AIR DEFENSE COMMAND
BUIC POSITIONAL HANDBOOK

OPERATIONS

# BUIC II
# POSITIONAL HANDBOOK

SENIOR DIRECTOR
SENIOR DIRECTOR TECHNICIAN
WEAPONS DIRECTOR
WEAPONS DIRECTOR TECHNICIAN

1 JULY 1965

AIR DEFENSE COMMAND

HEADQUARTERS NORTH AMERICAN AIR DEFENSE COMMAND
Ent Air Force Base, Colorado
1 July 1965

# PREFACE

This Headquarters authorizes use of this document by all echelons of NORAD Component Commands directly affected by the BUIC II Computer program. Information contained herein shall be construed as official guidance for BUIC personnel.

FOR THE COMMANDER-IN-CHIEF:

M. M. MAGEE
Major General, USA
Chief of Staff


JAMES W. FEARS
Lieutenant Colonel, USAF
Director of Administrative Services

## FOREWORD

Applicability. This BUIC II Positional Handbook applies to all BUIC II units of the Air Defense Command.

Responsibilities. The Director of Aerospace Tactics and Training (ADOTT-C), Headquarters, Air Defense Command, is responsible for the establishment and evaluation of tactics and training principles utilized in the various air defense systems, including BUIC II. Each commander is responsible for complying with and implementing the procedures set forth herein.

Changes. Changes to this manual will be necessary as the system and its equipment change, as personnel gain operational experience, and as operational computer programs are revised by BUIC II Change Proposals (BCPs). Recommendations for revisions and/or changes to this manual are encouraged and will be submitted as follows:

From air defense sectors: to respective air divisions for approval.

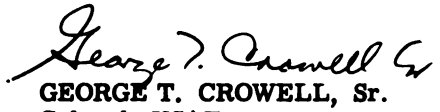
From air divisions and PHADS Program Test Division: to ADC Computer Programming and System Training Office (APASTO), Attn: AD8AS, P.O. Box 1406, Santa Monica, California, with an information copy directed to Hq ADC (ADOTT-C), Ent AFB, Colorado.

APASTO will consolidate and forward recommendations for revisions and/or changes directly affecting tactics and system training to Hq ADC (ADOTT-C), Ent AFB, Colorado. Proposed or recommended revisions and/or changes will not be implemented until such changes are published by Hq ADC. Changes will be issued as replacement pages.

Initial Distribution. The contractor will make initial distribution of ADCBPHs and changes in accordance with distribution lists provided by the Chief, APASTO. Using ADC and NORAD organizations below sector level will submit requirement changes through their parent sector for approval and forwarding to APASTO (AD8AS), P.O. Box 1406, Santa Monica, California. Other ADC and NORAD organizations and those not within ADC will submit requisitions direct to the Chief, APASTO. APASTO will advise the contractor to make initial distribution direct to the using organization. Each issue will contain the distribution symbol "X" and address list as stated in paragraph 14e, AFR 5-5/ADC Suppl 1, 28 December 1964.

Resupply. APASTO will provide, in the initial distribution, sufficient stock for resupply purposes to ADCAS-PD, Hq ADC, Ent AFB, Colorado. Units below sector level will submit requests for replacement or additional copies of ADCBPHs through their parent sector for approval and forwarding to APASTO for verification of the requirement. Other ADC and NORAD organizations, and those not within Air Defense Command, will submit requisitions direct to the Chief, APASTO. Chief, APASTO, will forward validated requests to ADCAS-PD for issue. Disapproved requests will be returned direct to the requesting ADC activity with appropriate notation. APASTO will forward requests from commands other than ADC to Hq ADC if disapproval is recommended.

**FOR THE COMMANDER:**



**GEORGE T. CROWELL, Sr.**
**Colonel, USAF**
**Chief, Computer Programming**
**and System Training Office**

LIST OF EFFECTIVE PAGES

| Page No. | Change Letter | Publication Date | Page No. | Change Letter | Publication Date |
|---|---|---|---|---|---|
| Preface | Basic | 1 July 1965 | 7-6 | Basic | 1 July 1965 |
| 1 | Basic | 1 July 1965 | 7-7 | Basic | 1 July 1965 |
| 2 | Basic | 1 July 1965 | 7-8 | Basic | 1 July 1965 |
| 3 | Basic | 1 July 1965 | 7-9 | Basic | 1 July 1965 |
| 4 | Basic | 1 July 1965 | 7-10 | Basic | 1 July 1965 |
| 5 | Basic | 1 July 1965 | 7-11 | Basic | 1 July 1965 |
| 6 | Basic | 1 July 1965 | 7-12 | Basic | 1 July 1965 |
| 7 | Basic | 1 July 1965 | 7-13 | Basic | 1 July 1965 |
| 8 | Basic | 1 July 1965 | 7-14 | Basic | 1 July 1965 |
| 9 | Basic | 1 July 1965 | 7-15 | Basic | 1 July 1965 |
| 10 | Basic | 1 July 1965 | 7-16 | Basic | 1 July 1965 |
| 1-1 | Basic | 1 July 1965 | 7-17 | Basic | 1 July 1965 |
| 1-2 | Basic | 1 July 1965 | 7-18 | Basic | 1 July 1965 |
| 1-3 | Basic | 1 July 1965 | 7-19 | Basic | 1 July 1965 |
| 1-4 | Basic | 1 July 1965 | 7-20 | Basic | 1 July 1965 |
| 2-1 | Basic | 1 July 1965 | 7-21 | Basic | 1 July 1965 |
| 2-2 | Basic | 1 July 1965 | 7-22 | Basic | 1 July 1965 |
| 2-3 | Basic | 1 July 1965 | 7-23 | Basic | 1 July 1965 |
| 3-1 | Basic | 1 July 1965 | 7-24 | Basic | 1 July 1965 |
| 3-2 | Basic | 1 July 1965 | 7-25 | Basic | 1 July 1965 |
| 3-3 | Basic | 1 July 1965 | 7-26 | Basic | 1 July 1965 |
| 3-4 | Basic | 1 July 1965 | 7-27 | Basic | 1 July 1965 |
| 4-1 | Basic | 1 July 1965 | 7-28 | Basic | 1 July 1965 |
| 4-2 | Basic | 1 July 1965 | 7-29 | Basic | 1 July 1965 |
| 4-3 | Basic | 1 July 1965 | 7-30 | Basic | 1 July 1965 |
| 5-1 | Basic | 1 July 1965 | 7-31 | Basic | 1 July 1965 |
| 5-2 | Basic | 1 July 1965 | 7-32 | Basic | 1 July 1965 |
| 5-3 | Basic | 1 July 1965 | 7-33 | Basic | 1 July 1965 |
| 5-4 | Basic | 1 July 1965 | 7-34 | Basic | 1 July 1965 |
| 5-5 | Basic | 1 July 1965 | 7-35 | Basic | 1 July 1965 |
| 5-6 | Basic | 1 July 1965 | 7-36 | Basic | 1 July 1965 |
| 5-7 | Basic | 1 July 1965 | 7-37 | Basic | 1 July 1965 |
| 5-8 | Basic | 1 July 1965 | 7-38 | Basic | 1 July 1965 |
| 5-9 | Basic | 1 July 1965 | 7-39 | Basic | 1 July 1965 |
| 5-10 | Basic | 1 July 1965 | 7-40 | Basic | 1 July 1965 |
| 5-11 | Basic | 1 July 1965 | 7-41 | Basic | 1 July 1965 |
| 5-12 | Basic | 1 July 1965 | 7-42 | Basic | 1 July 1965 |
| 5-13 | Basic | 1 July 1965 | 7-43 | Basic | 1 July 1965 |
| 6-1 | Basic | 1 July 1965 | 7-44 | Basic | 1 July 1965 |
| 6-2 | Basic | 1 July 1965 | 7-45 | Basic | 1 July 1965 |
| 6-3 | Basic | 1 July 1965 | 7-46 | Basic | 1 July 1965 |
| 6-4 | Basic | 1 July 1965 | 7-47 | Basic | 1 July 1965 |
| 6-5 | Basic | 1 July 1965 | 7-48 | Basic | 1 July 1965 |
| 6-6 | Basic | 1 July 1965 | 7-49 | Basic | 1 July 1965 |
| 7-1 | Basic | 1 July 1965 | 7-50 | Basic | 1 July 1965 |
| 7-2 | Basic | 1 July 1965 | 7-51 | Basic | 1 July 1965 |
| 7-3 | Basic | 1 July 1965 | 7-52 | Basic | 1 July 1965 |
| 7-4 | Basic | 1 July 1965 | 7-53 | Basic | 1 July 1965 |
| 7-5 | Basic | 1 July 1965 | 7-54 | Basic | 1 July 1965 |

(Page 2 Blank)

LIST OF EFFECTIVE PAGES (Cont'd)

| Page No. | Change Letter | Publication Date | Page No. | Change Letter | Publication Date |
|---|---|---|---|---|---|
| 7-55 | Basic | 1 July 1965 | 10-4 | Basic | 1 July 1965 |
| 7-56 | Basic | 1 July 1965 | 11-1 | Basic | 1 July 1965 |
| 7-57 | Basic | 1 July 1965 | 11-2 | Basic | 1 July 1965 |
| 7-58 | Basic | 1 July 1965 | 11-3 | Basic | 1 July 1965 |
| 7-59 | Basic | 1 July 1965 | 11-4 | Basic | 1 July 1965 |
| 7-60 | Basic | 1 July 1965 | A-1 | Basic | 1 July 1965 |
| 7-61 | Basic | 1 July 1965 | A-2 | Basic | 1 July 1965 |
| 7-62 | Basic | 1 July 1965 | A-3 | Basic | 1 July 1965 |
| 7-63 | Basic | 1 July 1965 | A-4 | Basic | 1 July 1965 |
| 8-1 | Basic | 1 July 1965 | A-5 | Basic | 1 July 1965 |
| 8-2 | Basic | 1 July 1965 | A-6 | Basic | 1 July 1965 |
| 8-3 | Basic | 1 July 1965 | | | |
| 8-4 | Basic | 1 July 1965 | | | |
| 8-5 | Basic | 1 July 1965 | | | |
| 8-6 | Basic | 1 July 1965 | | | |
| 8-7 | Basic | 1 July 1965 | | | |
| 8-8 | Basic | 1 July 1965 | | | |
| 8-9 | Basic | 1 July 1965 | | | |
| 8-10 | Basic | 1 July 1965 | | | |
| 8-11 | Basic | 1 July 1965 | | | |
| 8-12 | Basic | 1 July 1965 | | | |
| 8-13 | Basic | 1 July 1965 | | | |
| 8-14 | Basic | 1 July 1965 | | | |
| 8-15 | Basic | 1 July 1965 | | | |
| 9-1 | Basic | 1 July 1965 | | | |
| 9-2 | Basic | 1 July 1965 | | | |
| 9-3 | Basic | 1 July 1965 | | | |
| 9-4 | Basic | 1 July 1965 | | | |
| 9-5 | Basic | 1 July 1965 | | | |
| 9-6 | Basic | 1 July 1965 | | | |
| 9-7 | Basic | 1 July 1965 | | | |
| 9-8 | Basic | 1 July 1965 | | | |
| 9-9 | Basic | 1 July 1965 | | | |
| 9-10 | Basic | 1 July 1965 | | | |
| 9-11 | Basic | 1 July 1965 | | | |
| 9-12 | Basic | 1 July 1965 | | | |
| 9-13 | Basic | 1 July 1965 | | | |
| 9-14 | Basic | 1 July 1965 | | | |
| 9-15 | Basic | 1 July 1965 | | | |
| 9-16 | Basic | 1 July 1965 | | | |
| 9-17 | Basic | 1 July 1965 | | | |
| 9-18 | Basic | 1 July 1965 | | | |
| 9-19 | Basic | 1 July 1965 | | | |
| 9-20 | Basic | 1 July 1965 | | | |
| 9-21 | Basic | 1 July 1965 | | | |
| 9-22 | Basic | 1 July 1965 | | | |
| 10-1 | Basic | 1 July 1965 | | | |
| 10-2 | Basic | 1 July 1965 | | | |
| 10-3 | Basic | 1 July 1965 | | | |

## LIST OF PROGRAM CHANGES

The following BUIC computer program changes have been incorporated in this document.

Basic (1 July 1965)

CP 416M-M-16
CP 416M-M-17
CP 416 M-M-37
CP 416M-S-10, 012

ADC BUIC POSITIONAL HANDBOOK
No. 55-51

HEADQUARTERS, AIR DEFENSE COMMAND
Ent Air Force Base, Colorado
1 July 1965

Operations

# BUIC II POSITIONAL HANDBOOK
# BUIC SENIOR DIRECTOR
# BUIC SENIOR DIRECTOR TECHNICIAN
# BUIC WEAPONS DIRECTOR
# BUIC WEAPONS DIRECTOR TECHNICIAN

This handbook describes the operational functions, responsibilities, and relationships of the BUIC Senior Director, BUIC Senior Director Technician, BUIC Weapons Director, and BUIC Weapons Director Technician at BUIC NORAD Control Centers. Detailed procedures and standardized methods are presented to enable the operators to accomplish their assigned tasks.

In this handbook, the term Interceptor is used in a generic sense to include both manned Interceptors and Bomarcs where applicable. When the reference is specifically to a designated weapon, the term manned Interceptor, or Bomarc is used.

CONTENTS


| | Paragraph | Page |
|---|---|---|
| CHAPTER 1--BUIC SENIOR DIRECTOR (BSD) POSITION | | |
| Job Description | 1-1 | 1-1 |
| Initial, Bomarc Safety, and Final Procedures | 1-2 | 1-2 |
| Coordination Duties | 1-3 | 1-3 |
| CHAPTER 2--BUIC SENIOR DIRECTOR TECHNICIAN (BSDT) POSITION | | |
| Job Description | 2-1 | 2-1 |
| Initial and Final Procedures | 2-2 | 2-2 |
| Coordination Duties | 2-3 | 2-3 |
| CHAPTER 3--BUIC WEAPONS DIRECTOR (BWD) POSITION | | |
| Job Description | 3-1 | 3-1 |
| Initial and Final Procedures | 3-2 | 3-2 |
| Coordination Duties | 3-3 | 3-3 |
| CHAPTER 4--BUIC WEAPONS DIRECTOR TECHNICIAN (BWDT) POSITION | | |
| Job Description | 4-1 | 4-1 |
| Initial and Final Procedures | 4-2 | 4-2 |
| Coordination Duties | 4-3 | 4-3 |
| CHAPTER 5--OPERATIONAL FUNCTIONS | | |
| Modes of Operation | 5-1 | 5-1 |
| Track Assignment | 5-2 | 5-2 |
| Commitment | 5-3 | 5-3 |
| Recommitment | 5-4 | 5-4 |
| Interceptor Control | 5-5 | 5-5 |
| Internal Handover | 5-6 | 5-6 |
| External Handover | 5-7 | 5-7 |
| Navigational Assistance | 5-8 | 5-12 |
| Rescue Action | 5-9 | 5-13 |


OPR: ADOTT
DISTRIBUTION: X

This supersedes TM 1400/002/00 dated 1 December 1963.

(Page 6 Blank)

CONTENTS (Cont'd)


| | Paragraph | Page |
|---|---|---|
| CHAPTER 6--TAKEOVER | | |
| Purposes of Takeover | 6-1 | 6-1 |
| Takeover from a Parent SAGE DC | 6-2 | 6-2 |
| Takeover When One or More BUIC NCCs in a Sector Fails | 6-3 | 6-5 |
| From Active to Monitor Mode | 6-4 | 6-6 |
| CHAPTER 7--ACTIONS | | |
| General | 7-1 | 7-1 |
| AADCP On | 7-2 | 7-3 |
| GAT Option | 7-3 | 7-4 |
| SAFO On | 7-4 | 7-5 |
| SAFO Off | 7-5 | 7-6 |
| No Bomarc Authorized | 7-6 | 7-7 |
| Monitor Mode | 7-7 | 7-8 |
| Active Mode | 7-8 | 7-9 |
| Reinitiate | 7-9 | 7-10 |
| Airborne | 7-10 | 7-11 |
| Airborne With SIF Code | 7-11 | 7-12 |
| Insert Command Altitude | 7-12 | 7-13 |
| Insert Command Speed | 7-13 | 7-14 |
| Start Lateraltell for Tracking | 7-14 | 7-15 |
| Start Lateraltell for Interception | 7-15 | 7-16 |
| Accept Handover--Manned Interceptor | 7-16 | 7-17 |
| Accept Handover--Bomarc | 7-17 | 7-18 |
| Accept Handover--Non-Interceptor | 7-18 | 7-19 |
| Unconditional Commit--Bomarc | 7-19 | 7-20 |
| Assign/Reassign | 7-20 | 7-21 |
| Pass Track | 7-21 | 7-22 |
| Commit--Manned Interceptors for Interception | 7-22 | 7-23 |
| Commit--Manned Interceptors for CAP | 7-23 | 7-25 |
| Commit--Bomarc for Interception | 7-24 | 7-27 |
| Recommit--Manned Interceptors for Interception | 7-25 | 7-28 |
| Recommit--Manned Interceptor to CAP | 7-26 | 7-29 |
| Recommit--Manned Interceptor to RTB | 7-27 | 7-30 |
| Recommit--Bomarc for Interception | 7-28 | 7-31 |
| Recommit--Bomarc for CAP | 7-29 | 7-32 |
| Bomarc Authorized | 7-30 | 7-33 |
| Drop | 7-31 | 7-34 |
| Assign SIF Number | 7-32 | 7-35 |
| Insert Attack Option | 7-33 | 7-37 |
| Modified Close Control | 7-34 | 7-38 |
| Insert Armament | 7-35 | 7-39 |
| Extrapolate | 7-36 | 7-40 |
| Target Altitude Return | 7-37 | 7-41 |
| Insert Target Altitude | 7-38 | 7-43 |
| Insert Manual Heading | 7-39 | 7-44 |
| Change Configuration--Tanks or Clean | 7-40 | 7-45 |
| Insert Fuel | 7-41 | 7-46 |
| Command Tracking On | 7-42 | 7-47 |
| Insert Present Altitude | 7-43 | 7-49 |
| Cease Fire | 7-44 | 7-50 |
| Hold Fire | 7-45 | 7-51 |

CONTENTS (Cont'd)


| | Paragraph | Page |
|---|---|---|
| CHAPTER 7--ACTIONS (Cont'd) | | |
| TACAN Off | 7-46 | 7-52 |
| Insert Combat Speed | 7-47 | 7-53 |
| Insert Combat Altitude | 7-48 | 7-54 |
| Squadron Track Numbers | 7-49 | 7-55 |
| Flight Size | 7-50 | 7-56 |
| Gate Climb | 7-51 | 7-57 |
| Cancel Bomarc Commitment | 7-52 | 7-58 |
| Cancel Lateraltell | 7-53 | 7-59 |
| Cancel Manual Heading | 7-54 | 7-60 |
| Command Tracking Off | 7-55 | 7-61 |
| AADCP Off | 7-56 | 7-62 |
| Dump Track | 7-57 | 7-63 |
| CHAPTER 8--DISPLAYS AND DISPLAY REQUESTS | | |
| Summary of Available Displays | 8-1 | 8-1 |
| Request Clear Tabular Display | 8-2 | 8-6 |
| Request Mission Tabular Display | 8-3 | 8-7 |
| Remove Mission Tabular Display | 8-4 | 8-8 |
| Request Weapons Availability | 8-5 | 8-9 |
| Request SIF Monitoring Display | 8-6 | 8-10 |
| Request Track Tabular Display | 8-7 | 8-11 |
| Request Adjacent Sector Operational Status | 8-8 | 8-12 |
| Request Alter CAD | 8-9 | 8-13 |
| Request Clear CAD | 8-10 | 8-14 |
| Request Commitment Assistance Display (CAD) | 8-11 | 8-15 |
| CHAPTER 9--ALARMS AND ATTENTION DISPLAYS | | |
| General | 9-1 | 9-1 |
| Track Assignment Alert (Interceptor) (SID and TD) | 9-2 | 9-1 |
| Unassigned Track (Interceptor) (SID and TD) | 9-3 | 9-2 |
| Backtold Track Moved (Interceptor) | 9-4 | 9-2 |
| No Updating Information for 2 Minutes (Interceptor) | 9-5 | 9-3 |
| Manned Interceptor Speed and/or Altitude Change Alert | 9-6 | 9-3 |
| Manned Interceptor Recommended Tactics | 9-7 | 9-4 |
| Manned Interceptor Impossible Intercept | 9-8 | 9-5 |
| Manned Interceptor--Fuel Reserve | 9-9 | 9-6 |
| Manned Interceptor Offset/Intercept/Nuclear Burst Point | 9-10 | 9-7 |
| Manned Interceptor New Heading | 9-11 | 9-8 |
| Manned Interceptor/Bomarc Foldback | 9-12 | 9-9 |
| Manned Interceptor/Bomarc Handover Imminent (SID and TD) | 9-13 | 9-10 |
| Manned Interceptor/Bomarc Handover Completed Alert | 9-14 | 9-10 |
| Bomarc Impossible Intercept | 9-15 | 9-11 |
| Bomarc Assignment Cancelled | 9-16 | 9-11 |
| Bomarc Intercept/Nuclear Burst Point | 9-17 | 9-12 |
| Bomarc Recommit Impossible | 9-18 | 9-12 |
| Bomarc Precommit | 9-19 | 9-13 |
| Committed Target Track Change Alert | 9-20 | 9-14 |
| MK X Emergency Alert | 9-21 | 9-15 |
| Surveillance Track Attention | 9-22 | 9-16 |
| Aircraft Unsafe Attention Device | 9-23 | 9-17 |
| Situation Alarm: Action Feedback | 9-24 | 9-18 |

