MAIN IMAGE FILE

TAPE DESCRIPTION

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U.S. GEOLOGICAL SURVEY

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FOREWORD

This Main Image File Tape document defines the data content and file structure of the Main Image File Tape (MIFT) produced by the EROS Data Center (EDC). This document also defines an INQUIRY tape, which is just a subset of the MIFT. The format of the INQUIRY tape is identical to the MIFT except for two records; therefore, with the exception of these two records (described elsewhere in this document), every remark made about the MIFT is true for the INQUIRY tape.

The MIFT is generated as an interchange tape from EDC to users who maintain a parallel data base of EDC imagery. It is also used as an interface tape between EDC and Goddard Space Flight Center (GSFC) to verify capability of the parallel Landsat Data Bases.

The MIFT contains data for each accession residing in the Main Image File (MIF) at EDC. A complete MIFT contains accessions for all classes of imagery archived at EDC; for example, Landsat, Apollo/Gemini, NASA High Altitude Aircraft, and mapping photography. It contains essentially all data contained in the EDC Main Image File. It is being maintained to be software-compatible with past formats, even though the Main Image File at EDC has been redesigned and restructured to accommodate the EROS Digital Image Processing System (EDIPS). This new structure divides the previous single MIF into three separate parts: an Accession File, a Sources File, and a Source Locator List (SLL). The Accession File describes each accession with information such as geographic location, cloud cover, etc. The Sources File contains information on the various physical media on which accessions exist (HDT, film, etc.), storage locations, generation, and format. A particular accession may exist on more than one physical medium; therefore, the relationship between accession and source is a "one-to-many" relationship. The Source Locator List acts as a link between the accession and its sources.

In order to maintain software compatibility with previous outside users, the MIFT will be generated identical with pre-EDIPS formats with two exceptions:

1) Color composite accessions will not appear as separate records.

2) Minimum data records (film, rolls, etc.) will not appear.

GENERAL DESCRIPTION

1.0 PURPOSE

The purpose of the Main Image File Tape and the INQUIRY tape is to provide users with image inventory information for accessions maintained in the EDC computer Main Image File. This information consists of descriptive data, such as scene identification, cloud cover, data acquired, and coverage for all imagery available from the EROS Data Center.

2.0 RECORDING CONVENTIONS

The MIFT is generated by the EDC Burroughs B6700 on a standard nine-track, half-inch computer compatible tape, available in either 800 NRZI or 1600 BPI, PE format. Records are fixed-length, blocked (ten logical records per physical block), and are recorded in ASCII character and numeric character data structure. Tapes are labeled and terminated with an end-of-file record. Both types of tapes are in standard B6700 record format.

3.0 AVAILABILITY

MIFT's are available to all EDC-related governmental program agencies and can be obtained on a recurring monthly basis. They may also be procured by the user community as a standard EDC product through standard EDC order procedures. A MIFT may be procured of the entire EDC Main Image File; i.e., Landsat manned spacecraft, high altitude aircraft, and mapping photography, or on a selective basis by class, agency, geographic area, etc.

4.0 ASSUMPTIONS

The MIFT will be software-compatible with past MIFT formats.

The MIFT will contain a single accession record for each image. In cases where an individual scene is archived in different ways, for example, Landsat with different resampling, projections, etc., a single accession record will be written on the MIFT referencing only image reference information.

No indications will appear for availability of color composites or CCT's at EDC. To obtain this data for a specific scene, it will be necessary to contact the EROS Data Center, User Services Section.

5.0 FILE SPECIFICATIONS

5.1 General

Section 5.2 details MIFT and INQUIRY tape record data structure, content, variable name, and data description information. For some data elements, separate code tables are required due to the number of possible code values. In those cases, reference is made to separate sections which are included under Section 5.3.

5.2 MIFT and INQUIRY Tape Record Layouts

The only difference between an INQUIRY Tape and a MIFT is two header records on the INQUIRY tape, which identify it to the requester. These records are documented in Table 1. The similar records, i.e., the actual MIFT record is documented in Table 2.

TABLE 1
INQUIRY TAPE HEADER RECORDS

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
		Header Record Number 1: HDREC1			
TITLE	1	Alpha	Char(2)	8	The literal C#.
	3	Alpha	Char(10)	40	Contact number.
	13	Alpha	Char(40)	160	User's title, input by user to describe search that follows (Blank filled.)
TAS_SCND_SOURCE	173	Alpha	Char(120)	*	Secondary search parameter refinements. The structure is the same as the primary search parameter refinements. (See TAS_PRIM_SOURCE in description of Header Record 2.) (Blank filled.)
		Header Record Number 2: HDREC2			
TAS_RETRIEVAL	1	Alpha	Char(6)	24	The type of search, for example POLYGN, PNTREF, etc.
TAS_OPTION	7	Alpha	Char(4)	16	Search criteria, for example, SPEC or GENL. (Blank filled.)
TAS_AREA	11	Alpha	Char(210)	840	Geographic retrieval information, such as latitudes, longitudes, input by user. (Blank filled.)
TAS_PRIM_SOURCE	221	Alpha	Char(90)	*	Primary retrieval refinements as follows: (All blank filled with 4 defaults.)
AGENCY/ORDER SITE		Alpha	Char(4)		Agency for all searches except PNTREF. In this case, it is order site for Landsat data (i.e., EDC, Brazil, etc.).
QUALITY		Alpha	Char(1)		Image quality.
CLOUD		Alpha	Char(1)		Cloud cover.
DATES		Alpha	Char(19)		Period of search.

TABLE 1

INQUIRY TAPE HEADER RECORDS (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
SCALE		Alpha	Char(21)		Scale.
RECTECH		Alpha	Char(14)		Recording technique.
SATELLITE		Alpha	Char(2)		Satellite number.
SRCTYPES		Alpha	Char(14)		Source type or image type resulting from image recording technique.
OVERRIDE		Alpha	Char(1)		Not input for tape. Blank.
SCFMT		Alpha	Char(4)		Not input for tape. Blank.
IMGFMT		Alpha	Char(10)		Image format; width X length of image.
BANDS**		Alpha	Char(5)		Landsat only. Desired bands for image.
SENSOR		Alpha	Char(15)		Image sensor. Type of sensor used to record the image.

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* Size varies according to search parameters.

** Primary search parameter area is 90 characters and ends in the BANDS variable. The secondary parameter area is larger. See TAS_SCND_SOURCE in Header Record 1. This full list is used to describe the secondary search parameters as well as the primary ones.

**** END TABLE 1 - INQUIRY HEADER RECORDS ****

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT

(NOTE: Character fields which do not apply to an accession are loaded with asterisks(*)).

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
TA	1	Alpha	Char(1)	1	Type of accession. This code represents the type of image accession. Possible codes are defined in Table 3.
PHOTOID	2	Alpha	Char(13)	13	Photo identification. The photo ID number is used in ADP storage and retrieval operations The photo ID formats are shown in Table 4. The active supplyin agencies to date are listed in Table 5.
PATH	15	Char Num	PIC '999'	3	WRS path number of this accession.
ROW	18	Char Num	PIC '999'	3	WRS row number of this accession.
SAT	21	Alpha	Char(1)	1	Landsat satellite designator (1, 2, or 3; X if unknown)
MICFRAME	22	Char Num	PIC '(11)9'	11	Microfilm/microfiche number. For Landsat accessions, pre-EDIPS, this field contains a 6-digit cassette number and a 4-digit frame number. The first digit of the cassette identifies the satellite (1,2,3). The second digit identifies the area of coverage (1=U.S., 2=non-U.S.). The frame number is the location of the image on the cassette. For Landsat accessions, post-EDIPS, this field contains the microfiche source ID. See Table 6 for microfiche source ID format. Note that for micro-fiche, zone A,B,C,D,E is carried as a numeric 1,2,3,4,5.

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
					For non-Landsat accessions, all kinds, this field contains a unique cassette number and a frame number representing the location of the frame on the cassette. Format is 00CCCCFFF, where: 0=Literal "0" (zeros) C=Unique Cassette Number F=Frame Number
*LAT(1)	33	Char Num	PIC'-(2)9V.9999'	S2,4	Left corner latitude of first frame of accession.
*LON(1)	41	Char Num	PIC'-(3)9V.9999'	S3,4	Left corner longitude of first frame of accession.
*LAT(2)	50	Char Num	PIC'-(2)9V.9999'	S2,4	Right corner latitude of first frame of accession.
*LON(2)	58	Char Num	PIC'-(3)9V.9999'	S3,4	Right corner longitude of first frame of accession.
*LAT(3)	67	Char Num	PIC'-(2)9V.9999'	S2,4	Left corner latitude of last frame of accession.
*LON(3)	75	Char Num	PIC'-(3)9V.9999'	S3,4	Left corner longitude of last frame of accession.
*LAT(4)	84	Char Num	PIC'-(2)9V.9999'	S2,4	Right corner latitude of last frame of accession.
*LON(4)	92	Char Num	PIC'-(3)9V.9999'	S3,4	Right corner longitude of last frame of accession.
FCPLAT	101	Char Num	PIC'-(2)9V.9999'	S2,4	Latitude of first frame center point.
FCPLON	109	Char Num	PIC'-(3)9V.9999'	S3,4	Longitude of first frame center point.
LCPLAT (non-Landsat)	118	Char Num	PIC'-(2)9V.9999'	S2,4	Latitude of last frame center point. Zero-filled for Landsat.

