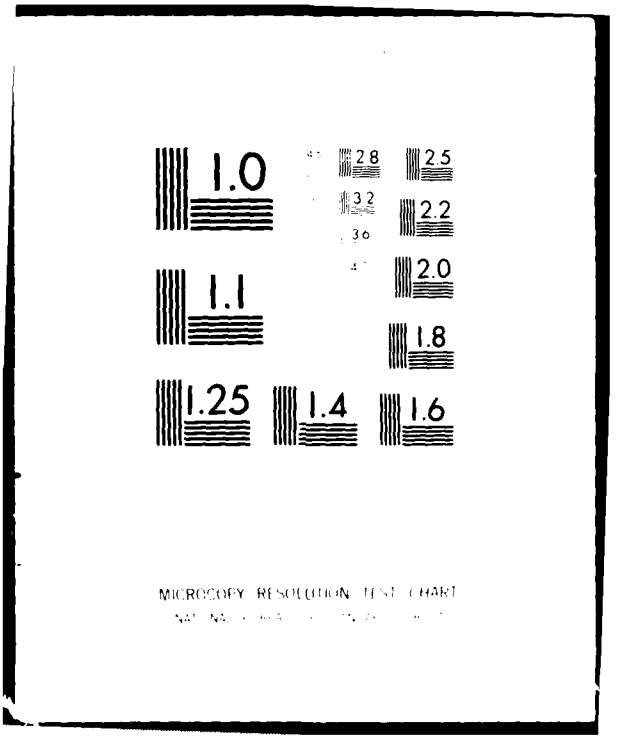
AD-A087 981 TELEDYNE BROWN ENGINEERING HUNTSVILLE ALA SYSTEMS DIV F/G 15/4
ORGANIZATION AND MANIPULATION OF INFRARED SCENE DATA AND INFRAR--ETC(U)
NOV 79 J RAINEY, R BURTON DAAK40-79-C-0068
UNCLASSIFIED SD79-MICOM-2387 NL

1 OF 2


1.0
2.8
2.5
3.2
2.2
3.6
2.0
1.1
1.8
1.25
1.4
1.6
MICROCOPY RESOLUTION TEST CHART

SD79-MICOM-2387

SD79-MICOM-2387

(1)

Final Report

LEVEL II

AD A087981

ORGANIZATION AND MANIPULATION OF INFRARED SCENE DATA AND INFRARED MODELING

November 1979

DTIC
ELECTE
AUG 1 2 1980
S D
C

THIS DOCUMENT IS BEST QUALITY PRACTICABLE.
THE COPY FURNISHED TO DDC CONTAINED A
SIGNIFICANT NUMBER OF PAGES WHICH DO NOT
REPRODUCE LEGIBLY.

[redacted]

[redacted]

DDC File Copy

...approved for public release and sale; its
... is unlimited.

TELEDYNE
BROWN ENGINEERING
Cummings Research Park • Huntsville, Alabama 35807

80 8 12 038

DISCLAIMER NOTICE

THIS DOCUMENT IS BEST QUALITY PRACTICABLE. THE COPY FURNISHED TO DTIC CONTAINED A SIGNIFICANT NUMBER OF PAGES WHICH DO NOT REPRODUCE LEGIBLY.

ABSTRACT

This report documents the work performed by Teledyne Brown Engineering in the organization, classification, and manipulation of infrared scene data for the U.S. Army Missile Command (MICOM) Advanced Sensors Directorate.

Software was developed for a PDP 11 computer with an on-line GRINNELL television imaging system to aid in classifying infrared scenes and extracting targets from such scenes.

The storage and retrieval of the scene classifications was automated by the development of a data base and data base manager.

The manipulation of the data included the calculation of power spectral densities and autocorrelation functions, the cross-correlation of targets with selected classes of background scenes, the application of a whitening filter based on the power spectral density of the background class, and the cross-correlation of two sensor FOV (field of view) models with the target scenes and background scenes.

APPROVED:

H. J. Watson
Manager
Optical Systems Department

80 8 12 038

FINAL REPORT
SD79-MICOM-2387

ORGANIZATION AND MANIPULATION OF INFRARED SCENE DATA AND INFRARED MODELING

November 1979

By

John Rainey
Rhett Burton, Ph.D.

Prepared For

U.S. ARMY MISSILE COMMAND
ADVANCED SENSORS DIRECTORATE
REDSTONE ARSENAL, ALABAMA

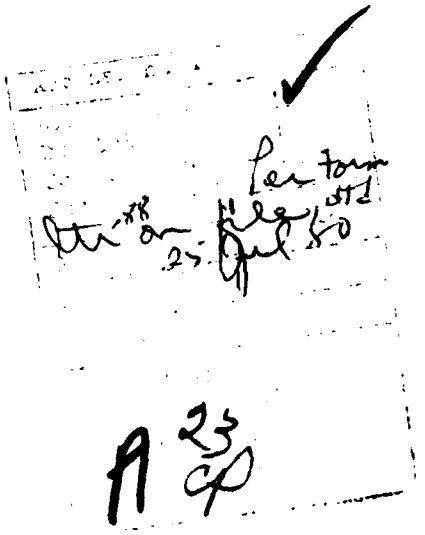
Contract No. DAAK40-79-C-0068

Prepared By

SYSTEMS DIVISION
TELEDYNE BROWN ENGINEERING
HUNTSVILLE, ALABAMA

TABLE OF CONTENTS

		Page
1.	INTRODUCTION	1-1
2.	SUMMARY AND RECOMMENDATIONS	2-1
3.	PROCESSING AND HANDLING OF INFRARED SCENE DATA	3-1
	3.1 Preliminary Considerations	3-1
	3.2 Data	3-1
	3.3 Data Management	3-6
	3.4 Target Extraction	3-7
	3.5 GRINNELL System	3-8
	3.6 Correlation Studies	3-11



LIST OF TABLES

Table	Title	Page
3-1	ERIM Digital Tape Format	3-15
3-2	AGA Thermovision Digital Tape Format	3-16
3-3	User Tape Library	3-17
3-4	New AGA Thermovision Digital Tape Format	3-19
3-5	Time Bit Code	3-20
3-6	Classification Codes	3-21
3-7	Data Base	3-22
3-8	Task Mnemonics	3-25
3-9	Background Frames Selected for Correlation Studies	3-27
3-10	Model Target Scenes and Model Target Mask Scenes	3-31
3-11	Composite Distribution Function of Correlation Surface of Target and Background Scenes	3-35
3-12	Composite Distribution of Cross-Correlation Surface of Target Mask and Background	3-55
3-13	Normalized Cross-Correlation	3-75
3-14	Distribution Function of the Cross-Correlation Surface of the 1-mrad and 2-mrad Sensor FOV Mask and the Target and Background Scenes	3-91
3-15	Distribution Function of the Filtered Cross-Correlation Surface	3-121

1. INTRODUCTION

This final report constitutes the completion of work on Contract No. DAAK40-79-C-0068 by Teledyne Brown Engineering (TBE) for the U.S. Army Missile Command (MICOM) Advanced Sensors Directorate.

This contractual effort has involved the organization and classification of infrared scene data and the development of a CRT display capability for scene data. This display capability should greatly facilitate working with the scene data in the future. A number of manipulations were performed on this scene data to investigate its characteristics and augment infrared modeling. These include, in addition to the development of power spectral densities and autocorrelation functions, the extraction of targets from infrared scenes, the cross-correlation of targets with background ensembles from selected classifications, and the application of a whitening filter based on the power spectral density. Other manipulations include the generation of model scenes and model target masks.

These technical efforts are summarized in Section 2 and described in detail in Section 3, which is complete with tables and computer output. Section 2 also contains recommendations for future efforts. An analysis of the potential impact of various errors which might be in the data is given in a separately published appendix.

2. SUMMARY AND RECOMMENDATIONS

Infrared scene data requires a large amount of storage space within a computer system. This combined with the quantity of data frames available for this effort created an information storage and retrieval problem. The approach taken was to develop computer software that would be a compromise between retrieval time and storage space. In the data base developed for this effort, the actual infrared scenes were stored on magnetic tape in a compact, easy-to-unpack format. This solved the problem of storage space and represents a good compromise between scene retrieval time and storage space. The scene descriptions and magnetic tape location information that requires smaller storage space were maintained on disk files with fast retrieval times. The success of the current data base and manager suggests that it be used as a model to develop a standard data base of all infrared scenes available to the Advanced Sensors Directorate.

A standard tape format should be established to allow storage of variable size scenes. A utility subroutine could then be written to unpack the standard tape for users.

The data base should reside in parallel on the CDC 6600 and PDP 11 computer systems to have all computer resources available for analysis.

The individual frame descriptions in the current data base should be reviewed for completeness.

All data taken by advanced sensors should be classified and entered into the data base on the PDP 11 computer. This would require only a scene editor to be incorporated into program HAPAN2. All data tapes from other sources should be repacked into the standard tape format and entered into the data base on the CDC 6600 computer system. This system has more flexibility in tape drives and formatting possibilities.

Compatibility between the PDP and CDC computers has to be solved. Methods must be developed that allow updates to the data base made on one computer to be transferred to the other.

Procedures should be developed to record problems that users discover in the data or data base.

3. PROCESSING AND HANDLING OF INFRARED SCENE DATA

3.1 PRELIMINARY CONSIDERATIONS

The cross-correlation studies involve the cross-correlation of target scenes with specific classes of background scenes. This study required several tasks. The first was to locate target body boundaries and extract the target from its background.

The next problem was to classify individual frames of data and organize them into background classes. The next task was to develop the ability to recall these frames by classification.

The large volume of available data required the automation of classifying and recalling data frames. This was accomplished by using a GRINNELL Systems graphic television imaging system to aid in classifying the individual frames. The classification information was input to the CDC 6600 computer and recorded in a data base. A data base manager was developed to handle the data base and allowed recalling data frames by classification.

3.2 DATA

The data available for analysis was originally organized in a user tape library on the CDC 6600 computer system. This tape library and the data within it is explained in TBE Report No. SD78-MIRADCOM-2257.* A quick review from this report of the data and the organization of the tape library is given below.

Digital data tapes containing thermal infrared scenes were furnished by U.S. Army MICOM's Advanced Sensors Directorate.

The data in each scene are stored sequentially by scan lines. Each element (pixel) of the scene is referenced by scan line and line

* J. B. Rainey, "Infrared Background Clutter Analyses and Model Development," Teledyne Brown Engineering Final Report No. SD78-MIRADCOM-2257, September 1978

element number. The pixel value is related to scene radiance and is in digital counts with a range of 0 to 1,024.

The data tapes were divided into two major groups according to the data source. The major groups were then subdivided by geographical areas and then further subdivided and classified by flights.

The first group consists of data taken by the Environmental Research Institute of Michigan (ERIM). These data were taken by a radial scanner at a 90-deg vertical angle. There were 11 flights over 4 geographical areas: Jackson - Camp Lejeune; Plymouth; Guelph, Ontario; and Willow Run Airport.

The second group consists of data taken by the U.S. Army with two AGA thermovisions (3- to 5-μm and 8- to 14-μm wavebands). The data were taken at a 90-deg vertical aspect from a helicopter flown at 1,000 ft. A video tape was made with each flight for documentation. The flight IRIG time was recorded on the video tape and each frame of the digital tape for reference. A detailed description of the data-gathering technique is given in U.S. Army MIRADCOM's Report No. TE-77-11.* The 18 flights of this group were subdivided into 5 sections: early flights over Redstone Arsenal, flights over Aberdeen Proving Grounds (APG), flights over Ft. Hood, FAWS preflight (Redstone Arsenal), and FAWS flights over Redstone Arsenal.

The formats for this library are reprinted in Table 3-1 and Table 3-2. The tape library is given in Table 3-3.

The condition of the tape library was determined by using program VARFY.

VARFY printed a concise, one-line description of each frame on a tape. The description consists of IRIG time; number of zero pixels; number of pixels with value greater than 1,023; number of pixels with values

* C. F. Hester, "Wiener Spectra Data Analysis for Infrared Background Modeling," U.S. Army Missile Research and Development Command, Technical Report No. TE-77-11, April 1977

equal to 1,023; minimum, maximum, mean, and standard deviation; and the number of nonzero lines within the frame.

Eighteen tapes from the original tape library were processed. These include data taken from flights over Aberdeen Proving Grounds and Ft. Hood, as well as FAWS preflight data. These results confirmed that the original tape library was in good condition.

These runs also produced a hardcopy record of each frame that was available for analysis.

The new AGA thermovision data taken by the U.S. Army is now digitized by a TELEVENT system on the PDP 11 computer system and recorded on magnetic tape. The format for each record of these digital tapes is given in Table 3-4.

The data on these tapes are raw digitized data from the TELEVENT system and are not organized in a compact, easy-to-decode format.

Each record represents data from 21 scan lines. Each thermovision frame is terminated by four to six filler lines that are differentiated from true scan lines by the two least significant bits of their line sequence number, which is equal to three. The data in the filler line are set to one bit, and the line sequence numbers are set to maximum values.

All true scan lines between two sets of six filler lines constitute a thermovision frame. The first group of these scan lines read from the tape represents the bottom of the infrared scene and the last group of scan lines read represents a retrace of the top of the infrared scene. This situation generates problems such as duplicate scan lines when the original and retrace overlap and missing scan lines when there is no overlap. The IRIG time of each scan line within a tape record is recorded in a 36-bit word containing a time bit code. This code is given in Table 3-5.

Program UNPKTV was developed to repack the new AGA thermovision tapes into the same format as the thermovision tapes in the original

tape library. The program was written for the CDC 6600 computer system, and later a version was converted to the PDP 11 computer.

Program UNPKTV performs the following tasks:

- Decodes the line IRIG times and stores sequentially. If time is in error, the source data is printed in octal and time is set negative.
- Decodes the line sequence numbers
- Tests the two least significant bits of line numbers to identify scan lines to be discarded
- If scan lines are legitimate (not discarded), repack 100 data points of scan line into 20 CDC words and store in table with an index equal to the line sequence number.
- If line sequence number is a duplicate, the scan line is stored in a linked list table of duplicate scan lines.
- The following information on each scan line is recorded:
  - Number of pixels that equal zero
  - Number of pixels that equal 1,023
  - Number of pixels that are greater than 1,023
- To solve the problem of duplicate sequence numbers, a group sequence number is generated for each line. A group is a set of lines that is in sequence. The group sequence number is the number of lines within each group.
- The above operations are terminated if two or more consecutive discardable lines are located.
- The table of scan lines is now searched for missing and duplicate line numbers.
- All missing line numbers are printed.
  - Line number with highest group sequence number without error (error = pixel greater than 1,023) is chosen.

- If none of the duplicates meet this test, it is treated as a missing line number.
- If line is selected, it is compared with each duplicate and the number of equal CDC words are printed.

- The following acceptance criteria are set for each frame:
  - There must be more than 60 scan lines per frame.
  - Number of zero pixels must be less than 5,000.
  - Number of pixels greater than 1,023 must be less than 5,000.
  - There must be no more than three missing sequence numbers.

- If the above criteria are met, the frame is zero filed to 100 × 100 and output to the new tape with format as stated in Table 3-2.

- The header table is loaded accordingly:

Words 1-5	Frame start time in IRIG milliseconds CDC floating point format
Word 15	Number of actual data lines
Word 20	Number of zero-valued pixels
Word 25	Number of pixels equal to 1,023
Word 30	Number of pixels greater than 1,023
Word 35	Number of missing data lines
Word 40	Minimum pixel value
Word 45	Maximum pixel value.

- The remaining IRIG line times from the last record read are adjusted, and the process is repeated for the next frame.

- If an end of file (EOF) is encountered before the six filler lines are encountered, the data are discarded and the process is restarted.

- The program terminates on two consecutive EOFs.

3.3 DATA MANAGEMENT

The first task in the data management process was the classifying of individual data frames.

This was originally accomplished by viewing the documentation video of the AGA thermovision data acquisition flights. This process was improved by generating a 9-track, 16-bit-word-length tape for the EAI PACER 600 system and displaying each frame in color graphics. The thermal image was recorded on video tape and compared to the flight video tape. Program UNPACK from TBE Report No. SD78-MIRADCOM-2257 was modified to produce the 9-track tape.

Five data tapes containing approximately 2,000 frames were classified with the technique described above. The classification of each frame was recorded on the frame tables generated by program VERIFY.

A data base was then created for the tape library of thermal infrared scenes.

Program CLS was developed to solve the problem of getting each frame classification into the computer and building a disk file for the data base.

Each frame was classified by the set of classification codes given in Table 3-6.

The resulting data base contains the classification and storage location for each scene or frame within the tape library. The following information is recorded for each frame.

- Physical classification of the scene and message on special frames
- Flight IRIG time
- Tape serial number
- Flight or test title

- Frame or record location on the digital tape
- Scene mean
- Scene standard deviation
- Number of zeros within the frame
- Number of bad data points within the frame
- Minimum scene value
- Maximum scene value.

Table 3-7 describes the data base disk file.

A data base manager was developed, which allowed a user to retrieve information on any frame in the data base. The user communicates with the manager by entering a set of task mnemonics. The basic tasks of the manager are divided into three categories: print, build, and update.

The task mnemonics with their options and duties are given in Table 3-8.

3.4 TARGET EXTRACTION

Program TRG was developed as a first attempt to locate target body boundaries and extract the target from the background scene.

Program TRG uses the following technique to locate the target boundaries within a scene. The target size and vertexes in relation to the target hot spot are input. The program converts the target vertexes to polar coordinates with the hot spot at the origin. The program builds rotation lookup tables of pixel coordinates that are changed from background to target pixels as the target boundaries are rotated 360 deg. The coordinates in this table have the origin at the hot spot.

The program now loops on thermal scenes of the target and performs the following tasks on each. The scene maximum, assumed to be the target hot spot, is located. A perimeter is generated around the hot spot at a distance equal to the maximum dimension of the target.

All pixels within this perimeter that are not within the target boundaries make up the adjacent background. The pixels outside the perimeter make up what is called the perimeter background. This perimeter background does not contain any target pixels as the target is rotated about its hot spot.

A histogram of the perimeter background is developed, and a histogram of the adjacent background is determined using the rotation lookup tables. The sum of the absolute differences between the perimeter and adjacent histograms is calculated as an error term for each rotation. The lowest error term is then selected as the target orientation.

Program TDB was developed to generate a target data base. Inputs to this program are the target frame IRIG time and the row, column target boundaries for the target within the frame.

TDB extracts the target and calculates the background mean. It then packs the IRIG time, mean, and target pixels into a compact format and stores these data on a disk file.

Program STDBM was developed to access the file generated by TDB and to produce a model target scene or a target mask scene.

A model target scene is a 100- by 100-pixel scene, with the target pixels centered. All pixels that are not target pixels are set to the background mean value recorded on the target data file.

A target mask scene is the same as a model target scene except that the target pixels are set to one and the background pixels are set to zero.

3.5 GRINNELL SYSTEM

A graphic television imaging system by GRINNELL Systems is now a peripheral on the PDP 11 computer system. Time was devoted to learning and developing software for this system. This allowed the system to be used in extracting targets and classifying thermal images.

Program JOHN2 reduced the time required to learn the system. This program allows the user to operate the GRINNELL system in the demand mode on a machine language level. Each command in the GRINNELL instruction set was given an index, and this allowed the user to execute a specific instruction by entering its index. The program would interrogate the instruction and ask for the command options in either integer, octal, or alphanumeric formats.

Program HAPAN2, a PDP-11 version of UNPKTV, was developed to unpack a TELEVENT tape by frames and display the scene on the GRINNELL. An editing package will be developed to clean up the image. The operator can then classify the image and input the classification key. The program will then store the key in the image data base.

DMCLT, a demand mode color threshold service routine, was developed. This routine allows the user to dynamically set the color levels in an image that is displayed on the GRINNELL.

The routine operates in two loops. The first loop is a control loop that allows the user to input a color. The color is input with a 15-bit octal number in which the 12 low order bits control color. Of these 12 bits, the 4 low order bits control blue, the 4 mid-order bits control green, and the 4 high order bits control red. The selected color is then displayed on the screen. If the user wishes to choose another color, he can simply enter another color or enter one of the following control keys:

- 77777 - accept last color and go to thresholding loop
- 66666 - back up on the color scale and reenter color scales
- 55555 - exit program.

The second loop or the threshold loop allows the user to set the intensity level for the current color by moving the cursor (in the track mode) up or down on the screen. All intensities above the cursor line

position and below the last threshold setting will be set to the current color. A scale from 0 to 240 is written from the bottom to the top of the screen to give the operator an approximate intensity level reading. To exit this loop, the operator turns the track mode off, homes the cursor, and depresses the enter switch. The color level is now set for this color, and the user is returned to loop one.

GQPLT was developed to generate a quick X-Y plot on the GRINNELL. No axis is drawn and points are connected with a solid line. It is optional to erase the plotting surface area and to scale the data.

GERS was developed to erase selected rectangular areas of the screen.

Subroutine GTL loads common block/GRCMD/with the 24 command instructions for the GRINNELL.

Subroutine BNDRY was developed to allow the user to trace a boundary with the cursors and store the coordinates of the boundary. The user has the option of plotting the current scan line before entering the coordinate. Under this option, the user positions the cursor on the scan line he wants and depresses the enter switch. The scan line will be plotted below the image. This plot can be used to position the cursor in the element direction. The element coordinate will be recorded when the enter switch is depressed. To exit this loop, the operator homes the cursor and depresses the enter switch. The program then calls GQPLT and draws a solid boundary by connecting all of the coordinates. The user then has the option to reenter the coordinates. If reentering is not selected, the program extracts the coordinates of every point on the solid line and packs them in an array by scan line and pairs of start-stop element numbers. This array is passed in common block/BOUND/.

Program GPACK3 was developed to extract targets and store them in a compact target file format. The program locates a specified frame according to IRIG time, unpacks the frame, and displays the image on the GRINNELL with the size of each pixel doubled. The user can input a linear scale factor to increase or decrease the intensity level of the image.

The program then calls DMCLT, which allows the user to threshold the target. Subroutine BNDRY is then called. This allows the user to trace the target boundary using the cursor. GPACK3 then uses the target coordinates furnished by BNDRY to extract the target pixels. It then erases the screen and displays the target. The user can return to step one and repeat the target extraction process or accept the target already processed. GPACK3 then packs the target pixels in a standard format and stores them on a disk file.

3.6 CORRELATION STUDIES

The cross-correlation function was used to compare targets with different classes of backgrounds. The mean count of the scene was subtracted from each pixel in the scene and the correlation surface was normalized by the target standard deviation. The distribution function was generated to study the statistics of the cross-correlation surfaces.

Program CORR was developed to calculate the autocorrelation of the target and the cross-correlation of target and background.

Program CORR performs the following task:

- Calculates autocorrelation or cross-correlation functions. The autocorrelation function may be calculated by the FFT method or by averaging the product of the overlap as the scene is moved over itself. The cross-correlation function is calculated by the FFT method.

The following is a description of how CORR operates in calculating the cross-correlation function:

- The first loop calculates the FFT of the background scene. The scene IRIG time is read and the corresponding scene is input from file 1 and unpacked. If the scene contains zeros, it is rejected and the next IRIG time is read. Zeros suggest that the thermovision black level was set too low, thus biasing the scene statistics. If the scene is accepted, the unpacked scene is stored in file 2. The scene mean and standard deviation are calculated during the unpack process.

- The size of the correlation function is determined. It is the smaller of the background or target scene sizes.
- If the background scene is larger, then its row and column end points are set equal to the target row and column size.
- If the background scene is smaller, no changes are made in this loop.
- The scene pixel magnitudes are transformed by subtracting the scene mean value from each pixel value.
- The FFT of the background is now calculated.
- The results are stored in file 3, terminating the background loop.
- The next loop calculates the FFT of the model target scene.
- If the background scene is smaller, the row and column start and stop points are adjusted such that the target will be centered in a scene the size of the background scene.
- The unpacked target scene is input from file 12, and the pixel magnitudes are transformed by subtracting the scene mean value from each pixel value.
- The FFT is calculated, and the results are multiplied by the background FFT in file 3.
- The whitening filter is applied at this point if the whitening option is taken.
- The cross-correlation is calculated by taking the inverse FFT.
- Edge effects are inducted into the correlation surface as the target body moves across the background scene boundaries. Because the FFT assumes the scene is periodic, the edge effect is correlating the target with the opposite edges of the background scene. The coefficients affected are in two bands, i.e., the length and width of the target that is centered in the correlation surface.

- The remaining coefficients are normalized by the target scene standard deviation.
- A histogram, probability density, and cumulative probability density function of the correlation surface are then generated.
- A histogram sort is used at this point to locate and print the 100 maximum correlation coefficients of the surface.
- A composite histogram, probability density, and cumulative probability density function of the surfaces generated by all backgrounds of the same type is generated and saved in file 10.

Program RDPL was written to plot the composite histograms produced by CORR.

Four classes of backgrounds and two targets were selected for the correlation studies. The background classes were FAWS GRASS, TREES, Asphalt Roads, and Buildup. The frames are listed in Table 3-9. The targets were FAWS M48 and APC.

The model target scenes and target mask scenes were created with program BTDBM. The target scenes are given in Table 3-10.

The first set of cross-correlation surfaces generated were the model target scenes with the four classes of backgrounds. The composite distribution function of the correlation surfaces are given in Table 3-11.

The cross-correlation surfaces of the target mask and four classes of background scenes were then generated. The composite distribution functions are given in Table 3-12.

The correlation surfaces of the target with the backgrounds were normalized by the correlation surface of the target mask and background. The composite histograms are given in Table 3-13.

The peak signal to clutter as seen by a sensor was calculated by the cross-correlation of a target mask scene and the scene scanned by the sensor. The target size of the target mask is the sensor field of view.

A 1-mrad-square sensor and a 2-mrad-square sensor were modeled in this manner. Both were modeled at an elevation of 3 kft. The results are given in Table 3-14.

A whitening filter was applied to the background and target scenes, and the correlation surface was generated. The background class of buildup was selected for this analysis. The whitening filter was approximated by the average power spectral density of the background scenes. Program PWRSPLN was developed to calculate the average power spectral density. Program CORR was modified to apply the filter in the frequency domain. The scene mean was taken out of the filtered scene by setting the zero frequency component of the transformed scene to zero. The results are given in Table 3-15.

TABLE 3-1. ERIM DIGITAL TAPE FORMAT

I. Tapes are IBM 7094 compatible, seven track, odd parity, and 800 BPI.

II. Each file consists of a title record followed by data records containing each scan line.

A. Title record 170 36-bit words:

Word:
1 - Number of IBM 7094 words per data record
4 - Digital line number of next data record
5 - Analog line number of next data record
6 - Mode
= 0 - four samples/word positive integers (0 to 510)
= 1 - one sample/word floating point (0 to 1.0)
= 2 - one sample/word integer (0 to 510)
7 - Number of channels
8 - Number of samples per line

B. Data record - record length is in word one of title record. Record consists of an eight-word header followed by data from one scan line. Data from each channel are stored sequentially. Header words are:

1 - Digital line number
2 - Analog line number

III. Each file is followed by one end-of-file record.

IV. Last file is followed by three end-of-file records.

TABLE 3-2. AGA THERMOVISION DIGITAL TAPE FORMAT

I. Tapes are CDC 6000 scope standards, odd parity, and 800 BPI

II. Each record contains one thermovision scene or frame.

A. Record format is 15 60-bit word header followed by the data.

a. Header - 15 60-bit words where word one is CDC floating point value for IRIG TIME hours * 3,600,000 + minutes * 60,000 + SEC * 1,000

b. Next 2,000 60-bit words contain the 100 x 100 pixel scene, where each scan line is 100 pixels.

c. Pixel range is 0 to 1,024.

d. Pixel word length is 12 bits packed 5 pixels per 60-bit word and each scan line is 20 60-bit words.

e. There are 100 scan lines.

III. Thermovision frames are stored sequentially by flight time.

IV. End of file follows last frame.

V. There are usually 200 to 300 frames per tape.

TABLE 3-3. USER TAPE LIBRARY

GROUP I. ERIM DATA TAPES

SERIAL NUMBER	
S05391	Jackson, 8 kft, Lakes Jackson, 8 kft, River Camp Lejeune, 3 kft, Buildings Camp Lejeune, 3 kft, Trees
S02583	Plymouth, 1 kft, Field Plymouth, 1 kft, Subdivision Plymouth, 1 kft, Island Plymouth, 1 kft, Expressway Plymouth, 1 kft, Cemetery Plymouth, 1 kft, Golf Course
S07779 and S07715	Guelph, Ontario, Canada
S08831	Guelph, Ontario, Canada
S05343 and S06620	Guelph, Ontario, Canada
S05460	Guelph, Ontario, Canada
S03389	Willow Run Airport
S03677	Willow Run Airport
S08020	Willow Run Airport
S05574	Willow Run Airport
S03452	Willow Run Airport

GROUP II. ARMY DATA RECORDED BY AGA THERMOVISION

SERIAL NUMBER	DESCRIPTION	ORIGINAL NO.
	Section II-1. First Flights of Thermovision Over Redstone Arsenal	
S06448	First Flight Over Redstone Arsenal April 1977	None
S00224	Second Flight Over Redstone Arsenal April 1977	WS200
S04679	14 April 1977 Flight	WS201

TABLE 3-3. USER TAPE LIBRARY (Sheet 2 of 2)

SERIAL NUMBER	DESCRIPTION	ORIGINAL NO.
	Section II-2. Flights over Aberdeen Proving Grounds	
S09379	Mission A2 time 1025-1120(3-5)	I000169
S09380	A1 time 1530-1615(3-5)	I000170
S09335	A3 time 1230-1330(3-5)	I000168
S09382	A4 time 1325-1410(3-5)	IC00167
S08894	B3 time 1100-1200(3-5)	I000328
S09597	B2 time 1520-1600(3-5)	I000327
S09577	B1 time 1150-1235(3-5)	I000326
S02284	A1 (reformatted)	
	Section II-3. Flights over Ft. Hood	
S10219	29 June 77 time 1045-1115(3-5)	I00737
S10225	27 June 77 time 1100- (3-5)	I00733
S10240	29 June 77 time 1045-1115(8-14)	I00736
S10239	27 June 77 time 0930-1030(8-14)	I00734
S10333	27 June 77 time 0930-1030(3-5)	I00735
S10231	28 June 77 (8-14)	I00732
S10326	30 June 77 time 1000-1100(8-14)	I00775
S10325	30 June 77 time 1100-1230(8-14)	I00774
S10328	30 June 77 time 1000-1100(3-5)	I00772
S10331	30 June 77 (8-14)	I00735
S10333	28 June 77 (3-5)	I00835
	Section II-4. FAWS Preflight	
S07711	Flight over Building 5400 (3-5)	
S06549	Flight over Building 5400 (8-14)	
	Section II-5. FAWS Flights over Redstone Arsenal	
S08529	8 August 77 (8-14) Tape 7	I00841
S00291	8 August 77 (3-5) Tape 7	I00843
S02733	8 August 77 (8-14) Tape 8	I00844
S09518	8 August 77 (3-5) Tape 8	I00845
S00772	15 August 77 (3-5) Tape 1	I01288
S02984	15 August 77 (8-14) Tape 1	I01287
S11039	15 August 77 (3-5) Tape 2	I01286
S03128	15 August 77 (8-14) Tape 2	I01285

TABLE 3-4. NEW AGA THERMOVISION DIGITAL TAPE FORMAT

I. Data words are 12 bits (packed 5 words per 60-bit CDC word).

II. Each record consists of:

A. Nine-word header

B. Twenty-one line IRIG times, each time consisting of 3 words, total 63 words

C. Twenty-one scan lines, each consisting of 138 data points followed by the scan sequence number. Total 139 words per line

D. The two least significant bits of each scan line number constitute a code. A value of three denotes a good scan line.

TABLE 3-5. TIME BIT CODE

Time in 36 bits

BIT	CODE
1	40 min
2	20 min
3	10 min
4	8 min
5	4 min
6	2 min
7	20 hr
8	10 hr
9	9 hr
10	4 hr
11	2 hr
12	1 hr
13	2 sec
14	1 sec
15	0.8 sec
16	0.4 sec
17	0.2 sec
18	0.1 sec
19	1 min
20	40 sec
21	20 sec
22	10 sec
23	8 sec
24	4 sec
25	0.002 sec
26	0.001 sec
27	0.0008 sec
28	0.0004 sec
29	0.0002 sec
30	0.0001 sec
31	0.08 sec
32	0.04 sec
33	0.02 sec
34	0.01 sec
35	0.008 sec
36	0.004 sec

TABLE 3-6. CLASSIFICATION CODES

INDEX	CODE	CLASSIFICATION
1	R	DIRT ROAD
2	AR	ASPHALT ROAD
3	CCR	CONCRETE ROAD
4	BU	BUILDINGS
5	PL	ASPHALT PARKING LOTS
6	HS	UNIDENTIFIED HOT AREAS
7	G	GRASSY AREA
8	GS	GRASSY FIELD WITH STRAITS
9	DR	DIRT ROADS
10	TR	TREES
11	TRU	TREE LINE
12	B	BUSH
13	BL	BUSH LINE
14	SG	SUN GLINT
15	RR	RAILROAD
16	M	MONUMENT
17	W	WATER
18	STP	STEAM PIPE
19	SP	SAND PILES
20	DST	DUST
21	CR	CREEK
22	CF	COTTON FIELD
23	X	BAD FRAME
24	T1	TARGET 1
25	T2	TARGET 2
26	T3	TARGET 3
27	T4	TARGET 4
28	T5	TARGET 5
29	T6	TARGET 6
30	T7	TARGET 7
31	T8	TARGET 8
32	T9	TARGET 9
33	T10	TARGET 10
34	T11	TARGET 11
35	T12	TARGET 12
36	T13	TARGET 13
37	T14	TARGET 14
38	T15	TARGET 15
39	T16	TARGET 16
40	MPG	MILITARY PARKING LOT
41	D	BARE DIRT

TABLE 3-7. DATA BASE

RECORD	VARIABLES	DESCRIPTION
1	NTCLK	TOTAL NUMBER OF CLASSIFICATIONS IN DATA BASE
2	NTEST	NUMBER OF TESTS IN DATA BASE
	ICLK	COMPLETE DATA BASE CLASSIFICATION KEYS STORED IN A4 FORMAT
	ICLC	THIRTY-CHARACTER FULL CLASSIFICATION
NOTE:	REMAINING RECORDS ARE INDIVIDUAL TEST RECORDS. THREE RECORD SET FOR EACH TEST. FOR DOCUMENTATION, THESE WILL BE RECORDS 3, 4 AND 5.	
3	TL	EIGHTY CHARACTER TITLE OF TEST. WORD 6 CONTAINS TAPE NUMBER.
	NR	NUMBER OF FRAMES IN TEST
	INDX	NUMBER OF INDIVIDUAL CLASSIFICATIONS ON TAPE
	NCLK	PACKED ARRAY WHOSE INDEX REFERENCES THE COMPLETE DATA BASE CLASSIFICATION TABLE VALUES OF ELEMENTS ARE: UPPER HALF: NUMBER OF FRAMES WITH THIS CLASSIFICATION LOWER HALF: NUMBER OF THESE FRAMES THAT ARE MIXTURES NUMBER OF DOCUMENTS (NTLLK)
	ICL	INDIVIDUAL FRAME CLASSIFICATION TABLE. FOUR TABLES ARE PACKED INTO THIS ARRAY. TABLE INDEX IS SAME AS FRAME INDEX (FRAMES ARE STORED ON TAPE IN SEQUENTIAL ORDER). THE FIRST NR ELEMENTS OF TABLE CONTAIN FIVE 12-BIT WORDS WHERE WORD ONE IS LOW ORDER BITS AND WORD FIVE IS HIGH ORDER BITS.

TABLE 3-7. DATA BASE (Sheet 2 of 3)

RECORD	VARIABLES	DESCRIPTION
		WORD 1: MESSAGE TABLE INDEX; IF ZERO, NO MESSAGES FOR THIS FRAME
		WORD 2: NUMBER OF CLASSIFICATIONS FOR THIS FRAME
		WORD 3: STARTING INDEX OR ADDRESS INTO THE INDIVIDUAL FRAME CLASSIFICATION TABLE
		WORD 4: COMPLETE TEST CLASSIFICATION TABLE (INDIVIDUAL FRAME CLASSIFICATION TABLE) (INDEX) IS TOTAL NUMBER OF ELEMENTS IN THIS TABLE; THE FIRST NR ELEMENTS ARE PACKED AND THE REMAINING ARE NOT. THE VALUE OF EACH ELEMENT IS THE INDEX OR ADDRESS FOR THE COMPLETE DATA BASE CLASSIFICATION TABLE.
		WORD 5: ALTITUDE AND WAVEBAND INDEX KEY.
	NMSG	MESSAGE TABLE LENGTH
	MSG	MESSAGE TABLE. EACH MESSAGE IS A 30 CHARACTER NOTE CONTAINING ADDITIONAL INFORMATION ON SPECIAL FRAMES. *WORD 31 CONTAINS THE FRAME INDEX FOR CROSS REFERENCE PURPOSES.
4		TABLE LENGTH, NUMBER FRAMES IN TEST. EACH ELEMENT CONTAINS FIVE 12-BIT WORDS: WORD 1 LOW ORDER; WORD FIVE HIGH ORDER 12 BITS. TABLE INDEX CORRESPONDS TO FRAME INDEX
		WORD 1: SCENE MEAN (INTEGER)
		WORD 2: FRAME IRIG FRACTION SECONDS TIMES 1,000 INTEGER

TABLE 3-7. DATA BASE (Sheet 3 of 3)

RECORD	VARIABLES	DESCRIPTION
		WORD 3: WHOLE NUMBER SECONDS OF IRIG TIME
		WORD 4: IRIG MINUTES
		WORD 5: IRIG HOURS
5		TABLE LENGTH, NUMBER OF FRAMES IN TEST. TABLE INDEX CORRESPONDS TO FRAME INDEX. EACH ELEMENT CONTAINS FIVE 12-BIT WORDS: WORD 1 IS LOW ORDER; WORD FIVE IS HIGH ORDER.
		WORD 1: NUMBER OF BOGUS PIXELS IN SCENE (INTEGER)
		WORD 2: NUMBER OF ZERO PIXELS IN SCENE (INTEGER)
		WORD 3: MAXIMUM PIXEL VALUE IN SCENE (INTEGER)
		WORD 4: MINIMUM PIXEL VALUE IN SCENE (INTEGER)
		WORD 5: SCENE STANDARD DEVIATION (TRUNCATED INTEGER)

TABLE 3-8. TASK MNEMONICS

PRINT ALL

PRINTS SHORT TEST HISTORY FOR ALL TESTS AND ALL FRAMES IN DATA BASE

PRINT ALL TEST NUMBER

PRINTS SHORT TEST HISTORY AND ALL FRAMES IN THE SPECIFIED TEST NUMBER

PRINT TEST ALL

PRINT TEST NUMBER

PRINTS SHORT TEST HISTORY FOR ALL TESTS OR THE SPECIFIED TEST NUMBER

PRINT TEST ALL CLASSIFICATION

PRINT TEST NUMBER CLASSIFICATION

PRINTS THE FRAMES WITH THE SPECIFIED CLASSIFICATION. THE CLASSIFICATIONS ARE INPUT BY ENTERING CLASSIFICATION KEYS IN A FREE FIELD FORMAT.

KEY 1 PRINTS ONLY FRAMES WITH KEY 1 CLASSIFICATION

KEY 1/KEY 2 PRINTS ONLY FRAMES WITH MIXTURE OF KEY 1 AND KEY 2

KEY 1 ALL PRINTS ALL OCCURRENCES OF KEY 1

PRINT MESSAGES

PRINT MESSAGES TEST NUMBER

PRINTS ALL MESSAGES WITH FRAME IRIG TIME CONTAINED IN ALL TEST OR THE SPECIFIED TEST NUMBER

PRINT CLASSIFICATION TABLE

PRINTS ALL CLASSIFICATIONS WITH CORRESPONDING KEYS THAT ARE CONTAINED IN THE DATA BASE

TABLE 3-8. TASK MNEMONICS (Sheet 2 of 2)

BUILD TEST NUMBER

BUILDS A DATA FILE CONTAINING FRAME NUMBER AND IRIG TIME. THE FRAMES ARE SELECTED BY INPUTTING CLASSIFICATION KEYS IN THE SAME MANNER AS THE PRINT CLASSIFICATION MNEMONICS THIS DATA FILE CAN BE USED TO ACCESS THE TAPE FILE AND RETRIEVE ONLY THE FRAMES SELECTED.

UPDATE TEST NUMBER TITLE

REPLACES THE SPECIFIED TEST NUMBER TITLE WITH THE INPUT TEST TITLE

UPDATE TEST NUMBER CLASSIFICATION

INPUTS A FRAME NUMBER AND CLASSIFICATION KEY OR KEYS. THIS REPLACES THE FRAME CLASSIFICATION ON FILE

UPDATE TEST NUMBER MESSAGE

INPUTS FRAME AND A MESSAGE THAT REPLACES THE ONE ON FILE

UPDATE TEST NUMBER ALTITUDE

INPUTS FRAME AND ALTITUDE THAT REPLACES ONE ON FILE

UPDATE TEST NUMBER WAVEBAND

INPUTS FRAME AND WAVEBAND THAT REPLACES THE ONE ON FILE.

