.

"SON ET LUMIÈRE"

"Son et Lumiere", our second Bicentennial project, must be seen to be fully understood. This part of USCHS' contribution to the 1976 Bicentennial is important and unique. The "Son et Lumiere" production will be staged on the East Front of the Capitol Building. It will become a focal point in the Bicentennial, immersing the viewer's imagination in the development of the Capitol from the time the first stone was laid to today. "Son et Lumière" involves a dramatic interplay of light, music, narrative, and sound effects—without the use of live actors. The production is based on a foundation of thorough historical research and when projected onto the imposing facade of the Capitol's East Front, will recreate the evolution of American history. This production will be a kind of landmark for America, since very few of these productions have been presented outside Europe. A more impressive and beautiful contribution to our Nation's Bicentennial could not be desired.

PUBLICATIONS

Through endeavors to provide the citizens of the United States with such educational tools as publications on the history and workings of our government the Society is fulfilling its aims. Among our publication are: the best-selling history of the Capitol. *We*, the People (available in five foreign languages in addition to English), an extensive bibliography of the Capitol, a semi-annual journal, *Capitol Studies*, and a newsletter, The Capitol Dome, which is received by USCHS members. In addition to the "more adult" publications provided by our Society, we also publish *Our Nation's Capital Coloring Book*. This book enables our youngsters to learn something of the major monuments and government buildings in Washington, D.C., while enjoying themselves.

ACCOMPLISEIMENTS

Some of the many important accomplishments that we (the people, as members of the U.S. Capitol Historical Society) have achieved are the donation of various historic memorabilia to the Capitol. The most substantial of these is the \$90,000 that we donated to the Capitol to pay for the mural being done in the House Wing. The mural depicts the various buildings which have served as meeting places for Congress in the course of our history. By obtaining the best muralist in America today, Mr. Allyn Cox of New York, we ensured that the work done in the House Wing compares to that done by Constantino Brumidi in the Senate Wing over a century ago. The artisan, who in our 200-year history helped make America great, is not dead; and USCHS has been able to provide testimony to that through the efforts of Mr. Cox.

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THE FUTURE

In addition to the Society's hope to expand such on-going projects as Capitol Studies, we also expect to become involved in updating and enlarging *The Biographical Directory of the American Congress*, establishing an oral history program, preparing a comprehensive study on the origin and development of the Office of the Speakership, a children's book on the Capitol, a film series on great events which have occurred in the Capitol, and a series of pamphlets on historic sites and events in each of our United States. All of what the Society, and we (its members) have achieved, and hope to achieve, is with a view to bringing our government, its history, and the meaning of freedom closer to the people of our great country.



See you in '76!

Fred Schwengel

United States Capitol Historical Society 200 Maryland Avenue, N.E. Washington, D.C. 20515 (202) 543-8919

The Honorable Fred Schwengel, President: The Honorable Marguerite Stitt Church, Carl Haverlin, Melvin M. Payne, Senator Hubert H. Humphrey, Walter Rundell, Jr., Vice Presidents; Victor M. Birely, Treasurer; Lillian R. Kessel, Secretary.

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Mr. SCHWENGEL. Mr. Chairman, I ask unanimous consent to revise and extend my remarks and speak off the cuff, so to speak, briefly, and allow me more time for further discussion that may come in colloquy or questions that may accur to you members of this committee.

Mr. Chairman, first let me remind my colleagues that the idea for "son et lumière" or sound and light, as it is known in America, was first suggested by Congressman Henry Reuss of Wisconsin about 10 years ago. And Congressman Pickle's statement, as a member of the board, summarizes very well what this bill is. So it is needless, really, for me to comment on that. And the statements by Gerald Ford and Mr. O'Neill are very adequate in explanation of the meaning of this bill, so I do not think we need to go into that.

In my statement I deal generally with the U.S. Capitol historical program that I think the committee ought to know about so you can have a feel of our overall plan to help people who visit this area better understand their history and heritage.

I say very often to young people when they come here to visit, and occasionally take them on a tour of the Capitol, that more has happened here in the shadow of the dome of their Capitol to bring about the biblical promise of the more abundant life to our people than has happened anywhere else in all of time.

The unfortunate thing is that not enough Americans understand and appreciate this, so our purpose is to do something about that with our program to enhance the study of history that has been made here and published in books and stories and biographies of the Congressmen, and in historical programs that we have planned. Underway is the creation and production of a moving picture for visitors comparable to the one you would see at Williamsburg, for people to see before they go on the tour of the Capitol, and then the sound and light is the third part of our great program and great challenge.

All of this is explained in the remarks I have submitted so I just think I will yield at this point after I tell you that we plan that this show will be presented and shown, without cost, to the visitors to Washington.

In every place in Europe where we have seen the show, they charge the public to see it. It has not really been our American tradition to charge for things like this, so we envision a plan whereby we raise sufficient funds that will make it possible for us to pay the expenses of nightly showing without cost to American citizens and foreigners through appropriate funds who may come here who see the show.

Also, we will follow the pattern of the society in using the very best talent available in the creation. We have created a board of consultants of very competent American people in various areas that have experience and knowledge and understanding and appreciate the problem, and can make a contribution.

The present board of consultants for the U.S. Capitol Historical Society are:

Russell Dickenson, Regional Director, National Capital Parks, Interior Department; Paul Perrot of the Smithsonian Institution; John Stokes, contractor from San Marcos, Tex.; Dr. Letitia Brown, historian at George Washington University; Senator Mark Hatfield of Oregon; Congressman Henry Reuss of Wisconsin; Fred Schwengel, president, U.S. Capitol Historical Society; George White, Architect of Capitol; and Bill Maury, chief historian, U.S. Capitol Historical Society.

Others will be added later. And we will be consulting closely with them and will counsel with the people who we finally decide will produce the show. Now I want to introduce one of the great men of the Capitol area and yield to him. His selection as Architect is one of the best things that has happened to the Capitol for a long time. George White graciously agreed to serve on the committee, on the board, and he also agreed to take a trip to Europe along with Mr. Maury on my left, and Mr. Coblenz, to find out about this new great art form in Europe, and to consult with and learn from the producer and from people who have now had an opportunity to see this great new art form.

And so I think Mr. George White may have something very worthwhile to tell us.

So I yield to him at this time for this purpose.

Mr. GRAY. Mr. White, we are always delighted to have you before the committee, and it's also refreshing—casting no aspersions on any predecessors—to see an Architect of the Capitol, because great things have happened during your tenure.

Mr. WHITE. Thank you, Mr. Chairman.

When Congressman Schwengel first came to me and broached the subject of instituting a sound and light show using the Capitol as a subject, I was extremely reticent, largely because I was unfamiliar with the concept itself. I explained to the Congressman that I had never witnessed a sound and light show and that I would be unable to make an intelligent response until such time as I had achieved greater familiarity with it.

I said, also, that it would be my position under any circumstances that we ought not to do anything that would in any way diminish the aura of dignity which surrounds the U.S. Capitol. I said that because the Capitol is a symbol of freedom and is referred to as the Temple of Liberty, we certainly would not want to do anything that would purport to be dignified entertainment or a diversion for visitors and tourists, but would actually result in a carnival atmosphere. Congressman Schwengel, of course, assured me that this would not be the case.

We had further discussions with regard to the nature of a sound and light performance. It began to appear that the possibility of achieving an appropriate result was present, but that, without seeing such a result in other instances, it would be difficult to make a responsible judgment.

Sometime thereafter, in about October 1971, the Capitol Historical Society, in order to make a studied investigation, sent two representatives from its organization, including a member of its board of directors, and myself on a short tour of several installations in Europe that were said to be at the highest levels of quality. The tour would, therefore, enable us to decide whether or not it would be an appropriate device for us to use at the Capitol.

We visited a performance at the Invalides in Paris, the Cathedral in Strasbourg, the Acropolis in Athens, and the Tower of David in Jerusalem.

We were each very favorably impressed with the presentations and hence with the possibilities for the Capitol. Further, speaking for myself, I felt that the possibilities were even greater than I had originally thought possible.

The performance in the Strasbourg Cathedral, for example, was virtually a religious experience.

Because the substance of a sound and light show is not simply a dry history lesson, but rather a mood-creating art form, it seemed that we would be able, through the use of this medium, to create a mood of enjoyment and appreciation, not for our national history alone, but for the fundamentals themselves that have enabled this Nation to grow and prosper.

We became convinced that the history of the country and its early founding, as well as its most important achievements, could be told with music in a composition like that of early radio programs by which the listener envisioned the story without actually being able to see the dramatic presentation.

We concluded that, properly done with the advice and counsel of historians and dramatic advisers, as well as musicians, the program could be prepared at the highest levels of artistic achievement and thus yield a truly desirable result.

Technically, it would mean some changes to the building and grounds necessary to accomplish the sound and light features. It was my statement to Congressman Schwengel that any lighting that would be installed, any seating that was necessary, or any control room and electrical apparatus that would be required, would have to be installed in such a way as to be completely concealed, especially in the daytime, so that the appearance of the Capitol to the tourists during the day was not altered in any way.

This requirement may involve such things as disappearing lights, perhaps on telescoping poles, bleachers that would be collapsible and disappearing, or else assembled for each performance. These and other technical features would have to be very carefully considered, but in my opinion, the possible results nevertheless make it worthwhile to examine the proposal in detail.

With 1976 almost upon us, and with the millions of citizens that will come to Washington to see the Capitol, I feel that it would offer a great opportunity to provide an attractive and desirable experience, and at the same time to help enhance the feelings of pride in, and appreciation of, the history of our country.

In the light of all these considerations, Mr. Chairman, I want to offer my support for this bill which will enable a detailed feasibility study to be made at the expense of the U.S. Capitol Historical Society.

At the completion of the study, the Congress then would be able to consider the detail of the proposal and to decide whether it merits approval for further implementation.

Thank you for the opportunity to comment, and I shall be happy to furnish whatever other information I have that the committee may deem desirable.

Thank you.

Mr. GRAY. Thank you, Mr. White.

I have two or three quick questions.

We have a rollcall on the House floor on a conference report on Labor, HEW, so we will have to take a short recess and come back, and hopefully go into executive session and report out this resolution this afternoon, if we possibly can, but I am sure there is some basic question, such as do you have any estimate of the cost, one—— Mr. WHITE. Yes, a very broad estimate, Mr. Chairman, because until the feasibility study is completed it cannot be decided, but we are probably talking in the nature of \$2 to \$3 million for the cost of installation.

Mr. GRAY. The reason I bring that up, and it is no secret, when you bring a resolution like this on the floor, you have those questions. It is all voluntary money, and we wind up as we did with the George Washington Monument, which laid dormant for 60 years before completion.

I want to put on the record very precisely and concisely figures that it would possibly be—the parameters of cost, first, and second, for the record, and I am wondering personally if the taxpayers ought to do this, because this is capital, and I assume all of you are going to go out to try to raise the money.

I want to make it very clear we ought to either say we are going to go with all volunteer contributions, or may have to at some later time come in and supplement it with Federal funds.

This is why I think we need to state somewhere along the line what we think the maximum cost will be.

And, too, do we think, and I can address this to Mr. Schwengel of the society—do we think this is within the capability of raising the capital without going into Federal appropriations?

So you are saying around \$2 to \$3 million?

Mr. WHITE. That is the way it looks at the moment. It could be more.

Mr. GRAY. Mr. Schwengel, do you feel this is within the capabilities of being raised—raising it with private donations?

Mr. PICKLE. The question is, I would think, what I gather it might be in excess of \$3 million, coming near \$4 million, or even \$5 million.

Mr. GRAY. Do you think that is within the capabilities of donations? Mr. PICKLE. I am the lay person, and I would certainly accede to these estimates, but these things usually go a little more——

Mr. GRAY. You gentlemen know me very well, and know I feel very strongly about this type of program being the author of the visitor center and the civic center, and several other things, and I again think it is a great idea, and I support it 100 percent, and I think that the people ought to take pride in their Capitol, and learn all they can about it through light and sound, and I am merely trying to put down for the record, for those that will follow this when it gets on the floor, as to what our real intentions are.

Do we really intend to authorize this for private solicitation, and if we do, do you gentlemen who have been active and interested in this really feel it is well within our capability of raising such funds.

Mr. PICKLE. I will let Mr. Schwengel speak to that, because we have raised some \$300,000 for preliminary studies in getting ready for this.

Mr. GRAY. Mr. Schwengel, would you, for the record. care to comment, as I am sure you understand why I am asking this question.

Mr. SCHWENGEL. I think it is a very good question, and I am glad you raised the question, because it will give me an opportunity to point out and tell how much the Capitol Historical Society has given. We do not have any tax money for our support, and we are only able to succeed because we have fine cooperation of every Member of the Congress in what we do.

We have turned back in the neighborhood of \$300,000 toward the history of the Capitol, the art work going on the walls in the hallway leading to the restaurant, and this was approved by the House Administration Committee, and accepted, and it is going without any cost at all to the public. We have donated \$90,000 for this.

Mr. GRAY. We salute you for that work, and I am merely asking the question for the record, and quite obviously for some of the skeptics.

Mr. SCHWENGEL. And we have been in touch with some of the most capable people and some of the most lucrative resources, and we have been encouraged.

We believe the answer to that question is, "Yes, we can raise the money." We have some most important people in the United States alerted to this, especially the communication field, and they are giving us encouragement, and I am looking hopefully to the future on this question. I think it is a good point which ought to be understood that there is neither authorization asked for in this bill nor appropriated funds contemplated.

Mr. GRAY. We have about 7 minutes to get over to the floor.

I want to ask a couple of quick questions, and we will recess.

How long would you envision this performance?

Mr. SCHWENGEL. Well, it also depends somewhat, I would say, but not more than 40 minutes. Mr. White spoke of the Invalides in Paris, and I just saw that recently——

Mr. GRAY. Thirty or forty minutes in time?

Mr. SCHWENGEL. Between 30 and 40 minutes, I think it was, and they do the show three times a night.

Mr. GRAY. Taking into account inclement weather, how many months of the year would you envision this?

Mr. SCHWENGEL. We envision 7 to 8 months.

Mr. GRAY. Seven to eight months.

Mr. Schwengel. Certainly every night that the band is not there, and incidentally, we plan not to interfere with the band. We would want to use the band as an introduction of the proposed sound and light program. This would be an asset that no other sound and light program has.

Mr. GRAY. Very good.

We do have to go to the House floor for the rollcall of the Committee on Labor, HEW, and we will have to recess.

Mr. SCHWENGEL. Mr. Chairman, I would like to have the committee hear the summary of Mr. Maury, who has one of the finest statements on the description of this project.

Mr. GRAY. He will be first when we come back in 10 minutes. [Short recess.]

Mr. GRAY. The subcommittee will please come to order.

Off the record.

[Discussion off the record.]

Mr. GRAY. Back on the record.

Mr. Maury, we are delighted to see you before the committee, and you may proceed in your own fashion.
Mr. MAURY. Thank you, Mr. Chairman.

The Historical Society, and particularly the history department, that department which I am involved in, is primarily devoted toward scholarship. As a result, we have done quite a lot of work in this area that is discussed in my statement. One of our major projects is oral history which will hopefully redress the imbalance that we feel exists so that Congressmen and Congresswomen may get the same amount of attention devoted to them as State political figures, but we do not feel that scholarship is the only way to explain history.

In fact, we feel the people of the United States will suffer if they do not know what their history is, and as a result of that our "We the People" has sold more than 3 million copies. And, though it is popular history, it has been praised by scholars, because it tells a true story, a humane story, not a story that makes demagogs or makes paragons of virtue of every important person in our past.

As Mr. Schwengel noted, this is the same idea that we are trying to convey in our film dealing with Washington that will be shown to numerous visitors at the Visitors Center. But of all the programs that are designed to excite the interest and inform, son et lumière or sound and light, as it is known in America, is the most important.

It is very difficult to describe sound and light to someone who has never seen it.

It is a new, dramatic technique, a new art form. First, sound and light uses the magic of night to help create a series of illusions. The audience is arranged in the dark some distance, at least 100 yards from the front of the buildings. As lights of different colors and different strength are played on the edifice, a narrative and music are focused on the crowd.

The loudspeakers are placed in such a way as to give complete stereophonic effect.

In some ways sound and light uses the imagination, just as the old radio shows did, but sound and light uses the magic of the night and the advanced technology of lighting to heighten the imagination. It tells the story of the building, and the people who acted out their lives in the building in a way that radio could not.

It does not ruin one's image of a man by showing an actor who is totally different from what one's own view of the man was but instead heightens one's imagination so that one understands the man of the past better than one ever thought possible.

In a sense, sound and light is a time machine that takes the audience through the past. The lights on the building can give the illusion of a partially completed structure—a fire, a ruin, a time of celebration.

When the show is finished, and the audience is suddenly back in the present, the feeling of having been in the past is obvious.

I speak of sound and light from the experience of having seen four such shows during a European tour with Mr. White and Mr. Coblenz to sound and light sites there. As a result of the trip, Mr. White, who was really quite doubtful about the validity, both in historical sense and in a dramatic sense, came away tremendously impressed, as did we all, that if properly done, with properly written scripts, son et lumière is a valuable thing. It is not just history. It does not try to simplify history because, as we all know, it is impossible to truthfully do that. Instead, it tries to capsulize and give a flow—a narrative to history that makes it possible to understand and put things in a relationship that is more easily comprehended.

So, for this reason, and because of the need of explaining what the Capitol Building is, what our history is, and how the Capitol fits into American history, all of us feel that sound and light will be a great benefit.

We also note that at this point Washington has no major bicentennial program underway, and it is our very firm belief that sound and light would be the best bicentennial presentation that would be in the Nation's Capitol.

Mr. GRAY. I know that the Capitol is the largest visitation center in the city of Washington. Last year we had $7\frac{1}{2}$ million visitors, and certainly for the bicentennial that would be elevated even more so, so I agree with your views implicitly.

I have a couple of questions. I am not trying to shorten, but I would want to ask you some questions.

Mr. SCHWENGEL. Mr. Chairman, I think to a general extent he has spoken off the cuff. I offer his prepared statement for the record.

Mr. GRAY. Without objection, the entire statement will be appear in the record at this point.

[The statement referred to follows:]

STATEMENT OF WILLIAM MAURY, CHIEF HISTORIAN, U.S. CAPITOL HISTORICAL SOCIETY

My name is William Maury. I am the chief historian of the U.S. Capitol Historical Society, and I am testifying in behalf of House Joint Resolution 736. As historian it is my job to work to develop programs that fulfill the Society's goal of encouraging an understanding of the Capitol and of undertaking research into the history of the Capitol and Congress. In the past, we of the Society have sought to achieve these ends in a number of ways. Because of the scope of our subject and the size of our potential audience, we have sought to develop some programs that would appeal to scholars and others that would be for the general public.