CONTENTS (Cont'd)


| | Paragraph | Page |
|---|---|---|
| CHAPTER 9--ALARMS AND ATTENTION DISPLAYS (Cont'd) | | |
| Situation Alarm: Adjacent Sector Status Change | 9-25 | 9-19 |
| Unassigned Track | 9-26 | 9-19 |
| Operational Conditions Display | 9-27 | 9-20 |
| Hold/Cease Fire Alarm | 9-28 | 9-20 |
| Mode of Startover | 9-29 | 9-21 |
| ADA Input Status Alarm | 9-30 | 9-21 |
| Equipment Malfunction Display | 9-31 | 9-22 |
| CHAPTER 10--EMERGENCY CONDITIONS | | |
| Startup/Startover | 10-1 | 10-1 |
| CHAPTER 11--BSD COORDINATION WITH THE BFMM | | |
| Display of Equipment Error Information | 11-1 | 11-1 |
| Status Information Received from BFMM | 11-2 | 11-2 |
| Repair Decisions | 11-3 | 11-3 |
| Other Types of Decisions | 11-4 | 11-4 |
| APPENDIX | | |
| BSD/BWD Console | | A-1 |


LIST OF ILLUSTRATIONS


| | Figure | Page |
|---|---|---|
| CHAPTER 7 | | |
| Insert Attack Option | 7-1 | 7-36 |
| Insert Target Altitude | 7-2 | 7-42 |
| Insert Present Altitude | 7-3 | 7-48 |
| CHAPTER 8 | | |
| Category-Selectable Displays | 8-1 | 8-2 |
| Requested or Forced SIDs | 8-2 | 8-4 |
| Requested and Forced TDs | 8-3 | 8-5 |
| APPENDIX | | |
| BSD/BWD Console | A-1 | A-3 |

# CHAPTER 1

# BUIC SENIOR DIRECTOR (BSD) POSITION

## 1-1 JOB DESCRIPTION

The BUIC Senior Director (BSD), the officer in charge of the BUIC NORAD Control Center (BUIC NCC), supervises all BUIC NCC personnel and coordinates the activities of his BUIC NCC with those of its parent SAGE Direction Center (DC), adjacent DCs and BUIC NCCs, higher echelons of command, and other external agencies.

The BSD must know the functions and actions of all BUIC NCC personnel. He is responsible for obtaining the most effective use of BUIC NCC capabilities; for promptly recognizing and dealing with emergency situations; for determining the need for, and frequency of, training exercises; and for supervising all training programs.

The BSD is responsible for the weapons function at his BUIC NCC, and can perform all weapons-function activities. As an active weapons-function operator he is responsible for air-situation monitoring, track assignment, and weapons commitment and control. He must know the capabilities, performance characteristics, armament, and tactics of Interceptors available to the BUIC NCC; the anticipated tactics and weapons capabilities of enemy aircraft; the capabilities of BUIC NCC radar, communications and data-transmission equipment; and the locations of manned Interceptor and Bomarc bases, Army Air Defense Command Posts (AADCPs), special areas, and probable target complexes in his own and adjacent areas. (A brief description of the major operational weapons-function activities, applicable to both the BSD and the BUIC Weapons Directors, is presented in Chapter 5.) Although he controls the use of nuclear-armed manned Interceptors, Bomarcs, and Air Defense Artillery while operating in the Active mode, the BSD must secure authorization prior to their commitment. This means that the BSD must know all directives, rules, and policies governing the use of nuclear weapons within the BUIC NCC's area of responsibility before taking appropriate switch actions.

**C A U T I O N**

To ensure Bomarc nuclear safety, the computer room and the console room, in the building in which the BUIC NCC is housed, are individually designated as No-Lone zones. Accordingly, the BSD is responsible for maintaining the two-man concept, that is, ensuring that two qualified persons are present in these zones at all times.

The BSD must keep informed of the current air situation, weather, equipment status, and intelligence reports. He must know the capabilities and limitations of the computer program so that he can decide which startover mode to use if computer difficulties, power failure, or other difficulties make startover necessary. The BSD must also know the procedures for conducting active air defense in either scheduled or unscheduled takeover from a parent SAGE DC. Finally, the BSD must know the procedure for takeover of a companion BUIC NCC's responsibilities (including communication duties) to an adjacent Sector, if one or more companion BUIC NCCs become inoperative.

The BSD is provided with a console containing a situation information display (SID) scope, tabular display (TD) scope, light pen, and switch-action buttons (see figure A-1). Telephone and ground-to-air radio equipment are also provided.

# 1-2 INITIAL, BOMARC SAFETY, AND FINAL PROCEDURES

## a. INITIAL PROCEDURES

(1) Receive a briefing by the BUIC Senior Director (BSD) being relieved or from personnel at the parent SAGE DC. Information should include:

(a) BUIC NCC mode of operation.
(b) General description of the air situation.
(c) Current weapons situation.
(d) Equipment status.
(e) Current and scheduled manning arrangement.
(f) Current and forecast weather conditions.
(g) Intelligence and other operational information.

(2) Conduct a general briefing for all personnel before they relieve the current crew. The general briefing should include:

(a) BUIC NCC mode of operation.
(b) A summary of any intelligence factors that could affect operations.
(c) Current and forecast weather, air situation, weapons and equipment status, any special operational rules or conditions, and any other pertinent information.

(3) Brief individuals on any special operating information.
(4) Inspect seals, keys, and related equipment used with the BOMARC SAFETY INTERLOCK switch.
(5) Take appropriate action upon detecting a break or evidence of tampering in the seal of a BOMARC SAFETY INTERLOCK switch. (See paragraph b. (4).)
(6) Brief the BUIC Senior Director Technician (BSDT) on any specific duties or activities.
(7) Assume responsibility for the BSD position.

## b. BOMARC SAFETY PROCEDURES

(1) Ensure that only properly designated persons install or remove the seals of a BOMARC SAFETY INTERLOCK switch.
(2) Authorize the removal of seals from a BOMARC SAFETY INTERLOCK switch only under the following conditions:

(a) When required in preparation for an actual launching of a Bomarc during hostilities.
(b) When required for console maintenance.

(3) Maintain proper security for all seals, dies, crimping devices, and keys used with the BOMARC SAFETY INTERLOCK switch.
(4) On detecting a break or evidence of tampering in the seal of a BOMARC SAFETY INTERLOCK switch, initiate appropriate action for checks of Bomarc systems and for resealing of the BOMARC SAFETY INTERLOCK switch.

## c. FINAL PROCEDURES

(1) Brief the relieving BSD as in a. (1) above.
(2) As required, debrief the crew being relieved for improvement of training.
(3) After any operations requiring the breaking and reapplication of seals on a BOMARC SAFETY INTERLOCK switch, inspect these seals to make certain they have been properly installed.

# 1-3 COORDINATION DUTIES

As the officer in charge of the BUIC NCC, the BSD coordinates with all BUIC NCC positions and is the chief coordinator with external facilities. The BSD alerts affected positions to situations and conditions that require attention or action, and receives requests for coordination. The BSD tells and receives information and instructions by means of computer displays, switch and light-pen actions, verbal communications, and telephone and radio transmission.

| POSITION/FACILITY | PURPOSE OF COORDINATION |
|---|---|
| AADCP | To coordinate the use of ADA weapons.<br>To receive operational information.<br>To provide Hold Fire/Cease Fire restriction for a passed track.<br>To coordinate the passing of tracks (live and simulated). |
| Interceptor Combat Alert Center and/or IMSOC | To obtain operational and status information.<br>To scramble manned Interceptors.<br>To brief and debrief aircrews. |
| BUIC Air Surveillance Operator (BASO) | To advise on mapping.<br>To advise on equipment operation.<br>To coordinate on the dropping of tracks.<br>To reinitiate Interceptor tracks that are not established.<br>To request or receive information on tracks.<br>To assign responsibility for air surveillance functions.<br>To order operational recording.<br>To notify of pilots' identification reports.<br>To coordinate on lateraltell tracks. |
| BUIC Target Monitor (BASO TM) | To coordinate on Unsafe tracks. |
| BUIC Facility Maintenance Monitor (BFMM)<br>(For detailed information, see Chapter 11) | To coordinate startup, startover and shutdown.<br>To receive maintenance status and repair information.<br>To set up preventive maintenance schedules. |
| BUIC Interceptor Pilot Simulator (BIPs) | To coordinate simulation training.<br>To provide operator actions during training exercises. |
| BUIC Manual Inputs Operator (BMIO) | To provide operational guidance.<br>To request a specific manual input track.<br>To relay manual input information.<br>To change console configuration.<br>To receive operational information. |
| BUIC Weapons Director (BWD) | To provide operational guidance.<br>To receive mission results and Interceptor status.<br>To receive emergency-situation and equipment-malfunction reports.<br>To pass, accept, or coordinate on internal handover of Interceptors. |

| POSITION/FACILITY | PURPOSE OF COORDINATION |
|---|---|
| BUIC Weapons Director (BWD) (Cont'd) | To receive and relay operational information. |
| Pilot/Aircrew | To control the performance of aircraft.<br>To provide guidance instructions via voice control.<br>To make periodic checks of fuel and armament.<br>To alert pilots to special or dangerous air situations.<br>To receive and input pilot reports into the computer.<br>To relay flight information. |
| Senior Director (SD)--Same or Adjacent Sector | To coordinate takeover and BUIC NCC mode of operation. |
| SD, Weapons Director (WD), Intercept Director (IND) } Adjacent Sector | To coordinate external handover of manned Interceptors and Bomarc.<br>To coordinate training exercises. |
| BSD, BWD } Adjacent BUIC NCC | To coordinate external handover of manned Interceptors and Bomarcs.<br>To determine allocation of squadron track numbers.<br>To coordinate training exercises. |
| SAGE Sector Commander or Higher Authority | To obtain authorization to use nuclear weapons. |

# CHAPTER 2

# BUIC SENIOR DIRECTOR TECHNICIAN (BSDT) POSITION

## 2-1 JOB DESCRIPTION

The BUIC Senior Director Technician (BSDT) is directly responsible to the BSD and under his direction handles switch actions, communications, and training programs. He must know the functions, duties, and responsibilities of the BSD and be prepared to carry out the BSD's instructions and directives.

The BSDT assists the BSD by operating the BSD console, relaying all incoming telephone calls, making outgoing phone calls as directed, monitoring the air situation, and following directives of the BSD.

The BSDT supervises the position assignment and training of enlisted personnel. Therefore, he must know the responsibilities and duties of the positions manned by airmen and be prepared to instruct and coordinate the training requirements of each position.

# 2-2 INITIAL AND FINAL PROCEDURES

## a. INITIAL PROCEDURES

(1) Attend the BSD's general briefing.
(2) Receive a briefing by the BSDT being relieved or from personnel at the parent SAGE DC. Information should include:

(a) General description of the over-all situation as it applies to the BSDT position.
(b) Any specific information applicable to the BSDT function.

(3) Receive a briefing by the BSD. The BSD briefs the BSDT on any specific duties and informs him of any changes in enlisted-personnel assignments or training requirements.

## b. FINAL PROCEDURES

Brief the relieving BSDT as in a. (2) above.

## 2-3 COORDINATION DUTIES

The BSDT accepts reports for the BSD and relays information from the BSD. The BSDT also performs the BSD's coordination duties (see paragraph 1-3) when directed to do so by the BSD.

| POSITION/FACILITY | PURPOSE OF COORDINATION |
|---|---|
| Interceptor Combat Alert Center | To pass scramble orders.<br>To receive manned Interceptor airborne and abort reports. |
| BASO | To receive and relay operational information. |
| BFMM | To receive reports of equipment malfunction and relay information. |
| BWD | To receive and relay operational information. |
| BIPS | To coordinate simulation training procedures. |
| BMIO and Status Technician (ST) | To receive operational information and to relay instructions. |

# CHAPTER 3

# BUIC WEAPONS DIRECTOR (BWD) POSITION

## 3-1 JOB DESCRIPTION

The BUIC Weapons Director (BWD) is responsible to the BSD. The major functions of the BWD are: monitoring the air situation, passing tracks to an AADCP, committing weapons, and controlling and handling over Interceptors.

The BWD must know the location, quantities, and characteristics of each weapon available to the BUIC NCC. He must know: all directives, rules, and policies governing the use of weapons; the tactics, performance characteristics, and armament capabilities of Interceptors; anticipated hostile tactics; launch characteristics of Bomarcs; location of airbases and alternate recovery bases; current and forecast weather; terrain features; location and capabilities of tied AADCPs; and the capabilities of radar, communications, and data transmission equipment.

As an active weapons-function operator, the BWD is responsible for committing Interceptors in response to assignments received from the BSD, and for monitoring and controlling all tracks assigned to him.

A brief description of the major operational weapons-function activities, applicable to both the BSD and BWDs, is presented in Chapter 5.

The BWD is provided with a console containing a situation information display (SID) scope, tabular display (TD) scope, light pen, and switch-action buttons. (See figure A-1.) Telephone and ground-to-air radio equipment are also provided.

# 3-2 INITIAL AND FINAL PROCEDURES

## a. INITIAL PROCEDURES

(1) Attend the BSD's general briefing.
(2) Receive a briefing on current situation from the BWD being relieved or from the personnel at the parent SAGE DC. Information should include:

(a) General description of over-all air situation.
(b) Equipment status.

(3) Brief the BUIC Weapons Director Technician (BWDT) on specific duties and activities.
(4) Assume responsibility for the BWD position.

## b. FINAL PROCEDURES

Brief the relieving BWD as in a. (2) above.

## 3-3 COORDINATION DUTIES

The BWD monitors the air situation and alerts affected positions to conditions and situations that require attention or action. He receives and relays requests for attention or action. The BWD tells and receives information and instructions by means of computer displays, switch and light-pen actions, verbal communication, and telephone and radio transmission.

| POSITION/FACILITY | PURPOSE OF COORDINATION |
|---|---|
| AADCP | To coordinate use of ADA weapons.<br>To receive operational information.<br>To provide a Hold Fire/Cease Fire restriction for a passed track.<br>To coordinate the passing of tracks (live and simulated). |
| Interceptor Combat Alert Center | To scramble manned Interceptors.<br>To obtain operational and status information.<br>To brief and debrief aircrews. |
| BASO | To coordinate the dropping of tracks.<br>To reinitiate Interceptor tracks that are not established.<br>To request or receive verbal information on a track.<br>To notify of pilots' identification reports.<br>To coordinate on lateraltell tracks. |
| BASO TM | To coordinate on Unsafe tracks. |
| BIPS | To coordinate simulation training procedures.<br>To provide operator actions during training exercises. |
| BFMM | To relay equipment-malfunction information. |
| BMIO | To request a specific manual input track.<br>To relay manual input information. |
| BSD | To receive or request operational guidance.<br>To relay operational information.<br>To coordinate on internal handover of Interceptors. |
| Pilot/Aircrew | To control the guidance of aircraft via computer and voice instructions.<br>To provide guidance instructions via voice control.<br>To make periodic checks of fuel and armament.<br>To alert pilots to special or dangerous air situations.<br>To receive and input pilots' reports into the computer.<br>To relay flight information. |

| POSITION/FACILITY | | PURPOSE OF COORDINATION |
|---|---|---|
| BSD<br>BWD | Adjacent BUIC NCC | To coordinate external handover of Interceptors. |
| SD<br>WD<br>IND | Adjacent Sector | To coordinate external handover of Interceptors. |

# CHAPTER 4

# BUIC WEAPONS DIRECTOR TECHNICIAN (BWDT) POSITION

## 4-1 JOB DESCRIPTION

The BUIC Weapons Director Technician (BWDT) is directly responsible to the BWD. He assists the BWD by operating the console, and by obtaining or transmitting information or instructions by telephone and radio.

The BWDT must be thoroughly familiar with the sequence of, and required insertions for, BWD actions, since the BWDT takes most of the BWD's switch actions.

The BWDT transmits scramble orders to Interceptor Combat Alert Centers; receives status, airborne, and abort information; and handles incoming and outgoing telephone calls at the direction of the BWD.

# 4-2 INITIAL AND FINAL PROCEDURES

## a. INITIAL PROCEDURES

(1) Attend the BSD's general briefing.
(2) Receive a briefing by the BWDT being relieved or by personnel at the parent SAGE DC.
(3) Receive a briefing by the BWD on specific operational instructions.

## b. FINAL PROCEDURES

Brief the relieving BWDT as in a. (2) above.

## 4-3 COORDINATION DUTIES

The BWDT obtains or transmits information or instructions as directed by the BWD. The BWDT normally handles all routine communications for the BWD, telling and receiving information by telephone, computer displays, and switch actions. BWD coordination duties (paragraph 3-3) are applicable to the BWDT, as directed by the BWD.

# CHAPTER 5

# OPERATIONAL FUNCTIONS

## 5-1 MODES OF OPERATION

A BUIC NCC can operate in three modes:

a. **MONITOR MODE**

The BUIC NCC monitors the air situation in its area of responsibility but does not conduct the active air defense operations.

b. **ACTIVE MODE**

The BUIC NCC conducts active air defense operations in its area of responsibility.

c. **SIMULATION MODES**

The BUIC NCC simulates Monitor and Active mode operations; it also simulates transition from one mode to another.

The BUIC NCC may monitor the air situation in its area of responsibility or assume responsibility for active air defense operations, depending on the operational capabilities of its associated DC and adjacent DCs.

The associated DC is referred to as the parent of the BUIC NCC or BUIC NCCs in its Sector. A BUIC NCC and its parent DC cannot simultaneously conduct active air defense operations in the Sector. Therefore, when a DC is operating in SAGE Mode I, the BUIC NCC to which it is parent operates in Monitor mode; in SAGE Mode II, the expanding DCs conduct all active air defense and become parent to the BUIC NCC in the disabled Sector, provided that the expanding DCs assume responsibility for the entire Sector.

If a Sector contains two or more BUIC NCCs, and if one of these BUIC NCCs changes mode, the others automatically switch to the same mode (Active or Monitor).

## 5-2 TRACK ASSIGNMENT

Track assignment is the process by which responsibility for a track is given to a specified director. The track can be assigned (1) automatically by the program, (2) by BSD switch action, or (3) a director can assign a track to himself by taking a Commit action on the track. The assigned track is forced to the specified director's console for as long as the assignment is in effect.

## 5-3 COMMITMENT

Manned Interceptors are available to all BUIC NCCs. Bomarcs may be available to a BUIC NCC. Manned Interceptors are scrambled to intercept Hostile targets, to identify Unknown aircraft (by means of pilot observation), for combat air patrol (CAP), and for training. (Manned Interceptors committed to CAP are normally directed to an area from which subsequent recommitment to an intercept mission will be suitable.)