TABLE 3-9. BACKGROUND FRAMES SELECTED FOR CORRELATION STUDIES

```
 DATA FILE FOR TEST     3 FAAS 15 AUG 77  3-5 MM                              500778
   20
 FRAMES WERE SELECTED BY THE FOLLOWING CLASSIFICATIONS
  GRASSY AREA
  INPUT ZERO AGAIN FOR DATA REJECTION CRITERION FORMAT 2    15
  REJECTION CRITERION (DZ(I,J,K))    210  210
INPUT FRAME INDEX OF FRAMES TO BE DELETED FROM FILE .    FORMAT(10I5)
  INDEX FRAME     7 HAS BEEN DELETED
  INDEX FRAME    34 HAS BEEN DELETED
    8   10   42   57.389     0  100  194   58   94   17
    9   10   42   58.086     0  100  196   58   95   17
   10   10   43     .277     0  100  192   73   87   26
  224   11   15   14.209     0  100  320   85  213   24
  224   11   15   15.579     0  100  320  160  218   18
REJECTED FRAME 225  17.480  400     0
  231   11   15   18.327     0  100  320  157  219   21
  232   11   15   19.727     0  100  309  168  220   18
  245   11   15   34.159     0  100  321  146  249   20
  247   11   15   40.529     0  100  320  159  236   24
  248   11   15   41.918     0  100  320  144  207   24
  249   11   15   44.031     0  100  277  146  205   22
  251   11   15   50.246     0  100  325   85  232   21
  254   11   15   51.622     0  100  289  171  221   16
  255   11   15   53.039     0  100  276  169  215   14
  256   11   15   55.721     0  100  277  174  218   14
  257   11   15   57.171     0  100  320  159  216   22
  258   11   15   58.537     0  100  320  157  213   19
```

TABLE 3-9. BACKGROUND FRAMES SELECTED FOR CORRELATION STUDIES (Sheet 2 of 4)

```
 DATA FILE FOR TEST    3 FRMS IN 005 77  4-5 WH                                  500778
   33
FRAMES WERE SELECTED BY THE FOLLOWING CLASSIFICATIONS
 TREES
 INPUT ZERO AND BAD DATA REJECTION CRITERION FORMAT 2   15
 REJECTION CRITERION (4Z=0,BW)   210  210
INPUT FROM INDEX OF FRAMES TO BE DELETED FROM FILE .    FORMAT(10I5)
 INDEX FRAME  120 HAS BEEN DELETED
 INDEX FRAME  173 HAS BEEN DELETED
 INDEX FRAME  187 HAS BEEN DELETED
 INDEX FRAME  244 HAS BEEN DELETED
   41   10   50    6.879    0  100  151  112  133    8
   58   10   51    4.774    0  200  170  125  146    7
   82   11    3   23.357    0  100   90   16   46   12
   83   11    4   24.942    0    1  128   16   33   17
  114   11    5    6.340    0  100  149   28   36   13
  119   11    6    7.765    0  100  133   29   59   12
  125   11    7   11.276    0  100  128   16   45   13
  144   11    7   57.362    0  100  187   17   53   18
  133   11   14    7.608    0  100  128   31   72   10
  199   11   14   28.425    0  100   93   29   60    8
  200   11   14   29.739    0  100  128   29   62    9
  201   11   14   31.187    0  100  160   29   63    8
  202   11   14   32.611    0  100  128   31   57    8
  203   11   14   33.995    0  100  196   29   63   17
  205   11   14   35.121    0  100  128   29   65    8
  207   11   14   39.545    0    9  128   29   65    8
  208   11   14   40.920    0  100  135   29   62    8
  210   11   14   42.234    0  100  128   29   61    7
  210   11   14   43.668    0  100  128   29   61    7
  211   11   14   49.215    0  100  128   21   35   11
  212   11   14   50.613    0  100  205    1   64   13
  213   11   14   51.930    0  100  197   29   65   12
  214   11   14   53.377    0  100  128   29   65    8
  215   11   14   54.763    0  100  133   31   64    9
  216   11   14   56.175    0  100  134   29   61   12
  217   11   14   57.550    0  100  128   29   53   11
  218   11   14   58.924    0  100  128   37   59    9
REJECTED FRAME 220 4Z= 100   100    0
  221   11   15    4.035    0  100  132   31   75   11
  222   11   15    5.471    0  100  144   30   72   10
  223   11   15    6.883    0  100  144   30   76   11
  224   11   15    8.257    0  100  131   43   78   11
  225   11   15    9.642    0  100  128   48   76   11
  226   11   15   11.352    0  100  150   48   78   12
  243   11   15   24.942    0  100  215   31   42   16
```

TABLE 3-9. BACKGROUND FRAMES SELECTED FOR CORRELATION STUDIES (Sheet 3 of 4)

S00779

DATA FILE FOR TEST [illegible] FRAMES IS 405 77 4-5 MR

FRAMES WERE SELECTED BY THE FOLLOWING CLASSIFICATIONS

SELECTED

INPUT ZERO AND BAD DATA REJECTION CRITERION FORMAT 2 I5

REJECTED CRITERION (4294967) 210 210

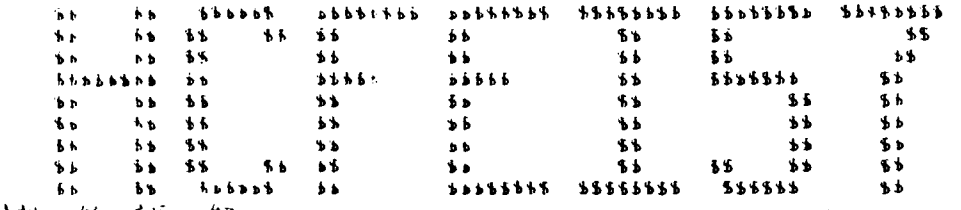
INPUT FRAME INDEX OF FRAMES TO BE DELETED FROM FILE = FORMAT(10I5)

2	10	41	14.374	0	10[illegible]	236	47	115	41
3	10	41	15.964	0	20[illegible]	234	34	114	39
4	10	41	17.430	0	10[illegible]	253	39	128	44
5	10	41	18.743	0	100	288	41	107	44
6	10	41	47.938	0	100	240	31	114	46

TABLE 3-9. BACKGROUND FRAMES SELECTED FOR CORRELATION STUDIES (Sheet 4 of 4)

```
 DATA FILE FOR TEST    3 FAWS 1S AUG 77  3-5 WB                          S00778
   12
FRAMES WERE SELECTED BY THE FOLLOWING CLASSIFICATIONS
 ASPHALT ROAD
 INPUT ZERO AND BAD DATA REJECTION CRITERION FORMAT 2    15
 REJECTION CRITERION (NZW,NBW)    210  210
NPUT FRAME INDEX OF FRAMES TO BE DELETED FROM FILE ,     FORMAT(10I5)
 INDEX FRAME   19 HAS BEEN DELETED
   12   10   45   56.833    0  100  293  148  216   28
   13   10   45   58.224    0  100  288  127  210   27
   14   10   45   59.588    0  100  280  127  199   30
   15   10   46    1.003    0  100  280  127  200   30
   15   10   46    5.115    0  100  289  127  194   38
REJECTED FRAME   17 NZ,NBG  700    0
   18   10   46   34.320    0  100  320  127  227   39
   20   10   46   39.855    0    0  289  127  204   26
   21   10   46   41.307    0  100  320  127  190   39
   23   10   46   45.437    0  100  320  165  250   26
   24   10   46   48.204    0    0  512  165  238   31
```

TABLE 3-10. MODEL TARGET SCENES AND MODEL TARGET MASK SCENES



42	191	44	205	45																						
43	44	2																								
45	44	14																								
47	44	34																								
48	41	50																								
49	43	57																								
50	43	44																								
51	43	101																								
52	42	117																								
53	42	134																								
54	42	151																								
55	42	154																								
56	42	145																								

	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62
39	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
40	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
41	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
42	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
43	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
44	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
45	142	142	142	142	142	142	151	133	137	124	101	149	148	146	213	244	240	212	192	164	144	142	142	142
46	142	142	142	142	142	142	149	144	132	96	113	133	159	343	512	352	253	231	204	161	148	142	142	142
47	142	142	142	142	142	142	135	140	128	96	109	138	207	511	504	256	209	197	192	148	133	142	142	142
48	142	142	142	142	142	144	125	128	85	64	87	93	103	147	192	160	157	176	164	129	101	142	142	142
49	142	142	142	142	142	148	144	124	96	68	103	96	93	117	135	157	176	159	160	132	129	142	142	142
50	142	142	142	142	142	148	123	101	80	87	113	83	93	116	117	151	160	144	145	125	128	142	142	142
51	142	142	142	142	142	144	132	97	69	111	132	85	99	112	109	167	157	161	133	125	142	142	142	142
52	142	142	142	142	160	141	134	116	96	127	148	103	95	112	145	164	167	165	128	93	142	142	142	142
53	142	142	142	142	173	164	148	128	101	96	85	77	97	93	125	143	149	144	125	131	142	142	142	142
54	142	142	142	142	151	148	134	125	143	144	117	135	133	119	144	141	144	140	128	117	142	142	142	142
55	142	142	142	142	144	145	144	161	172	160	131	148	144	125	128	129	141	129	117	119	142	142	142	142
56	142	142	142	142	160	147	150	159	160	151	140	160	132	130	145	156	142	142	142	142	142	142	142	142
57	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
58	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
59	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
60	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
61	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142
62	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142	142

TABLE 3-10. MODEL TARGET SCENES AND MODEL TARGET MASK SCENES (Sheet 2 of 4)

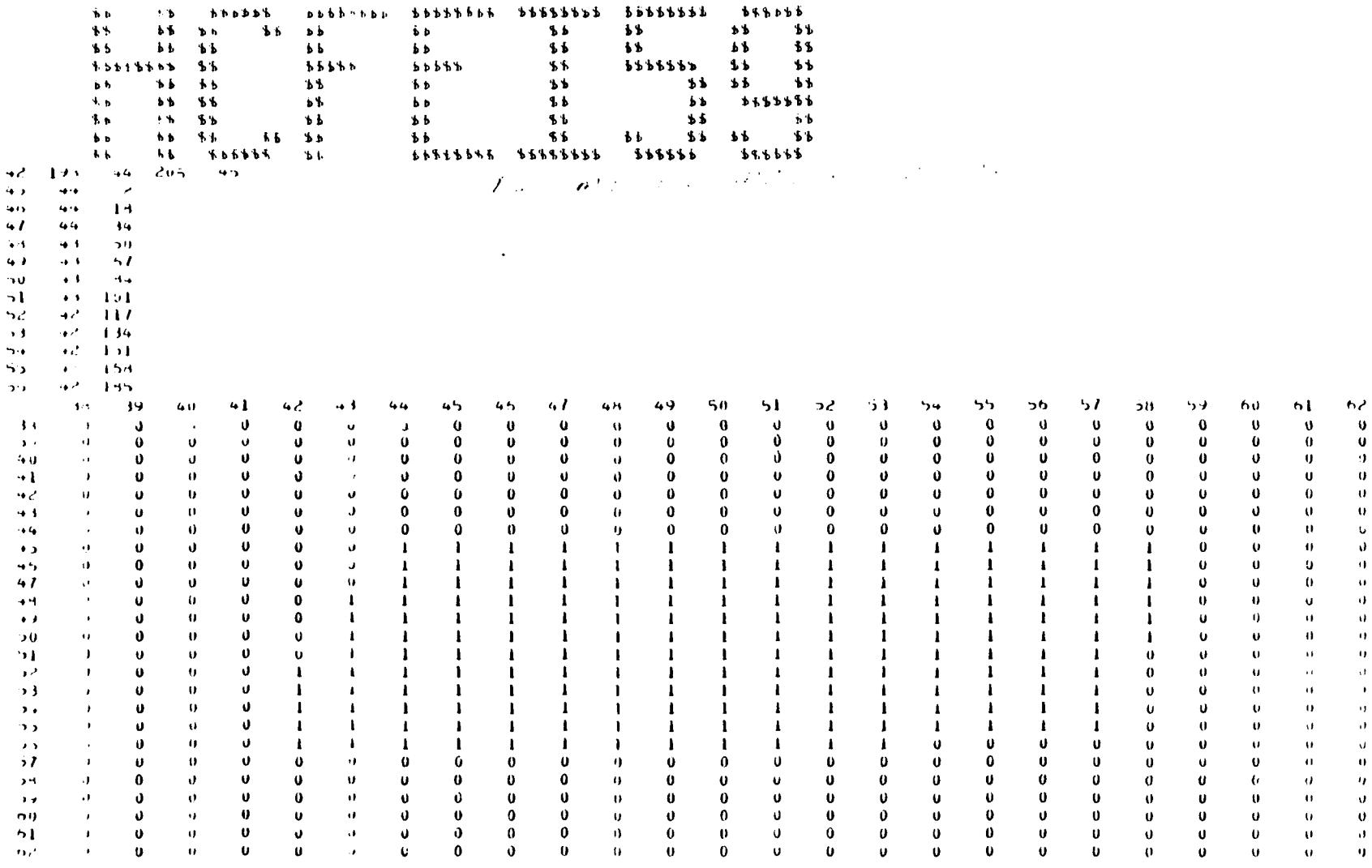


TABLE 3-10. MODEL TARGET SCENES AND MODEL TARGET MASK SCENES (Sheet 3 of 4)

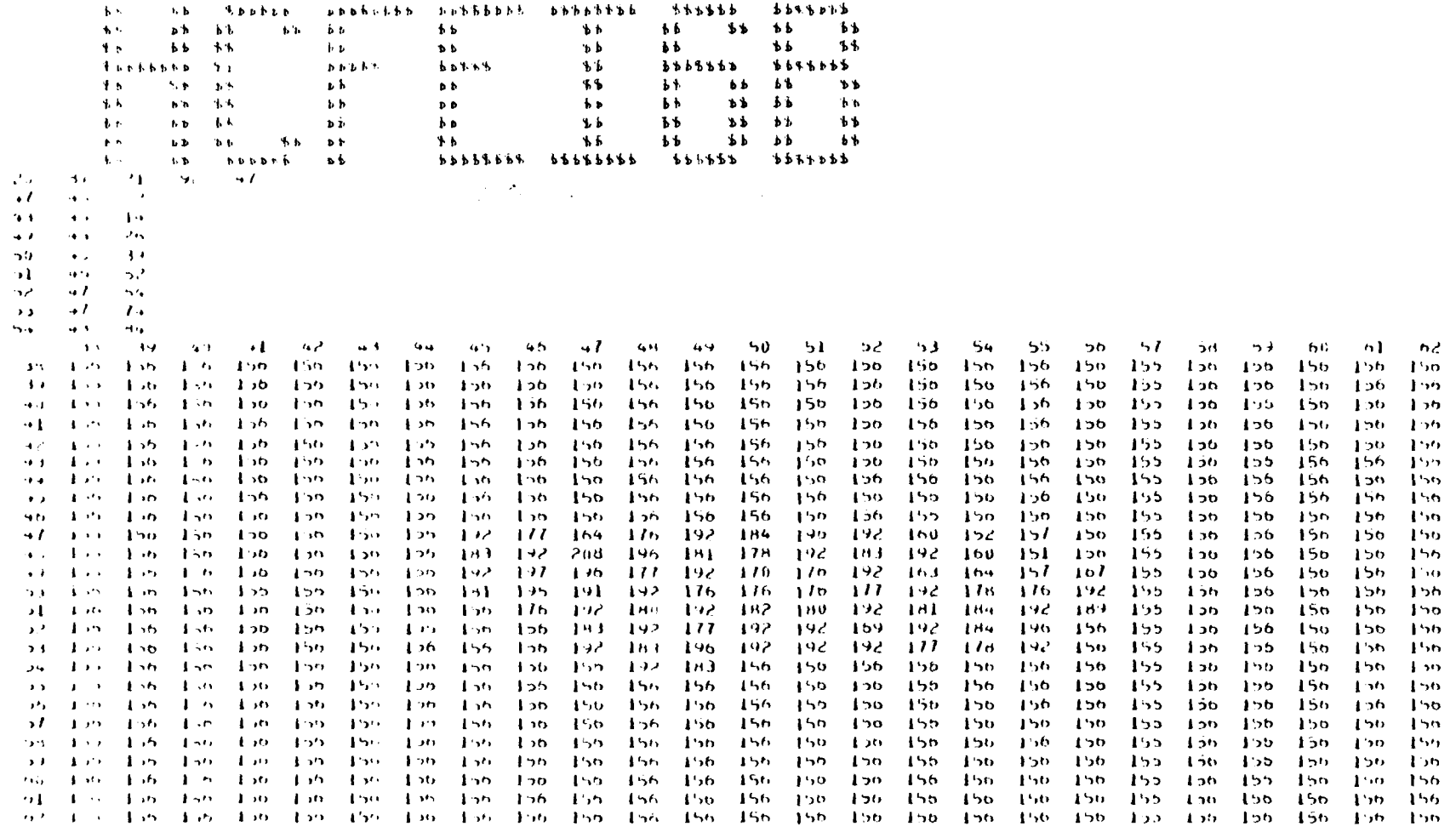


TABLE 3-10. MODEL TARGET SCENES AND MODEL TARGET MASK SCENES (Sheet 4 of 4)

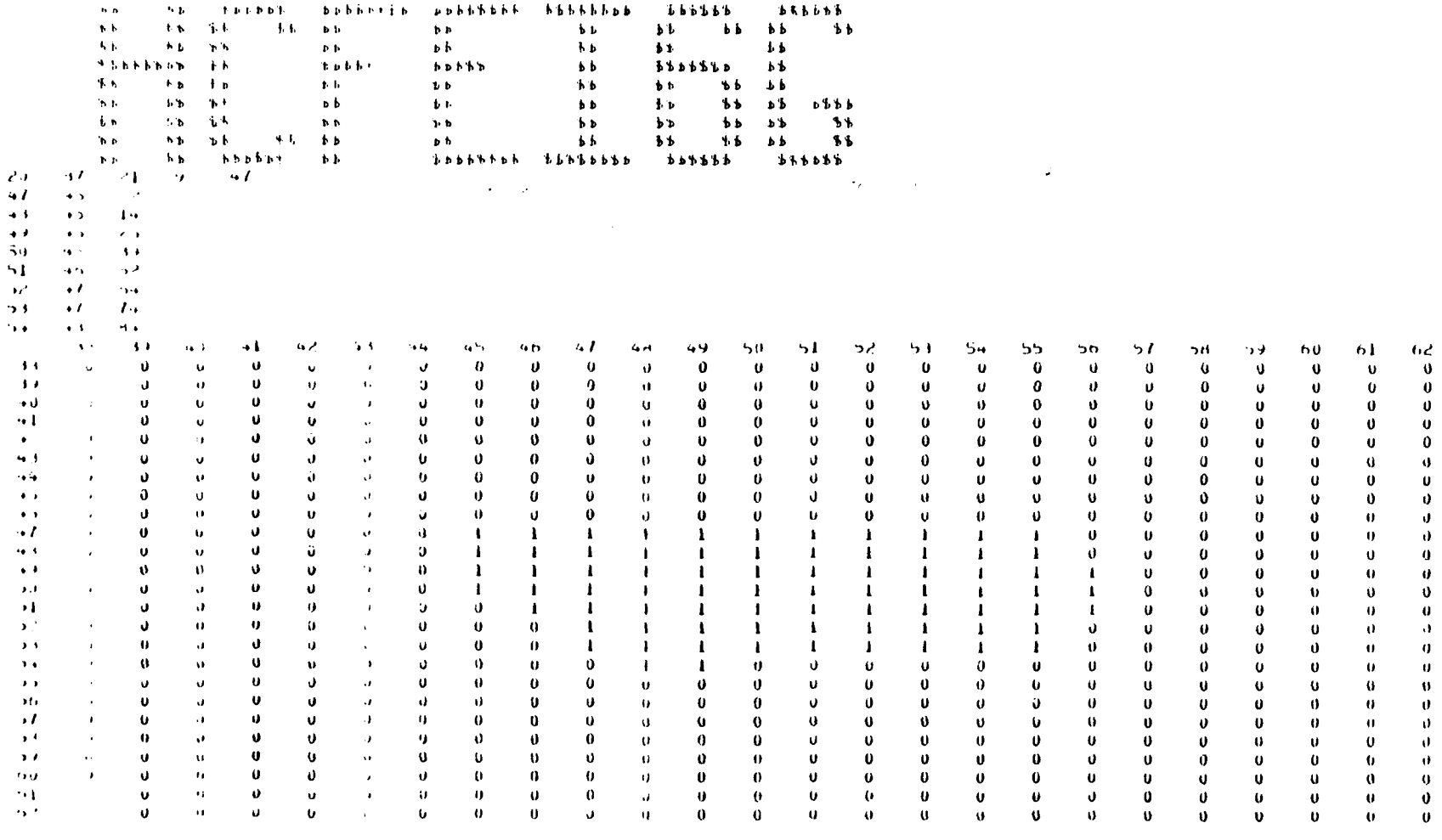


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES

COMPOSITE OF 17 FILES
CROSS CORRELATION
FAWS TARGET 1 11 47 23.9
FAWS A 40G 77 1-5 WB GRASS

IND X	COEF	MISS	PROB	CUM PROB
25	-.206.02E+01	1.00000	.00001	.00001
26	-.19314E+01	1.00000	.00001	.00003
23	-.18885E+01	3.00000	.00004	.00007
24	-.18455E+01	1.00000	.00001	.00008
23	-.18026E+01	2.00000	.00003	.00011
22	-.17596E+01	6.00000	.00008	.00019
21	-.17167E+01	4.00000	.00005	.00024
20	-.16737E+01	8.00000	.00011	.00035
19	-.16308E+01	12.00000	.00016	.00051
18	-.15879E+01	11.00000	.00015	.00065
17	-.15449E+ 1	15.00000	.00020	.00085
16	-.15020E+01	25.00000	.00033	.00118
15	-.14590E+01	24.00000	.00032	.00150
14	-.14161E+01	23.00000	.00031	.00181
13	-.13731E+01	32.00000	.00043	.00224
12	-.13302E+01	43.00000	.00057	.00281
11	-.12873E+01	54.00000	.00072	.00353
10	-.12443E+01	55.00000	.00073	.00426
9	-.12014E+01	62.00000	.00083	.00508
8	-.11584E+01	78.00000	.00104	.00612
7	-.11155E+01	86.00000	.00114	.00727
6	-.10725E+01	126.00000	.00168	.00894
5	-.10296E+01	108.00000	.00144	.01038
4	-.98665E+00	197.00000	.00262	.01300
3	-.94371E+00	243.00000	.00311	.01632
2	-.90076E+00	326.00000	.00434	.02065
1	-.85782E+00	396.00000	.00527	.02592
1	-.85782E+00	463.00000	.00616	.03209
2	-.81488E+00	523.00000	.00696	.03905
3	-.77193E+00	664.00000	.00884	.04788
4	-.72899E+00	798.00000	.01062	.05850
5	-.68605E+00	914.00000	.01216	.07067
6	-.64310E+00	1116.00000	.01485	.08552
7	-.60016E+00	1330.00000	.01770	.10322
8	-.55722E+00	1543.00000	.02054	.12376
9	-.51427E+00	1699.00000	.02261	.14637
10	-.47133E+00	1934.00000	.02574	.17211
11	-.42839E+00	2253.00000	.02998	.20209
12	-.38544E+00	2407.00000	.03203	.23412
13	-.34250E+00	2675.00000	.03560	.26972
14	-.29956E+00	2948.00000	.03923	.30896
15	-.25661E+00	3116.00000	.04147	.35043
16	-.21367E+ 0	3277.00000	.04361	.39404
17	-.17073E+00	3180.60000	.04998	.43902
18	-.12778E+00	3501.00000	.04659	.48561
19	-.84834E-01	3393.00000	.04516	.53077
20	-.41895E-01	3228.00000	.04296	.57373
21	.10482E-02	3082.00000	.04102	.61475
22	.43992E- 1	2957.00000	.03935	.65410
23	.86935E-01	2818.00000	.03684	.68894
24	.12988E+00	2552.00000	.03396	.72290
25	.17282E+00	2246.00000	.02989	.75279
26	.21577E+00	1938.00000	.02579	.77859
27	.25871E+00	1841.00000	.02450	.80310

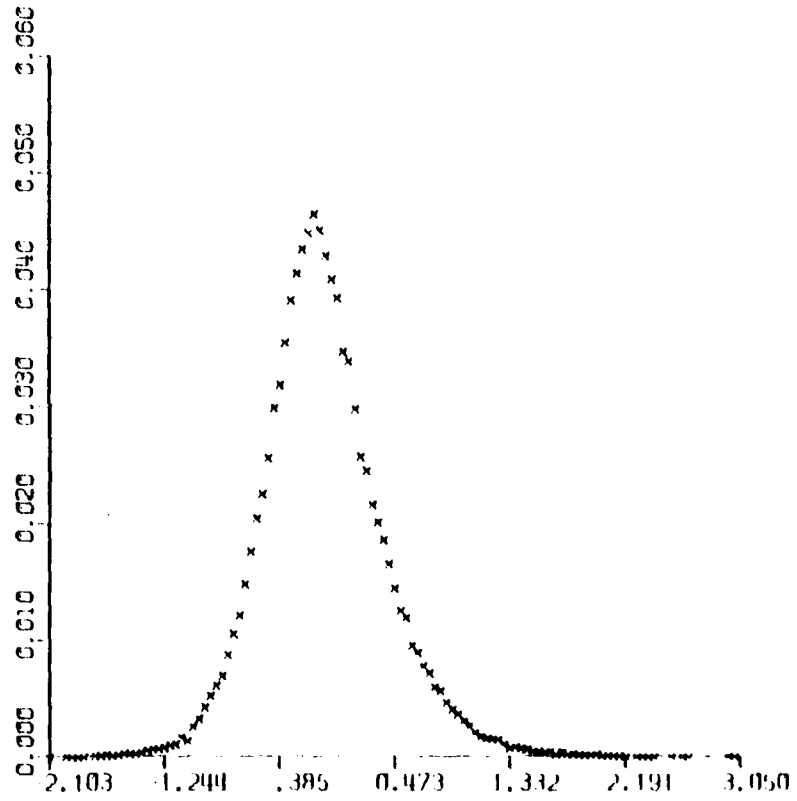


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 2 of 20)

INDEX	CODE	HIST	PROB	CUM PROB
28	.301652E+00	1631.00000	.02171	.82489
29	.344660E+00	1516.00000	.02018	.84506
30	.387546E+00	1401.00000	.01867	.86373
31	.430448E+00	1246.00000	.01658	.88032
32	.473438E+00	1091.00000	.01455	.89486
33	.516437E+00	947.00000	.01260	.90747
34	.559411E+00	905.00000	.01204	.91951
35	.602261E+00	723.00000	.00962	.92913
36	.645201E+00	676.00000	.00900	.93813
37	.688814E+00	583.00000	.00776	.94589
38	.731091E+00	540.00000	.00719	.95307
39	.774031E+00	452.00000	.00602	.95909
40	.816971E+00	428.00600	.00570	.96479
41	.859921E+00	351.00000	.00467	.96946
42	.902866E+00	309.00000	.00411	.97357
43	.945540E+00	278.00000	.00370	.97727
44	.988475E+00	231.00000	.00307	.98034
45	.103117E+01	200.00000	.00266	.98301
46	.107746E+01	155.00000	.00206	.98507
47	.111761E+01	138.00000	.00184	.98690
48	.116054E+01	117.00000	.00156	.98846
49	.120135E+01	112.00000	.00149	.98995
50	.124644E+01	115.00000	.00153	.99148
1	.128931E+01	86.00000	.00114	.99263
2	.133231E+01	63.00000	.00084	.99347
3	.137521E+01	70.00000	.00093	.99440
4	.141821E+01	63.00000	.00084	.99524
5	.146111E+01	49.00000	.00065	.99589
6	.150411E+01	39.00000	.00052	.99641
7	.154701E+01	36.00000	.00048	.99689
8	.159001E+01	27.00000	.00036	.99725
9	.163291E+01	39.00000	.00052	.99776
10	.167581E+01	17.00000	.00023	.99799
11	.171881E+01	28.00000	.00037	.99836
12	.176171E+01	14.00000	.00019	.99855
13	.180471E+01	19.00000	.00025	.99880
14	.184761E+01	14.00000	.00019	.99899
15	.189061E+01	12.00000	.00016	.99915
16	.193351E+01	12.00000	.00016	.99931
17	.197641E+01	13.00000	.00017	.99948
18	.201941E+01	7.00000	.00009	.99957
19	.206231E+01	11.00000	.00015	.99972
20	.210531E+01	4.00000	.00005	.99977
21	.214821E+01	4.00000	.00005	.99983
22	.219121E+01	2.00000	.00003	.99985
24	.227701E+01	1.00000	.00001	.99987
25	.232001E+01	1.00000	.00001	.99988
26	.236291E+01	1.00000	.00001	.99989
27	.240591E+01	1.00000	.00001	.99991
30	.253471E+01	1.00000	.00001	.99992
32	.262061E+01	1.00000	.00001	.99993
33	.266351E+01	1.00000	.00001	.99995
40	.296411E+01	1.00000	.00004	.99999
41	.300711E+01	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.586621221E-01 .450347561E+00

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 3 of 20)

COMPOSITE OF 36 FILES
CROSS CORRELATION
FAWS TARGET 1 11 47 23.9
FAWS 4 AUG 77 3-5 MM TREES

INDEX	COEF	HIST	PROB	CUM PROB
34	-.133459E+01	1.00000	.00001	.00001
33	-.133137E+ 1	1.00000	.00001	.00001
35	-.129294E+01	1.00000	.00001	.00002
35	-.127128E+01	5.00000	.00004	.00005
34	-.124998E+01	2.00000	.00001	.00007
33	-.122866E+01	4.00000	.00003	.00009
32	-.120704E+01	2.00000	.00001	.00011
31	-.118641E+ 1	7.00000	.00005	.00015
30	-.116549E+01	7.00000	.00005	.00020
29	-.114368E+01	9.00000	.00006	.00026
28	-.112224E+01	10.00000	.00007	.00033
27	-.110111E+01	14.00000	.00009	.00042
26	-.107988E+01	15.00000	.00010	.00052
25	-.105866E+ 1	18.00000	.00012	.00064
24	-.103737E+01	21.00000	.00014	.00078
23	-.101615E+ 1	18.00000	.00012	.00090
22	-.993440E+00	18.00000	.00012	.00102
21	-.972155E+00	21.00000	.00014	.00116
20	-.950729E+00	26.00000	.00017	.00133
19	-.929103E+00	35.00000	.00023	.00156
18	-.907977E+00	51.00000	.00035	.00192
17	-.886851E+00	50.00000	.00033	.00225
16	-.865726E+00	72.00000	.00048	.00273
15	-.844600E+ 0	71.00000	.00047	.00320
14	-.823474E+00	74.00000	.00049	.00369
13	-.802348E+ 0	85.00000	.00057	.00426
12	-.781222E+00	114.00000	.00076	.00502
11	-.760096E+00	133.00000	.00088	.00590
10	-.738971E+00	152.00000	.00101	.00691
9	-.717845E+00	204.00000	.00136	.00827
8	-.696719E+00	187.00000	.00124	.00951
7	-.675593E+ 0	245.00000	.00163	.01114
6	-.654467E+00	263.00000	.00175	.01289
5	-.633341E+ 0	283.00000	.00188	.01477
4	-.612216E+00	351.00000	.00233	.01711
3	-.591090E+00	387.00000	.00257	.01968
2	-.569964E+00	468.00000	.00311	.02279
1	-.548838E+00	519.00000	.00345	.02625
1	-.548838E+00	597.00000	.00397	.03022
2	-.527712E+00	666.00000	.00443	.03465
3	-.506586E+00	778.00000	.00517	.03982
4	-.485461E+00	948.00000	.00631	.04613
5	-.464335E+ 0	974.00000	.00648	.05261
6	-.443209E+00	1148.00000	.00764	.06024
7	-.422083E+ 0	1312.00000	.00873	.06897
8	-.400957E+00	1473.00000	.00980	.07877
9	-.379832E+00	1709.00000	.01137	.09013
10	-.358706E+00	1550.00000	.01101	.10314
11	-.337580E+00	2134.00000	.01419	.11734
12	-.316454E+ 0	2400.00000	.01596	.13330
13	-.295328E+00	2835.00000	.01886	.15216
14	-.274202E+00	3045.00000	.02025	.17241
15	-.253077E+ 0	3322.00000	.02210	.19451
16	-.231951E+00	3711.00000	.02469	.21919

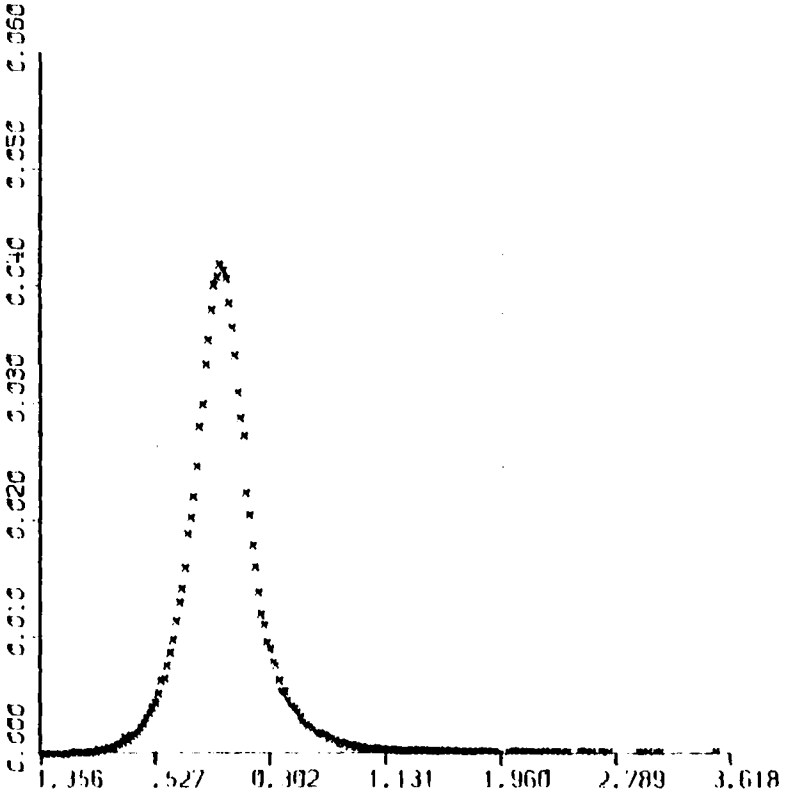


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 4 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
17	-.208256+00	4222.00000	.02808	.24721
18	-.186496+ 0	4503.00000	.02995	.27722
19	-.165736+00	5016.00000	.03336	.31059
20	-.144476+00	5339.00000	.03551	.34610
21	-.123226+00	5724.00000	.03807	.38417
22	-.101966+00	6043.00000	.04019	.42436
23	-.807006-01	6146.00000	.04088	.46524
24	-.594426-01	6316.00000	.04201	.50725
25	-.381836- 1	6244.00000	.04153	.54878
26	-.169256-01	6129.00000	.04077	.58955
27	.433336- 2	5813.00000	.03866	.62822
28	.236926-01	5502.00000	.03660	.66481
29	.445856- 1	5143.00000	.03421	.69902
30	.654806-01	4655.00000	.03096	.72998
31	.863666-01	4323.00000	.02875	.75873
32	.110626+ 0	4102.00000	.02728	.78602
33	.131886+00	3372.00000	.02243	.80845
34	.153146+00	3086.00000	.02053	.82897
35	.174406+00	2690.00000	.01789	.84687
36	.195666+00	2428.00000	.01615	.86302
37	.216926+00	2088.00000	.01389	.87690
38	.238176+00	1810.00000	.01204	.88894
39	.259436+00	1663.00000	.01106	.90000
40	.280696+00	1448.00000	.00963	.90963
41	.301956+ 0	1359.00000	.00904	.91867
42	.323216+ 0	1188.00000	.00790	.92658
43	.344476+00	1146.00000	.00762	.93420
44	.365726+00	943.00000	.00627	.94047
45	.386986+ 0	798.00000	.00531	.94578
46	.408246+00	819.00000	.00545	.95123
47	.429506+00	694.00000	.00462	.95584
48	.450766+00	617.00000	.00410	.95995
49	.472016+00	591.00000	.00393	.96388
50	.493276+00	546.00000	.00363	.96751
1	.514536+00	475.00000	.00316	.97067
2	.535796+00	400.00000	.00266	.97333
3	.557056+00	371.00000	.00247	.97580
4	.578316+00	347.00000	.00231	.97810
5	.599566+00	296.00000	.00197	.98007
6	.620826+00	239.00000	.00159	.98166
7	.642086+00	247.00000	.00164	.98331
8	.663346+00	218.00000	.00145	.98476
9	.684606+ 0	224.00000	.00149	.98624
10	.705866+00	159.00000	.00106	.98730
11	.727116+00	173.00000	.00115	.98845
12	.748376+00	141.00000	.00095	.98940
13	.769636+00	108.00000	.00072	.99012
14	.790896+00	118.00000	.00078	.99091
15	.812156+00	104.00000	.00072	.99163
16	.833416+00	107.00000	.00071	.99234
17	.854666+00	70.00000	.00047	.99281
18	.875926+00	83.00000	.00055	.99336
19	.897186+00	80.00000	.00053	.99389
20	.918446+ 0	65.00000	.00043	.99433
21	.939706+00	60.00000	.00040	.99473
22	.960956+00	52.00000	.00035	.99507
23	.982216+00	49.00000	.00033	.99540
24	.100346+01	43.00000	.00029	.99568
25	.102476+01	45.00000	.00030	.99598

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 5 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
25	.10460E+01	45.00000	.00030	.99628
27	.10672E+01	32.00000	.00021	.99649
28	.10885E+01	28.00000	.00019	.99668
29	.11098E+01	33.00000	.00022	.99690
30	.11310E+01	24.00000	.00016	.99706
31	.11523E+ 1	29.00000	.00019	.99725
32	.11735E+ 1	21.00000	.00014	.99739
33	.11948E+ 1	25.00000	.00017	.99756
34	.12161E+01	19.00000	.00013	.99769
35	.12373E+01	21.00000	.00014	.99783
36	.12586E+01	21.00000	.00014	.99796
37	.12798E+01	19.00000	.00013	.99809
38	.13011E+01	17.00000	.00011	.99820
39	.13223E+01	11.00000	.00007	.99828
40	.13436E+01	14.00000	.00009	.99837
41	.13649E+01	16.00000	.00011	.99848
42	.13861E+01	8.00000	.00005	.99853
43	.14074E+01	14.00000	.00009	.99862
44	.14286E+01	6.00000	.00004	.99866
45	.14499E+ 1	13.00000	.00009	.99875
46	.14712E+ 1	10.00000	.00007	.99882
47	.14924E+ 1	8.00000	.00005	.99887
48	.15137E+01	5.00000	.00003	.99890
49	.15349E+01	8.00000	.00005	.99896
50	.15562E+01	5.00000	.00003	.99899
51	.15774E+01	5.00000	.00003	.99902
52	.15987E+ 1	12.00000	.00008	.99910
53	.16200E+01	4.00000	.00003	.99913
54	.16412E+01	7.00000	.00005	.99918
55	.16625E+ 1	5.00000	.00003	.99921
56	.16837E+ 1	6.00000	.00004	.99925
57	.17050E+01	8.00000	.00005	.99930
58	.17263E+01	6.00000	.00004	.99934
59	.17475E+01	6.00000	.00004	.99938
60	.17688E+01	5.00000	.00003	.99941
61	.17900E+01	3.00000	.00002	.99943
62	.18113E+ 1	3.00000	.00002	.99945
63	.18325E+01	5.00000	.00003	.99949
64	.18538E+01	5.00000	.00003	.99952
65	.18751E+ 1	3.00000	.00002	.99954
66	.18963E+01	3.00000	.00002	.99956
68	.19388E+01	1.00000	.00001	.99957
70	.19814E+01	4.00000	.00003	.99959
71	.20026E+01	5.00000	.00003	.99961
72	.20239E+01	4.00000	.00003	.99965
73	.20451E+01	1.00000	.00001	.99966
74	.20664E+01	1.00000	.00001	.99967
75	.20876E+01	3.00000	.00002	.99969
76	.21089E+01	3.00000	.00002	.99971
77	.21302E+ 1	2.00000	.00001	.99972
78	.21514E+01	3.00000	.00002	.99974
79	.21727E+01	5.00000	.00003	.99977
80	.21939E+ 1	2.00000	.00001	.99979
81	.22152E+01	1.00000	.00001	.99979
82	.22364E+ 1	2.00000	.00001	.99981
83	.22577E+01	4.00000	.00003	.99983
85	.23002E+01	2.00000	.00001	.99985
86	.23215E+ 1	2.00000	.00001	.99986
87	.23427E+ 1	2.00000	.00001	.99987

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 6 of 20)

INDEX	EDGE	HIST	PROB	CUM PROB
89	.2385[illegible]E+01	1.00000	.00001	.99988
90	.2408[illegible]E+01	1.00000	.00001	.99989
91	.2427[illegible]E+01	1.00000	.00001	.99989
93	.2470[illegible]E+01	1.00000	.00001	.99990
95	.2512[illegible]E+01	1.00000	.00001	.99991
96	.2534[illegible]E+01	2.00000	.00001	.99992
97	.2555[illegible]E+01	1.00000	.00001	.99993
99	.2597[illegible]E+01	1.00000	.00001	.99993
102	.2661[illegible]E+01	1.00000	.00001	.99994
103	.2682[illegible]E+01	1.00000	.00001	.99995
105	.2725[illegible]E+01	2.00000	.00001	.99996
115	.2918[illegible]E+01	1.00000	.00001	.99997
116	.2959[illegible]E+01	1.00000	.00001	.99997
118	.3001[illegible]E+01	1.00000	.00001	.99998
121	.3065[illegible]E+01	1.00000	.00001	.99999
122	.3086[illegible]E+01	1.00000	.00001	.99999
141	.3490[illegible]E+01	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.41068728E-01 .27531177E+00

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 7 of 20)

COMPOSITE OF 10 FILES
CROSS CORRELATION
FAWS TARGET 1 11 47 21.9
FAWS 8 AUG 77 I-5 WB ASPHALT ROADS

INDEX	COEF	HIST	PROB	CUM PROB
10	-.29933E+01	1.00000	.00002	.00002
8	-.27981E+01	3.00000	.00007	.00009
7	-.27005E+01	22.00000	.00050	.00059
6	-.26027E+01	51.00000	.00115	.00174
5	-.25049E+01	75.00000	.00169	.00343
4	-.24070E+01	76.00000	.00171	.00514
3	-.23092E+01	103.00000	.00232	.00747
2	-.22114E+01	113.00000	.00255	.01002
1	-.21136E+01	153.00000	.00345	.01347
1	-.21136E+01	209.00000	.00471	.01818
2	-.20158E+01	298.00000	.00672	.02490
3	-.19180E+01	297.00000	.00670	.03160
4	-.18202E+01	343.00000	.00774	.03934
5	-.17223E+01	403.00000	.00909	.04843
6	-.16245E+01	368.00000	.00830	.05673
7	-.15267E+ 1	440.00000	.00993	.06666
8	-.14289E+ 1	441.00000	.00995	.07661
9	-.13311E+01	474.00000	.01069	.08730
10	-.12333E+01	500.00000	.01128	.09858
11	-.11355E+ 1	562.00000	.01268	.11126
12	-.10377E+01	567.00000	.01279	.12405
13	-.93984E+00	720.00000	.01624	.14029
14	-.84203E+00	893.00000	.02014	.16043
15	-.74422E+00	1154.00000	.02603	.18647
16	-.64640E+00	1521.00000	.03431	.22078
17	-.54859E+ 0	1955.00000	.04410	.26488
18	-.45078E+00	2137.00000	.04821	.31308
19	-.35296E+00	2360.00000	.05324	.36632
20	-.25515E+00	2497.00000	.05633	.42265
21	-.15734E+00	2742.00000	.06185	.48450
22	-.59526E-01	2877.00000	.06490	.54940
23	.38287E-01	2852.00000	.06434	.61374
24	.13610E+00	2634.00000	.05942	.67316
25	.23391E+00	2116.00000	.04773	.72089
26	.33173E+00	1753.00000	.03954	.76043
27	.42954E+00	1757.00000	.03963	.80007
28	.52735E+00	1668.00000	.03763	.83769
29	.62517E+00	1240.00000	.02797	.86567
30	.72298E+00	970.00000	.02188	.88755
31	.82079E+00	721.00000	.01626	.90381
32	.91860E+00	569.00000	.01284	.91665
33	.10164E+01	539.00000	.01216	.92881
34	.11142E+01	441.00000	.00995	.93875
35	.12120E+01	374.00000	.00844	.94719
36	.13099E+01	325.00000	.00733	.95452
37	.14077E+01	292.00000	.00659	.96111
38	.15055E+01	286.00000	.00645	.96756
39	.16033E+01	269.00000	.00607	.97363
40	.17011E+01	217.00000	.00490	.97852
41	.17989E+01	187.00000	.00422	.98274
42	.18967E+01	141.00000	.00318	.98592
43	.19945E+ 1	133.00000	.00300	.98892
44	.20924E+01	91.00000	.00205	.99098
45	.21902E+01	67.00000	.00151	.99249

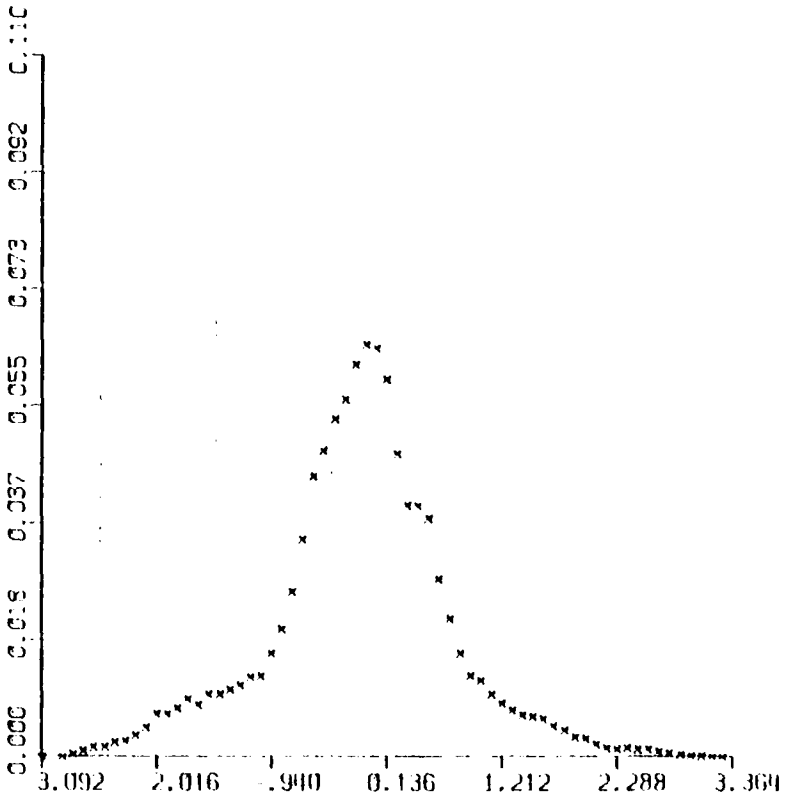


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 8 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
46	.22480E+01	55.00000	.00124	.99373
47	.21858E+01	66.00000	.00149	.99522
48	.24836E+01	54.00000	.00122	.99644
49	.25814E+01	56.00000	.00126	.99770
50	.26792E+01	37.00000	.00083	.99854
1	.27771E+01	29.00000	.00065	.99919
2	.28749E+01	17.00000	.00038	.99957
3	.29727E+01	11.00000	.00025	.99982
4	.30705E+01	5.00000	.00011	.99993
5	.31683E+01	2.00000	.00005	.99998
6	.32661E+01	1.00000	.00002	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.10568086E+00 .83142231E+00

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 9 of 20)

COMPOSITE OF 5 FILES
CROSS CORRELATION
FAWS TARGET 1 11 47 23.4
FAWS 4 AUG 77 4-5 KM BUILDINGS

INDEX	COEF	HIST	PROB	CUM PROB
17	-.469056E+01	1.00000	.00005	.00005
16	-.457586E+01	4.00000	.00018	.00023
15	-.446126E+01	2.00000	.00009	.00032
14	-.434656E+01	1.00000	.00005	.00036
13	-.423196E+01	4.00000	.00018	.00054
12	-.411726E+01	3.00000	.00014	.00068
11	-.400256E+01	5.00000	.00023	.00091
10	-.388796E+01	8.00000	.00036	.00127
9	-.377336E+01	14.00000	.00064	.00191
8	-.365866E+01	9.00000	.00041	.00231
7	-.354406E+01	12.00000	.00054	.00286
6	-.342946E+01	13.00000	.00059	.00345
5	-.331476E+01	21.00000	.00095	.00440
4	-.320016E+01	31.00000	.00141	.00581
3	-.308546E+01	26.00000	.00118	.00699
2	-.297086E+01	34.00000	.00154	.00853
1	-.285616E+01	45.00000	.00204	.01057
1	-.285616E+01	58.00000	.00263	.01321
2	-.274156E+01	85.00000	.00386	.01706
3	-.262686E+01	98.00000	.00445	.02151
4	-.251226E+01	131.00000	.00595	.02746
5	-.239756E+01	168.00000	.00762	.03508
6	-.228296E+01	163.00000	.00740	.04248
7	-.216826E+01	160.00000	.00726	.04974
8	-.205366E+01	162.00000	.00735	.05709
9	-.193896E+01	150.00000	.00681	.06390
10	-.182436E+01	169.00000	.00767	.07157
11	-.170966E+01	182.00000	.00826	.07983
12	-.159506E+01	192.00000	.00871	.08854
13	-.148036E+01	205.00000	.00930	.09784
14	-.136576E+01	272.00000	.01234	.11019
15	-.125116E+01	373.00000	.01693	.12712
16	-.113646E+01	555.00000	.02519	.15230
17	-.102186E+01	712.00000	.03231	.18462
18	-.907116E+00	836.00000	.03794	.22256
19	-.792476E+00	914.00000	.04148	.26403
20	-.677836E+00	1060.00000	.04811	.31214
21	-.563176E+00	1262.00000	.05728	.37032
22	-.448536E+00	1274.00000	.05782	.42814
23	-.333886E+00	1044.00000	.04919	.47733
24	-.219236E+00	887.00000	.04025	.51759
25	-.104596E+00	637.00000	.02891	.54649
26	.100056E-01	531.00000	.02410	.57059
27	.124716E+00	515.00000	.02337	.59396
28	.239366E+00	501.00000	.02274	.61670
29	.354016E+00	632.00000	.02868	.64538
30	.468666E+00	806.00000	.03658	.68196
31	.583306E+00	878.00000	.03985	.72181
32	.697956E+00	871.00000	.03951	.76133
33	.812606E+00	687.00000	.03118	.79251
34	.927246E+00	540.00000	.02451	.81702
35	.104189E+01	461.00000	.02093	.83795
36	.115656E+01	367.00000	.01666	.85461
37	.127121E+01	280.00000	.01271	.86732