* May be zero-filled for data held by foreign stations.

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
LCPLON (non-Landsat)	126	Char Num	PIC'-(3)9V.9999'	S3,4	Longitude of last frame center point. Zero-filled for Landsat
SNSR	135	Alpha	Char(3)	3	Image sensor. This field identifies the type of sensor used to record the image. Valid codes are given in Table 7. (This field is blank for Landsat.)
FILT	138	Alpha	Char(2)	2	Filter type. This code represents the type of filter used when the image was recorded. Valid codes are given in Table 8.
FILM	140	Alpha	Char(3)	3	Film type. This field represents the type of film used to record the image. Valid codes are given in Table 9.
FL	143	Char Num	PIC'(4)9V.9'	4,1	Focal length of sensor. This field represents the focal length in millimeters of the sensor used to record the image. (Blank and zeros for Landsat.)
FH (non-Landsat)	149	Char Num	PIC'(5)9V.9'	5,1	Flying height of image. This field contains the flying height, in hundreds of meters, at which the accession was acquired.
SCALE	156	Char Num	PIC'(7)9'	7	Scale of image. This field represents the reciprocal scale factor of the image.
SOURCEFORMAT(1)	163	Char Num	PIC'(4)9'	4	Consists of two fields representing the image format on the roll of film, expressed in millimeters.
SOURCEFORMAT(2) (non-Landsat)	167	Char Num	PIC'(3)9'	3	SOURCEFORMAT(1)=Image Film Length. SOURCEFORMAT(2)=Image Film Width.

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
STOV (non-Landsat)	170	Numeric(I)	PIC'9'	1	Stereo overlap. Indicates amount of image overlap in tens of percent.
RECHTECH	171	Alpha	Char(2)	2	Recording technique used. For valid codes, see Table 10.
IMAGETYPE	173	Alpha	Char(2)	2	Image type. For valid codes, see Table 11.
QUALITY	175	Alpha	Char(1)	1	Image quality of all data. Quality codes are assigned to three categories of imagery, as follows: 1) Landsat 70mm and 241mm black and white masters. 2) Landsat 9½-inch color masters. 3) Non-Landsat rolls/strips/ single-frame masters. For pre-EDIPS Landsat black and white masters, valid codes are: 8=Good 5=Fair 2=Poor 0=Very Poor M=Missing C=Calibration X=Unknown. For post-EDIPS Landsat black and white masters, this quality field will be set to the best pipeline chip quality. (Note: If more than one pipeline chip SOURCE/SLL exists, this will be the best found overall.)

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
					For Landsat color masters, valid codes are: 9=Excellent 8=Good 7= · 6= · 5=Fair 4= · 3= · 2=Poor 0=Very Poor X=Unknown For non-Landsat masters, valid codes are: 8=Good 5=Fair 2=Poor 0=Very Poor
CLOUDCOVER	176	Alpha	Char(1)	1	Cloud cover of the image in terms of percent. This field represents the portion of an image that is obscured by clouds. The code is a single digit representing tens of percent and ranging from 0 for no cloud cover to 9 for 90 percent cloud cover. Contains "X" if unknown.
GENER	177	Numeric(I)	PIC'9'	1	Generation of this source. 9=multiple.
FIS	178	Alpha	Char(1)	1	Type of film in archives.
DATEOFENTRY	179	Numeric(I)	PIC'(6)9'	6	Date of MIF entry of this accession record.
FILL1	185	Alpha	Char(6)	6	Not used. Asterisk-filled.

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
BANDUSABILITY(5) (LS rolls)	191	Alpha	Char(1)	5	Band usability indicator for color composites. Band indicators are initially set to "X" for all five bands. As bands are identified as unusable for making color composites, the indicator for that band will be changed to "N" by Data Management. Y=Bands register N=Bands do not register P=Possible X=Unknown
DATETAKEN	196	Numeric(I)	PIC'(6)9'	6	Date of acquisition. This field contains the date this accession was acquired, formatted as yymmdd.
FILL2	202	Alpha	Char(8)	8	Unused. Asterisk-filled.
ROLLNUMBER	210	Alpha	Char(6)	6	Roll number. This field is used to identify the roll of film containing the imagery accession Some types of data do not exist in roll form; for those types, the roll field is not applicable (Blank for non-Landsat.)
FRAMES(4) (LS rolls)	216	Numeric(I)	PIC'(5)9'	20	Frame number (4 fields). These fields contain four frame numbers as described below: 1) FRAMES(1). First frame number. This field is defined differently for the following different types of accessions: a) Landsat 1 and 2 RBV--frame of the Band 1 image. b) Landsat 3 RBV--frame number of RBV subscene. c) Landsat 1, 2, and 3 MSS--frame number of the Band 4 image.

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
					2) FRAMES(2) This field is defined differently for the following types of accessions: a) Landsat 1 and 2 RBV--frame number of the Band 2 image. b) Landsat 1, 2, and 3 MSS--frame number of the Band 5 image. 3) FRAMES(3) Frame Number: a) Landsat 1 and 2 RBV--frame number of the Band 3 image. b) Landsat 1, 2, and 3 MSS--frame number of the Band 6 image. 4) FRAMES(4) Frame Number: Landsat 1, 2, and 3 MSS--frame number of the Band 7 image.
NUMBRIMAGES	236	Numeric(I)	PIC'(4)9'	4	Number of accessions this source.
FRMS	240	Numeric(I)	PIC'(4)9'	4	Number of MICRO images this accession.
STORAGLOCAT	244	Alpha	Char(9)	9	Storage location of film.
FILL3	253	Alpha	Char(2)	2	Unused. Asterisk-filled.

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
ACCSTATUS	255	Alpha	Char(1)	1	Record status code. This code indicates status of the accessio for Data Management and controls inquiry for pipeline products. Valid codes are: G=Retrievable; has orderable products (normal status). Z=Not retrievable; to be deleted. H=Not retrievable; being analyzed by Data Management. X=Not retrievable; problem accession. N=Not retrievable; in pipe-line processing. T=To be retransmitted and reprocessed through EDIPS.
FILL4	256	Alpha	Char(12)	12	Unused. Asterisk-filled.
USAGE	268	Numeric(I)	PIC'(7)9'	7	Number of times ordered.
IMAGEQUALITY(5) (LS rolls)	275	Alpha	Char(1)	5	Landsat image quality. Consists of five fields that represent the image quality of Landsat imagery. The fifth field is not used for Landsat 1 or 2, but it is used for Landsat 3 imagery. The possible codes are as follows: 0=In archive but not printable. 2=Poor 5=Fair 8=Good M=Unorderable; band missing X=Unknown R=Remake scene next time band is ordered. C=Calibration *=Not applicable
LASTUPDATE	280	Numeric(I)	PIC'(6)9'	6	Date of the last update (change) to this accession.

TABLE 2

MAIN IMAGE FILE TAPE RECORD LAYOUT (cont.)

Data Element	Position	Type	PL/I Structure	Size (Bytes)	Description
GEOKEY		Group			Geographic key. These fields contain the EDC-assigned key to this record in the data base. This key is used for all geographic retrievals of this recor It is based on the zone, latitud and longitude of the midpoint of the accession, and the agency. Latitude/longitude are of the southeast corner of a one-degree square cell within which the corner point of this accession lies. The possible codes, which define the quadrant of the Earth's surface containing the midpoint of the accession, are as follows: 1=N latitude, E longitude 2=N latitude, W longitude 3=S latitude, E longitude 4=S latitude, W longitude 5=Not used. 6=Zone 1 but cloud cover > 3. 7=Zone 2 but cloud cover > 3. 8=Zone 3 but cloud cover > 3. 9=Zone 4 but cloud cover > 3. All foreign data exists in zones 6-9 regardless of cloud cover.
ZONE	286	Numeric(I)	PIC'9'	1	
KEYLAT	287	Numeric(I)	PIC'99'	2	
KEYLON	289	Numeric(I)	PIC'999'	3	
AGENCY	292	Alpha	Char(1)	1	

5.3 Data Element Code Tables

The data element code tables included in this section are extractions from the EDC Data Base Manual, Document EDC-004, and they are updated frequently. Updated versions may be obtained upon request from the EROS Data Center, Computer Services Branch, Attention: Chief, Software Development Section, Sioux Falls, South Dakota 57198.

Table 3. TYPE ACCESSIONS

CODE	NAME	DESCRIPTION
1	Block	The accession is referenced as a rectangle. It may include the standard USGS photo index that geographically conforms to N-S, E-W directions or it may be an unoriented block. This is basically a mosaic of multiple images.
2	Strip	The accession is referenced as a straight-line portion of a flight of aerial photography consisting of two or more individual images.
3	Scanner	The accession is referenced as a variable length, continuous straight line strip of scanner type data. It will also include SLAR and Panoramic data.
5	Individual	The accession in all cases consists of a single or multispectral image, either satellite or aircraft imagery. This will include both vertical and oblique photography.