The BSD or an authorized BWD can commit Bomarcs for interception only. In the Active mode, the track identity of the target must be Hostile. In the Monitor mode or Simulation modes, the track identity of the target must not be Hostile, manned Interceptor, or Bomarc.

In deciding on the number and type of Interceptors to commit against a given target, a director must rely largely upon experience and judgment, although the number of manned Interceptors or Bomarcs to be committed under various circumstances may be determined by Standing Operating Procedure (SOP).

To obtain helpful information in committing Interceptors, the BSD and BWDs can request a Commitment Assistance Display (CAD) on a specified track. The CAD can present the intercept capabilities of two weapon sources at any one time. The director can alter the CAD for manned Interceptor squadrons by changing the climb option and/or fuel configuration. The new display (Alter CAD) replaces the current display for that squadron.

The primary consideration in choosing a weapon is time to go. Unless overriding factors prevail, a target should be committed against by the weapon that has the shortest time to go and that has good intercept capabilities against the target.

Other considerations in selecting Interceptors for commitment are the speed and altitude of the target. In selecting manned Interceptors, the relationships between target altitude, target speed, Interceptor armament, tactics, and capabilities of the Interceptor must be considered. Although the program automatically selects tactics and armament at the time of commitment, the director can override the selection of tactics and/or armament by switch action.

The program determines tactics for a Bomarc interception.

Other commitment considerations include the present and forecast weather conditions at takeoff and recovery bases, the number of manned Interceptors on various states of alert at each base, and the number of Bomarc missiles available at various launch sites. Status information is available through situation and tabular displays and from information displayed on the Vu-graph.

## 5-4 RECOMMITMENT

The BSD or BWD can recommit manned Interceptors or Bomarcs to targets or missions other than that specified in the original commitment. Recommitment is usually based on considerations of the Interceptor's fuel, armament, and capability; its capability against the present target (if any), its capability against the new target or for the new mission; its recovery possibilities; and the availability of other Interceptors. Recommitment action can be taken to intercept targets that are more threatening, to change an interception mission to CAP, or to put a manned Interceptor on return to base (RTB).

Bomarc recommitment for interception is not in effect until the program has determined that an intercept is possible and that the Bomarc has a specified remaining midflight time. If Bomarc recommitment for interception is not possible, the Bomarc Recommit attention display is forced to the director taking the action and the previous commitment remains in effect.

Normally, manned Interceptors recommitted to RTB are not considered as weapon sources for further recommitment. Except for display purposes, RTB is equivalent to CAP; no guidance instructions are generated.

# 5-5 INTERCEPTOR CONTROL

When a BSD or BWD takes Commit Bomarc action and the commitment is possible, the program automatically selects the missile to be launched and transmits instructions to the launch site via data link. The program continues to control the Bomarc to intercept unless the assigned director takes override actions.

Bomarcs on CAP receive the last interception command heading unless the Insert Manual Heading action is taken. Bomarcs can be put on CAP by the Recommit--Bomarc for CAP action, or are put on CAP automatically if the target is dropped or reidentified as non-Hostile.

When a BSD or BWD takes the Commit Action to commit a manned Interceptor for an interception mission and the commitment is possible, or to commit a manned Interceptor to CAP, the Scramble Track TD is presented to the assigned director. The director technician must relay the scramble information to the Interceptor Combat Alert Center via the telephone. After the committed manned Interceptor is airborne, the assigned director takes the Airborne action to change the track status from Scramble to Airborne.

The assigned director monitors the manned Interceptor's progress on his display console. If the manned Interceptor has data-link capabilities, the program automatically transmits guidance instructions. If the manned Interceptor is being controlled by voice communications, the director must transmit guidance instructions as they appear on the display console.

Manned Interceptors placed on CAP or RTB do not receive program-generated guidance. Guidance instructions must be inserted by switch actions for data link transmission or be voice transmitted to the aircrew. Manned Interceptors on intercept mission are automatically placed on CAP 16 cycles after time to go to intercept equals zero.

Each director must monitor the air situation and advise pilots of impending dangers or other conditions. Attention displays and alarms are forced to the BSD and/or BWD consoles to alert the directors of various program-detected conditions. Other relevant conditions that must be monitored are: fuel, armament, oxygen, configuration, and mission.

# 5-6 INTERNAL HANDOVER

## a. DESCRIPTION

Internal handover consists of transferring the responsibility for a specific track from one director to another director in the same facility.

## b. ACTIONS

The transfer is first coordinated between the two directors (for manned Interceptors, the aircrew is also notified). The transfer is effected when the BSD takes the Reassign action, specifying that the track be assigned either to himself or to a BWD. If the specified track is a target track, all paired Interceptor tracks are also assigned to the new director.

# 5-7 EXTERNAL HANDOVER

## a. ADJACENT BUIC NCC OR SAGE DC

External handover consists of transferring responsibility for a track from one BUIC NCC's or SAGE DC's area of responsibility into another control facility's area of responsibility. Handover is used to maintain continuity of tracking and/or interception procedure when two controlling agencies are involved. Different handover procedures are used for manned Interceptor tracks, Bomarc tracks, and non-Interceptor tracks.

External handover is illegal in the Monitor mode.

(1) MANNED INTERCEPTORS

### (a) DESCRIPTION

External handover of manned Interceptors to an adjacent facility can be accomplished for any mission.

### (b) ACTIONS

To initiate handover when an Interceptor passes into another control area, the BSD or BWD to whom the Interceptor track is assigned can take the Start Lateraltell for Tracking action. Both the manned Interceptor and the target (if any) are lateraltold for tracking to the receiving facility, where they are carried with a told-in status.

The lateraltold-in track is assigned to a director in the receiving facility. In a BUIC NCC, the BSD assigns the track either to himself or to a BWD, unless the track is paired with a target that has been assigned to a particular director; in that case, the manned Interceptor track is automatically assigned to the director to whom the target track is assigned.

When the losing facility receives the receiving director's radio frequency, the Handover Imminent attention display is forced to the losing director.

The losing director transmits the new director's radio frequency to the pilot, and the pilot contacts the new director. After the pilot has established radio contact, the new director takes the Accept Handover action; guidance computations and TDDL transmission are then started in the new facility. The Request Transfer message is repeatedly transmitted to the losing facility. When the Request Transfer message is received, the Handover Completed alert display is forced to the losing director, and the Transfer message is sent to the new facility. The losing facility drops the manned Interceptor track and automatically deassigns the losing director (in approximately two minutes) if the track is not lateraltold back to the losing facility.

If the new facility does not receive the Transfer message within approximately two minutes, the BUIC NCC stops sending Request Transfer messages, forces a No Updating Information For Two Minutes attention display to the assigned director, and makes the track eligible for reinitiation.

### (c) RESTRICTIONS

The manned Interceptor cannot be in Scramble status.

The Accept Handover action is illegal if no weapons channel is available and the manned Interceptor is on intercept mission or CAP manual vectoring, or if the BUIC NCC is not carrying the target track.

(2) BOMARCS

(a) **DESCRIPTION**

Only Bomarcs on an intercept mission that have a track status of Established or Airborne are eligible for external handover. Bomarcs with Airborne status, however, must have been launched at least 45 seconds prior to handover.

(b) **ACTIONS**

External handover of a Bomarc is manually initiated by a BSD/BWD Start Lateraltell for Tracking action. This action can be taken whenever the need for handover is apparent and sufficient time is left to complete the transfer before interception.

The receipt of lateraltell information on a Bomarc track causes the receiving facility to assign the track to a director. In a BUIC NCC, the BSD assigns a Bomarc track either to himself or to a BWD, unless the track is paired with a target track that has been assigned to a particular director; in that case, the Bomarc track is automatically assigned to the director to whom the target track has been assigned. When the losing facility receives notification that a director has been assigned in the receiving facility, the Handover Imminent attention display is forced to the losing director.

When the newly assigned director takes an Accept Handover action on a Bomarc track being told in for tracking from an adjacent facility, the program begins to check for Selective Identification Feature (SIF) returns to establish SIF tracking. The program also generates Request Transfer messages to the presently responsible facility. The Request Transfer message includes the new TDDL frequency. After the Request Transfer message is sent, the program begins guidance computations, TDDL message makeups, and transmission of commands to the missile.

When the Request Transfer message is received, the losing facility forces the Handover Accepted attention display to the assigned BSD or BWD console and transmits the new TDDL frequency in a Handover Transmitter (HAT) command to the missile. The missile does not receive any messages from the new facility until the HAT and Receiver Activate (RAC) commands from the losing facility cause the TDDL receiver to change to the new frequency.

When all requirements for handover are met and the losing facility has sent the HAT and RAC commands to the missile, the Transfer message is sent to the receiving facility and a Notify Transfer message is sent to any other facility receiving lateraltell information on the Bomarc track. This completes the transfer. The receiving facility takes the Bomarc track out of told-in status.

If a Transfer message is not received by the new facility within approximately two minutes after the Accept Handover action is taken, the program stops sending Request Transfer messages, forces the No Updating Information for Two Minutes attention display to the receiving director, and makes the track eligible for reinitiation.

(c) **RESTRICTIONS**

A Bomarc can be lateraltold for tracking to only one adjacent facility at a time. Therefore, the selection of a new receiving facility for tracking lateraltell over a present tracking lateraltell facility must be preceded by a Cancel Lateraltell action on the track to the present receiving facility.

The Accept Handover action is illegal in BUIC NCC facilities if no weapons channel is available.

Bomarcs on CAP are not eligible for external handover.

(3) NON-INTERCEPTORS

(a) **DESCRIPTION**

External handover of responsibility for non-Interceptor tracks to or from an adjacent facility may be taken for any non-Interceptor track.

(b) **ACTIONS**

The BSD or BWD can take a Lateraltell for Tracking action on a non-Interceptor track. When Accept action is taken at the facility receiving the lateraltold track, the receiving facility transmits Request Transfer messages to the losing facility. The losing facility then transmits a Transfer message to the receiving facility and Notify Transfer messages to any other facilities receiving lateraltell information on the track.

b. **ADJACENT MANUAL ENVIRONMENT CONTROL FACILITIES**

(1) MANNED INTERCEPTOR--HANDOVER FROM A MASTER DIRECTION CENTER

(a) **DESCRIPTION**

Handover from a Master DC may involve handover of a manned Interceptor on an intercept or CAP mission, or RTB. Normally, the SD at the Master DC informs the BSD that control of a particular manned Interceptor flight is to be passed to the BUIC NCC. The Teller at the Master DC passes the required information to the BUIC NCC.

Information inserted by the BMIO includes:

1. Track number. The original track number of the manned Interceptor is used, provided that the same number is not assigned to a track in the BUIC NCC. If there is a track number conflict, the BMIO must substitute a non-conflicting track number and reinsert the data. The pilot must be informed of the new call sign.
2. Track identity. A track having an identity other than manned Interceptor is processed in accordance with the local SOP for that category of track.
3. Aircraft type. If the aircraft type is not stored in the program, a similar type must be designated.
4. Flight size. The number of aircraft in the manned Interceptor flight.
5. Altitude. The command altitude is used.
6. Speed. The present speed of the Interceptor is used.
7. Time. The time of the report is specified in Greenwich Mean Time.

8. GEOREF location. The location is given in both major and minor GEOREFs.
9. Heading. The magnetic heading is inserted.

For manual input Interceptor tracks on an intercept mission, the program automatically begins guidance calculations based on the clean aircraft configuration characteristics. If the track is an Interceptor on an intercept mission and the target is not in the system, the program interprets the mission as CAP.

(b) **ACTIONS**

If the manned Interceptor track was not automatically assigned by the program to a director, the BSD must take the Assign action to assign the track either to himself or to a BWD.

The BSD informs the SD at the Master DC of the assigned director's identification and radio frequency for relay to the pilot. If radio contact cannot be established, the director at the Master DC retains control.

As soon as possible, the assigned director should take the Reinitiate action (paragraph 7-9) on the Interceptor track. The Insert Armament action (paragraph 7-35), and override actions for speed, altitude, and/or tactics may also be required.

(2) MANNED INTERCEPTOR--HANDOVER TO A MASTER DIRECTION CENTER

(a) **DESCRIPTION**

External handover to a Master DC is the transfer of responsibility for tracking and control of a manned Interceptor to a Master DC. The BSD or BWD is responsible to determine when handover to the Master DC is required. The BSD relays the information to the Master DC.

(b) **ACTIONS**

The BSD or BWD handover procedure consists of the following general steps:

1. The BSD contacts the SD in the Master DC and relays:

   a. GEOREF position of the manned Interceptor
   b. Interceptor track number
   c. Speed
   d. Heading
   e. Altitude

2. The SD in the Master DC furnishes the following information for the assigned BSD or BWD:

   a. Acknowledgment of radar contact
   b. Receiving director's call sign
   c. New data link or voice-radio frequency for the manned Interceptor.

3. The BSD or BWD establishes telephone contact with the receiving director. The BSD or BWD also contacts the pilot, advises him of the new radio

frequency, and requests him to establish radio contact with the receiving director.

4. When the receiving director obtains radio contact with the pilot, he notifies the losing director that he is taking control.
5. If unused track channels at the BUIC NCC are plentiful, the losing director may allow the manned Interceptor symbology to continue on to the Sector boundary, put it on CAP (paragraph 7-26), and insert zero Mach (paragraph 7-13). (This action holds the symbology stationary and may be used to reestablish the Interceptor track when RTB becomes necessary.) Otherwise, the track should be dropped to make the track channel available for reuse.

## 5-8 NAVIGATIONAL ASSISTANCE

The BSD or BWD may be requested to provide navigational assistance for non-Interceptor tracks. Assistance is given by voice communications.

# 5-9 RESCUE ACTION

The BSD or BWD may be required to assist in a rescue action for either manned Interceptors or non-Interceptors.

## a. PROCEDURE FOR A DOWNED MANNED INTERCEPTOR TRACK

(1) Mark and record the GEOREF location of the downed Interceptor and put the Interceptor on CAP.
(2) Insert a zero speed (paragraph 7-13) for the Interceptor track at the last known position or point of bailout in order to hold the track symbology on the SID.
(3) Initiate rescue action.
(4) Provide manual vectoring instructions as required to the rescue aircraft, and monitor the air situation to provide for the safety of these aircraft.
(5) Drop the manual input track when rescue action has been completed, and drop the rescue track when appropriate.

## b. PROCEDURE FOR A DOWNED NON-INTERCEPTOR TRACK

(1) Mark and record the GEOREF location of the non-Interceptor.
(2) Initiate rescue action.
(3) Request the BMIO to insert a zero-velocity non-Interceptor track at the applicable GEOREF coordinates.
(4) When the zero-velocity track appears on the SID, drop the downed aircraft track (paragraph 7-31).
(5) Provide manual vectoring instructions to the rescue aircraft, and monitor the air situation to provide for the safety of these aircraft.
(6) Drop the manual input track when rescue action has been completed, and drop the rescue track when appropriate.

# CHAPTER 6

# TAKEOVER

## 6-1 PURPOSES OF TAKEOVER

Takeover enables a BUIC NCC to conduct active air defense operations when the parent DC is unable to do so. In Sectors containing more than one BUIC NCC, Takeover permits the remaining BUIC NCCs to assume the responsibilities of an inoperative BUIC NCC.

### a. SAGE CONTROL TO BUIC NCC CONTROL

When the Mode I parent SAGE DC or a Mode II parent SAGE DC becomes incapable of conducting active air defense operations for the entire Sector, one or more BUIC NCCs assume the responsibilities of active air defense in their designated areas.

### b. TAKEOVER OF AN INOPERATIVE BUIC NCC BY A COMPANION BUIC NCC

In A Sector containing two or more BUIC NCCs, if one BUIC NCC becomes inoperative, the remaining BUIC NCCs must take over the responsibilities of the disabled BUIC NCC. The effect of this takeover depends upon the operational condition:

(1) If the Mode I parent DC is performing active air defense, the takeover has no effect on the operation of the SAGE system. However, the remaining BUIC NCCs must take over the Monitor mode responsibilities of the inoperative BUIC NCC.
(2) If Mode II parent DCs are performing active air defense in the BUIC NCC's area, the remaining BUIC NCCs must take over the Monitor mode responsibilities of the inoperative BUIC NCC. Also, the inoperative BUIC NCC cannot be used as a relay point for lateraltell purposes.
(3) If the BUIC NCCs are performing active air defense, the remaining companion BUIC NCCs must take over the inoperative BUIC NCC's air defense responsibilities.

# 6-2 TAKEOVER FROM A PARENT SAGE DC

## a. DESCRIPTION

### (1) GENERAL

The failure of a BUIC NCC to receive an Operational Status message from its parent DC for approximately two minutes causes the Adjacent Sector Status Change TD to be forced to the BSD. A symbol indicator ( ▙ ) for the parent DC status in the requested Adjacent Sector Status TD denotes that the Operational Status message from the parent DC is overdue. This symbol is displayed for approximately two minutes; if by that time the Operational Status message still has not been received, the symbol is replaced by an out-of-action ( ⧄ ) indicator.

Upon the appearance of the out-of-action indicator for a parent DC, the BSD will attempt to contact the parent DC and/or adjacent DCs to determine which of the following conditions exist:

(a) The only outage is in the communication lines between the BUIC NCC and the parent DC.
(b) A Mode I parent DC is disabled, but there will be Mode II expansion by adjacent DCs to cover the Sector of the disabled DC.
(c) A Mode I parent is disabled and Mode II expansion cannot take over, or a Mode II parent DC is disabled.

### (2) MODE I PARENT

Simultaneously with the generation of an indicator denoting that an Operational Status message from the parent Mode I parent DC is overdue, the BUIC NCC's program begins to accept messages from any DCs in the Sector with Mode II expansion capability into the BUIC NCC's area.

If the BSD determines that the only outage is in the communication lines, establishment of new lines is attempted; when the BUIC NCC receives an Operational Status message from its Mode I parent DC, the BUIC NCC's capability of accepting messages from its potential Mode II parent DC is inhibited by the program.

If the BSD determines that the Mode I parent DC is disabled, action must be taken to tie the BUIC NCC into a predetermined set of lateraltell communication lines corresponding to those of the disabled parent DC. When there are two or more BUIC NCCs in the Sector, each BUIC NCC ties into a predetermined subset of the lateraltell communication lines.

As each communication tie is made, the Operational Status message being generated by the BUIC NCC for transmission to each potentially tied adjacent facility is actually transmitted to the now tied facility. (Operational Status messages are also transmitted to nontied adjacent facilities by relay through the now tied facilities.) The receipt of the BUIC NCC's Operational Status messages enables newly tied adjacent control facilities to use the BUIC NCC as a relay point.

If it is determined that a disabled DC's Sector is fully covered by Mode II expansion of adjacent DCs, the BUIC NCC in the disabled Sector continues to operate in Monitor mode; the expanding DCs become the BUIC NCC's parents. When the BUIC NCC receives backtell messages from a Mode II parent DC on a track previously received from the Mode I parent or from the other BUIC NCC in the Sector, the messages are accepted; the Mode II parent DC becomes the new sending Sector for the track.

If it is determined that a disabled DC's Sector is not fully covered by Mode II expansion of adjacent DCs, the BSD must take an Active Mode switch action to allow the BUIC NCC to assume responsibility for active air defense operations in its area.

(3) MODE II PARENTS

If the Mode II parent DCs are no longer able to conduct air defense for the entire Mode II Sector, the BUIC NCC must assume responsibility for active air defense in its area. The decision for transition to the Active mode is made by the BSD in conjunction with appropriate personnel at SAGE control facilities.

The voice communication between a contracting Mode II parent DC and the BUIC NCC that is to take over active air defense in the expanded area may precede the DC's action to contract. Therefore, the BUIC NCC can go into Active mode prior to the parent DC's contraction. If a Mode II parent is not disabled at the time the BUIC NCC goes Active, the track status for live backtold non-Interceptor tracks is changed to told-in with the telling purpose indicated as tracking and the former Mode II parent as the lateraltell source. The track status of an Interceptor is indicated as told-in with a telling purpose of backtold for those backtold Interceptors for which Accept action had been taken while the BUIC NCC was in the Monitor mode.