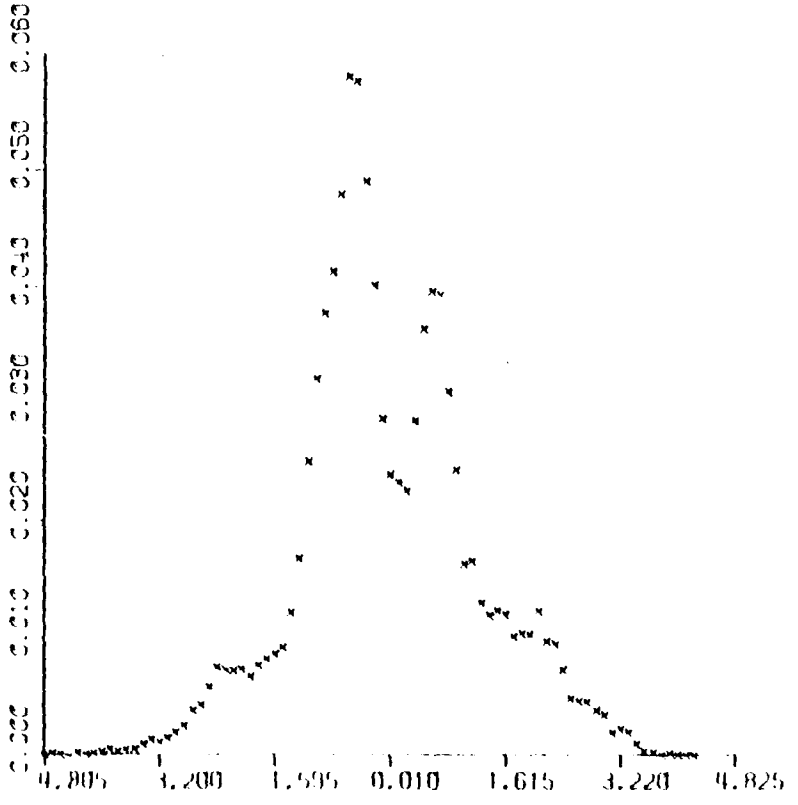


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 10 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
36	.134588E+01	264.00000	.01198	.87520
37	.136058E+01	274.00000	.01243	.88763
40	.141518E+01	266.00000	.01207	.89971
41	.142988E+01	225.00000	.01021	.90992
42	.144448E+01	231.00000	.01048	.92040
43	.145918E+01	230.00000	.01044	.93084
44	.147378E+01	271.00000	.01231	.94323
45	.148848E+01	215.00000	.00976	.95298
46	.150308E+01	211.00000	.00958	.96256
47	.151778E+01	164.00000	.00744	.97000
48	.153238E+01	109.00000	.00495	.97495
49	.154708E+01	103.00000	.00467	.97962
50	.156168E+01	101.00000	.00458	.98421
1	.157628E+01	86.00000	.00390	.98811
2	.159098E+01	78.00000	.00354	.99165
3	.160558E+01	41.00000	.00185	.99360
4	.162028E+01	51.00000	.00231	.99592
5	.163488E+01	43.00000	.00195	.99787
6	.164958E+01	21.00000	.00095	.99882
7	.166418E+01	8.00000	.00036	.99918
8	.167888E+01	7.00000	.00032	.99950
9	.169348E+01	2.00000	.00009	.99959
10	.170818E+01	4.00000	.00018	.99977
11	.172278E+01	3.00000	.00014	.99991
12	.173748E+01	1.00000	.00005	.99995
13	.175208E+01	1.00000	.00005	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.268388664E-01 .123341695+01

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 11 of 20)

COMPOSITE OF 17 FILES
CROSS CORRELATION
FAWS TARGET 7 12 0 14.068
FAWS B AUG 77 4-5 WD GRASS

INDEX	COEF	HIST	PROB	CUM PROB
43	-.706688E+01	1.00000	.00001	.00001
41	-.688105E+01	1.00000	.00001	.00003
37	-.633579E+01	1.00000	.00001	.00004
35	-.612166E+01	1.00000	.00001	.00005
34	-.600035E+01	1.00000	.00001	.00007
29	-.541288E+01	1.00000	.00001	.00008
28	-.529466E+01	1.00000	.00001	.00009
27	-.517655E+01	2.00000	.00003	.00012
25	-.494402E+01	1.00000	.00001	.00013
24	-.482206E+01	4.00000	.00005	.00019
23	-.470396E+01	32.00000	.00043	.00061
22	-.458658E+01	68.00000	.00090	.00152
21	-.446876E+01	89.00000	.00118	.00270
20	-.435095E+01	72.00000	.00096	.00366
19	-.423138E+01	85.00000	.00113	.00479
18	-.411326E+01	92.00000	.00122	.00602
17	-.399506E+01	78.00000	.00104	.00705
16	-.387693E+01	71.00000	.00094	.00800
15	-.375887E+01	77.00000	.00102	.00902
14	-.364066E+01	79.00000	.00105	.01007
13	-.352256E+01	82.00000	.00109	.01117
12	-.340431E+01	105.00000	.00140	.01256
11	-.328626E+01	106.00000	.00141	.01397
10	-.316810E+01	119.00000	.00158	.01556
9	-.304993E+01	155.00000	.00206	.01762
8	-.293178E+01	174.00000	.00232	.01994
7	-.281366E+01	237.00000	.00315	.02309
6	-.269546E+01	312.00000	.00415	.02724
5	-.257730E+01	416.00000	.00554	.03278
4	-.245911E+01	554.00000	.00737	.04015
3	-.234101E+01	582.00000	.00775	.04790
2	-.222278E+01	636.00000	.00846	.05636
1	-.210467E+01	744.00000	.00990	.06626
1	-.198647E+01	892.00000	.01187	.07813
2	-.186841E+01	1206.00000	.01605	.09418
3	-.175031E+01	1345.00000	.01790	.11208
4	-.163221E+01	1586.00000	.02111	.13319
5	-.151410E+01	1693.00000	.02253	.15572
6	-.139598E+01	1904.00000	.02533	.18105
7	-.127788E+01	1984.00000	.02647	.20752
8	-.115976E+01	2188.00000	.02912	.23664
9	-.104165E+01	2461.00000	.03275	.26939
10	-.924145E+00	2534.00000	.03118	.30057
11	-.806327E+00	2544.00000	.03120	.33177
12	-.688512E+00	2571.00000	.02892	.36069
13	-.570698E+00	2581.00000	.02303	.38971
14	-.452883E+00	2596.00000	.02936	.41907
15	-.335069E+00	2658.00000	.02872	.44779
16	-.217254E+00	2631.00000	.02836	.47615
17	-.099440E+00	2691.00000	.02916	.50531
18	.018374E-01	2700.00000	.02928	.53459
19	.218898E-01	2678.00000	.02899	.56358
20	.140084E+00	2694.00000	.02921	.59277
21	.258818E+00	2714.00000	.02948	.62226

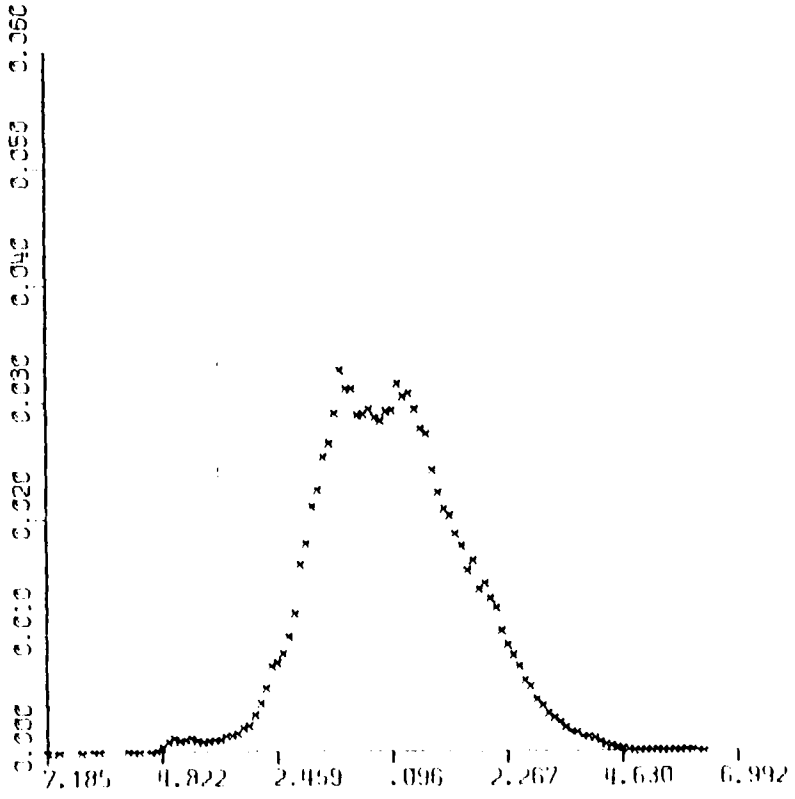


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 12 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
22	.47633E+00	2210.00000	.02941	.65697
23	.49447E+00	2079.00000	.02767	.68464
24	.51262E+00	2054.00000	.02734	.71198
25	.53076E+00	1822.00000	.02425	.73623
26	.54891E+00	1673.00000	.02227	.75849
27	.56705E+00	1571.00000	.02091	.77940
28	.58520E+01	1524.00000	.02028	.79968
29	.60335E+01	1408.00000	.01874	.81842
30	.62150E+01	1327.00000	.01766	.83608
31	.63964E+01	1273.00000	.01561	.85169
32	.65778E+01	1234.00000	.01649	.86818
33	.67594E+01	1055.00000	.01404	.88222
34	.69408E+01	1089.00000	.01449	.89671
35	.71222E+01	995.00000	.01324	.90995
36	.73037E+01	930.00000	.01238	.92233
37	.74851E+01	781.00000	.01042	.93275
38	.76666E+01	684.00000	.00917	.94192
39	.78480E+01	625.00000	.00832	.95024
40	.80294E+01	545.00000	.00725	.95749
41	.82111E+01	455.00000	.00606	.96355
42	.83925E+01	421.00000	.00560	.96915
43	.85740E+01	335.00000	.00446	.97361
44	.87555E+01	299.00000	.00398	.97759
45	.89369E+01	251.00000	.00334	.98093
46	.91184E+01	217.00000	.00289	.98382
47	.92999E+01	190.00000	.00253	.98635
48	.94813E+01	158.00000	.00210	.98845
49	.96628E+01	125.00000	.00166	.99011
50	.98444E+01	129.00000	.00172	.99183
1	.10025E+01	100.00000	.00133	.99316
2	.10207E+01	96.00000	.00128	.99444
3	.10388E+01	91.00000	.00124	.99567
4	.10570E+01	65.00000	.00087	.99654
5	.10751E+01	56.00000	.00075	.99729
6	.10933E+01	44.00000	.00059	.99787
7	.11114E+01	33.00000	.00044	.99831
8	.11296E+01	26.00000	.00035	.99866
9	.11477E+01	17.00000	.00023	.99888
10	.11659E+01	7.00000	.00009	.99898
11	.11840E+01	7.00000	.00009	.99907
12	.12021E+01	5.00000	.00007	.99913
13	.12203E+01	7.00000	.00009	.99923
14	.12384E+01	9.00000	.00012	.99935
15	.12566E+01	4.00000	.00005	.99940
16	.12747E+01	7.00000	.00009	.99949
17	.12928E+01	8.00000	.00011	.99960
18	.13110E+01	8.00000	.00011	.99971
19	.13291E+01	6.00000	.00008	.99979
20	.13473E+01	6.00000	.00008	.99987
21	.13654E+01	9.00000	.00012	.99999
22	.13836E+01	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.10162616E+00 .14889264E+01

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 13 of 20)

COMPOSITE OF [illegible] FILES
CROSS CORRELATION
FAWS TARGET 7 12 0 34.068
FAWS 4 AUG 77 1-5 WH TREES

INDEX	COEF	HIST	PROB	CUM PROB
42	-.280171E+01	1.00000	.00002	.00002
41	-.275608E+01	1.00000	.00001	.00003
39	-.266071E+01	2.00000	.00001	.00004
38	-.261311E+01	1.00000	.00001	.00005
37	-.256548E+01	2.00000	.00001	.00006
36	-.251778E+01	1.00000	.00002	.00008
35	-.247011E+01	11.00000	.00007	.00015
34	-.242224E+01	11.00000	.00007	.00023
33	-.237448E+01	13.00000	.00009	.00031
32	-.232711E+01	22.00000	.00015	.00046
31	-.227944E+01	22.00000	.00015	.00061
30	-.223118E+01	35.00000	.00023	.00084
29	-.218341E+01	61.00000	.00041	.00124
28	-.213565E+01	66.00000	.00044	.00168
27	-.208888E+01	95.00000	.00063	.00231
26	-.204111E+01	89.00000	.00059	.00291
25	-.199335E+01	169.00000	.00112	.00403
24	-.194558E+01	187.00000	.00124	.00527
23	-.189782E+01	179.00000	.00119	.00647
22	-.185005E+01	219.00000	.00146	.00792
21	-.180228E+01	236.00000	.00157	.00949
20	-.175452E+01	247.00000	.00164	.01113
19	-.170675E+01	301.00000	.00200	.01314
18	-.165899E+01	325.00000	.00216	.01530
17	-.161122E+01	346.00000	.00230	.01760
16	-.156345E+01	413.00000	.00275	.02035
15	-.151569E+01	400.00000	.00266	.02301
14	-.146792E+01	507.00000	.00337	.02638
13	-.142016E+01	592.00000	.00394	.03032
12	-.137239E+01	612.00000	.00407	.03439
11	-.132462E+01	681.00000	.00453	.03892
10	-.127686E+01	835.00000	.00555	.04447
9	-.122909E+01	934.00000	.00621	.05068
8	-.118133E+01	1051.00000	.00699	.05767
7	-.113356E+01	1174.00000	.00781	.06548
6	-.108579E+01	1240.00000	.00825	.07373
5	-.103803E+01	1411.00000	.00939	.08312
4	-.992262E+00	1579.00000	.01050	.09362
3	-.944496E+00	1704.00000	.01133	.10495
2	-.896730E+00	1954.00000	.01300	.11795
1	-.848964E+00	2232.00000	.01485	.13279
1	-.849964E+00	2175.00000	.01580	.14959
2	-.801198E+00	2546.00000	.01760	.16619
3	-.753432E+00	2680.00000	.01916	.18535
4	-.705666E+00	3212.00000	.02136	.20671
5	-.657900E+00	3265.00000	.02172	.22843
6	-.611134E+00	3437.00000	.02287	.25130
7	-.562368E+00	3565.00000	.02371	.27501
8	-.514601E+00	3660.00000	.02434	.29936
9	-.466835E+00	3769.00000	.02507	.32443
10	-.419071E+00	3761.00000	.02502	.34944
11	-.371305E+00	3900.00000	.02594	.37538
12	-.323538E+00	4084.00000	.02719	.40257
13	-.277773E+00	4226.00000	.02811	.43068

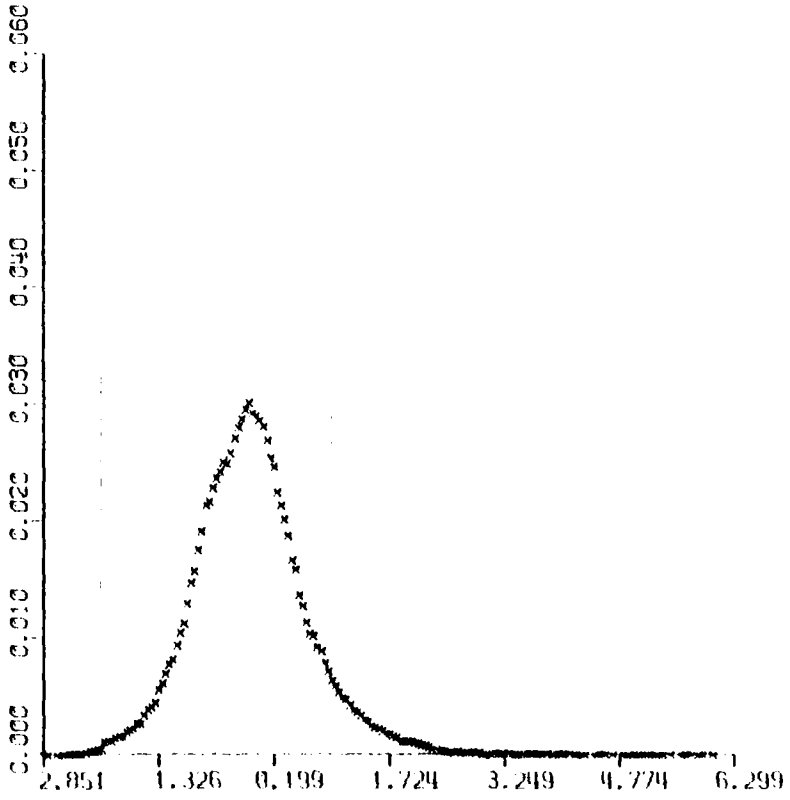


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 14 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
14	-.23007E+00	4127.00000	.02878	.45946
15	-.19241E+00	4456.00000	.02964	.48910
16	-.13475E+00	4535.00000	.03016	.51927
17	-.87088E-01	4401.00000	.02927	.54854
18	-.39428E-01	4369.00000	.02906	.57760
19	.82319E-02	4319.00000	.02873	.60633
20	.55892E-01	4247.00000	.02825	.63457
21	.10355E+00	4061.00000	.02701	.66159
22	.15121E+00	3828.00000	.02546	.68705
23	.19887E+00	3710.00000	.02468	.71172
24	.24653E+00	3386.00000	.02252	.73424
25	.29419E+00	3219.00000	.02141	.75566
26	.34185E+00	3032.00000	.02017	.77582
27	.38951E+00	2826.00000	.01880	.79462
28	.43717E+00	2508.00000	.01668	.81130
29	.48483E+00	2386.00000	.01587	.82717
30	.53249E+00	2065.00000	.01374	.84091
31	.58015E+00	1923.00000	.01279	.85370
32	.62781E+00	1718.00000	.01143	.86512
33	.67547E+00	1565.00000	.01041	.87553
34	.72313E+00	1526.00000	.01016	.88570
35	.77079E+00	1380.00000	.00918	.89488
36	.81845E+00	1336.00000	.00889	.90376
37	.86611E+00	1192.00000	.00793	.91169
38	.91377E+00	1088.00000	.00724	.91893
39	.96143E+00	959.00000	.00638	.92531
40	.10091E+01	887.00000	.00590	.93120
41	.10567E+01	806.00000	.00536	.93657
42	.11044E+01	741.00000	.00493	.94149
43	.11521E+01	717.00000	.00477	.94626
44	.11997E+01	651.00000	.00433	.95059
45	.12474E+01	572.00000	.00380	.95440
46	.12950E+01	561.00000	.00373	.95813
47	.13427E+01	512.00000	.00341	.96154
48	.13904E+01	448.00000	.00298	.96451
49	.14380E+01	438.00000	.00291	.96743
50	.14857E+01	376.00000	.00250	.96993
1	.15333E+01	366.00000	.00243	.97236
2	.15810E+01	346.00000	.00230	.97466
3	.16287E+01	321.00000	.00214	.97680
4	.16763E+01	266.00000	.00177	.97857
5	.17240E+01	264.00000	.00176	.98033
6	.17716E+01	244.00000	.00162	.98195
7	.18193E+01	227.00000	.00151	.98346
8	.18670E+01	185.00000	.00124	.98470
9	.19146E+01	183.00000	.00122	.98591
10	.19623E+01	174.00000	.00116	.98707
11	.20099E+01	185.00000	.00123	.98830
12	.20576E+01	160.00000	.00106	.98936
13	.21053E+01	147.00000	.00098	.99034
14	.21529E+01	128.00000	.00085	.99119
15	.22006E+01	124.00000	.00082	.99202
16	.22482E+01	100.00000	.00067	.99268
17	.22959E+01	80.00000	.00053	.99322
18	.23436E+01	78.00000	.00052	.99373
19	.23912E+01	62.00000	.00041	.99415
20	.24389E+01	64.00000	.00043	.99457
21	.24865E+01	54.00000	.00036	.99493
22	.25342E+01	46.00000	.00031	.99524

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 15 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
23	.254196+01	36.00000	.00024	.99534
24	.252956+01	43.00000	.00029	.99562
25	.256726+01	32.00000	.00021	.99584
26	.272486+01	33.00000	.00022	.99606
27	.277256+01	35.00000	.00023	.99629
28	.294026+01	39.00000	.00026	.99655
29	.286786+01	34.00000	.00023	.99677
30	.291556+01	38.00000	.00025	.99703
31	.296316+01	19.00000	.00013	.99715
32	.301086+01	20.00000	.00013	.99729
33	.305856+01	20.00000	.00013	.99742
34	.310616+01	31.00000	.00021	.99763
35	.315386+01	21.00000	.00014	.99777
36	.320146+01	15.00000	.00010	.99786
37	.324916+01	19.00000	.00013	.99799
38	.329686+01	23.00000	.00015	.99814
39	.334446+01	19.00000	.00013	.99827
40	.339216+01	15.00000	.00010	.99837
41	.343976+01	16.00000	.00011	.99848
42	.348746+01	8.00000	.00005	.99853
43	.353516+01	13.00000	.00009	.99862
44	.358276+01	12.00000	.00008	.99870
45	.363046+01	22.00000	.00015	.99884
46	.367806+01	15.00000	.00010	.99894
47	.372576+01	12.00000	.00008	.99902
48	.377346+01	14.00000	.00009	.99912
49	.382106+01	16.00000	.00011	.99922
50	.386876+01	8.00000	.00005	.99928
51	.391636+01	9.00000	.00006	.99933
52	.396406+01	9.00000	.00006	.99939
53	.401166+01	10.00000	.00007	.99946
54	.405936+01	5.00000	.00003	.99949
55	.410706+01	11.00000	.00007	.99957
56	.415466+01	1.00000	.00001	.99957
57	.420236+01	2.00000	.00001	.99959
58	.424996+01	1.00000	.00001	.99959
59	.429766+01	5.00000	.00003	.99961
61	.434296+01	3.00000	.00002	.99965
62	.444066+01	3.00000	.00002	.99967
63	.448826+01	1.00000	.00001	.99967
64	.453596+01	2.00000	.00001	.99969
65	.458366+01	3.00000	.00002	.99971
67	.467896+01	2.00000	.00001	.99972
69	.477426+01	2.00000	.00001	.99973
70	.482196+01	1.00000	.00001	.99974
71	.486956+01	4.00000	.00003	.99977
72	.491726+01	2.00000	.00001	.99978
73	.496486+01	1.00000	.00001	.99979
74	.501256+01	1.00000	.00001	.99979
75	.506026+01	1.00000	.00001	.99980
76	.510786+01	1.00000	.00001	.99981
77	.515556+01	3.00000	.00002	.99983
78	.520316+01	1.00000	.00001	.99984
79	.525086+01	4.00000	.00003	.99986
80	.529856+01	2.00000	.00001	.99987
81	.534616+01	1.00000	.00001	.99988
83	.544146+01	1.00000	.00001	.99989
86	.558446+01	1.00000	.00002	.99991
87	.563216+01	1.00000	.00002	.99993

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 16 of 20)

INDEX	COEF	DIST	PROB	CUM PROB
88	.5679[illegible]+01	1.00000	.00001	.99993
89	.5727[illegible]+01	3.00000	.00002	.99995
91	.5822[illegible]+01	3.00000	.00002	.99997
92	.5879[illegible]+01	2.00000	.00001	.99999
94	.5965[illegible]+01	1.00000	.00001	.99999
95	.6013[illegible]+01	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.96731456E-01 .75745980E+00

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 17 of 20)

COMPOSITE OF 9 FILES
CROSS CORRELATION
FAWS TARGET 7 12 0 34.068
FAWS 9 AUG 77 I-5 NB ASPHALT ROADS

INDEX	COEF	HIST	PROB	CUM PROB
9	-.605518+01	18.00000	.00045	.00045
8	-.586018+01	45.00000	.00113	.00158
7	-.566518+01	25.00000	.00063	.00221
6	-.547028+01	18.00000	.00045	.00266
5	-.527528+01	22.00000	.00055	.00321
4	-.508028+01	58.00000	.00146	.00467
3	-.488528+01	70.00000	.00176	.00642
2	-.469038+ 1	81.00000	.00203	.00846
1	-.449538+01	297.00000	.00745	.01591
1	-.449538+01	651.00000	.01634	.03225
2	-.430038+01	606.00000	.01521	.04746
3	-.410548+01	609.00000	.01528	.06274
4	-.391048+01	612.00000	.01536	.07810
5	-.371548+01	706.00000	.01772	.09582
6	-.352048+01	921.00000	.02311	.11894
7	-.332558+ 1	699.00000	.01754	.13648
8	-.313058+01	648.00000	.01626	.15274
9	-.293558+ 1	656.00000	.01646	.16921
10	-.274058+01	899.00000	.02256	.19177
11	-.254568+01	1011.00000	.02537	.21714
12	-.235068+01	1038.00000	.02605	.24319
13	-.215568+01	1018.00000	.02555	.26874
14	-.196078+01	1065.00000	.02673	.29547
15	-.176578+01	967.00000	.02427	.31974
16	-.157078+01	935.00000	.02347	.34320
17	-.137578+01	1074.00000	.02695	.37016
18	-.118088+01	1156.00000	.02901	.39917
19	-.985808+00	1093.00000	.02743	.42660
20	-.790838+00	1012.00000	.02540	.45200
21	-.595868+00	1001.00000	.02512	.47712
22	-.400888+00	1105.00000	.02773	.50486
23	-.205918+00	1007.00000	.02527	.53013
24	-.109408-01	1003.00000	.02517	.55530
25	.184038+00	1015.00000	.02547	.58078
26	.379808+00	1082.00000	.02716	.60793
27	.573788+00	1077.00000	.02703	.63496
28	.768958+00	781.00000	.01960	.65456
29	.963928+00	724.00000	.01817	.67273
30	.115898+ 1	689.00000	.01729	.69002
31	.135338+01	569.00000	.01428	.70430
32	.154888+01	646.00000	.01621	.72052
33	.174388+01	672.00000	.01687	.73738
34	.193888+01	678.00000	.01702	.75440
35	.213338+01	575.00000	.01444	.76883
36	.232878+01	464.00000	.01165	.78047
37	.252378+01	397.00000	.00996	.79044
38	.271878+01	459.00000	.01152	.80196
39	.291368+01	400.00000	.01004	.81200
40	.310868+01	423.00000	.01062	.82261
41	.330368+ 1	369.00000	.00926	.83187
42	.349868+01	531.00000	.01333	.84520
43	.369358+01	486.00000	.01220	.85740
44	.388858+01	505.00000	.01267	.87007
45	.408358+ 1	525.00000	.01318	.88325

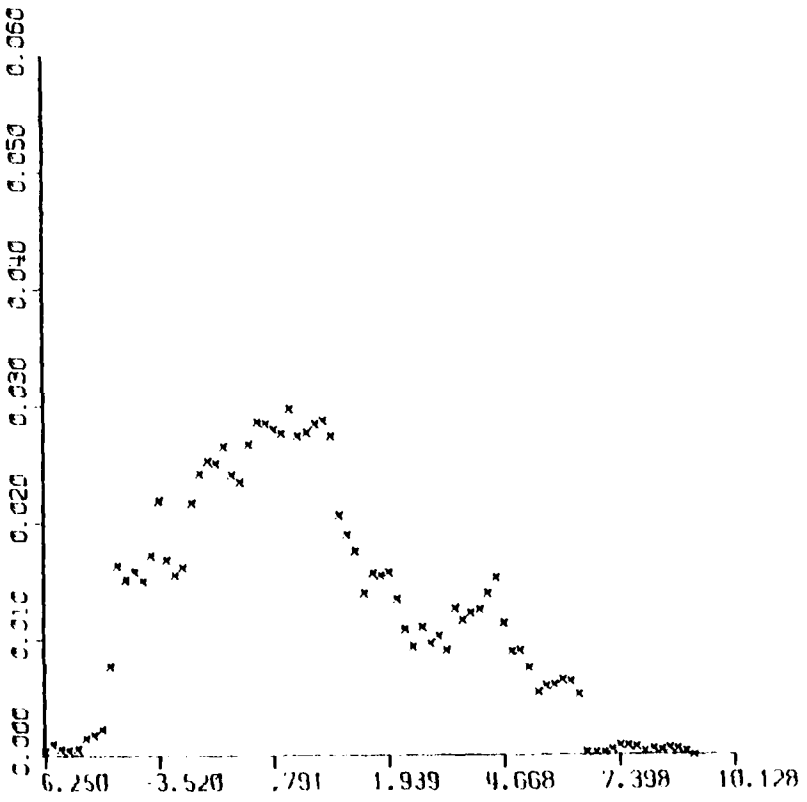


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 18 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
46	.42784E+01	585.00000	.01468	.89793
47	.44734E+01	638.00000	.01601	.91394
48	.46684E+01	462.00000	.01159	.92554
49	.48634E+01	356.00000	.00893	.93447
50	.50583E+01	373.00000	.00936	.94383
1	.52533E+01	328.00000	.00823	.95206
2	.54483E+01	244.00000	.00612	.95819
3	.56432E+01	267.00000	.00670	.96489
4	.58382E+01	270.00000	.00678	.97167
5	.60332E+01	287.00000	.00720	.97887
6	.62282E+01	285.00000	.00715	.98602
7	.64231E+01	237.00000	.00595	.99197
8	.66181E+01	15.00000	.00038	.99235
9	.68131E+01	12.00000	.00030	.99265
10	.70080E+01	12.00000	.00030	.99295
11	.72030E+01	27.00000	.00068	.99363
12	.73980E+01	42.00000	.00105	.99468
13	.75930E+01	42.00000	.00105	.99573
14	.77879E+01	34.00000	.00085	.99659
15	.79829E+01	18.00000	.00045	.99704
16	.81779E+01	25.00000	.00063	.99767
17	.83729E+01	20.00000	.00050	.99817
18	.85678E+01	29.00000	.00073	.99890
19	.87628E+01	25.00000	.00063	.99952
20	.89578E+01	17.00000	.00043	.99995
21	.91527E+01	2.00000	.00005	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION .45821652E-01 .29102194E+01

TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 19 of 20)

COMPOSITE OF 5 FILES
CROSS CORRELATION
FAWS TARGET 7 11 47 21.9
FAWS 9 AUG 77 4-5 WB BUILDINGS

INDEX	COEF	HIST	PROB	CUM PROB
1	-.73751E+01	17.00000	.00077	.00077
2	-.71133E+01	24.00000	.00109	.00186
3	-.68515E+01	43.00000	.00195	.00381
4	-.68515E+01	86.00000	.00390	.00771
5	-.65898E+01	99.00000	.00449	.01221
6	-.63280E+01	106.00000	.00481	.01702
7	-.60662E+ 1	165.00000	.00749	.02451
8	-.58044E+01	188.00000	.00853	.03304
9	-.55426E+01	243.00000	.01103	.04407
10	-.52808E+01	256.00000	.01162	.05568
11	-.50190E+01	317.00000	.01439	.07007
12	-.47572E+ 1	345.00000	.01566	.08573
13	-.44954E+01	504.00000	.02287	.10860
14	-.42336E+01	581.00000	.02637	.13497
15	-.39718E+01	719.00000	.03263	.16760
16	-.37101E+01	759.00000	.03445	.20204
17	-.34483E+01	874.00000	.03966	.24171
18	-.31865E+01	924.00000	.04193	.28364
19	-.29247E+01	980.00000	.04447	.32811
20	-.26629E+01	763.00000	.03463	.36274
21	-.24011E+01	621.00000	.02818	.39092
22	-.21393E+01	491.00000	.02227	.41330
23	-.18775E+01	507.00000	.02301	.43631
24	-.16157E+01	536.00000	.02432	.46063
25	-.13539E+ 1	581.00000	.02637	.48700
26	-.10921E+01	484.00000	.02197	.50896
27	-.84035E+00	356.00000	.01616	.52512
28	-.56856E+00	342.00000	.01552	.54064
29	-.30677E+00	285.00000	.01293	.55357
30	-.44982E-01	291.00000	.01320	.56596
31	.21681E+00	264.00000	.01198	.57794
32	.47860E+00	261.00000	.01184	.58979
33	.74039E+00	273.00000	.01239	.60218
34	.10022E+01	283.00000	.01284	.61502
35	.12640E+01	261.00000	.01184	.62687
36	.15258E+ 1	256.00000	.01162	.63848
37	.17876E+01	270.00000	.01225	.65074
38	.20493E+01	250.00000	.01135	.66208
39	.23111E+ 1	262.00000	.01189	.67397
40	.25729E+01	283.00000	.01284	.68682
41	.28347E+01	270.00000	.01225	.69907
42	.30965E+01	307.00000	.01393	.71300
43	.33583E+01	297.00000	.01348	.72648
44	.36201E+01	346.00000	.01570	.74218
45	.38819E+ 1	351.00000	.01593	.75811
46	.41437E+01	425.00000	.01929	.77740
47	.44055E+ 1	531.00000	.02410	.80150
48	.46673E+01	695.00000	.03154	.83304
49	.49290E+01	857.00000	.03889	.87193
50	.51908E+01	745.00000	.03381	.90574
51	.54526E+01	516.00000	.02342	.92916
52	.57144E+01	481.00000	.02184	.95099
53	.59762E+ 1	232.00000	.01054	.96152
54	.62380E+01	90.00000	.00408	.96560

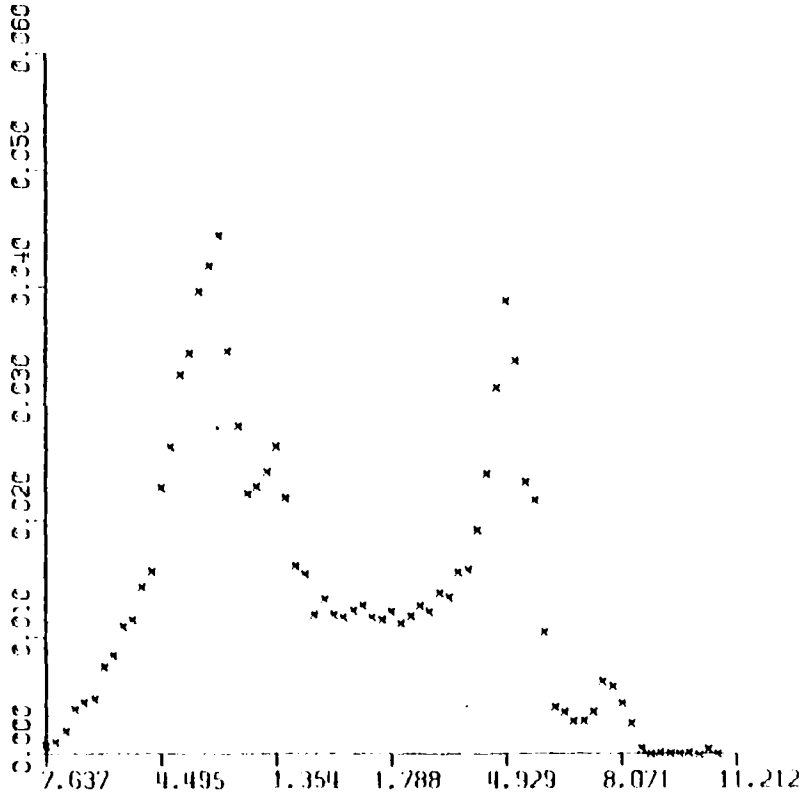


TABLE 3-11. COMPOSITE DISTRIBUTION FUNCTION OF CORRELATION SURFACE OF TARGET AND BACKGROUND SCENES (Sheet 20 of 20)

INDEX	COEF	HIST	PROB	COM PROB
2	.64998E+01	81.00000	.00168	.96928
3	.67616E+01	63.00000	.00286	.97214
4	.70234E+01	65.00000	.00295	.97509
5	.72852E+01	82.00000	.00372	.97881
6	.75470E+01	139.00000	.00631	.98511
7	.78087E+01	129.00000	.00585	.99097
8	.80705E+01	98.00000	.00445	.99542
9	.83323E+01	59.00000	.00268	.99809
10	.85941E+01	13.00000	.00059	.99868
11	.88559E+01	2.00000	.00009	.99877
12	.91177E+01	4.00000	.00018	.99896
13	.93795E+01	3.00000	.00014	.99909
14	.96413E+01	2.00000	.00009	.99918
15	.99031E+01	5.00000	.00023	.99941
16	.10165E+02	1.00000	.00005	.99946
17	.10427E+02	10.00000	.00045	.99991
18	.10688E+02	2.00000	.00009	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.13973089E-01 .38813289E+01

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND

COMPOSITE OF 17 FILES
CROSS CORRELATION
FAWS TARGET 1 MASK 11 47 23.9
FAWS 8 AUG 77 3-5 WB GRASS

INDEX	COEF	HIST	PROB	CUM PROB
39	-.10216E+02	1.00000	.00001	.00001
33	-.91302E+01	2.00000	.00003	.00004
32	-.89493E+01	1.00000	.00001	.00005
26	-.78638E+01	30.00000	.00040	.00045
25	-.76829E+01	43.00000	.00057	.00102
24	-.75020E+01	58.00000	.00077	.00180
23	-.73211E+01	63.00000	.00084	.00264
22	-.71402E+01	63.00000	.00084	.00347
21	-.69593E+01	49.00000	.00065	.00413
20	-.67784E+01	54.00000	.00072	.00484
19	-.65975E+01	61.00000	.00081	.00566
18	-.64166E+01	69.00000	.00092	.00657
17	-.62356E+01	64.00000	.00085	.00743
16	-.60547E+01	85.00000	.00113	.00856
15	-.58738E+01	72.00000	.00096	.00952
14	-.56929E+01	80.00000	.00106	.01058
13	-.55120E+01	87.00000	.00116	.01174
12	-.53311E+01	116.00000	.00154	.01328
11	-.51502E+01	104.00000	.00138	.01467
10	-.49693E+01	142.00000	.00189	.01656
9	-.47884E+01	172.00000	.00229	.01884
8	-.46075E+01	165.00000	.00220	.02104
7	-.44266E+01	177.00000	.00236	.02340
6	-.42457E+01	300.00000	.00399	.02739
5	-.40648E+01	439.00000	.00584	.03323
4	-.38838E+01	428.00000	.00570	.03893
3	-.37029E+01	542.00000	.00721	.04614
2	-.35220E+01	568.00000	.00756	.05370
1	-.33411E+01	604.00000	.00804	.06174
1	-.33411E+01	834.00000	.01110	.07284
2	-.31602E+01	1049.00000	.01396	.08680
3	-.29793E+01	1232.00000	.01640	.10319
4	-.27984E+01	1407.00000	.01873	.12192
5	-.26175E+01	1712.00000	.02278	.14470
6	-.24366E+01	1994.00000	.02654	.17124
7	-.22557E+01	2052.00000	.02731	.19855
8	-.20748E+01	2273.00000	.03025	.22880
9	-.18939E+01	2396.00000	.03189	.26069
10	-.17129E+01	2266.00000	.03016	.29084
11	-.15320E+01	2060.00000	.02742	.31826
12	-.13511E+01	2066.00000	.02750	.34575
13	-.11702E+01	2032.00000	.02704	.37280
14	-.99893E+00	2042.00000	.02718	.39997
15	-.80841E+00	2030.00000	.02702	.42699
16	-.62750E+00	2127.00000	.02831	.45530
17	-.44659E+00	2122.00000	.02824	.48354
18	-.26568E+00	2087.00000	.02777	.51131
19	-.84775E-01	2325.00000	.03094	.54225
20	.96133E-01	2305.00000	.03068	.57293
21	.27704E+00	2317.00000	.03084	.60377
22	.45795E+00	2204.00000	.02933	.63310
23	.63886E+00	2065.00000	.02748	.66058
24	.81977E+00	2047.00000	.02724	.68782
25	.10007E+01	1944.00000	.02454	.71236

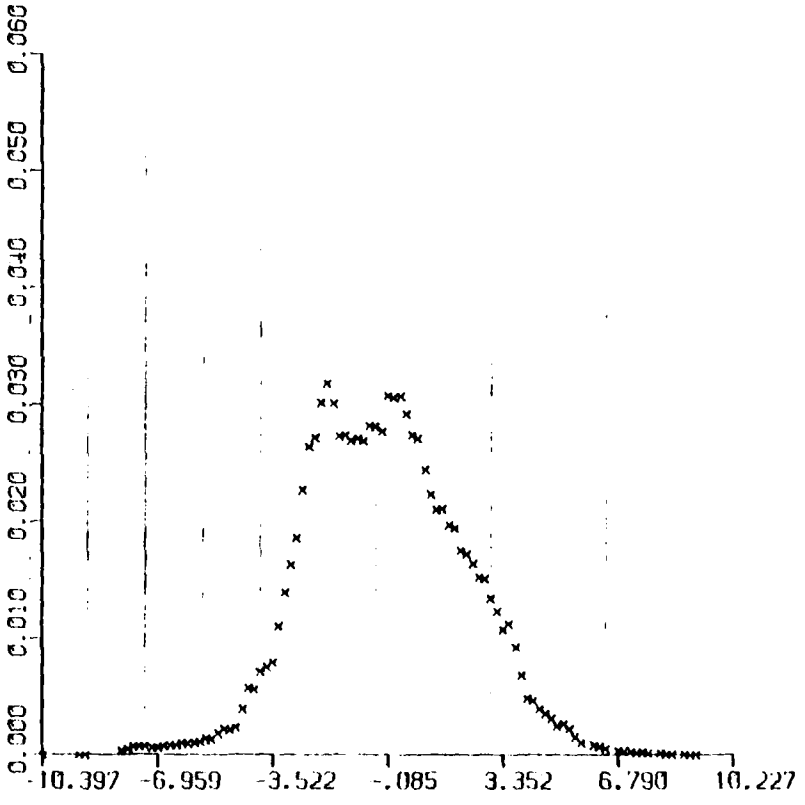


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 2 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
26	.118164E+01	1683.00000	.02240	.73476
27	.136255E+01	1586.00000	.02111	.75587
28	.154446E+01	1594.00000	.02121	.77708
29	.172731E+01	1491.00000	.01984	.79693
30	.190952E+01	1462.00000	.01946	.81638
31	.209061E+01	1325.00000	.01763	.83402
32	.226970E+01	1301.00000	.01731	.85133
33	.244479E+01	1243.00000	.01654	.86787
34	.262488E+01	1150.00000	.01530	.88318
35	.280998E+01	1141.00000	.01521	.89839
36	.299007E+01	1017.00000	.01353	.91192
37	.317116E+01	929.00000	.01236	.92429
38	.335256E+01	813.00000	.01082	.93511
39	.353346E+01	852.00000	.01134	.94645
40	.371438E+01	698.00000	.00929	.95574
41	.389528E+01	520.00000	.00692	.96266
42	.407618E+01	371.00000	.00494	.96759
43	.425708E+01	352.00000	.00468	.97228
44	.443798E+01	300.00000	.00399	.97627
45	.461888E+01	270.00000	.00359	.97986
46	.479997E+01	237.00000	.00315	.98302
47	.498086E+01	190.00000	.00253	.98555
48	.516176E+01	200.00000	.00266	.98821
49	.534265E+01	173.00000	.00230	.99051
50	.552346E+01	120.00000	.00160	.99211
1	.570438E+01	83.00000	.00110	.9932.
2	.588528E+01	86.00000	.00114	.99436
3	.606618E+01	68.00000	.00090	.99526
4	.624708E+01	58.00000	.00077	.99603
5	.642798E+01	46.00000	.00061	.99665
6	.660884E+01	44.00000	.00059	.99723
7	.678977E+01	33.00000	.00044	.99767
8	.697067E+01	33.00000	.00044	.99811
9	.715157E+01	26.00000	.00035	.99846
10	.733247E+01	14.00000	.00019	.99864
11	.751336E+01	20.00000	.00027	.99891
12	.769426E+01	14.00000	.00019	.99910
13	.787516E+01	13.00000	.00017	.99927
14	.805616E+01	14.00000	.00019	.99945
15	.823706E+01	9.00000	.00012	.99957
16	.841796E+01	9.00000	.00012	.99969
17	.859886E+01	6.00000	.00008	.99977
18	.877976E+01	4.00000	.00005	.99983
19	.896066E+01	3.00000	.00004	.99987
20	.914156E+01	5.00000	.00007	.99993
21	.932246E+01	5.00000	.00007	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.164502 91E+00 .232073 44E+01