********** END TABLE 3 **********

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
Assigns to each image accession a unique identification for that frame of imagery. Formats have been developed for each agency to allow identification in the EDC data base that is comparable to the originating agency's identification of that imagery. See Table 3 for description of accession types.					
1	USGS	1	1PPPPPCCCFFFF	AGENCY	1
				PROJECT (LEFT JUSTIFIED)	5
				MICROFILM CASSETTE	3
				MICROFILM FRAME	4
1	USGS	2	1PPPPPRRRFFFF	AGENCY	1
				PROJECT	5
				ROLL	3
				FRAME	4
1	USGS	5	2PPPPPRRRFFFF	AGENCY	1
				PROJECT	5
				ROLL	3
				FRAME	4
2	USBR	1	2PPPPPPCCFFFF	AGENCY	1
				PROJECT (LEFT JUSTIFIED)	6
				MICROFILM CASSETTE	2
				MICROFILM FRAME	4
3	BIA	1	3PPPPPPCCFFFF	AGENCY	1
				PROJECT (LEFT JUSTIFIED)	6
				MICROFILM CASSETTE	2
				MICROFILM FRAME	4

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
3	BIA	2	3PPPPRRSSSFFF	AGENCY	1
				PROJECT	4
				ROLL	2
				STRIP	3
				FRAME	3
3	BIA	5	3PPPPRRSSSFFF	AGENCY	1
				PROJECT	4
				ROLL	2
				STRIP	3
				FRAME	3
4	USBLM	1	4PPPPPPCCFFFF	AGENCY	1
				PROJECT (LEFT JUSTIFIED)	6
				MICROFILM CASSETTE	2
				MICROFILM FRAME	4
5	NASA AMES	2	5YY0RRRRRFFFF	AGENCY	1
				YEAR	2
				LITERAL = 0	1
				ROLL	5
				FRAME	4
5	NASA AMES	5	5YY0RRRRRFFFF	AGENCY	1
				YEAR	2
				LITERAL = 0	1
				ROLL	5
				FRAME	4
5	NASA AMES	5	5CITYRRRRFFFF	AGENCY	1
				LITERAL = CITY	4
				ROLL	4
				FRAME	4

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
6	NASA JSC*	2	6MMM0RRRSFFFF	AGENCY	1
				MISSION	3
				ZERO OR MISSION SUFFIX	1
				ROLL	3
				SENSOR** OR ZERO FOR MISSIONS > 120	1
				FRAME	4
6	NASA JSC*	5	6MMM0RRRSFFFF	AGENCY	1
				MISSION	3
				ZERO OR MISSION SUFFIX	1
				ROLL	3
				SENSOR** OR ZERO FOR MISSIONS > 120	1
				FRAME	4
6	NASA JSC	5	6CITYRRRSFFFF	AGENCY	1
				LITERAL = CITY	4
				ROLL	3
				SENSOR ** OR ZERO FOR MISSIONS > 120	1
				FRAME	4

* SENSOR BREAK USED FOR ALL MISSIONS PRIOR TO 121
** SEE TABLE 2-14 FOR SENSOR BREAK IDENTIFICATION

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
7	MANNED SATELLITE	5	7SMMRRRRFFFFF	AGENCY	1
				LITERAL = A FOR APOLLO = G FOR GEMINI	1
				MISSION NUMBER	2
				ROLL DESIGNATOR (ROLL NUMBER OR MAGAZINE LETTERS)	4
				FRAME NUMBER	5
8	LANDSAT	5	8SDDDHHMMSB00	AGENCY	1
				SATELLITE NUMBER: 1 = LNDST 1 < 1000 DAYS SINCE LAUNCH 2 = LNDST 2 < 1000 DAYS SINCE LAUNCH 5 = LNDST 1 > 1000 DAYS SINCE LAUNCH 6 = LNDST 2 > 1000 DAYS SINCE LAUNCH	1
				DAYS SINCE LAUNCH	3
				HOUR (GMT) OF EXPOSURE	2
				MINUTE (GMT) OF EXPOSURE	2
				TENS OF SECONDS (GMT) OF EXPOSURE	1
				SENSOR IDENTIFIER: 2 = RBV 5 = MSS	1
				LITERAL = 00	2
8	LANDSAT	5	8SDDDDHHMMSXB	AGENCY	1
				SATELLITE	1
				DAYS SINCE LAUNCH	4
				HOUR (GMT) OF EXPOSURE	2

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
				MINUTE (GMT) OF EXPOSURE	2
				TENS OF SECONDS (GMT) OF EXPOSURE	1
				LITERAL = X	1
				SUBSCENE: 0 = MSS SCENE A = RBV SUBSCENE A B = RBV SUBSCENE B C = RBV SUBSCENE C D = RBV SUBSCENE D	1
8	LANDSAT	5	8BYYDDDHHMMSS	AGENCY	1
				Literal B for Brazil	1
				Year of exposure	2
				Julian date of exposure	3
				Hour of exposure	2
				Minute of exposure	2
				Second of exposure	2
8	LANDSAT	5	8DSDDDDHHMMS0	AGENCY	1
				Literal D for Italy	1
				Satellite 1 = Landsat 1 2 = Landsat 2 3 = Landsat 3	1
				Days since launch	4
				Hour of exposure	2
				Minute of exposure	2
				Tens of seconds of exposure	1
				Literal 0	1

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
A	ARMY	1	APPPLLCCCFFFF	AGENCY	1
				PROJECT	3
				LOT	2
				MICROFILM CASSETTE	3
				MICROFILM FRAME	4
B	AIR FORCE	1	BPPPPPCCCFFFF	AGENCY	1
				PROJECT	5
				MICROFILM CASSETTE	3
				MICROFILM FRAME	4
B	AIR FORCE	2	BPPPPPRRRFFFF	AGENCY	1
				PROJECT OR MISSION	5
				ROLL	3
				FRAME	4
B	AIR FORCE	5	BPPPPPRRRFFFF	AGENCY	1
				PROJECT OR MISSION	5
				ROLL	3
				FRAME	4
C	NAVY	1	CPPPPPCCCFFFF	AGENCY	1
				PROJECT	5
				MICROFILM CASSETTE	3
				MICROFILM FRAME	4
C	NAVY	2	CPPPPPRRRFFFF	AGENCY	1
				PROJECT (LEFT JUSTIFIED)	5
				ROLL (RIGHT JUSTIFIED)	3
				FRAME (RIGHT JUSTIFIED)	4

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
F	NASA KENNEDY	2	FPPPPRRR0FFFF	AGENCY	1
				PROJECT	4
				ROLL	3
				FRAME	4
G	NASA SKYLAB	5	GMSSRRRFFF000	AGENCY	1
				LITERAL	1
				CHAR NO. 3 AND 4 OF SKYLAB SENSOR DESIGNATION	2
				MAGAZINE (ROLL)	3
				FRAME	3
				LITERAL = 000	3
G	NASA SKYLAB HANDHELD	5	GMFFRRRFFFF00	AGENCY	1
				LITERAL = 2 FOR SKYLAB 2 = 3 FOR SKYLAB 3 = 4 FOR SKYLAB 4	1
				FORMAT SIZE	2
				MAGAZINE ROLL	3
				FRAME	4
				LITERAL = 00	2
H	ALASKA/ MISC	2	HLLLLLLLLLLLL	AGENCY	1
				LITERAL DESCRIPTION	12
I	NSTL	2	IMMMMRRRFFFFF	AGENCY	1
				MISSION	4
				ROLL	3
				FRAME	5

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
K	ALASKA 1:250,000 MAP LINE PLOTS	1	KOOAKCCCCFFFF	AGENCY	1
				LITERAL = OOAK	4
				MICROFILM CASSETTE	4
				MICROFILM	4
L	WORLD DATA CENTER GLACIOLOGY	5	LPPRRRRRFFFFF	AGENCY	1
				PROJECT	2
				ROLL	5
				FRAME	5
N	USCE	2	NPPPPRRRFFFFF	AGENCY	1
				PROJECT	4
				ROLL (RIGHT JUSTIFIED)	3
				FRAME (RIGHT JUSTIFIED)	5
P	EDC	2	PMMMMMMRRFFFF	AGENCY	1
				PROJECT (LEFT JUSTIFIED)	6
				ROLL (RIGHT JUSTIFIED	2
				LITERAL = ROLL	4
P	EDC	5	PMMMMMMRRFFFF	AGENCY	1
				PROJECT (LEFT JUSTIFIED)	6
				ROLL (RIGHT JUSTIFIED)	2
				FRAME	4
R	NASA GSFC	2	RNNNORRRUFFFF	AGENCY	1
				MISSION NUMBER	3
				LITERAL = 0	1
				ROLL	3
				UNIQUE ROLL IDENTIFIER	1

Table 4. PHOTO ID FORMATS

AGENCY CODE	AGENCY	TYPE ACCESSION CODE	FORMAT	DESCRIPTION	LENGTH
				FRAME	4
T	EPA	2	TMMMMMRRRFFFF	AGENCY	1
				Mission (right justified)	5
				Roll (right justified)	3
				Frame	4
T	EPA	5	TMMMMMRRRFFFF	AGENCY	1
				Mission (right justified)	5
				Roll (right justified)	3
				Frame	4

********** END TABLE 4 **********

Table 5. AGENCY CODES

CODE	AGENCY
1	U.S. Geological Survey
2	U.S. Bureau of Reclamation
3	U.S. Bureau of Indian Affairs
4	U.S. Bureau of Land Management
5	NASA-Ames Research Center
6	NASA-Johnson Space Center
7	NASA-Apollo, Gemini, ASTP
8	NASA-Landsat Satellites
9	Environmental Research Institute of Michigan
0	(Not Used -- numeric 0)
A	Army Map Service
B	U.S. Air Force
C	U.S. Navy
D	NASA-Wallops Island
E	South Dakota State University
F	NASA-Kennedy Space Flight Center
G	NASA-Skylab Satellite
H	EROS Data Center-Miscellaneous
I	National Space Technology Laboratories

