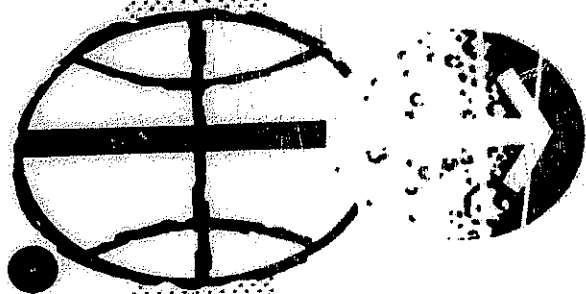




NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

APOLLO 15 SIM BAY PHOTOGRAPHIC
EQUIPMENT AND MISSION SUMMARY
SUPPLEMENT



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SUMMARY

The Apollo 15 SIM Bay Photographic Equipment and Mission Summary was published post mission to provide a composite source of experiment descriptions and preliminary mission results. The purpose of this Supplement is to present additional particulars regarding the equipment and the mission accomplishments.

The time was read from the IRIG-B code on the panoramic photography and is listed with the associated frame number. The time recorded in the data block of the mapping frames was also read for all sunlit photography and tabulated with frame number, laser altimeter data, shutter speed and FMC. A discussion is included to acquaint the reader with the Apollo timing system and to aid in correlating the CTE (central timing equipment) time recorded on the film with Universal Time. Mission time line for the periods of SIM bay operation delineates spacecraft events and jet firings that could have an effect on the experiment results.

1.0 INTRODUCTION

The Apollo 15 SIM Bay Photographic Equipment and Mission Summary, from now on to be referred to as the SIM Bay Summary, was published in an effort to acquaint users with the experiments and their results. As with any experiment, each piece of equipment takes on its own characteristics and peculiarities. In this Supplement efforts have been made to look into these instances and offer an explanation as well as to clarify some of the information included in the SIM Bay Summary. If additional clarification is desired, please contact the Mapping Sciences Branch, TF5, Manned Spacecraft Center, Houston, Texas 77058

The single dashes indicate 100 millisecond divisions with the dots being 10 millisecond divisions.

The time to be read is at the center of scan which is indicated by the scan angle "fiducial" marks that are closest together. (See an explanation of this in the Sim Bay Summary.) This is normally near where the frame number is printed. Align the two long dashes on the templet with the nearest pair to the right of the center of the film, i.e., on the side of the frame where its data block appears, when viewing the positive transparency on a light table. The time word reads from right to left (from the data block toward the center of the frame) with the most significant (seconds) part of the word appearing immediately following the two reference dashes. Read the entire time word: seconds, minutes, hours, days. To read milliseconds count the number of 100 millisecond indicators (dashes) from the reference dashes left to the indicator just prior to the center of scan fiducial. In the same manner count the number of 10 millisecond indicators from the last 100 millisecond indicator to the center of scan; then interpolate the milliseconds from the last 10 millisecond indicator to the center of scan fiducial.

Times for the center of exposure are listed in Table 4.1 along with the frame numbers and camera attitude; i.e., Forward (F), Aft (A), or Vertical (V).

As stated earlier, if the distance between the time coded signals is not constant, there was a change in the v/h signal received by the camera, thus changing the rotation speed of the lens barrel. The malfunction does not affect the scale; however, it does have a profound effect on the geometry of the photography. It should be noted that geometric distortion is not removed in the transformation of the photography being accomplished by TOPOCOM.

With regard to the transformation (rectification) of the pan photography, TOPOCOM has been directed by NASA to produce six complete sets of negatives from the second generation positives provided them by MSC. Tentative distribution of these sets in the order of delivery is as follows:

1. MSC Photo Laboratory
2. NSSDC (first of their two copies)
3. USGS
4. TOPOCOM (or ACIC)
5. NSSDC (their second copy)
6. ACIC (or TOPOCOM)

As with the mapping camera Orbital Support Data, there are page numbers (the page numbers correspond to pan camera frame numbers) missing. These missing pages correspond to frame exposure times where spacecraft attitude data were not recorded as explained in Chapter 5.0. Table 4.1 lists the missing data by page and Rev. number.