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 3 of 20)

COMPOSITE OF (64)FILES
CROSS CORRELATION
FANS TARGET 1 MASK 11 47 23.0
FANS 9 AUG 77 3-5 NI IMGS

INDEX	COEF	HIST	PROB	CUM PROB
36	-.3637E+01	1.0000	.0000	.0000
35	-.3566E+01	2.0000	.0001	.0000
34	-.3430E+01	8.0000	.0000	.0000
33	-.3432E+01	16.0000	.0001	.0001
32	-.3190E+01	25.0000	.0001	.0003
31	-.3279E+01	56.0000	.0003	.0006
30	-.3217E+01	93.0000	.0006	.0013
29	-.3156E+01	101.0000	.0006	.0019
28	-.3096E+01	131.0000	.0008	.0028
27	-.3042E+01	176.0000	.0011	.0039
26	-.2992E+01	228.0000	.0015	.0055
25	-.2944E+01	284.0000	.0018	.0073
24	-.2897E+01	251.0000	.0016	.0089
23	-.2853E+01	240.0000	.0015	.0104
22	-.2813E+01	344.0000	.0022	.0126
21	-.2771E+01	339.0000	.0022	.0149
20	-.2733E+01	338.0000	.0022	.0171
19	-.2696E+01	446.0000	.0029	.0200
18	-.2660E+01	482.0000	.0032	.0232
17	-.2625E+01	444.0000	.0029	.0260
16	-.2593E+01	554.0000	.0036	.0296
15	-.2561E+01	539.0000	.0035	.0331
14	-.2529E+01	681.0000	.0045	.0376
13	-.2498E+01	701.0000	.0046	.0422
12	-.2469E+01	816.0000	.0054	.0476
11	-.2440E+01	847.0000	.0056	.0532
10	-.2412E+01	1006.0000	.0066	.0598
9	-.2385E+01	1133.0000	.0075	.0673
8	-.2358E+01	1334.0000	.0088	.0761
7	-.2332E+01	1534.0000	.0101	.0862
6	-.2306E+01	1672.0000	.0111	.0973
5	-.2281E+01	1756.0000	.0116	.1089
4	-.2256E+01	2114.0000	.0140	.1229
3	-.2232E+01	2406.0000	.0159	.1388
2	-.2208E+01	2614.0000	.0173	.1561
1	-.2185E+01	2674.0000	.0177	.1738
1	-.2162E+01	2922.0000	.0193	.1932
2	-.2139E+01	3123.0000	.0207	.2139
3	-.2117E+01	3474.0000	.0231	.2369
4	-.2096E+01	3690.0000	.0245	.2615
5	-.2075E+01	3864.0000	.0256	.2870
6	-.2054E+01	3454.0000	.0229	.3099
7	-.2034E+01	3745.0000	.0249	.3348
8	-.2014E+01	3868.0000	.0256	.3604
9	-.1994E+01	3843.0000	.0255	.3859
10	-.1975E+01	3829.0000	.0254	.4113
11	-.1956E+01	3911.0000	.0259	.4373
12	-.1937E+01	3835.0000	.0254	.4627
13	-.1919E+01	3811.0000	.0253	.4879
14	-.1901E+01	3870.0000	.0257	.5136
15	-.1883E+01	3878.0000	.0257	.5393
16	-.1866E+01	3856.0000	.0256	.5649
17	-.1849E+01	3838.0000	.0254	.5903
18	-.1832E+01	3815.0000	.0253	.6157

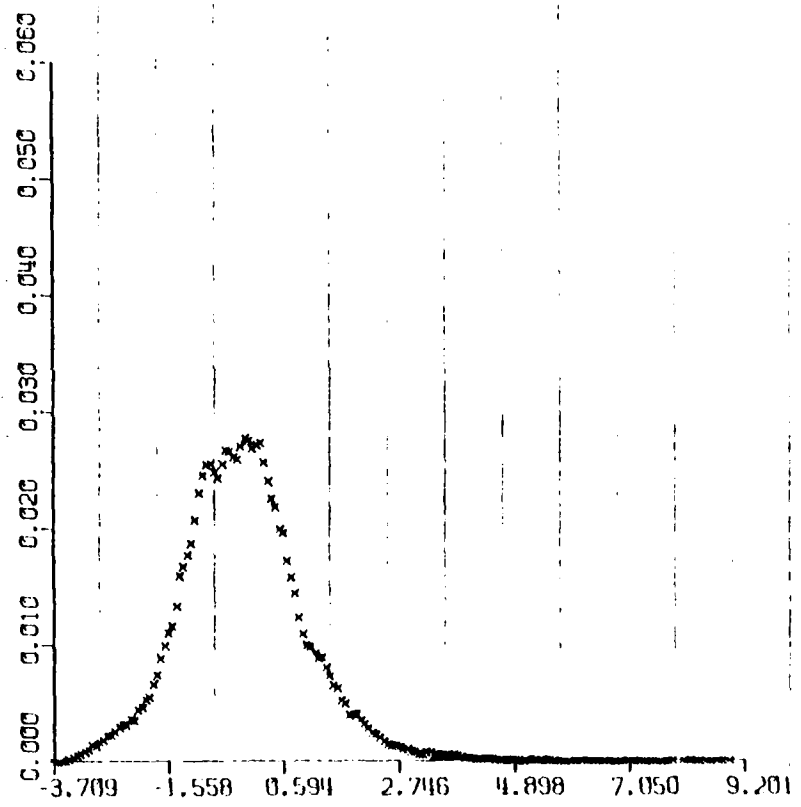


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 4 of 20)

END-X	CODE	HIST	PROB	CUM PROB
19	.163[illegible]E+01	411.[illegible]	.02738	.65715
20	.21552E+02	3960.00000	.02570	.68285
21	.[illegible]E+[illegible]	3614.[illegible]	.02406	.70691
22	.[illegible]E+02	3396.00000	.02260	.72952
23	.[illegible]E+[illegible]	3230.00000	.02188	.75140
24	.52795E+02	5033.00000	.01997	.77137
25	.[illegible]420E+00	2954.[illegible]	.01967	.79115
26	.66593E+02	2624.00000	.01748	.80863
27	.73766E+00	2384.00000	.01586	.82523
28	.[illegible]E+00	2185.00000	.01454	.83976
29	.84111E+02	1871.00000	.01244	.85221
30	.[illegible]E+00	1652.00000	.01099	.86320
31	.[illegible]E+01	1533.00000	.01020	.87339
32	.[illegible]E+01	1441.00000	.00959	.88298
33	.[illegible]E+01	1396.00000	.00929	.89227
34	.12398E+01	1334.00000	.00887	.90114
35	.[illegible]E+01	1[illegible].00000	.00905	.91019
36	.13832E+01	1219.00000	.00811	.91830
37	.[illegible]E+01	1127.00000	.00750	.92579
38	.[illegible]E+01	999.00000	.00664	.93244
39	.[illegible]E+01	962.00000	.00639	.93882
40	.[illegible]E+01	894.00000	.00594	.94476
41	.[illegible]E+01	857.00000	.00569	.95045
42	.[illegible]E+01	796.00000	.00529	.95574
43	.[illegible]E+01	774.00000	.00514	.96089
44	.[illegible]E+01	720.00000	.00479	.96568
45	.[illegible]E+01	694.00000	.00461	.97029
46	.[illegible]E+01	653.00000	.00434	.97463
47	.[illegible]E+01	630.00000	.00419	.97882
48	.[illegible]E+01	596.00000	.00396	.98278
49	.[illegible]E+01	563.00000	.00374	.98652
50	.[illegible]E+01	517.00000	.00343	.98995
1	.[illegible]E+01	269.00000	.00179	.99174
2	.[illegible]E+01	227.00000	.00151	.99325
3	.[illegible]E+01	215.00000	.00143	.99468
4	.[illegible]E+01	215.00000	.00143	.99611
5	.[illegible]E+01	191.00000	.00127	.99738
6	.[illegible]E+01	158.00000	.00105	.99843
7	.[illegible]E+01	165.[illegible]	.00110	.99953
8	.[illegible]E+01	134.00000	.00089	.99042
9	.[illegible]E+01	132.00000	.00088	.99130
10	.[illegible]E+01	109.[illegible]	.00073	.99203
11	.[illegible]E+01	[illegible]	.00066	.99269
12	.[illegible]E+01	129.00000	.00086	.99355
13	.[illegible]E+01	138.[illegible]	.00092	.99447
14	.[illegible]E+01	98.00000	.00065	.99512
15	.[illegible]E+01	9[illegible].[illegible]	.00063	.99575
16	.[illegible]E+01	98.[illegible]	.00065	.99640
17	.[illegible]E+01	90.00000	.00060	.99700
18	.[illegible]E+01	78.00000	.00052	.99752
19	.[illegible]E+01	83.00000	.00056	.99808
20	.[illegible]E+01	79.00000	.00053	.99861
21	.[illegible]E+01	65.00000	.00043	.99904
22	.[illegible]E+01	51.00000	.00034	.99938
23	.[illegible]E+01	41.[illegible]	.00027	.99965
24	.[illegible]E+01	19.00000	.00026	.99991
25	.[illegible]E+01	3.[illegible]	.00020	.99710
26	.[illegible]E+01	2[illegible].00000	.00017	.99727
27	.[illegible]E+01	30.00000	.00020	.99747

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 5 of 20)

INDX	[illegible]	HIST	PROB	CUM PROB
39	[illegible]	[illegible]	.00021	.99777
40	[illegible]	[illegible]	.00017	.99794
41	[illegible]	[illegible]	.00011	.99804
42	[illegible]	[illegible]	.00011	.99815
43	[illegible]	[illegible]	.00008	.99823
44	[illegible]	[illegible]	.00009	.99832
45	[illegible]	[illegible]	.00014	.99846
46	[illegible]	[illegible]	.00008	.99854
47	[illegible]	[illegible]	.00009	.99863
48	[illegible]	[illegible]	.00004	.99867
49	[illegible]	[illegible]	.00010	.99877
50	[illegible]	[illegible]	.00009	.99886
51	[illegible]	[illegible]	.00009	.99895
52	[illegible]	[illegible]	.00003	.99898
53	[illegible]	[illegible]	.00007	.99905
54	[illegible]	[illegible]	.00007	.99912
55	[illegible]	[illegible]	.00008	.99920
56	[illegible]	[illegible]	.00005	.99924
57	[illegible]	[illegible]	.00003	.99928
58	[illegible]	[illegible]	.00001	.99929
59	[illegible]	[illegible]	.00003	.99931
60	[illegible]	[illegible]	.00003	.99934
61	[illegible]	[illegible]	.00003	.99937
62	[illegible]	[illegible]	.00005	.99942
63	[illegible]	[illegible]	.00002	.99944
64	[illegible]	[illegible]	.00001	.99945
65	[illegible]	[illegible]	.00002	.99947
66	[illegible]	[illegible]	.00003	.99950
67	[illegible]	[illegible]	.00002	.99952
68	[illegible]	[illegible]	.00001	.99953
69	[illegible]	[illegible]	.00004	.99957
70	[illegible]	[illegible]	.00001	.99958
71	[illegible]	[illegible]	.00001	.99959
72	[illegible]	[illegible]	.00003	.99962
73	[illegible]	[illegible]	.00002	.99964
74	[illegible]	[illegible]	.00003	.99967
75	[illegible]	[illegible]	.00002	.99969
76	[illegible]	[illegible]	.00002	.99971
77	[illegible]	[illegible]	.00001	.99972
78	[illegible]	[illegible]	.00002	.99974
79	[illegible]	[illegible]	.00001	.99975
80	[illegible]	[illegible]	.00004	.99979
81	[illegible]	[illegible]	.00001	.99980
82	[illegible]	[illegible]	.00001	.99981
83	[illegible]	[illegible]	.00001	.99983
84	[illegible]	[illegible]	.00001	.99984
85	[illegible]	[illegible]	.00003	.99987
86	[illegible]	[illegible]	.00001	.99988
87	[illegible]	[illegible]	.00001	.99989
88	[illegible]	[illegible]	.00002	.99991
89	[illegible]	[illegible]	.00001	.99992
90	[illegible]	[illegible]	.00001	.99993
91	[illegible]	[illegible]	.00002	.99995
92	[illegible]	[illegible]	.00001	.99996
93	[illegible]	[illegible]	.00001	.99997
94	[illegible]	[illegible]	.00001	.99998
95	[illegible]	[illegible]	.00001	.99999

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 6 of 20)

INDEX	COEF	MISE	PROB	CUM PROB
91	.4914[illegible]E+01	1.[illegible]	.0[illegible]01	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.14914708E+20 .11439473E+01

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 7 of 20)

COMPOSITE OF 10 FILES
CROSS CORRELATION
FAWS TARGET 1 MASK 11 47 23.9
FAWS 4 AUG 77 3-5 wo ASPHALT ROADS

INDEX	COEF	MISI	PROB	CUM PROB
11	-.947381E+01	14.00000	.00041	.00041
10	-.917759E+01	25.00000	.00056	.00097
9	-.887841E+01	30.00000	.00068	.00167
8	-.858018E+01	27.00000	.00061	.00228
7	-.828825E+01	24.00000	.00063	.00291
6	-.798466E+01	60.00000	.00135	.00426
5	-.768688E+01	71.00000	.00160	.00587
4	-.738908E+01	454.00000	.01024	.01611
3	-.709128E+01	470.00000	.01060	.02671
2	-.679338E+01	393.00000	.00887	.03557
1	-.649555E+01	455.00000	.01026	.04584
1	-.649555E+01	797.00000	.01798	.06382
2	-.619778E+01	626.00000	.01412	.07794
3	-.589999E+01	557.00000	.01256	.09050
4	-.560218E+01	564.00000	.01241	.10332
5	-.530428E+01	606.00000	.01367	.11699
6	-.500648E+01	611.00000	.01378	.13077
7	-.470868E+01	720.00000	.01624	.14701
8	-.441048E+01	992.00000	.02238	.16939
9	-.411269E+01	1005.00000	.02267	.19206
10	-.381519E+01	1022.00000	.02305	.21511
11	-.351739E+01	1075.00000	.02425	.23936
12	-.321959E+01	1090.00000	.02459	.26395
13	-.292169E+01	1005.00000	.02267	.28662
14	-.262389E+01	967.00000	.02181	.30844
15	-.232609E+01	1116.00000	.02517	.33361
16	-.202829E+01	1250.00000	.02820	.36181
17	-.173039E+01	1302.00000	.02937	.39118
18	-.143259E+01	1292.00000	.02915	.42032
19	-.113479E+01	1257.00000	.02836	.44868
20	-.836986E+00	1376.00000	.03104	.47972
21	-.539204E+00	1401.00000	.03160	.51132
22	-.241421E+00	1113.00000	.02511	.53643
23	.056136E-01	1198.00000	.02702	.56346
24	.354444E+00	1267.00000	.02858	.59204
25	.652226E+00	1392.00000	.03140	.62344
26	.950009E+00	1148.00000	.02590	.64933
27	.124779E+01	902.00000	.02035	.66968
28	.154557E+01	841.00000	.01897	.68865
29	.184336E+01	823.00000	.01857	.70722
30	.214114E+01	694.00000	.01566	.72287
31	.243892E+01	681.00000	.01536	.73824
32	.273670E+01	678.00000	.01529	.75353
33	.303449E+01	641.00000	.01450	.76804
34	.333227E+01	705.00000	.01590	.78394
35	.363005E+01	591.00000	.01334	.79732
36	.392783E+01	580.00000	.01308	.81040
37	.422562E+01	560.00000	.01263	.82303
38	.452340E+01	489.00000	.01103	.83406
39	.482118E+01	533.00000	.01202	.84609
40	.511896E+01	525.00000	.01184	.85793
41	.541675E+01	548.00000	.01236	.87029
42	.571453E+01	561.00000	.01266	.88295
43	.601231E+01	546.00000	.01227	.89522

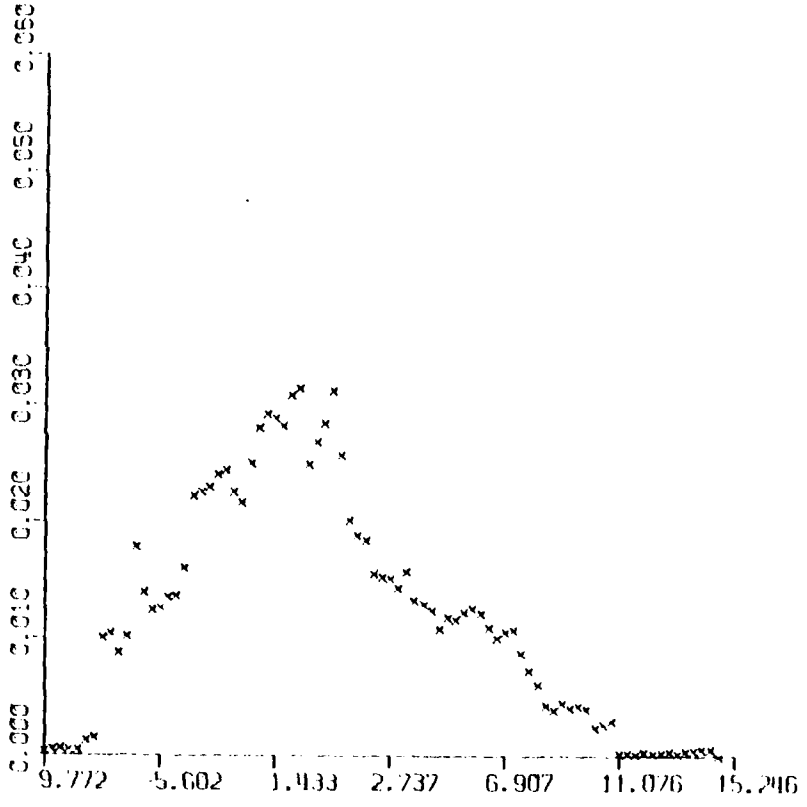


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 8 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
44	.641098E+01	493.00000	.01112	.90634
45	.660888E+01	454.00000	.01024	.91658
46	.680666E+01	475.00000	.01072	.92730
47	.700446E+01	481.00000	.01085	.93815
48	.720222E+01	396.00000	.00893	.94708
49	.740001E+01	329.00000	.00742	.95450
50	.759779E+01	275.00000	.00620	.96070
1	.779557E+01	193.00000	.00435	.96506
2	.799335E+01	179.00000	.00404	.96910
3	.819113E+01	206.00000	.00465	.97374
4	.838892E+01	184.00000	.00415	.97789
5	.858670E+01	191.00000	.00431	.98225
6	.878448E+01	180.00000	.00406	.98631
7	.898226E+01	111.00000	.00250	.98881
8	.918004E+01	122.00000	.00275	.99156
9	.937782E+01	139.00000	.00314	.99470
10	.957561E+01	13.00000	.00029	.99499
11	.977339E+01	14.00000	.00032	.99531
12	.997117E+01	11.00000	.00025	.99556
13	.101689E+02	19.00000	.00043	.99598
14	.103667E+02	15.00000	.00034	.99632
15	.105645E+02	16.00000	.00036	.99668
16	.107623E+02	21.00000	.00047	.99716
17	.109601E+02	13.00000	.00029	.99745
18	.111579E+02	22.00000	.00050	.99795
19	.113557E+02	28.00000	.00063	.99858
20	.115534E+02	31.00000	.00070	.99928
21	.117512E+02	21.00000	.00048	.99976
22	.119490E+02	1.00000	.00002	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.5384375 7E-02 .4336334 6E+01

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 9 of 20)

COMPOSITE OF 5 FILES
CROSS CORRELATION
FAM: TARGET 1 MASK 11 47 23.9
FAM: 6 AUG 77 1-5 40 BUILDINGS

INDEX	COEF	HIST	PROB	CUM PROB
1	-.117811E+02	13.00000	.00059	.00059
2	-.113611E+02	33.00000	.00159	.00218
3	-.109411E+02	31.00000	.00150	.00368
4	-.105211E+02	88.00000	.00399	.00767
5	-.101021E+02	97.00000	.00440	.01207
6	-.969021E+01	99.00000	.00449	.01656
7	-.927020E+01	136.00000	.00617	.02274
8	-.885026E+01	164.00000	.00744	.03018
9	-.843026E+01	210.00000	.00953	.03971
10	-.801029E+01	262.00000	.01189	.05160
11	-.759031E+01	303.00000	.01375	.06535
12	-.717034E+01	335.00000	.01520	.08055
13	-.675037E+01	391.00000	.01774	.09830
14	-.633040E+01	505.00000	.02292	.12122
15	-.591042E+01	584.00000	.02650	.14772
16	-.549045E+01	698.00000	.03168	.17940
17	-.507048E+01	853.00000	.03871	.21811
18	-.465050E+01	911.00000	.04134	.25945
19	-.423053E+01	744.00000	.03376	.29322
20	-.381056E+01	573.00000	.02600	.31922
21	-.339058E+01	532.00000	.02414	.34336
22	-.297061E+01	471.00000	.02138	.36474
23	-.255064E+01	425.00000	.01929	.38403
24	-.213067E+01	623.00000	.02827	.41230
25	-.171069E+01	641.00000	.02909	.44139
26	-.129072E+01	497.00000	.02256	.46394
27	-.870745E+00	483.00000	.02192	.48586
28	-.466774E+00	470.00000	.02133	.50719
29	-.062802E+00	412.00000	.01870	.52589
30	.341169E+00	380.00000	.01725	.54314
31	.745140E+00	352.00000	.01597	.55911
32	.114911E+01	394.00000	.01788	.57699
33	.154309E+01	341.00000	.01548	.59247
34	.193706E+01	361.00000	.01638	.60885
35	.233104E+01	350.00000	.01588	.62473
36	.272501E+01	391.00000	.01774	.64248
37	.311898E+01	356.00000	.01616	.65863
38	.351295E+01	380.00000	.01725	.67588
39	.390693E+01	409.00000	.01856	.69444
40	.430090E+01	389.00000	.01765	.71209
41	.469487E+01	467.00000	.02119	.73329
42	.508885E+01	434.00000	.01970	.75298
43	.548282E+01	447.00000	.02029	.77327
44	.587679E+01	477.00000	.02165	.79492
45	.627076E+01	527.00000	.02392	.81883
46	.666474E+01	552.00000	.02505	.84388
47	.705871E+01	463.00000	.02101	.86490
48	.745268E+01	442.00000	.02006	.88496
49	.784666E+01	510.00000	.02314	.90810
50	.824063E+01	525.00000	.02383	.93193
51	.863460E+01	441.00000	.02001	.95194
52	.902857E+01	347.00000	.01575	.96769
53	.942255E+01	194.00000	.00880	.97649
54	.981652E+01	81.00000	.00377	.98026

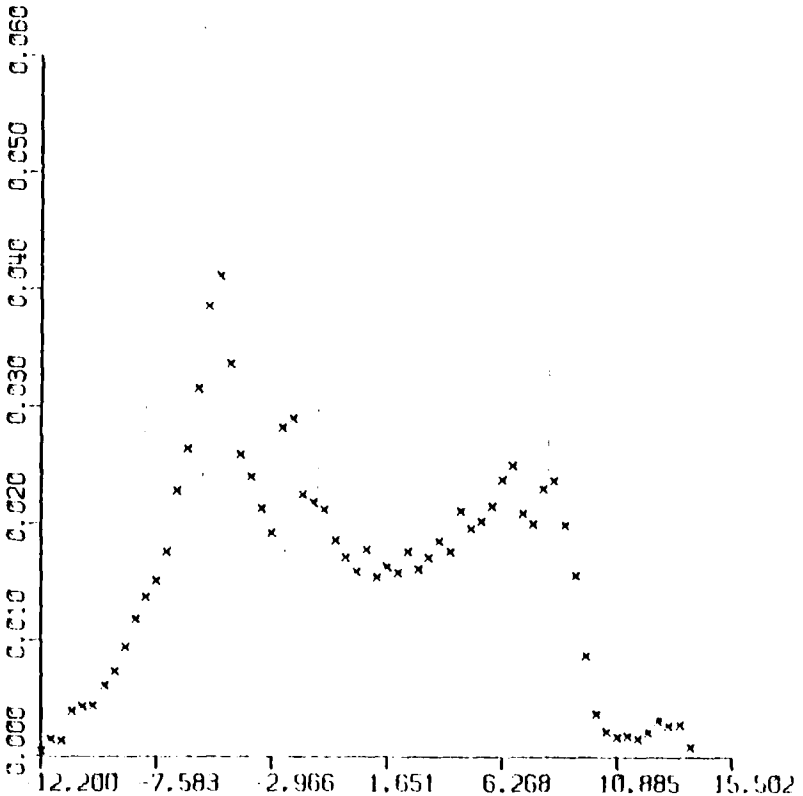


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 10 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
2	.10465E+02	50.00000	.00227	.98253
3	.10885E+02	40.00000	.00182	.98434
4	.11104E+02	41.00000	.00186	.98620
5	.11724E+02	37.00000	.00168	.98788
6	.12144E+02	49.00000	.00222	.99011
7	.12564E+02	70.00000	.00318	.99328
8	.12983E+02	62.00000	.00281	.99610
9	.13403E+02	64.00000	.00290	.99900
10	.13823E+02	22.00000	.00100	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION .19467368E-01 .57474925E+01

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 11 of 20)

COMPOSITE OF 17 FILES
CROSS CORRELATION
FAWS TARGET 7 MASK 12 0 34.068
FAWS 8 AUG 77 3-5 WD GRASS

INDEX	COEF	HIST	PROB	CUM PROB
39	-.70959E+01	1.00000	.00001	.00001
35	-.65849E+01	1.00000	.00001	.00003
32	-.62017E+01	2.00000	.00003	.00005
31	-.60739E+01	1.00000	.00001	.00007
26	-.54352E+01	2.00000	.00003	.00009
24	-.51791E+01	24.00000	.00032	.00041
23	-.50519E+01	57.00000	.00076	.00117
22	-.49242E+01	75.00000	.00100	.00217
21	-.47964E+01	84.00000	.00112	.00329
20	-.46687E+01	80.00000	.00106	.00435
19	-.45409E+01	93.00000	.00124	.00559
18	-.44132E+01	84.00000	.00112	.00671
17	-.42854E+01	65.00000	.00087	.00757
16	-.41577E+01	77.00000	.00102	.00860
15	-.40299E+01	79.00000	.00105	.00965
14	-.39022E+01	74.00000	.00098	.01063
13	-.37744E+01	98.00000	.00130	.01194
12	-.36467E+01	96.00000	.00128	.01322
11	-.35189E+01	87.00000	.00116	.01437
10	-.33912E+01	129.00000	.00172	.01609
9	-.32634E+01	169.00000	.00225	.01834
8	-.31357E+01	214.00000	.00285	.02119
7	-.30079E+01	280.00000	.00373	.02491
6	-.28802E+01	348.00000	.00464	.02954
5	-.27524E+01	492.00000	.00655	.03609
4	-.26247E+01	562.00000	.00748	.04357
3	-.24969E+01	627.00000	.00834	.05192
2	-.23692E+01	649.00000	.00864	.06055
1	-.22414E+01	789.00000	.01050	.07105
1	-.22414E+01	1019.00000	.01356	.08462
2	-.21137E+01	1252.00000	.01666	.10128
3	-.19859E+01	1415.00000	.01883	.12011
4	-.18582E+01	1676.00000	.02231	.14241
5	-.17304E+01	1782.00000	.02372	.16613
6	-.16027E+01	1920.00000	.02555	.19168
7	-.14749E+01	2128.00000	.02832	.22000
8	-.13472E+01	2415.00000	.03214	.25214
9	-.12194E+01	2385.00000	.03174	.28388
10	-.10917E+01	2340.00000	.03114	.31503
11	-.96139E+00	2255.00000	.03001	.34504
12	-.83618E+00	2214.00000	.02946	.37450
13	-.70843E+00	2100.00000	.02795	.40245
14	-.58069E+00	2120.00000	.02821	.43066
15	-.45294E+00	2131.00000	.02836	.45902
16	-.32519E+00	2137.00000	.02847	.48749
17	-.19744E+00	2230.00000	.02968	.51717
18	-.69687E-01	2201.00000	.02932	.54649
19	.58062E-01	2270.00000	.03021	.57670
20	.18581E+00	2378.00000	.03165	.60834
21	.31356E+00	2252.00000	.02997	.63832
22	.44131E+00	2189.00000	.02807	.66638
23	.56906E+00	2106.00000	.02803	.69441
24	.69681E+00	1906.00000	.02537	.71978
25	.82456E+00	1785.00000	.02376	.74353

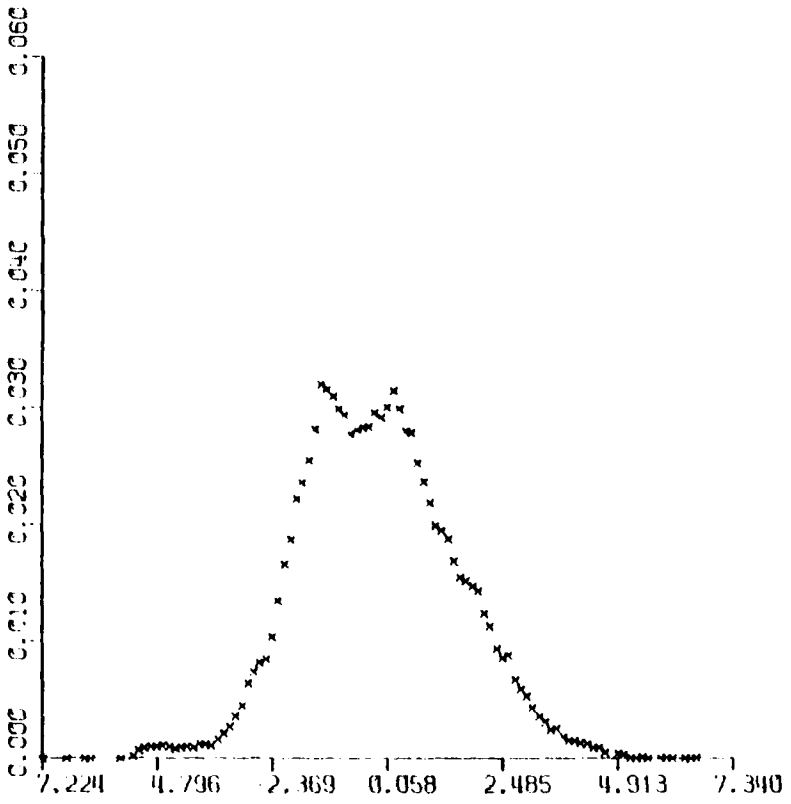


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 12 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
26	.952311E+00	1654.00000	.02701	.76556
27	.108011E+01	1504.00000	.02002	.78556
28	.120788E+01	1476.00000	.01964	.80520
29	.133568E+01	1423.00000	.01894	.82414
30	.146338E+01	1277.00000	.01699	.84114
31	.159118E+01	1172.00000	.01560	.85673
32	.171898E+01	1149.00000	.01529	.87203
33	.184668E+01	1110.00000	.01477	.88680
34	.197438E+01	1081.00000	.01439	.90118
35	.210218E+01	942.00000	.01254	.91372
36	.222988E+01	855.00000	.01138	.92510
37	.235768E+01	716.00000	.00953	.93463
38	.248538E+01	651.00000	.00866	.94329
39	.261318E+01	671.00000	.00893	.95222
40	.274088E+01	508.00000	.00676	.95898
41	.286868E+01	450.00000	.00599	.96497
42	.299638E+01	406.00000	.00540	.97038
43	.312418E+01	331.00000	.00441	.97478
44	.325188E+01	279.00000	.00371	.97849
45	.337958E+01	241.00000	.00321	.98170
46	.350738E+01	187.00000	.00249	.98419
47	.363508E+01	198.00000	.00264	.98682
48	.376288E+01	143.00000	.00190	.98873
49	.389058E+01	119.00000	.00158	.99031
50	.401838E+01	118.00000	.00157	.99188
1	.414608E+01	102.00000	.00136	.99324
2	.427388E+01	101.00000	.00134	.99458
3	.440158E+01	73.00000	.00097	.99555
4	.452928E+01	75.00000	.00100	.99655
5	.465708E+01	47.00000	.00063	.99718
6	.478478E+01	46.00000	.00061	.99779
7	.491258E+01	38.00000	.00051	.99830
8	.504028E+01	29.00000	.00039	.99868
9	.516808E+01	10.00000	.00013	.99882
10	.529578E+01	8.00000	.00011	.99892
11	.542358E+01	14.00000	.00019	.99911
12	.555128E+01	5.00000	.00007	.99917
13	.567908E+01	3.00000	.00004	.99921
14	.580678E+01	9.00000	.00012	.99933
15	.593458E+01	6.00000	.00008	.99941
16	.606228E+01	5.00000	.00007	.99948
17	.619008E+01	9.00000	.00012	.99960
18	.631778E+01	11.00000	.00015	.99975
19	.644558E+01	10.00000	.00013	.99988
20	.657328E+01	6.00000	.00008	.99996
21	.670108E+01	3.00000	.00004	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.125029O4E+00 .161822IIE+01

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 13 of 20)

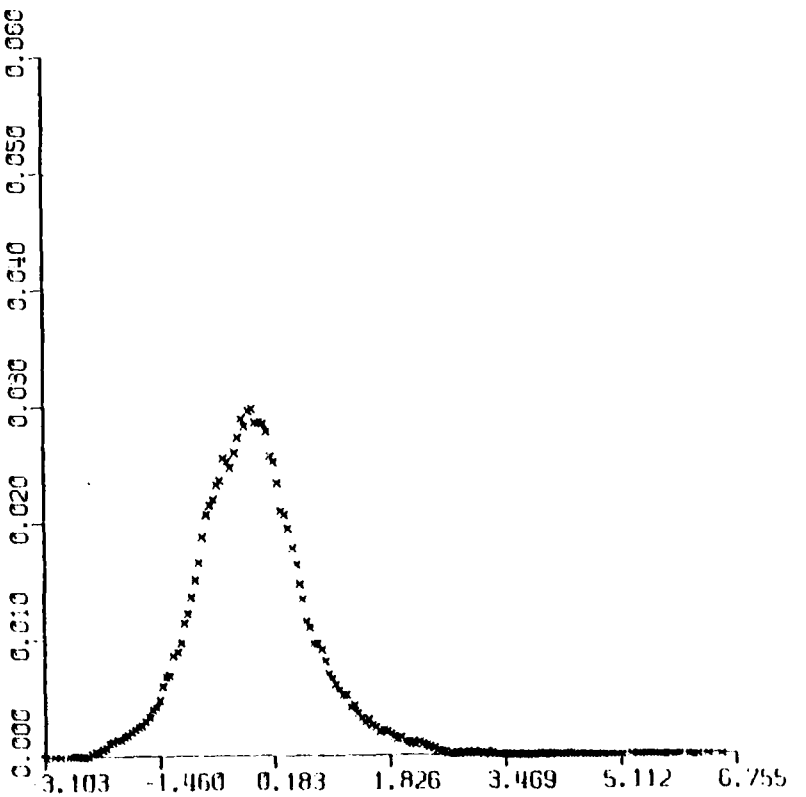


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 14 of 20)

INDEX	CODE	MISS	PROB	CUM PROB
14	-.[illegible]	[illegible]	.00659	.47120
15	-.[illegible]	[illegible]	.02967	.50086
16	-.[illegible]	[illegible]	.02989	.53075
17	-.[illegible]	[illegible]	.02967	.56043
18	-.[illegible]	[illegible]	.02869	.58912
19	.[illegible]	[illegible]	.02851	.61763
20	.[illegible]	[illegible]	.02791	.64555
21	.[illegible]	[illegible]	.02582	.67137
22	.[illegible]	[illegible]	.02528	.69665
23	.[illegible]	[illegible]	.02358	.72023
24	.[illegible]	[illegible]	.02111	.74133
25	.[illegible]	[illegible]	.02080	.76213
26	.[illegible]	[illegible]	.01906	.78119
27	.[illegible]	[illegible]	.01747	.79866
28	.[illegible]	[illegible]	.01644	.81509
29	.[illegible]	[illegible]	.01473	.82983
30	.[illegible]	[illegible]	.01356	.84339
31	.[illegible]	[illegible]	.01191	.85530
32	.[illegible]	[illegible]	.01139	.86669
33	.[illegible]	[illegible]	.00979	.87649
34	.[illegible]	[illegible]	.00874	.88523
35	.[illegible]	[illegible]	.00771	.89294
36	.[illegible]	[illegible]	.00693	.89987
37	.[illegible]	[illegible]	.00711	.90698
38	.[illegible]	[illegible]	.00677	.91375
39	.[illegible]	[illegible]	.00625	.92000
40	.[illegible]	[illegible]	.00571	.92571
41	.[illegible]	[illegible]	.00535	.93106
42	.[illegible]	[illegible]	.00526	.93632
43	.[illegible]	[illegible]	.00429	.94061
44	.[illegible]	[illegible]	.00407	.94468
45	.[illegible]	[illegible]	.00372	.94840
46	.[illegible]	[illegible]	.00325	.95165
47	.[illegible]	[illegible]	.00288	.95453
48	.[illegible]	[illegible]	.00287	.95740
49	.[illegible]	[illegible]	.00273	.96013
50	.[illegible]	[illegible]	.00260	.96273
1	.[illegible]	[illegible]	.00205	.96478
2	.[illegible]	[illegible]	.00187	.96665
3	.[illegible]	[illegible]	.00182	.96847
4	.[illegible]	[illegible]	.00136	.96983
5	.[illegible]	[illegible]	.00124	.97107
6	.[illegible]	[illegible]	.00106	.97213
7	.[illegible]	[illegible]	.00107	.97320
8	.[illegible]	[illegible]	.00113	.97433
9	.[illegible]	[illegible]	.00129	.97562
10	.[illegible]	[illegible]	.00112	.97674
11	.[illegible]	[illegible]	.00099	.97773
12	.[illegible]	[illegible]	.00103	.97876
13	.[illegible]	[illegible]	.00085	.97961
14	.[illegible]	[illegible]	.00083	.98044
15	.[illegible]	[illegible]	.00075	.98119
16	.[illegible]	[illegible]	.00071	.98190
17	.[illegible]	[illegible]	.00061	.98251
18	.[illegible]	[illegible]	.00057	.98308
19	.[illegible]	[illegible]	.00049	.98357
20	.[illegible]	[illegible]	.00049	.98406
21	.[illegible]	[illegible]	.00036	.98442
22	.[illegible]	[illegible]	.00031	.98473

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 15 of 20)

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 16 of 20)

END-Y	CUM-I	DIST	DIFF	CUM-PROB
45	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
46	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
47	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
48	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
49	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
50	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
51	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
52	-.[illegible]E+01	[illegible]	.00001	.99[illegible]
53	-.[illegible]E+01	[illegible]	.00001	1.00[illegible]

COMPOSITE MEAN AND STANDARD DEVIATION -.11344856E+01 .81742931E+00

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 17 of 20)

COMPOSITE OF 10 FILES
CROSS CORRELATION
FAAS TARGET 7 MASK 12 0 34.068
FAAS A AUG 77 1-5 WO ASPHALT ROADS

INDEX	COEF	NEST	PROB	CUM PROB
7	-.670946E+01	5.00000	.00011	.00011
8	-.649688E+01	38.00000	.00086	.00097
7	-.628416E+01	42.00000	.00095	.00192
6	-.607146E+01	28.00000	.00063	.00255
5	-.585888E+01	26.00000	.00059	.00314
4	-.564618E+01	47.00000	.00106	.00420
3	-.543335E+01	91.00000	.00205	.00625
2	-.522048E+01	106.00000	.00239	.00864
1	-.500841E+01	145.00000	.00327	.01191
1	-.560841E+01	636.00000	.01435	.02626
2	-.479555E+01	717.00000	.01622	.04248
3	-.458282E+01	674.00000	.01520	.05768
4	-.437001E+01	697.00000	.01572	.07340
5	-.415725E+01	678.00000	.01529	.08870
6	-.394448E+01	933.00000	.02105	.10975
7	-.373216E+01	779.00000	.01757	.12732
8	-.351935E+01	730.00000	.01647	.14379
9	-.330658E+01	749.00000	.01690	.16068
10	-.309441E+01	821.00000	.01852	.17920
11	-.288215E+01	1081.00000	.02439	.20359
12	-.266988E+01	1060.00000	.02391	.22750
13	-.245761E+01	1095.00000	.02470	.25220
14	-.224535E+01	1188.00000	.02680	.27900
15	-.203308E+01	1115.00000	.02515	.30415
16	-.181981E+01	993.00000	.02240	.32655
17	-.160655E+01	1125.00000	.02538	.35193
18	-.139328E+01	1269.00000	.02863	.38055
19	-.118001E+01	1231.00000	.02777	.40832
20	-.967474E+00	1315.00000	.02966	.43799
21	-.754480E+00	1280.00000	.02887	.46686
22	-.542146E+00	1316.00000	.02969	.49655
23	-.329479E+00	1256.00000	.02833	.52488
24	-.116801E+00	1169.00000	.02637	.55125
25	.795862E-01	1299.00000	.02930	.58055
26	.303451E+00	1310.00000	.02955	.61011
27	.526119E+00	1323.00000	.02984	.63995
28	.733866E+00	1044.00000	.02355	.66350
29	.946538E+00	847.00000	.01911	.68261
30	.115921E+01	830.00000	.01872	.70133
31	.137188E+01	707.00000	.01595	.71732
32	.158455E+01	714.00000	.01611	.73343
33	.179722E+01	692.00000	.01561	.74904
34	.200989E+01	688.00000	.01552	.76456
35	.222256E+01	634.00000	.01430	.77886
36	.243523E+01	536.00000	.01209	.79095
37	.264791E+01	464.00000	.01047	.80142
38	.286058E+01	443.00000	.00999	.81141
39	.307325E+01	434.00000	.00979	.82120
40	.328592E+01	436.00000	.00984	.83104
41	.349859E+01	444.00000	.01002	.84106
42	.371126E+01	464.00000	.01047	.85152
43	.392394E+01	503.00000	.01148	.86300
44	.413650E+01	501.00000	.01130	.87431
45	.434928E+01	540.00000	.01218	.88649

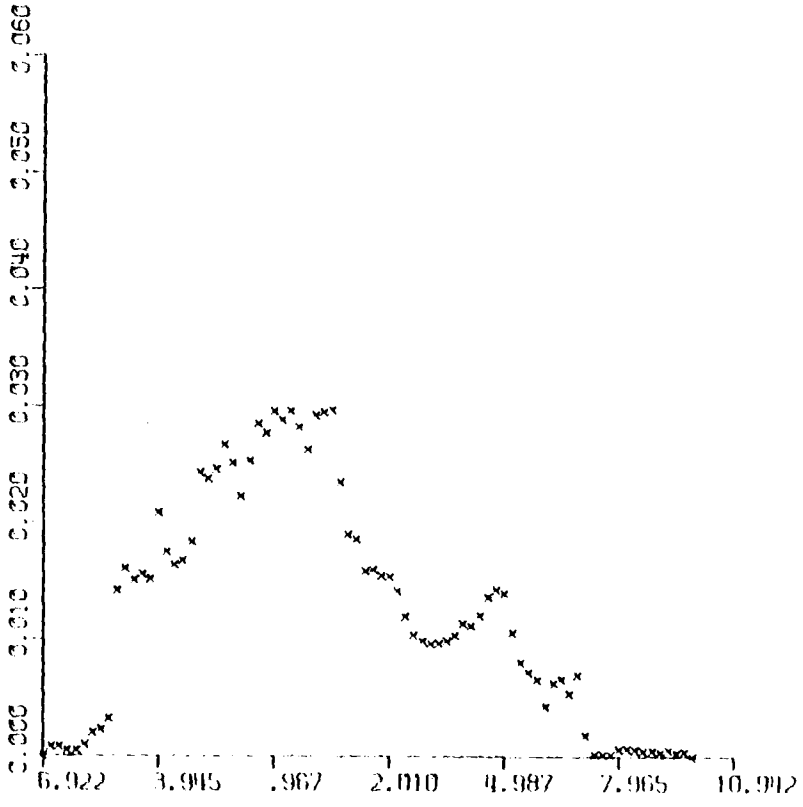


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 18 of 20)

INDEX	CORR	HIST	PROB	CUM PROB
[illegible]	.[illegible]E+01	611.00000	.01378	.90027
47	.47745E+01	640.00000	.01444	.91471
48	.49872E+01	626.00000	.01412	.92883
49	.51998E+01	471.00000	.01067	.93950
50	.54125E+01	364.00000	.00821	.94771
1	.56252E+01	323.00000	.00729	.95500
2	.58378E+01	299.00000	.00674	.96174
3	.60505E+01	196.00000	.00442	.96616
4	.62632E+01	284.00000	.00641	.97257
5	.64758E+01	296.00000	.00668	.97925
6	.66885E+01	242.00000	.00546	.98471
7	.69012E+01	314.00000	.00708	.99179
8	.71138E+01	84.00000	.00189	.99368
9	.73265E+01	13.00000	.00029	.99398
10	.75392E+01	13.00000	.00029	.99427
11	.77518E+01	13.00000	.00029	.99456
12	.79645E+01	30.00000	.00068	.99524
13	.81772E+01	36.00000	.00081	.99605
14	.83898E+01	30.00000	.00068	.99673
15	.86025E+01	25.00000	.00056	.99729
16	.88152E+01	26.00000	.00059	.99788
17	.90278E+01	22.00000	.00050	.99838
18	.92405E+01	30.00000	.00068	.99905
19	.94532E+01	18.00000	.00041	.99946
20	.96658E+01	21.00000	.00047	.99993
21	.98785E+01	1.00000	.00007	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.40405839E-01 .30945066E+01

TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 19 of 20)

COMPOSITE OF 5 FILES
CROSS CORRELATION
FAWS TARGET 7 MASK 11 47 23.9
FAWS 8 AUG 77 C-5 WO BUILDINGS

INDEX	COEF	HIST	PROB	CUM PROB
1	-.80191E+01	24.00000	.00109	.00109
2	-.77335E+01	23.00000	.00104	.00213
3	-.74479E+01	38.00000	.00172	.00386
4	-.74479E+01	96.00000	.00436	.00821
5	-.71622E+01	111.00000	.00504	.01325
6	-.68766E+01	111.00000	.00504	.01829
7	-.65910E+01	182.00000	.00826	.02655
8	-.63054E+01	183.00000	.00830	.03485
9	-.60198E+01	249.00000	.01130	.04615
10	-.57342E+01	271.00000	.01230	.05845
11	-.54486E+01	313.00000	.01420	.07266
12	-.51630E+01	392.00000	.01779	.09045
13	-.48774E+01	488.00000	.02215	.11259
14	-.45917E+01	589.00000	.02673	.13932
15	-.43061E+01	750.00000	.03404	.17336
16	-.40205E+01	749.00000	.03399	.20735
17	-.37349E+01	879.00000	.03989	.24724
18	-.34493E+01	917.00000	.04162	.28886
19	-.31637E+01	929.00000	.04216	.33102
20	-.28781E+01	681.00000	.03091	.36192
21	-.25925E+01	598.00000	.02714	.38906
22	-.23068E+01	497.00000	.02256	.41162
23	-.20212E+01	531.00000	.02410	.43572
24	-.17356E+01	543.00000	.02464	.46036
25	-.14500E+01	578.00000	.02623	.48659
26	-.11644E+01	462.00000	.02097	.50756
27	-.87878E+00	377.00000	.01711	.52467
28	-.59317E+00	325.00000	.01475	.53941
29	-.30756E+00	310.00000	.01407	.55348
30	-.21948E-01	264.00000	.01198	.56546
31	.25366E+00	262.00000	.01189	.57735
32	.54928E+00	279.00000	.01266	.59002
33	.83489E+00	264.00000	.01198	.60200
34	.11205E+01	254.00000	.01153	.61352
35	.14061E+01	252.00000	.01144	.62496
36	.16917E+01	282.00000	.01280	.63776
37	.19773E+01	283.00000	.01284	.65060
38	.22629E+01	259.00000	.01175	.66145
39	.25486E+01	294.00000	.01357	.67502
40	.28342E+01	274.00000	.01243	.68745
41	.31198E+01	300.00000	.01361	.70107
42	.34054E+01	317.00000	.01439	.71545
43	.36910E+01	349.00000	.01584	.73129
44	.39766E+01	343.00000	.01557	.74686
45	.42622E+01	387.00000	.01756	.76442
46	.45478E+01	401.00000	.01820	.78262
47	.48334E+01	561.00000	.02546	.80808
48	.51191E+01	686.00000	.03113	.83921
49	.54047E+01	495.00000	.01835	.87756
50	.56903E+01	724.00000	.03304	.91060
51	.59759E+01	667.00000	.02119	.93179
52	.62615E+01	472.00000	.02142	.95321
53	.65471E+01	291.00000	.01312	.96633
54	.68327E+01	85.00000	.00386	.97019

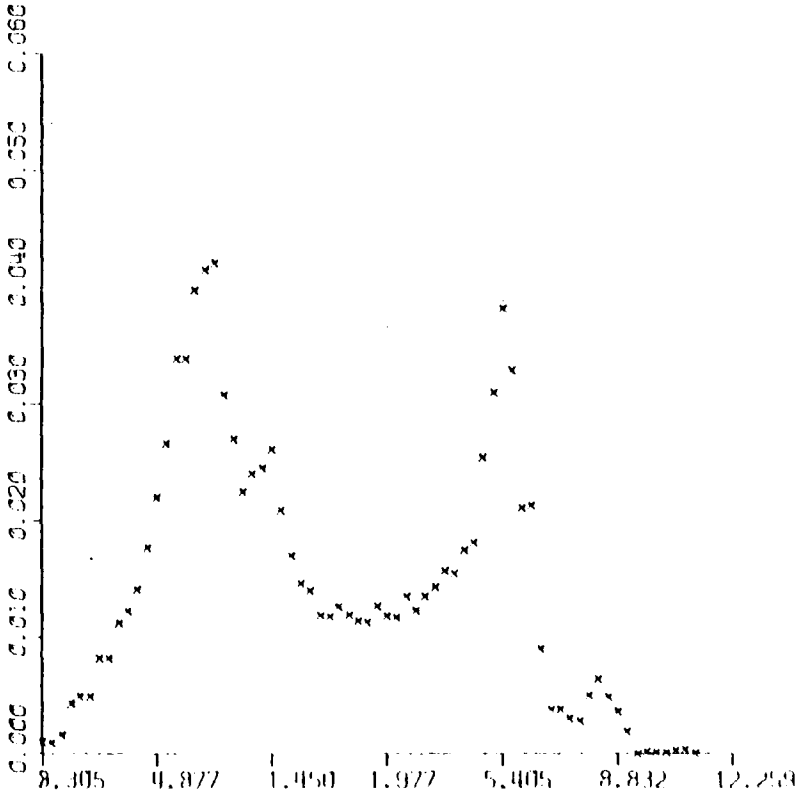


TABLE 3-12. COMPOSITE DISTRIBUTION OF CROSS-CORRELATION SURFACE OF TARGET MASK AND BACKGROUND (Sheet 20 of 20)

INDEX	COEF	HIST	PROB	CUM PROB
2	.71184E+01	87.00000	.00395	.97014
3	.74049E+01	64.00000	.00409	.97322
4	.76896E+01	64.00000	.00290	.97613
5	.79752E+01	112.00000	.00508	.98121
6	.82608E+01	143.00000	.00649	.98770
7	.85464E+01	107.00000	.00495	.99265
8	.88320E+01	81.00000	.00368	.99632
9	.91176E+01	43.00000	.00195	.99828
10	.94032E+01	2.00000	.00009	.99837
11	.96888E+01	6.00000	.00027	.99864
12	.99745E+01	4.00000	.00018	.99882
13	.10260E+02	4.00000	.00018	.99900
14	.10546E+02	8.00000	.00036	.99936
15	.10831E+02	12.00000	.00054	.99991
16	.11117E+02	2.00000	.00009	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.18331534E-01 .42255114E+01

TABLE 3-13. NORMALIZED CROSS-CORRELATION

COMPOSITE OF 17 FILES
NORMALIZED CROSS CORRELATION
FAWS TARGET 1 11 47 21.9
FAWS 8 AUG 77 1-5 WB GRASS

INDEX	COEF	HIST	PROB	CUM PROB
5	-.54728E+00	2.00000	.00003	.00003
4	-.52727E+00	2.00000	.00003	.00005
3	-.50726E+00	2.00000	.00003	.00008
2	-.48726E+00	4.00000	.00005	.00013
1	-.46725E+00	12.00000	.00016	.00029
1	-.46725E+00	20.00000	.00027	.00056
2	-.44724E+00	18.00000	.00024	.00080
3	-.42724E+00	30.00000	.00040	.00120
4	-.40723E+00	56.00000	.00075	.00194
5	-.38722E+00	89.00000	.00118	.00313
6	-.36722E+00	167.00000	.00222	.00535
7	-.34721E+00	256.00000	.00341	.00876
8	-.32720E+00	387.00000	.00515	.01391
9	-.30720E+00	569.00000	.00757	.02148
10	-.28719E+00	696.00000	.00926	.03074
11	-.26718E+00	948.00000	.01262	.04336
12	-.24718E+00	1178.00000	.01568	.05904
13	-.22717E+00	1509.00000	.02008	.07912
14	-.20717E+00	1815.00000	.02415	.10327
15	-.18716E+00	2168.00000	.02885	.13213
16	-.16715E+00	2721.00000	.03621	.16834
17	-.14715E+00	2929.00000	.03898	.20732
18	-.12714E+00	3422.00000	.04554	.25286
19	-.10713E+00	3963.00000	.05274	.30560
20	-.87126E-01	4727.00000	.06291	.36851
21	-.67119E-01	4732.00000	.06298	.43149
22	-.47112E-01	4580.00000	.06095	.49244
23	-.27106E-01	4540.00000	.06042	.55286
24	-.70992E-02	4206.00000	.05598	.60884
25	.12907E-01	4037.00000	.05373	.66256
26	.32914E-01	3610.00000	.04804	.71061
27	.52921E-01	3289.00000	.04377	.75438
28	.72927E-01	3053.00000	.04063	.79501
29	.92934E-01	2612.00000	.03476	.82977
30	.11294E+00	2312.00000	.03077	.86054
31	.13295E+00	1967.00000	.02618	.88672
32	.15295E+00	1743.00000	.02320	.90991
33	.17296E+00	1354.00000	.01802	.92793
34	.19297E+00	1185.00000	.01577	.94371
35	.21297E+00	985.00000	.01311	.95681
36	.23298E+00	816.00000	.01086	.96767
37	.25299E+00	615.00000	.00818	.97586
38	.27299E+00	470.00000	.00625	.98211
39	.29300E+00	365.00000	.00486	.98697
40	.31301E+00	277.00000	.00369	.99066
41	.33301E+00	187.00000	.00249	.99315
42	.35302E+00	139.00000	.00185	.99500
43	.37303E+00	106.00000	.00141	.99641
44	.39303E+00	81.00000	.00110	.99751
45	.41304E+00	51.00000	.00068	.99819
46	.43305E+00	60.00000	.00080	.99899
47	.45305E+00	21.00000	.00028	.99927
48	.47306E+00	20.00000	.00027	.99953
49	.49307E+00	13.00000	.00017	.99971

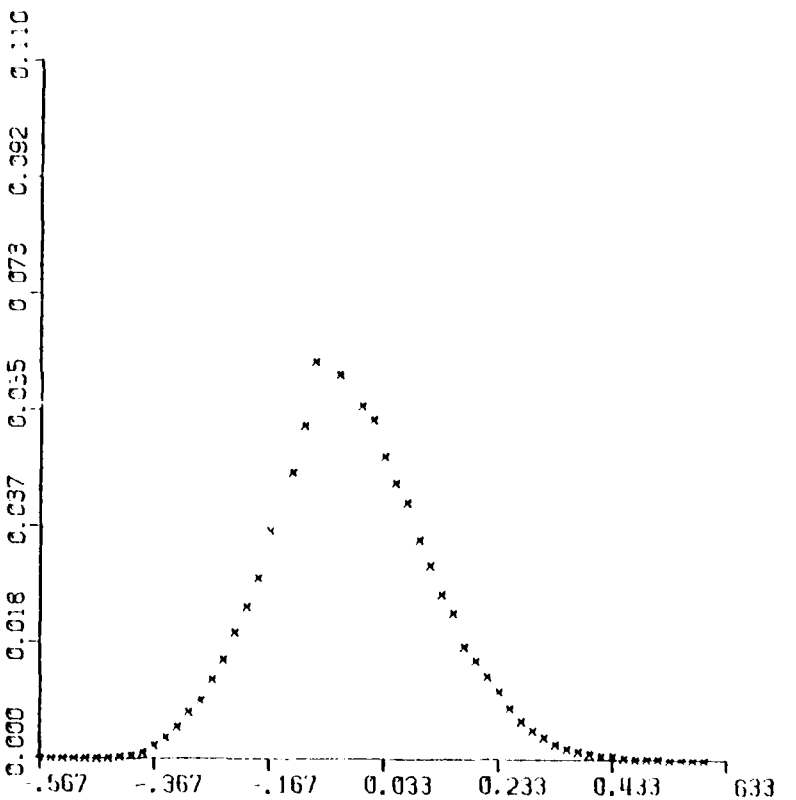


TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 2 of 16)

INDEX	COEF	HIST	PROB	CUM PROB
50	.51307E+00	13.00000	.00017	.99988
1	.53304E+00	4.00000	.00005	.99993
2	.55309E+00	3.00000	.00004	.99997
3	.57309E+00	1.00000	.00001	.99999
4	.59310E+00	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.27347548E-01 .13849937E+00

TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 3 of 16)

COMPOSITE OF 14 FILES
NORMALIZED CROSS CORRELATION
FAWS TARGET 1 11 47 23.9
FAWS 8 AUG 77 3-5 WB TREES

INDEX	COEF	MIST	PROB	CUM PROB
9	-.48712E+00	1.00000	.00001	.00001
8	-.47176E+00	3.00000	.00002	.00003
7	-.45648E+00	5.00000	.00003	.00006
6	-.44105E+00	11.00000	.00007	.00013
5	-.42569E+00	18.00000	.00012	.00025
4	-.41033E+00	48.00000	.00032	.00057
3	-.39497E+00	57.00000	.00038	.00095
2	-.37961E+00	98.00000	.00065	.00160
1	-.36425E+00	137.00000	.00092	.00253
1	-.36425E+00	196.00000	.00130	.00383
2	-.34889E+00	299.00000	.00199	.00582
3	-.33353E+00	392.00000	.00261	.00843
4	-.31818E+00	529.00000	.00352	.01195
5	-.30282E+00	695.00000	.00462	.01657
6	-.28746E+00	893.00000	.00594	.02251
7	-.27210E+00	1173.00000	.00780	.03031
8	-.25674E+00	1467.00000	.00976	.04007
9	-.24138E+00	1802.00000	.01199	.05205
10	-.22602E+00	2198.00000	.01462	.06667
11	-.21067E+00	2562.00000	.01704	.08371
12	-.19531E+00	3067.00000	.02040	.10411
13	-.17995E+00	3803.00000	.02530	.12941
14	-.16459E+00	4153.00000	.02762	.15703
15	-.14923E+00	4889.00000	.03252	.18955
16	-.13387E+00	5583.00000	.03711	.22669
17	-.11851E+00	6034.00000	.04013	.26682
18	-.10315E+00	6426.00000	.04274	.30956
19	-.87796E-01	6811.00000	.04530	.35486
20	-.72437E-01	7056.00000	.04693	.40180
21	-.57079E-01	7361.00000	.04896	.45076
22	-.41720E-01	7297.00000	.04854	.49929
23	-.26361E-01	7286.00000	.04846	.54775
24	-.11003E-01	7022.00000	.04671	.59446
25	.43560E-02	6603.00000	.04392	.63838
26	.19715E-01	6187.00000	.04115	.67953
27	.35073E-01	5744.00000	.03821	.71774
28	.50432E-01	5346.00000	.03556	.75329
29	.65791E-01	4737.00000	.03151	.78480
30	.81149E-01	4387.00000	.02918	.81398
31	.96508E-01	3814.00000	.02537	.83935
32	.11187E+00	3367.00000	.02240	.86174
33	.12723E+00	2907.00000	.01934	.88108
34	.14258E+00	2547.00000	.01694	.89802
35	.15794E+00	2228.00000	.01482	.91284
36	.17330E+00	2020.00000	.01344	.92628
37	.18866E+00	1661.00000	.01105	.93732
38	.20402E+00	1519.00000	.01010	.94743
39	.21938E+00	1230.00000	.00818	.95561
40	.23474E+00	1056.00000	.00702	.96263
41	.25009E+00	889.00000	.00591	.96855
42	.26545E+00	779.00000	.00518	.97373
43	.28081E+00	650.00000	.00432	.97805
44	.29617E+00	554.00000	.00368	.98174
45	.31153E+00	504.00000	.00335	.98511

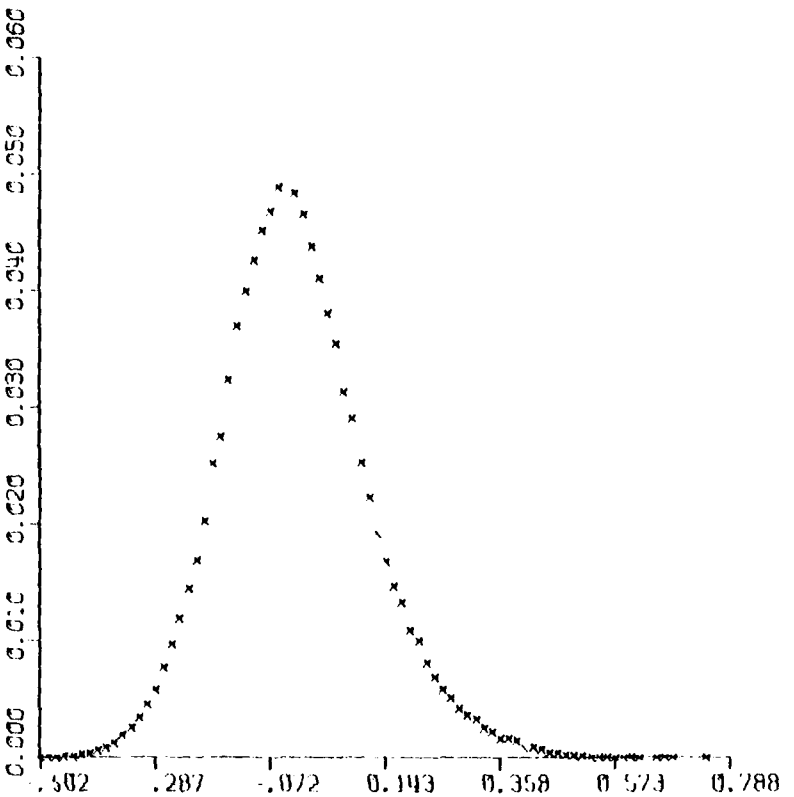


TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 4 of 16)

INDEX	COEF	HIST	PROB	CUM PROB
46	.32689E+00	389.00000	.00259	.98770
47	.34225E+00	351.00000	.00233	.99004
48	.35761E+00	252.00000	.00168	.99171
49	.37296E+00	253.00000	.00168	.99340
50	.38832E+00	230.00000	.00153	.99493
1	.40368E+00	140.00000	.00093	.99586
2	.41904E+00	152.00000	.00101	.99687
3	.43440E+00	117.00000	.00078	.99765
4	.44976E+00	79.00000	.00053	.99817
5	.46512E+00	74.00000	.00049	.99866
6	.48047E+00	39.00000	.00026	.99892
7	.49583E+00	38.00000	.00025	.99918
8	.51119E+00	35.00000	.00023	.99941
9	.52655E+00	19.00000	.00013	.99953
10	.54191E+00	14.00000	.00009	.99963
11	.55727E+00	12.00000	.00008	.99971
12	.57263E+00	7.00000	.00005	.99975
13	.58799E+00	5.00000	.00003	.99979
14	.60334E+00	15.00000	.00010	.99989
15	.61870E+00	7.00000	.00005	.99993
17	.64942E+00	6.00000	.00004	.99997
18	.66478E+00	2.00000	.00001	.99999
19	.68014E+00	1.00000	.00001	.99999
23	.74157E+00	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.25061943E-01 .13722639E+00

TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 5 of 16)

[illegible] OF [illegible] DATA
NORMALIZED CROSS CORRELATION
DATA [illegible] 11 =7.24.9
DATA [illegible] 77 [illegible] WET ASPHALT ROAD)

INDEX	COEF	DIST	PROB	CUM PROB
13	-.[illegible]	1.00000	.00002	.00002
12	-.[illegible]	1.00000	.00002	.00005
11	-.[illegible]	2.00000	.00005	.00009
10	-.[illegible]	3.00000	.00020	.00027
9	-.[illegible]	12.00000	.00027	.00056
8	-.[illegible]	13.00000	.00039	.00095
7	-.[illegible]	23.00000	.00092	.00188
6	-.[illegible]	35.00000	.00079	.00267
5	-.[illegible]	34.00000	.00077	.00343
4	-.[illegible]	49.00000	.00111	.00454
3	-.[illegible]	65.00000	.00147	.00550
2	-.[illegible]	104.00000	.00246	.00796
1	-.[illegible]	121.00000	.00285	.01081
0	-.[illegible]	143.00000	.00323	.01403
-1	-.[illegible]	203.00000	.00458	.01861
-2	-.[illegible]	244.00000	.00550	.02411
-3	-.[illegible]	104.00000	.00586	.02997
-4	-.[illegible]	173.00000	.00841	.03839
-5	-.[illegible]	460.00000	.01038	.04876
-6	-.[illegible]	500.00000	.01128	.06104
-7	-.[illegible]	507.00000	.01144	.07248
-8	-.[illegible]	535.00000	.01207	.08455
-9	-.[illegible]	600.00000	.01354	.09808
-10	-.[illegible]	707.00000	.01595	.11403
-11	-.[illegible]	741.00000	.01672	.13075
-12	-.[illegible]	836.00000	.01886	.14961
-13	-.[illegible]	918.00000	.02071	.17031
-14	-.[illegible]	1015.00000	.02290	.19321
-15	-.[illegible]	1144.00000	.02582	.21903
-16	-.[illegible]	1229.00000	.02774	.24677
-17	-.[illegible]	1251.00000	.02826	.27502
-18	-.[illegible]	2061.00000	.04655	.32157
-19	-.[illegible]	1850.00000	.04177	.36334
-20	-.[illegible]	1800.00000	.04060	.40394
-21	-.[illegible]	1769.00000	.03991	.44385
-22	-.[illegible]	1775.00000	.04005	.48391
-23	-.[illegible]	1693.00000	.03820	.52211
-24	-.[illegible]	1731.00000	.03905	.56116
-25	-.[illegible]	1862.00000	.04200	.60316
-26	-.[illegible]	2041.00000	.04605	.64921
-27	-.[illegible]	2036.00000	.04593	.69514
-28	-.[illegible]	1842.00000	.04154	.73668
-29	-.[illegible]	1841.00000	.04151	.77819
-30	-.[illegible]	1776.00000	.04007	.81826
-31	-.[illegible]	1655.00000	.03733	.85559
-32	-.[illegible]	1525.00000	.03440	.88999
-33	-.[illegible]	1001.00000	.02258	.91257
-34	-.[illegible]	922.00000	.02080	.93337
-35	-.[illegible]	847.00000	.01911	.95248
-36	-.[illegible]	652.00000	.01471	.96719
-37	-.[illegible]	488.00000	.01101	.97820
-38	-.[illegible]	410.00000	.00925	.98744
-39	-.[illegible]	317.00000	.00715	.99459
-40	-.[illegible]	240.00000	.00541	.99999

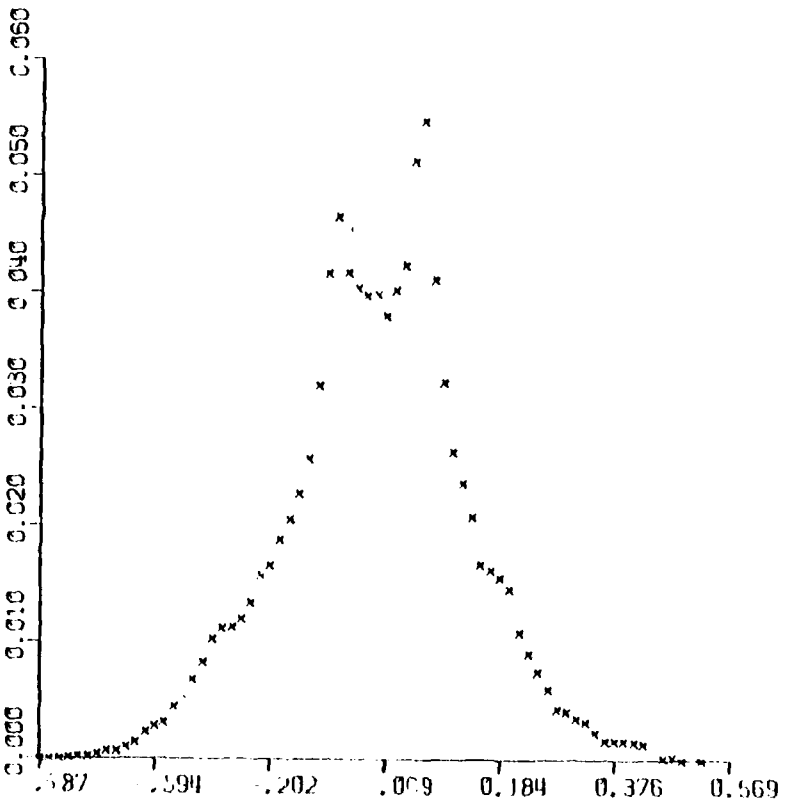


TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 6 of 16)

Index	COEF	DIST	PROB	CUM PROB
42	.[illegible]+00	194.00000	.00438	.97674
43	.[illegible]+01	187.00000	.00422	.98096
44	.[illegible]+0	187.00000	.00459	.98455
45	.[illegible]+0[illegible]	193.00000	.00327	.98782
46	.[illegible]+00	185.00000	.00417	.99199
47	.[illegible]+00	77.00000	.00174	.99492
48	.[illegible]+0[illegible]	75.00000	.00169	.99662
49	.[illegible]+0[illegible]	77.00000	.00174	.99835
50	.[illegible]+00	76.00000	.00158	.99993
1	.[illegible]+0[illegible]	53.00000	.00142	.99835
2	.[illegible]+00	54.00000	.00046	.99931
3	.[illegible]+0[illegible]	15.00000	.00034	.99965
4	.[illegible]+00	10.00000	.00036	.99991
5	.[illegible]+0[illegible]	2.00000	.00005	.99995
7	.[illegible]+00	2.00000	.00005	1.00000

[illegible] MEAN AND STANDARD DEVIATION -.22456888E-01 .1522501[illegible]+00

TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 7 of 16)

COMPOSITE OF 5 FILES
NORMALIZED CROSS CORRELATION
FAMS TARGET 1 11 87 23.9
FAMS 1 AUG 87 I-5 WA BUILDINGS

INDEX	COEF	BEST	PROB	CUM PROB
0	-.492370E+00	1.00000	.00005	.00005
1	-.493718E+00	2.00000	.00009	.00014
1	-.492958E+00	8.00000	.00036	.00050
2	-.491978E+00	11.00000	.00050	.00100
3	-.494438E+00	19.00000	.00086	.00186
3	-.494438E+00	40.00000	.00182	.00368
2	-.487678E+00	75.00000	.00340	.00708
3	-.483178E+00	115.00000	.00522	.01230
4	-.481578E+00	138.00000	.00626	.01856
3	-.473978E+00	168.00000	.00762	.02619
5	-.480638E+00	175.00000	.00794	.03413
7	-.478878E+00	211.00000	.00957	.04379
8	-.477178E+00	232.00000	.01053	.05432
9	-.473578E+00	277.00000	.01257	.06689
10	-.473778E+00	289.00000	.01312	.08001
11	-.471838E+00	298.00000	.01353	.09353
12	-.470778E+00	381.00000	.01729	.11082
13	-.483178E+00	305.00000	.02232	.13314
14	-.455578E+00	659.00000	.02991	.16365
15	-.479798E+00	808.00000	.03667	.20032
16	-.473038E+00	1069.00000	.04851	.24883
17	-.471278E+00	1417.00000	.06431	.31314
18	-.495178E-01	1342.00000	.06090	.37404
19	-.477578E-01	1206.00000	.05473	.42877
20	-.533778E-01	905.00000	.04107	.46984
21	-.492378E-01	777.00000	.03526	.50511
22	-.524778E-01	634.00000	.02877	.53388
23	-.717078E-02	527.00000	.02392	.55779
24	.104298E-01	578.00000	.02623	.58403
25	.248038E-01	670.00000	.03041	.61443
26	.465638E-01	1017.00000	.04615	.66059
27	.632378E-01	1227.00000	.05568	.71627
28	.808378E-01	971.00000	.04406	.76043
29	.994378E-01	712.00000	.03231	.79274
30	.116078E+00	389.00000	.01765	.81039
31	.133678E+00	375.00000	.01702	.82741
32	.151278E+00	354.00000	.01607	.84348
33	.168878E+00	287.00000	.01302	.85650
34	.186678E+00	281.00000	.01275	.86925
35	.204038E+00	294.00000	.01334	.88278
36	.221678E+00	282.00000	.01280	.89558
37	.239238E+00	265.00000	.01203	.90760
38	.256838E+00	233.00000	.01057	.91818
39	.274438E+00	194.00000	.00880	.92716
40	.292038E+00	212.00000	.00962	.93678
41	.309638E+00	179.00000	.00812	.94491
42	.327238E+00	169.00000	.00767	.95258
43	.344838E+00	200.00000	.00908	.96165
44	.362438E+00	102.00000	.00471	.97037
45	.380038E+00	173.00000	.00785	.97822
46	.397638E+00	155.00000	.00703	.98525
47	.415238E+00	125.00000	.00567	.99092
48	.432838E+00	112.00000	.00508	.99601
49	.450438E+00	67.00000	.00304	.99905

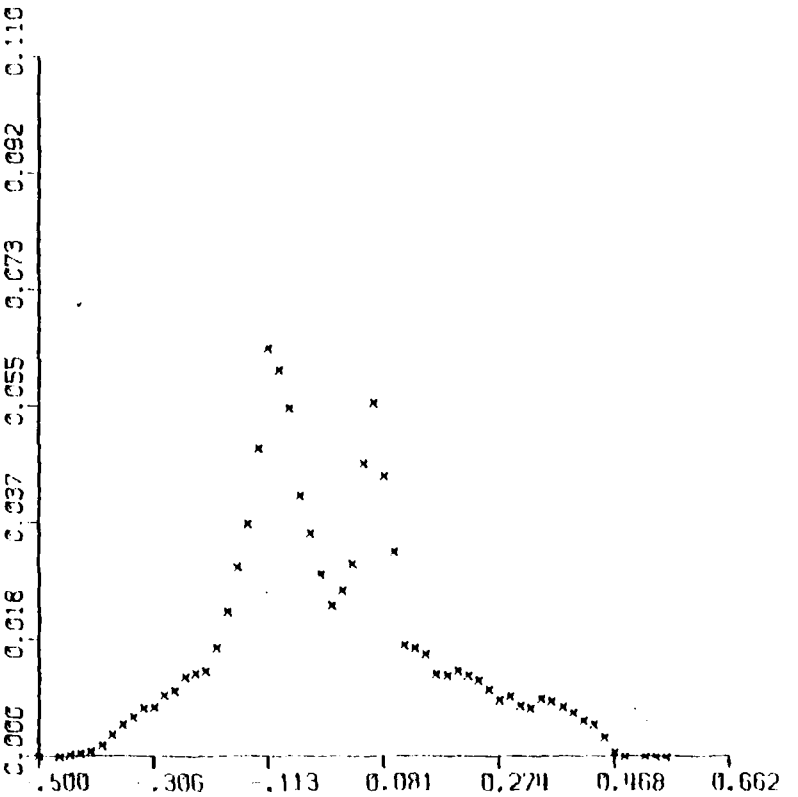


TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 8 of 16)

INDEX	COEF	BEST	PROB	CUM PROB
50	.4580E+00	10.00000	.00073	.99377
1	.4456E+00	2.00000	.00089	.99386
3	.5528E+00	1.00000	.00105	.99491
4	.5344E+00	1.00000	.00005	.99995
5	.5500E+00	1.00000	.00005	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.8297665AE-02 .1707349E+00

TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 9 of 16)

COMPOSITE OF 17 FILES
NORMALIZED CROSS CORRELATION
FAWS TARGET 7 12 0 14.068
FAWS A AUG 77 1-5 WD GRASS

INDEX	COEF	HIST	PROB	CUM PROB
8	-.10799E+01	69.00000	.00092	.00092
7	-.10158E+01	456.00000	.00607	.00699
6	-.99171E+00	1012.00000	.01347	.02046
5	-.94759E+00	1701.00000	.02264	.04309
4	-.90348E+00	2224.00000	.02960	.07269
3	-.85937E+00	2532.00000	.03370	.10639
2	-.81525E+00	3430.00000	.04565	.15204
1	-.77114E+00	3023.00000	.04023	.19227
1	-.77114E+00	2636.00000	.03508	.22735
2	-.72703E+00	2431.00000	.03235	.25970
3	-.68291E+00	2042.00000	.02718	.28688
4	-.63880E+00	1835.00000	.02442	.31130
5	-.59469E+00	1529.00000	.02035	.33165
6	-.55057E+00	1403.00000	.01867	.35032
7	-.50646E+00	1292.00000	.01719	.36751
8	-.46235E+00	1256.00000	.01672	.38423
9	-.41823E+00	1191.00000	.01585	.40008
10	-.37412E+00	1174.00000	.01562	.41570
11	-.33001E+00	1162.00000	.01546	.43117
12	-.28589E+00	1091.00000	.01452	.44569
13	-.24178E+00	1128.00000	.01501	.46070
14	-.19767E+00	1167.00000	.01553	.47623
15	-.15355E+00	1148.00000	.01528	.49151
16	-.10944E+00	1108.00000	.01475	.50625
17	-.65326E-01	1129.00000	.01503	.52128
18	-.21213E-01	1196.00000	.01592	.53720
19	.22901E-01	1292.00000	.01719	.55439
20	.67014E-01	1355.00000	.01803	.57242
21	.11113E+00	1343.00000	.01787	.59030
22	.15524E+00	1363.00000	.01814	.60844
23	.19935E+00	1533.00000	.02040	.62884
24	.24347E+00	1520.00000	.02023	.64907
25	.28758E+00	1657.00000	.02205	.67112
26	.33169E+00	1729.00000	.02301	.69413
27	.37581E+00	1823.00000	.02426	.71839
28	.41992E+00	2045.00000	.02722	.74561
29	.46403E+00	2034.00000	.02707	.77268
30	.50815E+00	2259.00000	.03006	.80274
31	.55226E+00	2410.00000	.03207	.83482
32	.59638E+00	2424.00000	.03226	.86707
33	.64049E+00	2155.00000	.02868	.89575
34	.68460E+00	1776.00000	.02364	.91939
35	.72872E+00	1422.00000	.01892	.93832
36	.77283E+00	938.00000	.01248	.95080
37	.81694E+00	681.00000	.00906	.95986
38	.86106E+00	762.00000	.01014	.97000
39	.90517E+00	745.00000	.00991	.97992
40	.94928E+00	366.00000	.00487	.98479
41	.99340E+00	239.00000	.00318	.98797
42	.10375E+01	179.00000	.00238	.99035
43	.10816E+01	237.00000	.00315	.99351
44	.11257E+01	275.00000	.00366	.99717
45	.11698E+01	134.00000	.00178	.99895
46	.12140E+01	77.00000	.00049	.99944

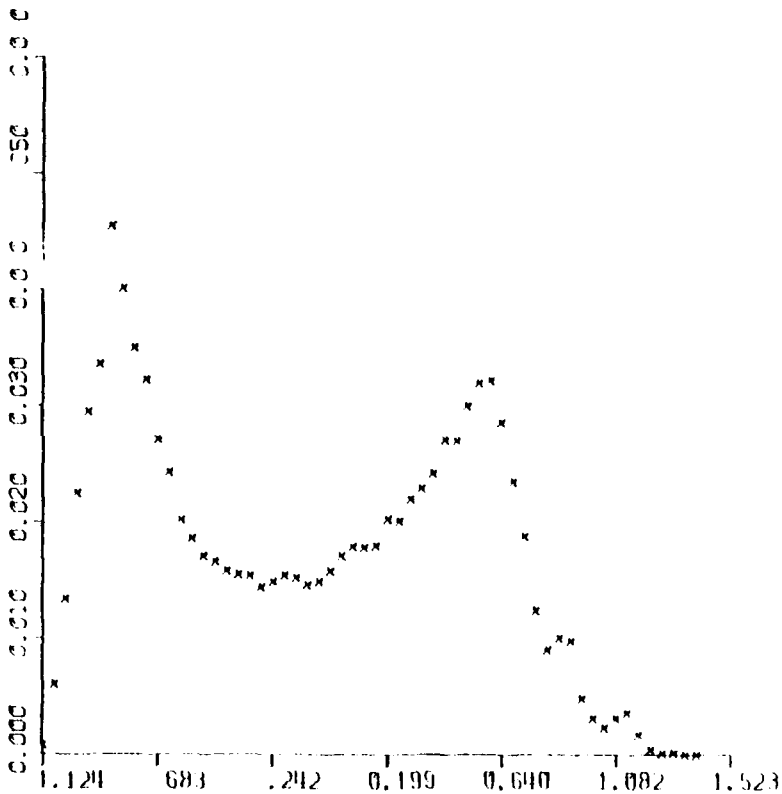


TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 10 of 16)

INDEX	COEF	HIST	PROB	CUM PROB
47	.12581E+01	12.00000	.00016	.99960
48	.13022E+01	15.00000	.00020	.99980
49	.13463E+01	10.00000	.00013	.99993
50	.13904E+01	5.00000	.00007	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.10427329E+00 .59977871E+00

TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 11 of 16)

COMPOSITE OF 14 FILES
NORMALIZED CROSS CORRELATION
FAWS TARGET 7 12 0 34.068
FAWS A AUG 77 3-5 WB TREES

INDEX	COEF	MIST	PROB	CUM PROB
7	-.98181E+00	5.00000	.00003	.00003
6	-.94849E+00	53.00000	.00035	.00039
5	-.91318E+00	268.00000	.00178	.00217
4	-.87787E+00	601.00000	.00400	.00617
3	-.84255E+00	1064.00000	.00708	.01324
2	-.80724E+00	1561.00000	.01038	.02363
1	-.77193E+00	2340.00000	.01556	.03919
1	-.77193E+00	3174.00000	.02111	.06030
2	-.73661E+00	3890.00000	.02587	.08618
3	-.70130E+00	4559.00000	.03032	.11650
4	-.66599E+00	5028.00000	.03344	.14994
5	-.63068E+00	5111.00000	.03400	.18394
6	-.59536E+00	4914.00000	.03268	.21662
7	-.56005E+00	4513.00000	.03002	.24664
8	-.52474E+00	4269.00000	.02839	.27503
9	-.48942E+00	3988.00000	.02653	.30156
10	-.45411E+00	3959.00000	.02633	.32789
11	-.41880E+00	3737.00000	.02486	.35275
12	-.38348E+00	3484.00000	.02317	.37592
13	-.34817E+00	3490.00000	.02321	.39914
14	-.31286E+00	3406.00000	.02265	.42179
15	-.27755E+00	3156.00000	.02099	.44278
16	-.24223E+00	3124.00000	.02078	.46356
17	-.20692E+00	3025.00000	.02012	.48368
18	-.17161E+00	2960.00000	.01969	.50337
19	-.13629E+00	2863.00000	.01904	.52241
20	-.10098E+00	2693.00000	.01791	.54032
21	-.65667E-01	2651.00000	.01763	.55796
22	-.30354E-01	2571.00000	.01710	.57506
23	.49585E-02	2614.00000	.01739	.59244
24	.40272E-01	2499.00000	.01662	.60907
25	.75585E-01	2490.00000	.01656	.62563
26	.11090E+00	2548.00000	.01695	.64258
27	.14621E+00	2448.00000	.01628	.65886
28	.18152E+00	2401.00000	.01597	.67483
29	.21684E+00	2455.00000	.01633	.69116
30	.25215E+00	2445.00000	.01626	.70742
31	.28746E+00	2491.00000	.01657	.72399
32	.32278E+00	2529.00000	.01682	.74081
33	.35809E+00	2508.00000	.01668	.75749
34	.39340E+00	2584.00000	.01719	.77468
35	.42871E+00	2603.00000	.01731	.79199
36	.46403E+00	2604.00000	.01732	.80931
37	.49934E+00	2684.00000	.01785	.82716
38	.53465E+00	2614.00000	.01739	.84455
39	.56997E+00	2831.00000	.01883	.86338
40	.60528E+00	2728.00000	.01814	.88153
41	.64059E+00	2768.00000	.01841	.89994
42	.67591E+00	2699.00000	.01795	.91789
43	.71122E+00	2604.00000	.01732	.93521
44	.74653E+00	2609.00000	.01735	.95256
45	.78184E+00	2311.00000	.01537	.96793
46	.81716E+00	2061.00000	.01371	.98164
47	.85247E+00	1536.00000	.01022	.99186

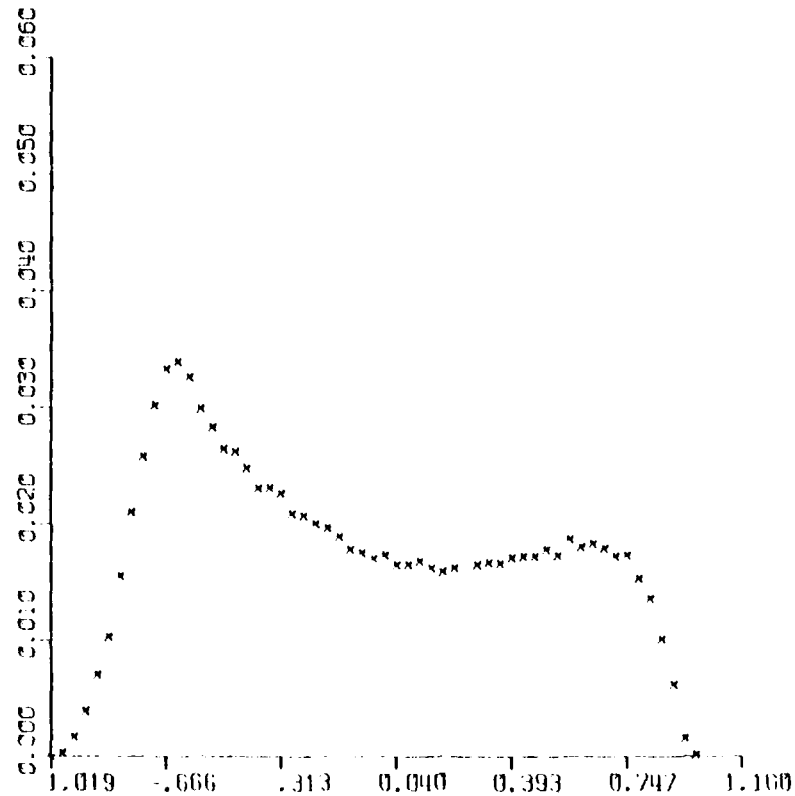


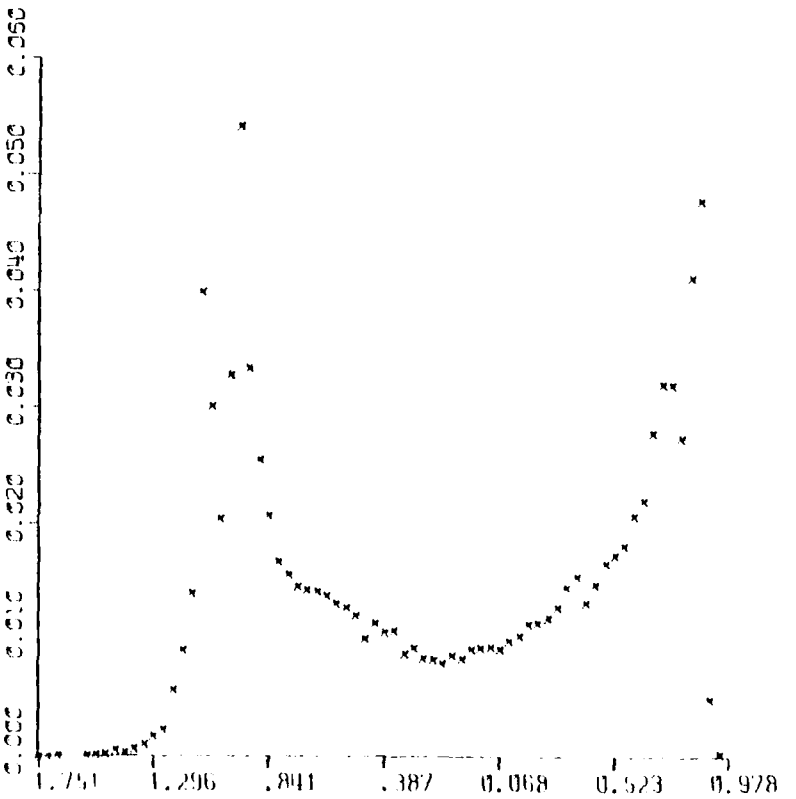
TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 12 of 16)

INDEX	COEF	HIST	PROB	CUM PROB
48	.48778E+00	942.00000	.00627	.99812
49	.92310E+00	252.00000	.00168	.99980
50	.95841E+00	30.00000	.00020	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.83704825E-01 .50389366E+00

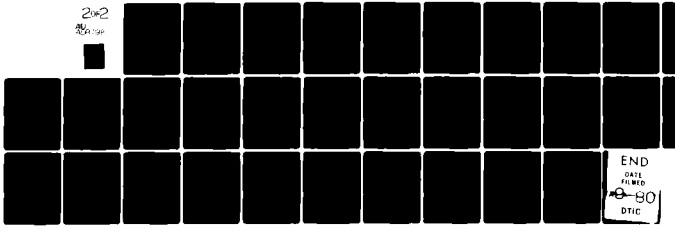
TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 13 of 16)