Table 5. AGENCY CODES

CODE	AGENCY
K	Alaska Microfilm-Alaska Indices
L	World Data Center A-Glaciology
M	(Not Used)
N	U.S. Corps of Engineers
O	(Not Used -- alpha O)
P	EROS Data Center
Q	(Not Used)
R	NASA-Marshall Space Flight Center
T	Environmental Protection Agency
*	Combination (microfiche)

********** END TABLE 5 **********

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILMROLL	ABPPPPPPPPPPPP000	SOURCE CLASS	1
			SOURCE TYPE	1
			PHOTO ID	13
			LITERAL = 000	3
AB	FILM ROLL (USGS)	AB1PPPPPRRRRRR000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	5
			ROLL	7
			LITERAL = 000	3
AB	FILM ROLL (USBR)	AB2PPPPPPRRRSSS000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	6
			ROLL	3
			STRIP	3
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILM ROLL (BIA)	AB3PPPPPPRRRSSS000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	6
			ROLL	3
			STRIP	3
			LITERAL = 000	3
AB	FILM ROLL (USBLM)	AB4PPPPPPRRRSSS000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	6
			ROLL	3
			STRIP	3
			LITERAL = 000	3
AB	FILM ROLL (AMES	AB5YYORRRRROLL000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			YEAR	2
			LITERAL = 0	1
			ROLL	5
			LITERAL = ROLL	4
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILM ROLL (JSC)	AB6MMM0RRRSROLL000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	3
			LITERAL = 0	1
			ROLL NUMBER	3
			SENSOR OR ZERO FOR MISSION > 120	1
			LITERAL = ROLL	4
			LITERAL = 000	3
AB	FILM ROLL (MANNED SAT)	AB7IMMLL0RRR000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			INDICATOR: = 'A' FOR APOLLO = 'G' FOR GEMINI	1
			MISSION	2
			MAGAZINE DESIGNATOR	2
			LITERAL = 0	1
			ROLL	3
			LITERAL = 000000	6

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILM ROLL (LANDSAT)	AB8RRRRRRN00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			ROLL	6
			SEQUENCE NO. (EDC ASSIGNED)	1
			LITERAL = 00000000	8
AB	FILM ROLL (ENVIRONMENTAL RESEARCH INSTITUTE OF MICHIGAN)	AB9MMMSRRRFF000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	3
			MISSION SUFFIX (ALWAYS 'M')	1
			ROLL	3
			FLIGHT	2
			LITERAL = 000000	6
AB	FILM ROLL (ARMY)	ABAPPPLL000RRRR000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	3
			LOT	2
			LITERAL = 000	3
			ROLL	4
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILM ROLL (AIR FORCE)	ABBPPPPP0000RRR000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	5
			LITERAL = 0000	4
			ROLL	3
			LITERAL = 000	3
AB	FILM ROLL (NAVY)	ABCPPPPP0000RRR000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	5
			LITERAL = 0000	4
			ROLL	3
			LITERAL = 000	3
AB	FILM ROLL (WALLOPS)	ABDMMMMFFRRLL00000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	4
			FLIGHT	2
			ROLL	2
			MAGAZINE NUMBER	2
			LITERAL = 00000	5

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILM ROLL (SDSU)	ABEMMMMMMRRFF00000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	6
			ROLL	2
			FLIGHT	2
			LITERAL = 00000	5
AB	FILM ROLL (KENNEDY)	ABFMMMSRRR00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	3
			MISSION SUFFIX	1
			ROLL	3
			LITERAL = 00000000	8
AB	FILM ROLL (SKYLAB)	ABGISSRRR000000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			INDICATOR:	1
			= '2' FOR SKYLAB 2	
			= '3' FOR SKYLAB 3	
			= '4' FOR SKYLAB 4	
			CHAR 3 AND 4 OF SKYLAB SNSR	2
			MAGAZINE NUMBER	3
			LITERAL = 000000000	9

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = EDC	3
			MISCELLANEOUS INDICATOR: = 'D' FOR DEDICATION = 'O' FOR OPEN HOUSE	1
			YEAR	2
			MONTH	2
			DAY	2
			ROLL	2
			LITERAL = 000	3
AB	FILM ROLL (ALASKA/MISC.)	ABHPPPP00000RRR000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	4
			LITERAL = 00000	5
			ROLL	3
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILM ROLL (NSTL)	ABIMMMMRRROROLL000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	4
			ROLL	3
			LITERAL = 0	1
			LITERAL = ROLL	4
			LITERAL = 000	3
AB	FILM ROLL (WORLD DATA CENTER , GLACIOLOGY)	ABLPP00000RRRRR000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	2
			LITERAL = 00000	5
			ROLL	5
			LITERAL = 000	3
AB	FILM ROLL (USCE)	ABNPPPPRRRROLLO000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	4
			ROLL	3
			LITERAL = ROLLO	5
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AB	FILM ROLL (EDC)	ABPMMMMMMRRROLL000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	6
			ROLL	2
			LITERAL = ROLL	4
			LITERAL = 000	3
AB	FILM ROLL (MSFC)	ABRMMM0RRRUROLL000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	3
			LITERAL = 0	1
			ROLL	3
			UNIQUE ROLL IDENTIFIER	1
			LITERAL = ROLL	4
			LITERAL = 000	3
AB	FILM ROLL (EPA)	ABTMMMMMRRRROLL000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			MISSION	5
			ROLL	3
			LITERAL = ROLL	4
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
AE	FILM ROLL (LANDSAT BAND 8)	AE8RRRRRRN00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			ROLL	6
			SEQUENCE NUMBER	1
			LITERAL = 00000000	8
AQ	SPECIAL COLOR COMPOSITES	AQAAAAAAAAAAAAASSS	SOURCE CLASS	1
			SOURCE TYPE	1
			ACCESSION ID	13
			SEQUENCE NO.	3
AR	STANDARD COLOR COMPOSITES	ARAAAAAAAAAAAAASSS	SOURCE CLASS	1
			SOURCE TYPE	1
			ACCESSION ID	13
			SEQUENCE NO.	3
AS	DIGITALLY EN-HANCED B/W	ASAAAAAAAAAAAAASSS	SOURCE CLASS	1
			SOURCE TYPE	1
			ACCESSION ID	13
			SEQUENCE NO.	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
BB	CCT	BBPPPPPPPPPPPPP000	SOURCE CLASS	1
			SOURCE TYPE	1
			PHOTO ID	13
			LITERAL = 000	3
BH	HDT-P COPY	BHGGGGGGGGGGGG0000	SOURCE CLASS	1
			SOURCE TYPE	1
			GODDARD ID	13
			LITERAL = 000	3
CB	MICROFILM	CBPPPPPPPPPPPPP000	SOURCE CLASS	1
			SOURCE TYPE	1
			PHOTO ID	13
			LITERAL = 000	3
CB	MICROFILM (USGS)	CB1MFUSGSOCCCCC000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MFUSGSO	7
			MICROFILM CASSETTE	5
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
CB	MICROFILM (USGS)	CB1PPPPPRRRFFFF000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			PROJECT	5
			ROLL	3
			FRAME	4
			LITERAL = 000	3
CB	MICROFILM (BIA)	CB3MFICCCC00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			MICROFILM CASSETTE	4
			LITERAL = 00000000	8
CB	MICROFILM (AMES)	CB5MFICCCC00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			MICROFILM CASSETTE	4

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
			LITERAL = 00000000	8
CB	MICROFILM (JSC)	CB6MFMMMMIJJ0KK000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			MISSION	4
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			MAGAZINE NO.	2
			LITERAL = 0	1
			TOTAL NO. OF MAGAZINES	2
			LITERAL = 000	3
CB	MICROFILM (MANNED SAT)	CB7MFSCXX0YY000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			INDICATOR:	1
			= 'A' FOR APOLLO	
			= 'G' FOR GEMINI	
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			MICROFILM CASSETTE	2

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
			LITERAL = 0	1
			TOTAL NO. OF CASSETTES	2
			LITERAL = 000000	6
CB	MICROFILM (LANDSAT)	CB8MFERTSIICCCC000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MFERTS	6
			INDICATOR:	1
			= '1' FOR LANDSAT 1	
			= '2' FOR LANDSAT 2	
			= '3' FOR LANDSAT 3	
			= '7' FOR INTERIM SYSTEM	
			INDICATOR:	1
			= '1' FOR U.S.	
			= '2' FOR NON-U.S.	
			= '9' FOR BOTH	
			CYCLE NO.	4
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
CB	MICROFILM (KENNEDY)	CBFMFICCCC00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			MICROFILM CASSETTE	4
			LITERAL = 00000000	8
CB	MICROFILM (SKYLAB)	.CBMFMSIJJKK000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			INDICATOR:	1
			= '1' FOR SKYLAB 1	
			= '2' FOR SKYLAB 2	
			= '3' FOR SKYLAB 3	
			INDICATOR:	1
			= 'A' FOR 190A	
			= 'B' FOR 190B	
			= 'H' FOR HAND-HELD	
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			MAGAZINE NO.	2