For scholars we have developed an extensive bibliography of the Capitol. This bibliography, published last spring, is an invaluable tool to students doing research on this most important building. It has about 2,300 separate entries, and is the only book of its kind now available for students of the Capitol. For those interested in the Congress, the Society has begun a journal, Capitol Studies, which carries articles devoted strictly to the Capitol and Congress. Capitol Studies has received excellent reviews. Reviewers often note the fact that because this journal publishes excellent articles from an historical and political science point of view, it is unique and important. We in the Society feel that the Congress as an institution has not been effectively studied. The gaps in knowledge about our national legislature means that the American people cannot fully understand how and more importantly, why things are done as they are. Because each individual Congressman is only 1 out of 435, he is quite often lost in the shuffle, so to speak, and his actions are forgotten while governors and state speakers of the house are thoroughly investigated. We feel this misplaced emphasis must be corrected. In the same vein we feel that the thoughts and comments of individual congressmen-thoughts that carry extreme weight in the development of the legislation by which this country lives, are often forgotten when a legislator passes from the scene. We are, therefore, developing an oral history program.

Oral history is a new field, it utilizes the recent technology of voice recording to preserve thoughts that in years gone by would have been written in diaries and letters. The press of business and the telephone have dried up these important research wells. Our oral history program, which is just beginning, will deal with such things as the importance of committee work and the way Congress and the other branches of the government coordinate. This Public Works Committee, for example, is a perfect subject for research. The fact that the face of America and the way of American life have been altered by this committee's work on the development of roads is a story that all Americans should know. Future historians studying this period of our national life would gain 'invaluable insights by reading the transcripts of in-depth interviews of members of this committee.

Thus in the field of historical scholarship our Society is deeply involved. But history is not only for the historian, it is for all the people, and unless all the people can be offered history that will be both truthful and interesting, our Society, our nation will suffer. And this is what we are here to testify about today. The U.S. Capitol Historical Society knows the need of history for all the people. Our We, the People has sold more than 3 million copies. And, though it is "popular history" it has been praised by scholars because it tells a true story—a human story not a story that makes demi-gods or makes paragons of virtue of every important person in our past. The same intense concentration on truthfulness and interest is part and parcel of the film about the city of Washington that we are making. This film, which has taken almost two years to make is being produced for us by the country's foremost documentarist Francis Thompson. It will cost over \$350,000 to produce and the research and care that has gone into making it puts it far above any other movies of its type ever made.

Of all our programs designed to excite the interest and inform. Son ct Lumière (sound and light as it is known in America) is the most important. It is very difficult to describe sound and light to someone who has never seen it. It is new dramatic technique, a new art form. First, sound and light uses the magic of night to help create a series of illusions. The audience is arranged in the dark some distance (at least 100 yds.) from the front of the building. As lights of different colors and different strength are played on the edifice a narrative and music are focused on the crowd. The loud speakers are placed in such a way as to give a complete stereophonic effect. In some ways sound and light uses the imagination just as the old radio shows did, but sound and light using the magic of the night and the advanced technology of lighting heightens the imagination. It tells the story of a building and the people who acted out their lives in the building, in a way that a radio could not. It does not ruin one's image of a man by showing an actor who is totally different from what one's own view of the man was, but instead, heightens one's imagination so that one understands the man of the past better than one ever thought possible. In a sense sound and light is a time machine that takes the audience through the past. The lights on the building can give the illusion of a partially completed structure—a fire, a ruin, a time of celebration. When the show is finished and the audience is suddenly back in the present, the feeling of having been in the past is obvious. I speak of sound and light from the experience of having seen four such shows during a European tour. The tour, in the fall of 1971, was taken with the sole purpose of determining the feasibility of sound and light for the U.S. Capitol. I feel extremely fortunate to have been able to accompany the late William A. Coblenz, former head of the Legislative Reference Service at the Library of Congress and a man with a brilliant and innovative mind and George M. White. the present Architect of the Capitol, a man whose awards and attainments are truly impressive. The feelings that I gained about the potentialities of sound and light were fully shared with both of my traveling companions.

We were able to observe the sites of each installment in the daylight hours to be certain that the large amount of equipment and wiring necessary for sound and light in no way diminished the daylight appearance of the edifice. I will leave to someone far more practiced in electrical engineering and architecture to say how the various components could be hid, but as an historian and an admirer of historic buildings, I can say that I feel sound and light represents the very best there is in popular history. The well-done show always have scripts that the most meticulous historian could not fault and the interest in history that sound and light arouses in the audience is most gratifying. Sound and light cannot simplify history, because as you all know, to simplify history is to give bad history. But sound and light can capsulize history, it can present it in a dramatic way and give it a narrative flow. For the Capitol and the Congress of the United States to be so explained that all Americans can understand their meaning is something to be sought in these troubled times.

Because of these points, I believe that the Congress should report favorably on House Joint Resolution 736. The feasibility study that this Resolution recommends is an essential first step to the realization of a sound and light show before the bicentennial celebration. The fact is, that at this point very little of real value has been done for the bicentennial. We feel that sound and light would be a major, probably the major bicentennial activity in our nation's Capital. But work must begin now. The feasibility study called for in the Resolution will take seven to nine months to complete. The feasibility study, better called a project study, will describe all aspects of the work necessary to install a sound and light on the east front of the Capitol. Once completed, conferences between the leaders of Congress, the Architect, the Society, and the producers of the show will take at least another month. These conferences are necessary to insure that all parties are completely satisfied with the production. It should be noted that the Society. in seeking to gain the fullest possible perspective has developed a prestigious board of advisors. From an historian viewpoint, probably the most important member of the board is Dr. Letitia Brown, one of the country's leading historians and an expert on the city of Washington, particularly the history of blacks in the city. Since actual installation will take at least one year, the total time needed from start to finish is two years. As it is late in 1973 now, the need for haste is apparent. It is the hope of the U.S. Capitol Historical Society that your committee will quickly and favorably report House Joint Resolution 736.

Mr. GRAY. Mr. Maury, I want to ask you, since you did make the trip to Europe, and have followed this with our distinguished former colleague, Mr. Schwengel, and Architect White, I think you put it in the precise language here when you say that any lighting that would be installed, any seating that was necessary, or any control room and electrical apparatus that would be required would have to be installed in such a way as to be completely concealed, especially in the daytime, so that the appearance of the Capitol to the tourists during the day was not altered in any way.

This requirement may involve such things as disappearing lights, perhaps telescoping poles, bleachers that would be collapsible and disappearing, or else assembled for each performance.

The reason I wanted to ask the question at this point, what are they using in Europe that you visited?

Are they using, might I say, a permanent type seating arrangement, or are they using equipment that would be probably different from our needs since they may not be concerned in some places about esthetics?

What did you find in your visit?

Mr. MAURY. They are using things that are different. There is no question of that.

In some cases, the audience stands.

Since we would have so many people, that would be totally unfeasible. But in the case of Strasbourg, which was certainly one of the best programs that we attended, the audience sat in the pews there in the church.

So it is very difficult to try to make some relationship with that.

Strasbourg was also important in that almost all of the visual aspects of the show were hidden. The wires were under the stones, and the lights were carefully hidden so that daytime visitors could not tell that a show was to be held in the evening.

In Jerusalem and Athens the seating arrangements remained stationary. At the Invalides, in Paris, there were no seating arrangements. The audience stood within the courtyard. Mr. GRAY. Have you come to any conclusion—I realize much of this will be undertaken in the study, but have you come to any conclusion as to whether seating should be provided or would performances of a standup nature be preferable?

Mr. MAURY. I think seating is necessary. Without it there would be much moving and jostling. At the Invalides, with only six or eight people present, this was so. In our show with over one hundred times the number of people present, the difficulties would be greatly amplified.

You have to see the proper lighting. If you do not see it, then you miss something that is very important.

So seating keeps people stationary which is important.

Mr. GRAY. This would require some blocking of traffic would it not, in the plaza area on the east front of the Capitol?

Mr. MAURY. I would imagine so. I would not imagine we would have any traffic.

It would be like the band concerts, for example, where there is no traffic in the plaza area.

Mr. GRAY. Of course, I think this would draw more people than the band concerts.

Is any seating envisioned in those cost figures at all, or is this just the light and sound equipment that you are talking about?

Mr. Schwengel. Yes, Mr. Chairman.

If I may, this envisions some kind of seating arrangement. Of course, until we have the feasibility study, we will not know for sure.

There is a suggestion of some kind of permanent seating arrangement that would hide away in the ground, come up with hydraulic jacks during the night that would be very desirable, and desirable for another reason, that is, they would be there for the inauguration where we spend thousands of dollars now to make seats. And those would be available for that.

So it would serve more than just the purpose of the sound and light program.

The other suggestion we have so far is that every night, tractors would haul in so many bleachers that would unfold.

Mr. GRAY. Of course, that can be rather expensive. We increased the capacity of RFK Stadium, and those are bleacher type seats that are removable. And they gave us an estimate of \$40,000 each time they put them in and take them out.

Of course, I realize it is more permanent.

It is 8,000 seats, although they are removable—they are moved from a permanent seating arrangement because they are put in for the entire, let us say, the football season, and removed for the baseball season.

But the point I am getting at, I do know that it could involve a considerable amount of custodial expenses.

Mr. SCHWENGEL. We are very aware of that.

The reason we need the feasibility study, or we call it the "project" study—we prefer to call it that because we think this program is feasible. So we think it should be entitled "project."

And until that "project" study is completed, we have professionals giving us the estimates, so we do not know. Mr. GRAY. Right. I think it is very exciting and, as I say, I want to subscribe to everything said here today. And I think we should move forward with it, and certainly we will do everything we can as a committee to help this project along.

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Mr. SCHWENGEL. I want to thank the committee for spending the time that you have given us.

Mr. GRAY. Thank you. The subcommittee will proceed with other business.

[Whereupon, the subcommittee proceeded on to other business.]

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"SON ET LUMIERE" AT THE UNITED STATES CAPITOL

A spectacle in "Sound and Light" proposed by the UNITED STATES CAPITOL HISTORICAL SOCIETY

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PROJECT STUDY

by

ETUDES ET CREATIONS D'AMBIANCES

Paris

Introduction

President Gerald Ford, when he was in Congress, was a co-author and a sponsor of the H.J Resolution 736. Speaking " as a founder of the U.S Capitol Historical Society" he succinctly summed up the basic purpose of the Capitol Sound and Light Project : "To display and tell the story of our country".

During the hearing before the Congress Committee, George H. White, the Architect in charge of the Capitol, stated :

"When Congressman Schwengel first came to me and broached the subject of instituting a Sound and Light show using the Capitol as a subject, I was extremely reticent, largely because I was unfamiliar with the concept itself... I said also that it would be my position under any circumstances, that we ought not to do anything that would in any way diminish the aura of dignity which surrounds the U.S. Capitol ... "

After seeing several Son et Lumiere shows in Europe, Mr White further stated :

"We were very favorably impressed with the presentations, and hence with the possibilities for the Capitol. Speaking for myself, I felt that the possibilities were even greater than I had originally thought."

"Because the substance of a Sound and Light show is not simply a dry history lesson, but rather a mood-creating artform, it seemed that we would be able through the use of this medium to create a mood of enjoyment and appreciation not for our National History alone, but for the fundamentals themselves that have enabled our Nation to grow

and prosper... We concluded that, properly done, with the advice of historian and dramatic advisors as well as musicians, the program could be prepared at the highest levels of artistic achievement, and thus yield a truly desirable result."

Our project study has confirmed these first impressions. This presentation must be "a Revelation rather than a show."

Mr White also said recently :

"Occasion is seldom offered for a country to express itself in such a tremendous way, and if there is a time when we need such a confirmation of our faith, it is now. The purpose of this show is certainly not to embellish or complement a guided visit, it is the basic way of evidencing the significance of our Constitution and our History, told directly by the Capitol itself."

"This medium offers a fantastic opportunity to build and enhance the spirit of Democracy in the hearts of the millions of people who will have a chance to attend the presentation."

Fred Schwengel, President of the U.S. Capitol Historical Society, wrote "This part of our contribution to the 1976 Bicentennial is unique and important. It will become the focal point in the Bicentennial, immersing the viewer's imagination in the development of the Capitol from the time the first stone was laid till today... This production will be a kind of landmark for America... A more impressive and beautiful contribution to our Nation's Bicentennial could not be desired."

the Confederate period came the concepts embodied in the Constitution. The Constitution is a political document, the design for implementing the ideas of freedom that are proclaimed in the Declaration of Independence.

Belief in Freedom was a guiding force throughout the History of the Nation. The Constitution serves as a guide for the legal methods of obtaining the freedoms proclaimed in the Declaration.

The people have an opportunity to be heard both through elections and by petitioning and lobbying in the Capitol. These rights stem directly from the American Constitution.

The Fathers of America discovered something collectively that they could never have imagined individually. In the task we have ahead of us, it is up to us to follow in their footsteps, honestly, forthrightly, and with dedication.

At this stage, once we clearly understood the basic message, the next step was to use the Capitol to express it through Sound and Light.

Through constant exchange of information and several meetings, we outlined an initial synopsis. This is only a preliminary scheme of the show, but it illustrates some of the many dramatic possibilities of the site.

II. - Expressing the Capitol by "Son et Lumiere"

In a meeting at the Capitol Building on January 24, 1974, where the contract for this Project Study was signed, the basis of the message of the Capitol was discussed with the Board of Consultants. The matter had already been discussed in previous meetings, and everyone present felt it would be a hard task to make a synthesis of so many different and sometimes contradictory elements.

So many personalities have played a part in the creation of the United States. How could we choose between them ? The building itself is the image of harmony, but what of discordant events ? The danger would be to produce something unrealistic, or pompous.

From experience we know that the best way to find the real message is through meetings between the Sound and Light specialists and the authorities concerned with the project. It is rather like marble taking shape under the chisel. Each expresses his thoughts, and step by step a new idea emerges. The result is always different from what one might arrive at alone, but it crystallizes everyone's feeling into the obvious.

With the Capitol we have rarely had a stronger impression of reaching an ever clearer message definition, which only goes to prove that this is something bigger and more powerful than previous sites we have dealt with.

Here are some of our conclusions :

In some locations, monuments, apart from their artistic and historical worth, lend themselves admirably to expressing the history of a country,

but yet are not the unique place for it. Neither Notre Dame Cathedral in Paris, nor the Louvre, nor Versailles is the unique witness to French History, although each is suitable.

But on the contrary The Capitol can present the whole of United States' History, since it is here that History was, and still is, being made.

The sheer size of it both as a building and a symbol implies a tremendous message impact.

- The History of Nations is made up of contradictory events, glorious and inglorious. The interplay of events with other factors such as geography, climate, environment, has progressively given characteristics and personalities to Nations.

The United States has also had its share of fortune and misfortune. But due to its size, its mixture of races, religions and climates, its speed of growth, its History has more paradoxical and perhaps more controversial elements than other countries.

The basic difference between the United States and other nations is that its identity stems largely from a deliberate choice, by the people, at the time of its birth, two hundred years ago, and then set forth in the Constitution. The Capitol-home to the representatives of the people-is both the seat and the symbol of its Constitution. The Capitol is not the private house of a King or a President, but belongs to the American People.

Out of the ideas in the Declaration of Independence, and out of the trials of the Revolutionary War and

III. – Location of the public

A location should be chosen from which the monument has the most impact.

There must be nothing to distract attention, such as street light spill or traffic noise, and there should be no inconvenience to people who live in the nearby area. The location should be large enough to give the audience a wide angle of vision. There should be easy "in" and "out" access.

These requirements are often difficult to fulfill, but not in the case of the Capitol. The East front is the perfect site : it can accommodate thousands of spectators. The statue of Freedom, which will obviously play an important part in the show, is facing the public. The trees, to the right and left, which we also use, conceal the city lights. The location is quiet and can sustain loud sound effects with no inconvenience.

Audience capacity should be around 3,000. With a peak of six performances per night (at 8 pm, 8.45 - 9.30 - 10.15 - 11 - 11.45) this would mean 18,000 spectators per evening A season of more or less 200 evenings provides a total capacity of around three and a half millions.

The above points are further developed in parts C and D of this project-study.

The specially designed grandstand might also serve apart for Presidential Inaugurals and other ceremonial occasions.

The audience will therefore be located in front of the main steps, on the parking Plaza, and this accommodation will be removed so as not to interfere with normal use.

IV. - Methods of conceiving, preparing and staging the show

Choice between various elements has been difficult. Our aim has been to achieve a clear message. The members of the U.S. Capitol Historical Society were anxious to know how we would convey it through our Son et Lumiere medium in terms of script, dramatization, etc..

With their consent we went about this as follows :

While the task force of Historical Consultantscomposed of Dr. Letitia Brown, Department of History, George Washington University; Dr Walter Rundell Chairman Department of History, University of Maryland; Dr Constance McLaughlin Green, Washington historian and author; Mrs. Florian Thayn, historian, Office of the Architect of the Capitol; William Maury, editor and historian U.S. Capitol Historical Society; Maier Fox, assistant editor and historian, U.S. Capitol Historical Society- we were selecting facts, events and incidents, suggesting how architecture combined with sound and light could be used to the best effect.

Step by step, a basic framework was created, containing a succession of sequences, each with its own dramatic treatment, with a view to establishing a general line of rhythm, contrasts in mood, tempo and intensity.

The basic script will follow the layout, and situate the elements selected by the task force on History. It will be the framework on which an American writer or writers, chosen for ability to write a script which is destined to be heard and not read, and for their knowledge of History, will join with Andre Castelot, an historian highly experienced in "Son et Lumiere".

A similar approach with the music task force

will be adopted for the music. Sound and Light music is composed of two basic different elements :

- 1) "Historical Music" -i.e : The authentic music played at some event.
- 2) Effect Music -i.e : Music for mood or dramatic impact. This will be created by a composer in collaboration with the director of the show and the Historical consultants for music.

For the final recording of music, we will use the best U.S. orchestras, bands and choirs.

For the script, as far as actors are concerned, while we obviously need the best, their voices should not be so easily identified as to detract from the show. In sound and Light a spectator believes he is listening to real historical people, and if an actor's voice is recognized, some of the magic of the show will be lost.

When the recorded tape is ready, comprising sound and ambiophonic effects, we begin setting the lighting on the site. The lighting scheme is planned from the outset, but truth in this respect always turns out somewhat differently than planned. Once set up and adjusted, lights always reveal new images that can be put to use in the show. The lighting "score" is intimately linked to the whole, and we often tend to find a better harmonic set-up on the spot. The whole thing is then recorded and re-recorded until it is fully satisfying. After that it's just a question of pushing a button...

At this present project-study stage, work will cease at the delivery of the basic layout. But the next stages are all planned, and everyone is ready to start with the actual production.

I. - Description of the installations

1) Light circuits

Just like in a theater the basic Son et Lumiere light effects are achieved by combinations of spotlights of various colors projected from various angles. Manipulations such as dimming change the appearance of the decor. But Son et Lumiere lighting effects are more significant than in the theater, where they are mostly only complementary. That is why this installation element is fundamental and accounts for a high percentage of the total cost. Moreover the installation is set up on a permanent basis (underground wiring, strong fixtures and stands). This is done in such a way that the aspect of the site does not suffer. The installation is set up with a view to protection against vandalism, and also with a view to minimum maintenance during the running life of the show. (Average running life of a sound and light show is over twenty years).