LAG	COEF	DIST	PROB	CUM PROB
--	-.171125E+01	2.00000	.00005	.00005
15	-.165251E+01	6.00000	.00004	.00014
14	-.159378E+01	9.00000	.00009	.00023
13	-.153504E+01	5.00000	.00011	.00034
12	-.147631E+01	7.00000	.00016	.00050
11	-.141757E+01	4.00000	.00009	.00059
10	-.135884E+01	7.00000	.00016	.00074
9	-.130010E+01	11.00000	.00025	.00100
8	-.124137E+01	26.00000	.00063	.00163
7	-.118263E+01	19.00000	.00043	.00210
6	-.112390E+01	31.00000	.00070	.00280
5	-.106516E+01	44.00000	.00100	.00380
4	-.100643E+01	77.00000	.00177	.00556
3	-.947695E+00	107.00000	.00241	.00797
2	-.889030E+00	255.00000	.00575	.01383
1	-.830366E+00	407.00000	.00918	.02301
0	-.771702E+00	625.00000	.01410	.03711
-1	-.713038E+00	1775.00000	.04004	.07715
-2	-.654374E+00	1940.00000	.04374	.12089
-3	-.595710E+00	1857.00000	.04191	.16277
-4	-.537046E+00	2401.00000	.05416	.21693
-5	-.478382E+00	1883.00000	.04248	.25939
-6	-.419718E+00	1615.00000	.03643	.29582
-7	-.361054E+00	1420.00000	.03203	.32785
-8	-.302390E+00	1206.00000	.02720	.35505
-9	-.243726E+00	695.00000	.01568	.37073
-10	-.185062E+00	651.00000	.01469	.38542
-11	-.126398E+00	617.00000	.01392	.39934
-12	-.677342E-01	635.00000	.01432	.41366
-13	-.890702E-02	616.00000	.01390	.42756
-14	.469202E-01	587.00000	.01324	.44080
-15	.105584E+00	574.00000	.01295	.45375
-16	.164248E+00	563.00000	.01270	.46645
-17	.222912E+00	513.00000	.01157	.47802
-18	.281576E+00	473.00000	.01067	.48869
-19	.340240E+00	485.00000	.01094	.49963
-20	.398904E+00	434.00000	.00979	.50942
-21	.457568E+00	425.00000	.00959	.51901
-22	.516232E+00	422.00000	.00952	.52853
-23	.574896E+00	398.00000	.00898	.53751
-24	.633560E+00	384.00000	.00867	.54618
-25	.692224E+00	374.00000	.00843	.55461
-26	.750888E+00	342.00000	.00771	.56232
-27	.809552E+00	315.00000	.00711	.56943
-28	.868216E+00	311.00000	.00702	.57644
-29	.926880E+00	303.00000	.00684	.58328
-30	.985544E+00	283.00000	.00639	.58966
-31	.104421E+01	281.00000	.00634	.59600
-32	.110287E+01	265.00000	.00598	.60198
-33	.116154E+01	253.00000	.00571	.60769
-34	.122020E+01	244.00000	.00550	.61319



AD-A087 981 TELEDYNE BROWN ENGINEERING HUNTSVILLE ALA SYSTEMS DIV F/G 15/4
ORGANIZATION AND MANIPULATION OF INFRARED SCENE DATA AND INFRAR--ETC(U)
NOV 79 J RAINEY, R BURTON DAAK40-79-C-0068
UNCLASSIFIED SD79-MICOM-2387 NL

2 of 2



END
DATE FILMED
80
DTIC

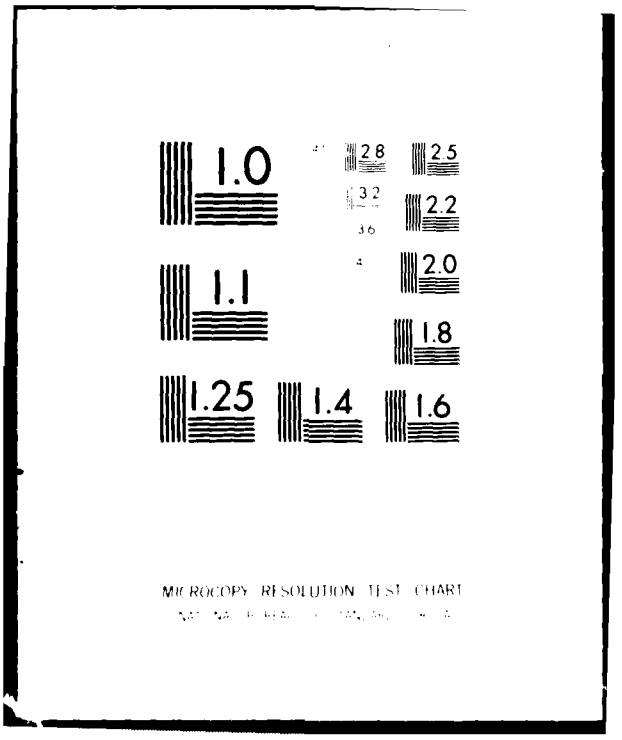

1.0
2.8
2.5
3.2
2.2
3.6
2.0
1.1
1.8
1.25
1.4
1.6
MICROCOPY RESOLUTION TEST CHART

TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 14 of 16)

INDEX	CORR	HIST	PROB	CUM PROB
35	.[illegible]	571.00000	.01288	.63246
36	.[illegible]	594.00000	.01404	.64716
37	.[illegible]	587.00000	.01550	.66266
38	.[illegible]	590.00000	.01331	.67591
39	.[illegible]	557.00000	.01487	.69077
40	.[illegible]	740.00000	.01669	.70747
41	.[illegible]	774.00000	.01744	.72490
42	.[illegible]	808.00000	.01823	.74313
43	.[illegible]	924.00000	.02084	.76397
44	.[illegible]	978.00000	.02206	.78604
45	.[illegible]	1236.00000	.02788	.81392
46	.[illegible]	1423.00000	.03210	.84602
47	.[illegible]	1418.00000	.03199	.87801
48	.[illegible]	1220.00000	.02752	.90553
49	.[illegible]	1430.00000	.04128	.94681
50	.[illegible]	2122.00000	.04787	.99468
1	.[illegible]	221.00000	.00499	.99966
2	.[illegible]	15.00000	.00034	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.14819324E+00 .71734977E+00

TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 15 of 16)

COMPOSITE OF 5 FILES
NORMALIZED CROSS CORRELATION
FAWS TARGET 7 11 47 23.9
FAWS 4 AUG 77 3-5 ms BUILDINGS

INDEX	COEF	HIST	PROB	CUM PROB
8	-.11856E+01	4.00000	.00018	.00018
7	-.11480E+01	23.00000	.00104	.00123
6	-.11103E+01	65.00000	.00295	.00418
5	-.10727E+01	170.00000	.00771	.01189
4	-.10351E+01	654.00000	.02968	.04157
3	-.99742E+00	1219.00000	.05532	.09689
2	-.95978E+00	1331.00000	.06040	.15730
1	-.92214E+00	912.00000	.04139	.19868
1	-.92214E+00	1522.00000	.06907	.26776
2	-.88450E+00	1474.00000	.06689	.33465
3	-.84685E+00	824.00000	.03740	.37204
4	-.80921E+00	589.00000	.02673	.39877
5	-.77157E+00	347.00000	.01575	.41452
6	-.73393E+00	262.00000	.01189	.42641
7	-.69629E+00	221.00000	.01003	.43644
8	-.65864E+00	207.00000	.00939	.44584
9	-.62100E+00	186.00000	.00844	.45428
10	-.58336E+00	186.00000	.00844	.46272
11	-.54572E+00	168.00000	.00762	.47034
12	-.50808E+00	140.00000	.00635	.47670
13	-.47044E+00	143.00000	.00649	.48319
14	-.43279E+00	135.00000	.00613	.48931
15	-.39515E+00	143.00000	.00649	.49580
16	-.35751E+00	131.00000	.00595	.50175
17	-.31987E+00	144.00000	.00654	.50828
18	-.28223E+00	138.00000	.00626	.51455
19	-.24459E+00	122.00000	.00554	.52008
20	-.20694E+00	136.00000	.00617	.52625
21	-.16930E+00	136.00000	.00617	.53243
22	-.13166E+00	154.00000	.00699	.53941
23	-.94019E-01	124.00000	.00563	.54504
24	-.56377E-01	137.00000	.00622	.55126
25	-.18735E-01	163.00000	.00740	.55866
26	.18907E-01	149.00000	.00676	.56542
27	.56548E-01	167.00000	.00758	.57300
28	.94190E-01	165.00000	.00749	.58049
29	.13183E+00	172.00000	.00781	.58829
30	.16947E+00	177.00000	.00803	.59632
31	.20712E+00	174.00000	.00790	.60422
32	.24476E+00	191.00000	.00867	.61289
33	.28240E+00	183.00000	.00830	.62119
34	.32004E+00	191.00000	.00867	.62986
35	.35768E+00	231.00000	.01048	.64034
36	.39532E+00	197.00000	.00894	.64929
37	.43297E+00	216.00000	.00980	.65909
38	.47061E+00	225.00000	.01021	.66930
39	.50825E+00	250.00000	.01135	.68064
40	.54589E+00	218.00000	.00989	.69054
41	.58353E+00	260.00000	.01180	.70234
42	.62117E+00	282.00000	.01280	.71514
43	.65882E+00	280.00000	.01271	.72784
44	.69646E+00	335.00000	.01520	.74305
45	.73410E+00	398.00000	.01806	.76111
46	.77174E+00	544.00000	.02469	.78580

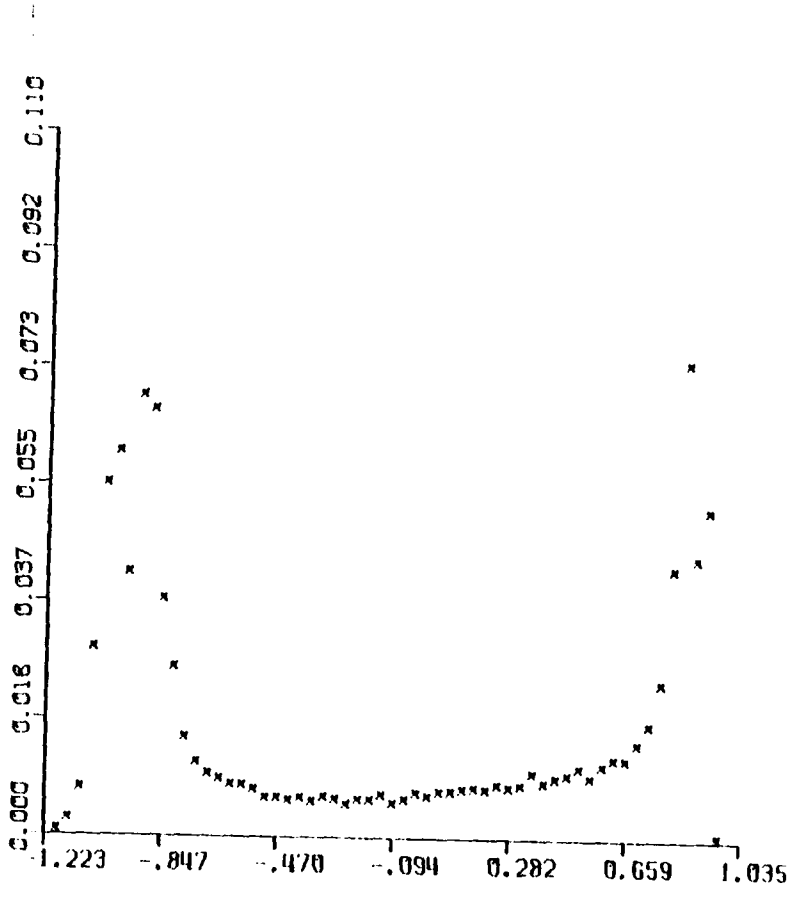


TABLE 3-13. NORMALIZED CROSS-CORRELATION (Sheet 16 of 16)

INDEX	COEF	HIST	PROB	CUM PROB
47	.8097AE+00	936.00000	.0424A	.82827
48	.8470.3E+00	1650.00600	.0748A	.90315
49	.88467E+00	973.00000	.04416	.94731
50	.92231E+00	1142.00000	.05183	.99914
1	.95995E+00	19.00000	.00086	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.1509980E+00 .7671607AE+00

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES

```
 CROSS CORRELATION
FAWS TARGET 1 11 47 21.9
1 MR SENSOR FO  MASK 1000 METERS

   11   47 21.988  NMR ZERO     0  MEAN 144.07700  STD DEV  41.19504
  1      1
 80     80
 80     80
 80     80       4
 10     10
 99     99
 80     80
 MODEL  SCENE    MEAN     .00094   ST DEV       .03061
 80     80
.166671+00
  40     40       2       3
  33     41      39      41

ARGUMENT NEGATIVE
ERROR NUMBER   39   DETECTED BY SORT
     MAX VALUES WITH COORDINANCES
 1.0   32.0  .1110776UE-01    4.0   22.0  .11394219E-01    5.0    6.0  .11159844E-01    5.0    7.0  .11237969E-01
 5.0   23.0  .1173276UE-01    5.0   26.0  .11420260E-01    5.0   31.0  .11993177E-01    5.0   33.0  .11836927E-01
 5.0   34.0  .1194109HE-01    5.0   36.0  .11602552E-01    6.0    5.0  .11394219E-01    6.0    6.0  .11941094E-01
 6.0    7.0  .1162859HE-01    6.0   20.0  .11394219E-01    6.0   24.0  .11237969E-01    6.0   25.0  .11602552E-01
 6.0   37.0  .1191505ZE-01    6.0   39.0  .11003594E-01    6.0   48.0  .10977552E-01    7.0   26.0  .11237969E-01
 7.0   32.0  .1162859HL-01    5.0   21.0  .12071302E-01    5.0   22.0  .12878594E-01    5.0   32.0  .12201510E-01
 5.0   35.0  .1204526UE-01    6.0   21.0  .13034H44E-01    6.0   26.0  .12305677E-01    6.0   27.0  .12592135E-01
 6.0   28.0  .1 1231H5E-01    6.0   29.0  .12461927E-01    6.0   32.0  .12982760E-01    6.0   33.0  .12383802E-01
 6.0   34.0  .1235776UE-01    6.0   35.0  .12670260E-01    6.0   36.0  .12540052E-01    6.0   76.0  .12019219E-01
 6.0   77.0  .1227963SE-01    7.0   20.0  .12592135E-01    7.0   23.0  .12409844E-01    7.0   27.0  .12383802E-01
 7.0   28.0  .1285255ZE-01    7.0   30.0  .12904635E-01    7.0   31.0  .12253594E-01    7.0   37.0  .12514010E-01
 7.0   38.0  .1282651UE-01    7.0   39.0  .12227552E-01    7.0   48.0  .12175469E-01    7.0   75.0  .12461927E-01
 8.0   20.0  .1239H02E-01     8.0   21.0  .12826510E-01    8.0   29.0  .12227552E-01    8.0   39.0  .12852552E-01
 9.0   72.0  .1308HH02E-01    10.0   72.0  .12409844E-01   10.0   73.0  .13086927E-01   43.0   25.0  .12514010E-01
43.0   26.0  .1274H345E-01    44.0   25.0  .12123345E-01   44.0   26.0  .12045260E-01   45.0   21.0  .12279635E-01
46.0   17.0  .1220151UE-01    47.0   15.0  .12409844E-01   47.0   17.0  .12618177E-01   48.0   15.0  .12514010E-01
48.0   16.0  .1290463SE-01    48.0   31.0  .12201510E-01   48.0   32.0  .12019219E-01   77.0   25.0  .12383802E-01
78.0   33.0  .1217546HE-01    79.0   28.0  .12644219E-01   79.0   29.0  .12357760E-01    6.0   23.0  .13165052E-01
 6.0   38.0  .1363H802E-01     6.0   31.0  .13425469E-01    7.0   21.0  .14102552E-01    7.0   29.0  .13607760E-01
 7.0   76.0  .1384213SE-01     8.0   37.0  .14024427E-01    8.0   74.0  .13685H85E-01    8.0   75.0  .13733H5E-01
 9.0   17.0  .1375404UE-01     9.0   38.0  .13721302E-01   47.0   16.0  .13191094E-01    6.0   22.0  .14415052E-01
 7.0   22.0  .1464042HE-01     8.0   39.0  .14441074E-01    9.0   74.0  .15092135E-01    5.0   50.0  .15977552E-01
 6.0   53.0  .1411604HE-01     9.0   73.0  .15925469E-01    6.0   49.0  .16498385E-01    7.0   49.0  .17383802E-01
 7.0   52.0  .1703734HE-01     5.0   52.0  .20821302E-01    5.0   51.0  .23581719E-01    7.0   50.0  .24727552E-01
 7.0   51.0  .2662334SE-01     6.0   50.0  .11810H85E-01    6.0   52.0  .35717135E-01    6.0   51.0  .42019219E-01
```

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 2 of 30)

MEAN .837813386E-01 ST DEV .612256278E-02 NUM ZEROS 0.00000

INDEX	COEF	HIST	PROB	CUM PROB
1	-.135808E-01	19.00000	.00304	.00304
2	-.124686E-01	50.00000	.00801	.01106
3	-.111456E-01	74.00000	.01186	.02291
4	-.102446E-01	141.00000	.02227	.04519
5	-.911184E-02	228.00000	.03653	.08172
6	-.861998E-02	240.00000	.03846	.12017
7	-.809379E-02	260.00000	.04166	.16183
8	-.757859E-02	281.00000	.04535	.20718
9	-.698434E-02	333.00000	.05336	.26054
10	-.637819E-02	370.00000	.05929	.31982
11	-.576599E-02	394.00000	.06313	.38295
12	-.513498E-02	404.00000	.06547	.44831
13	-.453594E-03	421.00000	.06746	.51577
14	.875994E-03	403.00000	.06457	.58036
15	.149880E-02	335.00000	.05368	.63403
16	.209999E-02	256.00000	.04070	.67473
17	.272119E-02	251.00000	.04022	.71495
18	.332339E-02	290.00000	.04647	.76142
19	.396358E-02	296.00000	.04745	.80887
20	.734794E-02	301.00000	.04784	.88671
21	.455598E-02	272.00000	.04361	.93032
22	.977184E-02	190.00000	.03044	.97276
23	.104846E-01	91.00000	.01458	.98734
24	.111996E-01	50.00000	.00801	.99535
25	.131848E-01	12.00000	.00192	.99728
26	.142208E-01	4.00000	.00064	.99792
27	.153328E-01	1.00000	.00048	.99840
28	.154446E-01	1.00000	.00048	.99888
31	.137808E-01	1.00000	.00016	.99904
34	.231168E-01	1.00000	.00016	.99920
35	.242288E-01	2.00000	.00032	.99952
41	.308998E-01	1.00000	.00016	.99968
45	.353478E-01	1.00000	.00016	.99984
50	.409078E-01	1.00000	.00016	1.00000

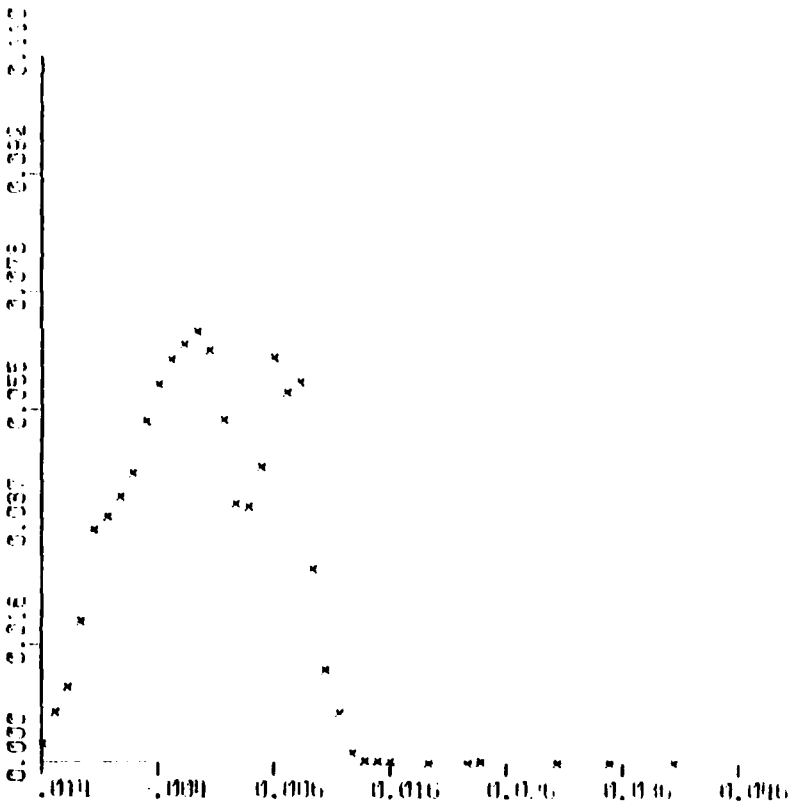


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 3 of 30)

```
 CROSS CORRELATION
FAWS TARGET 7 12 0 34.068
1 MR SENSOR FOV MASK 1000 METERS

    12     0 34.068  NBR ZERO      0  MEAN 157.75481  STD DEV  38.32283
  1      1
 79     80
 79     80
 79     80       4
 10     10
 88     89
 79     80
 MODEL SCENE     MEAN     .00095   ST DEV       .03080
 79     80
.16667E+00
 39     40       2       3
 38     40      39      41

ARGUMENT NEGATIVE
ERROR NUMBER    39   DETECTED BY SQRT
     MAX VALUES WITH COORDINANCES
  4.0    19.0   .69425933E-02   15.0   17.0   .69217073E-02   15.0   18.0   .67898507E-02   22.0    1.0   .70799351E-02
 22.0    40.0   .69953360E-02   27.0   26.0   .66843655E-02   27.0   27.0   .67107368E-02   27.0   30.0   .68689646E-02
 28.0     2.0   .71863064E-02   28.0    3.0   .67371081E-02   28.0    4.0   .70008212E-02   28.0    5.0   .71854203E-02
 28.0    21.0   .71590490E-02   28.0   32.0   .67371081E-02   28.0   36.0   .67371081E-02   28.0   39.0   .72909056E-02
 28.0    80.0   .72909056E-02   29.0    1.0   .67107368E-02   29.0    5.0   .69217073E-02   29.0   25.0   .71854203E-02
 29.0    12.0   .67634794E-02   29.0   17.0   .72391630E-02   28.0    1.0   .75282473E-02   28.0   17.0   .73963908E-02
 28.0    20.0   .74491334E-02   28.0   22.0   .74491334E-02   28.0   23.0   .77655891E-02   28.0   25.0   .77392178E-02
 28.0    26.0   .73218170E-02   28.0   41.0   .75282473E-02   29.0   17.0   .73172769E-02   29.0   21.0   .78183317E-02
 29.0    23.0   .74467030E-02   29.0   24.0   .76073611E-02   29.0   26.0   .75809900E-02   29.0   36.0   .73172769E-02
 29.0    38.0   .73436482E-02   29.0   39.0   .75018760E-02   30.0   18.0   .73436482E-02   30.0   20.0   .73436482E-02
 30.0    22.0   .76864752E-02   30.0   23.0   .74227621E-02   30.0   24.0   .73436482E-02   30.0   25.0   .73172769E-02
 30.0    36.0   .74974457E-02   31.0   25.0   .77128465E-02   31.0   27.0   .76864752E-02   31.0   28.0   .73700195E-02
 31.0    29.0   .73436482E-02   31.0   30.0   .76864752E-02   32.0   31.0   .75018760E-02   32.0   37.0   .75809900E-02
 33.0    10.0   .76755047E-02   11.0   19.0   .73436482E-02   75.0   69.0   .73172769E-02   28.0   18.0   .83193866E-02
 28.0    19.0   .84512431E-02   28.0   24.0   .81084161E-02   28.0   27.0   .82666440E-02   28.0   28.0   .83721292E-02
 28.0    29.0   .83019857E-02   28.0   30.0   .84776144E-02   28.0   31.0   .84776144E-02   29.0   20.0   .80820448E-02
 29.0    22.0   .81511587E-02   29.0   27.0   .84512431E-02   29.0   30.0   .83457579E-02   29.0   31.0   .81875100E-02
 30.0    19.0   .80556735E-02   30.0   26.0   .80556735E-02   30.0   27.0   .85830997E-02   30.0   29.0   .84512431E-02
 30.0    30.0   .85567284E-02   30.0   32.0   .81875100E-02   31.0   26.0   .81084161E-02   31.0   34.0   .82139014E-02
 31.0    35.0   .83193866E-02   31.0   36.0   .79765596E-02   32.0   32.0   .82666440E-02   32.0   33.0   .81875100E-02
 76.0    65.0   .8 556735E-02   29.0   18.0   .86885469E-02   29.0   28.0   .88995554E-02   29.0   29.0   .88204414E-02
 30.0    28.0   .84094710E-02   30.0   31.0   .89259267E-02   31.0   31.0   .86094710E-02   31.0   32.0   .88468127E-02
 31.0    33.0   .8 468127E-02   76.0   68.0   .89529480E-02   29.0   19.0   .93214963E-02   74.0   68.0   .10059893E-01
 74.0    66.0   .11431201E-01   75.0   65.0   .11431201E-01   74.0   67.0   .12406939E-01   76.0   66.0   .13461792E-01
 75.0    68.0   .13962846E-01   76.0   67.0   .13910104E-01   75.0   66.0   .20450198E-01   75.0   67.0   .21452298E-01
```

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 4 of 30)

MEAN .1833M442E-03 ST DEV .4401759?E-02NBR ZEROS 0.00000

INDEX	COEF	HIST	PROB	CUM PROB
1	-.10721E-01	11.00000	.00179	.00179
2	-.10077E-01	28.00000	.00454	.00633
3	-.9433HE-02	61.00000	.00990	.01623
4	-.8790?E-02	91.00000	.01477	.03100
5	-.81469E-02	103.00000	.01672	.04771
6	-.75034E-02	180.00000	.02921	.07692
7	-.68599E-02	202.00000	.03278	.10970
8	-.62165E-02	219.00000	.03554	.14525
9	-.55730E-02	203.00000	.03294	.17819
10	-.49296E-02	213.00000	.03457	.21276
11	-.42861E- 2	172.00000	.02791	.24067
12	-.36426E-02	181.00000	.02937	.27004
13	-.29992E- 2	191.00000	.03100	.30104
14	-.23557E-02	200.00000	.03246	.33350
15	-.17123E-02	198.00000	.03213	.36563
16	-.10688E-02	235.00000	.03814	.40377
17	-.42534E-03	244.00000	.04025	.44401
18	.21812E-03	251.00000	.04106	.48507
19	.86158E-03	258.00000	.04187	.52694
20	.15050E-02	307.00000	.04982	.57676
21	.21485E-02	308.00000	.04998	.62674
22	.27920E-02	306.00000	.04960	.68614
23	.34354E-02	452.00000	.07335	.75949
24	.40789E-02	633.00000	.10273	.86222
25	.47223E- 2	463.00000	.07514	.93736
26	.53658E- 2	194.00000	.03148	.96884
27	.60093E-02	71.00000	.01152	.98036
28	.66527E-02	43.00000	.00698	.98734
29	.72962E-02	33.00000	.00536	.99270
30	.79396E-02	26.00000	.00422	.99692
31	.85831E-02	9.00000	.00146	.99838
32	.92266E-02	1.00000	.00016	.99854
33	.98700E- 2	1.00000	.00016	.99870
34	.11157E-01	2.00000	.00032	.99903
35	.11800E- 1	1.00000	.00016	.99919
36	.12387E-01	1.00000	.00016	.99935
37	.13731E-01	2.00000	.00032	.99968
49	.20165E-01	1.00000	.00016	.99984
50	.20809E-01	1.00000	.00016	1.00000

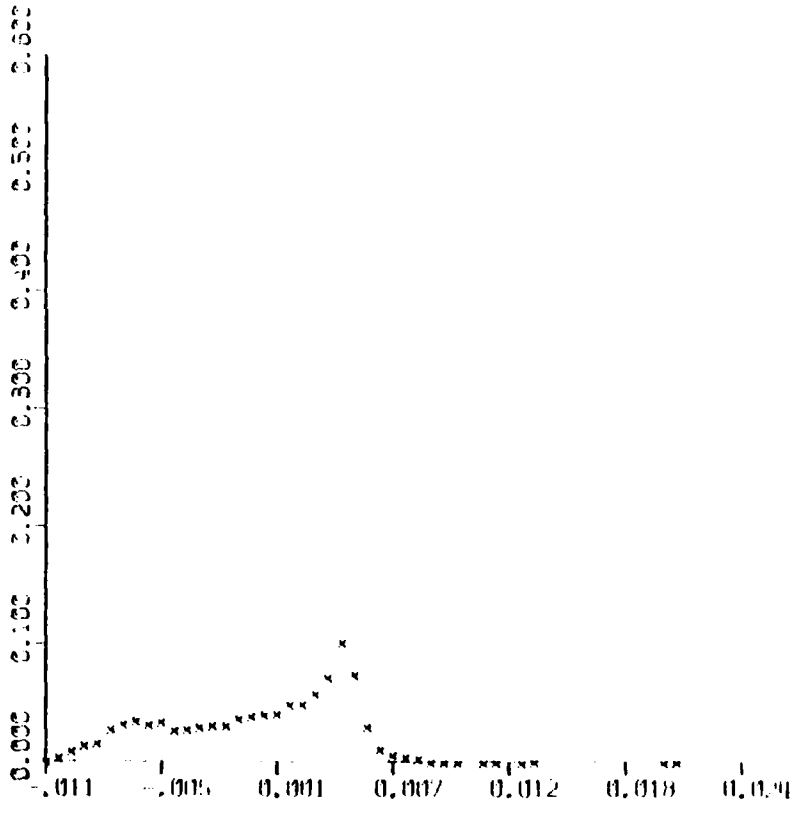


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 5 of 30)

COMPOSITE OF 17 FILES
CROSS CORRELATION
1 MR SENSOR FOV MASK 1000 FT
FAWS 8 AUG 77 3-5 WB GRASS

INDEX	COEF	HIST	PROB	CUM PROB
75	-.21607E-01	4.00000	.00004	.00004
74	-.21380E-01	8.00000	.00008	.00011
73	-.21153E-01	8.00000	.00008	.00019
72	-.20926E-01	7.00000	.00007	.00026
71	-.20699E-01	7.00000	.00007	.00032
70	-.20473E-01	3.00000	.00003	.00035
69	-.20246E-01	5.00000	.00005	.00040
68	-.20019E-01	9.00000	.00009	.00049
67	-.19792E-01	7.00000	.00007	.00055
66	-.19566E-01	3.00000	.00003	.00058
65	-.19339E-01	5.00000	.00005	.00063
64	-.19112E-01	4.00000	.00004	.00067
63	-.18885E-01	6.00000	.00006	.00073
62	-.18658E-01	1.00000	.00001	.00074
61	-.18432E-01	2.00000	.00002	.00075
60	-.18205E-01	6.00000	.00006	.00081
59	-.17978E-01	9.00000	.00009	.00090
58	-.17751E-01	11.00000	.00011	.00100
57	-.17524E-01	4.00000	.00004	.00104
56	-.17298E-01	11.00000	.00011	.00115
55	-.17071E-01	7.00000	.00007	.00121
54	-.16844E-01	5.00000	.00005	.00126
53	-.16617E-01	6.00000	.00006	.00132
52	-.16390E-01	12.00000	.00011	.00143
51	-.16164E-01	13.00000	.00012	.00156
50	-.15937E-01	5.00000	.00005	.00160
49	-.15710E-01	5.00000	.00005	.00165
48	-.15483E-01	3.00000	.00003	.00168
47	-.15256E-01	3.00000	.00003	.00171
46	-.15030E-01	4.00000	.00004	.00175
45	-.14803E-01	3.00000	.00003	.00178
44	-.14576E-01	3.00000	.00003	.00180
43	-.14349E-01	4.00000	.00004	.00184
42	-.14122E-01	6.00000	.00006	.00190
41	-.13896E-01	7.00000	.00007	.00197
40	-.13669E-01	6.00000	.00006	.00202
39	-.13442E-01	7.00000	.00007	.00209
38	-.13215E-01	10.00000	.00010	.00219
37	-.12988E-01	3.00000	.00003	.00221
36	-.12762E-01	3.00000	.00003	.00224
35	-.12535E-01	3.00000	.00003	.00227
34	-.12308E-01	4.00000	.00004	.00231
32	-.11855E-01	5.00000	.00005	.00236
31	-.11628E-01	3.00000	.00003	.00239
30	-.11401E-01	3.00000	.00003	.00242
29	-.11174E-01	2.00000	.00002	.00243
28	-.10947E-01	2.00000	.00002	.00245
26	-.10494E-01	7.00000	.00007	.00252
25	-.10267E-01	7.00000	.00007	.00259
24	-.10040E-01	1.00000	.00001	.00260
23	-.98134E-02	6.00000	.00006	.00265
22	-.95866E-02	4.00000	.00004	.00269
21	-.93598E-02	7.00000	.00007	.00276
20	-.91330E-02	8.00000	.00008	.00284

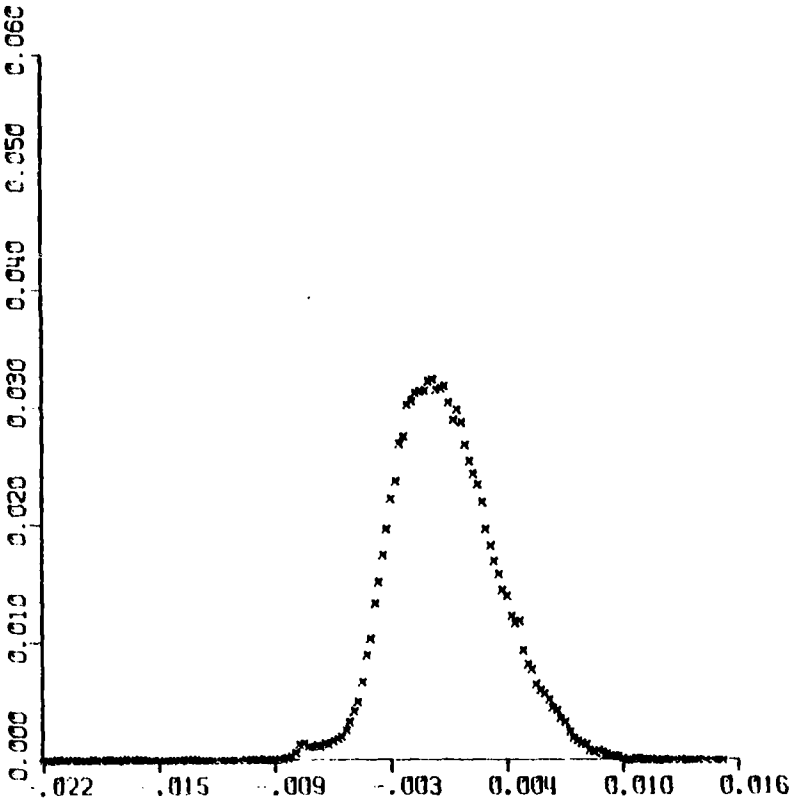


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 6 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
19	-.89062E-02	10.00000	.00010	.00293
18	-.86794E-02	23.00000	.00022	.00315
17	-.84526E-02	6.00000	.00006	.00321
16	-.82258E-02	23.00000	.00022	.00343
15	-.79990E-02	40.00000	.00038	.00381
14	-.77723E-02	74.00000	.00071	.00452
13	-.75455E-02	149.00000	.00142	.00594
12	-.73187E-02	156.00000	.00149	.00743
11	-.70919E-02	130.00000	.00124	.00867
10	-.68651E-02	123.00000	.00117	.00984
9	-.66383E-02	131.00000	.00125	.01109
8	-.64115E-02	130.00000	.00124	.01233
7	-.61847E-02	154.00000	.00147	.01380
6	-.59579E-02	151.00000	.00144	.01525
5	-.57311E-02	178.00000	.00170	.01694
4	-.55043E-02	194.00000	.00185	.01880
3	-.52775E-02	221.00000	.00211	.02091
2	-.50507E-02	275.00000	.00263	.02353
1	-.48239E-02	341.00000	.00326	.02679
1	-.48239E-02	440.00000	.00420	.03099
2	-.45971E-02	528.00000	.00504	.03603
3	-.43704E-02	701.00000	.00669	.04272
4	-.41436E-02	944.00000	.00901	.05173
5	-.39168E-02	1094.00000	.01044	.06217
6	-.36900E-02	1407.00000	.01343	.07561
7	-.34632E-02	1593.00000	.01521	.09081
8	-.32364E-02	1837.00000	.01754	.10835
9	-.30096E-02	2061.00000	.01967	.12802
10	-.27828E-02	2332.00000	.02226	.15029
11	-.25560E-02	2493.00000	.02380	.17408
12	-.23292E-02	2830.00000	.02702	.20110
13	-.21024E-02	2890.00000	.02759	.22869
14	-.18756E-02	3171.00000	.03027	.25896
15	-.16488E-02	3207.00000	.03061	.28957
16	-.14220E-02	3277.00000	.03128	.32086
17	-.11952E-02	3298.00000	.03148	.35234
18	-.96845E-03	3301.00000	.03151	.38385
19	-.74166E-03	3383.00000	.03229	.41615
20	-.51487E-03	3409.00000	.03254	.44869
21	-.28807E-03	3311.00000	.03161	.48030
22	-.61282E-04	3318.00000	.03167	.51197
23	.16551E-03	3346.00000	.03194	.54391
24	.39230E-03	3190.00000	.03045	.57436
25	.61910E-03	3036.00000	.02898	.60335
26	.84589E-03	3130.00000	.02988	.63323
27	.10727E-02	3022.00000	.02885	.66207
28	.12995E-02	2818.00000	.02690	.68898
29	.15263E-02	2673.00000	.02552	.71449
30	.17531E-02	2551.00000	.02435	.73885
31	.19799E-02	2462.00000	.02350	.76235
32	.22067E-02	2307.00000	.02202	.78437
33	.24334E-02	2067.00000	.01973	.80410
34	.26602E-02	1920.00000	.01833	.82243
35	.28870E-02	1781.00000	.01700	.83943
36	.31138E-02	1669.00000	.01593	.85537
37	.33406E-02	1515.00000	.01446	.86983
38	.35674E-02	1464.00000	.01398	.88380
39	.37942E-02	1290.00000	.01231	.89612
40	.40210E-02	1228.00000	.01172	.90784

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 7 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
41	.42478E-02	1251.00000	.01194	.91978
42	.44746E-02	983.00000	.00938	.92917
43	.47014E-02	864.00000	.00825	.93742
44	.49282E-02	815.00000	.00778	.94520
45	.51550E-02	684.00000	.00653	.95172
46	.53818E-02	633.00000	.00604	.95777
47	.56085E-02	600.00000	.00573	.96350
48	.58353E-02	542.00000	.00517	.96867
49	.60621E-02	475.00000	.00453	.97320
50	.62889E-02	448.00000	.00428	.97748
1	.65157E-02	372.00000	.00355	.98103
2	.67425E-02	350.00000	.00334	.98437
3	.69693E-02	265.00000	.00253	.98690
4	.71961E-02	199.00000	.00190	.98880
5	.74229E-02	179.00000	.00171	.99051
6	.76497E-02	156.00000	.00149	.99200
7	.78765E-02	148.00000	.00141	.99341
8	.81033E-02	93.00000	.00089	.99430
9	.83301E-02	83.00000	.00079	.99509
10	.85569E-02	94.00000	.00090	.99599
11	.87837E-02	78.00000	.00074	.99674
12	.90104E-02	61.00000	.00058	.99732
13	.92372E-02	45.00000	.00043	.99775
14	.94640E-02	37.00000	.00035	.99810
15	.96908E-02	46.00000	.00044	.99854
16	.99176E-02	22.00000	.00021	.99875
17	.10144E-01	15.00000	.00014	.99889
18	.10371E-01	11.00000	.00012	.99902
19	.10598E-01	18.00000	.00017	.99919
20	.10825E-01	15.00000	.00014	.99933
21	.11052E-01	6.00000	.00006	.99939
22	.11278E-01	12.00000	.00011	.99950
23	.11505E-01	8.00000	.00008	.99958
24	.11732E-01	8.00000	.00008	.99966
25	.11959E-01	4.00000	.00004	.99969
26	.12186E-01	6.00000	.00006	.99975
27	.12412E-01	4.00000	.00004	.99979
28	.12639E-01	2.00000	.00002	.99981
30	.13093E-01	6.00000	.00006	.99987
31	.13320E-01	2.00000	.00002	.99989
32	.13546E-01	2.00000	.00002	.99990
33	.13773E-01	2.00000	.00002	.99992
34	.14000E-01	2.00000	.00002	.99994
36	.14453E-01	3.00000	.00003	.99997
38	.14907E-01	1.00000	.00001	.99998
39	.15134E-01	1.00000	.00001	.99999
40	.15361E-01	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION .14124626E-01 .29766384E-02

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 8 of 30)

COMPOSITE OF 16 FILES
CROSS CORRELATION
1 MR SENSOR FOV MASK 1000 FT
FAWS 9 AUG 77 3-5 MM TREES

INDEX	COEF	HIST	PROB	CUM PROB
40	-.61744E-02	1.00000	.00000	.00000
39	-.60731E-02	1.00000	.00001	.00002
38	-.59719E-02	1.00000	.00000	.00002
37	-.58706E-02	6.00000	.00003	.00005
36	-.57693E-02	6.00000	.00003	.00008
35	-.56681E-02	8.00000	.00004	.00012
34	-.55668E-02	6.00000	.00003	.00015
33	-.54655E-02	5.00000	.00002	.00017
32	-.53643E-02	10.00000	.00005	.00022
31	-.52630E-02	8.00000	.00004	.00026
30	-.51617E-02	6.00000	.00003	.00029
29	-.50605E-02	10.00000	.00005	.00033
28	-.49592E-02	13.00000	.00006	.00040
27	-.48579E-02	16.00000	.00008	.00047
26	-.47567E-02	31.00000	.00015	.00062
25	-.46554E-02	24.00000	.00011	.00073
24	-.45541E-02	37.00000	.00018	.00091
23	-.44529E-02	41.00000	.00020	.00111
22	-.43516E-02	50.00000	.00024	.00135
21	-.42503E-02	67.00000	.00032	.00167
20	-.41491E-02	71.00000	.00034	.00200
19	-.40478E-02	109.00000	.00052	.00252
18	-.39465E-02	143.00000	.00068	.00321
17	-.38453E-02	160.00000	.00076	.00397
16	-.37440E-02	244.00000	.00116	.00513
15	-.36427E-02	297.00000	.00142	.00655
14	-.35415E-02	355.00000	.00169	.00824
13	-.34402E-02	423.00000	.00202	.01026
12	-.33389E-02	489.00000	.00233	.01260
11	-.32377E-02	539.00000	.00257	.01517
10	-.31364E-02	520.00000	.00248	.01765
9	-.30351E-02	636.00000	.00303	.02068
8	-.29339E-02	624.00000	.00298	.02366
7	-.28326E-02	704.00000	.00336	.02702
6	-.27313E-02	835.00000	.00398	.03100
5	-.26301E-02	882.00000	.00421	.03521
4	-.25288E-02	950.00000	.00453	.03974
3	-.24275E-02	1189.00000	.00567	.04542
2	-.23263E-02	1414.00000	.00675	.05216
1	-.22250E-02	1579.00000	.00753	.05970
1	-.22250E-02	1409.00000	.00863	.06833
2	-.21238E-02	1875.00000	.00895	.07728
3	-.20225E-02	2125.00000	.01014	.08741
4	-.19212E-02	2442.00000	.01165	.09907
5	-.18200E-02	2344.00000	.01405	.11311
6	-.17187E-02	3211.00000	.01532	.12843
7	-.16174E-02	3838.00000	.01831	.14675
8	-.15162E-02	4075.00000	.01944	.16619
9	-.14149E-02	4442.00000	.02119	.18738
10	-.13136E-02	4537.00000	.02165	.20903
11	-.12124E-02	5169.00000	.02466	.23369
12	-.11111E-02	5419.00000	.02586	.25955
13	-.10098E-02	5711.00000	.02725	.28680
14	-.90856E-03	5974.00000	.02850	.31530

