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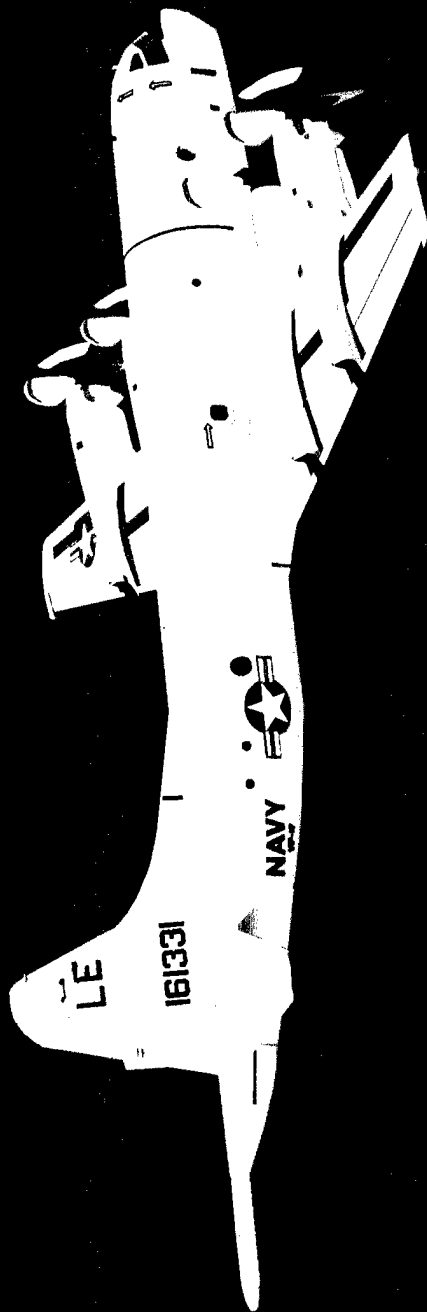
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20001012 102

LARIAT

LOW-COST AIRBORNE RECONNAISSANCE IMAGERY ANALYSIS TOOL



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301-342-0043

NAVAL AVIATION SYSTEMS TEAM
Research & Engineering
4.5 Avionics
THE PULSE OF NAVY AVIATION

RESEARCH &
ENGINEERING



COMMERCIAL & GOVERNMENT OTS SOFTWARE

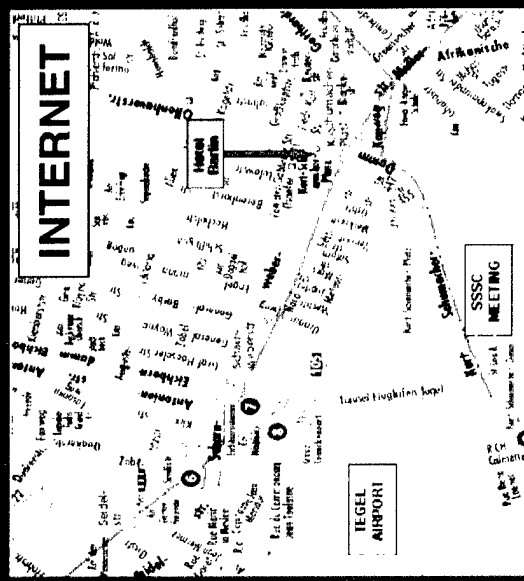
OpenELT Analyst (PC) Integrator (UNIX)
FalconView (PC)
ELT3500 (PC)
Quad Companion (PC)
SAR ToolBox (UNIX)
PhotoEditor (PC)
PowerPoint (PC)