PRELIMINARY LIST OF THE LIGHT CIRCUITS

	COLOR POWER (kw)		TYPE OF BULBS	COMMENTS				
4 1	Y	3.000	250 w Sylvania caribbean					
II 2	G	3.000	250 w Sylvania caribbean	Lighting of trees at the south side of Capitol				
6 Roupe A	0	3.000	250 w Sylvania caribbean					
m 1	Y	4.500	250 w Sylvania caribbean					
2 2 3	G	4.500	250 w Sylvania caribbean	Lighting of trees at the south side of Capitol				
GR 0	0	4.500	250 w Sylvania caribbean					
1 A	Y	3.000	250 w Sylvania caribbean					
2 A	G	3.000	250 w Sylvania caribbean	Lighting of trees at the south side of Capitol				
3 A	0	3.000	250 w Sylvania caribbean					

Among the documents attached to this project study you will find :

- 1) Five plans of the light circuit location.
- 2) A list of types and specifications for each circuit.
- 3) Pictures showing the precise "on site" location required for each circuit.

This is of prime importance, since the quality of the light effects is directly linked to the precise angle selected. Minor adjustments are only possible during the staging phase.

All these details are given to assist dealings with the contractor. Complete and cautious preliminaries, and this project study will save money by avoiding the usual "on the spot" trials which are common in show business.

PRELIMINARY LIST OF THE LIGHT CIRCUITS

PRELIMINARY LIST OF THE LIGHT CIRCUITS

	COLOR	POWER (kw)	TYPE OF BULBS	COMMENTS
4	w	2.000	500 T 3 Q 120	
4 A	w	2.000	500 T 3 Q 120	
5	w	5.000	Q PAR 64 1000 W N.S.P.	Circuits on telescopic mast.
6	0	5.000	Q PAR 64 1000 W N.S.P.	Height 10' to 15' hiding by daytime in a trap.
7	R	5.000	Q PAR 64 1000 W N.S.P.	General lighting of the house wing.
8	w	10.000	Q PAR 64 1000 W N.S.P.	Circuits installed on the same mast as 5-6-7.
9	Y	10.000	Q PAR 64 1000 W N.S.P.	General lighting of the central part
10	G	10.000	Q PAR 64 1000 W N.S.P.	from the left.
11	w	15.000	Q PAR 64 1000 W N.S.P.	Same installation as 5-6-7 and 8-9-10.
12	Y	15.000	Q PAR 64 1000 W N.S.P.	Second part of general lighting of the
13	G	15.000	Q PAR 64 1000 W N.S.P.	center and the senate wing.
14	w	15.000	Q PAR 64 1000 W N.S.P.	Circuits on telescopic mast idem 11-12-13.
15	Y	15.000	Q PAR 64 1000 W N.S.P.	First part of the general lighting of the center
16	B	15,000	Q PAR 64 1000 W N.S.P.	and of the house wing.
17	w	10.000	Q PAR 64 1000 W N.S.P.	Installation idem 14-15-16
18	Y	10.000	Q PAR 64 1000 W N.S.P.	Second part of the general lighting of the center.
19	В	10.000	Q PAR 64 1000 W N.S.P.	
20	w	5.000	Q PAR 64 1000 W N.S.P.	Installation idem 17-18-19
20	B	5.000	Q PAR 64 1000 W N.S.P.	General floodlighting of the senate wing.
22	R	5.000	Q PAR 64 1000 W N.S.P.	
23	w	6.000	Q PAR 64 1000 W N.S.P.	Circuits on ground level hiding by daytime
23	0 VV	6.000	Q PAR 64 1000 W N.S.P.	in a trap.
25	R	6.000	Q PAR 64 1000 W N.S.P.	Lighting of the center.
26	w	5.000	Q PAR 64 1000 W N.S.P.	Same installation as 23-24-25.
20	B	5.000	Q PAR 64 1000 W N.S.P.	Floodlighting of the house wing.
28	R	5.000	Q PAR 64 1000 W N.S.P.	the stanger and house ming.
29	w	5.000	Q PAR 64 1000 W N.S.P.	Same installation as 23-24-25.
29 30	0	5.000	Q PAR 64 1000 W N.S.P.	Complementary floodlighting of the central part
31	R	5.000	Q PAR 64 1000 W N.S.P.	of the building from the left.
32	w	5.000	Q PAR 64 1000 W N.S.P.	Same installation as 29-30-31.
32 33	B	5.000	Q PAR 64 1000 W N.S.P.	Complementary floodlighting of the central part
34	R	5.000	Q PAR 64 1000 W N.S.P.	from the right.
35	w	5.000	Q PAR 64 1000 W N.S.P.	Same installation as 35-36-37.
35 36	o vv	5.000	Q PAR 64 1000 W N.S.P.	Lighting of the central part from the right.
37	R	5.000	Q PAR 64 1000 W N.S.P.	ing intergration part norm the right
38	w	6.000	Q PAR 64 1000 W N.S.P.	Same installation as 35-36-37
38 39	B	6.000	Q PAR 64 1000 W N.S.P.	Lighting of the central part from the right.
40	R	6.000	Q PAR 64 1000 W N.S.P.	-grang of the bandar part non-the right.
		3.000	Q PAR 24 1000 W W.F.L.	On ground level in trap.
41	W			
42	W	4.000	Q PAR 64 1000 W N.S.P. Or M FLOOD	On ground level in trap.
43	w	6.000	Q PAR 64 1000 W W.F.L.	
44	R	6.000	Q PAR 64 1000 W W.F.L.	On ground level in trap.
45	G	6.000	Q PAR 64 1000 W W.F.L.	
46	w	6.000	Q PAR 64 1000 W W.F.L.	
47	R	6.000	Q PAR 64 1000 W W.F.L.	On ground level in trap.
48	G	6.000	Q PAR 64 1000 W W.F.L.	
49	w	4.000	Q PAR 64 1000 W N.S.P.	On ground level in trap.

CIRCUIT N°	COLOR	POWER (kw)	TYPE OF BULBS	COMMENTS
50	w	3.000	Q PAR 64 1000 W W.F.L.	On ground level in trap.
51	w	6.000	QUARTZ LINE T 3 1500 W	Back light. Same installation as 1-2-3.
52	w	6.000	QUARTZ LINE T 3 1500 W	Back light. Same installation as 1-2-3.
53	W OR Y	1.300	PAR 38 FLOOD 100 W	Fixtures on ceiling under the arcades and inside the building before each window, installation to precise in accordance with the architect of the Capitol.
54	W OR Y	0.300	PAR 38 FLOOD 100 W	Fixtures on ceiling under the arcades and inside the building before each window. Installation to precise in accordance with the architect of the Capitol.
55	W OR Y	0.600	PAR 38 FLOOD 100 W	Fixtures on ceiling under the arcades and inside the building before each window. Installation to precise in accordance with the architect of the Capitol.
56	W OR Y	1.400	PAR 38 FLOOD 100 W	Fixtures on ceiling under the arcades and inside the building before each window. Installation to precise in accordance with the architect of the Capitol.
57	W OR Y	0.600	PAR 38 FLOOD 100 W	Fixtures on ceiling under the arcades and inside the building before each window. Installation to precise in accordance with the architect of the Capitol.
58	W OR Y	0.300	PAR 38 FLOOD 100 W	Fixtures on ceiling under the arcades and inside the building before each window. Installation to precise in accordance with the architect of the Capitol.
59	W OR Y	1.300	PAR 38 FLOOD 100 W	Fixtures on ceiling under the arcades and inside the building before each window. Installation to precise in accordance with the architect of the Capitol.
60 A	w	3.000	Q PAR 64 1000 W N.S.P.	
60 B	R	3.000	Q PAR 64 1000 W N.S.P.	
60 C	G	3.000	Q PAR 64 1000 W N.S.P.	Circuits on removable iron fittings placed every
60 D	W	3.000	Q PAR 64 1000 W N.S.P.	night.
60 E	R	3.000	Q PAR 64 1000 W N.S.P.	
60 F	G	3.000	Q PAR 64 1000 W N.S.P.	
61	W	1.500	PAR 38 150 W FLOOD	House balustrade back light.
62 A	W	3.000	Q PAR 64 1000 W N.S.P.	
62 B	R	3.000	Q PAR 64 1000 W N.S.P.	
62 C	G	3.000	Q PAR 64 1000 W N.S.P.	Idam aircuite 60
62 D	W	3.000	Q PAR 64 1000 W N.S.P.	Idem circuits 60.
62 E 62 F	R	3.000	Q PAR 64 1000 W N.S.P.	
1	G	3.000	Q PAR 64 1000 W N.S.P.	
63	W	0.750	PAR 38 150 W N.Ş.P.	Balustrade back light.
64 A	W	3.000	Q PAR 64 1000 W N.S.P.	
64 B	R	3.000	Q PAR 64 1000 W N.S.P.	
64 C 64 D	G	3.000	Q PAR 64 1000 W N.S.P.	Idem circuits 60.
64 D	W	3.000	Q PAR 64 1000 W N.S.P.	
64 F	R G	3.000 3.000	Q PAR 64 1000 W N.S.P.	
4			Q PAR 64 1000 W N.S.P.	
65 A 65 B	W	3.000	Q PAR 64 1000 W N.S.P.	
65 B	R	3.000	Q PAR 64 1000 W N.S.P.	
65 D	G W	3.000	Q PAR 64 1000 W N.S.P.	Idem circuits 60.
65 E	R	3.000	Q PAR 64 1000 W N.S.P.	
65 F	G	3.000	Q PAR 64 1000 W N.S.P.	
	-	5.000	Q PAR 64 1000 W N.S.P.	

PRELIMINARY LIST OF THE LIGHT CIRCUITS

PRELIMINARY LIST OF THE LIGHT CIRCUITS

20.0

CIRCUIT	COLOR	POWER (kw)	TYPE OF BULBS	COMMENTS	
N°			PAR 38 150 W FLOOD	Railing back light.	101
66	W	2.100		Balustrade back light.	
67	w	0.750	PAR 38 150 W FLOOD	Dalustrado bosit ingriti	102
68 A	w	3.000	Q PAR 64 1000 W N.S.P.		103
68 B	R	3.000	Q PAR 64 1000 W N.S.P.		104
68 C	G	3.000	Q PAR 64 1000 W N.S.P. O PAR 64 1000 W N.S.P.	Idem circuits 60.	105
68 D	w	3.000	UTATION TOTOL		106
68 E	R	3.000	Q PAR 64 1000 W N.S.P. Q PAR 64 1000 W N.S.P.		100
68 F	G	3.000	difference in the second se		107
69 A	W	3.000	Q PAR 64 1000 W N.S.P.		108
69 B	R	3.000	Q PAR 64 1000 W N.S.P. O PAR 64 1000 W N.S.P.		109
69 C	G	3.000	difference in the second	Idem circuits 60.	110
69 D	W	3.000	Q PAR 64 1000 W N.S.P. Q PAR 64 1000 W N.S.P.		111
69 E	R	3.000	Q PAR 64 1000 W N.S.P.		112
69 F	G	3.000		m to the transfer timber	113
70	w	1.500	PAR 38 150 W FLOOD	Balustrade back light.	114
	W OR Y	2.100	PAR 38 100 W FLOOD	Indoor window light.	115
71	WUNT	0.500	PAR 38 100 W FLOOD	Indoor window light.	116
73	WORY	0.600	PAR 38 100 W FLOOD	Indoor window light.	117
74	W OR Y	0.300	PAR 38 150 W FLOOD	Indoor window light.	118
75	w	0.600	PAR 56 300 W N.S.P.	Lighting of the statues.	119
76	W	1.000	PAR 64 500 W N.S.P.	To determine in accordance with the architects (2 solutions : Open door with interior lighting Closed door with exterior lighting);	120
77	W OR Y	0.600	PAR 38 100 W FLOOD	Indoor window light.	121
78	W OR Y		PAR 38 100 W FLOOD	Indoor window light.	122
79	WORY		PAR 38 100 W FLOOD	Indoor window light.	124
		1.000	DETERMINED AFTER TRIALS	Lighting of the frontons with sharp pencil beam	125
80	w w	1.000	DETERMINED AFTER TRIALS	fixtures determined after trials on the spot	
81	Ŵ	1.000	DETERMINED AFTER TRIALS	on the top of the existing lamp holder.	126
82	vv		51 00D		120
83	W	2.100			128
84	W	2.100	PAR 38 100 W FLOOD PAR 38 100 W FLOOD		129
85	W	0.600	PAR 56 300 W W.F.L.	Indoor window light.	131
86	W	0.600	PAR 38 100 W FLOOD		132
87	W	0.600	PAR 38 100 W FLOOD		122
88	w w	0.400 2.100	PAR 38 100 W FLOOD		133
89 90	w	1.950	PAR 38 150 W FLOOD	Balustrade back light.	134
90	w	0.450	PAR 38 150 W FLOOD	Balustrade back light.	135
92	Ŵ	1.050	PAR 38 150 W FLOOD	Balustrade back light.	137
93	w	1.800	PAR 38 150 W FLOOD	Balustrade back light.	138 139
94	w	1.050	PAR 38 150 W FLOOD	Balustrade back light.	140
95	w	0.450	PAR 38 150 W FLOOD	Balustrade back light.	141
96	w	1.950	PAR 38 150 W FLOOD	Balustrade back light.	143
97	w	8.000	Q PAR 64 1000 W N.S.P.	Lighting of the top of the dome from the left.	144
98	Y	8.000	Q PAR 64 1000 W N.S.P. Q PAR 64 1000 W N.S.P.	Lighting of the top of the dome not the form	
98	0	8.000	Q PAR 64 1000 W N.S.P. Q PAR 64 1000 W N.S.P.		
100	G	10.000			

	COLOR	POWER (kw)	TYPE OF BULBS	COMMENTS
101	w	1.000	DETERMINED AFTER TRIALS	Special very sharp pencil beam to light the statue of freedom (may be low voltage par lamp or parabolic torpedo shade or theater light projector with tens).
102	w	6.000	Q PAR 64 1000 W N.S.P.	
102	Y	6.000	Q PAR 64 1000 W N.S.P.	
103	o	6.000	Q PAR 64 1000 W N.S.P.	Lighting of the lower part of the dome from the left.
104	R	8.000	Q PAR 64 1000 W N.S.P.	
105		н. - С.		
106	W	1.000	PAR 64 500 W N.S.P.	Lighting of the flag.
107	W	6.000	Q PAR 64 1000 W N.S.P.	
108	Y	6.000	Q PAR 64 1000 W N.S.P.	Lighting of the lower part of the dome from the right.
109	В	8.000	Q PAR 64 1000 W N.S.P.	-9
110	R	8.000	Q PAR 64 1000 W N.S.P.	
111	w	1.000	DETERMINED AFTER TRIALS	Idem circuits 101.
112	W	8.000	Q PAR 64 1000 W N.S.P.	
113	Y	8.000	Q PAR 64 1000 W N.S.P.	Lighting of the higher part of the dome from the
114	8	10.000	Q PAR 64 1000 W N.S.P.	right.
115	R	10.000	Q PAR 64 1000 W N.S.P.	
116	w	6.000	500 T 3 Q 120	Divided in 3 batteries.
117	w	2.000	500 T 3 Q 120	
118	w	4.000	500 T 3 Q 120	Divided in 2 batteries.
119	W	12.000	1500 T 3 Q 240	Divided in 2 batteries.
120	w	4.000	Q PAR 64 1000 W N.S.P.	Statue of freedom back light - May be replaced by similar projectors to the ones of circuits 101 + 111.
121	w	4.000	500 T 3 Q 120	Divided in 2 batteries.
122	w	2.000	500 T 3 Q 240	
123	w	6.000	500 T 3 Q 120	Divided in 3 batteries.
124	W	15.000	Q PAR 64 1000 W N.S.P.	Circuits not intended for the show but for the
125	w	15.000	Q PAR 64 1000 W N.S.P.	lighting of the dome, apart from the show, replacing present circuits.
126	w	3.000	Q PAR 64 1000 W N.S.P.	
127	R	3.000	Q PAR 64 1000 W N.S.P.	
128	G	3.000	Q PAR 64 1000 W N.S.P.	Circuits installed on removable iron fittings placed
129	Ŵ	3.000	Q PAR 64 1000 W N.S.P.	every day and connected to current collectors.
131	R	3.000	Q PAR 64 1000 W N.S.P.	
132	G	3.000	Q PAR 64 1000 W N.S.P.	
133	w	1.800	PAR 38 150 W FLOOD	Campanile balustrade back light.
134	w	5.400	PAR 38 150 W FLOOD	Dome balustrade back light.
135	w	12.000	Q PAR 64 1000 W N.S.P.	
136	G	12.000	Q PAR 64 1000 W N.S.P.	
137	R	12.000	Q PAR 64 1000 W N.S.P.	
138	W	9.000	Q PAR 64 1000 W N.S.P.	
139	G	9.000	Q PAR 64 1000 W N.S.P.	
140	R	9.000	Q PAR 64 1000 W N.S.P.	
141	W	2.000	PAR 64 500 W M FLOOD	Each circuit is divided in 4 batteries - Lighting of
141	G	2.000	PAR 64 500 W M FLOOD	the campanile under the statue of freedom.
143	R	2.000	PAR 64 500 W M FLOOD	the campanie under the statue of freedom.
144	w	10.800	PAR 38 150 W FLOOD	Indoor light of the dome.

PRELIMINARY LIST OF LIGHT CIRCUITS

	COLOR	POWER (kw)	TYPE OF BULBS	COMMENTS
145	W = WHITE $Y = YELLOW$ $G = GREEN$ $R = RED$ $O = ORANGE$	4.000	PAR 38 100 W FLOOD or 4 Q 1000 W CL	Lighting of the dormer-windows either by a bulb par 38 100 W at each dormer-window or by 4 bulbs 1000 W installed above the canopy in the dome lighting the whole interior of this part of the dome.
		1 ₁₁	RECAPITULATION	kanya dagi na garang pang pang pang pang pang pang pang p
	Tot Thi the ma	al power instal s recapitulation range of pow y be a few char	s led n of light circuits as listed in our pre ver for each, together with the nur nges and additions in the engineerin ption of the fixtures required.	

COMMENTS CONCERNING CIRCUITS AND FIXTURE IMPLANTATIONS

CIRCUITS 1, 2, 3 : Each of these circuits will be divided into two groups, (a) and (b).

Group (a) will consist of four fixtures from each circuit, which will be installed in shallow traps, from which they will beam up into trees or bushes at an angle of about 75 degrees. While these fixtures will permanently remain inside the traps, gratings used to cover these traps must be hinged, to allow for cleaning and relamping. Three traps housing four fixtures each will be required, with color distribution to be determined during trials.