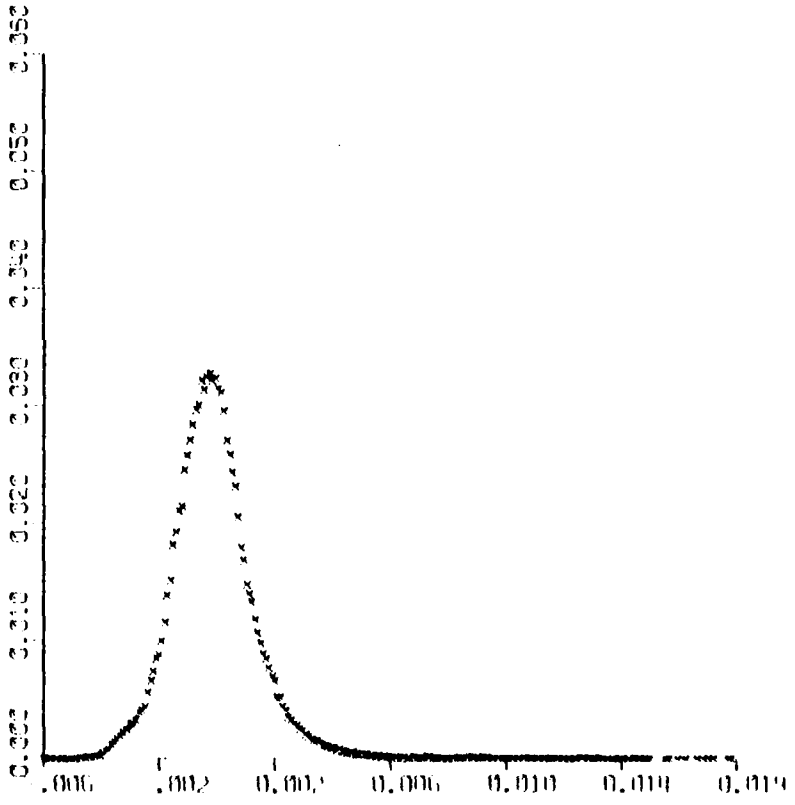


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 9 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
15	-.80730E-03	6255.00000	.02984	.34515
16	-.70603E-03	6320.00000	.03015	.37530
17	-.60476E-03	6780.00000	.03235	.40765
18	-.50350E-03	6611.00000	.03154	.43919
19	-.40223E- 3	6941.00000	.03264	.47183
20	-.30097E-03	6901.00000	.03293	.50476
21	-.19970E-03	6775.00000	.03231	.53708
22	-.99635E-04	6406.00000	.03247	.56956
23	.29307E-05	6633.00000	.03165	.60121
24	.10410E-03	6564.00000	.03132	.63252
25	.20536E-03	6219.00000	.02967	.66220
26	.30663E-03	5701.00000	.02720	.68940
27	.40789E-03	5455.00000	.02603	.71543
28	.50916E-03	5133.00000	.02449	.73992
29	.61043E-03	4874.00000	.02326	.76317
30	.71169E-03	4346.00000	.02074	.78391
31	.81296E-03	3802.00000	.01814	.80205
32	.91422E-03	3553.00000	.01695	.81900
33	.10155E-02	3117.00000	.01487	.83387
34	.11168E- 2	2954.00000	.01409	.84797
35	.12180E-02	2800.00000	.01336	.86133
36	.13193E- 2	2500.00000	.01193	.87326
37	.14206E-02	2270.00000	.01083	.88409
38	.15218E-02	2084.00000	.00994	.89403
39	.16231E- 2	1891.00000	.00902	.90305
40	.17243E-02	1796.00000	.00857	.91162
41	.18256E- 2	1630.00000	.00778	.91940
42	.19269E-02	1497.00000	.00714	.92654
43	.20281E-02	1394.00000	.00665	.93319
44	.21294E-02	1110.00000	.00530	.93849
45	.22307E-02	1111.00000	.00530	.94379
46	.23319E-02	951.00000	.00454	.94833
47	.24332E- 2	874.00000	.00417	.95250
48	.25345E-02	761.00000	.00363	.95613
49	.26357E- 2	721.00000	.00344	.95957
50	.27370E- 2	623.00000	.00297	.96254
1	.28383E- 2	615.00000	.00293	.96547
2	.29395E-02	543.00000	.00259	.96807
3	.30408E-02	513.00000	.00245	.97051
4	.31421E-02	444.00000	.00212	.97263
5	.32433E-02	399.00000	.00190	.97454
6	.33446E-02	350.00000	.00167	.97621
7	.34459E-02	336.00000	.00160	.97781
8	.35471E-02	326.00000	.00156	.97936
9	.36484E-02	290.00000	.00138	.98075
10	.37497E-02	271.00000	.00129	.98204
11	.38509E-02	245.00000	.00117	.98321
12	.39522E-02	224.00000	.00107	.98428
13	.40535E-02	219.00000	.00104	.98534
14	.41547E-02	201.00000	.00096	.98630
15	.42560E-02	178.00000	.00085	.98715
16	.43573E- 2	191.00000	.00091	.98806
17	.44585E-02	156.00000	.00074	.98881
18	.45598E-02	144.00000	.00067	.98948
19	.46611E- 2	127.00000	.00061	.99009
20	.47623E- 2	120.00000	.00057	.99066
21	.48636E-02	116.00000	.00055	.99121
22	.49649E-02	113.00000	.00055	.99176
23	.50661E-02	78.00000	.00037	.99213

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 10 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
24	.51674E-02	97.00000	.00046	.99259
25	.52687E-02	87.00000	.00042	.99301
26	.53699E-02	76.00000	.00036	.99337
27	.54712E-02	65.00000	.00031	.99368
28	.55725E-02	63.00000	.00030	.99398
29	.56737E-02	52.00000	.00025	.99423
30	.57750E-02	54.00000	.00026	.99449
31	.58762E-02	52.00000	.00025	.99474
32	.59775E-02	51.00000	.00025	.99499
33	.60788E-02	46.00000	.00022	.99521
34	.61800E-02	35.00000	.00017	.99538
35	.62813E-02	50.00000	.00024	.99562
36	.63826E-02	46.00000	.00022	.99583
37	.64838E-02	30.00000	.00014	.99598
38	.65851E-02	27.00000	.00013	.19611
39	.66864E-02	38.00000	.00018	.99629
40	.67876E-02	26.00000	.00012	.99641
41	.68889E-02	25.00000	.00012	.99653
42	.69902E-02	32.00000	.00015	.99668
43	.70914E-02	28.00000	.00013	.99682
44	.71927E-02	24.00000	.00011	.99693
45	.72940E-02	23.00000	.00011	.99704
46	.73952E-02	15.00000	.00007	.99711
47	.74965E-02	32.00000	.00015	.99727
48	.75978E-02	45.00000	.00021	.99748
49	.76990E-02	18.00000	.00009	.99757
50	.78003E-02	25.00000	.00012	.99769
51	.79016E-02	26.00000	.00012	.99781
52	.80028E-02	21.00000	.00010	.99791
53	.81041E-02	16.00000	.00008	.99799
54	.82054E-02	22.00000	.00010	.99809
55	.83066E-02	16.00000	.00008	.99817
56	.84079E-02	15.00000	.00007	.99824
57	.85092E-02	23.00000	.00011	.99835
58	.86104E-02	16.00000	.00008	.99843
59	.87117E-02	17.00000	.00008	.99851
60	.88130E-02	16.00000	.00008	.99858
61	.89142E-02	14.00000	.00007	.99865
62	.90155E-02	18.00000	.00009	.99874
63	.91168E-02	15.00000	.00007	.99881
64	.92180E-02	9.00000	.00004	.99885
65	.93193E-02	19.00000	.00009	.99894
66	.94206E-02	7.00000	.00003	.99897
67	.95218E-02	14.00000	.00007	.99904
68	.96231E-02	12.00000	.00006	.99910
69	.97243E-02	8.00000	.00004	.99914
70	.98256E-02	6.00000	.00003	.99917
71	.99269E-02	8.00000	.00004	.99920
72	.10028E-01	4.00000	.00002	.99922
73	.10129E-01	6.00000	.00003	.99925
74	.10231E-01	6.00000	.00003	.99928
75	.10332E-01	3.00000	.00001	.99929
76	.10433E-01	5.00000	.00002	.99932
77	.10534E-01	9.00000	.00004	.99936
78	.10636E-01	5.00000	.00002	.99938
79	.10737E-01	4.00000	.00002	.99940
80	.10838E-01	5.00000	.00002	.99943
81	.10940E-01	5.00000	.00002	.99945
82	.11041E-01	5.00000	.00002	.99948

TABLE 3-14. DISTRIBUTION FUNCTION OF TI'E CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 11 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
83	.11142E-01	1.00000	.00000	.99948
84	.11241E-01	2.00000	.00001	.99949
85	.11345E-01	1.00000	.00000	.99949
86	.11446E-01	6.00000	.00003	.99952
87	.11547E-01	1.00000	.00001	.99954
88	.11648E-01	1.00000	.00001	.99957
89	.11750E-01	8.00000	.00004	.99961
90	.11851E-01	4.00000	.00002	.99963
91	.11952E-01	2.00000	.00001	.99964
92	.12053E-01	2.00000	.00001	.99965
93	.12155E-01	1.00000	.00000	.99965
94	.12256E-01	1.00000	.00001	.99967
95	.12357E-01	1.00000	.00001	.99968
96	.12459E-01	2.00000	.00001	.99969
97	.12560E-01	3.00000	.00001	.99970
98	.12661E-01	5.00000	.00002	.99973
99	.12762E-01	1.00000	.00000	.99973
100	.12864E-01	3.00000	.00001	.99975
102	.13066E-01	2.00000	.00001	.99976
103	.13167E-01	3.00000	.00001	.99977
104	.13269E-01	1.00000	.00000	.99978
105	.13370E-01	1.00000	.00001	.99979
106	.13471E-01	1.00000	.00001	.99980
107	.13572E-01	2.00000	.00001	.99981
108	.13674E-01	1.00000	.00000	.99981
109	.13775E-01	1.00000	.00000	.99982
110	.13876E-01	4.00000	.00002	.99984
111	.13978E-01	2.00000	.00001	.99985
113	.14180E-01	1.00000	.00000	.99985
114	.14281E-01	5.00000	.00002	.99988
115	.14383E-01	2.00000	.00001	.99989
116	.14484E-01	2.00000	.00001	.99990
117	.14585E-01	1.00000	.00000	.99990
119	.14788E-01	1.00000	.00000	.99990
120	.14889E-01	1.00000	.00000	.99991
121	.14990E-01	1.00000	.00000	.99991
122	.15091E-01	1.00000	.00000	.99992
123	.15193E-01	1.00000	.00000	.99992
124	.15294E-01	1.00000	.00000	.99993
125	.15395E-01	1.00000	.00000	.99993
126	.15497E-01	2.00000	.00001	.99994
132	.16104E-01	1.00000	.00000	.99995
133	.16205E-01	2.00000	.00001	.99996
136	.16509E-01	2.00000	.00001	.99997
139	.16813E-01	1.00000	.00000	.99997
141	.17018E-01	1.00000	.00000	.99998
145	.17421E-01	1.00000	.00000	.99998
147	.17623E-01	1.00000	.00000	.99999
149	.17826E-01	1.00000	.00000	.99999
154	.18332E-01	1.00000	.00000	1.00000
155	.18433E-01	1.00000	.00000	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.14801931E-01 .15581991E-02

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 12 of 30)

COMPOSITE OF 10 FILES
CROSS CORRELATION
1 MR SENSOR FOV MASK 1000 FT
FAWS 4 AUG 77 4-5 WD ASPHALT ROADS

INDEX	COEF	HIST	PROB	CUM PROB
4	-.11525E-01	2.00000	.00003	.00003
3	-.11094E-01	5.00000	.00008	.00011
2	-.10664E-01	13.00000	.00021	.00032
1	-.10233E-01	27.00000	.00044	.00076
1	-.10233E-01	42.00000	.00068	.00144
2	-.96030E-02	101.00000	.00163	.00308
3	-.93726E-02	120.00000	.00194	.00502
4	-.89422E-02	192.00000	.00311	.00813
5	-.85119E-02	274.00000	.00444	.01256
6	-.80815E-02	348.00000	.00563	.01819
7	-.76511E-02	448.00000	.00725	.02545
8	-.72207E-02	602.00000	.00974	.03519
9	-.67903E-02	862.00000	.01395	.04914
10	-.63600E-02	1309.00000	.02119	.07033
11	-.59296E-02	1636.00000	.02648	.09681
12	-.54992E-02	1773.00000	.02870	.12551
13	-.50688E-02	1781.00000	.02883	.15434
14	-.46384E-02	1746.00000	.02826	.18261
15	-.42081E-02	1837.00000	.02974	.21234
16	-.37777E-02	1821.00000	.02948	.24182
17	-.33473E-02	1888.00000	.03056	.27238
18	-.29169E-02	1938.00000	.03137	.30375
19	-.24865E-02	2331.00000	.03773	.34148
20	-.20562E-02	2333.00000	.03776	.37925
21	-.16258E-02	2333.00000	.03776	.41701
22	-.11954E-02	2382.00000	.03856	.45557
23	-.76502E-03	2182.00000	.03532	.49089
24	-.33464E-03	2183.00000	.03534	.52622
25	.95738E-04	2225.00000	.03602	.56224
26	.52612E-03	2251.00000	.03644	.59868
27	.95650E-03	1936.00000	.03134	.63001
28	.13869E-02	1734.00000	.02807	.65808
29	.18173E-02	1757.00000	.02844	.68652
30	.22476E-02	1684.00000	.02726	.71378
31	.26780E-02	1428.00000	.02312	.73690
32	.31084E-02	1318.00000	.02133	.75823
33	.35388E-02	1089.00000	.01763	.77586
34	.39692E-02	842.00000	.01363	.78949
35	.43995E-02	641.00000	.01038	.79986
36	.48299E-02	623.00000	.01008	.80995
37	.52603E-02	634.00000	.01026	.82021
38	.56907E-02	683.00000	.01106	.83127
39	.61211E-02	624.00000	.01010	.84137
40	.65514E-02	859.00000	.01390	.85527
41	.69818E-02	878.00000	.01421	.86948
42	.74122E-02	936.00000	.01515	.88464
43	.78426E-02	936.00000	.01515	.89979
44	.82730E-02	915.00000	.01481	.91460
45	.87033E-02	868.00000	.01405	.92865
46	.91337E-02	862.00000	.01395	.94260
47	.95641E-02	747.00000	.01209	.95469
48	.99945E-02	620.00000	.01004	.96473
49	.10425E-01	574.00000	.00929	.97402
50	.10855E-01	527.00000	.00853	.98255

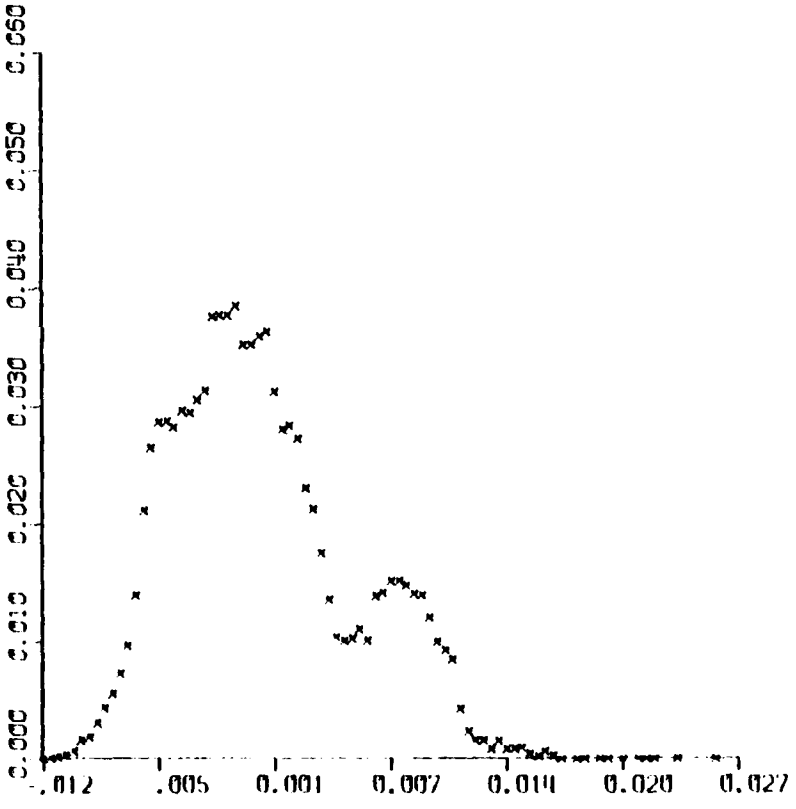


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 13 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
1	.11286E-01	264.00000	.00427	.98682
2	.11716E-01	151.00000	.00244	.98927
3	.12146E-01	101.00000	.00163	.99090
4	.12577E-01	97.00000	.00157	.99247
5	.13007E-01	58.00000	.00094	.99341
6	.13438E-01	96.00000	.00155	.99497
7	.13868E-01	57.00000	.00092	.99589
8	.14298E-01	56.00000	.00091	.99679
9	.14729E-01	62.00000	.00100	.99780
10	.15159E-01	33.00000	.00053	.99833
11	.15589E-01	18.00000	.00029	.99862
12	.16020E-01	44.00000	.00071	.99934
13	.16450E-01	16.00000	.00026	.99960
14	.16881E-01	3.00000	.00005	.99964
15	.17311E-01	3.00000	.00005	.99969
16	.17741E-01	1.00000	.00002	.99971
17	.18172E-01	3.00000	.00005	.99976
19	.19032E-01	2.00000	.00003	.99979
20	.19463E-01	3.00000	.00005	.99984
22	.20324E-01	2.00000	.00003	.99987
24	.21184E-01	1.00000	.00002	.99989
25	.21615E-01	2.00000	.00003	.99992
26	.22045E-01	1.00000	.00002	.99994
27	.22475E-01	2.00000	.00003	.99997
29	.23336E-01	1.00000	.00002	.99998
34	.25488E-01	1.00000	.00002	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION .2919856RE-03 .5004R250F-02

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 14 of 30)

COMPOSITE OF 5 FILES
CROSS CORRELATION
1 MR SENSOR FOV MASK 1000 FT
FAWS A AUG 77 3-5 MR BUILDINGS

INDEX	COEF	HIST	PROB	CUM PROB
3	-.12958E-01	7.00000	.00023	.00023
2	-.12440E-01	12.00000	.00039	.00062
1	-.11931E-01	17.00000	.00055	.00117
1	-.11931E-01	35.00000	.00114	.00231
2	-.11421E-01	59.00000	.00192	.00423
3	-.10912E-01	114.00000	.00371	.00794
4	-.10402E-01	186.00000	.00605	.01399
5	-.98928E-02	252.00000	.00820	.02219
6	-.93833E-02	365.00000	.01188	.03407
7	-.88738E-02	648.00000	.02109	.05516
8	-.83643E-02	598.00000	.01946	.07462
9	-.78548E-02	639.00000	.02079	.09541
10	-.73453E-02	701.00000	.02281	.11822
11	-.68358E-02	888.00000	.02890	.14712
12	-.63263E- 2	951.00000	.03095	.17806
13	-.58168E- 2	1172.00000	.03814	.21620
14	-.53073E-02	1297.00000	.04220	.25840
15	-.47978E-02	1326.00000	.04315	.30155
16	-.42883E-02	1399.00000	.04552	.34708
17	-.37788E-02	1439.00000	.04683	.39390
18	-.32693E-02	1321.00000	.04305	.43695
19	-.27599E-02	1294.00000	.04211	.47906
20	-.22504E-02	1276.00000	.04152	.52058
21	-.17409E-02	995.00000	.03238	.55296
22	-.12314E- 2	674.00000	.02193	.57489
23	-.72188E-03	510.00000	.01660	.59149
24	-.21239E-03	438.00000	.01425	.60574
25	.29711E-03	351.00000	.01142	.61716
26	.80660E-03	256.00000	.00833	.62549
27	.13161E-02	221.00000	.00719	.63268
28	.18256E-02	215.00000	.00700	.63968
29	.23351E-02	228.00000	.00742	.64710
30	.28446E-02	209.00000	.00680	.65390
31	.33541E-02	227.00000	.00739	.66129
32	.38636E-02	253.00000	.00823	.66952
33	.43731E-02	247.00000	.00804	.67756
34	.48826E-02	306.00000	.00996	.68751
35	.53920E-02	353.00000	.01149	.69900
36	.59015E-02	453.00000	.01474	.71374
37	.64110E-02	600.00000	.01952	.73327
38	.69205E-02	778.00000	.02532	.75858
39	.74300E-02	1075.00000	.03498	.79356
40	.79195E-02	1364.00000	.04439	.83795
41	.84490E-02	1224.00000	.03983	.87778
42	.89585E-02	1034.00000	.03365	.91142
43	.94680E-02	751.00000	.02444	.93586
44	.99775E-02	331.00000	.01077	.94663
45	.10487E-01	191.00000	.00622	.95285
46	.10996E-01	172.00000	.00560	.95845
47	.11506E-01	163.00000	.00530	.96375
48	.12015E-01	232.00000	.00755	.97130
49	.12525E-01	157.00000	.00511	.97641
50	.13034E-01	139.00000	.00452	.98093
1	.13544E-01	110.00000	.00358	.98451

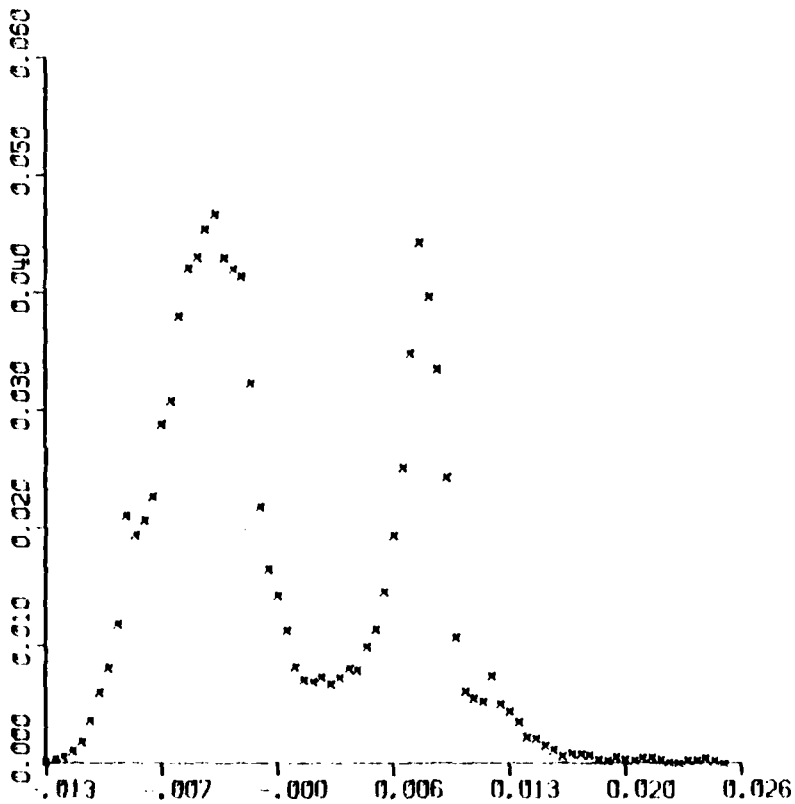


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 15 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
2	.14053E-01	72.00000	.00234	.98685
3	.14563E-01	67.00000	.00218	.98903
4	.15072E-01	50.00000	.00163	.99066
5	.15582E-01	38.00000	.00124	.99190
6	.16091E-01	22.00000	.00072	.99261
7	.16601E-01	29.00000	.00094	.99356
8	.17110E-01	27.00000	.00088	.99444
9	.17620E-01	24.00000	.00078	.99522
10	.18129E-01	11.00000	.00036	.99557
11	.18639E-01	8.00000	.00026	.99583
12	.19148E-01	17.00000	.00055	.99639
13	.19658E-01	12.00000	.00039	.99678
14	.20167E-01	9.00000	.00029	.99707
15	.20677E-01	14.00000	.00046	.99753
16	.21186E-01	17.00000	.00055	.99808
17	.21696E-01	12.00000	.00039	.99847
18	.22205E-01	5.00000	.00016	.99863
19	.22715E-01	1.00000	.00003	.99867
20	.23224E-01	8.00000	.00026	.99893
21	.23734E-01	8.00000	.00026	.99919
22	.24243E-01	14.00000	.00046	.99964
23	.24753E-01	10.00000	.00033	.99997
24	.25262E-01	1.00000	.00003	1.00000
COMPOSITE MEAN AND STANDARD DEVIATION			.69940486E-04	.67079844E-02

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 16 of 30)

```
 CROSS CORRELATION
FAWS TARGET 1 11 47 23.9
2 MR SENSOR FO  MASK 1000 METERS

   11   47 23.9AA  NMR ZERO     0  MEAN 144.07700  STD DEV  41.19504
  1      1
 A0     A0
 A0     A0
 A0     A0      4
 10     10
 B9     B9
 A0     A0
 WHIFL SCENE    MEAN    .00234   ST DEV      .04A36
 A0     A0
.666676-01
 40     40      1      5
 39     41     3A     42

ARGUMENT NEGATIVE
ERROR NUMBER   39   DETECTED BY SQRT
     MAX VALUES WITH COORDINANCES
  1.0   23.0  .10581719E-01   1.0   30.0  .10456719E-01   5.0   21.0  .10675469E-01   5.0   22.0  .10852552E-01
  5.0   23.0  .10696302E-01   5.0   33.0  .10560A85E-01   6.0    6.0  .10706719E-01   6.0    A.0  .10852552E-01
  6.0   26.0  .10581719E-01   6.0   27.0  .10A00469E-01   6.0   37.0  .10821302E-01   7.0    6.0  .10675469E-01
  7.0    7.0  .1 00AA02E-01   7.0    8.0  .10550469E-01   7.0   19.0  .10540052E-01   7.0   76.0  .10665052E-01
  7.0   77.0  .10519219E-01   5.0   50.0  .11373A85E-01   6.0    7.0  .11185A85E-01   6.0   20.0  .11269219E-01
  6.0   25.0  .11519219E-01   6.0   28.0  .11352552E-01   6.0   29.0  .11321302E-01   6.0   30.0  .11467135E-01
  6.0   35.0  .11717135E-01   6.0   36.0  .11383A02E-01   7.0   25.0  .11560A85E-01   7.0   26.0  .11362969E-01
  7.0   33.0  .11623385E-01   7.0   34.0  .11810A85E-01   7.0   35.0  .11852552E-01   7.0   36.0  .11862969E-01
  7.0   38.0  .11831719E-01   7.0   48.0  .11394219E-01   A.0   20.0  .11279635E-01   A.0   21.0  .11831719E-01
  A.0   22.0  .11685A85E-01   A.0   23.0  .11404635E-01   A.0   31.0  .11842135E-01   A.0   35.0  .11383A02E-01
  A.0   36.0  .11717135E-01   A.0   75.0  .11467135E-01   9.0   36.0  .11654635E-01   9.0   73.0  .11883A02E-01
  9.0   75.0  .11602552E-01  10.0   36.0  .11175469E-01  10.0   37.0  .11571302E-01  10.0   73.0  .11269219E-01
 44.0   23.0  .11194219E-01  44.0   24.0  .11206719E-01  46.0   18.0  .11237969E-01  46.0   20.0  .11342135E-01
 47.0   16.0  .11456719E-01  47.0   18.0  .11477552E-01  48.0   16.0  .11519219E-01  48.0   17.0  .11831719E-01
 79.0   27.0  .11644219E-01   6.0   21.0  .12123385E-01   6.0   22.0  .12144219E-01   6.0   23.0  .11956719E-01
  6.0   24.0  .11977552E-01   6.0   31.0  .12050A85E-01   6.0   32.0  .12269219E-01   6.0   33.0  .12310A85E-01
  6.0   34.0  .1 0050469E-01   6.0   53.0  .12194219E-01   7.0   20.0  .12071302E-01   7.0   23.0  .12498385E-01
  7.0   24.0  .12144219E-01   7.0   27.0  .1200AA02E-01   7.0   29.0  .12331719E-01   7.0   30.0  .12425469E-01
  7.0   31.0  .12425469E-01   7.0   32.0  .12079635E-01   7.0   37.0  .12050469E-01   A.0   27.0  .11894219E-01
  8.0   28.0  .12477552E-01   A.0   29.0  .11925469E-01   A.0   30.0  .12019219E-01   A.0   37.0  .12383A02E-01
  9.0   37.0  .12271135E-01   9.0   38.0  .12310A85E-01   9.0   74.0  .12550469E-01  47.0   17.0  .12040052E-01
  7.0   21.0  .12758A02E-01   7.0   22.0  .12633A02E-01   7.0   28.0  .12675469E-01   A.0   38.0  .12810885E-01
  A.0   51.0  .12769219E-01   7.0   53.0  .11893A02E-01   A.0   49.0  .13675469E-01   A.0   50.0  .14519219E-01
  6.0   49.0  .16644219E-01   6.0   52.0  .17175469E-01   6.0   51.0  .19831719E-01   7.0   49.0  .19269219E-01
  7.0   52.0  .19310A85E-01   6.0   50.0  .21237969E-01   7.0   51.0  .22248385E-01   7.0   50.0  .23560A85E-01
```

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 17 of 30)

MEAN .808304E-03 ST DEV .592520E-02 NBR ZEROS 0.00000

INDEX	COEF	HIST	PROB	CUM PROB
1	-.12897E-01	13.00000	.00214	.00214
2	-.12188E-01	29.00000	.00477	.00690
3	-.11439E-01	42.00000	.00690	.01381
4	-.10710E-01	55.00000	.00904	.02285
5	-.99808E-02	93.00000	.01529	.03814
6	-.92516E-02	133.00000	.02186	.06000
7	-.85224E-02	149.00000	.02449	.08450
8	-.77933E-02	138.00000	.02269	.10718
9	-.70641E-02	156.00000	.02565	.13283
10	-.63349E-02	166.00000	.02729	.16012
11	-.56058E-02	186.00000	.03058	.19070
12	-.48766E-02	218.00000	.03584	.22653
13	-.41474E-02	238.00000	.03913	.26566
14	-.34183E-02	230.00000	.03781	.30347
15	-.26891E-02	249.00000	.04093	.34440
16	-.19599E-02	286.00000	.04702	.39142
17	-.12308E-02	277.00000	.04554	.43696
18	-.50161E-03	253.00000	.04159	.47855
19	.22755E-03	293.00000	.04817	.52671
20	.95672E-03	267.00000	.04389	.57061
21	.16859E-02	236.00000	.03880	.60940
22	.24151E-02	195.00000	.03206	.64146
23	.31442E-02	153.00000	.02515	.66661
24	.38734E-02	166.00000	.02729	.69390
25	.46026E-02	172.00000	.02828	.72218
26	.53317E-02	159.00000	.02614	.74831
27	.60609E-02	208.00000	.03419	.78251
28	.67901E-02	239.00000	.03929	.82180
29	.75192E-02	260.00000	.04274	.86454
30	.82484E-02	296.00000	.04866	.91320
31	.89776E-02	221.00000	.03611	.94931
32	.97067E-02	131.00000	.02154	.97107
33	.10436E-01	93.00000	.01529	.98636
34	.11165E-01	40.00000	.00658	.99293
35	.11894E-01	27.00000	.00444	.99737
36	.12623E-01	5.00000	.00082	.99819
37	.13351E-01	2.00000	.00033	.99852
38	.14080E-01	1.00000	.00016	.99868
41	.15269E-01	1.00000	.00016	.99885
42	.16998E-01	1.00000	.00016	.99901
45	.19186E-01	3.00000	.00049	.99951
47	.20644E-01	1.00000	.00016	.99967
49	.22103E-01	1.00000	.00016	.99984
50	.22832E-01	1.00000	.00016	1.00000

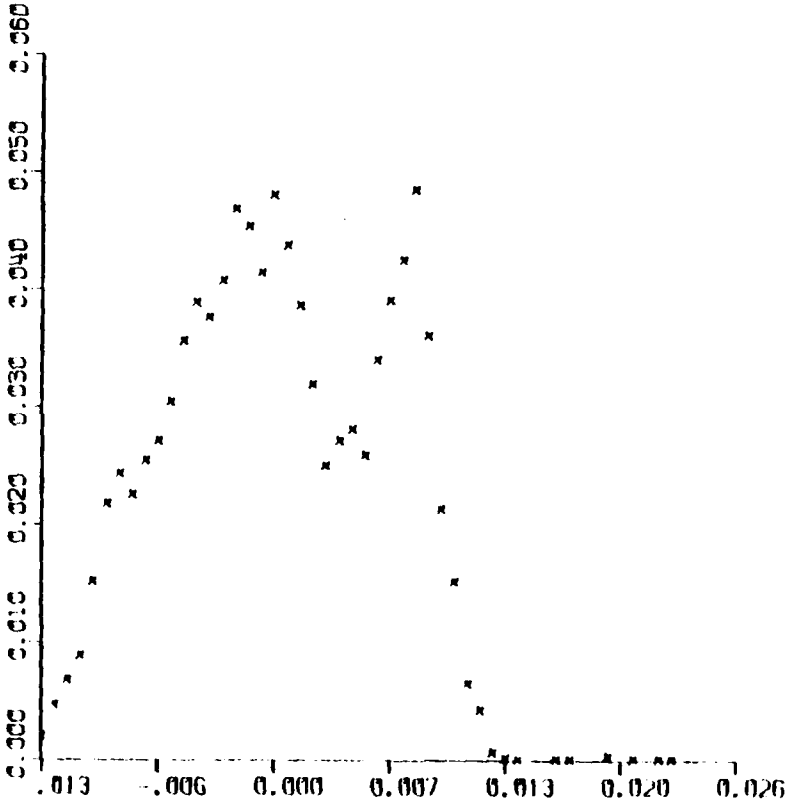


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 18 of 30)

```
 CROSS CORRELATION
 FAMS TARGET 7 11 47 23.0
 2 MR SENSOR FOV  MASK 1000 METERS

    32     0 34.06M  NUM ZERO     0  MEAN 157.75481  STD DEV  30.32283
  1      1
 79      80
 79      80
 79      80       4
 10      10
 48      49
 79      80
 MODEL SCENE     MEAN     .00237   ST DEV       .04866
 79      80
.65667E-01
 39      40       1       5
 39      40      38      42

ARGUMENT NEGATIVE
ERROR NUMBER    39   DETECTED BY SORT
     MAX VALUES WITH CORRESPONDANCES
 24.0    25.0   .66949140E-02   29.0     1.0   .65472347E-02   29.0     2.0   .67898507E-02   29.0     3.0   .66210743E-02
 29.0    17.0   .67898507E-02   29.0    32.0   .65999773E-02   29.0    33.0   .64733950E-02   29.0    37.0   .67898507E-02
 29.0    40.0   .6[illegible]3120049E-02   30.0    33.0   .64531419E-02   30.0    34.0   .64617495E-02   30.0    36.0   .64629465E-02
 30.0    39.0   .67054625E-02   31.0    22.0   .66105258E-02   31.0    23.0   .68636904E-02   31.0    37.0   .68531419E-02
 32.0    36.0   .6[illegible]21496[illegible]E-02   33.0    27.0   .66316229E-02   33.0    28.0   .65788803E-02   33.0    29.0   .68214963E-02
 28.0    26.0   .7[illegible]5906490E-02   28.0    27.0   .72951708E-02   28.0    30.0   .71905946E-02   29.0    38.0   .70535638E-02
 30.0    19.0   .70219142E-02   30.0    32.0   .69491756E-02   30.0    37.0   .68742389E-02   31.0    20.0   .69164330E-02
 31.0    21.0   .69596271E-02   31.0    26.0   .71485005E-02   31.0    25.0   .72539857E-02   31.0    36.0   .70430151E-02
 32.0    24.0   .70113697E-02   32.0    25.0   .72223402E-02   32.0    26.0   .71695976E-02   32.0    27.0   .73057284E-02
 32.0    28.0   .70641123E-02   32.0    29.0   .71485005E-02   32.0    35.0   .70852094E-02   33.0    30.0   .72223402E-02
 33.0    31.0   .72961748E-02   28.0    28.0   .73393739E-02   28.0    29.0   .75809900E-02   29.0    18.0   .73594710E-02
 29.0    21.0   .7[illegible]809900E-02   29.0    22.0   .73393739E-02   29.0    23.0   .74755047E-02   29.0    24.0   .74016651E-02
 29.0    25.0   .75915385E-02   29.0    31.0   .74669562E-02   30.0    19.0   .76759267E-02   30.0    22.0   .76020870E-02
 30.0    23.0   .73392178E-02   30.0    31.0   .77322178E-02   31.0    26.0   .73911165E-02   31.0    28.0   .77075722E-02
 31.0    32.0   .77075722E-02   31.0    35.0   .74333106E-02   32.0    30.0   .76442811E-02   32.0    31.0   .77286693E-02
 32.0    32.0   .74970237E-02   32.0    33.0   .76759267E-02   32.0    34.0   .75598929E-02   74.0    66.0   .73805680E-02
 76.0    65.0   .75915385E-02   29.0    19.0   .77919604E-02   29.0    20.0   .79396397E-02   29.0    26.0   .78658001E-02
 29.0    27.0   .77[illegible]2853E-02   29.0    29.0   .80873191E-02   30.0    21.0   .79712853E-02   30.0    24.0   .78974457E-02
 30.0    25.0   .77[illegible]2853E-02   30.0    26.0   .81506102E-02   31.0    27.0   .77919604E-02   31.0    29.0   .77603149E-02
 31.0    31.0   .81611547E-02   31.0    33.0   .78552516E-02   31.0    34.0   .78447030E-02   75.0    69.0   .80451250E-02
 76.0    69.0   .8[illegible]2402[illegible]9E-02   77.0    67.0   .80767705E-02   29.0    29.0   .85409056E-02   29.0    30.0   .85138085E-02
 30.0    30.0   .83826777E-02   30.0    27.0   .84670659E-02   30.0    28.0   .85620026E-02   31.0    30.0   .83193866E-02
 74.0    67.0   .8[illegible]826777E-02   74.0    68.0   .85198085E-02   77.0    68.0   .83404836E-02   30.0    29.0   .87307790E-02
 30.0    30.0   .87307790E-02   75.0    65.0   .86451908E-02   76.0    66.0   .10080990E-01   75.0    66.0   .10460737E-01
 75.0    67.0   .12190645E-01   75.0    68.0   .12053564E-01   76.0    67.0   .11884787E-01   76.0    68.0   .11948079E-01
```

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 19 of 30)

MEAN .1541235BE-03 ST DEV .4265B417E-02NAR ZEROS 0.00000

INDEX	COEF	HIST	PROB	CUM PROB
1	-.99924E-02	9.00000	.00150	.00150
2	-.95492E-02	34.00000	.00566	.00716
3	-.91055E-02	61.00000	.01016	.01732
4	-.86618E-02	46.00000	.00766	.02498
5	-.82182E-02	68.00000	.01132	.03630
6	-.77745E-02	83.00000	.01382	.05012
7	-.73308E-02	117.00000	.01948	.06960
8	-.68872E-02	136.00000	.02264	.09224
9	-.64435E-02	159.00000	.02647	.11871
10	-.59998E-02	170.00000	.02831	.14702
11	-.55561E-02	161.00000	.02681	.17383
12	-.51125E-02	114.00000	.01898	.19281
13	-.46688E-02	113.00000	.01881	.21162
14	-.42251E-02	126.00000	.02098	.23260
15	-.37815E-02	101.00000	.01682	.24942
16	-.33378E-02	115.00000	.01915	.26856
17	-.28941E-02	138.00000	.02298	.29154
18	-.24504E-02	119.00000	.01981	.31136
19	-.20068E-02	133.00000	.02214	.33350
20	-.15631E-02	109.00000	.01815	.35165
21	-.11194E-02	149.00000	.02481	.37646
22	-.67576E-03	176.00000	.02930	.40576
23	-.23209E-03	184.00000	.03064	.43640
24	.21158E-03	166.00000	.02764	.46404
25	.65525E-03	187.00000	.03114	.49517
26	.10989E-02	209.00000	.03480	.52997
27	.15426E-02	220.00000	.03663	.56660
28	.19863E-02	215.00000	.03580	.60240
29	.24299E-02	227.00000	.03780	.64019
30	.28736E-02	183.00000	.03045	.67064
31	.33173E-02	144.00000	.02728	.74792
32	.37609E-02	349.00000	.03811	.80603
33	.42046E-02	413.00000	.05876	.87479
34	.46483E-02	342.00000	.05694	.93173
35	.50920E-02	196.00000	.03263	.96437
36	.55356E-02	72.00000	.01199	.97636
37	.59793E-02	38.00000	.00633	.98268
38	.64230E-02	24.00000	.00400	.98668
39	.68666E-02	21.00000	.00350	.99018
40	.73103E-02	24.00000	.00400	.99417
41	.77540E-02	17.00000	.00283	.99700
42	.81977E-02	9.00000	.00150	.99850
43	.86413E-02	3.00000	.00050	.99900
44	.90850E-02	1.00000	.00017	.99917
45	.95287E-02	1.00000	.00017	.99933
50	.11747E-01	4.00000	.00067	1.00000

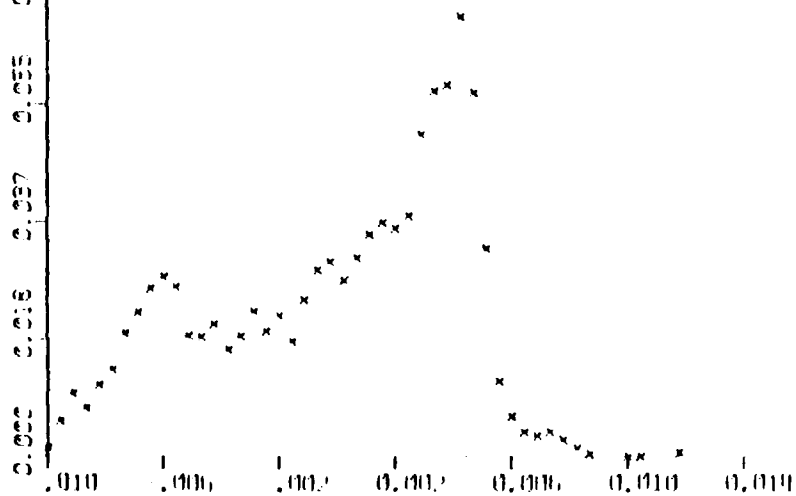


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 20 of 30)

COMPOSITE OF 17 FILES
CROSS CORRELATION
2 MR SENSOR FOV MASK 1000 FT
FAWS 8 AUG 77 3-5 MU GRASS

INDEX	COEF	HIST	PROB	CUM PROB
85	-.21359E-01	1.00000	.00001	.00001
84	-.21156E-01	4.00000	.00004	.00005
83	-.20952E-01	6.00000	.00006	.00011
82	-.20749E-01	7.00000	.00007	.00018
81	-.20545E-01	6.00000	.00006	.00024
80	-.20342E-01	5.00000	.00005	.00028
79	-.20139E-01	6.00000	.00006	.00034
78	-.19935E-01	2.00000	.00002	.00036
76	-.19529E-01	3.00000	.00003	.00039
75	-.19325E-01	3.00000	.00003	.00042
74	-.19122E-01	4.00000	.00004	.00046
73	-.18918E-01	2.00000	.00002	.00048
72	-.18715E-01	2.00000	.00002	.00050
71	-.18512E-01	1.00000	.00001	.00051
70	-.18308E-01	2.00000	.00002	.00053
69	-.18105E-01	1.00000	.00001	.00054
68	-.17902E-01	2.00000	.00002	.00056
66	-.17495E-01	7.00000	.00007	.00063
65	-.17291E-01	4.00000	.00004	.00067
64	-.17088E-01	10.00000	.00010	.00076
63	-.16885E-01	7.00000	.00007	.00083
62	-.16681E-01	8.00000	.00008	.00091
61	-.16478E-01	10.00000	.00010	.00101
60	-.16275E-01	9.00000	.00009	.00110
59	-.16071E-01	6.00000	.00006	.00116
58	-.15868E-01	1.00000	.00001	.00117
57	-.15664E-01	2.00000	.00002	.00119
56	-.15461E-01	3.00000	.00003	.00121
55	-.15258E-01	5.00000	.00005	.00126
54	-.15054E-01	5.00000	.00005	.00131
53	-.14851E-01	2.00000	.00002	.00133
52	-.14648E-01	4.00000	.00004	.00137
51	-.14444E-01	1.00000	.00001	.00138
50	-.14241E-01	2.00000	.00002	.00140
49	-.14037E-01	2.00000	.00002	.00142
48	-.13834E-01	3.00000	.00003	.00145
47	-.13631E-01	6.00000	.00006	.00151
46	-.13427E-01	2.00000	.00002	.00153
45	-.13224E-01	4.00000	.00004	.00157
44	-.13021E-01	3.00000	.00003	.00160
43	-.12817E-01	8.00000	.00008	.00167
42	-.12614E-01	1.00000	.00001	.00168
41	-.12410E-01	3.00000	.00003	.00171
40	-.12207E-01	4.00000	.00004	.00175
39	-.12004E-01	2.00000	.00002	.00177
38	-.11800E-01	5.00000	.00005	.00182
37	-.11597E-01	4.00000	.00004	.00186
35	-.11190E-01	2.00000	.00002	.00188
34	-.10987E-01	1.00000	.00001	.00191
33	-.10783E-01	9.00000	.00009	.00200
32	-.10580E-01	2.00000	.00002	.00202
31	-.10377E-01	4.00000	.00004	.00206
30	-.10173E-01	1.00000	.00001	.00207
28	-.97666E-02	6.00000	.00006	.00213