LARIAT

MAPS FROM ANY SOURCE



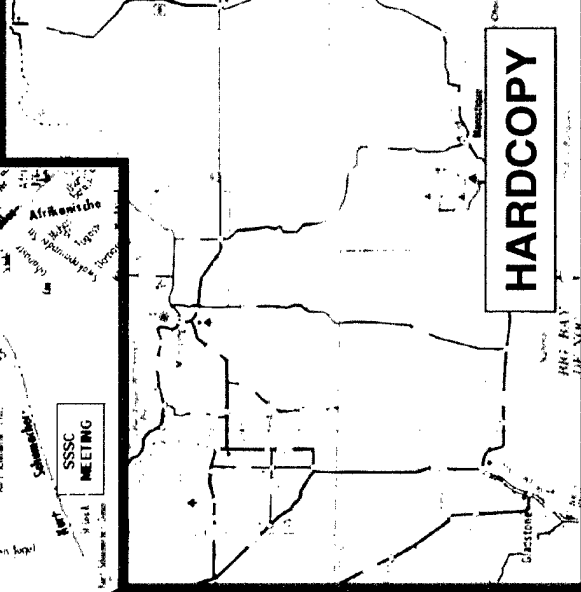
USGS QUADRANGLE MAPS



INTERNET



NIMA PRODUCT FORMATS



HARDCOPY

LARIAT

PRODUCT WORKFLOW

PDEM + TOPO MERGED



FUSION DATA TARGET PRODUCT
PRECISION DEM
TOPOGRAPHIC QUAD
LANDSAT CHANNELS 543
LANDSAT CHANNELS 321

OPTECH PRECISION DEM



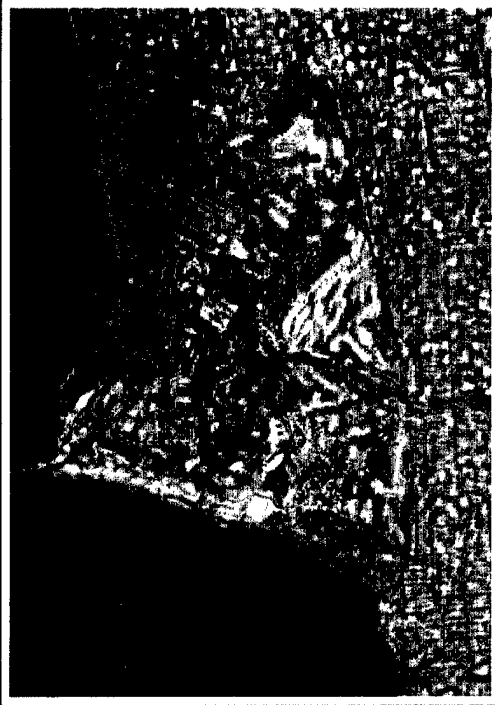
USGS TOPOGRAPHIC QUAD



LANDSAT (RGB = 543)



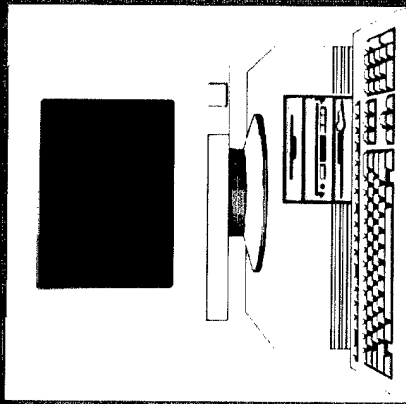
LANDSAT (RGB = 321)



FROM BEST AVAILABLE SOURCES

LARIAT - PREMISSION PLANNING

PC WORKSTATION PROCESSING



WINDOWS - PC
768 MB RAM
PENTIUM II CPU
50+ GB DISC

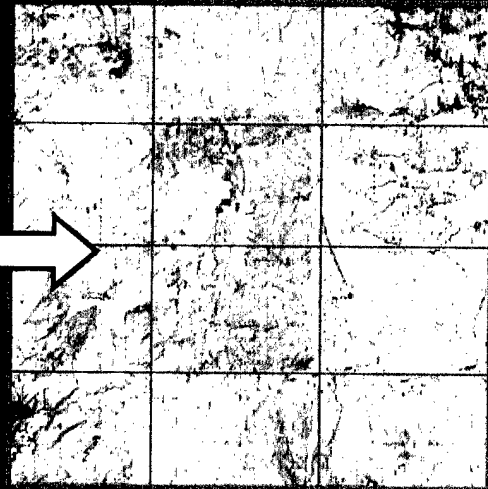
FALCONVIEW or ELT3500

MISSION PLANNING
GEOGRAPHIC ANALYSIS
DISTANCE & AREA MEASURE
SUPPORT NP-3 SAR COLLECTION



QUAD COMPANION

LARGE AREA MOSAICS
FROM LARGE SCALE
TOPOGRAPHIC MAPS



400 50 MM MOSAIC

IMAGE GEOCODING

LATITUDE: 38°27'34"N
LONGITUDE: 76°02'45"W



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4.5 Avionics
THE PULSE OF NAVAL AVIATION