Group (b) will also consist of three traps, similar to those of group (a), each containing six fixtures. Locations of the traps will be approximately at points indicated on plan. Dimensions of traps : group (a) - 5 ft. \times 1 ½ ft. \times 3 ft. deep; group (b) 5 ½ ft. \times 1 ½ \times 3 ft. deep.

CIRCUIT 4 : Located as shown on plan, one trap containing four fixtures, but covered by two hinged

gratings, to which the fixtures are attached. These gratings, when raised, will allow the fixtures to throw their beam in opposite directions. The first two fixtures will beam towards the bushes or trees above circuits 1, 2 and 3, group (a). The other two will beam towards bushes and trees above 1, 2, and 3, group (b).

CIRCUITS 1a, 2a, 3a : The implantation of fixtures making up these circuits shall be similar to that of circuit 1, 2, and 3 and traps shall be located as shown on plan.

CIRCUIT 4a : Similar to circuit 4, but calls for two traps as shown on plan.

CIRCUITS 5, 6, 7, 8, 9, 10 : Total of 45 fixtures, mounted on a steel supporting frame. This frame will be attached to telescoping scissors and will be installed in a pit, located as shown on plan. Approximate pit dimensions are : 11 ft. \times 5 ft. \times 15 ft. deep. These pits shall be provided with steel plate covers, which shall be motorized and slide away to allow telescoping of the fixture assembly up to the desired height. CIRCUITS 11, 12, 13 : Total of 45 fixtures, implantation same as circuits 5 - 10.

CIRCUITS 14, 15, 16 : Total of 45 fixtures. Implantation same as circuits 11 - 13.

CIRCUITS 17, 18, 19, 20, 21, 22 : Total of 45 fixtures. Implantation same as circuits 11 - 13.

CIRCUITS 23 - 40 : Total of 96 fixtures to be distributed within six trenches, as shown on drawing ... Dimensions of trenches 1 and 6, containing 18 fixtures each,to be approximately 12 ft. \times 4 ft. \times 3 ft. deep. Dimensions of trenches 2, 3, 4, and 5, containing 15 fixtures each, to be approximately 10 ft. \cong 4 ft. \cong 3 ft. deep. Covers to be stainless steel plates and raised by motorized gear drive.

CIRCUITS 41 - 50 : Total of 50 fixtures. These will be implanted and remain above ground, and hidden by bushes at location indicated on plan.

CIRCUITS 51 and 52 : Total of eight fixtures, four fixtures for each circuit. To be installed on South and North side of building, each fixture assembly attached to a telescoping mast. They will be raised 14 to 15 ft. from ground level. It remains to be determined whether these fixtures and telescoping masts will have to be installed in pits, 5 ft. \times 3 ft. \times 8 ft. deep or can be raised from surface mounted enclosures.

The total number of traps, pits and trenches for the grounds circuits discussed so far, excluding circuits 51 and 52, amounts to twenty five (25). All of these excavations should be concrete lined, either precast or poured in place, as may be practical, and shall be provided with sump pumps for proper drainage.

FIRST FLOOR :

CIRCUITS 53, 55, 56, 57 AND 58 : will require only telephone type control cable and components of multiplex system which will be easily concealed. These lights shall be powered from already existing cable installation.

CIRCUITS 54 AND 58 : pose some special problems, as they are in areas where it may be difficult and

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very expensive to install cable and fixtures. This is due to the fact that any work in these areas will require expensive restoration of marble, tile, painting and ornamental decoration.

SECOND FLOOR :

CIRCUITS 60 - 70 : present two problems. The first problem concerns the removal and storing of all 152 fixtures and their supporting elements. The second problem is concerned with the routing of the power feeders. There are two solutions to this problems:

a. to run feeders in elevator shafts down to the basement or up to the roof and thence to their assigned panels. If this is the chosen solution, then we have to run cable in large size conduit along the outer ledge of the building and through appropriate windows into the building. Due to the considerable size of this conduit, this solution may present serious esthetic problems.

b. to drill through the existing marble floor, then down through the underlying concrete and thus avoid the above mentioned difficulties. This presents only the problems of expense and the possibility that the marble floor may crack and thus require expensive restoration work.

CIRCUITS 71 - 79 : only requires telephone type control cable; there are some windows, where no power is available presently, but these could probably be eliminated from the circuits. If not, the same problems as described for circuits 54 and 58 would have to be solved.

CIRCUITS 80 - 82 : These circuits will require made-to-order fixtures to fit the lampholders, and without causing objectionable changes to their present appearance. There are several manufacturers in the United States who specialize in this type of work and, no doubt, a satisfactory solution can be found to meet with the Architect's approval.

CIRCUITS 126 - 128 AND 129 - 132 : should remain in place, due to the inaccessibility of their proposed locations. Power runs to circuits 126 - 128 pose a considerable problem. These runs will require large conduits or aluminum sheathing, which will have to run along the outside building ledge, before entering the building through the window in H 203, or run down the outside corner of the building formed by H 207 and H 208. Either solution will need further study and consultation with the Architect's Office. Power runs to circuits 129 - 132 will be easier to solve. These runs can enter the building through the window of the elevator shaft, West of S 208, and from there down to their assigned panels.

ROOF :

CIRCUITS 90 - 125 : These circuits present no special problems.

DOME AND CAMPANILE :

CIRCUITS 133 - 145 : present no esthetic problems. However, installation will require the services of steeplejacks and some of these circuits will be difficult to relamp.

THIRD FLOOR :

CIRCUIT 83 - 89 : Refer to remarks concerning circuits 71 - 79. Again, certain windows have no nearby power outlet at present.

CIRCLETS 11 24 : ands requires telephone type control cable there are arrive unders, advertigents power is available increasible by control that, the same preditors are described by control fill and, the same preditors are described by control fill and describe team to be adress to at least or most like and describe made to make to an the describe and the and and official states of a state and and the and and a mode to make to an the state are most like and and we have to an the state and an include state and and the to make to an the transmitter of a state and and the to make the state are may all the transmitter work and to make the state are an and the to an the transmitter bards to make the state are an and the first transmitter bards are an area and the transmitter of the state and work and, no directs a satisfication solution are not bound to make with the Architect's atom and

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The total number of traps, pits and therefore wither-brounds simulation discussed on the two-during human's band, site and the mathematic disc. (25) a Minfaboric vertex-stands therefore total and the properdense of pound in place, as may be preticulated or provided with samp pumps for proper tail be provided with samp pumps for proper tail per provided with samp pumps. (as TIJCOMIC nutrogs allow and a masses of values?, as TIJCOMIC

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DISTRIBUTION OF THE CIRCUITS ON DIMMER CHANNELS

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D	IMMER C	HANNEL	A	D	IMMER C	HANNEL	B	DI	IMMER C	HANNEL	C		
CIRCUIT	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF		
11	W	15	2	41	W	3	7	42	W	4	7		
60	W	3	5	62 A	W	3	5	49	W	4	8		
64 A	W	3	7	65 A	W	3	7	56	W	1.4	8		
64 B	R	3	7	69 A	w	3	6	64 E	R	3	8		
04 0				65 B	R	3	7						
D		HANNEL	D	DIMMER CHANNEL E						CHANNEL	F		
CIRCUIT NUMBER	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF. NUMBER		
8	W	10	2	9	Y	10	2	10	G	10	2		
60 D	W	3	5	12	Y	15	2	13	G	15	2		
64 D	W	3	8	43	W	6	7	131	R	3	6		
68 D	W	3	6	46	W	6	8	69 B	R	3	6		
65 E	R	3	8	68 B	R	3	6						
D		HANNEL	G	D	IMMER C	HANNEL	н	DIMMER CHANNEL I					
CIRCUIT	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF. NUMBER		
17	W	10	3	18	Y	10	3	19	В	10	3		
62 D	W	3	5	15	Y	15	3	16	В	15	3		
65 D	W	3	8	50	W	3	8	126	W	3	5		
69 D	W	3	6	69 E	R	3	6	129	W	3	6		
68 E	R	3	6		SI	1	aci			17010			
D	IMMER (CHANNEL	1010	D		HANNEL	к	D		HANNEL	L		
CIRCUIT		POWER	TRANSF.	CIRCUIT		POWER	TRANSF.	CIRCUIT		POWER	TRANSF.		
NUMBER	COLOR	kW	NUMBER	NUMBER	COLOR	kW		NUMBER	COLOR	kW	NUMBER		
14	W	15	3	45	G	6	7	60 B	R	3	5		
127	R	3	5	48	G	6	8	60 C	G	3	5		
68 A	W	3	6	128	G	3	5	64 C	G	3	7		
1.4				132	G	3	6	68 C	G	3	6		
			Van Stat										
D	IMMER C	HANNEL	M	D	IMMER C	HANNEL	N	D	IMMER C	HANNEL	0		
CIRCUIT	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT NUMBER	COLOR	POWER kW	TRANSF.		
60 E	R	3	5	62 B	R	3.5	5	62 E	R	3	5		
62 C	G	3	5	60 F	G	3	5	62 F	G	3	8		
CE C	G	3	7	64 F	G	3	8	69 F	G	3	6		
65 C													



DISTRIBUTION OF THE CIRCUITS ON DIMMER CHANNELS (continued)