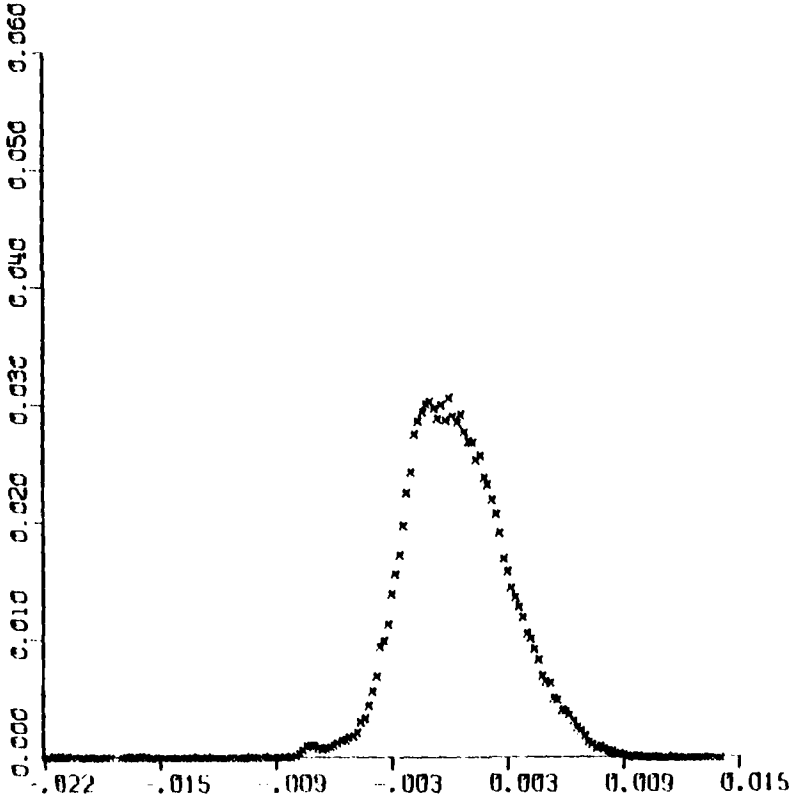


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 21 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
27	-.956321E-02	2.00000	.00002	.00214
26	-.918598E-02	9.00000	.00009	.00223
25	-.915648E-02	5.00000	.00005	.00228
24	-.899531E-02	10.00000	.00010	.00238
23	-.874978E-02	6.00000	.00006	.00244
22	-.854638E-02	3.00000	.00003	.00247
21	-.833429E-02	15.00000	.00015	.00262
20	-.811396E-02	24.00000	.00024	.00285
19	-.793628E-02	37.00000	.00036	.00321
18	-.773288E-02	73.00000	.00071	.00393
17	-.752946E-02	104.00000	.00102	.00495
16	-.732606E-02	114.00000	.00112	.00606
15	-.712278E-02	108.00000	.00106	.00712
14	-.691939E-02	91.00000	.00089	.00801
13	-.671596E-02	80.00000	.00078	.00880
12	-.651258E-02	96.00000	.00094	.00974
11	-.630942E-02	107.00000	.00105	.01078
10	-.610588E-02	111.00000	.00109	.01187
9	-.590246E-02	130.00000	.00127	.01314
8	-.569906E-02	155.00000	.00152	.01466
7	-.549578E-02	168.00000	.00165	.01631
6	-.529231E-02	184.00000	.00180	.01811
5	-.508899E-02	190.00000	.00186	.01997
4	-.488555E-02	226.00000	.00221	.02218
3	-.468228E-02	315.00000	.00309	.02527
2	-.447888E-02	349.00000	.00342	.02869
1	-.427546E-02	459.00000	.00450	.03318
1	-.407546E-02	581.00000	.00569	.03887
2	-.387201E-02	719.00000	.00704	.04591
3	-.366871E-02	967.00000	.00947	.05539
4	-.346531E-02	1021.00000	.01002	.06541
5	-.326191E-02	1164.00000	.01140	.07681
6	-.305851E-02	1428.00000	.01399	.09079
7	-.285512E-02	1606.00000	.01573	.10652
8	-.265181E-02	1766.00000	.01730	.12382
9	-.244841E-02	2020.00000	.01978	.14360
10	-.224501E-02	2306.00000	.02259	.16619
11	-.204171E-02	2491.00000	.02440	.19058
12	-.183831E-02	2814.00000	.02756	.21814
13	-.163491E-02	2932.00000	.02872	.24686
14	-.143161E-02	3015.00000	.02953	.27639
15	-.122821E-02	3083.00000	.03020	.30659
16	-.102481E-02	3102.00000	.03038	.33697
17	-.821514E-03	3045.00000	.02982	.36679
18	-.618031E-03	2954.00000	.02893	.39572
19	-.414661E-03	3071.00000	.03008	.42580
20	-.211281E-03	2942.00000	.02881	.45461
21	-.207911E-03	3132.00000	.03068	.48529
22	-.453051E-05	2971.00000	.02910	.51439
23	.198851E-03	2917.00000	.02857	.54296
24	.402221E-03	2994.00000	.02932	.57228
25	.605601E-03	2839.00000	.02781	.60009
26	.808971E-03	2754.00000	.02697	.62706
27	.101233E-02	2742.00000	.02686	.65391
28	.121537E-02	2597.00000	.02544	.67935
29	.141901E-02	2635.00000	.02581	.70516
30	.162259E-02	2445.00000	.02395	.72910
31	.182581E-02	2376.00000	.02327	.75238
32	.202942E-02	2250.00000	.02204	.77441

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 22 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
33	.22426E-02	2125.00000	.02081	.79522
34	.24960E-02	1959.00000	.01919	.81441
35	.26994E-02	1738.00000	.01702	.83143
36	.28627E-02	1627.00000	.01594	.84737
37	.30461E-02	1482.00000	.01451	.86188
38	.32495E-02	1400.00000	.01371	.87559
39	.34529E-02	1315.00000	.01288	.88847
40	.36562E-02	1223.00000	.01198	.90045
41	.38596E-02	1086.00000	.01064	.91109
42	.40630E-02	1045.00000	.01023	.92132
43	.42664E-02	954.00000	.00934	.93067
44	.44697E-02	857.00000	.00839	.93906
45	.46731E-02	718.00000	.00703	.94609
46	.48765E-02	665.00000	.00651	.95261
47	.50799E-02	658.00000	.00644	.95905
48	.52832E-02	518.00000	.00507	.96412
49	.54866E-02	512.00000	.00501	.96914
50	.56900E-02	419.00000	.00410	.97324
1	.58934E-02	411.00000	.00403	.97727
2	.60967E-02	375.00000	.00367	.98094
3	.63001E-02	325.00000	.00318	.98412
4	.65035E-02	268.00000	.00262	.98675
5	.67069E-02	234.00000	.00229	.98904
6	.69102E-02	199.00000	.00195	.99099
7	.71136E-02	136.00000	.00135	.99234
8	.73170E-02	118.00000	.00116	.99350
9	.75204E-02	96.00000	.00094	.99444
10	.77237E-02	97.00000	.00095	.99539
11	.79271E-02	78.00000	.00076	.99615
12	.81305E-02	71.00000	.00070	.99685
13	.83339E-02	60.00000	.00059	.99743
14	.85372E-02	38.00000	.00037	.99781
15	.87406E-02	45.00000	.00044	.99825
16	.89440E-02	30.00000	.00029	.99854
17	.91474E-02	24.00000	.00024	.99878
18	.93507E-02	19.00000	.00019	.99896
19	.95541E-02	12.00000	.00012	.99908
20	.97575E-02	17.00000	.00017	.99925
21	.99609E-02	9.00000	.00009	.99933
22	.10164E-01	8.00000	.00008	.99941
23	.10368E-01	9.00000	.00009	.99950
24	.10571E-01	4.00000	.00004	.99954
25	.10774E-01	11.00000	.00011	.99965
26	.10978E-01	3.00000	.00003	.99968
27	.11181E-01	5.00000	.00005	.99973
28	.11384E-01	2.00000	.00002	.99975
29	.11588E-01	8.00000	.00008	.99982
30	.11791E-01	2.00000	.00002	.99984
31	.11995E-01	3.00000	.00003	.99987
32	.12198E-01	3.00000	.00003	.99990
33	.12401E-01	1.00000	.00001	.99991
34	.12605E-01	1.00000	.00001	.99992
35	.12808E-01	1.00000	.00001	.99993
36	.13012E-01	1.00000	.00001	.99994
37	.13215E-01	1.00000	.00001	.99997
38	.13418E-01	1.00000	.00001	.99998
40	.13825E-01	1.00000	.00001	.99999
41	.14028E-01	1.00000	.00001	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION .15247789E-03 .27920285E-02

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 23 of 30)

COMPOSITE OF 16 FILES
CROSS CORRELATION
2 MR SENSOR FOV MASK 1000 FT
FAAS 1 AND 77 3-5 MR TREES

INDEX	COEF	HIST	PROB	CUM PROB
42	-.584368E-02	5.00000	.00002	.00002
41	-.574938E-02	4.00000	.00002	.00004
39	-.555078E-02	2.00000	.00001	.00005
38	-.546648E-02	4.00000	.00002	.00007
37	-.537218E-02	2.00000	.00001	.00008
36	-.527788E-02	6.00000	.00003	.00011
35	-.518358E-02	3.00000	.00001	.00013
34	-.508928E-02	4.00000	.00002	.00015
33	-.499498E-02	2.00000	.00001	.00016
32	-.490068E-02	6.00000	.00003	.00019
31	-.480638E-02	12.00000	.00006	.00024
30	-.471208L-02	8.00000	.00004	.00028
29	-.461778E-02	14.00000	.00007	.00035
28	-.452338E-02	11.00000	.00005	.00041
27	-.442908E-02	13.00000	.00006	.00047
26	-.433478E-02	28.00000	.00014	.00061
25	-.424048E-02	14.00000	.00007	.00068
24	-.414618E-02	25.00000	.00012	.00080
23	-.405188E-02	51.00000	.00025	.00105
22	-.395758E-02	59.00000	.00029	.00134
21	-.386328E-02	80.00000	.00039	.00173
20	-.376898E-02	130.00000	.00064	.00236
19	-.367468E-02	160.00000	.00078	.00315
18	-.358038E-02	193.00000	.00094	.00409
17	-.348608E-02	206.00000	.00101	.00510
16	-.339178E-02	255.00000	.00125	.00635
15	-.329748E-02	319.00000	.00156	.00791
14	-.320318E-02	347.00000	.00170	.00961
13	-.310888E-02	396.00000	.00194	.01155
12	-.301458E-02	473.00000	.00232	.01386
11	-.292028E-02	497.00000	.00243	.01630
10	-.282598E-02	592.00000	.00290	.01919
9	-.273168E-02	619.00000	.00303	.02222
8	-.263738E-02	729.00000	.00357	.02579
7	-.254308E-02	868.00000	.00425	.03004
6	-.244878E-02	934.00000	.00457	.03462
5	-.235448E-02	1109.00000	.00543	.04006
4	-.226018E-02	1258.00000	.00616	.04622
3	-.216588E-02	1512.00000	.00740	.05362
2	-.207158E-02	1547.00000	.00757	.06119
1	-.197728E-02	1796.00000	.00879	.06998
1	-.188298E-02	2078.00000	.01017	.08014
2	-.178868E-02	2192.00000	.01073	.09087
3	-.169438E-02	2545.00000	.01246	.10333
4	-.160008E-02	2884.00000	.01412	.11745
5	-.150578E-02	3146.00000	.01540	.13285
6	-.141148E-02	3688.00000	.01806	.15091
7	-.131718E-02	4038.00000	.01977	.17068
8	-.122288E-02	4660.00000	.02282	.19350
9	-.112858E-02	4974.00000	.02436	.21786
10	-.103428E-02	5222.00000	.02556	.24342
11	-.939981E-03	5613.00000	.02749	.27091
12	-.845681E-03	5797.00000	.02838	.29929
13	-.751381E-03	5721.00000	.02801	.32730

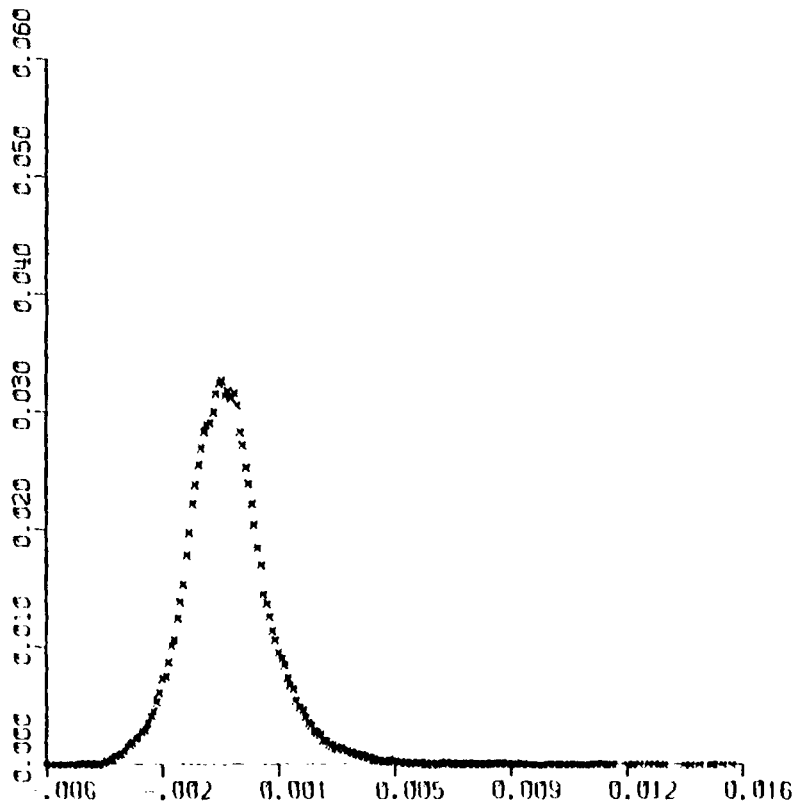


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 24 of 30)

INDEX	CORR	HIST	PROB	CUM PROB
14	-.751148E-01	5957.00000	.02916	.35546
15	-.653687E-01	6155.00000	.03013	.38559
16	-.562557E-01	6471.00000	.03168	.41727
17	-.480827E- 1	6652.00000	.03256	.44983
18	-.373961E-01	6704.00000	.03284	.48267
19	-.279868E-01	6642.00000	.03251	.51420
20	-.194535E-01	6510.00000	.03187	.54607
21	-.910518E-02	6400.00000	.03133	.57740
22	.125278E-03	6484.00000	.03174	.60914
23	.977556E-02	6265.00000	.03067	.63981
24	.191868E-01	5795.00000	.02837	.66818
25	.280616E-01	5582.00000	.02733	.69550
26	.380478E-01	5184.00000	.02538	.72088
27	.474778E-01	4896.00000	.02397	.74485
28	.569048E-01	4558.00000	.02231	.76716
29	.653394E- 1	4187.00000	.02050	.78766
30	.737648E-01	3781.00000	.01851	.80616
31	.815199E-01	3485.00000	.01706	.82322
32	.896298E-01	2988.00000	.01463	.83785
33	.104061E-02	2814.00000	.01378	.85163
34	.111349E-02	2586.00000	.01266	.86428
35	.122928E-02	2342.00000	.01146	.87575
36	.132356E- 2	2180.00000	.01067	.88642
37	.141178E-02	1958.00000	.00958	.89601
38	.151211E-02	1861.00000	.00911	.90512
39	.160864E-02	1743.00000	.00853	.91365
40	.170078E-02	1513.00000	.00741	.92105
41	.179508E-02	1392.00000	.00681	.92787
42	.188938E-02	1321.00000	.00647	.93434
43	.198368E-02	1115.00000	.00546	.93979
44	.207798E-02	992.00000	.00486	.94465
45	.217228E-02	951.00000	.00466	.94931
46	.226658E-02	839.00000	.00411	.95341
47	.236088E-02	735.00000	.00360	.95701
48	.245520E-02	704.00000	.00345	.96046
49	.254948E-02	598.00000	.00293	.96338
50	.264378E-02	582.00000	.00285	.96623
1	.273808E-02	529.00000	.00259	.96882
2	.283238E-02	432.00000	.00211	.97094
3	.292668E-02	429.00000	.00210	.97304
4	.302100E-02	371.00000	.00182	.97485
5	.311530E- 2	347.00000	.00170	.97655
6	.320958E-02	298.00000	.00146	.97801
7	.330388E-02	296.00000	.00145	.97946
8	.339820E-02	309.00000	.00151	.98097
9	.349250E-02	271.00000	.00133	.98230
10	.358680E-02	246.00000	.00120	.98350
11	.368110E-02	229.00000	.00112	.98462
12	.377540E-02	233.00000	.00114	.98576
13	.386970E-02	202.00000	.00099	.98675
14	.396400E-02	191.00000	.00094	.98770
15	.405830E-02	181.00000	.00089	.98859
16	.415260E-02	173.00000	.00085	.98944
17	.424690E- 2	141.00000	.00069	.99013
18	.434120E-02	137.00000	.00067	.99080
19	.443550E-02	123.00000	.00060	.99140
20	.452980E-02	102.00000	.00050	.99190
21	.462410E-02	97.00000	.00047	.99238
22	.471840E-02	87.00000	.00043	.99278

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 25 of 30)

INDEX	CODE	HIST	PROB	CUM PROB
23	.491270E-02	72.00000	.00015	.99311
24	.499718E-02	105.00000	.00021	.99465
25	.508148E-02	68.00000	.00033	.99498
26	.516957E-02	60.00000	.00029	.99427
27	.525906E-02	45.00000	.00022	.99449
28	.534843E-02	53.00000	.00026	.99475
29	.543786E-02	45.00000	.00022	.99497
30	.552729E-02	44.00000	.00024	.99521
31	.561672E-02	38.00000	.00019	.99540
32	.570615E-02	31.00000	.00015	.99555
33	.579558E-02	44.00000	.00023	.99579
34	.588501E-02	39.00000	.00019	.99598
35	.597444E-02	33.00000	.00016	.99614
36	.606387E-02	28.00000	.00014	.99627
37	.615330E-02	20.00000	.00010	.99637
38	.624273E-02	34.00000	.00017	.99654
39	.633216E-02	29.00000	.00014	.99668
40	.642159E-02	28.00000	.00014	.99682
41	.651102E-02	28.00000	.00014	.99696
42	.660045E-02	29.00000	.00014	.99710
43	.668988E-02	31.00000	.00015	.99725
44	.677931E-02	19.00000	.00009	.99734
45	.686874E-02	26.00000	.00013	.99747
46	.695817E-02	19.00000	.00009	.99756
47	.704760E-02	19.00000	.00009	.99766
48	.713703E-02	28.00000	.00014	.99779
49	.722646E-02	21.00000	.00010	.99790
50	.731589E-02	17.00000	.00008	.99798
51	.740533E-02	20.00000	.00010	.99808
52	.749476E-02	14.00000	.00007	.99814
53	.758419E-02	14.00000	.00007	.99821
54	.767362E-02	16.00000	.00008	.99829
55	.776305E-02	14.00000	.00007	.99836
56	.785248E-02	15.00000	.00007	.99843
57	.794191E-02	16.40000	.00008	.99851
58	.803134E-02	9.00000	.00004	.99856
59	.812077E-02	21.00000	.00010	.99866
60	.821020E-02	11.00000	.00005	.99871
61	.829963E-02	15.00000	.00007	.99879
62	.838906E-02	15.00000	.00007	.99886
63	.847849E-02	11.00000	.00006	.99892
64	.856792E-02	14.00000	.00007	.99899
65	.865735E-02	11.00000	.00006	.99906
66	.874678E-02	11.00000	.00006	.99912
67	.883621E-02	9.00000	.00004	.99916
68	.892564E-02	9.00000	.00004	.99921
69	.901507E-02	11.00000	.00005	.99926
70	.910450E-02	6.00000	.00003	.99929
71	.919393E-02	7.00000	.00003	.99932
72	.928336E-02	6.00000	.00003	.99935
73	.937279E-02	9.00000	.00004	.99940
74	.946221E-02	5.00000	.00002	.99942
75	.955165E-02	1.00000	.00000	.99943
76	.964108E-02	9.00000	.00004	.99947
77	.973052E-02	4.00000	.00002	.99949
78	.981995E-02	6.00000	.00003	.99952
79	.990938E-02	7.00000	.00003	.99955
80	.999881E-02	5.00000	.00002	.99958
81	.100942E-01	6.00000	.00003	.99961

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 26 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
82	.10477E-01	1.00000	.00001	.99962
83	.10478E-01	5.00000	.00002	.99965
84	.10565E-01	1.00000	.00001	.99966
85	.10660E-01	4.00000	.00002	.99968
86	.10754E-01	1.00000	.00001	.99970
87	.10848E-01	7.00000	.00003	.99973
88	.10942E-01	6.00000	.00003	.99976
89	.11037E-01	1.00000	.00001	.99977
90	.11131E-01	2.00000	.00001	.99978
91	.11225E-01	1.00000	.00000	.99979
92	.11320E-01	7.00000	.00003	.99982
93	.11414E-01	1.00000	.00000	.99983
94	.11508E-01	2.00000	.00001	.99984
95	.11603E-01	2.00000	.00001	.99985
96	.11697E-01	2.00000	.00001	.99986
97	.11791E-01	1.00000	.00000	.99986
98	.11886E-01	1.00000	.00000	.99987
99	.11980E-01	2.00000	.00001	.99988
104	.12451E-01	1.00000	.00001	.99989
105	.12546E-01	4.00000	.00002	.99991
106	.12640E-01	1.00000	.00000	.99992
108	.12829E-01	1.00000	.00000	.99992
111	.13111E-01	2.00000	.00001	.99993
113	.13300E-01	1.00000	.00000	.99994
115	.13489E-01	1.00000	.00000	.99994
116	.13583E-01	2.00000	.00001	.99995
123	.14243E-01	2.00000	.00001	.99996
125	.14432E-01	1.00000	.00000	.99997
128	.14715E-01	1.00000	.00000	.99997
132	.15092E-01	2.00000	.00001	.99998
133	.15186E-01	2.00000	.00001	.99999
146	.15469E-01	1.00000	.00000	1.00000
193	.15752E-01	1.00000	.00000	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.16110509E-03 .14362094E-02

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 27 of 30)

COMPOSITE OF 10 FILES
CROSS CORRELATION
2 MR SENSOR FOV MASK 1000 FT
FAAS 8 AUG 77 3-5 MR ASPHALT ROADS

INDEX	COEF	HIST	PROB	CUM PROB
0	-.10579E-01	10.00000	.00017	.00017
1	-.10191E-01	7.00000	.00012	.00029
2	-.99034E-02	11.00000	.00018	.00047
3	-.94159E-02	41.00000	.00068	.00115
4	-.94159E-02	69.00000	.00115	.00229
5	-.90283E-02	95.00000	.00158	.00387
6	-.86408E-02	159.00000	.00264	.00651
7	-.82532E-02	281.00000	.00467	.01118
8	-.78657E-02	310.00000	.00515	.01633
9	-.74781E-02	366.00000	.00608	.02240
10	-.70905E-02	472.00000	.00784	.03024
11	-.67030E-02	679.00000	.01128	.04152
12	-.63154E-02	1116.00000	.01853	.06005
13	-.59279E-02	1400.00000	.02325	.08330
14	-.55403E-02	1477.00000	.02453	.10783
15	-.51528E-02	1536.00000	.02551	.13334
16	-.47652E-02	1470.00000	.02441	.15775
17	-.43777E-02	1643.00000	.02729	.18504
18	-.39901E-02	1638.00000	.02720	.21224
19	-.36026E-02	1734.00000	.02880	.24104
20	-.32150E-02	1739.00000	.02888	.26992
21	-.28275E-02	1768.00000	.02936	.29928
22	-.24399E-02	2028.00000	.03368	.33296
23	-.20524E-02	2178.00000	.03617	.36913
24	-.16648E-02	2096.00000	.03481	.40394
25	-.12773E-02	2179.00000	.03619	.44013
26	-.88971E-03	2067.00000	.03433	.47446
27	-.50215E-03	1949.00000	.03237	.50681
28	-.11460E-03	1898.00000	.03152	.53835
29	.27295E-03	2047.00000	.03400	.57234
30	.66051E-03	2125.00000	.03529	.60763
31	.10481E-02	1791.00000	.02974	.63738
32	.14356E-02	1479.00000	.02456	.66194
33	.18232E-02	1471.00000	.02443	.68637
34	.22107E-02	1472.00000	.02445	.71081
35	.25981E-02	1366.00000	.02269	.73350
36	.29856E-02	1271.00000	.02114	.75464
37	.33730E-02	1090.00000	.01810	.77274
38	.37604E-02	827.00000	.01373	.78648
39	.41485E-02	717.00000	.01191	.79839
40	.45360E-02	586.00000	.00973	.80812
41	.49236E-02	584.00000	.00970	.81782
42	.53111E-02	532.00000	.00884	.82665
43	.56987E-02	569.00000	.00945	.83610
44	.60862E-02	584.00000	.00970	.84580
45	.64738E-02	670.00000	.01113	.85693
46	.68613E-02	834.00000	.01385	.87078
47	.72489E-02	907.00000	.01506	.88584
48	.76365E-02	789.00000	.01310	.89894
49	.80240E-02	765.00000	.01270	.91165
50	.84116E-02	850.00000	.01412	.92576
51	.87991E-02	837.00000	.01390	.93967
52	.91867E-02	687.00000	.01141	.95107
53	.95742E-02	650.00000	.01079	.96187

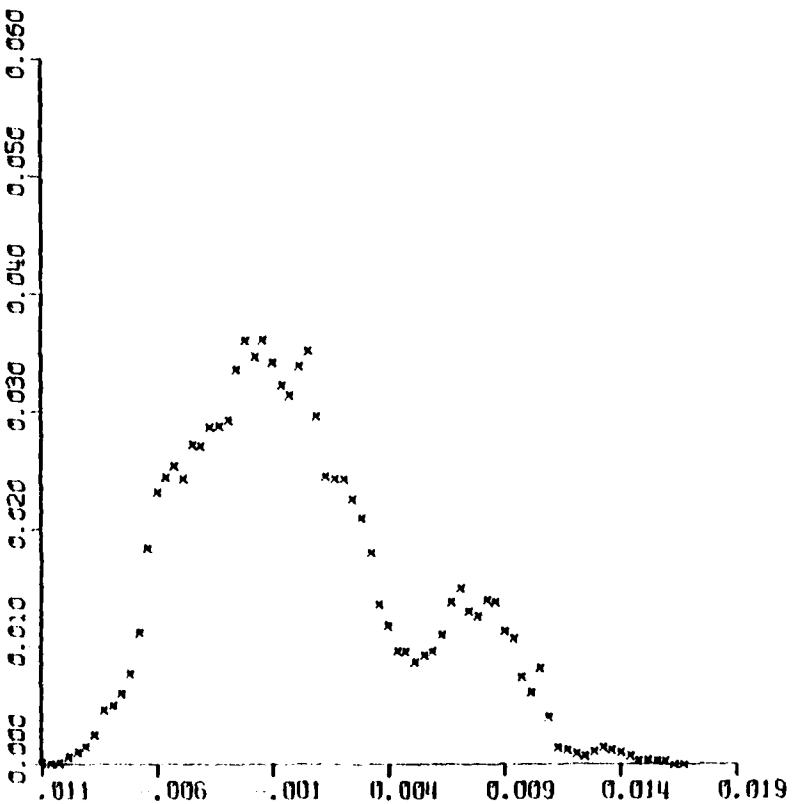


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 28 of 30)

INDEX	CORR	HIST	PROB	COM PROB
1	.99618E-02	449.00000	.00746	.96933
2	.10349E-01	372.00000	.00618	.97550
3	.10737E-01	502.00000	.00834	.98384
4	.11124E-01	244.00000	.00405	.98789
5	.11512E-01	88.00000	.00146	.98935
6	.11900E-01	78.00000	.00130	.99065
7	.12287E-01	59.00000	.00098	.99163
8	.12675E-01	49.00000	.00081	.99244
9	.13062E-01	75.00000	.00125	.99369
10	.13450E-01	88.00000	.00146	.99515
11	.13837E-01	80.00000	.00133	.99648
12	.14225E-01	66.00000	.00110	.99758
13	.14612E-01	50.00000	.00083	.99841
14	.15000E-01	22.00000	.00037	.99877
15	.15388E-01	26.00000	.00043	.99920
16	.15775E-01	23.00000	.00038	.99958
17	.16163E-01	23.00000	.00038	.99997
18	.16550E-01	1.00000	.00002	.99998
19	.16938E-01	1.00000	.00002	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION .32351628E-03 .48388553E-02

TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 29 of 30)

COMPOSITE OF 5 FILES
CROSS CORRELATION
2 MR SENSOR FO MASK 1000 FT
FAWS 8 AUG 77 3-5 MB BUILDINGS

INDEX	COEF	HIST	PROB	CUM PROB
1	-.12544E-01	9.00000	.00030	.00030
2	-.12098E-01	18.00000	.00060	.00090
1	-.11651E- 1	19.00000	.00063	.00154
1	-.11651E-01	39.00000	.00130	.00284
2	-.11205E-01	49.00000	.00164	.00447
3	-.10758E-01	103.00000	.00344	.00791
4	-.10312E-01	141.00000	.00471	.01262
5	-.98656E-02	206.00000	.00688	.01950
6	-.94191E-02	292.00000	.00975	.02925
7	-.89727E- 2	392.00000	.01309	.04233
8	-.85263E-02	476.00000	.01589	.05822
9	-.80799E-02	486.00000	.01623	.07445
10	-.76335E-02	510.00000	.01703	.09148
11	-.71871E-02	602.00000	.02010	.11157
12	-.67407E- 2	714.00000	.02384	.13541
13	-.62942E-02	861.00000	.02875	.16416
14	-.58478E-02	996.00000	.03325	.19741
15	-.54014E-02	1058.00000	.03532	.23273
16	-.49550E-02	1134.00000	.03786	.27059
17	-.45086E-02	1190.00000	.03973	.31032
18	-.40622E- 2	1302.00000	.04347	.35379
19	-.36158E-02	1192.00000	.03980	.39358
20	-.31693E-02	1177.00000	.03929	.43288
21	-.27229E-02	1055.00000	.03522	.46810
22	-.22765E-02	1046.00000	.03492	.50302
23	-.18301E-02	890.00000	.02971	.53273
24	-.13837E-02	646.00000	.02157	.55430
25	-.93728E-03	553.00000	.01846	.57276
26	-.49083E-03	475.00000	.01586	.58862
27	-.44453E-04	357.00000	.01192	.60054
28	.40196E- 3	277.00000	.00925	.60979
29	.84837E-03	246.00000	.00821	.61800
30	.12949E-02	232.00000	.00775	.62575
31	.17412E-02	222.00000	.00741	.63316
32	.21876E-02	186.00000	.00621	.63937
33	.26340E-02	260.00000	.00868	.64805
34	.30804E-02	222.00000	.00741	.65546
35	.35269E-02	242.00000	.00808	.66354
36	.39733E- 2	261.00000	.00871	.67225
37	.44197E- 2	294.00000	.00982	.68207
38	.48661E-02	298.00000	.00995	.69202
39	.53125E-02	330.00000	.01102	.70303
40	.57589E-02	402.00000	.01342	.71646
41	.62053E-02	484.00000	.01616	.73261
42	.66517E-02	558.00000	.01863	.75124
43	.70981E- 2	704.00000	.02364	.77488
44	.75446E-02	1010.00000	.03372	.80860
45	.79910E-02	1150.00000	.03839	.84699
46	.84374E-02	1051.00000	.03510	.88215
47	.88838E-02	951.00000	.03175	.91390
48	.93302E-02	648.00000	.02163	.93553
49	.97766E- 2	355.00000	.01185	.94738
50	.10223E- 1	223.00000	.00744	.95483
1	.10669E- 1	121.00000	.00411	.95894

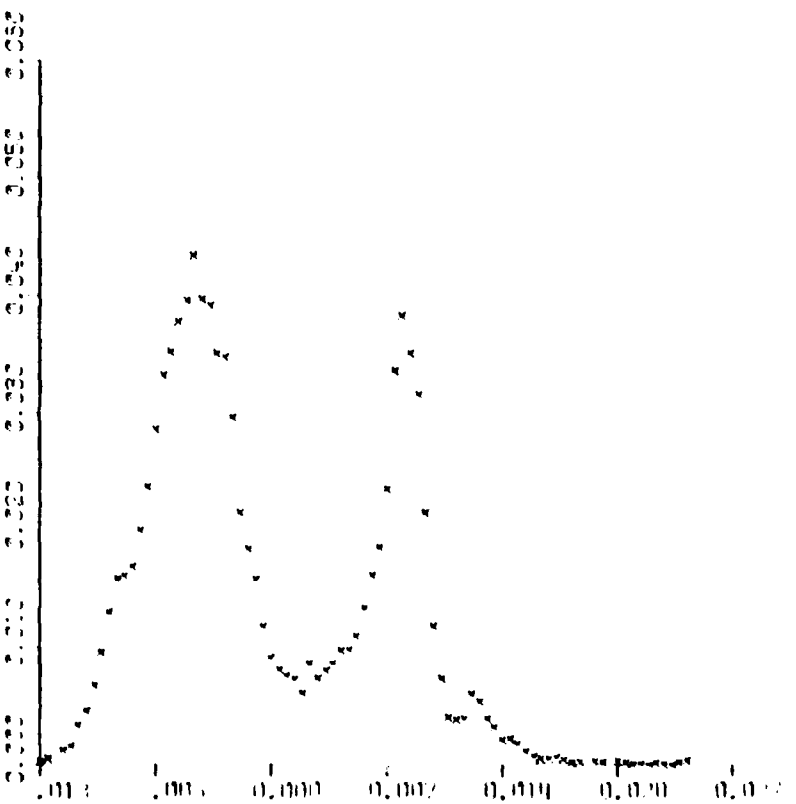


TABLE 3-14. DISTRIBUTION FUNCTION OF THE CROSS-CORRELATION SURFACE OF THE 1-mrad AND 2-mrad SENSOR FOV MASK AND THE TARGET AND BACKGROUND SCENES (Sheet 30 of 30)

INDEX	COEF	HIST	PROB	CUM PROB
2	.11116E-01	116.00000	.00387	.96281
3	.11562E-01	121.00000	.00404	.96685
4	.12089E-01	142.00000	.00608	.97292
5	.12455E-01	163.00000	.00544	.97837
6	.12902E-01	119.00000	.00397	.98234
7	.13368E-01	99.00000	.00331	.98564
8	.13794E-01	67.00000	.00224	.98788
9	.14241E-01	68.00000	.00227	.99015
10	.14687E-01	53.00000	.00177	.99192
11	.15134E-01	36.00000	.00120	.99312
12	.15580E-01	25.00000	.00083	.99396
13	.16026E-01	19.00000	.00063	.99459
14	.16473E-01	18.00000	.00060	.99519
15	.16919E-01	22.00000	.00073	.99593
16	.17366E-01	14.00000	.00047	.99639
17	.17812E-01	6.00000	.00020	.99659
18	.18259E-01	10.00000	.00033	.99693
19	.18705E-01	9.00000	.00030	.99723
20	.19151E-01	11.00000	.00037	.99760
21	.19598E-01	9.00000	.00030	.99790
22	.20044E-01	8.00000	.00027	.99816
23	.20491E-01	11.00000	.00037	.99853
24	.20937E-01	9.00000	.00030	.99883
25	.21383E-01	4.00000	.00013	.99897
26	.21830E-01	4.00000	.00013	.99910
27	.22276E-01	1.00000	.00003	.99913
28	.22723E-01	5.00000	.00017	.99930
29	.23169E-01	3.00000	.00010	.99940
30	.23615E-01	1.00000	.00003	.99943
31	.24062E-01	5.00000	.00017	.99960
32	.24508E-01	12.00000	.00040	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION .13519705E-03 .65214435E-02

TABLE 3-15. DISTRIBUTION FUNCTION OF THE FILTERED CROSS-CORRELATION SURFACE

COMPOSITE OF 5 FILES
CROSS CORRELATION FILTERED
FAWS TARGET 1 11 47 23.9
FAWS A AUG 77 3-5 WB BUILDINGS

INDEX	COEF	MIST	PROB	CUM PROB
42	-.59456E+09	5.00000	.00023	.00023
41	-.57569E+09	14.00000	.00064	.00086
40	-.56682E+09	27.00000	.00123	.00209
39	-.55795E+09	27.00000	.00123	.00331
38	-.54908E+09	22.00000	.00100	.00431
37	-.54022E+09	21.00000	.00095	.00526
36	-.53135E+09	18.00000	.00082	.00608
35	-.52248E+09	15.00000	.00068	.00676
34	-.51361E+09	17.00000	.00077	.00753
33	-.50474E+09	38.00000	.00172	.00926
32	-.49587E+09	32.00000	.00145	.01071
31	-.48700E+09	36.00000	.00163	.01234
30	-.47813E+09	42.00000	.00191	.01425
29	-.46926E+09	53.00000	.00241	.01666
28	-.46039E+09	62.00000	.00281	.01947
27	-.45152E+09	49.00000	.00222	.02169
26	-.44265E+09	57.00000	.00259	.02428
25	-.43378E+09	48.00000	.00218	.02646
24	-.42491E+09	47.00000	.00213	.02859
23	-.41604E+09	42.00000	.00191	.03050
22	-.40718E+09	58.00000	.00263	.03313
21	-.39831E+09	39.00000	.00177	.03490
20	-.38944E+09	46.00000	.00209	.03699
19	-.38057E+09	42.00000	.00191	.03889
18	-.37170E+09	50.00000	.00227	.04116
17	-.36283E+09	69.00000	.00313	.04429
16	-.35396E+09	69.00000	.00313	.04742
15	-.34509E+09	63.00000	.00286	.05028
14	-.33622E+09	54.00000	.00245	.05273
13	-.32735E+09	49.00000	.00222	.05496
12	-.31848E+09	63.00000	.00286	.05782
11	-.30961E+09	67.00000	.00304	.06086
10	-.30074E+09	75.00000	.00340	.06426
9	-.29187E+09	63.00000	.00286	.06712
8	-.28300E+09	77.00000	.00349	.07061
7	-.27413E+09	63.00000	.00286	.07347
6	-.26527E+09	61.00000	.00277	.07624
5	-.25640E+09	59.00000	.00268	.07892
4	-.24753E+09	63.00000	.00286	.08178
3	-.23866E+09	86.00000	.00390	.08568
2	-.22979E+09	92.00000	.00418	.08986
1	-.22092E+09	119.00000	.00540	.09526
1	-.22092E+09	178.00000	.00808	.10334
2	-.21205E+09	174.00000	.00790	.11123
3	-.20318E+09	224.00000	.01017	.12140
4	-.19431E+09	210.00000	.00953	.13093
5	-.18544E+09	181.00000	.00821	.13914
6	-.17657E+09	237.00000	.01076	.14990
7	-.16770E+09	250.00000	.01135	.16124
8	-.15883E+09	246.00000	.01116	.17241
9	-.14996E+09	246.00000	.01116	.18357
10	-.14109E+09	249.00000	.01130	.19487
11	-.13223E+09	296.00000	.01343	.20830
12	-.12336E+09	318.00000	.01441	.22274

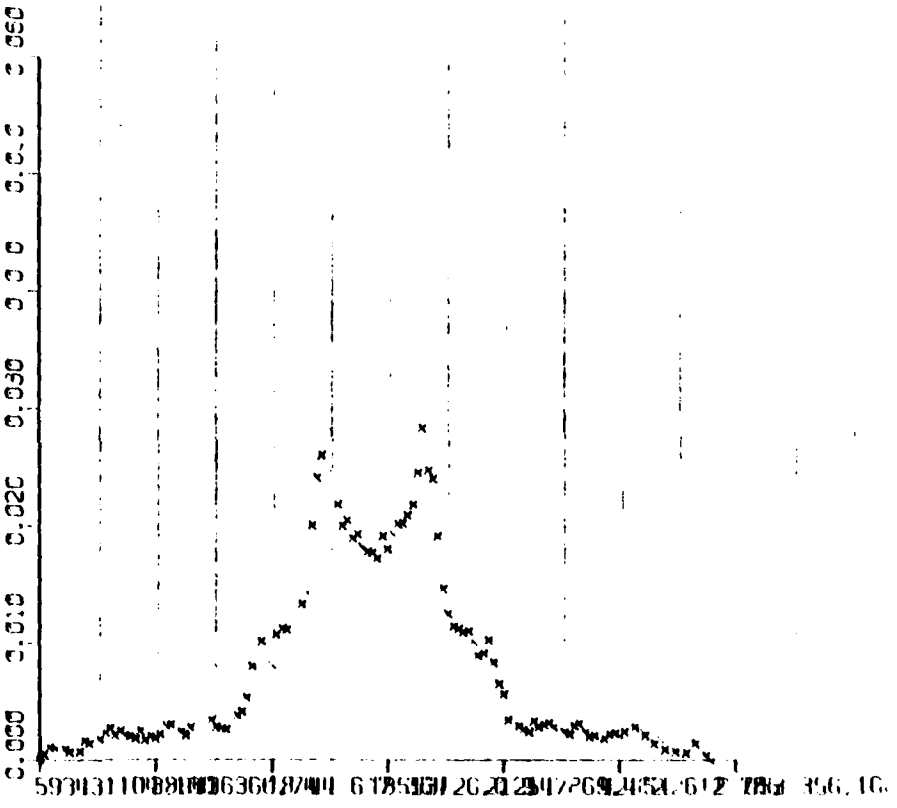


TABLE 3-15. DISTRIBUTION FUNCTION OF THE FILTERED CROSS-CORRELATION SURFACE (Sheet 2 of 3)

INDEX	COEF	HIST	PROB	CUM PROB
13	-.11449E+09	443.00000	.02010	.24284
14	-.10562E+09	533.00000	.02419	.26703
15	-.96748E+08	576.00000	.02614	.29317
16	-.87879E+08	630.00000	.02859	.32176
17	-.79010E+08	543.00000	.02464	.34640
18	-.70140E+08	483.00000	.02192	.36832
19	-.61271E+08	443.00000	.02010	.38843
20	-.52402E+08	455.00000	.02065	.40908
21	-.43532E+08	419.00000	.01902	.42809
22	-.34663E+08	427.00000	.01938	.44747
23	-.25794E+08	403.00000	.01829	.46576
24	-.16924E+08	394.00000	.01788	.48364
25	-.80549E+07	392.00000	.01779	.50143
26	.81445E+06	381.00000	.01729	.51872
27	.96838E+07	423.00000	.01920	.53792
28	.18553E+08	399.00000	.01811	.55602
29	.27422E+08	427.00000	.01938	.57540
30	.36292E+08	445.00000	.02020	.59560
31	.45161E+08	448.00000	.02033	.61593
32	.54030E+08	463.00000	.02101	.63694
33	.62900E+08	482.00000	.02187	.65882
34	.71769E+08	542.00000	.02460	.68341
35	.80638E+08	625.00000	.02836	.71178
36	.89508E+08	546.00000	.02478	.73656
37	.98377E+08	531.00000	.02410	.76065
38	.10725E+09	422.00000	.01915	.77980
39	.11612E+09	325.00000	.01475	.79455
40	.12499E+09	277.00000	.01257	.80713
41	.13385E+09	253.00000	.01148	.81861
42	.14272E+09	250.00000	.01135	.82995
43	.15159E+09	243.00000	.01103	.84098
44	.16046E+09	244.00000	.01107	.85205
45	.16933E+09	225.00000	.01021	.86226
46	.17820E+09	199.00000	.00903	.87130
47	.18707E+09	202.00000	.00917	.88046
48	.19594E+09	228.00000	.01035	.89081
49	.20481E+09	184.00000	.00835	.89916
50	.21368E+09	146.00000	.00663	.90579
1	.22255E+09	125.00000	.00567	.91146
2	.23142E+09	78.00000	.00354	.91500
3	.24029E+09	81.00000	.00368	.91867
4	.24916E+09	67.00000	.00304	.92172
5	.25803E+09	60.00000	.00272	.92444
6	.26689E+09	54.00000	.00245	.92689
7	.27576E+09	74.00000	.00336	.93025
8	.28463E+09	63.00000	.00286	.93311
9	.29350E+09	68.00000	.00309	.93619
10	.30237E+09	73.00000	.00331	.93951
11	.31124E+09	65.00000	.00295	.94246
12	.32011E+09	64.00000	.00290	.94536
13	.32898E+09	56.00000	.00254	.94790
14	.33785E+09	51.00000	.00231	.95022
15	.34672E+09	66.00000	.00300	.95321
16	.35559E+09	70.00000	.00318	.95639
17	.36446E+09	56.00000	.00254	.95893
18	.37333E+09	46.00000	.00209	.96102
19	.38220E+09	48.00000	.00218	.96319
20	.39107E+09	41.00000	.00186	.96506
21	.39994E+09	42.00000	.00191	.96696

TABLE 3-15. DISTRIBUTION FUNCTION OF THE FILTERED CROSS-CORRELATION SURFACE (Sheet 3 of 3)

INDEX	COEF	HIST	PROB	CUM PROB
22	.40840E+09	51.00000	.00231	.96928
23	.41767E+09	52.00000	.00236	.97164
24	.42654E+09	48.00000	.00218	.97381
25	.43541E+09	56.00000	.00254	.97636
26	.44428E+09	55.00000	.00250	.97885
27	.45315E+09	65.00000	.00295	.98180
28	.46202E+09	60.00000	.00272	.98452
29	.47089E+09	49.00000	.00222	.98675
30	.47976E+09	35.00000	.00159	.98834
31	.48863E+09	32.00000	.00145	.98979
32	.49750E+09	41.00000	.00186	.99165
33	.50637E+09	23.00000	.00104	.99269
34	.51524E+09	13.00000	.00059	.99328
35	.52411E+09	17.00000	.00077	.99405
36	.53297E+09	18.00000	.00082	.99487
37	.54184E+09	15.00000	.00068	.99555
38	.55071E+09	27.00000	.00123	.99678
39	.55958E+09	33.00000	.00150	.99828
40	.56845E+09	25.00000	.00113	.99941
41	.57732E+09	11.00000	.00050	.99991
42	.58619E+09	2.00000	.00009	1.00000

COMPOSITE MEAN AND STANDARD DEVIATION -.36760521E+07 .19003968E+09

DA
FILM
9