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
			TOTAL NO. OF MAGAZINES	2
			LITERAL = 000000	6
CB	MICROFILM (ALASKA)	CBKMFAKCCCC0000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MFAK	4
			MICROFILM CASSETTE	4
			LITERAL = 0000000	7
CB	MICROFILM (EDC)	CBPMFEDCICCCCCC000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			LITERAL = EDC	3
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			MICROFILM CASSETTE	6
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
CB	MICROFILM (MSFC)	CBRMFI00000XXXX000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			LITERAL = MF	2
			INDICATOR:	1
			= 'B' FOR BLACK AND WHITE	
			= 'C' FOR COLOR	
			LITERAL = 00000	5
			EDC CASSETTE NO.	4
			LITERAL = 000	3
CD	MICROFICHE (IMAGES)	CDZPPPDDDDDD00000S	SOURCE CLASS	1
			SOURCE TYPE	1
			ZONE	1
			PATH	3
			DATE	6
			LITERAL = 00000	5
			SATELLITE	1
CE	MICROFICHE (DOCUMENT)	CEAWORLDSSS0000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			AREA	5
			SUBSCRIPTION	3
			LITERAL = 0000000	7

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
CE	MICROFICHE (DOCUMENT)	CEAWORLDCCC0000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			AREA	5
			CURRENT	3
			LITERAL = 0000000	7
CE	MICROFICHE (DOCUMENT)	CEAZONESSS00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			AREA	4
			SUBSCRIPTION	3
			LITERAL = 00000000	8
CE	MICROFICHE (DOCUMENT)	CEAZONECCC00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			AREA	4
			CURRENT	3
			LITERAL = 00000000	8

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
CE	MICROFICHE (DOCUMENT)	CEAREGNSSS00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			AREA	4
			SUBSCRIPTION	3
			LITERAL = 00000000	8
CE	MICROFICHE (DOCUMENT)	CEAREGNCCC00000000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			AREA	4
			CURRENT	3
			LITERAL = 00000000	8
CE	MICROFICHE (DOCUMENT)	CEAZPPPYYMMDDYY000	SOURCE CLASS	1
			SOURCE TYPE	1
			AGENCY	1
			ZONE	1
			PATH	3
			DATE	8
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
CG	MICROFICHE (IRREGULAR ACCESSION)	CGIMMMMFFSSSDDDDDD	SOURCE CLASS	1
			SOURCE TYPE	1
			TYPE	1
			MAP NUMBER	4
			FILM TYPE/SEQ	5
			DATE	6
CH	MICROFICHE (BLOCK ACCESSION)	CGBMMMMFFSSSDDDDDD	SOURCE CLASS	1
			SOURCE TYPE	1
			TYPE	1
			MAP NUMBER	4
			FILM TYPE/SEQ	5
			DATE	6
DB	MAP/LINE PLOTS (< 10 X 14)	DBPPPPPPPPPPPPP000	SOURCE CLASS	1
			SOURCE TYPE	1
			PHOTO ID	13
			LITERAL = 000	3
DC	PHOTO INDICES (< 10 X 14)	DCPPPPPPPPPPPPP000	SOURCE CLASS	1
			SOURCE TYPE	1
			PHOTO ID	13
			LITERAL = 000	3

Table 6. SOURCE ID FORMATS

CLASS/ TYPE	SOURCE	FORMAT	DESCRIPTION	LENGTH
DD	PHOTO INDICES (> 10 X 14)	DDPPPPPPPPPPPPP000	SOURCE CLASS	1
			SOURCE TYPE	1
			PHOTO ID	13
			LITERAL = 000	3
DE	MAP/LINE PLOTS (> 10 X 14)	DEPPPPPPPPPPPPP000	SOURCE CLASS	1
			SOURCE TYPE	1
			PHOTO ID	13
			LITERAL = 000	3

********** END TABLE 6 **********

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
	For ease of preparation, the focal length ranges given in this table were truncated to represent whole numbers. The ranges are actually significant to one-tenth of a millimeter. Thus, a range given below as 608 - 611 should be interpreted as meaning 608.0 - 611.0. This applies to all focal length ranges given here.					
C01	Vertical Framing Camera. Center camera of A-3 configuration	Unknown	Manned A/C	0457/229	24	608-611
C02	HR-732R Vertical framing camera. Rear camera of A-3 configuration	Unknown	Manned A/C	0457/229	24	608-611
C03	RC-10 Metric framing camera	Wild-Heerbrugg	Manned A/C	0229/229	12	300-308
C04	Do Not Use - Same as C28, HP-307D					
C05	KA-50 Wide Angle Camera	CAI	Manned A/C	0114/114	1.75	40-48
C06	KA-20	Unknown	Manned A/C	Unknown	?	Unknown

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C07	Do Not Use - Same as C08, HR-73B1					
C08	HR-73B1 Baker System (18 x 18) vertical, left oblique, right oblique	Unknown	Manned A/C	0457/229	36	912-916
C09	Optical Bar Panoramic Camera(OBPC)	ITEK	Manned A/C	1282/114	24	608-611
C10	I-2 S Multispectral Framing Camera, four subframes 92mm x 92mm per frame	INT. IMG SYS	Manned A/C	0229/229	6	150-155
C11	KA-96 High resolution framing camera	Unknown	Manned A/C	0114/114	24	608-611
C12	Do Not Use - Same as C09, OBPC					
C13	Hass - Handheld Satellite Apollo/Gemini	Hasselblad	Manned S/C	0057/057	1.5	38-38
C14	Hass - Handheld Satellite Apollo/Gemini	Hasselblad	Manned S/C	0057/057	2.25	60-60

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C15	Hass - Handheld Satellite Apollo/Gemini	Hasselblad	Manned S/C	0057/057	4	100-100
C16	Hass - Handheld Satellite Apollo/Gemini	Hasselblad	Manned S/C	0057/057	4.25	105-105
C17	Mauer - Handheld Satellite Apollo/Gemini	Mauer	Manned S/C	0057/057	2	50-50
C18	Mauer - Handheld Satellite Apollo/Gemini	Mauer	Manned S/C	0057/057	3	80-80
C19	KA-76	CAI	Manned A/C	0114/114	6	150-155
C20	F224	Unknown	Manned A/C	0229/229	6	150-155
C21	RC-10 Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	8.25	200-212
C22	CA-3	Unknown	Manned A/C	Unknown	12	300-308
C23	K-17 Kargyl	Unknown	Manned A/C	0229/229	12	300-308
C24	Aroview	Unknown	Manned A/C	Unknown	8.25	200-212

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C25	Airagon	Airagon	Manned A/C	Unknown	8.25	200-212
C26	Fairchild	Fairchild	Manned A/C	Unknown	8.25	200-212
C27	KC-6A	Fairchild	Manned A/C	0229/229	6	150-155
C28	HP-307D Panoramic Camera	Hycon	Manned A/C	0183/057	3	77-82
C29	Hasselblad MK-70	Hasselblad	Manned A/C	0057/057	3	77-82
C30	Not Presently Used					
C31	RC-8 Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	6	150-155
C32	T-11	Fairchild	Manned A/C	0229/229	6	150-155
C33	Aerosol Particulate Sampler (APS)	Unknown	Manned A/C	Unknown	N/A	N/A
C34	K-17 CHI AER	Unknown	Manned A/C	Unknown	18	450-460
C35	K-17 Nikon Data	Nikon	Unknown	Unknown	?	Unknown
C36	Zeiss	Zeiss	Manned A/C	0229/229	12	300-308

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C37	RMK 30/23	Zeiss	Manned A/C	0229/229	12	300-308
C38	RMK 15/23	Zeiss	Manned A/C	0229/229	12	150-155
C39	Hasselblad 70 mm Framing Camera	Hasselblad	Manned A/C	0057/057	1.5	38-42
C40	ITEK MBand	ITEK	Unknown	Unknown	4	100-105
C41	ITEK MBand	ITEK	Unknown	Unknown	6	150-155
C42	Hasselblad 500EL	Hasselblad	Manned A/C Manned S/C	0057/057	2	48-52
C43	Hasselblad 500EL	Hasselblad	Manned A/C Manned S/C	0057/057	3	77-82
C44	Hasselblad 500EL	Hasselblad	Manned A/C Manned S/C	0057/057	4.75	118-124
C45	Hasselblad 500EL	Hasselblad	Manned A/C	0057/057	6	150-155
C46	Hasselblad 500EL	Hasselblad	Manned A/C Manned S/C	0057/057	9.75	245-255

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C47	Hasselblad 500EL	Hasselblad	Manned A/C	0057/057	19.75	495-505
C48	KA-62 Multiband Framing Camera (A)	CAI	Manned A/C	0114/114	3	76-82
C49	KA-62 Multiband Framing Camera (B)	CAI	Manned A/C	0114/114	3	76-82
C50	KA-62 Multiband Framing Camera (C)	CAI	Manned A/C	0114/114	3	76-82
C51	KA-62 Multiband Framing Camera (D)	CAI	Manned A/C	0114/114	3	76-82
C52	KA-62 Multiband Framing Camera (E)	CAI	Manned A/C	0114/114	3	76-82
C53	KA-62 Multiband Framing Camera (F)	CAI	Manned A/C	0114/114	3	76-82
C54	Vinten 70 mm Framing Camera	Vinten	Manned A/C	0057/057	1.75	40-48
C55	Smith	Unknown	Manned A/C	Unknown	6	150-155