LARIAT

RESEARCH &
ENGINEERING

MTOOL (MOSAIC TOOL)

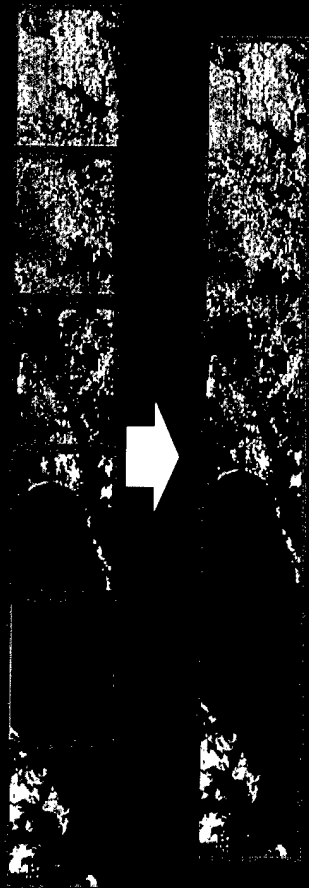
FORMAT CONVERSION



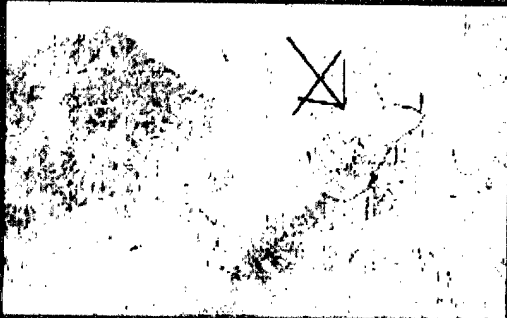
TIF → PYRAMID



TIES IMAGE SEGMENTS TO STRIPS



MOSAIC BUILDING



RECTIFICATION, ROTATION,
SCALING AND SUPERPOSITION



UNIX WORKSTATION

1.0 G

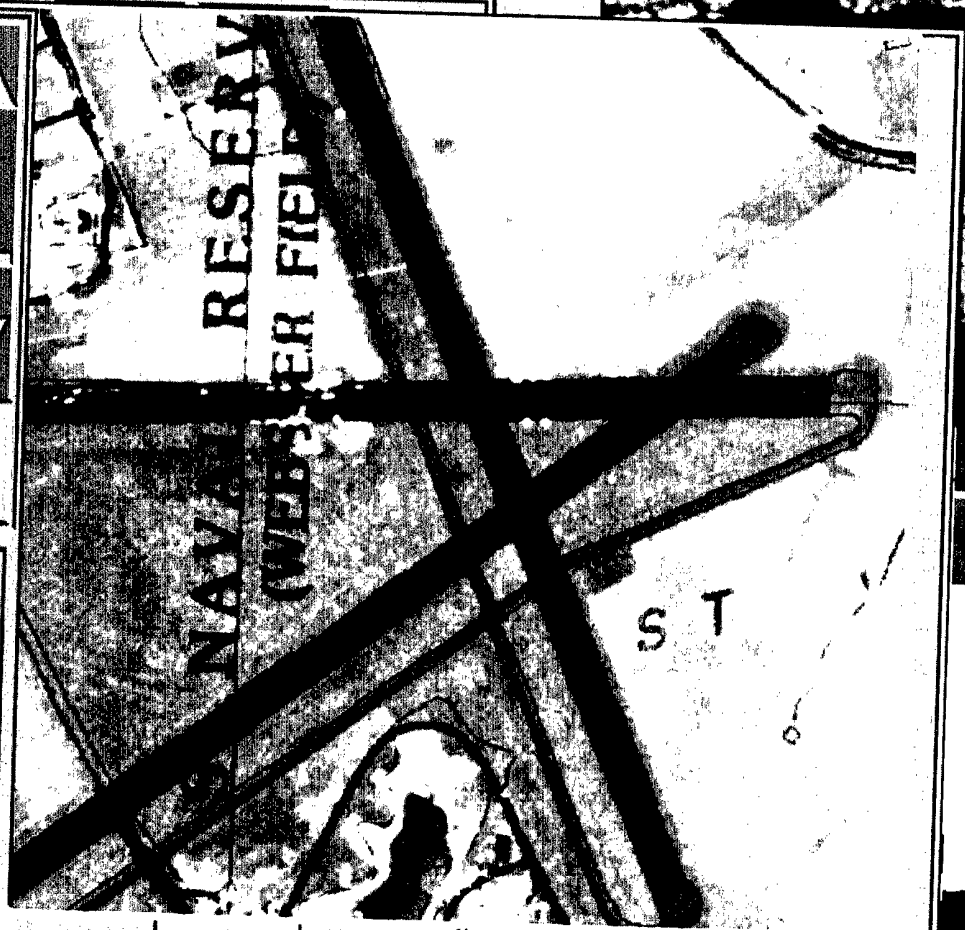
180 F

36 G

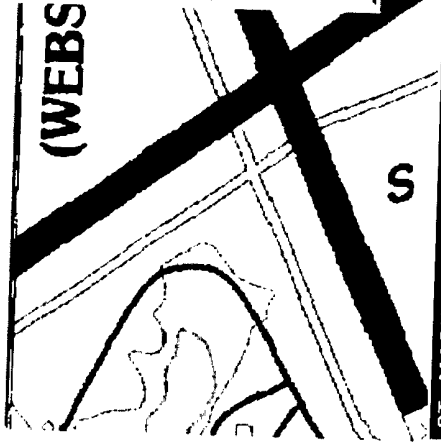
