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Approved For Release 2005/06/23 : CIA-RDP78B04770A002700040014-5

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21 March 1966

MEMORANDUM FOR: Chief, Collateral Support Division, NPIC  
THROUGH: Chief, Reference Branch, CSD  
SUBJECT: Exploitation of "Dog Ears" Video Tape

1. On 16 March 1966 Messrs. [redacted] met with [redacted] Foreign Technology Division/WFAFB regarding the collection and exploitation of "Dog Ears" video photography.

2. [redacted] has just published a document explaining the collection problems involved, equipment and technical considerations, plus recommendation for equipment for potential exploiters of this material. A copy of this document will be available to NPIC on 24 March 1966.

3. It is recommended that after receipt of this document and appropriate meetings held with representatives of P&DG, [redacted] and a representative from P&DS visit [redacted] FTD, to discuss particulars regarding this problem.

[redacted]  
Chief, Photo Research Section, CSD

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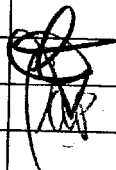
Declass Review by NGA.

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FM: *Chief CSB*

	TO	INITIALS	DATE	DATE:	REMARKS
DIR					<p><i>As soon as we get this document I'll get in touch with you.</i></p> <p><i>GTS</i> </p> <p><i>Frank FR</i></p> <p><i>FVI</i></p> <div style="border: 1px solid black; width: 100%; height: 100%;"></div> <p><i>action</i></p>
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DEVELOPMENT OBJECTIVE

MAGNETIC TAPE TO PHOTO TRANSDUCER

1. Introduction. This document presents the requirements of a government-sponsored project concerning the design, assembly, and initial operation of equipment concerned with the production of high quality photographs from video tape source material..

1.1. Background. The increased availability of television information and the expected greater use of this medium, due to the advent of communication satellites, has placed upon the Center the requirement of being capable of viewing the various basic materials and to selectively reproduce high quality still photographs of particular imagery.

Since "Kinescope" motion pictures are made only of selected programs (due to the expense of the operation), most information is received in the form of magnetic video tape, which can be reused a considerable number of times. Unfortunately, except for standard transverse scan commercial television tapes, there are a wide variety of portable video tape systems and formats in use.

This development is based upon the approach of initial implementation of a system which will handle the greatest portion of material with provisions for the handling other formats either as modifications or as additions to the existing system.

1.2. Concept. An extremely complex system would have to be assembled to achieve 100% capability in the broad field of video tape recordings. In order to initiate a video-tape/photographic system, a standardized commercial unit will be used as the base of a modular component concept, upon which various other components (play back equipment) can be "black-boxed." The

system will have the ability of being extended as the need arises. Magnetic disk stop motion equipment along with a high quality flat-faced cathode ray tube and appropriate circuitry will be used to produce the best possible image for photographic reproduction.

## 2. Administration.

2.1. The Government will evaluate proposals on the basis of awareness and comprehension of problem areas and the level of commitment to the success of the project proposed.

2.2. The proposed development plan should reflect: (1) a thorough comprehension of the areas of prime concern, (2) proposed solutions to problem areas, (3) the schedule of major events.

## 3. Requirements.

### 3.1. General Configuration

3.1.1. The basic piece of equipment for this development will be a standard, commercial, transverse scan, video tape recorder. This equipment shall be capable (with switching and/or plug-in modules) of operating with the following standards; 525 scan line/60 field, 525 scan line/50 field, 625/50, 405/50, and 819 scan line/50 field. The unit shall also be compatible with "Intervision" as well as U.S. "high band" and "low band" systems. The unit shall be color compatible for the sake of quality, but need not have a full color capability.

(This piece of equipment could be furnished G.F.E. to the contractor).

3.1.2. A video "disk type" recorder will be operated on line with <sup>basic video</sup> the recorder. This unit will provide temporary storage and selected "stop motion" or single frame capability for the transverse scan recording unit. Provisions shall be made for accepting <sup>signals</sup> ~~signals~~ from helical scan or longitudinal scan recorders for a better quality stop motion capability.

Provisions shall be made for advancing the recorded display in a frame ~~of~~ by frame mode and for selection and "hold"<sup>of</sup> a particular frame of recorded imagery. A small monitor shall be affixed to the disk recorder for display of the imagery being stepped or held in stop motion. (Equipment is available off-the-shelf which could be modified to suit *this* requirement.)

3.1.3. A high quality "Kinescope" type flat faced cathode ray tube (CRT) shall be used to present imagery to be photographed. This CRT shall be of sufficient size to present a 3x4 inch display for reproduction. This hard copy display shall be tied into the disk recorder through various contrast, brightness, etc., controls.

3.1.4. An adequate size "Speed Graphic" type camera will be used to actually photograph the high quality CRT image. This camera shall have a "Polaroid" adapter back included for use in quick processing of imagery. (Can be obtained GFE).

3.1.5. All components shall be interfaced for optimum performance. Equipment shall be positioned and arranged for optimum man/machine operation and maintenance. "Black boxed" controls shall be designed for best utility, i.e., no need to remove covers or to go to the back of the equipment to operate buttons, levers, switches, etc. Controls shall be adequately marked and shall be within easy reach ~~of the operator~~ without interfering with the operator.

### 3.2. Additional Equipment Considerations.

3.2.1. Proposals should provide for or discuss trade-offs for the following types of electronic image manipulation devices and techniques:

(a) "Spot Wobble" circuitry and controls for decreasing scan line

patterns of CRT's.

- (b) "Vertical Apperture Equalizing" for apparent increase in vertical resolution of imagery.
- (c) "Gamma" or "Black Stretch" controls.
- (d) "Exponential" or "White Stretch" controls.
- (e) Edge enhancement or outling techniques.
- (f) Electronic magnification controls.
- (g) Any other suggested circuitry or techniques that would help produce an improved photographic still copy of video taped material.

3.2.2. In all electronic devices used, excepting off-the-shelf equipment, maximum effort shall be expended to reduce or eliminate RFI.

#### 4. Maintenance and Training.

4.1. A listing of recommended spare parts for the maintenance and repair of this system as well as <sup>a list of</sup> recommended <sup>test</sup> ~~test~~ equipment shall be provided.

4.2. Written instructions shall be included as to recommended testing procedures as well as wiring diagrams and schematics.

4.3. Provisions shall be made for maintenance/operation personnel (under a separate quote). It is preferred that the particular personnel selected be phased into the development and assembly of this system as well as becoming proficient with the operation and repair of the particular components used. Personnel will be expected to be available for keeping the equipment "tweaked-up" for optimum performance, to make minor modifications and to operate the gear for at least one year. The operator will be additionally expected to train Center technical personnel to perform these duties for continued operation of the equipment.