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NPIC/PADS/D/6-773  
7 February 1966

MEMORANDUM FOR: Chief, Collateral Support Division, NPIC  
SUBJECT: Video Tape Equipment  
REFERENCE: Letter NPIC/CSD625-65 of 6 December 1965

1. Initial investigation of Video Tape equipment and procedures has indicated the following:

(a) The problem area for obtaining good quality hard copy from magnetic Video Tape is the play back equipment itself, not the photographic hard copy reproduction technique.

(b) Standard or transverse recorded Video Tape imposes no great problem. Good quality basic equipment is available for approximately [redacted] Stop motion and hard copy equipment could be added for about [redacted]

(c) Video Tape recorded by helical scan devices, i.e., portable units, are a real problem due to (1) the nature of the system and (2) the lack of standardization. A piece of equipment that would be capable of reading any helical scan tape would require development and would be a costly item.

(d) Investigation thus far indicates that no equipment exists that can convert magnetic tape from one system to another system (625/50 cps to 525/60 cps, etc.). Development of this type of equipment would be costly and would probably be less than desirable due to expected loss of quality during conversion.

(e) The pieces of equipment concerned are complex, sophisticated, special purpose, electronic devices and for optimum utility and performance will have to be operated by technical personnel who are knowledgeable of such equipment.

2. In view of the above mentioned items, various possible directions of action are indicated, depending upon cost, quality, requirements, risk, etc., and possible trade-offs to be considered.

Following are possible avenues of approach:

(a) Obtain high quality commercial equipment for transverse scan Video Tape with disk type stop motion and photographic hard copy

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accessories. This would be primarily an off-the-shelf procurement with a small amount of black box R&D interfacing and would provide stop motion and hard copy from any type of 2 inch transverse scan Video Tape (525 scanline/60 cps and 625 scanline/50 cps). NPIC would still be without a helical scan capability. [redacted]

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(b) Procure off-the-shelf helical scan readers of the same manufacture and modification as equipment used in the field. This could easily amount to half a dozen recorders. An interfaced disk type stop motion and hard copy device could be added as accessory equipment. The expected cost of this approach would be unpredictable, and maintenance, replacement parts, and operation would be a considerable problem. The equipment would provide a helical Video Tape capability. (Very rough estimate [redacted] in addition to (a) above)

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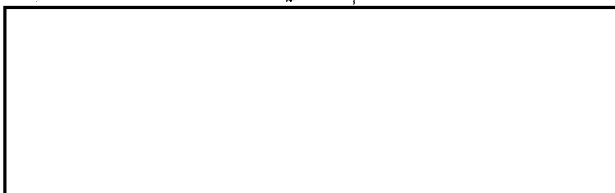
(c) Develop a special, single piece of equipment to handle all helical scan tape. This approach would be expensive, have a long lead time and would be a high risk item. (Nonexistent - High R&D costs)

(d) Develop equipment to convert one Video Tape system to another, i.e., 625 scan/50 cps one inch type to 525 scanline/60 cps transverse scan 2 inch tape, etc. This would be a high cost, high risk, long lead time approach. A considerable loss of quality through conversion can be expected. (Nonexistent - High R&D costs)

3. At the present time, no definitive requirement has been levied on the Plans and Development Staff for development of equipment of the type described in paragraph 2 (b) (c) and (d). It is therefore our intention to proceed with the approach described in 2 (a). Development objectives are being written and will be circulated to appropriate manufacturers. It is anticipated that development time after the contract is let will be approximately four months.

4. Plans and Development Staff personnel will continue to conduct liaison with other governmental agencies have cognizance of the other avenues of approach and will be prepared to enter into more extensive development should a firm requirement for such development arise.

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Colonel, USAF

Assistant for Plans and Development, NPIC

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