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C56	Fairchild T5	Fairchild	Manned A/C	Unknown	6	150-155
C57	Hurd	Unknown	Manned A/C	Unknown	6	150-155
C58	Park	Park	Manned A/C	Unknown	6	150-155
C59	RC-5	Wild-Heerbrugg	Manned A/C	0229/229	6	150-155
C60	K17	Unknown	Manned A/C	Unknown	6	150-155
C61	AERO 63	Unknown	Manned A/C	Unknown	6	150-155
C62	Aerogon	Unknown	Manned A/C	Unknown	6	150-155
C63	Kargyl	Unknown	Manned A/C	Unknown	6	150-155
C64	Aerogon	Unknown	Manned A/C	Unknown	6	150-155
C65	Wild	Wild-Heerbrugg	Manned A/C	Unknown	6	150-155
C66	Aero/View	Aero/View	Manned S/C	Unknown	6	150-155
C67	Kargyl K-17	Unknown	Manned A/C	Unknown	6	150-155

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C68	Kargyl T-17	Unknown	Manned A/C	Unknown	?	Unknown
C69	RC-9	Wild-Heerbrugg	Manned A/C	0229/229	3.5	84-92
C70	Aero	Unknown	Manned A/C	Unknown	12	300-308
C71	I-2 S Multispectral Framing Camera. Four Subframes 92 x 92 mm per frame	INT IMG SYS	Manned A/C	0229/229	4	95-105
C72	RC-8 (4L) Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	6	150-155
C73	RC-8 (4R) Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	6	150-155
C74	RC-8 (4L) Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	6	300-308
C75	RC-8 (4R) Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	12	300-308
C76	ITEK 9 Lens Multiband Camera	ITEK	Manned A/C	0057/057	6	150-155

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C77	MFMR	Unknown	Unknown	Unknown	?	Unknown
C78	Do Not Use - Same as S04, RX4 IR scanner					
C79	P-220	Mauer	Manned A/C	0057/057	1.5	35-40
C80	Do Not Use - Same as S04, RX4 IR scanner					
C81	KB-8	Unknown	Unknown	Unknown	?	Unknown
C82	RC-8 (1) Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	6	150-155
C83	RC-8 (2) Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	6	150-155
C84	RC-10 Metric Framing Camera	Wild-Heerbrugg	Manned A/C	0229/229	6	150-155
C85	S-190A Multispectral Camera.Skylab - 6 camera array	ITEK	Manned S/C	0057/057	6	150-155

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C86	S-190B Earth Terrain Camera (ETC) Skylab	Actron	Manned S/C	0114/114	18	452-460
C87	DA-50A	Unknown	Unknown	Unknown	?	Unknown
C88	K-12	Unknown	Unknown	Unknown	?	Unknown
C89	C2A	Unknown	Unknown	Unknown	?	Unknown
C90	KA-2	Unknown	Manned A/C	0229/229	6	150-155
C91	Airborne Multispectral Photographic System(AMPS). Aircraft equivalent to S-190A.	ITEK	Manned A/C	0057/057	6	150-155
C92	C24	Unknown	Unknown	Unknown	?	Unknown
C93	K224	Unknown	Unknown	Unknown	?	Unknown
C94	Nikon (Skylab Handheld)	Nikon	Manned S/C	0035/035	2	55-55
C95	HC-730V Vertical Framing Camera	Unknown	Manned A/C	0229/229	6	150-155

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
C96	HC-730L Left Oblique Camera	Unknown	Manned A/C	0229/229	6	150-155
C97	HC-730R Right Oblique Camera	Unknown	Manned A/C	0229/229	6	150-155
C98	HR-732 Framing Camera, Vertical or oblique.	Unknown	Manned A/C	0457/229	24	608-611
C99	HR-732F Vertical Framing Camera. Forward camera of A-3 configuration.	Unknown	Manned A/C	0457/229	24	608-611
D01	Zeiss	Zeiss	Manned A/C	0229/229	3.25	83-88
D02	K-27	Fairchild	Manned A/C	0457/229	12	300-308
D03	KC1B	Fairchild	Manned A/C	0229/229	6	150-155
D04	Zeiss	Zeiss	Manned A/C	0229/229	6	150-155
D05	Park	Park	Manned A/C	0229/229	5.2	130-135
D06	Aero 45	Unknown	Manned A/C	0229/229	4	99-104
D07	Aero	Aero	Manned A/C	0229/229	5.2	130-135

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
D08	WAC	Western Aerial	Manned A/C	0229/229	12	300-308
D09	T12	Kargyl	Manned A/C	0229/229	6	150-155
D10	Smith	Robinson Aerial	Manned A/C	0229/229	5.2	130-135
D11	RMK 8.5/23	Zeiss	Manned A/C	0229/229	3.4	80-90
D12	KS72-Unknown	Hycon	Manned A/C	0114/114	3.0	70-80
D13	KS72-Unknown	Unknown	Manned A/C	0114/114	6	150-155
D14	KS87-Unknown	Unknown	Manned A/C	0114/114	6	150-155
D15	KS87-Unknown	Unknown	Manned A/C	0114/114	6	150-155
D16	KS8783-Unknown	Unknown	Manned A/C	0114/114	3	77-82
D17	KC6A-Unknown	Unknown	Manned A/C	0114/114	6	150-155
D18	KA76-Unknown	Unknown	Manned A/C	0114/114	3	72-82
D19	KC6-Unknown	Unknown	Manned A/C	0114/114	6	77-82

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
D20	RC8 Metric framing camera	Wild-Heerbrugg	Manned A/C	0114/114	6	77-82
S01	AAS-5UV	Unknown	Unknown	Unknown	N/A	0-0
S02	Bendix 24 Channel Multispectral Scanner	Bendix	Manned A/C	Unknown	N/A	0-0
S03	UM	Unknown	Unknown	Unknown		0-0
S04	Reconofax IV IR Scanner (RX4) HRB	Singer	Manned A/C	Vary/057	N/A	0-0
S05	RS-7 Thermal IR Scanner	Texas Inst.	Manned A/C	Vary/057	N/A	0-0
S06	RS-14 IR Scanner	Texas Inst.	Manned A/C	Vary/057	N/A	0-0
S07	RS-310 Mapper	Texas Inst.	Manned A/C	Vary/057	N/A	0-0
S08	RS-314	Unknown	Unknown	Unknown	N/A	0-0
S09	S-192 Multispectral Scanner Skylab EREP	Honeywell vary/114	Manned S/C	Vary/057	N/A	0-0

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
S10	Return Beam Vidicon (RBV) Landsat 1 and 2	RCA	Unmanned S/C	055/055	N/A	0-0
S11	Multispectral Scanner (MSS) Landsat	Hughes Aircraft	Unmanned S/C	053/055	N/A	0-0
S12	APO-97	Unknown	Unknown	Unknown	N/A	0-0
S13	DPD-2 SLAR	Unknown	Unknown	Unknown	N/A	0-0
S14	Do Not Use - Same as C28, Hp-307D					
S15	DP6	Unknown	Unknow	Unknown	N/A	0-0
S16	Multispectral Scanner (MSS), Goddard built.	GSFC	Manned A/C	Vary/057	N/A	0-0
S17	Stratospheric Air Sampler (SAS)	Unknown	Manned A/C	Unknown	N/A	0-0
S18	Ocean Color Scanner (OCS)	Unknown	Manned A/C	Unknown	N/A	0-0
S19	HRB 454 Thermal IR Scanner	Singer	Manned A/C	Unknown	N/A	0-0

Table 7. Sensor Types

CODE	SENSOR	MANUFACTURER	REMOTE SENSING PLATFORM	IFL/IFW (MM)	NOM FL(IN)	FOCAL LENGTH RANGE(MM)
S20	TI-D4 Trans Instruments thermal IR scanner.	Unknown	Unknown	Unknown	N/A	0-0
S21	RS-18B	Texas Inst.	Unknown	Vary/057	N/A	0-0
S22	AAD-2	Unknown	Unknown	Unknown	N/A	0-0
S23	Modular Multiband Scanner (MMS)	Bendix	Manned A/C	Unknown	N/A	0-0
S24	M-7 Multispectral Scanner, Univ. of Michigan.	ERIM	Manned A/C	Unknown	N/A	0-0
S25	Return Beam Vidicon (2 subscene C) Landsat only	RCA 0225/206	Unmanned S/C	058/058	N/A	0-0
U99	Sensor Unknown	N/A	Any	Any	Any	Any

********** END TABLE 7 **********

Table 8. FILTER TYPES

CODE	DESCRIPTION
AB	EPA filter
1A	1A - Pale pink
2	WR2 - Wratten yellow
2A	2A - Pale yellow, absorption below 405 nm (JSC 16)
2E	2E - Pale yellow, absorption below 415 nm (JSC 17)
3	3 - Light yellow, absorption below 440 nm (JSC 18)
8	8 - Yellow, absorption below 470 nm (JSC 19)
12	12 - Deep yellow, absorption below 500 nm (JSC 4)
15	15 - Deep yellow, absorption below 520 nm (JSC 20)
H3	HF-3 - Light yellow, haze penetration (JSC 8)
H4	HF-4 - Light yellow, haze penetration (JSC 13)