If a former Mode II parent DC becomes disabled after the BUIC NCC becomes Active, an Accept action taken at the BUIC NCC on any track for which that DC had tracking responsibility causes the BUIC NCC to automatically take over responsibility for the track, unless the BUIC NCC had been receiving lateraltell for interception purpose on the track.

b. **ACTIONS**

Before active air defense operations can be accomplished, each BUIC NCC must establish ground-to-ground data communication lines to radar sites, Bomarc bases, GAT sites, and AADCPs. Voice ground-to-air transmitter-receiver (GATR) sites are assigned to each weapons console by using the Originating Interposition (OIP) equipment.

Before the Active Mode action is taken, the Accept action (Accept Handover) should be taken on as many formerly backtold-in Interceptor tracks as the system limits allow, unless a Mode II parent is still performing air defense at the time the BUIC NCC goes into the Active mode. If a Mode II parent has not contracted, Accept action on backtold Interceptor tracks, while in the Monitor mode, causes interception information in the weapons channel to be cleared.

Current manual input information should include:

(1) Voice-frequency channels for each director.
(2) GAT site status.
(3) Manned Interceptor weapons status.
(4) Bomarc weapons status.
(5) Winds aloft data.

The Squadron Track Number action must have been taken for the assignment of manned Interceptor track numbers.

The symbol ( X ) is displayed for the track status in the Interceptor track display for formerly backtold Interceptor tracks that require data link commands, and for which no Accept action was taken. For these tracks, the BSD or assigned BWD should take one of the following actions:

(1) Manual Vectoring.
(2) Recommit for Interception.
(3) Drop.

# 6-3 TAKEOVER WHEN ONE OR MORE BUIC NCCs IN A SECTOR FAILS

The failure of a BUIC NCC to receive an Operational Status message from its companion BUIC NCC in the same Sector for approximately two minutes causes a change in the Adjacent Sector Status TD. A symbol ( ■ ) for the BUIC NCC in the TD denotes that the Operational Status message from the BUIC NCC is overdue. This symbol is displayed for approximately two minutes; if by that time the Operational Status message still has not been received, the symbol is replaced by an out-of-action ( ⊠ ) indicator.

## a. FROM THREE-BUIC NCC TO TWO-BUIC NCC OPERATION

If a BUIC NCC in a three-BUIC NCC Sector becomes inoperative during the Monitor mode, the other BUIC NCCs assume Monitor mode responsibility for the entire Sector. Any track that the inoperative facility was lateraltelling for exchange purposes is forced to the BASO in the receiving BUIC NCC, with an indication that no updating information has been received on the track for a period of two minutes. The track is forced to the BASO until:

(1) The track is dropped by the receiving BUIC NCC.
(2) The parent SAGE DC reselects the track for backtell to the BUIC NCC.
(3) An update message is received on the track from the remaining companion BUIC NCC. (In this case, the parent SAGE DC has backtold the track to the other BUIC NCC, which, in turn, has lateraltold the track for exchange purposes to the controlling BUIC NCC.)

If a BUIC NCC in a three-BUIC NCC Sector becomes disabled during the Active mode, tracks that were previously being lateraltold by the disabled BUIC NCC are assigned the statuses that they had at the disabled BUIC NCC. If a track was being lateraltold to both of the two surviving companion BUIC NCCs, the remaining BUIC NCCs must coordinate the dropping of the track at one of these BUIC NCCs.

## b. FROM TWO-BUIC NCC TO ONE-BUIC NCC OPERATION

If a BUIC NCC in a two-BUIC NCC Sector becomes inoperative, the other BUIC NCC attempts to assume the responsibility for the entire Sector. If the BUIC NCC is operating in Monitor mode, tracks previously received from the disabled BUIC NCC are accepted from the parent DC (assuming that these tracks are reselected as the DC for transmission to the surviving BUIC NCC).

If the operative BUIC NCC is operating in Active mode, tracks previously received from the disabled BUIC NCC are assigned the status they had at the disabled BUIC NCC.

In both the Active and Monitor modes, personnel at the operative BUIC NCC stop selecting the disabled BUIC NCC as a receiver of lateraltell.

# 6-4 FROM ACTIVE TO MONITOR MODE

## a. DESCRIPTION

A BUIC NCC may make the transition from Active to Monitor mode when it is determined that its Mode I parent DC has resumed active air defense operations, or that adjacent DCs have expanded into the Sector. The decision to return to Monitor mode is made by the BSD in coordination with the SD at the parent DC.

## b. ACTIONS

When a parent DC has assumed active air defense responsibility for the BUIC NCC's area, the BSD takes the Monitor Mode switch action. This causes the BUIC NCC's computer program to clear its track tables and operate in the Monitor mode.

If a Sector has two or more BUIC NCCs, and if one goes into the Monitor mode, the others automatically go into the same mode following receipt of an Operational Status message indicating that their companion BUIC NCC is in Monitor mode.

# CHAPTER 7

# ACTIONS

## 7-1 GENERAL

### a. INTRODUCTION

This chapter presents actions and procedures for the BSD and BWD. All switch actions taken by the BSDT and BWDT are taken at the direction of the BSD or BWD at the BSD and BWD consoles, respectively. Therefore, only the switch actions for the BSD and BWD are presented. The technicians must know the responsibilities and duties of their respective superiors to take prompt and accurate switch actions to implement instructions and directives.

A tabular presentation of BSD and BWD switch actions follows. The description of each action includes the title of the action and its function, procedure, restrictions, and results. The sequence of actions is based on the module location, starting with the leftmost module, and working from top to bottom within the module, and from left to right across the console.

Prior to taking any switch action, the operator should:

(1) Inform others who are concerned with or affected by the action.
(2) Obtain all information necessary for the successful completion of the action.
(3) Anticipate possible difficulties.
(4) Determine whether the action affects the safety of the flight.
(5) Be aware of what the program assumes if options are not specified.

### b. TRACK INSERTION

To insert a manned Interceptor or Bomarc track number (two letters and two digits), all five of the TRACK NUMBER modules must be used:

(1) Insert the first letter of the track number in the first or second module.
(2) Push the INT button in the module that does not contain the first letter of the track number.
(3) Insert the second track letter in the third module.
(4) Insert the track digits in the fourth and fifth modules.

To insert a manned Interceptor or Bomarc squadron designator (two letters), the first three TRACK NUMBER modules must be used:

(1) Insert the first letter of the track number in the first or second module.
(2) Push the INT button in the module that does not contain the first letter of the track number.
(3) Insert the second track letter in the third module.

To insert a non-Interceptor track number (one letter and three digits):

(1) Insert the track letter in the first or second module.
(2) Insert the three digits in the last three modules.

### c. CLEAR AND ACTIVATE BUTTONS

The Keyboard Clear (KBD CLEAR) button should be used prior to each action to clear any previous insertions. The Keyboard Activate (KBD ACT) button should be pushed only once to complete an action.

## 7-2 AADCP ON

This action turns a specified AADCP On, thus permitting data link communication between the computer and that AADCP.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push AADCP ON button in CONDITION module.
(3) Push appropriate AADCP button in AADCP module.
(4) Push KBD ACT button.

b. **RESTRICTIONS**

(1) A legal AADCP number must be designated.
(2) The AADCP must not already be On.

c. **RESULTS**

(1) Two Dump messages are sent on all channels associated with the designated AADCP. [1]
(2) The designated AADCP becomes eligible to receive BUIC NCC tracks, and the program now accepts replyback messages from the designated AADCP.

[1] BIRDIE-6 not applicable.

# 7-3 GAT OPTION

(BSD)

This action determines whether one or two GAT sites are used to transmit to manned Interceptors under BUIC NCC control. (Initial condition is for the BUIC NCC to be selecting two GAT sites.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CHG GAT OPTION button in CONDITION module.
(3) Push KBD ACT button.

b. **RESTRICTIONS**

The action must be taken at the BSD console.

c. **RESULTS**

(1) If the BUIC NCC was selecting two GAT sites for each manned Interceptor, one is now selected. If one GAT site was being selected, two are now selected.
(2) The Operational Conditions TD shows the current condition of the GAT option.

## 7-4 SAFO ON

(BSD)

This action prevents BUIC NCC-controlled Bomarc intercepts below Safe Altitude Fusing Option (SAFO) altitude. The action is taken to return the BUIC NCC to its normal condition following a SAFO Off action.

### a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push SAFO ON button in CONDITION module.
(3) Push KBD ACT button.

### b. RESTRICTIONS

The action must be taken at the BSD console.

### c. RESULTS

(1) Bomarcs are self-destroyed if they descend below SAFO altitude.
(2) If a SAFO conflict exists, the SAFO-conflict indicator is displayed in the Bomarc track display.
(3) The Bomarc authorization indicator in the Operational Conditions TD changes to the SAFO On symbol.

# 7-5 SAFO OFF

(BSD)

This action allows BUIC NCC-controlled Bomarc intercepts to be completed below SAFO altitude. The program transmits messages allowing nuclear detonation to all Bomarcs on Profile 1 or 2 that are committed against targets whose altitude is below SAFO altitude.

SAFO commands are transmitted to all Bomarcs during the prelaunch sequence, precluding low-altitude intercepts, unless the SAFO Off action is taken. A SAFO-conflict indicator is presented in the Bomarc track display whenever a SAFO On condition exists, if the target is below SAFO altitude.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push SAFO OFF button in CONDITION module.
(3) Push KBD ACT button.

b. **RESTRICTIONS**

The action must be taken at the BSD console.

c. **RESULTS**

(1) Bomarcs controlled by the BUIC NCC are allowed to complete their intercepts at all altitudes.
(2) If the target is below SAFO altitude, a Bomarc SAFO-override indicator is displayed in the Bomarc track display.
(3) The Bomarc-authorized indicator in the Operational Conditions TD changes to the SAFO-override symbol.

## 7-6 NO BOMARC AUTHORIZED

(BSD)

This action prevents commitment of Bomarc missiles.

### a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Reset BOMARC SAFETY INTERLOCK switch. (This is a SOP, not a program requirement.)
(3) Push NO BOMARC button in CONDITION module.
(4) Push KBD ACT button.

### b. RESTRICTIONS

(1) The action must be taken at the BSD console.
(2) The BOMARC SAFETY INTERLOCK switch must be set to the Off position. (This is a SOP, not a program restriction.)

### c. RESULTS

(1) No Bomarcs can be committed by the BSD/BWDs.
(2) The Bomarc-authorization indicator in the Operational Conditions TD reflects the new status.

# 7-7 MONITOR MODE

(BSD)

This action informs the program and the BUIC NCC operators that the BUIC NCC is to monitor the operations of the parent SAGE DC. A BUIC NCC and its parent SAGE DC (SAGE Mode I or II) cannot conduct active air defense simultaneously. Therefore, when the parent DC is conducting active air defense, the BUIC NCC must operate in the Monitor mode. (In Sectors containing two or more BUIC NCCs, if one BUIC NCC changes from the Active to the Monitor mode or vice versa, the other BUIC NCCs automatically change to the same mode.)

Monitor Mode action is taken when the parent DC has retained operational air defense capability, and the BSD has coordinated in the transfer of active air defense responsibility to the parent SAGE DC.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push MONITOR MODE button in CONDITION module.
(3) Push KBD ACT button.

b. **RESTRICTIONS**

(1) The action must be taken at the BSD console.
(2) The BUIC NCC must be in Active mode.

c. **RESULTS**

(1) All tracks except on-station ARPs are dropped.
(2) Lateraltelling out ceases.
(3) Input messages are accepted only from the parent DC and the other BUIC NCCs (if any) in the same Sector.
(4) Identification switch actions are illegal.
(5) There is no live control of weapons.
(6) Messages are not sent to height finders, TDDL sites, ARP receivers, or AADCPs.
(7) Live tracks cannot be originated at the BUIC NCC.
(8) The Sector-status indicator in the Operational Conditions TD reflects the change of mode, and an audible alarm is generated at all consoles.
(9) Existing generation of simulated data ceases unless the BUIC NCC is in the simulation submode.

## 7-8 ACTIVE MODE

(BSD)

This action enables the BUIC NCC to take responsibility for the air defense of all or a portion of the Sector. For Mode II parent DCs, there must be complete Mode II expansion by the adjacent DCs, or the BUIC NCC is to conduct the air defense for the Sector. (In Sectors containing two or more BUIC NCCs, if one BUIC NCC changes from the Active mode to the Monitor mode or vice versa, the other BUIC NCCs automatically change to the same mode.)

The Active Mode action is taken after the BSD has observed an Out-of-Action attention display for the parent DC and has determined, through voice communications with the parent DC or with other facilities, that a parent SAGE DC (SAGE Mode I or II) is unable to conduct active air defense for the entire Sector. (See paragraph 6-2.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ACTIVE MODE button in CONDITION module.
(3) Push KBD ACT button.

b. **RESTRICTIONS**

(1) The action must be taken at the BSD console.
(2) The BUIC NCC must be in the Monitor mode.

c. **RESULTS**

(1) Origination of live tracks by initiation, commitment, or manual input becomes legal.
(2) Tracking of BUIC NCC-originated tracks is performed with live radar data.
(3) Messages can be transmitted to height finders, AADCPs, lateraltell recipients, TDDL recipients, and ARP receivers.
(4) Told-in messages are accepted from sources other than the parent DC and BUIC NCCs in the same Sector.
(5) Identification switch actions are legal.
(6) All simulated tracks are cleared, and existing generation of simulated data ceases unless the BUIC NCC is in the simulation submode.
(7) The Sector-status indicator in the Operational Conditions TD reflects the change of mode, and an audible alarm is generated at all consoles.

# 7-9 REINITIATE

This action is taken to reassociate a track with its radar or MK X data, or to restore a zero-velocity manned Interceptor on CAP to normal tracking. The Reinitiate action is also taken on an Interceptor track being handed over when the Transfer message is not received, and the No Updating Information For Two Minutes attention display is forced to the assigned director.

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push REINITIATE button in ACTION II module.
(3) Insert track number in TRACK NUMBER modules.
(4) (Optional) Insert heading, in tens of degrees; in GENERAL INPUTS modules (rightmost two). (A heading insertion for a Bomarc track is not interpreted.)
(5) Use light pen on present radar or MK X data.

## b. RESTRICTIONS

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track status must not be told-in, or the track must be eligible for reinitiation.
(4) If a heading is inserted, it must be greater than zero and less than or equal to 36.

## c. RESULTS

(1) The track status is set to Established.
(2) The reestablished position is used for the intercept calculations, except that in the Monitor mode, if the BUIC NCC track position is more than five miles from the SAGE track position, then the SAGE track position, speed, and heading are used.
(3) The track merit is changed to Reliable.
(4) If inserted, the heading is used to reset track-velocity components.
(5) A speed of 450 knots is used for zero-velocity manned Interceptors on CAP.
(6) Present heading is set equal to the inserted value for manned Interceptors.
(7) Zero-velocity manned Interceptors on CAP are taken off command tracking, if on.

## 7-10 AIRBORNE

This action changes the track status of a manned Interceptor from Scramble to Airborne. An Airborne status can be received either from the airbase or from the pilot of the aircraft.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push AIRBORNE button in ACTION I module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must be Scramble.

c. **RESULTS**

(1) The manned Interceptor track status is changed to Airborne.
(2) The Scramble Track TD is removed.

# 7-11 AIRBORNE WITH SIF CODE

This action changes the track status of a manned Interceptor from Scramble to Airborne and simultaneously inserts a SIF code. Airborne status can be received either from the airbase or from the pilot of the aircraft.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push AIRBORNE button in ACTION I module.
(3) Push ASSIGN SIF button in ACTION II module.
(4) Insert two-digit SIF number in GENERAL INPUTS modules (rightmost two).
(5) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must be Scramble.
(5) A legal SIF code must be inserted (each digit must be a digit from zero through seven).

c. **RESULTS**

(1) The manned Interceptor track status is changed to Airborne.
(2) The Scramble Track TD is removed.
(3) The SIF code assigned to that manned Interceptor is set to the inserted number.

# 7-12 INSERT COMMAND ALTITUDE

This action causes the guidance program to use a new value of command altitude for a manned Interceptor.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMAND ALTITUDE button in ACTION I module.
(3) Insert altitude in thousands of feet in GENERAL INPUTS modules (rightmost two).
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) The mission must be interception.
(6) The inserted value must be greater than zero.

c. **RESULTS**

The program uses the inserted value in place of the present value of command altitude.

# 7-13 INSERT COMMAND SPEED

This action causes the program to use a new value of command speed for a manned Interceptor, or to insert a zero speed for a manned Interceptor on CAP.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMAND SPEED button in ACTION I module.
(3) Insert speed, in hundredths of Mach, in GENERAL INPUTS modules, with hundredths in units column, tenths in tens column, and Mach 1 in hundreds column. (Zero is legal for manned Interceptors on CAP.)
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) If the inserted value is zero, the mission must be CAP.

c. **RESULTS**

(1) For intercept missions:

(a) The intercept equations and the manned Interceptor use the inserted value for command speed if the value is between the minimum and maximum Interceptor speeds.
(b) If the inserted speed is above the maximum or below the minimum, the maximum or minimum, respectively, is used.

(2) For CAP missions if zero-velocity has been inserted:

(a) The track velocity is set to zero.
(b) The track symbology remains stationary.

# 7-14 START LATERALTELL FOR TRACKING

This action initiates lateraltell of a track to a designated control facility for tracking. This is the Prepare Handover action for a manned Interceptor or Bomarc track. (A description of the sequence of actions and events occurring during external handover is presented in paragraph 5-7.)

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push LATERALTELL button in ACTION I module.
(3) Push TRACKING button in OPTION module.
(4) Push appropriate button to designate the Sector in AB/SEC module. (If designated facility is another BUIC NCC, also push appropriate NCC button in FLT SZ/NCC module.)
(5) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

## b. RESTRICTIONS

(1) An existing track must be specified.
(2) An appropriate control facility must be inserted.
(3) The BUIC NCC taking the action must be in the Active mode.
(4) The track must not be presently told out for tracking.
(5) The track must not be presently told out to two other recipients for interception.
(6) For a manned Interceptor or Bomarc track:

(a) The track status must not be told-in or Scramble.
(b) The track must be assigned to the operator taking the action if other than the BSD.
(c) The mission for a Bomarc must be interception.
(d) A Bomarc track must be Established, or the time since launch must be equal to or greater than 45 seconds.

(7) In the live Active mode, the track must not be a simulated track.

## c. RESULTS

(1) The track is lateraltold to the designated control facility for tracking.
(2) The lateraltell status information in the track tabular message indicates the present lateraltell status.
(3) The track SID and TD are updated to reflect the changes in lateraltell status.
(4) For manned Interceptors or Bomarc, after a director is assigned in the receiving control facility and the Notify Assignment message is received in the sending facility, the Handover Imminent attention display is forced to the responsible director in the sending facility.

# 7-15 START LATERALTELL FOR INTERCEPTION

This action initiates lateraltell of a track to a designated control facility for interception. When this action is taken, the receiving facility can commit weapons against the track and conduct interception even though the target is not yet in the area of responsibility of the receiving facility.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push LATERALTELL button in ACTION I module.
(3) Push INTCPTN button in OPTION module.
(4) Push appropriate button to designate Sector in AB/SEC module. (If designated facility is another BUIC NCC, also push appropriate NCC button in FLT SZ/NCC module.)
(5) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) An appropriate control facility must be inserted.
(3) The BUIC NCC taking the action must be in the Active mode.
(4) The track must not be told out to two other recipients for tracking and/or interception.
(5) In live Active mode, the track must not be a simulated track.

c. **RESULTS**

(1) The track is lateraltold to the designated control facility for interception.
(2) The track SID and TD are updated to reflect the change in lateraltell status.

# 7-16 ACCEPT HANDOVER—MANNED INTERCEPTOR

In the Active mode, this action is taken to accept responsibility for the control of a manned Interceptor being told in from another facility. In the Monitor mode, this action changes the track status to Established. (A description of the sequence of actions and events occurring during external handover is presented in paragraph 5-7.)