WINDOWS NT4.0 SINCE MAY 2000

OpenELT

Navigation controls including a compass rose and directional arrows.



Controls



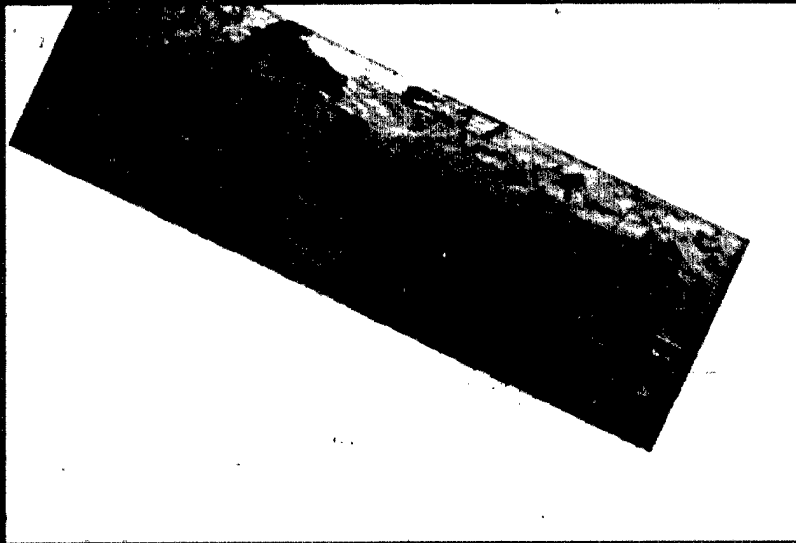
ST_MARYS_MOSAIC\Topo Quads\St_Marys_Mosaic.ms (12769)

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Research & Engineering
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THE HOUSE OF NAVAL AVIATION