Table 8. FILTER TYPES

CODE	DESCRIPTION
H5	H-5 - Light yellow, haze penetration (JSC 15)
2H	HF-3 and HF-4 - haze penetration combination (JSC 13)
HF	HF/2
Y1	21 - Orange, absorption below 550 nm (JSC 21)
Y2	22 - Yellow orange, absorption below 560 nm (JSC 22)
3A	23A - Light red, absorption below 570 nm (JSC 23)
R4	24 - Red, absorption below 580 nm (JSC 24)
25	25 - Red, absorption below 580 nm (JSC 9)
29	29 - Red, absorption below 610 nm (JSC 25)
32	32 - Magenta, green absorption (JSC 26)
34	34 - Deep magenta, green absorption (JSC 27)
35	35 - Purple, green absorption (JSC 28)
38	38 - Light blue
4F	EPA Filter
44	44 - Light blue (JSC 29)
45	45 - Blue green
47	47 - Blue tricolor
7A	47A - Light blue

Table 8. FILTER TYPES

CODE	DESCRIPTION
7B	47B - Deep blue, bandpass 400-470 nm (JSC 6)
48	48 - Deep blue, bandpass 420-500 nm (JSC 30)
57	57 - Green, bandpass 475-590 nm (JSC 31)
A	57A - Green
58	58 - Green, bandpass 495-580 nm (JSC 33)
59	59 - Green
61	61 - Deep green, bandpass 495-570 nm (JSC 33)
6A	65A - Blue green
78	78A - Bluish series of photometric filters
0B	80B - Blue series of conversion filters for color film
8A	82A - Bluish series of light balancing filters
87	87 - Visually opaque, transmits near IR at 760 nm (JSC 34)
7C	87C - Visually opaque, transmits near IR at 810 nm (JSC 35)
88	88A - Visually opaque, transmits beyond 730 nm (JSC 10)
9B	89B - Visually opaque, transmits near IR at 700 nm (JSC 36)
92	92 - Red wratten
W1	W-1

Table 8. FILTER TYPES

CODE	DESCRIPTION
C2	12 - Yellow plus color correction filters to balance color infrared film (JSC 11)
W5	15
5G	15G
1B	18B
24	24
5A	25A
3B	30B
3R	30R
5B	50B
W8	58A
8B	58B
89	89
2C	Color correction filters (JSC 12)
IS	I-2 S, Multiband - 4 standard filters (W47B, W58A, W25, W88A) (JSC 5)
IT	I-2 S Multiband - 47B, 57A, 25, and 88A (MSFC)
V1	Vinten #1, 475-575 nm (green) Schott glass (JSC 1)
V2	Vinten #2, 580-680 nm (red) Schott glass (JSC 2)
V3	Vinten #3, 690-760 nm (infrared) Schott glass (JSC 3)

Table 8. FILTER TYPES

CODE	DESCRIPTION
V4	Vinten #4, 510-900 nm (infrared)
ZA	Zeiss A
ZB	Zeiss B
ZC	Zeiss C
ZD	Zeiss D
CA	Clear AV
07	0.7
18	1.8
19	1.4 AV
20	2 AV
22	2.2 AV
U1	10-12 UM
U2	10.2-12.5 UM
T2	0.3-0.55 RS-14
T7	0.7-0.9 RS-14
T3	1.0-1.30 RS-14
T6	1.0-2.5 RS-14
T4	1.5-1.8 RS-14
T5	2-2.5 RS-14
T1	3-5.50 RS-14

Table 8. FILTER TYPES

CODE	DESCRIPTION
T9	8-10.5 RS-14
T8	8-14 RS-14
P1	0.400 Scatterometer
P2	1.6 Scatterometer
P4	1.420 MFMR
P5	10.625 MFMR
P9	10.69 PMIS
P3	13.3 Scatterometer
P6	22.235 MFMR
P7	22.355 MRMR
P8	31.4 MFMR
R1	RBV1
R2	RBV2
R3	RBV3
M4	MSS4
M5	MSS5
M6	MSS6
M7	MSS7
M8	MSS8
F4	000-0.111

Table 8. FILTER TYPES

CODE	DESCRIPTION
F3	000-0.227
F2	000-0.324 S-190B Magazine 89
F1	000-0.925
F0	000-1.000 S-190B Magazine 92
F6	0.350-0.400
F5	0.350-0.515 S-190B Magazine 91, 92, 93, 94
MM	Amps MM, 350-600 nm (JSC 49)
GG	Amps, 400-500 nm (JSC 43)
HH	Amps HH, 425-575 nm (JSC 44)
NN	Amps NN, 475-525 (JSC 50)
AA	Amps AA, 500-600 nm (JSC 37)
EE	Amps EE, 500-880 nm, S-190A Camera #3 (JSC 41)
II	Amps II, 525-575 nm (JSC 45)
OO	Amps OO, 575-625 nm (JSC 51)
BB	Amps BB, 600-700 nm, S-190A Camera #3 (JSC 3)
JJ	Amps JJ, 625-675 nm (JSC 46)
PP	Amps PP, 675-725 nm (JSC 52)
DD	Amps DD, 700-800 nm, S-190A Camer #1 (JSC 40)
KK	Amps KK, 725-775 nm (JSC 47)
QQ	Amps QQ, 775-825 nm (JSC 53)

Table 8. FILTER TYPES

CODE	DESCRIPTION
CC	Amps CC,800-900 nm, S-190A Camera #2 (JSC 39)
RR	Amps RR, 875-925 nm (JSC 54)
S1	0.41-0.46 S192
S2	0.46-0.51
S3	0.52-0.56
S4	0.56-0.61
S5	0.62-0.67
S6	0.68-0.76
S7	0.78-0.88
S8	0.98-1.08
S9	1.09-1.19
SA	1.20-1.30
SB	1.55-1.75
SC	2.10-2.35
SD	10.2-12.5
SF	8.5-10.5 (RECON 4)
1M	00-10 UM DPD/2
U3	0.515-10 UM DPD/2
U4	0.52-10 UM DPD/2
PA	16.5 DPD/2

Table 8. FILTER TYPES

CODE	DESCRIPTION
SE	SE
UV	UV-17
CL	Clear
BL	Blue (USGS)
56	W156
50	W500
53	W530
54	Wild 540 (MSFC)
70	W700
GA	57 + HF3 - Green plus aerial haze bandpass 490-590 nm
GB	57 + W3 - Green plus light yellow bandpass 500-730 nm
BA	47B + IR Block - Bandpass 400-470 n
GC	57B - Bandpass 480-900 nm
GD	57B + IR Block - Bandpass 480-590 nm
BC	39B - Bandpass 400-900 nm
ZE	C-030 Zeiss, absorption below 520 nm
ZF	C-031 Zeiss, absorption below 520 nm
ZG	C-032 Zeiss, absorption below 520 nm
ZH	C-033 Zeiss, absorption below 520 nm

Table 8. FILTER TYPES

CODE	DESCRIPTION
AI	C-028 Zeiss, absorption below 520 nm
ZJ	C-029 Zeiss, absorption below 520 nm
ZK	A-219 Zeiss, absorption 440 nm
ZL	A-221 Zeiss, absorption below 440 nm
ZM	F-223 Zeiss, absorption below 595 nm
ZN	F-224 Zeiss, absorption below 595 nm
ZO	K-215 Zeiss, absorption below 700 nm
ZP	K-216 Zeiss, absorption below 700 nm
ZQ	K-217 Zeiss, absorption below 700 nm
ZR	K-218 Zeiss, absorption below 700 nm
ZS	Zeiss, absorption at 530 nm
ZZ	No filter
XX	Filter present but not known
ZX	Multiple filters. Combinations of two or more filters used for specific bandpass. Consult appropriate cataloging and indexing report.
ZY	Smoke filter
ZW	Haze filter

********** END TABLE 8 **********

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
Codes in 100-series are for black and white; in 200-series, for color; in 300-series, for black and white infrared; in 400-series, color infrared; in 500-series series, false color composites.		
100	8401	KODAK Plus-X Aerocon Film, black and white, medium speed, high altitude film for aerial photography, on 5.20-mil triacetate support.
101	8403	KODAK Tri-X Aerocon Film, black and white, high speed film for aerial photography, on 5.20-mil triacetate support.
102	2405	KODAK Double-X Aerographic Film (ESTAR Base), black and white, standard film for mapping and charting, on 4-mil ESTAR polyester support.
103	2402	KODAK Plus-X Aerographic Film (ESTAR Base), black and white, medium speed mapping film, on 4-mil ESTAR polyester support with PX backing.
104	2403	KODAK Tri-X Aerographic Film (ESTAR Base), black and white, high speed, high acutance, aerial mapping film, on 4-mil ESTAR polyester support.
105	2485	KODAK High Speed Recording Film (ESTAR-AH Base), black and white, extremely high speed instrumentation film, on 4-mil ESTAR polyester support.
106	2498	KODAK RAR Film (ESTAR-AH Base), black and white, high speed instrumentation film, on 4-mil ESTAR polyester support.