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push ACCEPT button in ACTION I module.
(3) Insert manned Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

## b. RESTRICTIONS

(1) An existing manned Interceptor track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) In the Active mode, the track must have a track status of told-in with a telling purpose of tracking or backtold. (A purpose of backtold can only exist if the BUIC NCC was responsible to a Mode II parent DC before going Active.) In addition, if the purpose is backtold, the DC with the tracking responsibility must be disabled.
(4) A weapons channel must be available if the mission is interception.
(5) In the Monitor mode, the track must be backtold.
(6) In the Active mode, if the manned Interceptor is on an intercept mission, the BUIC NCC must be carrying the target track.

## c. RESULTS

(1) Active Mode:

(a) Guidance calculations and TDDL message transmission are started.
(b) If the control facility with responsibility for the track is operational, a Request Transfer message is transmitted to it. Receipt of this message causes the Handover Completed attention display to be forced to the assigned director at the sending facility.
(c) If the responsible control facility is disabled, the BUIC NCC automatically assumes responsibility for the track.
(d) If handover is not completed within approximately two minutes, the No Updating Information for Two Minutes attention display is forced to the operator at the receiving facility, and the track becomes eligible for reinitiation.

(2) Monitor Mode:

(a) Track status is changed to Established.
(b) A weapons channel is established.
(c) The manned Interceptor becomes eligible for reinitiation.
(d) Guidance calculations begin.

# 7-17 ACCEPT HANDOVER-BOMARC

In the Active mode, this action is taken to accept responsibility for the control of a Bomarc being told in from another facility. In the Monitor mode, this action changes the track status to Established. (A description of the sequence of actions and events occurring during external handover is presented in paragraph 5-7.)

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push ACCEPT button in ACTION I module.
(3) Insert Bomarc track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on Bomarc track.

## b. RESTRICTIONS

(1) An existing Bomarc track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) In the Active mode, the track must have a track status of told-in with a telling purpose of tracking or backtold. (A purpose of backtold can only exist if the BUIC NCC was responsible to a Mode II parent before going Active.) In addition, if the purpose is backtold, the DC with the tracking responsibility must be disabled.
(4) A weapons channel must be available.
(5) In the Monitor mode, the track must be backtold.
(6) In the Active mode, the Bomarc must be on an intercept mission, and the BUIC NCC must be carrying the target track.

## c. RESULTS

(1) Active Mode:

(a) Guidance calculations and TDDL message transmission are started.
(b) If the control facility with responsibility for the track is operational, a Request Transfer message is transmitted to it. Receipt of this message causes the Handover Completed attention display to be forced to the assigned director at the sending facility.
(c) If the responsible control facility is disabled, the BUIC NCC automatically assumes responsibility for the track.
(d) Correlation with SIF radar data is attempted.
(e) If the Transfer message is not received within approximately two minutes, a No Updating Information for Two Minutes attention display is forced to the operator at the receiving facility, and the track becomes eligible for reinitiation.

(2) Monitor Mode:

(a) Track status is changed to Established.
(b) A weapons channel is established.
(c) The Bomarc becomes eligible for reinitiation.
(d) Guidance calculations begin.

# 7-18 ACCEPT HANDOVER–NON-INTERCEPTOR

In the Active mode, this action is taken to accept responsibility for a non-Interceptor lateraltold in for tracking. In the Monitor mode, this action is taken to change the track status to Established. (A description of the sequence of actions and events occurring during a non-Interceptor handover is presented in paragraph 5-7.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ACCEPT button in ACTION I module.
(3) Insert non-Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on non-Interceptor track.

b. **RESTRICTIONS**

(1) An existing non-Interceptor track must be specified.
(2) In the Active mode, the track must have a track status of told-in with a telling purpose of tracking.
(3) In the Monitor mode, the track must be backtold.

c. **RESULTS**

(1) Track status is changed to Established.
(2) If the control facility with responsibility for the track is operational, a Request Transfer message is transmitted to it.
(3) If the responsible control facility is disabled, the BUIC NCC automatically assumes responsibility for the track.

# 7-19 UNCONDITIONAL COMMIT–BOMARC

This action commits a Bomarc, overriding a range restriction on a normal Bomarc commitment. The result is the same as for the Commit Bomarc action (paragraph 7-24), except that an impossible intercept (fuel) condition is overridden. A wait condition cannot be overridden by this action. The Unconditional Commit action should be taken only when the Commit Bomarc action has yielded an impossible intercept because of range (shown by the letters FUEL in the forced Bomarc Impossible Intercept attention display), and when the intercept appears feasible in an air situation that warrants the risk of missing the target with this Bomarc.

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push UNCOND COMMIT button in ACTION I module.
(3) Insert Bomarc squadron letters in TRACK NUMBER modules.
(4) (Optional--BSD only) Insert BWD number in BWD NO. module.
(5) Use light pen on target track.

## b. RESTRICTIONS

(1) An existing track must be designated as the target.
(2) The target track must not be in the process of being dropped.
(3) In the Active mode, Bomarcs must be authorized by BSD switch action, and the target track must be Hostile.
(4) In the Simulation modes or Monitor mode, the track must not be H, I, or D.
(5) If a BWD is designated, the action must be taken at the BSD console.
(6) In the Active mode, the selected squadron must have a Bomarc on Ready status.
(7) The capacity for this mission must not be exceeded.
(8) A track channel must be available.
(9) If in the Monitor mode or Simulation modes, there must be no Hostile tracks in the system.
(10) The squadron selected must be an existing Bomarc squadron available to the BUIC NCC.

## c. RESULTS

(1) The Bomarc is paired with the track, and the intercept-possibility checks are made.
(2) When the Bomarc is selected for launch, the Interceptor Track SID and the Track Assignment TD, with an audible alarm, are forced to the assigned operator's console.
(3) In the Simulation and Monitor modes, no output messages are sent, and the launch is simulated.
(4) A Bomarc is committed even though an impossible intercept condition exists because of range, and provided that the intercept is impossible if the launch is delayed.
(5) If the intercept is possible with delayed launch, a weapons channel is reserved, and the Bomarc Precommit attention display is forced to the assigned operator's console.
(6) If the intercept is impossible because of no solution to the intercept equations, the Bomarc Assignment Cancelled attention display is forced to the committing console, and the commitment is cancelled. (If a BWD was designated by the BSD, the attention display is also forced to the BWD's console.)
(7) If the target track was unassigned, it is assigned to the operator to whom the Bomarc is assigned, and the Unassigned Track attention display is removed from the BSD console.
(8) If the target track was previously assigned, it remains assigned to that operator; the Bomarc is assigned to the BWD designated by the BSD, or to the operator taking the Unconditional Commit action.
(9) If the capacity for this mission type is exceeded, an Action Feedback Alarm (illegal) TD, accompanied by a forced audible alarm, is generated.

# 7-20 ASSIGN/REASSIGN

(BSD)

This action is taken by the BSD to assign or reassign a track or track pairing to a BWD or to himself. The Assign action is taken on tracks that are not assigned by the program, by the Commit action, or by a BSD verbal assignment. The Reassign action is taken to reassign a track for internal handover.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ASSIGN/REASSIGN button in ACTION I module.
(3) (Optional) Insert BWD number in BWD NO. module.
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The action must be taken at the BSD console.

c. **RESULTS**

(1) The track is assigned to the designated BWD, or to the BSD if a BWD is not designated.
(2) If the track was previously unassigned, the Unassigned Track attention display is removed from the BSD console.
(3) If the track was previously assigned, it is deassigned from the previously assigned operator.
(4) If the track is a target, all paired Interceptor tracks are also assigned to the designated operator.
(5) If the track is a paired Interceptor track, only that track is assigned to the designated operator.

# 7-21 PASS TRACK

This action manually selects a specified track for passing to a designated AADCP.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ASSIGN/REASSIGN button in ACTION I module.
(3) Push appropriate AADCP button in AADCP module.
(4) (Optional--BSD only) Insert BWD number in BWD NO. module.
(5) (Optional) Push HOLD FIRE or CEASE FIRE button in OPTION module.
(6) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must not be in the process of being dropped.
(3) A legal AADCP number must be inserted, and the number of tracks presently being passed to the AADCP must be less than the capacity of the AADCP.
(4) The status of the AADCP must be On.

c. **RESULTS**

(1) The track is passed to the designated AADCP.
(2) If Hold Fire is specified, the Hold Fire indicator is set in the track output message when the track is passed to the specified AADCP. If either Hold Fire or Cease Fire is specified, the Hold Fire/Cease Fire Alarm TD is forced to the BSD and assigned BWD consoles for two cycles. (The AADCP must be informed of the Cease Fire restriction by telephone.)
(3) If the track already has either a Hold Fire or Cease Fire restriction and Hold Fire or Cease Fire is not specified, the restriction is removed.
(4) If a BWD is designated, the track is assigned to that BWD for monitoring.
(5) The Surveillance Track SID and Surveillance Track TD indicate that the track has been selected for passing.

# 7-22 COMMIT-MANNED INTERCEPTORS FOR INTERCEPTION

This action commits one or more manned Interceptors for interception against a target track when the decision as to which weapon type and squadron has already been made. (Also see paragraph 5-3.)

Before this action is taken, the operator must determine (1) whether or not the aircraft configuration of the selected squadron requires that the CHG TNK/FUEL button be pushed, (2) the flight size to commit (if other than one), and (3) whether or not the GATE CLIMB button should be pushed.

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) Insert manned Interceptor squadron letters in TRACK NUMBER modules.
(4) Push appropriate button to designate departure base in AB/SEC module.
(5) (Optional) Push GATE CLIMB button in OPTION module.
(6) (Optional) Insert flight size in FLT SZ/NCC module.
(7) (Optional---BSD only) Insert BWD number in BWD NO. module.
(8) (Optional) Push CHG TNK/FUEL button in ACTION II module.
(9) (Optional) Push BYPASS STATUS button in DISPLAY module.
(10) Use light pen on target track.

## b. RESTRICTIONS

(1) The target track designated must be an existing track with an identity of other than Bomarc.
(2) The target track must not be in the process of being dropped.
(3) The selected squadron must be an existing manned Interceptor squadron.
(4) An unused track number for the squadron must be available.
(5) The selected squadron must be associated with the designated departure base (unless BYPASS STATUS button is pushed).
(6) The designated departure base must be a legal base.
(7) If a BWD is designated, the action must be taken at the BSD console.
(8) The capacity for this mission type must not be exceeded.
(9) A track channel must be available.
(10) If in the Monitor mode or Simulation modes, there must be no Hostile tracks in the system.

## c. RESULTS

(1) The manned Interceptor track symbology, with the Track Assignment Alert display, appears on the SID of the assigned operator.
(2) If the BYPASS STATUS button is pushed or if the BUIC NCC is in the Monitor mode, the program initiates the scrambling of the manned Interceptors without affecting the scramble-alert status counts.
(3) The assigned operator receives the Track Assignment (Interceptor) TD on his scope.
(4) If a flight size is not inserted, the program assumes a flight size of 1.
(5) The program selects a tactic dependent on Interceptor type, armament, target altitude, target speed, etc.
(6) If a flight size is inserted and is greater than the number of Interceptors available with the selected fuel configuration, the particular status count is decreased only by the number available, but the inserted flight size is displayed in the Scramble Track TD.
(7) If the CHG TNK/FUEL button is pushed, the program considers only the tanks configuration. If the CHG TNK/FUEL button is not pushed, the program uses clean-configuration characteristics.

(8) If the GATE CLIMB button is not pushed, Buster climb is used.
(9) If the target is a manned Interceptor, all target results are bypassed.
(10) If the intercept is possible, the Scramble Track TD, accompanied by an audible alarm, is forced to the assigned operator.
(11) If the intercept is impossible, the Scramble Track TD, with the reason for the impossible intercept, is forced to the committing console.
(12) If the target track was unassigned, it is assigned to the operator to whom the manned Interceptor track is assigned, and the Track Assignment Alert display is removed from the BSD console.
(13) If the target track was previously assigned, it remains assigned to that operator; the manned Interceptor is assigned to the operator designated by the BSD or to the operator taking the Commit action.
(14) If the capacity for this mission is exceeded, an Action Feedback Alarm (illegal) TD, accompanied by an audible alarm, is forced to the committing console.
(15) If the status count for the committed Interceptor is zero, the count is not affected, but the inserted flight size is displayed in the Scramble Track TD.
(16) In the Monitor mode, a manned Interceptor track number is assigned from the range 32 to 62; in the Active mode, a number from the range 1 to 31 is assigned.

# 7-23 COMMIT–MANNED INTERCEPTORS FOR CAP

This action commits one or more manned Interceptors for a CAP mission. (Also see paragraph 5-3.)

Before taking this action, the operator must determine (1) whether or not the aircraft configuration of the selected squadron requires that the CHG TNK/FUEL button be pushed, and (2) the flight size to commit (if other than one).

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) Insert manned Interceptor squadron letters in TRACK NUMBER modules.
(4) Push appropriate button to designate departure base in AB/SEC module.
(5) (Optional--BSD only) Insert BWD number in BWD NO. module.
(6) (Optional) Insert flight size in FLT SZ/NCC module.
(7) (Optional) Push CHG TNK/FUEL button in ACTION II module.
(8) (Optional) Push BYPASS STATUS button in DISPLAY module.
(9) Push KBD ACT button.

b. **RESTRICTIONS**

(1) The selected squadron must be an existing manned Interceptor squadron.
(2) The selected squadron must be associated with the designated departure base (unless BYPASS STATUS button is pushed).
(3) The designated departure base must be a legal base.
(4) If a BWD is designated, the action must be taken at the BSD console.
(5) An unused track number for the squadron must be available.
(6) A track channel must be available.
(7) If in the Monitor mode or Simulation modes, there must be no Hostile tracks in the system.

c. **RESULTS**

(1) The manned Interceptor track symbology with the Track Assignment Alert display appears on the SID of the assigned operator.
(2) The Scramble Track TD, accompanied by an audible alarm, is forced to the assigned operator.
(3) The assigned operator receives the Track Assignment (Interceptor) TD on his scope.
(4) If the BYPASS STATUS button is pushed or if the BUIC NCC is in the Monitor mode, the program initiates the scrambling of manned Interceptors without affecting the scramble-alert status count.
(5) If a flight size is not inserted, the program assumes a flight size of 1.
(6) If a flight size is inserted and is greater than the number of manned Interceptors available with the selected fuel configuration, the particular status count is decreased only by the available number, but the inserted flight size is displayed in the Scramble Track TD.
(7) If the CHG TNK/FUEL button is pushed, the program considers only the tanks configuration for commitment. If the CHG TNK/FUEL button is not pushed, the program uses the clean-configuration characteristics.
(8) The manned Interceptor is assigned to the operator designated by the BSD or to the operator taking the Commit action.
(9) If the track capacity for this mission is exceeded, an Action Alarm (illegal) TD, accompanied by an audible alarm, is forced to the committing console.

(10) If the status count for the committed manned Interceptor is zero, the count is not affected, but the inserted flight size is displayed in the Scramble Track TD.
(11) In the Monitor mode, a manned Interceptor track number is assigned from the range 32 to 62; in the Active mode, a number from the range 1 to 31 is assigned.

# 7-24 COMMIT–BOMARC FOR INTERCEPTION

This action commits a Bomarc for interception against a target track, when the decision as to which weapon type and squadron has already been made. (Also see paragraph 5-3.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) (Optional--BSD only) Insert BWD number in BWD NO. module.
(4) Insert Bomarc squadron letters in TRACK NUMBER modules.
(5) Use light pen on target track.

b. **RESTRICTIONS**

(1) An existing track must be designated as the target.
(2) The target track must not be in the process of being dropped.
(3) In the Active mode, Bomarcs must be authorized by BSD switch action, and the target track must be Hostile.
(4) In the Simulation modes or Monitor mode, the track must not be H, I, or D.
(5) If a BWD is specified, the action must be taken at the BSD console.
(6) In the Active mode, the selected squadron must have a Bomarc on Ready status.
(7) The capacity for this mission must not be exceeded.
(8) A track channel must be available.
(9) If in the Monitor mode or Simulation modes, there must be no Hostile tracks in the system.
(10) The squadron selected must be an existing Bomarc squadron and available to the BUIC NCC.

c. **RESULTS**

(1) The Bomarc is paired with the track, and the intercept possibility checks are made.
(2) When the Bomarc is selected for launch, the Interceptor Track SID and the Track Assignment TD are forced to the assigned operator's console.
(3) In the Simulation and Monitor modes, no output messages are sent, and the launch is simulated.
(4) If the intercept is possible with a delayed launch, a weapons channel is reserved, and the Bomarc Precommit attention display is forced to the assigned operator's console.
(5) If the intercept is impossible, the Bomarc Assignment Cancelled attention display is forced to the committing console, and the commitment is cancelled. (If a BWD was designated by the BSD, the attention display is also foreced to the BWD's console.)
(6) If the target track was unassigned, it is assigned to the operator to whom the Bomarc is assigned, and the Unassigned Track attention display is removed from the BSD console.
(7) If the target track was previously assigned, it remains assigned to that operator; the Bomarc is assigned to the BWD designated by the BSD or to the operator taking the Commit action.
(8) If the capacity for this mission type is exceeded, an Action Feedback Alarm (illegal) TD, accompanied by a forced audible alarm, is generated.

# 7-25 RECOMMIT–MANNED INTERCEPTOR FOR INTERCEPTION

This action recommits a manned Interceptor for interception against a target track. The action can change the mission from CAP to interception or designate a different target for a manned Interceptor on an interception mission. Armament, fuel, and capability of the manned Interceptor against the target track should be considered prior to taking the action. (Also see paragraph 5-4.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) (Optional--BSD only) Insert BWD number in BWD NO. module.
(4) Insert manned Interceptor track number in TRACK NUMBER modules.
(5) Use light pen on new target track.

b. **RESTRICTIONS**

(1) An existing manned Interceptor track must be specified.
(2) An existing track must be designated as the target.
(3) The target track must not be in the process of being dropped.
(4) The operator taking this action, if other than the BSD, must be assigned the manned Interceptor track.
(5) The manned Interceptor track status cannot be Drop, told-in, or Manual Input.
(6) The target track must not be a Bomarc.
(7) The capacity for this mission type must not be exceeded.
(8) If a BWD is designated, the action must be taken at the BSD console.

c. **RESULTS**

(1) If the target is a manned Interceptor, all target results are bypassed.
(2) The selected manned Interceptor track is paired against the target track. If on MCC, the Interceptor remains on MCC.
(3) If the target track was unassigned, it becomes assigned to the BWD designated by the BSD or to the operator taking the action, and the Unassigned Track attention display is removed from the BSD console.
(4) If the intercept is impossible, the operator receives the Manned Interceptor Impossible Intercept attention display, accompanied by an audible alarm; however, the new pairing remains in effect.
(5) If the capacity for this mission type is exceeded, an Action Alarm (illegal) TD, accompanied by an audible alarm, is forced to the operator's console.
(6) If a BWD is designated by the BSD, the manned Interceptor is assigned to the BWD.
(7) If no BWD is designated by the BSD, the manned Interceptor is assigned to the BSD.
(8) If the target track was previously assigned, it remains assigned to that operator.

# 7-26 RECOMMIT–MANNED INTERCEPTOR TO CAP

This action recommits a manned Interceptor to a CAP mission. The action may be used when a manned Interceptor on RTB has sufficient fuel for another interception, or when its present intercept mission is no longer feasible, necessary, or possible. (Also see paragraph 5-4.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) (Optional--BSD only) Insert BWD number in BWD NO. module.
(4) Insert manned Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing manned Interceptor track must be specified.
(2) The operator taking the action, if other than the BSD, must be assigned the manned Interceptor track.
(3) The manned Interceptor track status cannot be Drop, told-in, or Manual Inputs.
(4) If a BWD is designated, the action must be taken at the BSD console.

c. **RESULTS**

(1) The selected manned Interceptor track is placed on CAP and is taken off command tracking and MCC (if on). If the track was on manual vectoring, it is taken off manual vectoring.
(2) If the manned Interceptor was previously on an intercept mission, the target symbology changes to reflect the change of mission. If the target was a manned Interceptor, all target results are bypassed.
(3) If a BWD is designated by the BSD, the manned Interceptor is assigned to the BWD.
(4) If the action is taken at the BSD console and a BWD is not designated, the manned Interceptor is assigned to the BSD.