LARIAT

RESEARCH &
ENGINEERING

**RECTIFICATION, SCALING
& ROTATION**



TERRAIN & CULTURE ANALYSIS



L-BAND SAR IMAGE MERGED WITH TOPOGRAPHY

INTERACTIVE DATA FUSION ANALYSIS TOOLS

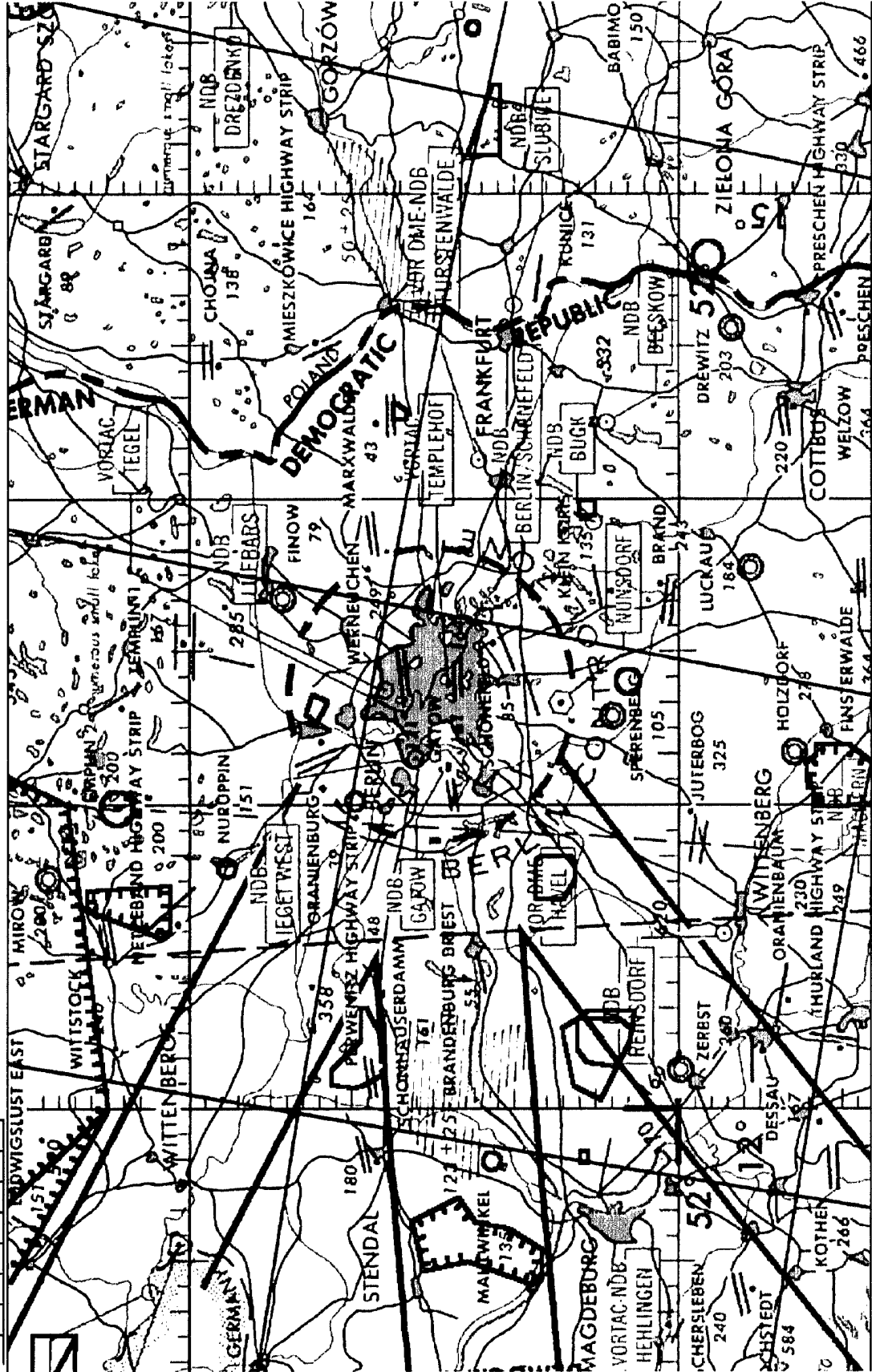
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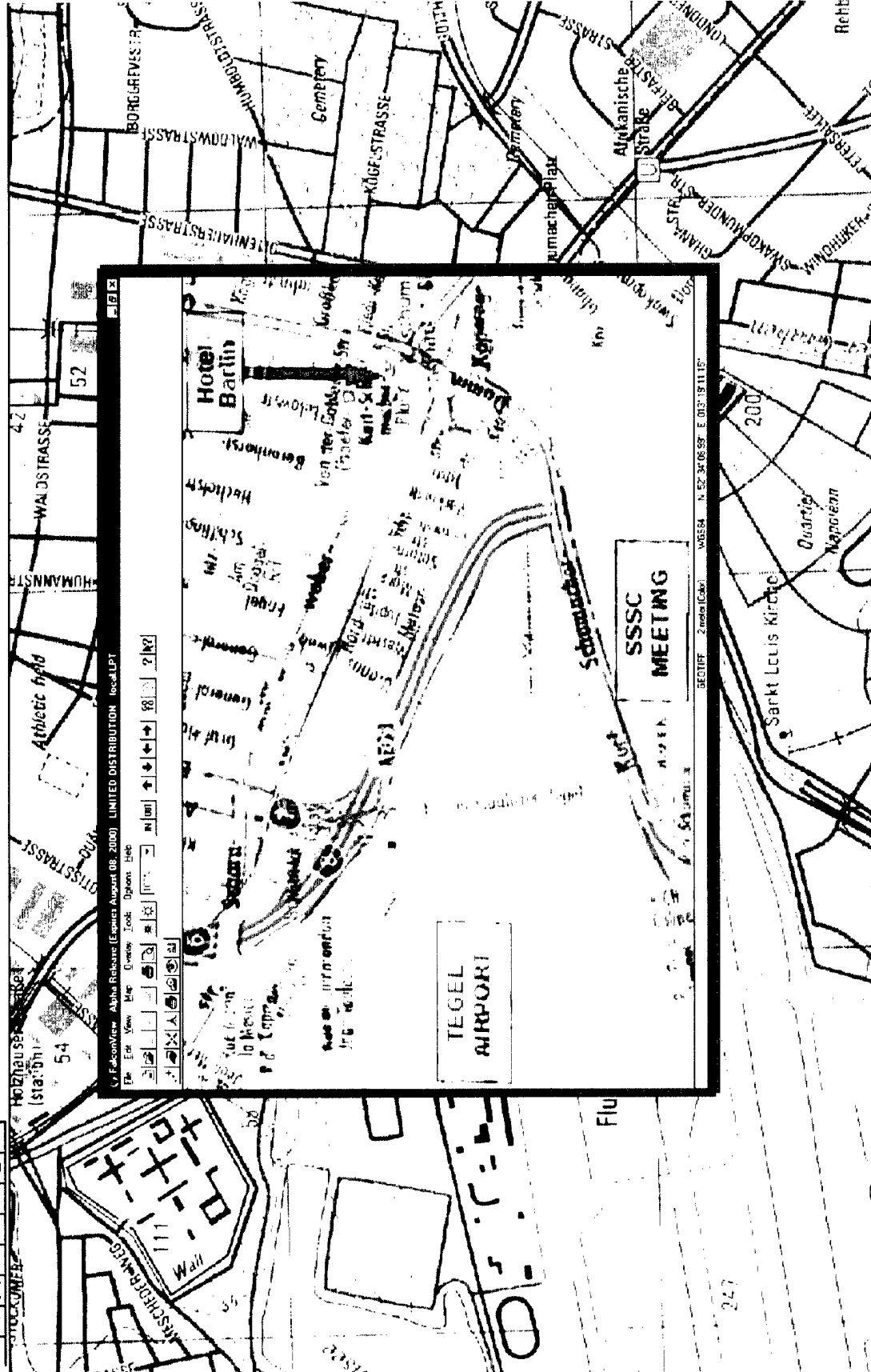
APY-6 SAR IMAGERY MERGED TO NAWCAD L-BAND MOSAIC