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
107	3400	KODAK Panatomic-X Aerial Film (ESTAR Base) black and white, intermediate speed, high contrast, high altitude film for aerial photography, on 2.5-mil ESTAR polyester support.
108	5425	Unknown
109	3401	KODAK Plus-X Aerial Film (ESTAR Base), black and white, medium speed, high contrast, fine grain, high altitude film for aerial photography, on 2.5-mil ESTAR polyester support.
110	5401	Unknown
111	XX	KODAK or DUPONT - USGS
112	2404	Unknown
113	SO-467	KODAK Aerial duplicating film (ESTAR base)
114	5498	KODAK RAR Film, black and white, high speed instrumentation film for photorecording, on 5.20-mil triacetate support.
115	SO-206	KODAK Recording Film (ESTAR Thick Base), black and white, 3430 emulsion on 7-mil ESTAR polyester support
116	SO-243	KODAK High Definition Aerial Film (Gray Base), black and white, slow speed, high definition film for high altitude aerial photography, 3400 emulsion on 5.20-mil triacetate support.
117	SO-349	KODAK High Definition Aerial Film (ESTAR Thin Base), black and white, 3404 emulsion

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
		on 2.5-mil ESTAR polyester support.
118	SP-357	EASTMAN Green Sensitive Matrix Film (ESTAR Base), black and white, 5328 emulsion on unbacked 5-mil, ESTAR polyester support.
119	SO-380	KODAK High Definition Aerial Film (ESTAR Thin Base), black and white, 3404 emulsion on 1.5-mil ESTAR polyester support.
120	2401	KODAK Plus-X Aerographic Film (ESTAR Base), black and white, medium speed mapping film, on 4-mil ESTAR polyester support with clear gel backing.
121	3404	KODAK High Definition Aerial Film (ESTAR Base), black and white, extremely fine grain, slow speed, panchromatic negative aerial camera film, on 2.5-mil ESTAR polyester support. Forerunner of type 3414.
122	SO-022	KODAK Panatomic-X Aerial Film (ESTAR Base), black and white, 3400 emulsion on 4.7-mil ESTAR polyester support.
123	2479	KODAK RAR Film (ESTAR-A11 Base), black and white, high speed, panchromatic film specifically designed for instrumentation use, on 4-mil ESTAR polyester support.
125	SO-355	KODAK Low Contrast Fine Grain Aerographic Film (ESTAR Base), black and white, 2466 emulsion on 4-mil ESTAR polyester support.
126	3414	KODAK High Definition Aerial Film (ESTAR Thin Base), high definition film designed for very high altitude reconnaissance

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
		photography.
127	2490	KODAK RAR Film (ESTAR Base), black and white, medium speed, blue-sensitive, fine granularity film useful in oscillography and modulated glowtube exposures, on 4-mil ESTAR polyester support.
128	5366	KODAK Fine Grain Duplicating Film, blue sensitive, intended for making master positives from black and white camera negatives.
129	2914	KODAK Black and White Film
130	5474	KODAK Tinagraph Shellburst Film, for phototheodolite photography and any other uses where maximum contrast is needed in distant objects against ashy backgrounds.
131	2491	KODAK (ESTAR-AH Base), black and white, medium speed, medium contrast emulsion coated film, on 4-mil ESTAR polyester support.
132	7460	KODAK, black and white, general purpose film featuring excellent anti-halation protection, excellent latent-image characteristics and medium high contrast.
133	SO63	Scanner output film.
135	2421	KODAK, 4-mil film
136	4421	KODAK, 7-mil film
137	SO-239	KODAK laser recording film

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
138	2460	KODAK, black and white, general purpose film featuring excellent anti-halation protection, excellent latent image characteristics and medium high contrast.
199	Unknown	Black and white film, to be used for black and white roll, black and white microfilm, black and white microfiche, or when manufacturer is unknown.
220	8442	KODAK Ektachrome Aero Film, color, high speed reversal film for medium to high altitude aerial photography, on 5.20-mil triacetate support.
221	2448	KODAK Ektachrome MS Aerographic Film (ESTAR Base), color, reversal film for low to medium altitude mapping and aerial photography, on 4-mil ESTAR polyester support.
222	2450	Unknown
223	SO-121	KODAK Aerial Color Film (ESTAR Thin Base), color, fine grain film for high altitude aerial photography, on 2.5-mil ESTAR polyester support.
224	SO-118	KODAK Aerial Ektachrome R Print Film, color, 7388 emulsion provided in aerial sizes on 5.20-mil triacetate support. Color reversal film for making duplicate transparencies from Ektachrome originals.
225	SO-368	KODAK Ektachrome MS Film (ESTAR Base), color, on 2.5-mil ESTAR polyester support. NASA 70 mm only.

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
226	SO-397	KODAK Ektachrome EF Aerographic Film (ESTAR Base), color, high speed, reversal film for low level aerial photography and mapping, on 4-mil ESTAR polyester support.
227	D-500	Unknown
228	D-1000	Unknown
229	SO-271	KODAK Aerial Color Duplicating Film, color, 7386 emulsion on 5.20-mil triacetate support. Color reversal film for making duplicate transparencies from Ektachrome originals.
230	SO-360	KODAK Ektachrome Aerographic Duplicating Film (ESTAR Base), color, prototype of 2447 emulsion on 4-mil ESTAR polyester support.
231	SO-278	KODAK High Definition Ektachrome Film (ESTAR Base), color, fine grain film for use in high definition color photography, SO-121 emulsion on 4-mil ESTAR polyester support.
232	2107	KODAK Vericolor Type II Film, professional color negative film.
233	GS-VABC-C	USGS Film, color negative.
234	SO-168	KODAK Ektachrome EF Film (ESTAR Thin Base), color, Nikon Skylab handheld, SO-397 emulsion on 2.5-mil ESTAR polyester support.
235	SO-242	KODAK Aerial Color Film (ESTAR Thin Base), color, slow speed, high definition, high resolution film for high altitude aerial

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
		photography, on 2.5-mil ESTAR polyester support. Skylab S190-A.
236	SO-356	KODAK High Definition Ektachrome Film (ESTAR Base), color, SO-242 emulsion on 4-mil ESTAR polyester support. Skylab S190-B, Camera No. 3 and Hasselblad handheld.
238	2445	KODAK Aerocolor Negative Film (ESTAR Base), color, high speed, negative film for mapping and aerial photography, on 4-mil ESTAR polyester support.
239	5389	EASTMAN Ektachrome R Print Film, color, low contrast reversal film for making duplicate transparencies, on 5.31-mil triacetate support.
240	SO-224	KODAK Water Penetration Film.
241	4109	KODAK color film for direct printing or enlarging from Kodacolor or Ektacolor negatives.
242	FE-3432	KODAK experimental color water penetration film.
243	SO-217	Unknown
244	7252	Color film designed to provide a low contrast color original from which a color release print of good projection quality can be made.
245	QX-807	KODAK Ektachrome, color, custom-made for the Apollo-Soyuz test project.
250	Unknown	Unknown

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
299	Unknown	Color film, to be used for color roll film, color microfilm, or color microfiche when manufacturer is unknown.
340	SO-246	KODAK Infrared Aerographic Film (ESTAR Base), black and white, slow speed, high definition film for high altitude aerial photography, 3400 emulsion on 5.20-mil triacetate support.
341	2424	KODAK Infrared Aerographic Film (ESTAR Base), black and white, IR film for reduction of haze effects, water location, forest surveys, and multiband photography, on 4-mil ESTAR polyester support. Skylab S190-A Camera No. 1 and No. 2.
342	5424	Unknown
343	GS-VABC-I	USGS Film
344	FE-3215	KODAK Flat Response Infrared Film.
345	SO-289	KODAK Flat Response Infrared Film.
399	Unknown	Black and white infrared, to be used when manufacturer is unknown
450	8443	KODAK Ektachrome Infrared Aero Film, false color, infrared reversal film for surveys, on 5.20-mil triacetate support.
452	SO-117	KODAK Ektachrome Infrared Recording Film (ESTAR-AH Base), color, IR film for missile re-entry studies, 8443 emulsion on 4-mil ESTAR polyester support.
453	SO-180	KODAK Ektachrome Infrared Aerial Film

Table 9. FILM TYPES

CODE	MANUFACTURER'S IDENTIFICATION NUMBER	MANUFACTURER'S DESCRIPTION
		(ESTAR Thin Base), color, infrared film, 8443 emulsion on 2.5-mil ESTAR polyester support.
454	2443	KODAK Aerochrome Infrared Film (ESTAR Base), false color, infrared, reversal film for remote sensing, forest surveys and camouflage detection, on 4-mil ESTAR polyester support.
457	3443	KODAK Aerochrome Color IR Film (ESTAR Base), color, 2443 emulsion on 2.5-mil ESTAR polyester support.
458	SO-131	KODAK high resolution color IR film.
459	SO-127	KODAK high resolution color IR film.
499	Unknown	Color infrared, to be used when manufacturer is unknown
500	Unknown	Composite from three Landsat black and white images.

********** END TABLE 9 **********

Table 10. IMAGE RECORDING TECHNIQUE

IMAGE RECORDING TECHNIQUE	DESCRIPTION
01	VERTICAL CARTO
02	VERTICAL RECON
03	SLAR
04	THERMAL
05	PANORAMIC
09	P.P.I. (PLAN POSITION INDICATOR RADAR)
10	MICROWAVE
11	PANCHROMATIC
16	LOW OBLIQUE
17	HIGH OBLIQUE
36	RBV SUBSCENE
37	RBV MULTIBAND
38	MSS DESCENDING
39	MSS ASCENDING
40	NON-IMAGE DATA

********** END TABLE 10 **********

Table 11. IMAGE TYPE RESULTING

TYPE OF IMAGE RESULTING	DESCRIPTION
06	BULK (LANDSAT)
08	COLORCOMPOSITE (LANDSAT)
12	INFRARED(B/W)
13	INFRARED(COLOR)
14	COLOR
15	MULTISPECTRAL
24	BLACK AND WHITE

********** END TABLE 11 **********