DISTRIBUTION OF DIMMERS CONNECTED TO SPECIFIC CHANNELS ON EACH TRANSFORMER

	IMMER C	HANNEL	P	D	IMMER C	HANNEL	٩	C	DIMMER C	HANNEL	R		TRANSE	ORMER 1		1				1			
	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT	COLOR	POWER kW	TRANSF.	CIRCUIT	COLOR	POWER kW	TRANSF. NUMBER	1.1.1.1	1	UNIVER	1			FORMER	5		TRANSP	ORMER	7
1	Y	3.6	1	3	0	3.6	1	1 A	Y	3	3+4	DIMMER	CIRCUIT NUMBER	COLOR	POWER kW	DIMMER CHANNEL	CIRCUIT NUMBER	COLOR	POWER			COLOR	POW
44	R	6 8	7	3 A	0 W	3	3+4	108 113	Y	6 8	12 12	P	1	Y	3.6			11111				1 Contraction of the	kV
98 103	Y	6	9	47	R	6	8	140	R	9	13	a	3	0	3.6	B	60 A	W	3	A	64 A	W	3
				99	0	8	9				1-12-23	ZD	2	G	3.6	D	62 A	W	3	A	64 B	R	3
			1.4.6.2	104	0	6	9	and the second	and the second	The second second	1-240		2		0.0	G	60 D 62 D	W	3	В	41	W	3
				143	R	2	13									1	126	W	3	В	65 A	W	3
D	IMMER C	HANNEL	S	D		HANNEL	Т	D		HANNEL	U	1 Section	TRANSFO	DRMER 2		J	120	W	3	В	65 B	R	3
	1.00110.01		1		A 437994		and a		1.1.1.1.1.1.1	nu nami	1010		-	1.1.1		К	128	G	3	C	42	W	4
UMBER	COLOR	POWER	TRANSF. NUMBER	CIRCUIT	COLOR	POWER kW	TRANSF. NUMBER	CIRCUIT	COLOR	POWER kW	TRANSF. NUMBER	DIMMER		COLOR	POWER	L	60 B	R	3	E	43	W	6
CINDEN	1000	KUU	TTOMDEN	HOMDEN	11 . W. 1			HOMOEII				CHANNEL	NUMBER		kW	L	60 C	G	3	K	45	G	6
23	W	6	7	6	0	5	9	112	W	8	12			141	Athionic	M	60 E	R	3	M	64 C	G	3
22	R	5	3	24	0	6	7	25	R	6	3	D	11	W	15	M	62 C	G	3	P	65 C	G	3
137 55	R W	12	13	30 36	0	5	8	20	W	9	3	F	9	W	10	N	62 B	R	3	S	44 23	R	6
57	W	0.6	6	115	R	10	12	8	124	Va.W	1.0.00	F	12	Y	10	N	60 F	G	3	T	23	W	6
	1. 191		1.1.1.1.1.1	135	W	12	13	1. 10	1. 5%	W	1.0.02	F	10	G	15	0	62 E	R	3	Т	30	0	6
3.64				139	G	9	13	8/	E	1 0	1.13 800	F	13	G	10	0	62 F	G	3	υ	25	B	5
D	IMMER C	HANNEL	V	D	INAMER C	HANNEL	A/	D	IMMER C	HANNEL	X	Q	5	w	15	S	55	W	0.6	V	26	W	0
	INNIVILIN C	TANNEL	•		INNIVIER C	MAININEL			INNIVIER C		^	т	6	0	0.5	ZD	53	W	1.3	W	127	B	5
CIRCUIT	COLOR	POWER	TRANSF.	CIRCUIT	COLOR	POWER	TRANSF.	CIRCUIT	COLOR	POWER	TRANSF.	V	7	R	5	ZE	54	W	0.3	X	31	R	5
UMBER		kW	NUMBER	NUMBER		kW	NUMBER	NUMBER		kW	NUMBER							PASSIA		ZA	28	R	5
26	W	5	7	21	В	5	3	31	R	5	7				1	8.85	A 88	10	10	ZA	29	w	5
7	R	5	2	27	В	5	7	111	W	1	12	T	RANSFOR	MER 2				1 1 1 1					
110 142	R	8	12	33 39	B	5	8	107 32	W	6	12	36.2		invicit J	1	1	RANSFO	RMER 6	- 09		TRANSFOR	MER 8	
14/	G	2	13			n		.37	W	5	8	Parts and some											
	a state of the						1 1 1 1 1 1	02		1 W 1	C call		CIRCUIT	00100	POWER	DIMMER	TIPCINT		DOLLAR				
				109	В	8	12	02		W	0.6.0	CHANNEL N		COLOR		HANNEL		COLOR	POWER	DIMMER	CIRCUIT		POWER
							1 1 1 1 1 1	02		W	0.63	CHANNEL N	IUMBER	COLOR		DIMMER (COLOR		DIMMER CHANNEL I	CIRCUIT NUMBER	COLOR	POWER
1				109 114 136	B B G	8 10 12	12 12 13			W R	0.63		IUMBER 17	COLOR			CIRCUIT JUMBER 69 A	COLOR	kW (CHANNEL	NUMBER	COLOR	
1	IMMER C	HANNEL		109 114 136	B B G	8 10	12 12 13		IMMER CI	W R	0.63	G H	17 18	COLOR	kW C	HANNEL N	UMBER	COLOR W W	kW (DIMMER CHANNEL I C	NUMBER 49	W	kW 4
D		+	Y TRANSF.	109 114 136 DI CIRCUIT	B G MMER CI	8 10 12 HANNEL 2	12 12 13 ZA TRANSF.	DI	MMER CI	HANNEL 2	ZB TRANSM	CHANNEL N	17 18 15	W Y Y	kW C	HANNEL N	OMBER 69 A	W	kW (CHANNEL	49 56	W W	4 1.4
D	IMMER C	+	Y TRANSF.	109 114 136 DI	B B G	8 10 12 HANNEL 2	12 12 13	DI		HANNEL	ZB	G H	17 18 15 19	W Y Y B	kW C 10 10 15 10	B D E	69 A 68 D	W W	kW (CHANNEL I C C C	49 56 64 E	W W W R	4 1.4 3
D		POWER	Y TRANSF.	109 114 136 DI CIRCUIT	B G MMER CI	8 10 12 HANNEL 2	12 12 13 ZA TRANSF.	DI	MMER CI	HANNEL 2	ZB TRANSM	G H	17 18 15 19 16	W Y Y B B	kW C 10 10 15 10 15	B D E	69 A 68 D 68 B	W W R	kW (CHANNEL I C C C D	49 56 64 E 64 D	W W W R W	4 1.4 3 3
D	COLOR	POWER kW	Y TRANSF. NUMBER	109 114 136 DI CIRCUIT NUMBER	B G MMER CH COLOR	8 10 12 HANNEL 2 POWER kW	12 12 13 ZA TRANSF.	DI CIRCUIT NUMBER	MMER CI	HANNEL 2 POWER kW	ZB TRANSM NUMBER	CHANNEL N G H H I J J	17 18 15 19 16 14	W Y Y B B W	kW C 10 15 10 15 15 15	HANNEL N B D E F F G	69 A 68 D 68 B 131	W W R R	kW (3 3 3 3 3	CHANNEL I C C C D D D	A9 56 64 E 64 D 65 E	W W R W R	4 1.4 3 3 3
D CIRCUIT IUMBER 37	COLOR	POWER kW	Y TRANSF. NUMBER 8	109 114 136 DI CIRCUIT NUMBER 28 102 29	B G MMER CH COLOR R W W	8 10 12 HANNEL 2 POWER kW 5	12 12 13 ZA TRANSF. NUMBER 7	DI CIRCUIT NUMBER 34 35 100	MMER CI COLOR R W G	HANNEL 2 POWER kW 5 6 10	ZB TRANSM NUMBER 8 8 9	G H	17 18 15 19 16 14 3 A	W Y Y B B W O	kW C 10 15 10 15 15 15 3	HANNEL N B D E F F G G	69 A 68 D 68 B 131 69 B	W W R R R R	kW (3 3 3 3 3 3	CHANNEL I C C C D	A9 56 64 E 64 D 65 E 46	W W R W R W	4 1.4 3 3 3 6
D CIRCUIT IUMBER 37	COLOR	POWER kW	Y TRANSF. NUMBER 8	109 114 136 DI CIRCUIT NUMBER 28 102	B G MMER CH COLOR R W	8 10 12 HANNEL 2 POWER kW 5 6	12 12 13 ZA TRANSF. NUMBER 7	DI CIRCUIT NUMBER 34 35	MMER CI COLOR R W	HANNEL 2 POWER kW 5 6	ZB TRANSM NUMBER 8 8	CHANNEL N G H H I J Q	17 18 15 19 16 14 3 A 1 A	W Y Y B B W O Y	kW C 10 15 10 15 15 3 3 3	HANNEL N B D E F G G H	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E	W W R R R W	kW (3 3 3 3 3 3	CHANNEL I C C D D E	A9 56 64 E 64 D 65 E 46 65 D	W W R W R W W W	4 1.4 3 3 3 6 3
D CIRCUIT IUMBER 37	COLOR	POWER kW	Y TRANSF. NUMBER 8	109 114 136 DI CIRCUIT NUMBER 28 102 29	B G MMER CH COLOR R W W	8 10 12 HANNEL 2 POWER kW 5 6	12 12 13 ZA TRANSF. NUMBER 7 .9 7	DI CIRCUIT NUMBER 34 35 100	MMER CI COLOR R W G	HANNEL 2 POWER kW 5 6 10	ZB TRANSM NUMBER 8 8 9	CHANNEL N G H H I J Q R	17 18 15 19 16 14 3 A	W Y Y B B W O Y R	kW C 10 15 10 15 15 15 3	HANNEL N B D E F G G H I	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129	W W R R R R W R	kW (3 3 3 3 3 3 3 3 3 3	CHANNEL I C C C D D E G	A9 56 64 E 64 D 65 E 46	W W R W R W W W	4 1.4 3 3 3 6 3 3
D CIRCUIT IUMBER 37	COLOR	POWER kW	Y TRANSF. NUMBER 8	109 114 136 DI CIRCUIT NUMBER 28 102 29	B G MMER CH COLOR R W W	8 10 12 HANNEL 2 POWER kW 5 6	12 12 13 ZA TRANSF. NUMBER 7 .9 7	DI CIRCUIT NUMBER 34 35 100	MMER CI COLOR R W G	HANNEL 2 POWER kW 5 6 10	ZB TRANSM NUMBER 8 8 9	CHANNEL N G H H I J Q R S U	17 18 15 19 16 14 3 A 1 A 22	W Y Y B B B W O Y R W	kW C 10 10 15 10 15 15 15 3 3 5 5 5	HANNEL N B D E F G G H I J	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A	W W R R R W R R R	kW (3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C C D D E G H	A9 56 64 E 64 D 65 E 46 65 D 50	W W R W R W W W G	kW 4 1.4 3 3 6 3 6 3 6
D CIRCUIT IUMBER 37 97	COLOR R W	POWER kW 5 8	Y TRANSF. NUMBER 8 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101	B G MMER CH COLOR R W W W W	8 10 12 HANNEL 2 POWER kW 5 6 5 1	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 9	DI CIRCUIT NUMBER 34 35 100 141	MMER CI COLOR R W G W	HANNEL 2 POWER kW 5 6 10 2	ZB TRANSM NUMBER 8 8 9 13	CHANNEL N G H H I J Q R S U	17 18 15 19 16 14 3 A 1 A 22 20	W Y B B W O Y R W B	kW C 10 15 10 15 15 3 3 5 5 5 5	HANNEL N B D E F G G H I J K	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132	W W R R R W R R W W G	kW (3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K	A9 56 64 E 64 D 65 E 46 65 D 50 48	W W R W R W W W G G	kW 4 1.4 3 3 6 3 6 3 3 6 3
D CIRCUIT IUMBER 37 97	COLOR	POWER kW 5 8	Y TRANSF. NUMBER 8 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101	B G MMER CH COLOR R W W W W	8 10 12 HANNEL 2 POWER kW 5 6	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 9	DI CIRCUIT NUMBER 34 35 100 141	MMER CI COLOR R W G	HANNEL 2 POWER kW 5 6 10 2	ZB TRANSM NUMBER 8 8 9 13	CHANNEL N G H H J J Q R S U W	17 18 15 19 16 14 3 A 1 A 22 20 21	W Y Y B B B W O Y R W	kW C 10 10 15 10 15 15 15 3 3 5 5 5	HANNEL N B D E F G G H I J K L	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C	W W R R R W R R W R R W G G	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N	A9 56 64 E 64 D 65 E 46 65 D 50 48 64 F	W W R W R W W W G	kW 4 1.4 3 3 6 3 6 3 6
D CIRCUIT IUMBER 37 97 97 DI	COLOR R W	POWER kW 5 8	Y TRANSF. NUMBER 8 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI	B B G MMER CH COLOR R W W W W W	8 10 12 HANNEL 2 POWER kW 5 6 5 1	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 9	DI CIRCUIT NUMBER 34 35 100 141 DI	MMER CI COLOR R W G W	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2	ZB TRANSM NUMBER 8 8 9 13	CHANNEL N G H H I J Q R S U W Z E	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A	W Y Y B B W O Y R W B G	kW C 10 15 10 15 15 3 3 5 5 5 5	HANNEL N B D E F G G H I J K L M	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C	W W R R R W R R W R R W G G G G	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O	A9 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F	W W R W R W W G G G	kW 4 1.4 3 3 6 3 6 3 3 6 3
D CIRCUIT IUMBER 37 97 97 DI	COLOR R W	POWER kW 5 8	Y TRANSF. NUMBER 8 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI CIRCUIT	B G MMER CH COLOR R W W W W	8 10 12 HANNEL 2 POWER kW 5 6 5 1	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 9	DI CIRCUIT NUMBER 34 35 100 141 DI CIRCUIT	MMER CI COLOR R W G W	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2 POWER	ZB TRANSM NUMBER 8 8 9 13 13 ZE TRANSE	CHANNEL N G H H I J Q R S U W Z E TR	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A ANSFORM	W Y Y B B W O Y R W B G	kW C 10 15 10 15 15 3 3 5 5 5 5	HANNEL N B D E F G G H I J K L M N	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C 68 F	W W R R R W R R W R R W W G G G G G	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O Q T W	A9 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F 47	W W R W W W W G G G G R	kW 4 1.4 3 3 6 3 6 3 3 6 3
D CIRCUIT IUMBER 37 97 DI DI CIRCUIT IUMBER	COLOR R W MMER CH COLOR	POWER kW 5 8 HANNEL 2 POWER kW	Y TRANSF. NUMBER 8 9 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI CIRCUIT NUMBER	B B G MMER CH COLOR R W W W W W	8 10 12 HANNEL 2 POWER kW 5 6 5 1 1 HANNEL 2 POWER kW	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 9	DI CIRCUIT NUMBER 34 35 100 141 DI CIRCUIT NUMBER	MMER CI COLOR R W G W W MMER CI	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2 POWER kW	ZB TRANSM NUMBER 8 9 13 13	CHANNEL N G H H I J Q R S U W Z E TR	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A ANSFORM	W Y Y B B W O Y R W B G MER 4	kW C 10 10 15 10 15 15 3 3 5 5 5 5 3	HANNEL N B D E F G G H I J K L M N O	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C 68 F 69 F	W W R R R W R R W W G G G G G G	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O Q T W W	A9 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F 47 36	W W R W W W W G G G G R O	kW 4 1.4 3 3 6 3 6 3 6 3 6 5
D CIRCUIT IUMBER 37 97 97 DI CIRCUIT IUMBER 40	COLOR R W	POWER kW 5 8 HANNEL 2 POWER	Y TRANSF. NUMBER 8 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI CIRCUIT	B B G MMER CH COLOR R W W W W W	8 10 12 HANNEL 2 POWER kW 5 6 5 1 1 HANNEL 2 POWER kW 3.6	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 9	DI CIRCUIT NUMBER 34 35 100 141 DI CIRCUIT NUMBER 2 A	MMER CI COLOR R W G W W MMER CI COLOR G	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2 POWER kW 3	ZB TRANSM NUMBER 8 8 9 13 13 ZE TRANSI NUMBER 3 + 4	CHANNEL N G H H I J Q R S U W Z E TR	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A ANSFORM	W Y Y B B W O Y R W B G MER 4	kW C 10 10 15 10 15 15 3 3 5 5 5 5 3 OWER	HANNEL N B D E F G G H I J K L M N O S	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C 68 F 69 F 57	W W R R R W R R W W G G G G G G W	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O Q T W W W X	NUMBER 49 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F 47 36 33	W W W R W W W G G G G R O B	kW 4 1.4 3 3 6 3 6 3 6 3 6 5 5
D CIRCUIT IUMBER 37 97 DI DI CIRCUIT IUMBER	COLOR R W MMER CH COLOR R	POWER kW 5 8 HANNEL 2 POWER kW 6	Y TRANSF. NUMBER 8 9 2 2 C TRANSF. NUMBER 8	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI CIRCUIT NUMBER 2	B B G MMER CH COLOR R W W W W W MMER CH COLOR G	8 10 12 HANNEL 2 POWER kW 5 6 5 1 1 HANNEL 2 POWER kW	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 .9 7 9 2 D TRANSF. NUMBER 1	DI CIRCUIT NUMBER 34 35 100 141 DI CIRCUIT NUMBER	MMER CI COLOR R W G W W MMER CI	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2 POWER kW	ZB TRANSM NUMBER 8 9 13 13	CHANNEL N G H H I J Q R S U W Z E TR DIMMER CIM CIM CIM CIM CIM CIM CIM CIM CIM CIM	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A ANSFORM RCUIT MBER CO	W Y Y B B W O Y R W B G MER 4	kW C 10 10 15 10 15 3 5 5 5 3 OWER kW	HANNEL N B D E F G G H I J K L M N O S ZD	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C 68 F 69 F 57 59	W W R R R W R R W W G G G G G G G W W	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O Q T W W W X Y	NUMBER 49 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F 47 36 33 39	W W W R W W W G G G G R O B B	kW 4 1.4 3 3 6 3 6 3 6 3 6 5 5
D CIRCUIT NUMBER 37 97 97 DI CIRCUIT NUMBER 40 38	COLOR R W MMER CH COLOR R W	POWER kW 5 8 HANNEL 2 POWER kW 6 6	Y TRANSF. NUMBER 8 9 9 2C TRANSF. NUMBER 8 8 8	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI CIRCUIT NUMBER 2 53	B B G MMER CH COLOR R W W W W W MMER CH COLOR G W	8 10 12 HANNEL 2 POWER kW 5 6 5 1 1 HANNEL 2 POWER kW 3.6 1.3	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 .9 7 .9 7 .9 7 .9 7 .9 7	DI CIRCUIT NUMBER 34 35 100 141 DI CIRCUIT NUMBER 2 A 54	MMER CI COLOR R W G W W MMER CI COLOR G W	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2 POWER kW 3 0.3	ZB TRANSM NUMBER 8 8 9 13 13 ZE TRANSE NUMBER 3 + 4 5	CHANNEL N G H H I J Q R S U W Z E TR DIMMER CIF CHANNEL NU Q 3	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A ANSFORM RCUIT MBER CO A B	W Y Y B B W O Y R W B G MER 4 DLOR PC	kW C 10 10 15 10 15 3 5 5 5 3 OWER kW	HANNEL N B D E F G G H I J K L M N O S ZD	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C 68 F 69 F 57	W W R R R W R R W W G G G G G G W	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O Q T W W W X Y ZB	NUMBER 49 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F 47 36 33 39 32 37 34	COLOR W W R W W W G G G G G R O B B W	kW 4 1.4 3 3 6 3 6 3 6 3 6 5 5
D CIRCUIT NUMBER 37 97 97 DI CIRCUIT NUMBER 40 38 105	COLOR R W MMER CH COLOR R W G	POWER kW 5 8 HANNEL 2 POWER kW 6 6 8	Y TRANSF. NUMBER 8 9 9 2C TRANSF. NUMBER 8 8 8 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI CIRCUIT NUMBER 2 53	B B G MMER CH COLOR R W W W W W MMER CH COLOR G W	8 10 12 HANNEL 2 POWER kW 5 6 5 1 1 HANNEL 2 POWER kW 3.6 1.3	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 9 8 ZD TRANSF. NUMBER 1 5 6	DI CIRCUIT NUMBER 34 35 100 141 DI CIRCUIT NUMBER 2 A 54	MMER CI COLOR R W G W W MMER CI COLOR G W	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2 POWER kW 3 0.3	ZB TRANSM NUMBER 8 8 9 13 13 ZE TRANSE NUMBER 3 + 4 5	CHANNEL N G H H I J Q R S U W Z E TR DIMMER CIF CHANNEL NU Q 3 R 1	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A ANSFORM RCUIT MBER CC A B A B	W Y Y B B W O Y R W B G MER 4 DLOR PC	kW C 10 10 15 10 15 3 5 5 5 3 OWER kW	HANNEL N B D E F G G H I J K L M N O S ZD	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C 68 F 69 F 57 59	W W R R R W R R W W G G G G G G G W W	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O Q T W W W X Y ZB ZB	NUMBER 49 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F 47 36 33 39 32 37 34 35	COLOR W W R W W W W G G G G G G R O B B W R	kW 4 1.4 3 3 6 3 6 3 6 3 6 5 5
D CIRCUIT NUMBER 37 97 DI CIRCUIT NUMBER 40 38 105	COLOR R W MMER CH COLOR R W G	POWER kW 5 8 HANNEL 2 POWER kW 6 6 8	Y TRANSF. NUMBER 8 9 9 2C TRANSF. NUMBER 8 8 8 9	109 114 136 DI CIRCUIT NUMBER 28 102 29 101 DI CIRCUIT NUMBER 2 53	B B G MMER CH COLOR R W W W W W MMER CH COLOR G W	8 10 12 HANNEL 2 POWER kW 5 6 5 1 1 HANNEL 2 POWER kW 3.6 1.3	12 12 13 ZA TRANSF. NUMBER 7 .9 7 .9 7 .9 7 .9 7 .9 7 .9 7 .9 7	DI CIRCUIT NUMBER 34 35 100 141 DI CIRCUIT NUMBER 2 A 54	MMER CI COLOR R W G W W MMER CI COLOR G W	HANNEL 2 POWER kW 5 6 10 2 HANNEL 2 POWER kW 3 0.3	ZB TRANSM NUMBER 8 8 9 13 13 ZE TRANSE NUMBER 3 + 4 5	CHANNEL N G H H I J Q R S U W Z E TR DIMMER CIF CHANNEL NU Q 3 R 1	17 18 15 19 16 14 3 A 1 A 22 20 21 2 A ANSFORM RCUIT MBER CC A B A B	W Y Y B B W O Y R W B G MER 4 DLOR PC	kW C 10 10 15 10 15 3 5 5 5 3 OWER kW	HANNEL N B D E F G G H I J K L M N O S ZD	69 A 68 D 68 B 131 69 B 69 D 68 E 69 E 129 68 A 132 68 C 69 C 68 F 69 F 57 59	W W R R R W R R W R R W W G G G G G G G	kW (3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	CHANNEL I C C D D E G H K N O Q T W W W X Y ZB	NUMBER 49 56 64 E 64 D 65 E 46 65 D 50 48 64 F 65 F 47 36 33 39 32 37 34 35 40	COLOR W W R W W W G G G G G R O B B W R R	4 1.4 3 3 6 3 6 3 6 3 6 5 5

DISTRIBUTION OF DIMMERS CONNECTED TO SPECIFIC CHANNELS ON EACH TRANSFORMER (continued)

	TRANSFO	RMER 9			TRANSFO	RMER 12	2	TRANSFORMER 13					
DIMMER CHANNEL	CIRCUIT NUMBER	COLOR	POWER kW	DIMMER CHANNEL	CIRCUIT NUMBER	COLOR	POWER kW	DIMMER CHANNEL	CIRCUIT NUMBER	COLOR	POWER kW		
Р	98	Y	8	R	108	Y	6	0	143	R	2		
Р	103	Y	6	R	113	Y	8	R	140	R	9		
Q	99	0	6 8	Т	115	R	10	S	137	R	12		
Q	104	0	6	U	112	W	8	T	139	G	9		
Y	97	W	8	V	110	R	8	T	135	W	12		
ZA	102	W	6	W	109	В	8	V	142	G	2		
ZA	101	W	1	W	114	В	10	W	136	G	12		
ZB	100	G	10	X	111	W	1	ZB	141	W	2		
ZC	100	G	8	X	107	W	6	ZC	138	W	9		

TRANSFORMERS 10 AND 11 : No dimmers, only contactors for direct circuits.

DISTRIBUTION OF DIRECT CIRCUITS ON EACH TRANSFORMER

					TR	ANSFO	RMER	NUMBE	RS				
	1	2	3	4	5	6	7	8	9	10	11	12	13
S	4			4 A	61	67	66 A	66 B	90	116	120	94	133
IRCUIT	51			52	63	70	75	81	91	117	121	95	134
CIRCUIT		aMaoae			80	82	76	AT P	92	118	122	96	144
NUI									93	119	123	106 B	145
2		1		manar	Prevent		1 maine	IS TRAKE	106 A	124	125	nilonio I	

DIRECT CIRCUITS ON THE MULTIPLEX SYSTEM 71, 72, 73, 74, 77, 78, 79, 83, 84, 85, 86, 87, 88, 89

TRANSFORMER LOCATIONS

TRANSF. NUMBER	LOCATION	TRANSF. NUMBER	LOCATION
1	ON GROUND, SOUTH SIDE OF CAPITOL	8	IN CONTROL ROOM, NORTH SIDE
2	ON GROUND, S.E. SIDE OF CAPITOL	9	ON ROOF, S.E. SIDE
3	ON GROUND, N.E. SIDE OF CAPITOL	10	ON ROOF, S.W. SIDE
4	ON GROUND, NORTH SIDE OF CAPITOL	11	ON ROOF, N.W. SIDE
5	BASEMENT, UNDER HOUSE WING STEPS	12	ON ROOF, N.E. SIDE
6	BASEMENT, UNDER SENATE WING STEPS	13	INSIDE SECTION "B" OF DOME
7	IN CONTROL ROOM, SOUTH SIDE		

SUMMARY OF TOTAL ESTIMATED CABLE FOOTAGE REQUIRED, BY SIZE AND PRICES PER 1000 ft. 10,000 ft. at \$ 65,60/M \$ £ 75,00

A. LIGHTING CIRCUITS

WIRE SIZE AWG	TOTAL ESTIMA THW	ATED FOOTAGE RR	PRICE PE THW	R 1000 FT. RR	TOTAL ESTI THW	MATED COST RR
12	10,000		\$ 48.10	\$ 87.34	\$ 481.00	¢
10	5,635	10,465	88.72	126.77	499.94	
8	19,985	37,115	135.31	187.37	2,704.17	1,326.65
6	8,155	15,145	203.81	254.77	1,662.07	6,954.24
4	23,870	44,330	305.71	397.04	7.297.30	3,858.49
2	8,820	16,380	469.21	607.47	4.138.43	17,600.78
1	560	1,040	613.70	805.06	4.138.43	9,950.36
000	1,680	3,120	1,165.91	1,433.76	1,958.73	837.26
0000	105	195	1,443.70	1,574.54		4,473.33
500 MCM	140	260	3,358.01	4,332.81	151.59 470.12	307.04 1,126.53
					\$ 19,707.02	\$ 46,434,68

ESTIMATED PRICE SCHEDULE OF FIXTURES AND ACCESSORIES REQUIRED FOR INSTALLATION

104 200	\$ 16.00 16.00	\$ 1,664.00
643 120 48 16 62 24	70.15 4.89 27.20 33.53 16.51 52.65	3,200.00 45,106.45 586.80 1,305.60 536.48 1,023.62 1,263.60 585.00
	48 16 62	48 27.20 16 33.53 62 16.51 24 52.65

FIXTURE MOUNTING HARDWARE AND ACCESSORIES :

These consist of all glare shields, troughs, nipples, slipfitters, steel grids, etc. necessary for proper equipping and mounting of fixtures on conduit.

An exact figure for these items can be established only at the time of definitive engineering study. Preliminary pricing information gathered to date allows us to estimate the total costs for these items at approximately

The above information is based on prices prevailing as of 9-20-74.