# 7-27 RECOMMIT–MANNED INTERCEPTOR TO RTB

This action recommits a manned Interceptor to RTB. The action should be taken when a manned Interceptor is placed on RTB so that the display symbology reflects the RTB status.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) Push RTB/FLT SZ button in OPTION module.
(4) (Optional--BSD only) Insert BWD number in BWD NO. module.
(5) Insert manned Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing manned Interceptor track must be specified.
(2) The operator taking the action, if other than the BSD, must be assigned to the Interceptor track.
(3) The manned Interceptor track status cannot be Drop, Scramble, Manual Input, or told-in.
(4) If a BWD is designated, the action must be taken at the BSD console.

c. **RESULTS**

(1) The designated manned Interceptor track is placed on RTB and is taken off command tracking, MCC, and manual vectoring (if on).
(2) If the manned Interceptor was previously on an intercept mission, the target symbology changes to reflect this action unless the target was a manned Interceptor.
(3) The Interceptor Track SID symbology reflects the action.
(4) Except for display purposes, RTB is equivalent to CAP, and no guidance instructions are generated.
(5) If a BWD is designated by the BSD, the manned Interceptor is assigned to the BWD.
(6) If the action is taken at the BSD console and a BWD is not designated, the manned Interceptor is assigned to the BSD.

# 7-28 RECOMMIT–BOMARC FOR INTERCEPTION

This action changes the specified Bomarc from its present mission (interception or CAP) to an intercept mission against a designated target track. (Also see paragraph 5-4.)

Recommitment of Bomarcs must be done quickly because of their limited flying time and maneuverability.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) (Optional--BSD only) Insert BWD number in BWD NO. module.
(4) Insert Bomarc track number in TRACK NUMBER modules.
(5) Use light pen on new target track.

b. **RESTRICTIONS**

(1) An existing Bomarc track must be specified.
(2) The new target track number must be that of an existing non-Interceptor track.
(3) The new target track must not be in the process of being dropped.
(4) In the Active mode, the track identity of the new target track must be Hostile; in the Simulation modes or Monitor mode, it must not be H, I, or D.
(5) The operator taking the action, if other than the BSD, must be assigned the Bomarc track.
(6) The Bomarc track status must not be told-in or Drop.
(7) The Profile must be II or III, and Phase less than or equal to 3. If Phase is 3, TRUT must be greater than 20 seconds; if Phase is 1 or 2, TRUT must be greater than 50 seconds.
(8) If a BWD is designated, the action must be taken at the BSD console.

c. **RESULTS**

(1) The recommitted Bomarc is tentatively paired with the target until intercept calculations are made.
(2) If the intercept is impossible because of foldback, no solution, or fuel, the Bomarc Recommit Impossible attention display is forced to the committing console, and the previous commitment remains in effect.
(3) If the interception is possible, the target track tabular message and the Interceptor Track SID reflect the recommitment.
(4) If the target track is unassigned, it becomes assigned to the BWD designated by the BSD or to the operator taking the action, and the Unassigned Track attention display is removed from the BSD console.
(5) If the action is taken during fire up, the results of the action are displayed immediately, but the new commands are not sent until the end of the Climb phase.
(6) If a BWD is specified by the BSD, the Bomarc is assigned to the designated BWD.
(7) If the action is taken at the BSD console and a BWD is not designated, the Bomarc is assigned to the BSD.
(8) If the target track was previously assigned, it remains assigned to that operator.

# 7-29 RECOMMIT–BOMARC FOR CAP

This action depairs a Bomarc from its target. The Bomarc continues on the last command heading unless additional actions are taken.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) (Optional--BSD only) Insert BWD number in BWD NO. module.
(4) Insert Bomarc track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on Bomarc track.

b. **RESTRICTIONS**

(1) An existing Bomarc track must be specified.
(2) The operator taking the action, if other than the BSD, must be assigned the Bomarc track.
(3) The Bomarc track status cannot be told-in or Drop.
(4) The Profile must be II or III, and Phase less than, or equal to, 3. If Phase is 3, TRUT must be greater than 20 seconds; if Phase is 1 or 2, TRUT must be greater than 50 seconds.
(5) If a BWD is designated, the action must be taken at the BSD console.

c. **RESULTS**

(1) The designated Bomarc is depaired from its target and placed on CAP on its last command heading.
(2) TRUT is set to the maximum value.
(3) If a BWD is designated by the BSD, the Bomarc is assigned to the BWD.
(4) If the action is taken at the BSD console and a BWD is not designated, the Bomarc is assigned to the BSD.

# 7-30 BOMARC AUTHORIZED

(BSD)

This action authorizes the commitment of Bomarc missiles.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push BOMARC button in ACTION I module.
(3) Release BOMARC SAFETY INTERLOCK switch.
(4) Push KBD ACT button.

b. **RESTRICTIONS**

(1) The action must be taken at the BSD console.
(2) The BOMARC SAFETY INTERLOCK switch must be set to the On position. (This is a wiring limitation rather than a program limitation.)

c. **RESULTS**

(1) Bomarcs can be committed by the BSD/BWDs.
(2) The Bomarc-authorized indicator in the Operational Conditions TD reflects the new status.

## 7-31 DROP

This action drops a manned Interceptor, Bomarc, Hostile, Unknown, or Faker track from the system. Because of the limited track capacity, tracks should be dropped as they leave the system or on a priority basis when system overload is imminent. Interceptor tracks that were not scrambled or launched should also be dropped.

### a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push DROP button in ACTION II module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

### b. RESTRICTIONS

(1) An existing track must be specified.
(2) The track identity must not be ARP.

### c. RESULTS

(1) The track is dropped.
(2) If the track is a Bomarc, maximum TRUT is transmitted.
(3) Telling out of the track is terminated.
(4) If the track is a paired Interceptor, the appropriate weapons counts and displays are updated.
(5) An attention display identifying the track being dropped is presented to the assigned director.

# 7-32 ASSIGN SIF NUMBER

This action assigns a SIF code number to a particular manned Interceptor track.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ASSIGN SIF button in ACTION II module.
(3) Insert two-digit SIF number in GENERAL INPUTS modules (rightmost two).
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

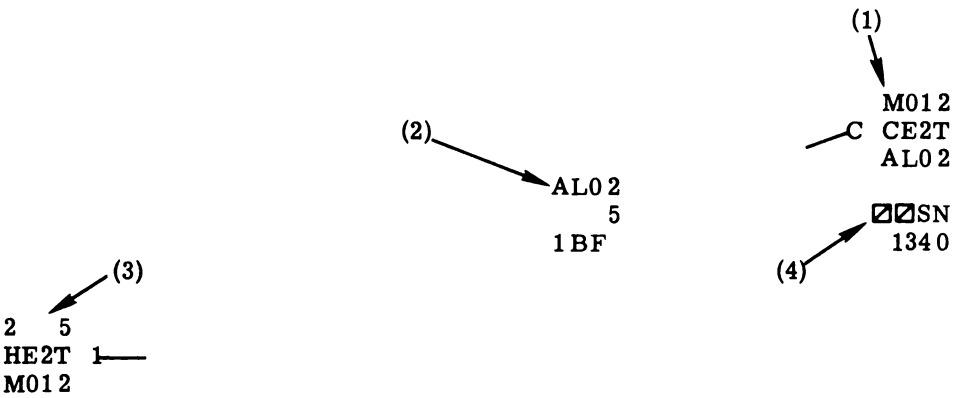
(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) A legal SIF code must be inserted (each digit must be a digit from zero through seven).

c. **RESULTS**

The SIF code assigned to the manned Interceptor is set to the inserted number.

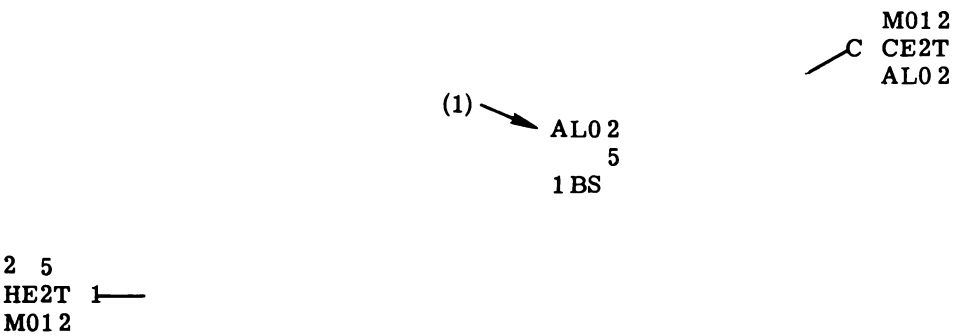
# EXAMPLE OF INSERT ATTACK OPTION ACTION

BEFORE ACTION




This illustration shows an Interceptor track display (1) and the Offset Point display (2) for manned Interceptor track AL02 that is committed against Hostile target track M012 (3). The present tactic is shown in the Offset Point display by the letter F denoting the front tactic. The Manned Interceptor Recommended Tactics attention display (4) denotes the recommended change to stern tactic by the ⊠ ⊠ symbology. The numbers 1340 denote a combat speed of 1.3 Mach and a combat altitude of 40,000 feet.

AFTER ACTION




The letter S presented in the Offset Point display (1) denotes that the tactic has been changed from front to stern as a result of the switch action.

Figure 7-1. Insert Attack Option

# 7-33 INSERT ATTACK OPTION

This action is taken to manually select a particular tactic (stern, beam, front, or cutoff) for manned Interceptors. The initial selection of tactics is a program function based upon manned Interceptor type and armament, and upon target altitude and speed. When the tactic-monitoring function determines that a change in tactics selection is needed, the program forces the Recommended Tactics attention display to the assigned director's console. No automatic tactic change is made.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ATTACK OPTION button in ACTION II module.
(3) Push desired attack option button ATK OPTN module.
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) The mission must be interception.

c. **RESULTS**

(1) The guidance program uses the inserted attack option in solving the intercept equations.
(2) The offset/intercept point may change position.
(3) The inserted tactic is reflected in the Manned Interceptor Offset/Intercept/Nuclear Burst Point display.

# 7-34 MODIFIED CLOSE CONTROL

This action puts an F-106 manned Interceptor on Modified Close Control (MCC) and/or reverts to TACAN On condition. MCC allows the Interceptor's computer to perform the intercept calculations based on target information received via data link. (MCC is cancelled by taking the Recommit to CAP, Insert Manual Heading, or Command Tracking On action.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push MCC/ARMT OVERRIDE button in ACTION II module. (See paragraph 7-35.)
(3) (Optional) Push TACAN OFF button in OPTION module. (Initial condition is TACAN On--see paragraph 7-46.)
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track. (The ARMT module must be clear if this action is not to be interpreted as Insert Armament.)

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The Interceptor must be equipped for this type of operation.
(5) The mission must be interception.
(6) The track status must not be told-in.

c. **RESULTS**

(1) Intercept calculations for the Interceptor cease.
(2) If on, command tracking and manual vectoring are discontinued.
(3) Only target information is sent to the Interceptor via data link.
(4) If specified, MCC messages are sent in TACAN Off mode.
(5) TACAN On condition exists unless TACAN Off is specified.

# 7-35 INSERT ARMAMENT

This action inserts an armament other than that stored in the program for the manned Interceptor type. Insertion of a new armament changes the F-pole distance for the guidance equations.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push MCC/ARMT OVERRIDE button in ACTION II module.
(3) Push button corresponding to desired armament in ARMT module. (If the module is set to zero or is cleared, this action is interpreted as the MCC action--see paragraph 7-34.)
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The manned Interceptor must be on an interception mission.
(5) The track status must not be told-in.

c. **RESULTS**

(1) The inserted armament is used to determine the proper F-pole distance for the guidance equations.
(2) The position of the Manned Interceptor Offset/Intercept/Nuclear Burst Point display may change.

## 7-36 EXTRAPOLATE

This action causes the tracking program to extrapolate the track position according to the current track velocity. Radar correlation is disregarded by the tracking program.

### a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push EXTRPLT button in ACTION II module.
(3) (Optional) Insert heading in tens of degrees in GENERAL INPUTS modules (rightmost two).
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

### b. RESTRICTIONS

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track status must not be told-in.
(4) If a heading is inserted, it must be greater than zero and equal to or less than 36.

### c. RESULTS

(1) The current track velocity is adjusted for the inserted heading, if any.
(2) The tracking program uses current track velocity for the prediction of track position until Reinitiate action is taken, or until the track reaches the sort-box boundary.

# 7-37 TARGET ALTITUDE RETURN

This action returns the guidance program to the use of the surveillance target altitude after an Insert Target Altitude action was previously taken.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ORIDE TGT ALTITUDE button in ACTION II module.
(3) Push CANCEL/OFF/DUMP button in OPTION module.
(4) Insert Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on Interceptor track.

b. **RESTRICTIONS**

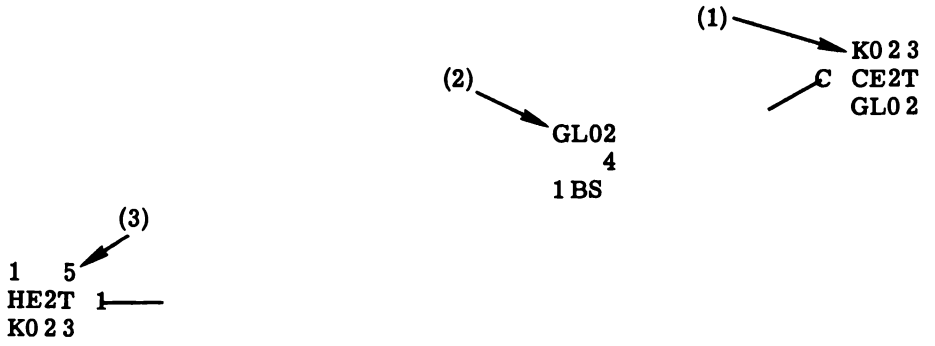
(1) An existing Interceptor track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track status must not be told-in.
(4) The mission must be interception.

c. **RESULTS**

(1) The guidance program returns to the use of target altitude as specified in the track channel.
(2) The altitude override ceases to be in effect.

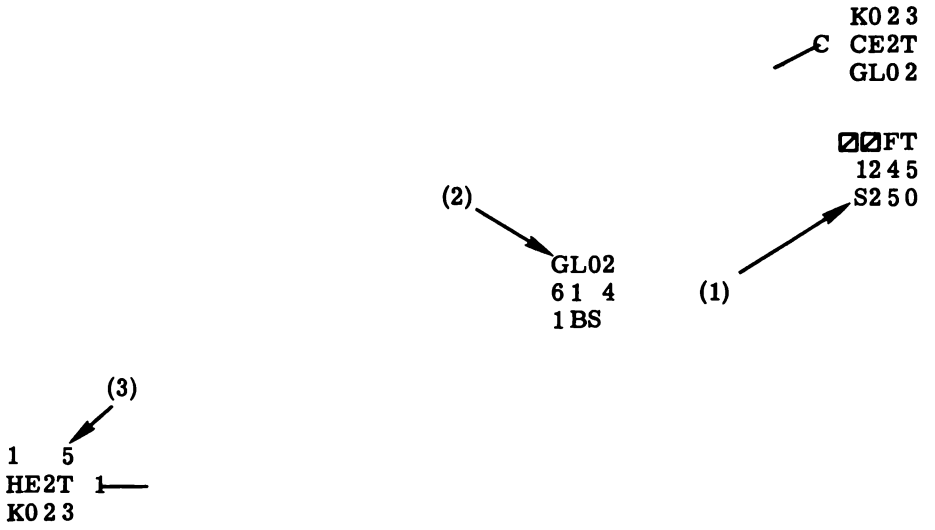
# EXAMPLE OF INSERT TARGET ALTITUDE ACTION

BEFORE ACTION




This illustration shows a manned Interceptor track display (1) and the Offset Point display (2) for manned Interceptor track GL02 that is committed against Hostile target track K023 (3). The number 5 in the target track display denotes a target track altitude of 50, 000 feet. The letter S in the Offset Point display denotes that the stern tactic is being employed.

AFTER ACTION




A target altitude of 61, 000 feet has been inserted. The action has caused the Recommended Tactics attention display (1) to be forced below the Interceptor track display. The ☒ ☒ FT denotes that a front attack option is recommended; the 1245 denotes a combat speed of 1. 2 Mach and a combat altitude of 45, 000 feet; and S250 denotes a starboard turn to a new command heading of 250 degrees. The inserted target altitude of 61, 000 feet is indicated by the 61 in the Offset Point display (2). The target track symbology (3) remains the same.

Figure 7-2. Insert Target Altitude

# 7-38 INSERT TARGET ALTITUDE

This action changes the target altitude value being used for an interception mission. The action may result in a new profile selection for a Bomarc, or cause a new tactic recommendation for a manned Interceptor. Combat altitude and/or speed may also be affected for manned Interceptors.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ORIDE TGT ALTITUDE button in ACTION II module. (See paragraph 7-38.)
(3) Insert altitude, in thousands of feet, in GENERAL INPUTS modules (rightmost two).
(4) Insert Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor or Bomarc track.

b. **RESTRICTIONS**

(1) An existing manned Interceptor or Bomarc track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track status must not be told-in.
(4) The mission must be interception.
(5) An altitude must be inserted.

c. **RESULTS**

(1) The guidance program uses the inserted altitude for guidance computations instead of the surveillance value, until Target Altitude Return action is taken.

(2) For Bomarc:

(a) The mission profile may change if the action is taken when TRUT is greater than 20 seconds.
(b) If the action is taken when TRUT is equal to or less than 20 seconds, only the target-seeker orientation is affected.

(3) For Manned Interceptors:

(a) The combat altitude and/or speed may change.
(b) New tactics may be recommended.

# 7-39 INSERT MANUAL HEADING

This action changes the command heading being sent by data link to an Interceptor. The action might be taken to avoid an obstacle, to steer away from a populated area, or to maintain control. For a manned Interceptor, the action can be used to remove a foldback condition.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CHANGE HEADING button in ACTION II module.
(3) Insert heading in tens of degrees in GENERAL INPUTS modules (rightmost two).
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor or Bomarc track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor or Bomarc.
(4) The track status must not be told-in.
(5) The capacity for this mission type must not be exceeded.
(6) The inserted heading must be greater than zero and less than, or equal to, 36.

c. **RESULTS**

(1) The inserted heading is the magnetic heading the Interceptor is commanded to steer.
(2) If the Interceptor was on MCC, it is placed on Close Control manual vectoring.
(3) If the manned Interceptor or Bomarc is on an interception mission, the guidance computations continue so that the computer-calculated command heading is available to the operator.
(4) The inserted heading is displayed in place of the attack heading in the Mission TD and, if the mission is interception, the computer command heading is also displayed in the TD.
(5) If the capacity for this mission type is exceeded, an Action Feedback Alarm (illegal) TD, accompanied by an audible alarm, is generated.

# 7-40 CHANGE CONFIGURATION–TANKS OR CLEAN

This action changes the manned Interceptor's fuel configuration performance characteristics carried in the computer. The configuration changes from tanks to clean when external fuel tanks are not carried or are dropped; or from clean to tanks when an Interceptor is scrambled with tanks, although its normal squadron configuration is clean. If a manned Interceptor with tanks is paired with a track having a Hostile identity, the guidance computations use the tanks configuration performance characteristics until transition point, and the clean configuration thereafter.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CHG TNK/FUEL button in ACTION II module. (See paragraph 7-41.)
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track. (The GENERAL INPUTS modules must be clear if this action is not to be interpreted as Insert Fuel.)

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) The squadron must be capable of having aircraft with the specified configuration (adaptation-aircraft type).

c. **RESULTS**

(1) The fuel configuration carried in the computer for the specified Interceptor is reversed, and performance characteristics of the new configuration are used in the guidance computations.
(2) If the change is made to a clean configuration, the fuel on board is adjusted to be within the maximum load for the clean configuration of the aircraft type.
(3) If the change is made to a tanks configuration, the fuel on board is adjusted for the additional fuel.

# 7-41 INSERT FUEL

This action updates the fuel-on-board value carried by the computer for a manned Interceptor. If an impossible intercept condition develops because of an insufficient fuel calculation, the program presents an attention display and continues the guidance computation. The assigned director can attempt to correct the insufficient fuel condition by inserting a greater value of fuel remaining (after a fuel check with the pilot).

