E-SYSTEMS
Garland Division

E-SYSTEMS ORGANIZATION

BOARD OF DIRECTORS

CHAIRMAN OF THE BOARD

PRESIDENT
JOHN W. DIXON

SENIOR VICE PRESIDENT
GROUP EXECUTIVE
ELECTRONICS SYSTEMS GROUP
D. H. TACKE

VICE PRESIDENT AND
GENERAL MANAGER
GARLAND DIVISION
E. G. KEIFFER

VICE PRESIDENT AND
GENERAL MANAGER
MELPAR DIVISION
F. O. BRIGHAM

VICE PRESIDENT AND
GENERAL MANAGER
MONTES DIVISION
G. J. THIERGARTNER

VICE PRESIDENT AND
GENERAL MANAGER
TELSATCOM DIVISION
W. L. SHOCKLEY

VICE PRESIDENT AND
GENERAL MANAGER
COMMERCIAL DIVISION
C. F. TURRENTINE

SENIOR VICE PRESIDENT
GROUP EXECUTIVE
AIRCRAFT SYSTEMS GROUP
R. H. MITCHELL

VICE PRESIDENT AND
GENERAL MANAGER
GREENVILLE DIVISION
A. L. LAWSON

VICE PRESIDENT AND
GENERAL MANAGER
SERV-AIR, INC.
C. S. MORRIS

PRESIDENT
AIR ASIA COMPANY, LTD.
A. WUESTE

SENIOR VICE PRESIDENT
GROUP EXECUTIVE
PRODUCTION ELECTRONICS GROUP
J. M. OSBORNE

VICE PRESIDENT AND
GENERAL MANAGER
ECI DIVISION
J. M. OSBORNE

VICE PRESIDENT AND
GENERAL MANAGER
MEMCOR DIVISION
H. L. THURMAN

CONTROL NO. BIF561W-B390-79 PAGE: 2
ORIGINATOR: G.P.M. DATE: 5-17-79
HANDLE VIA B'EMAN CONTROL SYSTEM ONLY
DERIVATIVE CL BY: TOE-1
REVIEW: MAY 17, 1999
DERIVED FROM: TOE-1

Approved for Release: 2017/08/16 C05099741
PROGRAMS
PRODUCT LINE OVERVIEW

PRESENT PROGRAMS

FUTURE PROGRAMS

PROPRIETARY PROGRAMS

REAPER/SETTER

TOP HAT I & II

RAQUEL I

STUDIES

TECHNOLOGY BASE

PRECISION PARAMETER MEASUREMENTS

DIGITAL PROCESSING

150 MHZ - 18 GHZ RX

(PULSED/CW)

DEINTERLEAVING

HIGH PROBABILITY INTERCEPT RX

MICROMIN TECH/DEVICES

LOW NOISE RX'S

HI-REL

PROVEN PERFORMANCE

TECHNOLOGY DEVELOPMENT

RAQUEL IA

TECHNOLOGY DEVELOPMENT

STUDIES LMSC/MMC

BLOCK CHANGE

PAYLOAD

MISC PROGRAMS

MISC STUDIES AND TECHNOLOGY DEVELOPMENT

CONTROL NO. BIF561W-B390-79 PAGE: 5
ORIGINATOR: G.P.M. DATE: 5-17-79
HANDLE VIA BYEAN CONTROL SYSTEM ONLY
DERIVATIVE CL BY: BYE-1 MAY 17, 1979
REVIEW: 20 YEARS FROM DATE OF ORIGIN
DERIVED FROM: BYE-1 25X1
## E-SYSTEMS PAYLOAD LAUNCH HISTORY