\$ 55,271.55

B. MULTIPLEX CABLE

the second se		10,000 ft.	at \$ 65.60/M	\$ 656.00	
Two conductor shielded data transmission cable Remote device control cable, 2 conductor, AWG.22	:		at \$ 35.90/M	\$ 359.00	

C. LOUDSPEAKER CABLE

Two conductor twisted, AWG.12,

3,000 ft. at \$ 189.30/M \$ 567.90

SCHEDULE OF LAMPS REQUIRED FOR INSTALLATION

LAMP TYPE	CAT. NUMBER	QUANTITY	UNIT. PRICE	TOTAL
Q 1000 PAR64 Q 1500 T3/CL Q 500 T3/CL 300 PAR56 150 PAR 38	G.E. 23764 G.E. 23830 G.E. 23731 G.E. 20836 G.E. 39182	647 16 48 62 120 8	\$ 19.15 10.45 7.50 4.30 1.55 12.05	\$ 12,390.05 167.20 360.00 266.60 186.00 96.40
Q 500/CL 500 PAR64	G.E. 39409 & G.E. 39406	6 16	9.65	154.40
120 PAR SPECIAL TYPE to be determined	G.E. 39395	2 3	8.40 20.00 (estim.)	16.80 60.00

2) Sound circuits

Contrary to the lights which normally surround the visible space used for the show, the Sound columns, constructed to project good quality sound exclusively at the audience area, will practically encircle the audience.

The basic sounds, recorded on four tracks of the tape, also program the lights. Sound is distributed to the sound columns, eight in all. In some cases sound coming from the same angle as a light effect gives the impression that the sound comes from a lighted point. A "screen of sound" gives an impression of mood.

Combinations of travelling sound, of sound source dialogue, make Son et Lumiere sound effects more effective than movie or theater sound.

Since the sound tape is virtually the basis of the message, and the starting point for the spectator's imagination, the quality of the tape, not only in the words spoken, the background music, and the effects, is of prime importance.

A preliminary set-up of the sound columns is shown on the attached plans. It will be adjusted on the site itself. Equipment in this respect is not so heavy as with lights. Perfect adaptation to obtain

the desired results is required. Modification to suit on the spot acoustics is essential.

3) Control equipment

Since it is obvious that the show is installed definitively and will not require amendments for years, the installation should be conceived for perfectly accurate "push-button" operation.

This control equipment is the heart of the entire system. The quality and effectiveness of the show depends entirely on it. There are no other effects than sound and light. The impact of the show depends on the quality of the played tape.

Control equipment has to be absolutely reliable, capable of compensating for variations in light intensity, and capable, during the staging phase, of capturing a fleeting effect and repeating it forever.

It therefore requires no qualified engineer in the control room. He could not correct any defect during the show, he could only start again after doing some repair job.

As can be readily understood, the specific effects needed and the special implications of staging mean that this equipment must be original in design.

In the case of the Capitol, the basic "memory" and drive elements will be located in a central control room described later. After a careful preliminary project coordination by ECA New-York associates, Sound and Light Productions Inc., conducted with the team of the Architect in charge of the Capitol, it was determined that thirteen different sub-stations will be connected to this central control room by means of telephone cables. Each sub-station will be near an existing transformer, or to a new one installed for the specific purpose of the Son et Lumiere.

The location of each transformer and sub-station is shown on a separate drawing. Each comprises a panel with dimmers and relays distributing power directly to the circuits. (See lower).

Transformers 1, 4, 7, 8 already exist. Only to be added are the panels with dimmers and relays, and the air conditioning system. In the case of 1 and 4 a special small room is needed underground.

Transformers 2, 3, 5, 6, 9, 11, 12, 13 have to be purchased and installed, together with panels and air-conditioning. (The vital thing is to keep the air dry).

An operator is required only in the central control room, just to push a button to start each performance. The electronic elements give him information to allow replacement of any nonfunctional system. Repair can be made without interrupting the performance. The sub-stations are really air conditioned shelters to protect enclosed solid state circuits.

A room under the center stairs of the east face of the Capitol could be converted into a satisfactory control room.

The space under the stairs has been used during inauguration as a telephone, power and lighting distribution center for TV control. It would only need some air conditioning, and there is space which is readily accessible for operating personnel and for cable run terminations.

On either side of the door there is a 10 ft. open wall space, at least 7 ft. high. There is an arched ceiling, and the working width of the room is about 7.1/2 ft. Cable runs from the Senate Wing TV lighting system have brought cable into this room through large under-the-floor conduits, and so it is to be assumed that this same approach could be taken for Son et Lumiere feed and control cables.

The room seems to provide sufficient space for termination panels and racks containing tape recorders, amplifiers, monitor speakers and some dimmers (assuming that most of the dimmers will be closer to their light clusters and that control will be through some form of multiplex system).

A final sub-station will be planned for the multiplex system handling the "in-out" circuits for indoor lighting (windows).

4) Choice of location for central control room









ations



5) Column speakers

It is proposed that speakers will rise from underground positions. The rising agents will be mechanical screw jacks with small electric motors and, although requiring a few minutes to rise to full height, they will be brought into position during pre-set time for each show.

Cylindrical wells, provided with adequate drainage, at designated speaker locations, will be covered by manhole covers by day, and since speaker locations are primarily in the parking mall, this construction should pose no esthetic problem. Manhole covers are already established for various access purposes in that parking and driving area.

Design specifics and engineering details will be provided in a subsequent Engineering Design Report.

6) Specific solutions for the lighting installation at the Capitol

New problems are posed on a scale not encountered in Son et Lumiere. The majesty of the site requires a bigger light installation than has previously been realized... over 200 light circuits with distinct controls for each. Ancient historical monuments like the Acropolis or Persepolis are ruins visited by tourists. Such sites must always be treated with the utmost respect, just like the Capitol. But they present no danger of interference with existing complex installations, such as conduits, electric wiring, heating systems etc. In the case of the Capitol the cost of laying equipment underground would be prohibitive.

Another problem is that large scale installations as planned should not be noticeable during daytime. Mr George White, the Architect of the Capitol, made a precise statement on this point right from the outset :

"Technically it would mean some changes to the buildings and grounds, necessary to accomplish

(Hearing before the Subcommittee on Public Buildings and Grounds).

We may note in passing that the floodlights we were using in Europe more than fifteen years ago were larger than those we now have. While we always sought and generally found solutions to conceal them during daytime, in some locations the architects refused to let us bury them, fearing that we might destroy undetected ruins by digging. This would obviously not be the case for the Capitol.

These problems as a whole led us to the decision to separate power distribution into thirteen distinct points, linked through remote control, and controlling all indoor circuits through a remote multiplex system. This avoids high cable cost, as well as digging and street works.

On and inside the monument itself, after discussions with Mr White's team, a solution to wiring was finally found. It scrupulously preserves the integrity and appearance of the Capitol. The attached plans and descriptions present these final solutions, not the various stages by which we reached them.

T DESK

sound and light features. It was my statement to Congressman Schwengel that any lighting that would be installed, any seating that was necessary, or any control room and electrical apparatus that would be required would have to be installed in such a way as to be completely concealed, especially in the daytime, so that the appearance of the Capitol to the tourists during the day would not be altered in any way."

"This requirement may involve such things as disappearing lights, perhaps on telescoping poles, bleachers that would be collapsible and disappearing, or else assembled for each performance. These and other technical features would have to be carefully considered."

Detailed choice for wiring, connections, fixtures etc. is shown as a guide for the submission of tenders. Some of the engineering and application design will only be undertaken once the show is ordered, and when the budget is available.

TECHNICAL TREATMENT

II. - Planning the Production

Once the Project Study is complete, all technical

aspects of the show are known and costs are estimated.

As soon as the show is ordered, precise design of engineering installation works will be undertaken. This will allow files to be established for bids.

We require about one month for this work. The cost is generally between 10 % and 14 % of the total cost of the installation. This expense, which obviously could not be included in the Project Study, should therefore be estimated at around \$ 500,000.

To save time the order for this work can be placed immediately. Its basic elements are stated in the attached documents. Further information will of course be supplied on request.

Tenders should be asked for regarding installation (contractor's work, wiring, fixtures, spotlights, etc.) and regarding the grandstand and extra accommodations (side-sales, etc.).

This will require $1.\frac{1}{2}$ to 3 months.

The various works will be undertaken simultaneously - the time required for the Contractor's work being the longest one, gives us the minimum total time required. We assume that the shortest time needed for the grandstand and installation will be about 7 months in ideal circumstances.

After that control equipment, connections and the installation have to be tested. This requires a minimum of one month.

Adjustments and finalizing of fixtures, spotlights, loudspeakers will take about two weeks. Recording and on-the-spot staging : three weeks. Last minute touches : one week.

Provided no unforeseen delays intervene, the total time needed from start to completion of the show is 12 months minimum. We suggest adding a month for leeway. This means that the "go ahead" should be given before the end of January 1975 for effective completion in March 1976.

TECHNICAL TREATMENT

III. – Operation rules and maintenance

Operation rules are simple from the technical point of view.

Two operators are normally needed : one on duty in the control room, and the other in case of emergency.

Since the control unit is on a push button system, the operator need have no knowledge of electronics. Students are suitable.

Operation is as follows :

Half an hour before the first performance the operator switches on the power. He carries out a brief check. At performance time he pushes a button. At the end of performance the unit turns itself off.

The tape is then rewound and thus ready for the next performance.

Maintenance and regular checks are also simple. Burned out bulbs and blown fuses are easily detected. The operator is trained to replace them. If there is a real difficulty he calls the contractor. Regarding electronic elements replacement is simple. Any defect can be fixed on the spot, or the part mailed to the manufacturer or specialist.

From our experience no intervention is needed, provided that once yearly the whole equipment is checked under a maintenance contract by the manufacturer or his representative.

Instructions will be given so that he can cope with any performance defects arising. The equipment itself shows the anomaly. All he has to do is throw a switch, change a part, or replace a plug.

Our light and sound effects are set up to be perceived from the audience area. Whether there will be seating or not is an open question. Our experience leads us to believe that the result is better where seating is provided... especially where audiences are likely to be large, as is the case with the Capitol.

Audiences are more receptive when they are comfortable. Standing blocks the view of those behind. And moving is an inconvenience. If the audience is not on tiered rows the same inconvenience occurs. There should be nothing to distract the audience's view of the monument.

Audiences should be in place before the show

I. – General Rules

starts. Since the show lasts about thirty minutes, late arrivals should be held for the next performance.

Checking tickets implies one-way admission. (See Part D : Operation of the Show.) The exist must be elsewhere. This involves parking and bus station problems, integration of side-sales installations. Such locations should be chosen to avoid disturbing audiences.

Audiences must be channeled in and out if no seats are provided. Policemen or guards need to be placed to discourage "wanderers". A solution to traffic problems should be sought in collaboration with the police. Organization must be such as to preserve the dignity of an exceptional evening.

AUDIENCE ACCOMMODATION AND ADMISSION

II. - Audience space - Without seats

If the audience is standing, the space occupied is the same as in the Grandstand plan. The area should be clearly defined by barriers or ropes. For in and out access these barriers may be merely ropes or small poles. But the audience area barriers must be strong to resist pressure. They should preferably be implanted in the ground.

Since large audiences are expected, parallel rows of barriers should be placed in front of the Capitol for security purposes. The first row of spectators will probably lean on these barriers, and children will try to climb them. A standing audience would lead to significant barrier handling and the need for a number of guards.

Annex facilities such as rest-rooms, first-aid, are the same whether the audience is sitting or standing.

If the audience is standing, seats should be provided for handicapped or elderly people, and perhaps for official guests. This space should be carefully watched to prevent intrusion.

It is our opinion that a standing audience is a last resort which, if chosen, would considerably increase the operating expenses of the show, in comparison with a built-in grandstand.

AUDIENCE ACCOMMODATION AND ADMISSION

III. - Four solutions to the grandstand seating

A proposal for audience seating accommodations for 3000-4000 persons sets the requirements for audience space in the center of the mall facing the east side of the Capitol.

Space required to seat 3000 people may arbitrarily be set at 18.000 square feet, allowing 6 sq. ft. per person for comfortable seating and for seat access.

Bleacher type seating could reduce that space to as low as 4 sq. ft. per person, but since space is available to provide satisfactory viewing for this type of spectacle at the location, and since the grandstand could be used for other important functions to be held on and around the central staircase of the east face of the Capitol, it has been decided to base this seating study on the use of chair type seats, providing greater comfort and seat accessibility for this permanent installation.

The requirements of the Capitol Architects' Office, that there be no evidence of a grandstand during the day and, further, that no present installations (such as sidewalks, statues, parking areas, book tunnels, heat tunnels or other facilities) be disturbed, have presented the limitations that have led to our studies of the problem.

Seating for a Sound & Light Show on the East front of the Capitol Building has been studied from a number of different approaches.

The following is a report on several systems, the first two of which seem to be less feasible than the variations of a portable grandstand which are

Three of suggested stands provide for removable seating sections, which must be set up before each performance, taken down after each such session and stored until next required. Seating sections are of a size that two men could handle the moving and erection of each section of seats. (Experience with similar seating arrangements in gymnasiums and auditoriums has established that about 20 minutes are required for each section.)

In this study, platform stages are proposed which will be located within the paved parking area. During the day, these asphalt paved sections,

herein recommended (para. 3 or 4).

All systems have been studied as if being located in the parking-driving area close to sidewalks and green mall of the East Side of the Capitol Building. An area roughly $60^{\circ} \times 240^{\circ}$ will serve to contain all systems for the seating of up to 4000 persons, with the front row approximately 190 feet from the steps of the Capitol Building.

The suggested grandstands, or variations of them, could provide adequate seating for the stated number of people, with good sight lines and visibility from every seat for viewing the spectacle on the entire face of the Capitol, or other activities on the central steps and adjacent areas.

1) Rising stage sections in parking area with "fold away" seating

bounded by steel bands, will be in place as parking surface, and will be engineered to support such heavy traffic as sightseeing busloads of people which may circle the parking area. During performance, these stages will be elevated to their required heights by motorized mechanical jack screws. The mechanisms, of which there will be at least four per stage section, will consist primarily of a single bored shaft of sufficient depth for each screw to lift to its required height, its bearing mechanism, and its motorized drive unit.

All of the above can be recessed within the approximate three feet of depth available above steam tunnel supports and posts can be spaced and located so as not to interfere with other permanent underground installations.

There will be three rows of staging sections. The front row will be at ground level, and the middle and rear rows will rise out of the ground.

The middle row will rise to a height of 7.1/2 ft., and the rear row will rise to a height of 15 ft. above ground level.

Each row will be comprised of eight 30 ft. long by 20 ft. deep staging sections.

During other than show time these three sections will, of course, form one flat, uniform ground level surface as part of the parking plaza.

Portable, foldable seating sections will be unloaded from storage trailers at set-up time and positioned onto all staging sections, prior to raising the middle and rear staging rows.

When erected, seating units will be eight rows high (i.e. $7.\frac{1}{2}$ ft. high) and in 30 ft. wide sections. They will each fill one stage section. Fourteen persons will be accommodated across the rows of each section with two adequate aisle spaces between. Each seating section will accommodate 112 persons. Twenty-four sections will seat a total of 2,688 persons. Bleacher seating, instead of chairs would seat 3,225 in the same space.

When portable seating sections are in place, electric motors will raise the two elevated staging rows, and this will then comprise one continuous sloping granstand.

At the end of the show, a reverse procedure will bring the entire staging to ground level, and seating sections will be folded and re-loaded into the storage trailers, which will be driven to suitable parking/storage facilities.

The rising stage section would consist of sixteen rising sections, each $20' \times 30'$, raised by mechanical jack screws operated by electric motors. Eight additional flat areas $20' \times 30'$ would be reserved in front of the double row of four rising stage sections.

A standard seating section of the folding and roll-away type would be provided for each stage area (24 total) and would be stored, two to a 40' flat-bed trailer, unloaded and set-up on their stage areas before being raised into position for a total grandstand arrangement.

The cost of rising platforms has been estimated at \$ 1,500,000. Fold-Away Seating for the rising platforms would cost approximately \$ 403,200 additional/or, Accuroll seating for the rising platforms would cost approximately \$ 469,180 additional.

2) Rising triangular section stand with open bleacher type seating on surface

Although a rising-triangular section of street, which becomes bleacher seating, is practical from a design standpoint, it is not considered practical from a construction viewpoint. It would cost at least \$ 2,500,000 to accomplish seating for 4000 persons and they would be sitting on sections that served during the day as street and parking area surface, which means that it would have to be scrubbed at least before each use.

The mechanics of such a concept are rather complicated, and although it would create a unique answer to the seating problem, we do not pursue at this time the consideration of this idea any further.

3) Accuroll bleacher seating

Because of the relatively inexpensive cost, and the general usefulness of bleacher seating for a total program confined to half an hour, we are recommending "Accuroll" Bleacher Seating provided by American Seating Co. of Grand Rapids, Michigan.

In the designated location, a space of $36' \times 240'$ would be used. Twelve 20' long sections, 20 rows high would be accommodated. Each section would seat 260 for a total of 3120 persons.

Cost of such a bleacher complement would be \$ 110,000.

Following are specifications for such seating : Accuroll Seating shall be manufactured by Universal Bleacher Company of Champaign Illinois. Seating shall be delivered and installed in following quantities : 12 sections, 20 feet long, 20 rows high, movable type.

Row spacing shall be 22". Height of seatboard above platform level shall be 18" for adult comfort, rise per row shall be $10^{1/2}$ ". (Because of unique construction there shall be 25" front to back footroom).

Accuroll Bleachers shall be designed to support a minimum live load of 100 lbs. per square feet of horizontal projection for the bleacher as a whole. Seatboard and platform shall be designed to support a live load of 120 lbs./lineal foot. The bleacher shall support a sway force applied to the seats of 24 lbs./ lineal foot parallel to the seats, and 10 lbs/lineal foot perpendicular to the seats per National Fire Protection Association, Association Standard 102, Section 4, entitled "Folding and Telescoping Seating, current Edition. "

Under above loads, stresses in steel shall conform to American Institute of Steel Construction. Stresses in wood shall not exceed those recommended by the U.S. Forest Products Laboratory. The design shall allow for stability against overturning during normal operation and also when in a closed position.

Aisles shall be 36" wide at footrest level. Each section shall have a self-contained operating handle recessed under the second row footrest. The handle shall allow one or more operators to open or close each individual section from an upright position.

As a more expensive alternate to bleacher seating we have also considered American Seating Company's "Fold-Away Seating System". This system provides upholstered or stadium type seats, riser-mounted. Seats fold down; and sections telescope together forming a 7'-6" \times 14'-3" \times 16'-6" high package which could also be placed on flat-bed trailers for removal from the area and stored. Each section requires about 20 minutes for setup of supports and chairs excluding delivery and unloading of trailer sections (indicated below) would require $5.\frac{3}{4}$ hours setup by two men, or an hour and a half for a ten man crew.

In the space available American Seating has proposed 17 movable manually operated 14'-3" sections of 20 rows each (17 × 14'-3" = 242'-3" + 16" for joints for a total of 243'-7"). The open depths are 55'-3" (closed depth with enveloped seating is 7'-6"). Units would be provided with adaptors forklift truck.

End Rails shall be of removable type, with top and intermediate rails of pipe, and shall be constructed for folding and storage.