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push CHG TNK/FUEL button in ACTION II module.
(3) Insert fuel, in hundreds of pounds, in GENERAL INPUTS modules. (If the GENERAL INPUTS modules are cleared, this action is interpreted as a Change Configuration action--see paragraph 7-40.)
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

## b. RESTRICTIONS

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) Unless on an intercept mission, the inserted value of the fuel must be greater than zero.

## c. RESULTS

(1) The inserted value is stored in place of the present fuel-on-board value carried by the program.
(2) If on an intercept mission and zero fuel is inserted, the action is ignored, except that the Fuel Reserve attention display is forced to the operator taking the action.

# 7-42 COMMAND TRACKING ON

This action causes the program to use command heading and speed for tracking any manned Interceptor, and/or to take an F-106 off MCC. The command heading and speed are used by the tracking function ~~for prediction of the~~ track ~~position~~.

## a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push CMD TRK/PRES ALT button in ACTION II module. (See paragraph 7-43.)
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track. (The GENERAL INPUTS modules must be clear if this action is not to be interpreted as Insert Present Altitude.)

## b. RESTRICTIONS

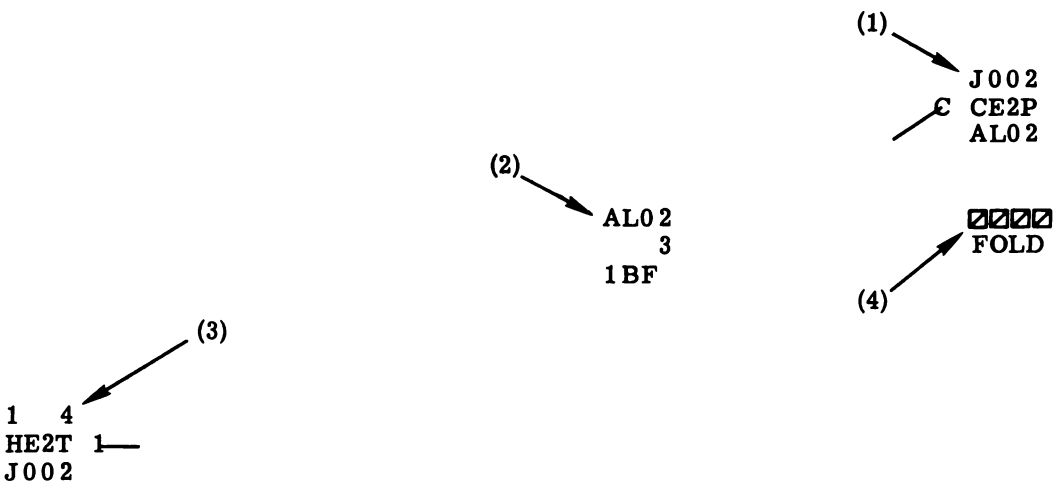
(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) The mission must be interception or CAP on manual vectoring.

## c. RESULTS

(1) If the track status is Airborne, the track is extrapolated along the command heading. If the track status is Scramble, command tracking begins when the status becomes Airborne. For a track status other than Airborne or Scramble, command heading and speed are used in the tracking equations for prediction of the track position.
(2) A manned Interceptor on MCC is taken off MCC.

# EXAMPLE OF INSERT PRESENT ALTITUDE ACTION

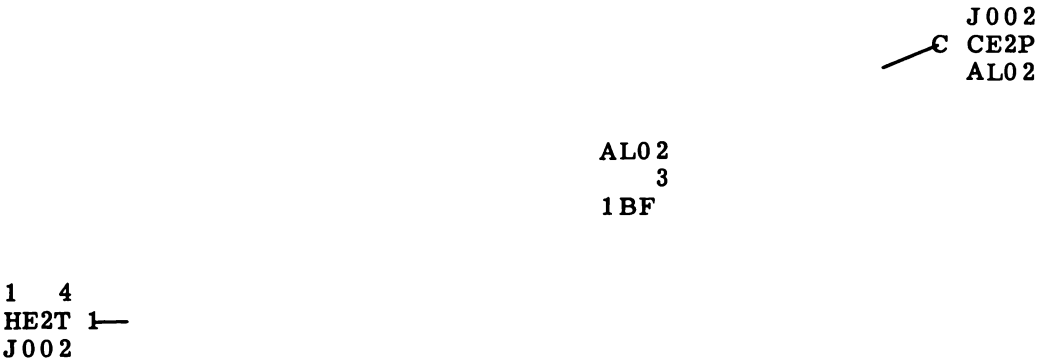
BEFORE ACTION




This illustration shows an Interceptor track display (1) and the Offset Point display (2) for manned Interceptor track AL02 that is committed against Hostile target track J002 (3). The manned Interceptor Foldback attention display (4) indicates that the manned Interceptor does not have sufficient time to complete the necessary speed and altitude changes prior to the offset point. The number 4 in the target track display denotes the target altitude as 40, 000 feet.

If the director is aware that the manned Interceptor is at an altitude that differs from the command altitude, he may be able to remove the foldback condition by inserting the manned Interceptor's present altitude.

AFTER ACTION




The Manned Interceptor Foldback attention display has been removed indicating that the insertion of the present altitude has successfully removed the foldback condition. No other changes appear on the SID.

Figure 7-3. Insert Present Altitude

# 7-43 INSERT PRESENT ALTITUDE

This action changes the present track altitude. For manned Interceptors, the action subsequently changes the aircraft altitude, or changes the program value to correspond with the aircraft altitude. For non-Interceptors, the inserted value is used as the height value.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CMD TRK/PRES ALT button in ACTION II module. (See paragraph 7-42.)
(3) Insert altitude, in thousands of feet, in GENERAL INPUTS modules (rightmost two). (If no altitude is inserted, the action is Command Tracking On.)
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) If the track is a manned Interceptor, and if an operator other than the BSD is taking the action, the track must be assigned to that operator.
(3) The track identity must not be Bomarc.
(4) The track status must not be told-in.
(5) The inserted value must be greater than zero.

c. **RESULTS**

(1) For manned Interceptors:

(a) The inserted value of present altitude is used by the program in performing the intercept calculations.
(b) This action can cause or remove a foldback condition.
(c) The inserted altitude is used for the manned Interceptor height value.

(2) For non-Interceptors:

The inserted altitude is used as the new height value.

# 7-44 CEASE FIRE

This action imposes a Cease Fire restriction on a specified track. (The AADCP must be notified of the Cease Fire restriction by telephone.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CEASE FIRE button in OPTION module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

An existing track must be specified.

c. **RESULTS**

(1) The Cease Fire alarm is forced for two cycles to the BSD and assigned BWD consoles.
(2) The track SID and TD show that a Cease Fire action has been taken.
(3) If the track's ADA status is Effective or Dump, that status is released.

# 7-45 HOLD FIRE

This action imposes a Hold Fire restriction on a specified track. (The restriction may be confirmed with the AADCP by telephone.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push HOLD FIRE button in OPTION module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

An existing track must be specified.

c. **RESULTS**

(1) The Hold Fire indicator is set in the track output message if the track is eligible for passing to the AADCP(s) under the control of this BUIC NCC.
(2) The Hold Fire alarm is forced for two cycles to the BSD and assigned BWD consoles.
(3) The track SID and TD show that a Hold Fire action has been taken.
(4) If the track's ADA status is Effective or Dump, that status is released.

## 7-46 TACAN OFF

This action causes the guidance program to use a coordinate system based on the manned Interceptor's position and air mass for target data sent in MCC messages to an F-106 aircraft.

(TACAN On, the initial condition for an F-106, provides that MCC messages sent to an F-106 use the parent SAGE Sector coordinate system. If TACAN Off action was taken on an Interceptor track and is no longer necessary, MCC action restores the TACAN On condition.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push TACAN OFF button in OPTION module.
(3) Insert manned Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing F-106 must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track status must not be told-in.

c. **RESULTS**

The target data sent in MCC messages to the F-106 use a coordinate system based on the Interceptor's position and air mass.

(1) If TACAN Off action is taken at the time MCC action is taken, the result stated above is in effect.
(2) If TACAN Off action is taken when the F-106 is on Close Control, the result stated above applies to MCC backup messages.

# 7-47 INSERT COMBAT SPEED

This action causes the program to use a new value of combat speed for a manned Interceptor.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMAND SPEED button in ACTION I module.
(3) Push COMBAT SPD/ALT button in OPTION module.
(4) Insert speed, in hundredths of Mach, in GENERAL INPUTS modules, with hundredths in units column, tenths in tens column, and Mach 1 in hundreds column.
(5) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.

c. **RESULTS**

(1) The intercept equations and the Interceptor use the inserted value for combat speed if the value is between the minimum and maximum Interceptor speeds.
(2) If the inserted speed is above the maximum or below the minimum, the maximum or minimum speed, respectively, is used.

# 7-48 INSERT COMBAT ALTITUDE

This action causes the program to use a new value of combat altitude for a manned Interceptor.

a. **PROCEDURE**

(1) Push KBD CLEAR button
(2) Push COMBAT SPD/ALT button in OPTION module.
(3) Insert altitude, in thousands of feet, in GENERAL INPUTS modules (rightmost two).
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.
(5) The mission must be interception.
(6) The inserted value must be greater than zero.

c. **RESULTS**

The program uses the inserted value in place of the present value of combat altitude.

# 7-49 SQUADRON TRACK NUMBERS

(BSD)

This action specifies to the program the track numbers to be assigned to manned Interceptors from a designated squadron.

To avoid possible number conflicts, the BSD must coordinate the numbers to be assigned for a partial squadron with the other facilities that control part of the squadron.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push buttons in TRACK NUMBER modules designating the squadron letters and the lowest track number to be used.
(3) Insert number in GENERAL INPUTS modules (rightmost two) to designate the highest track number to be used.
(4) Push SQUADRONS NUMBERS button in OPTION module.
(5) Push KBD ACT button.

b. **RESTRICTIONS**

(1) The squadron designated must be one that is recognized by the program for this BUIC NCC.
(2) The larger number inserted must be equal to or less than 31; the lower number cannot be zero and must be equal to or less than the larger number.
(3) The action must be taken at the BSD console.

c. **RESULTS**

(1) In the Active mode, when commitment of manned Interceptor(s) from the designated squadron is made by the BSD/BWD, the program assigns a number within the specified range to each track.
(2) Subsequent actions establish a new range of values; therefore, a squadron can have only one range of track numbers available at a given time.

# 7-50 FLIGHT SIZE

This action changes the size of an existing manned Interceptor flight. The action is required if part of an Interceptor flight aborts, if an Interceptor flight splits, or if two or more Interceptor flights join.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push RTB/FLT SZ button in OPTION module.
(3) Insert flight size in FLT SZ/NCC module (units module of GENERAL INPUTs modules).
(4) Insert manned Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track identity must be manned Interceptor.
(3) The track must be assigned to the operator taking the action if other than the BSD.

c. **RESULTS**

(1) The flight size is set to the number inserted.
(2) If the mission is interception, the number of Interceptors committed against the target is adjusted by the difference between the original flight size and the inserted flight size.

# 7-51 GATE CLIMB

This action causes the program to use gate-climb characteristics in computing the climb performance for a manned Interceptor.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push GATE CLIMB button in OPTION module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The mission must be interception.
(5) The track status must not be told-in.

c. **RESULTS**

The guidance calculations use the gate-climb-performance characteristics, and results of the new solution are used.

# 7-52 CANCEL BOMARC COMMITMENT

This action is taken in an attempt to cancel Bomarc commitments before the missiles are launched.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push COMMIT/RECOMMIT button in ACTION I module.
(3) Push CANCEL/OFF/DUMP button in OPTION module.

(4) (a) To cancel all Bomarc pairings against a target track:

Insert non-Interceptor track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on non-Interceptor track.

(b) To cancel Bomarc pairings by squadron:

Insert squadron letters in TRACK NUMBER modules and use light pen on non-Interceptor track.

b. **RESTRICTIONS**

(1) An existing non-Interceptor track must be specified.
(2) There must be at least one paired Bomarc in Prelaunch.
(3) If a squadron is specified, there must be at least one Bomarc from the specified squadron paired with the track and in Prelaunch.

c. **RESULTS**

(1) Either all Bomarc commitments or all Bomarc commitments from the specified squadron are considered for cancellation. If the missile is in Prelaunch, the commitment is cancelled.
(2) Bomarc cancellation is possible only if the pairing is in a wait condition.

## 7-53 CANCEL LATERALTELL

This action stops lateraltell of a specified track to another control facility.

### a. PROCEDURE

(1) Push KBD CLEAR button.
(2) Push LATERALTELL button in ACTION I module.
(3) Push CANCEL/OFF/DUMP button in OPTION module.
(4) Push appropriate button to designate Sector in AB/SEC module. (If designated facility is another BUIC NCC, also push appropriate NCC button in FLT SZ/NCC module.)
(5) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

### b. RESTRICTIONS

(1) An existing track must be specified.
(2) An appropriate control facility must be inserted.
(3) The BUIC NCC taking the action must be in the Active mode, unless another BUIC NCC in the Sector is designated.

### c. RESULTS

(1) Manually initiated lateraltell of the specified track to the designated control facility for any purpose is discontinued, unless the control facility receiving lateraltell has an intercept in progress on the track.
(2) The track SID reflects the change in lateraltell status.
(3) All TDs affected by this track are updated to reflect the change in lateraltell status.

# 7-54 CANCEL MANUAL HEADING

This action cancels an inserted manual command course and causes a return to computer-calculated command heading.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CHANGE HEADING button in ACTION II module.
(3) Push CANCEL/OFF/DUMP button in OPTION module.
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor or Bomarc track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must have been assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor or Bomarc.
(4) The mission must be interception if the track is Bomarc.
(5) The track status must not be told-in.

c. **RESULTS**

(1) If the mission is interception, the Interceptor is taken off manual command course and the computer vectoring instructions are transmitted via TDDL. If manned Interceptor mission is CAP, TDDL transmission stops.
(2) The Mission TD reverts to normal format.

# 7-55 COMMAND TRACKING OFF

This action places a manned Interceptor on normal tracking.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CMD TRK/PRES ALT button in ACTION II module.
(3) Push CANCEL/OFF/DUMP button in OPTION module.
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on manned Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track must be assigned to the operator taking the action if other than the BSD.
(3) The track identity must be manned Interceptor.
(4) The track status must not be told-in.

c. **RESULTS**

The program uses normal track prediction based on radar and SIF returns in the tracking equations.

# 7-56 AADCP OFF

This action turns a specified AADCP Off, thus terminating data link communications between the computer and that AADCP.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push AADCP OFF button in CONDITION module.
(3) Push appropriate AADCP button in AADCP module.
(4) Push KBD ACT button.

b. **RESTRICTIONS**

A legal AADCP number must be specified.

c. **RESULTS**

The specified AADCP is not considered for passing of BUIC NCC tracks, and no replyback messages from this AADCP are processed.

## 7-57 DUMP TRACK

This action stops the automatic selection of a specified track for passing to a designated AADCP and overrides the Pass Track action.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CANCEL/OFF/DUMP button in OPTION module.
(3) Push appropriate AADCP button in AADCP module.
(4) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The specified track must be currently passed to the designated AADCP.

c. **RESULTS**

(1) The program stops passing the track to the AADCP.
(2) The program sends two Dump messages to the AADCP to clear the channel.[1]
(3) The track ADA status symbol changes to a D in the track SID and TD if the track is not being passed to another AADCP.

[1] BIRDIE-6 not applicable.

# CHAPTER 8

# DISPLAYS AND DISPLAY REQUESTS

## 8-1 SUMMARY OF AVAILABLE DISPLAYS

Figure 8-1 presents the situation information display (SID) title/contents with the corresponding category selection switch labels, and the BSD and/or BWD routing for forced category SIDs. Since all consoles contain the same category selection switches, any category-selectable display can be requested at any console.

Figure 8-2 presents forced category SIDs that are nonselectable, and SIDs that can be obtained by switch action display requests.

Figure 8-3 presents forced tabular displays (TDs) and TDs that can be obtained by switch actions.

For specific display formats, as well as for additional information on SIDs and TDs, see the BUIC Common Appendix.

| DISPLAY TITLE/CONTENT | FORCED TO | CATEGORY SELECTION SWITCH |
|---|---|---|
| Sector Boundaries, Coastlines, ADIZ and Area of Cognizance | | BNDS, ADIZ<br>RADAR SITES |
| Cities | | |
| Manual Input Sources | | |
| LRR Site (Internal) | | |
| Geographical Reference (GEOREF) | | GEOREF<br>WPN BASES |
| Manned Interceptor Airbase | | |
| Bomarc Base | | |
| ADA AADCP & ADA Area | | |
| Track Assignment Alert (Interceptor) | Assigned BSD or BWD | INTERCEPTOR<br>ATTN DIS |
| Unassigned Track (Interceptor) | BSD | |
| Backtold Track Moved (Interceptor) | Assigned BSD or BWD | |
| No Updating Information for 2 Minutes (Interceptor) | Assigned BSD or BWD or BSD if unassigned | |
| Manned Interceptor Speed and/or Altitude Change Alert | Assigned BSD or BWD | |
| Manned Interceptor Recommended Tactic | Assigned BSD or BWD | |
| Manned Interceptor Impossible Intercept | Assigned BSD or BWD | |
| Manned Interceptor--Fuel Reserve | Assigned BSD or BWD | |
| Manned Interceptor Offset/Intercept/ Nuclear Burst Point | Assigned BSD or BWD<br>All weapons consoles if nuclear burst | |
| Manned Interceptor New Heading | Assigned BSD or BWD | |
| Manned Interceptor/Bomarc Foldback | Assigned BSD or BWD | |
| Manned Interceptor/Bomarc--Hand-over Imminent | Assigned BSD or BWD | |
| Manned Interceptor/Bomarc--Hand-over Completed Alert | Assigned BSD or BWD | |

Figure 8-1. Category-Selectable Displays (Sheet 1)

| DISPLAY TITLE/CONTENT | FORCED TO | CATEGORY SELECTION SWITCH |
|---|---|---|
| Bomarc Impossible Intercept | Assigned BSD or BWD | INTERCEPTOR ATTN DIS |
| Bomarc Assignment Cancelled | Assigned BSD or BWD | |
| Bomarc Intercept/Nuclear Burst Point | All weapons consoles | |
| Bomarc Recommit Impossible | Assigned BSD or BWD | |
| Surveillance Track | BSD if unassigned HUK track<br>Assigned BSD or BWD<br>Any console receiving an attention display for the track | HUKP TRACKS<br>FRIENDLY TRACKS |
| Interceptor Track | BSD if unassigned track<br>Assigned BSD or BWD<br>Any console receiving an attention display for the track | INTERCEPTOR TRACKS |
| Underdense Correlated Strobes | | CORRELATED STROBES |
| Overdense Correlated Strobes | | |
| LRR Site (External) | | |
| Underdense Uncorrelated Strobes | | UNCORRELATED STROBES |
| Overdense Uncorrelated Strobes | | |
| Present Uncorrelated Radar Data | | PRESENT SEARCH |
| Present Correlated Radar Data | | |
| Present Uncorrelated MK X Data | | PRESENT MARK X |
| Present Correlated MK X Data | | |
| History Correlated Radar Data | | HIST COR SEARCH |
| History Uncorrelated Radar Data | | HIST UNCOR SEARCH |
| History Correlated MK X Data | | HIST COR MARK X |
| History Uncorrelated MK X Data | | HIST UNCOR MARK X |

Figure 8-1. Category-Selectable Displays (Sheet 2)

| DISPLAY TITLE/CONTENT | REQUESTED BY | FORCED TO |
|---|---|---|
| SIF Display | All weapons consoles | |
| Commitment Assistance Display | BSD or BWD | |
| Bomarc Precommit | | Assigned BSD or BWD |
| Committed Target Track Change Alert | | All consoles receiving the target track |
| Cycle Count and Zulu Time | | All consoles (always present) |
| MK X Emergency Alert | | All consoles |
| Surveillance Track Attention Displays | | |
| Handover Imminent/Completed (manned Interceptor on CAP--not on manual vectoring) | | Losing BSD or BWD |
| Bomarc Backtold | | Assigned BSD or BWD |
| Assignment (non-Interceptor and Interceptor on CAP--not on manual vectoring) | | BSD or assigned BWD |
| Unassigned | | BSD |
| Aircraft Unsafe Attention | | BSD and BWDs |
| Exercise Track | | BSD and BWDs |
| Aircraft Unsafe Attention Device | | BSD and BWDs |

Figure 8-2. Requested or Forced SIDs

| DISPLAY TITLE/CONTENT | REQUESTED BY | FORCED TO |
|---|---|---|
| Mission TDs: | BSD or BWD | |
| Manned Interceptor--Interception Mission | | |
| Manned Interceptor--CAP--Manual Vectoring | | |
| Bomarc--Interception/CAP Mission | | |
| Manned Interceptor Weapons Availability | BSD or BWD | |
| Missile Weapons Availability | | |
| Surveillance Track | All consoles | |
| Manned Interceptor Track | | |
| Bomarc Track | | |
| Adjacent Sector Status | BSD | |
| Situation Alarm: | | |
| Action Feedback | | Console taking action |
| Adjacent Sector Status Change | | BSD |
| Scramble Track | | Assigned BSD or BWD |
| Handover Imminent | | Losing-assigned BSD or BWD |
| Track Assignment/Reassignment | | Assigned BSD or BWD |
| Unassigned Track | | BSD |
| Operational Conditions Display | | BSD and BWDs (always present) |
| Hold/Cease Fire Alarm | | BSD and assigned BWD |
| Mode of Startover | | BSD |
| ADA Input Status Alarm | | BSD |
| Equipment Malfunction Alarm | | BSD |

Figure 8-3. Requested and Forced TDs

# 8-2 REQUEST CLEAR TABULAR DISPLAY

This action clears the TD scope.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CLEAR TD button in DISPLAY module.
(3) Push KBD ACT button.

b. **RESTRICTIONS**

None.

c. **RESULTS**

(1) All current displays are removed from the TD scope.
(2) Alarm-line displays are not removed.