RESEARCH &
ENGINEERING







SkyView Alpha Version

File Edit View Map

98 98

FALCONVIEW 3.1.1 PROVIDES SKYVIEW 3-D TERRAIN DISPLAY

100%

IN OUT

98 10



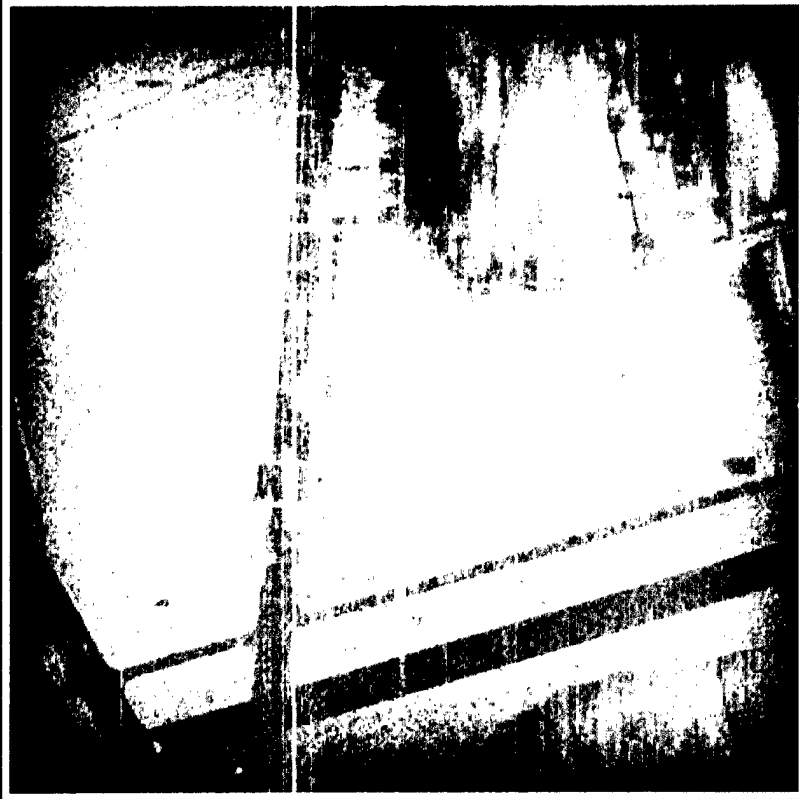
0 knots N 44° 04' 17.27" W 071° 17' 08.68" 324 (T) 336 (M) 3172 ft AGL 3942 ft MSL



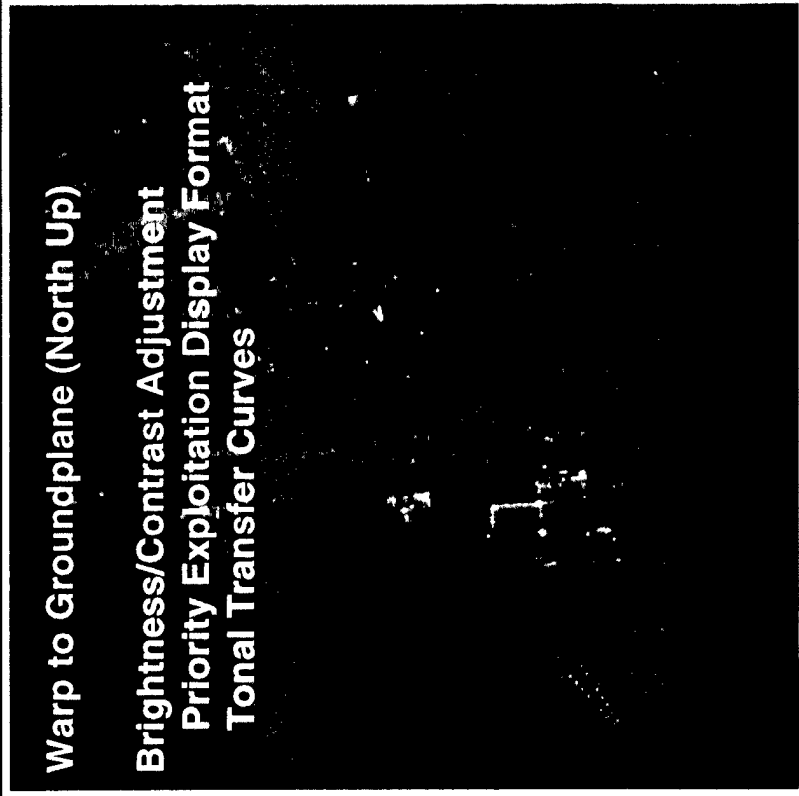
WGS84 N 44° 11' 23" W 071° 16' 58"

LARIAT

Imagery Enhancement (OpenELT)



Raw Image File



Warp to Groundplane (North Up)
Brightness/Contrast Adjustment
Priority Exploitation Display Format
Tonal Transfer Curves

LARIAT Processed

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LARIAT

RESEARCH &
ENGINEERING

LOW COST AIRBORNE RECONNAISSANCE IMAGERY ANALYSIS TOOL

HIGH PERFORMANCE DATA FUSION

**WARP, MERGE, SCALE, RECTIFY IMAGES TO MAPS
GEOCODING**

IMAGE ENHANCEMENT

INTEROPERABILITY

WINDOWS PC OPERATING SYSTEM

COTS AND GOTS SOFTWARE

PORTABILITY

PC LAPTOPS

PC WORKSTATIONS

SUPPORT THE NAVY VISION FOR NETWORK CENTRIC WARFARE