Rear Rails shall be removable steel stanchions and wood rails. Sections of bleachers shall be adapted so that they can be easily moved when folded. A pair (or several pairs) of hydraulic trucks shall be provided and shall be interchangeable on all moveable sections. Space shall be provided for fork-lift handling of sections. Each section will weigh approximately 10.000 lbs. A flat-bed trailer of 40' will accommodate two sections. Setup time for each section is about 15 minutes for two men. Six men could set up total bleacher section in one hour excluding delivery and unloading of trailers.

4) Fold-Away folding individual Seating

The aisles would be retractable and integral to the platform. Units will be 16 1/2' high (19 rows at 9 1/2" riser and one row at 12" rise). The tread depth will be 33" with the last row 36". The plastic chair N° 434 mounts in the lower $5\frac{1}{2}$ of the riser. The capacity of the chair platforms is 118 seats per

row \times 20 rows = 2.260 total, plus two rows of Acton chairs ganged together at ground level for a total of 2.496.

The total weight of each section, 20 rows high is 10,500 lbs. Two of these sections could be secured to a 40' flat-bed trailer.

accommodate two sections, being time for each

The wheel load capacity is 750 lbs. Wheels would be 4" diameter with a 1" face.

A plywood apron of 5/8 will be sufficient to carry the load on the existing asphalt pavement. Budget pricing for chair platforms as detailed, delivered and installed is \$ 700,000.00.



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This show at the United States Capitol will unquestionably be the highlight, the foremost event of the 1976 Bicentennial Celebration. As such, it should be inaugurated in the most official and significant manner.

Consequently, this inaugural should mark the official opening of the Bicentennial Year and should not only be a national but also an international occasion, and the President of the United States should invite the sovereigns and heads of states of all countries making it a solemn world event.

The date of this inaugural should be set as early as possible in 1976 (March or April). Since there will be millions of people coming to Washington in 1976, the earlier the show is in operation the better, permitting more visitors to see it. Furthermore, the 1976 Bicentennial Year will be "saturated" with so

OPERATION OF THE SHOW

I. – Inaugural

many festivities both in the Washington area and all over the country that a later date of inaugural would "dilute" and detract attention from the Capitol.

Consequently, being the first in importance, the Sound and Light show at the Capitol justifiably deserves to be the first in date.

The accommodation capacity of 3,000 persons will permit the President of the United States to invite at the inaugural the sovereigns and heads of states of all countries; the Members of Congress, of the Supreme Court; Governors of all the States of the Union, etc., and the diplomatic corps.

This inaugural can have a tremendous impact on the world by being televised by satellite.

II. – Seat allocation

The seating capacity will be of 3,000 persons. There will be a minimum of three nightly performances in June and July and up to six in the other months. The duration of each performance will be around 30 minutes.

A ticket center should be created in the Capitol area and be open daily between 9 a.m. and 5 p.m. People will be able to obtain tickets for a performance on the same day, this on a first-in/first-served basis.

Also, a special quota of tickets will be allocated to Congressmen and Senators for distribution to their guests and visitors from their states. These people will not have to queue up at the ticket center.

All the people with tickets will have to be at their seats 10 minutes before the scheduled performance starts.

For each performance, a special line will be established near the entrance to the show so that, on a "stand-by" basis, people who have not had time or opportunity to get tickets in advance, can be admitted to seats which are unoccupied 10 minutes before the beginning of the performance.

All tickets should stipulate that they will be honored only until 10 minutes before the beginning of the performance they are issued for.

The creation of the ticket center is absolutely necessary to avoid the following :

- (a) Since there is no charge for admission to the show and if people have stood in line in the daytime to have tickets for the same evening, for psychological reasons there will be a lesser quantity of "no-shows", a fact which is often inevitable when admission is free.
- (b) If there were no ticket center, too many people would stand in line in the evening for admission to one of the performances with less chances of securing admission and thus having their evening eventually jeopardized.
- (c) Furthermore, this massive lining-up would be a handicap to the fluidity of the accesss to the show.

ANNEXED DOCUMENTS

I. - Elements of information on Son et Lumiere

A - INFORMATION SUBMITTED BY E.C.A. - SEPTEMBER 1973 :

THE PROJECT STUDY

The project study is presented under form of a rather voluminous printed document which includes drawings, plans, pictures, etc.

It mainly involves :

- * the full technical study which determines the potentials of expression;
- the full artistic study which is a synthesis of the given elements of the show as imposed on us by the monument itself, by history, and by the message emanating from the country*,
- the full operational study : promotion and economical aspects.

These three phases are detailed hereunder.

Such a study implies a certain time being spent gathering all of the information and elements required to do the work, meeting with persons concerned locally with the realization of the show, and creating the necessary "state of mind" and psychological climate which leads to successful team-work.

The dual purpose is to guide in a very precise and demanding way the development of the scenesletting, at the same time, the country and its representatives express themselves.

The three main chapters of the project study are as follows :

- 1. TECHNICAL STUDY : this is where everything starts. It is the determining selection materially, and at the same time the adaptation to a given site of fluctuating elements. It does not only include selection of sound and light sources, their location, their function, location of the control room, and wiring constraints; but it also brings solution to all subordinate problems such as accommodation of the public, access to the site, etc. This takes into account that, by all means, the site and its environment should be preserved and respected.
- 2. ARTISTIC STUDY. This is chiefly the technical story outline of the show which determines in advance its definition. Such a story outline is a synthesis of the three factors which generate the "message" necessary to create the form of expression. These three factors are :
 - THE NATURAL ENVIRONMENT OF THE SITE. Analysis of this environment is the first step in the creation work - as is the contemplation by the painter of what he will transpose on the canvas.
 - STUDY OF THE POSSIBILITIES OF **EVOCATION AND STAGE EFFECTS as** can afford jointly the technical installation and the site. It is a similar adaptation to that which a stage director has to face when he takes over a new theater. He has to work with the possibilities of what he is given and extract the gist of it.

* HISTORY, or the events which occurred there; how they are imbricated with the history of the country; history of people who have lived there, i.e., characteristics and features of a particular country, its qualities and weaknesses, all that should be tactfully mingled in the whole picture.

Such a method, obviously linked principally to the site, excludes the conventional adaptation of a given script, as would be the case for the cinema or the theater.

The three phases of this artistic study to be performed by the stage director always develop in full cooperation with the local personalities involved. There will be close involvement with historians and memorialists, as indicated below, and any other specialists who can give, at the outset, a synopsis of the events in question, or a summary of their own feeling and knowledge and what can be retained therefrom.

Such information, which should not be dramatized at this first stage, is in no way the sketch of what the show itself will be and which can only be expressed through the technical story outline.

This story outline will, for instance. determine what the sound and light effects will be; how long each sequence will last; where music should interfere; and what sound documents will be used. It will also propose the general style of presentation of the show. It is the most important part of the staging which is thus announced - just as it is for the cinema also - and can, therefore, only be conceived by a specialist.

This story outline is then passed on to a LOCAL COMMITTEE created for this purpose, which is not too numerous but well representative of the various authorities or sections concerned. The technical story outline will thus be modified or developed as per their reactions or suggestions - leading to the final test and staging.

This Committee has a triple purpose :

* Securing the cooperation of cultural representatives, historical and archeological personalities, political ones eventually, sometimes religious authorities, so that the show can be a collective expression of the whole country (notion of consensus);

- Correcting errors or omissions in time, as once the realization starts, it is too late to make corrections (for obvious reasons of recording, programming, etc.);
- * Avoiding future eventual objections by including in the Committee all notabilities involved who might subsequently, with reason or not, react against such or such detail and thus compromise the desireable unanimity of such a venture.

It is obvious that the purpose of this Committee is exclusively to give advice or express remarks. Once this phase is achieved and a green light given to realization itself, the artistic team is then completely free and remains "master on board" - which is the essential condition to reach efficiency.

Though in the course of the study the final script of the show is not given, the exact contents of the show are mentioned without any risk of misinterpretation. Also it will state by whom the final script will be made. As this point is of great importance to insure the best possible quality to the script, it is intended to proceed in the following manner : after consulting the various personalities and the basic sources of information, the stage director proceeds with the story outline.

- 3. OPERATIONAL STUDY : two elements have to be seriously considered :
 - Promotion, the elements of which are not being reviewed here, but the importance of which can be imagined easily;
 - * Side-sales and subordinate services, which may help amortize operational and promotional expenses.

Once the project study is completed, the show virtually exists. Everyone can imagine its means and limits and, when proceeding with the actual realization of the show, the important point will be to follow each data of the project study, which is a synthesis of the efforts and cooperation of all concerned.

THE HISTORY OF SOUND AND LIGHT

The concept of "Son et Lumiere" was begun at a castle in France called Chambord in 1952. This presentation was the result of the collaboration between the Superintendant of the castle who wanted to find a new way to animate the chateau at night, and several innovative members of the research team of French Broadcast. It is a little by chance that the different elements of a "Son et Lumiere" added up to one another; there was a recorded text why not put it into dialogues and make a kind of radio program to which stereophonic effects would add to their deepness; and why not also modulate the light (dim lights when the mood is sad, more lights when the scene is gay).

No one realized at that time that one was witnessing the birth of the new means of expression and which would bring the historical narratives of the great physical structures of the world to life.

By 1953 the Chateaux of Chenonceaux and Grosbois had begun sound and light programs. They met great success with the public. There was a sound of a quality in these productions which nobody could hope for at the time (this was long before Hi-Fi became well known). The synchronized light effects and this new sound coming from the right or the left, front or back, astonished the European audiences.

Unfortunately, at the same time some amateurs were often improvising some "Son et Lumiere", which rapidly failed, bringing a definite prejudice to the image. This lasted until the second wave of professional "Son et Lumiere" finally began in France and in other countries to reach first Athens, then Rhodes and the Pyramids. In France, there were the great shows at the Invalides and at Notre-Dame Cathedral in Paris. (The latter was limited to two years because its tremendous success caused such traffic jams in the heart of Paris that the police requested its suspension). Shows were also developed at the Chateau of Azay-le-Rideau, in the Loire Valley, at the Cathedral of Vezelay, at Cannes, at the Castle of Compiegne; all of these drew large crowds.

Initially, the "Son et Lumiere" was produced through manual equipment, but today is fully automatic. First there was the electromechanic installation. Now, special electronic equipment brings a total fiability through its recordings of light and sound effects in frequency modulation giving tremendous possibilities which could not be obtained by hand operators.

"Son et Lumiere" involves a very advanced technique both for the artistic conception, and for the electronic programming.

THE PRODUCERS

Two of the most well known and well respected producers of "Son et Lumiere" in the world are Pierre Arnaud and Andre Weil. Their productions have included :

- * The Invalides in Paris.
- * The Acropolis in Athens, which in the 14 years of its operation has drawn over 8,000,000 spectators. In its last season, this sound and light production attracted 80 % of the visitors who passed through Athens.
- * The Persepolis "Son et Lumiere" in Iran was inaugurated in October, 1971 in the presence of fifty-seven soverigns hand heads of states from all over the world.
- * Chenonceaux is now in its twenty first year of continuous running.
- * Also : Notre-Dame, Azay-le-Rideau, Cannes, Compiegne, Strasbourg, Madrid, Jerusalem, Monastir, Corfou, ... a total of 79 shows.

"Son et Lumiere", having reached its maturity, is now approaching new horizons in technique and production style. All those who have witnessed sound and light performances at one historical site, usually seek out more of them, because they know that the memory of their visit will remain more lively and more meaningful with the remembrance of "Son et Lumiere".

B - PRESS CONFERENCE MARCH 4, 1974 :

SON ET LUMIERE AT THE CAPITOL IN WASHINGTON.

The cognition of one's country is deep, instinctive, but often difficult to define. So is the approach to an exceptional location : one can perceive or feel, but not always express clearly the message it bears.

At all times, by essence, monuments as well as celebrations have been conceived with a view to materialize such feelings, convictions or commitments.

SON ET LUMIERE is not only the medium in line with our time, but also the most extraordinary vehicle, complying both with tradition and with the aim to reach : an evident and strong expression which will create a remanence in the spectator's mind.

All those who attended a Son et Lumiere show will state that the memorization they have been most impregnated with, that which "haunts" them most, is the monument thus revealed, rather than the site as they saw it in daytime.

It is like some "ceremony" which can only take place within particular rituals - when the magic of night surrounds the place and people with its unique ambiance, when all motion ceases, when one finds time to think and remember.

It is like participating to a mysterious presentation of wonderful sagas by oriental tellers, also linked with remembrances exhaled at night between friends gathered by the fireside.

It is the "revelation" perceived and well received of the clear message of a country and of a monument. It is never a show created by actors for their own expression - it is a truth revealed anew, recovered, in the same manner as would an archeologist or researcher suddenty discover, as obvious, the significant piece which is the key to the understanding of a civilization.

This can only happen at the precise location, at the historical and unique site, like a divine revelation only takes place on a given spot. The audience, who actually are participants, are accommodated in such a way that, facing the monument, they are integrated in its setting, its environment, its mood.

Then starts a sound evocation, comparable to radio dramas which appeal to imagination more directly than would any image or physical presence of actors. Such immaterial evocation, which utilizes the most recent techniques of ambiophony (several simultaneous stereophonic bases, using the most advanced hi-fi techniques) is intimately linked with luminous environments, sometimes outlining precise scenes which have taken place at the monument and to which one suddenly feels witnessing sometimes creating a mood, cheerful or peaceful, or enthusiastic, which accompanies the evocation, giving words their exact bearing. This, in total interaction.

One has really met with Pericles at the Acropolis in Athens, Cyrus and Darius at Persepolis, Napoleon at the Invalides in Paris, Herode or Saladin in Jerusalem, just as you will be meeting with Washington or Lincoln soon at the Son et Lumiere at the Capitol.

What makes the difference between man and animal is the possibility of expression - What can differentiate the marble which a monument is made of from the revealed monument itself, is probably Son et Lumiere.

The Capitol will be able to deliver the American message in a show which is made and donated by Americans to Americans.

Initiated by the U.S. Capitol Historical Society, the Son et Lumiere at the Capitol in Washington, like a floating flag personifying the meaning of the country, will certainly be the most significant if not the most important event of the U.S. Bicentennial Celebrations in 1976. It will deliver clearly the message of this united live spirit (made of so different and contradictory aspects) to this young, two-century old, nation - at the same time a heir and a creator : the Americans.

- To sum up : in a Son et Lumiere, it is the site which is predominant, above any other consideration : it is there and cannot be cheated with.

Son et Lumiere dramatizes the history of the site. A total coordination is required between it and the artistic and technical imperatives, without which such a show cannot be successful. DEFINITION of the SON ET LUMIERE as per WEBSTER'S NEW WORLD DICTIONARY, 2nd College Edition, Page 1358 :

"SON ET LUMIERE" : Fr. lit. : Sound and Light -1) a technique of presenting a historical spectacle, esp. at night before a monument, etc., using special lighting effects and live or recorded narration, music, etc.

2) such a spectacle.

METHODS OF REALIZATION of the SON ET LUMIERE SHOW at the CAPITOL :

From the outside - and all the more if one is not especially aware of the techniques of Son et Lumiere - such an enterprise may seem difficult. As a matter of fact, it is not so simple. One of the prime concerns of the U.S. Capitol Historical Society has been to determine a methodology which can be simultaneously adaptable, precise and unquestionable.

Some would emphasize rather on the list of events and characters which should be evoked - but it is out of question to present them all during the 30 minutes of the performance; nobody would remember anything and it would only be a fastidious enumeration. SON ET LUMIERE is a" sensibilization" to the symbol of the monument and of the country. It is like a sudden enlightment which reflects on the mind and then brings meaning to historical books one might read. Let us compare this with the memorization of a first meeting with someone who impressed you : while you do not know anything about this person, you keep a precise image in your mind - indelebile - which will prove thereafter to be the most accurate one.

Others would stick to the text, the style, the authority of an author. This, if not an error, is an unsatisfactory guarantee. A text remains if it is read. From words you hear, only their music and their gist remains, which is more important than the wording itself. Of course, a good script of high quality will be necessary, but it will only be determined at a later date; it will come out as a consequence of the conception of the show, even if finally it becomes a support of it. It is well known that a good text does not necessarily make a good film nor an emphatic speech. It is the evocation - made of infinite notations -

which will determine the success of what is alive and fugitive -and not engraved in bronze. The manner in which things will be said is at least as important as what will be said - as it is the Joconde's smile which goes to the heart, and not the image itself of Mona Lisa - as it is also a Christmas carol or a child's joy which makes Christmas - and not only the date on the calendar.

Let us forget, therefore, such a conventional approach and admit that the remanence memory keeps of a site is its mood. This is so true that, whenever you return to a place which has left you with an imperishable remembrance, even if you are not disappointed, the place is no longer the same : only the mood and the spirit which were yours gave stones their significance.

So it is with SON ET LUMIERE.

It is a kind of immaterial coating, a reflect revealed by the image of the monument, as if, at night, it could restore the rays of sun which were stored in daytime - as if words uttered there could echo back through a magic philtre in the silence of night .. It is essentially "sensitive", human, even sentimental, like the new meaning given to words in commonplace conversations of lovers.

In view of all of the above, the U.S. Capitol Historical Society has called upon the worldwide specialists of Son et Lumiere, E.C.A. in Paris, who, in the past 20 years have completed more than 70 shows on some of the world's most prestigious, significant, historical sites, among which the Acropolis, Persepolis, Jerusalem, the Invalides in Paris, the Chateaux in the Loire Valley, the U.S. Battleship "North Carolina", etc..

But - and this is important - these specialists are not here to express their own idea on the Capitol or on the United States; they are putting their experience at the service of Americans to vehiculate through their medium, Son et Lumiere, what the Americans think and what they have to say. They will therefore only be catalytical elements within a prestigious team; more than prestigious : qualified and devoted.

A little like L'Enfant, this French architect, who realized on an American scale, not an image

of France but that of a city expressing the ideas of Washington and of the fathers of the Nation.

Therefore, in close cooperation with Mr. George White, Architect of the Capitol, and his team, the E.C.A. French specialists have begun a thorough technical study of the possibilities of enhancing the Capitol through a Son et Lumiere.

It goes without saying, of course, that by day none of the numerous light sources will be visible and in no way will the stone itself at the Capitol be scathed or spoiled.

On the other hand, a team of historians designated by the U.S. CAPITOL Historical Society will determine a list of events and names to be evoked, as well as facts relating them to the Capitol, and also some small significant scenes which, once staged, will deliver the message much better than a peroration would do.

Paradoxically, in this location dedicated to speeches and comments, the show will find its expression through other means than long flights of oratory, however bright they may be.

Also, musical documents and the conception of the very important accompanying score which will support light motions, will be entrusted to a notarious specialist of this country.

The director, Pierre Arnaud, will draw a preliminary synthesis from these first elements. Andre Castelot who is a leading specialist in the text conception of Son et Lumiere (more than 15 shows) will write an initial synopsis; he cumulates the talent of an historian with that of a writer with the sense of dialogue and show - but, above all, with the capacity of conceiving such an immaterial

creation -naturally linked with words. This synopsis will integrate the historical data and elements in a suitable treatment for Son et Lumiere.