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>FREQUENCY</th>
<th>TARGETS</th>
<th>FLIGHT DATE</th>
<th>PERFORMANCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIRD DOG I</td>
<td>4.95 - 5.077 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>FEBRUARY 1964</td>
<td>11 DAYS</td>
</tr>
<tr>
<td>BIRD DOG I</td>
<td>4.95 - 5.077 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>JULY 1964</td>
<td>12 DAYS</td>
</tr>
<tr>
<td>BIRD DOG II</td>
<td>0.521 - 0.648 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>NOVEMBER 1964</td>
<td>4 DAYS</td>
</tr>
<tr>
<td>SQUARE TWENTY</td>
<td>1.55 - 1.75 GHz</td>
<td></td>
<td>OCTOBER 1965</td>
<td>12 DAYS</td>
</tr>
<tr>
<td>SETTER I</td>
<td>2.68 - 2.935 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>FEBRUARY 1966</td>
<td>41 DAYS</td>
</tr>
<tr>
<td>SETTER IA</td>
<td>2.96 - 2.935 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>DECEMBER 1966</td>
<td>159 DAYS</td>
</tr>
<tr>
<td>SETTER IB</td>
<td>2.6 - 3.2 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>JULY 1967</td>
<td>159 DAYS</td>
</tr>
<tr>
<td>SETTER IB-II</td>
<td>2.6 - 3.2 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>JANUARY 1968</td>
<td>436 DAYS</td>
</tr>
<tr>
<td>REAPER I</td>
<td>1.8 - 3.3 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>OCTOBER 1968</td>
<td>367 DAYS</td>
</tr>
<tr>
<td>REAPER II</td>
<td>1.8 - 3.3 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>JULY 1969</td>
<td>396 DAYS</td>
</tr>
<tr>
<td>CONVOY</td>
<td>0.160-0.900GHz</td>
<td>ABM RADARS</td>
<td>JULY 1969</td>
<td>390 DAYS</td>
</tr>
<tr>
<td>TOP HAT I</td>
<td>0.45 - 1.0 GHz</td>
<td></td>
<td>NOVEMBER 1970</td>
<td>44 MONTHS</td>
</tr>
<tr>
<td>REAPER III</td>
<td>1.8 - 3.3 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>AUGUST 1970</td>
<td>531 DAYS</td>
</tr>
<tr>
<td>REAPER IV</td>
<td>1.8 - 3.3 GHz</td>
<td>FOREIGN DEFENSE RADARS</td>
<td>JULY 1971</td>
<td>455 DAYS</td>
</tr>
<tr>
<td>TOP HAT II</td>
<td>0.45 - 1.0 GHz</td>
<td></td>
<td>APRIL 1974</td>
<td>STILL OPERATING</td>
</tr>
<tr>
<td>RAQUEL I</td>
<td>4 - 18 GHz</td>
<td></td>
<td>NOVEMBER 1974</td>
<td>STILL OPERATING</td>
</tr>
<tr>
<td>RAQUEL IA</td>
<td>4 - 18 GHz</td>
<td></td>
<td>SPRING 1978</td>
<td>STILL OPERATING</td>
</tr>
</tbody>
</table>
REAPER PAYLOAD

MISSION:
RADAR ORDER OF BATTLE & TECHNICAL INTELLIGENCE
ELINT COLLECTION SYSTEM FOR STRAWMAN STABILIZED AGENDA - P770

CONTRACT:
DESIGN, DEVELOPMENT & QUALIFICATION - 5 FLIGHT SYSTEMS & 2 GROUND SUPPORT SYSTEMS
SAFSP CONTRACT

PROGRAM STATUS:
DELIVERY:
1 REAPER MARCH 1968 - LAUNCHED OCTOBER 1968
2 REAPER OCTOBER 1968 - LAUNCHED JULY 1969
3 REAPER AUGUST 1969 - LAUNCHED AUGUST 1970
4 REAPER JANUARY 1971 - LAUNCHED JULY 1971
5 REAPER STORAGE

FEATURES:
COVERS MOST DENSE RADAR ENVIRONMENT IN SOVIET
ACCURATE & RELIABLE DIRECTION FINDING - 95% CONFIDENCE
DEINTERLEAVES & PRESORTS DATA - MINIMUM GROUND PROCESSING
WIDE BAND RECORDING OF TECHNICAL INTELLIGENCE
HIGH RELIABILITY PROGRAM - INCENTIVE FOR LIFE ON ORBIT
WEIGHT 230 LBS. POWER 230 WATTS