Andre Weil planifies all the necessary meetings, informs all the various people concerned by such a production which combines so many different fields. His role can be compared to that of a film producer. He coordinates economical and financial matters. He will bring his accumulated worldwide experience and know-how on the operation and promotion of Son et Lumiere.

Once all the above elements have been analyzed, new suggestions will be brought, corrections will be made, and the image of the future SON ET LUMIERE will begin to appear, just as a statue emerges from its block in the process of carving.

At the same time, costs and all operation estimates will be determined.

After this general plan has been carefully prepared and is ready, the U.S. Capitol Historical Society will report to Congress.

The next step will then be that of realization.

Working from this pattern, one or several American authors will be entrusted with bringing about the desired style or expression. Recording of the show will be made with the most qualified actors and musicians. The various equipments will have been put up by selected firms.

Then, one night in 1976, through a finger-tip touch on an electronic unit, the CAPITOL, for the first time in a long series of nights, will deliver its historical message through the magic of SON ET LUMIERE.

SUGGESTED ELEMENTS FOR THE FUND RAISING PROSPECTUS FOR THE SON ET LUMIERE AT THE U.S. CAPITOL

THE MESSAGE OF THE CAPITOL

The history of nations is made of contradictory events, glories and bad times, the combination of which, their connections, geography, climate and surroundings, have designed slowly a precise personality.

In our country, the events were also contradictory but, due to its size, to the "conflagration" of races, religions, climates, due also to the speed of its growth, its history is far more paradoxical and controversial.

The basic differences come from the fact that our specificity is not the result of a long sedimentation; it is a choice deliberately and clearly made at the time of our birth - exactly two hundred years ago and exposed by our Constitution. This unique definition is still working each day, surpassing the most unexpected difficulties.

The symbol of this choice and this faith is also the seat of its application and it is the Capitol. It is our duty, today, the duty of Americans to use the modern means of communication to permit the Capitol to express itself, to express its message, our reason of life. This will be the purpose of the Son et Lumiere which will be, undoubtedly, the most important event of the bicentennial celebrations and will remain, afterward, as a permanent memorial.

WHAT IS A "SON ET LUMIERE" ?

Many travellers will report that the Son et Lumiere has, in different prestigious locations, left to them a remanence, an unforgettable souvenir which, far more than being only a very impressive revelation of sites, monuments and their history, are finally a very deep understanding, a truly "physical" revelation of those sites and countries.

Basically it is a presentation made outdoors, with the complicity of the magic of night, where things are less seen than perceived - where the souvenirs come back to mind. This is the night of story-tellers, of celebrations, of confiding secrets

The only answer is the presentation itself and we do not want to destroy here he specific impact of its dramatization. But as the Capitol is huge as are the U.S.A., as the Capitol is white as a certain American candor which is also an act of faith, as it is also theatrical with its columns, its dome, and all its equilibrated and harmonious appearance, the dynamism of the sounds, the lights, the colors will re-create such events which are really selfexplanatory of this evolution of a nation.

It is not a fairy tale, nor the sensitive remembrance of a beautiful past. Some echoes of this living permanence will appear in the night and will give to the "participants" of this, at each evening presentation, a clear and unforgettable understanding of the best, or of the worst, and of all which is the basic web of this free country.

also. There are no live actors but voices surrounding the audience, sound and light effects on the site which are creating a deep impregnating mood that gives to the imagination of the spectator more than any precise image. You meet with the heroes of the past, at the actual place where they have built the world; you penetrate not only the facts but the implications of the surroundings, the real way it happened. The history lessons and even the books are far away. You WERE there. This is truly not a show but a "revelation".

WHAT WILL BE THE SON ET LUMIERE PRESENTATION AT THE CAPITOL ?

THIS IS THE PLACE WHERE EVERYTHING HAPPENED, STILL HAPPENS AND WILL CONTINUE TO HAPPEN.

WHAT IS THE PARTICULARITY OF THE FUND RAISING ?

It was possible to envisage a charge for the spectators as it is done in most of the locations or shows, and the commercial result would have been tremendous. It was possible to conceive that Congress would pay for this presentation as it does for any statue, amenities, new developments of the permanently evolving Capitol. But it seems evident

that by asking the citizens of the U.S.A. for their contribution, it is less the amount of their gift which is needed than an act of faith, of recognition, a real participation in the solemn affirmation of their identity, their basic choice, the strong wish for a continuation, a permanent renewal. It was the duty of the U.S. Capitol Historical Society, entirely devoted to the purpose of conservation and expression of this significance, to undertake this initiative after a thorough and serious search of what would be the best way to express the Spirit of this monumental and everlasting Capitol.







Our Capitol: Freedom Speaks





United States Capitol Historical Society 200 Maryland Avenue N.E., Washington, D.C. 20515, 202-543-8919

"OUR CAPITOL: FREEDOM SPEAKS" CAMPAIGN

Financial Development Plan

The United States Capitol Historical Society, a non-profit, tax exempt organization, will raise from the private sector the \$10 million necessary to construct and endow the Sound and Light production "Our Capitol: Freedom Speaks," to be opened officially in the summer of 1976. The Society has already successfully funded (\$450,000) a film which will be permanently shown in the new Visitors' Center at Union Station. The film's premiere was held on January 26, 1975 at the John F. Kennedy Center for the Performing Arts.

From private donations and sales the Society has contributed over \$300,000 towards artwork, artifacts, and furniture for the Capitol building. With these contributions the Society fosters an informed patriotism through the study of the Capitol as a living memorial to the founders of our nation and as a promise to generations of Americans to come. Building on this success the Society has embarked on this "Our Capitol: Freedom Speaks" \$10 million drive.

A Project Study was funded (\$70,000) by the Society from the private sector and completed in October 1974. The budget, based on this study, calls for \$4,534,000 in construction monies and \$2,000,000 for permanent retractable bleachers. The remaining \$3,466,000 will serve as an endowment to maintain and operate the production, so that it will remain forever free.

The time schedule for raising funds is dictated by the need to start construction in early Spring 1975. This specifically means that major pledges must be in hand during February and March 1975. The names of all who contribute a million dollars or more will be displayed permanently in the Capitol area. The Society projects that 50% of the funds will come from individuals, 30% from foundations, and 20% from corporations. Major gifts (1 million or more) will make up 80% of the goal. The remaining 20% will be solicited from prospective donors of all economic circumstances throughout the world.



Members Joe Allbritton, L. Berkley Davis, Felix DeWeldon, Ernest A. Hayes, Senator Daniel K. Inouye, Austin Kiplinger, Goddard Lieberson, Clare Boothe Luce, Jane Marilley, Honorable George Romacy

THE UNITED STATES CAPITOL HISTORICAL SOCIETY HONORARY BOARD OF TRUSTEES

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Oliver B. Patton, Executive Director; William M. Maury, Editor and Historian; Maier B. Fox, Assistant Editor; Florence C. Miller, Administrative Assistant.

For further information on the OUR CAPITOL: FREEDOM SPEAKS Campaign, please contact: The Honorable Fred Schwengel, President, The United States Capitol Historical Society, 200 Maryland Avenue N.E., Washington, D.C. 20515, 202-543-8919 (\$450,000) a film which will be permanently shown in the new





OUR CAPITOL: FREEDOM SPEAKS

200 Maryland Avenue N.E., Washington, D.C. 20515, 202-543-8919

BUDGET - Our Capitol: Freedom Speaks

TECHNICAL COSTS

1. Control equipment: central control room and four satellite spaces; purchase and delivery of both hard and soft ware, installation, travel expenses Ś

> 2. Multiplexing system inside Capitol building to accommodate interior lighting and control circuits

3. Spotlights, fixtures, stands, wiring, bunkers, concealment: estimated from current price lists for equipment. (Subject to bids)

4. Installation, excavation, labor, engineering and supervision (a rough estimate to be refined by final report)

2,500,000.00

\$ 3,644,000.00

540,000.00

84,000.00

520,000.00

SUB TOTAL TECHNICAL EXPENSES

ARTISTIC CREATION COSTS.

S

E

Conception, supervision, management, production, artists fees including: writers, historians, composers, musicians, narrators	\$ 890,000.00
· SUB TOTAL OF SHOW LESS SEATING INSTALLATION	\$ 4,534,000.00
SEATING INSTALLATION	\$ 2,000,000.00
ENDOWMENT AND CONTINGENCIES: Yearly operations, upkeep, and inflationary costs.	\$ 3,466,000.00
GRAND TOTAL	\$10,000,000.00



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"Whenever a People or an Institution Forgets Its Early Hard Beginnings, It is Beginning to Decay." Carl Sandburg







Our Capitol—symbol of the United States of America for citizen and visitor alike—will be the focal point of our 1976 Bicentennial celebration.

For here, at our nation's home, our proud history will be told as never before, in

Our Capitol: Freedom Speaks

the magnificent, permanent nightly pageant of music, narration and moving illumination...being planned now as a lasting gift to the United States and posterity from private donations through the United States Capitol Historical Society.

Statue of Freedom was sculpted in bronze by Thomas Crawford and erected above the Dome in 1863.

Our Capitol: Freedom Speaks

will be staged in Sound and Light (Son et Lumiere)—the exciting new art form which has proven so successful at great monuments of Europe and the Middle East. Sound and Light evokes major events of history on the actual sites where they took place, by playing—not on stage—but on the environment and using the imagination of the viewer. Against the magic of a night time sky, a combination of specially cued lights, sound effects, recorded voices and symphonic music tells the story of the Capitol and the men who built it…in an extraordinary spectacle of inspiration and beauty.

OUR CAPITOL: FREEDOM SPEAKS is being planned by the same international talents who brought "Son et Lumiere" to the Acropolis in Athens...The Tower of David in Jerusalem...Persepolis in Iran...Les Invalides in Paris...

Careful planning by an American Board of Consultants, consisting of task forces in history, music and drama, will assure that OUR CAPITOL will aesthetically and authentically capture the essence of America's ideals...This program will develop the desire to know more about history for several million visitors annually.



OUR CAPITOL: FREEDOM SPEAKS will be overwhelming in effect...the most elaborate Sound and Light in the world:

nagine, if you will, night time in Jashington.

The audience has been assembling since dusk in the warm summer air. In seats facing the darkened East Front of the Capitol, they wait...

A voice speaks, the voice of Freedom, standing strong on the foundations laid by our forefathers. Freedom takes us back...back to the laying of the Capitol cornerstone in 1793 by George Washington. From silence into stirring sound, from darkness into brilliantly designed lights, the dramatized story of the Capitol itself unfolds.

Electronically sophisticated high-fidelity stereophonic loudspeakers and extensive lighting equipment will create, through music, light and sound, a spirit of history in the viewers' minds, more surely than live actors ever could.

The automatic sound and light equipment will be installed completely out of view, so the effect comes from "nowhere"...and everywhere. Imagination takes over, and the audience is plunged into the presence of the past...



1976-Realizing the dream of 1776



The site holds little but promise, when Washington, Madison and Jefferson propose it in 1791. "A howling, malarial wilderness," some called it. But the land is central to the original 13 states...conveniently situated on the banks of the "Potowmack" River...so after much debate in Congress, the authorization is given. Maryland and Virginia's gifts of land are accepted, and the infant nation has a home.

With American farsightedness, planners, including President Washington and L'Enfant envision a city of magnificent boulevards and public monuments, rising from the woods and marshes of the new Federal district. Its center is to be a height which commands the whole area..."A pedestal," L'Enfant calls it, "waiting for a monument." Here will stand the Capitol building...heart of the United States of America. A dream realized.

"Here, sir, the people govern. They act by their immediate representatives." —Alexander Hamilton

It is slow, laborious work, carving a city—a new national capital city—whole from the wilderness. As it will be hard work carving a country from the wilderness. Black men, both slave and free, take on a great portion of the labor. People from foreign lands and the 13 states come to join in the task of building, as the city and nation grow.

William Thornton, designer of the U.S. Capitol, and his winning design for the Capitol which "captivated the eyes and judgement of all." Stephen Hallet's Capitol design placed second in the competition. Outsized weathercock topped the Capitol building proposed by James Diamond of Maryland.

Corcoran Gallery of Art (top), Library of Congress, Maryland Historical Society (bottom right),



We...hope that the Grand Architect of all men...may continue his great gifts...to all those concerned, to persevere in raising...on this...cornerstone and on every other cornerstone...that may be planted in this...Federal City, edifices so durable, with strength and beauty, that with common care and nurture they may not envy time.

...we further hope that all the edifices [will] be numerously inhabited with citizens [of]virtue, honor, bravery, industry and arts.

> -Right Worshipful Grand Master, P. T. Joseph Clarke



As the 18th Century turns to the 19th, the country is beginning to feel its own strength. In 1793, as President Washington lays the cornerstone of the Capitol, the former colonies have grown accustomed to working together as states under the Federal legislature. By 1800, the first section is built, and the government of the United States-President, Congress, Supreme Court-moves from Philadelphia to Washington. Congress and the Supreme Court move into what will later become the small connecting wing between the Rotunda and Senate. The District of Columbia-like most of the nation-is still untamed countryside. Men of vision come here to build a city and a Capitol.

President Washington, wearing the sash, collar and apron of the Masonic Order, lays the cornerstone for the Capitol on September 18, 1793, as painted by Allyn Cox in Capitol Hall.



Tinted part of sketch shows the House wing occupied in 1807, and its location now (West Front view).



House and Senate wings connected by wooden walkway, and their position in today's building.



Dome and Capitol addition as completed by Charles Bulfinch in 1825.



The first wing on the Old Capitol to be completed, serving the Senate, House, and Supreme Court (top). This watercolor shows the House and Senate wings of the Capitol, connected by a wooden walkway. The Capitol's bronze dome dominated Washington's skyline from 1825–1856. Designed by Charles Bullfinch, the dome looked down on poplars planted at President Jefferson's request.











The nation begins to build...to grow...to expand Westward, Lewis and Clark return from their expedition to size up the new Louisiana Purchase, and report to Congress on the wonders that await in the vast new continent. Settlers are pouring out through the Appalachian Mountains, creating fertile farms from the forests and high plains beyond. The Capitol is growing, too, and by 1812 there are two sections complete, connected by a wooden walkway where the Rotunda and Dome are to stand.

British troops set fire to public buildings in Washington, August 24, 1814. Daniel Webster's 1830 address to the Senate, calling for "Liberty and Union, now and forever, one and inseparable!" G. P. A. Healy's painting hangs in Boston's Faneuil Hall.



Rapin's History of England, Library of Congress





Even the burning of Washington by the British in 1814 cannot break the Americans' spirit. After the War of 1812, architect Benjamin Latrobe surveys the burnt-out shell of the Capitol, declares "What a magnificent ruin!"...and sets to work. Within ten years, the former wooden Capitol interior has been replaced with marble, sandstone and metal. Architect Charles Bullfinch completes the Rotunda to connect the two Congressional wings, and erects a dome of modest proportions which is to stand almost until the Civil War.

The far west is opening rapidly. By 1848, the Southwest, California and Oregon are under the U.S. flag. But growth brings pain, as the nation enters an era of increasing sectional rivalries which are to end in Civil War. Under Bullfinch's Capitol dome, spellbinding orators and statesmen like Webster, Clay and Calhoun debate the great issues centering around slavery and its spread to the West. By 1860, the entire area of what would be 48 continental states has taken shape...but threatens to fall apart.

Yet even as the nation appears ready to split, Congress plans expansion of the Capitol. And ironically, it is Jefferson Davis-the Mississippi Senator who will soon lead the secessionist South—who spearheads a drive for major Capitol construction. Like so many other men of his day, he loyally serves the Federal government right up until the moment he feels forced in honor to oppose it. Even as southern Senators are bidding strained farewells to their northern colleagues, building is under way which will reduce the two original sections of the Capitol to connecting links between much larger House and Senate wings, surmounted by the inspiring Dome of today.



Harper's Weekly, Library of Congress

By 1861, Union soldiers are camping around and under what they call "the Big Tent"...the unfinished shell of the new, large Capitol Dome. During the Civil War, the Capitol serves as barracks, hospital and bakery for the armies of the North. Work on the Dome continues during the War, as President Lincoln declares it." a sign we intend the Union shall go on." In 1863, he sees the statue of Freedom hoisted to the peak of the Dome, high above the nearly-finished walls of the new House and Senate wings. When the War draws to its close, the major out line of the Union's home is complete.





Washington in bronze against the monumental background of the Dome's interior.

"Car of History". Muse Clio in the chariot records events in Statuary Hall; the clock once told time for the House.

Eagle graces bronze railings of Members' private staircases in both the Senate and House wings. Modeled by the French sculptor Edmond Baudin in 1859 from a design by Brumidi. Bronze ''Columbus Doors'' modeled by Randolph Rogers in the 1850s, give entry to the Capitol Rotunda.



After the War, the Federal government grows and extends its power. The porticos of the new House and Senate wings are completed in 1919, and the Capitol has assumed virtually the same form as today. Subsequent work brings interior renovation and improvement. The Capitol ceaselessly undergoes minor changes and revisions, yet continues, like the task of government, through wars...depression...political upheaval. A 32-foot extension of the East Front, faithfully duplicating the original, is dedicated by **Republican President** Eisenhower and completed just in time for Democratic President Kennedy's inauguration in 1961.

"Ask not what your country can do for you-ask what you can do for your country."







Closeup of the Dome's "Apotheosis of Washington", completed in eleven months by Constantino Brumidi, signed by the artist in 1865. Senators Kennedy, Brooke, Javits and Jordan greet guests in the Senate Reception Room. Bronze and marble alternate in statues of the Hall of Columns. State notables flank the columns which are adorned with tobacco-leaf capitals.



Our Capitol: Freedom Speaks



OUR CAPITOL: FREEDOM SPEAKS has the endorsement of Congress—in a House Joint Resolution introduced by House Majority Leader Thomas P. O'Neill for himself, Mr. Gerald R. Ford, Mr. McFall, Mr. Anderson of Illinois, Mr. Pickle, Mr. Stephens, and Mr. Pettis. The Bill was signed into law January 1, 1974. The entire production will be installed with the approval of the leaders of Congress, under the direction of, and in cooperation with, the Capitol Architect.

OUR CAPITOL: FREEDOM SPEAKS has been endorsed by leaders in the arts, in the business community, as well as by the distinguished trustees of the U.S. Capitol Historical Society.

OUR CAPITOL: FREEDOM SPEAKS is your opportunity to give something now and for future generations. There are no appropriated funds. It is being financed entirely from private donations contributed by concerned and interested individual citizens, foundations, and corporations.

OUR CAPITOL: FREEDOM SPEAKS will cost ten million dollars to complete, seven and one half million for construction, and two and one half million to create an endowment that will ensure free admission to all citizens in perpetuity.

OUR CAPITOL: FREEDOM SPEAKS a project of the people...for the people, needs your contribution today. Join your fellow citizens and make this 1976 Bicentennial project possible. Please send your tax deductible contribution to: The United States Capitol Historical Society, 200 Maryland Avenue, N.E., Washington, D.C. 20515.

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