# 8-3 REQUEST MISSION TABULAR DISPLAY

This action is taken to request the Mission TD for an Interceptor track.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push MISSION 1 TD or MISSION 2 TD button in DISPLAY module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on Interceptor track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track identity must be manned Interceptor or Bomarc.
(3) The track status must not be Told-in.

c. **RESULTS**

(1) The appropriate Mission TD appears in either the upper or lower half of the TD scope.

(a) Mission 1--Lower-half TD.
(b) Mission 2--Upper half TD.

(2) A forced TD replaces a part of the Mission TD. When the forced TD is removed, the Mission TD is regenerated.
(3) A Mission TD requested for a different Interceptor replaces the previous Mission TD.
(4) The Mission TD is updated each cycle. When the Interceptor track is dropped, the TD is erased.
(5) When both Mission TDs have been interrupted by a requested TD (i.e., a Track TD or a Weapons Availability TD), both Mission TDs can be restored by requesting either one of the Mission TDs.

# 8-4 REMOVE MISSION TABULAR DISPLAY

This action is taken to discontinue the presentation of a Mission TD. (To remove both Mission TDs with one action, see paragraph 8-2.)

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push MISSION 1 TD or MISSION 2 TD button in DISPLAY module.
(3) Push KBD ACT button.

b. **RESTRICTIONS**

None.

c. **RESULTS**

(1) If MISSION 1 TD button is pushed, the lower half of the TD is erased.
(2) If MISSION 2 TD button is pushed, the upper half of the TD is erased.

# 8-5 REQUEST WEAPONS AVAILABILITY

This action is used to display the location and status information for a manned Interceptor squadron, a partial manned Interceptor squadron, or a Bomarc squadron within the BUIC NCC control area.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push WEAPONS AVAIL TD button in DISPLAY module.
(3) Insert squadron letters in TRACK NUMBER modules.
(4) Push KBD ACT button.

b. **RESTRICTIONS**

The squadron inserted must be a legal squadron recognized by the program for this BUIC NCC.

c. **RESULTS**

The appropriate Weapons Availability TD appears on the operator's scope.

# 8-6 REQUEST SIF MONITORING DISPLAYS

This action is taken to request the SIF Monitoring display.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push SIF DISPLAY button in DISPLAY module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track.

b. **RESTRICTIONS**

(1) An existing track must be specified.
(2) The track status must not be Told-in.

c. **RESULTS**

(1) The MK X data with the correct SIF number code are shown on the SID by half-inch vertical lines appearing through the data-point displays.
(2) At any console, only one SIF Monitoring display can appear at any one time.

# 8-7 REQUEST TRACK TABULAR DISPLAY

This action is taken to display detailed information on a non-Interceptor, manned Interceptor, or Bomarc track.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push TRACK TD button in DISPLAY module.
(3) Insert track number in TRACK NUMBER modules and push KBD ACT button, or use light pen on track; or insert channel number in GENERAL INPUTS modules (rightmost two) and push appropriate AADCP button in AADCP module, and then push KBD ACT button.

b. **RESTRICTIONS**

(1) Either an existing track or a legal AADCP and channel number[1] must be specified.
(2) If the display is requested by channel number, there must be a track associated with the inserted channel number.

c. **RESULTS**

The appropriate track TD appears on the operator's scope.

[1]BIRDIE-6 not applicable.

# 8-8 REQUEST ADJACENT SECTOR OPERATIONAL STATUS

This action is taken to display the operational status of the BUIC NCC parent DC and adjacent SAGE Sectors.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ADJ SEC TD button in DISPLAY module.
(3) Push KBD ACT button.

b. **RESTRICTIONS**

None.

c. **RESULTS**

The requested display is presented at the requesting console. This display is updated every cycle.

# 8-9 REQUEST ALTER CAD

This action modifies the CAD for a particular manned Interceptor squadron's intercept capability on the basis of climb option and/or fuel configuration. The resultant display is known as an Alter CAD.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push ALTER CAD button in DISPLAY module.
(3) Push CHG TNK/FUEL button in ACTION II module and/or push GATE CLIMB button in OPTION module.
(4) Insert squadron letters in TRACK NUMBER modules.
(5) Push appropriate button to designate departure base in AB/SEC module.
(6) Push KBD ACT button.

b. **RESTRICTIONS**

The specified squadron and designated departure base must be currently displayed in the CAD.

c. **RESULTS**

(1) The intercept capability of the specified squadron is recalculated on the basis of the new climb option and/or new fuel configuration.
(2) The existing intercept display of the specified squadron is replaced by one with the new information.
(3) If the intercept is not possible or is marginal, the reason for the impossible intercept is displayed adjacent to the target's D character.

# 8-10 REQUEST CLEAR CAD

This action removes a CAD from the SID scope.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CANCEL/OFF/DUMP button in OPTIONS module.
(3) Push CAD button in DISPLAY module.
(4) Push KBD ACT button.

b. **RESTRICTIONS**

None.

c. **RESULTS**

Any CAD being displayed at the console is removed from the SID scope.

# 8-11 REQUEST COMMITMENT ASSISTANCE DISPLAY (CAD)

This action assists the operator in determining the most effective weapon available for intercept against a specified track.

a. **PROCEDURE**

(1) Push KBD CLEAR button.
(2) Push CAD button in DISPLAY module.
(3) Select one weapon as follows:

(a) For Bomarc squadrons:

Insert squadron letters in TRACK NUMBER modules and use light pen on specified track.

(b) For Interceptor-class tracks:

Insert manned Interceptor or Bomarc track number in TRACK NUMBER modules and use light pen on specified track.

(c) For manned Interceptor squadrons or partial squadrons:

1. Insert squadron letters in TRACK NUMBER modules.
2. Push appropriate button to designate departure base in AB/SEC module.
3. (Optional) Push CHG TNK/FUEL button in ACTION II module.
4. (Optional) Push GATE CLIMB button in OPTION module.
5. Use light pen on specified track.

(4) Repeat entire procedure for each weapon desired

b. **RESTRICTIONS**

(1) An existing track must be specified by light pen.
(2) If a Bomarc track is designated, the Phase must be less than four.
(3) An existing Interceptor track, Bomarc squadron, or manned Interceptor squadron and airbase must be specified.

c. **RESULTS**

(1) If a CAD is being displayed on a different track, the CAD is cleared.
(2) The intercept capability of the weapon specified is calculated and is displayed with its intercept point.
(3) If a manned Interceptor squadron is specified, the intercept capability calculation is based on departure from the specified airbase.
(4) If a second weapon is selected on the same target, the first display remains, and the second display is added to the CAD.
(5) If more than two weapons are selected, the intercept display of the most recent request replaces that of the last previous request.
(6) If the CHG TNK/FUEL button is not pushed, the intercept calculations are based on the clean aircraft configuration.
(7) If the GATE CLIMB button was not pushed, the intercept calculations are based on the Buster-climb option.
(8) If the intercept is not possible or is marginal for any selected weapons, the reason for the impossible intercept is displayed adjacent to the target's D character.

# CHAPTER 9

# ALARMS AND ATTENTION DISPLAYS

## 9-1 GENERAL

For specific display formats, as well as for additional information on alarm and attention displays, see the BUIC Common Appendix.

## 9-2 TRACK ASSIGNMENT ALERT (INTERCEPTOR) (SID and TD)

### a. PRESENTATION

The attention SID consists of two rows of symbology positioned below the associated Interceptor track display. The first row presents four attention device symbols ( ⧄ ). The second row presents the letters ASGN denoting the Interceptor assignment. The Track Assignment/Reassignment TD presents the track identity, track number, and target track number or CAP indicator. These displays are forced for two cycles to the assigned BSD/BWD, and are accompanied by an audible alarm.

### b. CAUSES

The BSD/BWD is newly assigned to the Interceptor.

### c. EFFECTS

None.

### d. CORRECTIVE ACTION

(1) The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(2) If the track is being told in for tracking, Accept Handover action should be taken to initiate the handover of the manned Interceptor or Bomarc track.

## 9-3 UNASSIGNED TRACK (INTERCEPTOR) (SID and TD)

(BSD only)

### a. PRESENTATION

The attention SID consists of two rows of symbology positioned below the associated Interceptor track. The first row presents four attention device symbols (⧄). The second row presents the letters UNAS denoting the Interceptor status. The TD presents the track identity, track number, mission status, and track information. These displays are forced to the BSD until an assignment is made. An audible alarm accompanies the TD.

### b. CAUSES

An unassigned Interceptor track has entered the system.

### c. EFFECTS

Any other attention display for the associated Interceptor track is forced to the BSD console until the Interceptor track is assigned to an operator.

### d. CORRECTIVE ACTION

(1) The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(2) The BSD should assign the Interceptor track either to a BWD or to himself.

## 9-4 BACKTOLD TRACK MOVED (INTERCEPTOR)

### a. PRESENTATION

This attention SID consists of two rows of symbology positioned below the associated Interceptor track. The first row presents four attention device symbols (⧄). The second row presents the letters MOVE. This display is forced for two cycles to the assigned BSD/BWD.

### b. CAUSES

The backtold Interceptor track position is more than five miles from the track position determined by the BUIC NCC tracking function.

### c. EFFECTS

The backtold track position is used by the program.

### d. CORRECTIVE ACTION

None.

## 9-5 NO UPDATING INFORMATION FOR TWO MINUTES (INTERCEPTOR)

### a. PRESENTATION

This attention SID consists of two rows of symbology positioned below the associated lateraltold-in Interceptor track display. The first row presents four attention device symbols ( ⧄ ). The second row presents the letters NOUP denoting the condition. This display is forced to the assigned BSD/BWD (or BSD if track is unassigned) until the track is dropped, a new update message is received, or the Reinitiate action is taken.

### b. CAUSES

No track updating information for this told-in track has been received in the last two minutes.

### c. EFFECTS

None.

### d. CORRECTIVE ACTION

(1) The Drop action on the Interceptor track removes the display.
(2) If the track is being handed over, the Reinitiate action should be taken.

## 9-6 MANNED INTERCEPTOR SPEED AND/OR ALTITUDE CHANGE ALERT

### a. PRESENTATION

This attention SID consists of one, two, or three rows of symbology positioned below the associated Interceptor track display. The first row presents two attention device symbols ( ⧄ ) only, or two attention device symbols and the new command altitude in thousands of feet. If presented, the second row contains the letter S denoting a speed change, and the new command speed to the nearest one-hundredth Mach. If presented, the third row contains the letter P or S denoting port or starboard direction of turn, and the new command heading in degrees. This display is forced for two cycles to the assigned BSD/BWD.

### b. CAUSES

The intercept equations solutions indicate the manned Interceptor must accelerate to a new speed, or a change of altitude is required for the intercept.

### c. EFFECTS

The information is automatically transmitted to the manned Interceptor if data link communications exist.

### d. CORRECTIVE ACTION

If the manned Interceptor is under voice control, the new information should be transmitted to the pilot as soon as possible.

## 9-7 MANNED INTERCEPTOR RECOMMENDED TACTICS

### a. PRESENTATION

This attention SID consists of two or three rows of symbology positioned below the associated Interceptor track display. The first row presents two attention device symbols ( ⧄ ), and either the letters SN denoting stern attack, BM denoting beam attack, or FT denoting front attack. The second row presents the combat speed in tenths of Mach, and the combat altitude in thousands of feet. If presented, the third row contains the letter P or S denoting port or starborad direction of turn, and the new command heading in degrees. This display is forced for two cycles to the assigned BSD/BWD.

### b. CAUSES

The automatic tactic-monitoring function indicates that a change in tactics should be made.

### c. EFFECTS

If a new command heading is presented and data link communications exist, the new heading is automatically transmitted to the manned Interceptor.

### d. CORRECTIVE ACTION

(1) The assigned BSD/BWD should take the Insert Attack Option action.
(2) If a new command heading is presented and the Interceptor is under voice control, the new heading should be transmitted to the pilot as soon as possible.

## 9-8 MANNED INTERCEPTOR IMPOSSIBLE INTERCEPT

### a. PRESENTATION

This attention SID consists of two or three rows of symbology positioned below the associated Interceptor track display. The first row presents four attention device symbols (⧄). The second row consists of either the letters IMP denoting impossible intercept because of no solution to the intercept calculations, or FUEL denoting impossible intercept because of insufficient fuel. If presented, the third row contains the letter P or S denoting port or starboard direction of turn, and the new command heading in degrees. This display is forced for two cycles to the assigned BSD/BWD, and is accompanied by an audible alarm.

### b. CAUSES

(1) The Interceptor speed is insufficient to make the intercept with the selected tactic.
(2) The fuel remaining is predicted to be insufficient to make the intercept.

### c. EFFECTS

If a new command heading is presented and data link communications exist, the new heading is automatically transmitted to the manned Interceptor.

### d. CORRECTIVE ACTION

(1) The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(2) The BSD/BWD can attempt to correct the IMP condition by changing the tactic or speed.
(3) The BSD/BWD can remove the FUEL condition by recommitting the Interceptor to CAP or to RTB.
(4) The BSD/BWD can attempt to correct the FUEL condition by:

    (a) Recommitting to another target.
    (b) Manually inserting a greater value of fuel.
    (c) Inserting a more economical speed.

(5) If a new command heading is presented and the Interceptor is under voice control, the new heading should be transmitted to the pilot as soon as possible.

## 9-9 MANNED INTERCEPTOR–FUEL RESERVE

### a. PRESENTATION

This attention SID consists of two or three rows of symbology positioned below the associated Interceptor track display. The first row presents four attention device symbols ( ⧄ ). The second row presents the letters F R followed by the amount of fuel predicted to be on board at interception (fuel reserve), rounded off to the nearest full hundred pounds. If presented, the third row contains the letter P or S denoting port or starboard direction of turn, and the new heading command in degrees. This display is forced for two cycles to the assigned BSD/BWD.

### b. CAUSES

(1) Commitment or recommitment of the Interceptor has just taken place. If the BSD or BWD has just been assigned the Interceptor, the Fuel Reserve display appears after the Assignment display.
(2) A new calculation of the fuel reserve has been made. The display is not forced if the fuel reserve displayed is identical to the fuel reserve last displayed.
(3) The BSD/BWD can request this display at any time by taking the Insert Fuel switch action, specifying zero fuel.

### c. EFFECTS

If a new command heading is presented and data link communications exist, the new heading is automatically transmitted to the manned Interceptor.

### d. CORRECTIVE ACTION

(1) If the BSD/BWD feels that the currently predicted fuel reserve constitutes a hazard, he can insert a more economical speed, recommit the Interceptor, or put the Interceptor on CAP or RTB.
(2) If a new command heading is presented and the Interceptor is under voice control, the new heading should be transmitted to the pilot as soon as possible.

# 9-10 MANNED INTERCEPTOR OFFSET/INTERCEPT/NUCLEAR BURST POINT

## a. PRESENTATION

This SID consists of an offset/intercept point indicator and three rows of symbology positioned adjacent to the point indicator. The point indicator contains either the symbol ⊜ denoting a nuclear burst, or the letter O denoting an offset or nonnuclear intercept point.

The first row of the display presents the manned Interceptor track number. The second row contains the altitude of the nuclear burst (or target altitude if overridden for guidance) in thousands of feet, and the time to go to offset/intercept; or only the time to go to offset/intercept; or the symbology ⧄ IMP denoting an impossible intercept condition. The third row contains one of the following number-letter combinations:

| C1 | C2 | C3 |
|---|---|---|
| 1--before first offset | B--Buster climb | S--stern attack |
| 2--stern second offset | G--Gate climb | C--cutoff attack |
| 3--combat phase | | B--beam attack |
| | | F--front attack |

This display is forced to the assigned BSD/BWD until TTG = 0. For a nuclear-burst intercept, this display is forced to all other weapons consoles from three minutes to intercept until one minute after intercept.

## b. CAUSES

Normal manned Interceptor offset/intercept-point calculation.

## c. EFFECTS

None.

## d. CORRECTIVE ACTION

None.

## 9-11 MANNED INTERCEPTOR NEW HEADING

### a. PRESENTATION

This attention SID consists of two rows of symbology positioned below the associated Interceptor track display. The first row presents four attention device symbols ( ⧄ ). The bottom row presents either the letter P or S denoting port or starboard direction of turn, and the new command heading in degrees. This display is forced for two cycles to the assigned BSD/BWD.

### b. CAUSES

The guidance function calculated a new command heading for the manned Interceptor.

### c. EFFECTS

The new heading is automatically transmitted to the manned Interceptor if data link communications exist.

### d. CORRECTIVE ACTION

If the Interceptor is under voice control, the new heading should be transmitted to the pilot as soon as possible.

## 9-12 MANNED INTERCEPTOR/BOMARC FOLDBACK

### a. PRESENTATION

This attention SID consists of two or three rows of symbology positioned below the associated Interceptor track display. The first row presents four attention device symbols (⧄). The second row presents the letters FOLD denoting a foldback condition. If presented, the third row contains, for manned Interceptors only, the letter P or S denoting port or starboard direction of turn, and the new command heading in degrees. This display is forced to the assigned BSD/BWD for the duration of a foldback condition for a manned Interceptor; for a Bomarc, this display is forced until the end of the Prelaunch phase.

### b. CAUSES

(1) The manned Interceptor cannot attain the desired speed and altitude in time to make the interception.
(2) The Bomarc cannot reach cruise altitude, activate the target seeker, and search prior to time of interception.

### c. EFFECTS

(1) For manned Interceptors, the guidance program automatically changes command speed and altitude to combat speed and altitude if these parameters have not been changed by a manual override action.
(2) For Bomarcs, the guidance program automatically vectors the Bomarc on a longer flight path in an attempt to remove the foldback condition.
(3) For manned Interceptors, if a new command heading is presented and data link communications exist, the new heading is automatically transmitted to the manned Interceptor.

### d. CORRECTIVE ACTION

(1) The operator can recommit a manned Interceptor to another target, to CAP, or to RTB.
(2) The operator can vector a manned Interceptor on a longer flight course in an attempt to remove the foldback condition.
(3) The operator can change the speed and/or altitude in an attempt to remove the foldback condition for a manned Interceptor.
(4) If a new command heading is presented and the manned Interceptor is under voice control, the new heading should be transmitted to the pilot as soon as possible.

## 9-13 MANNED INTERCEPTOR/BOMARC HANDOVER IMMINENT (SID and TD)

### a. PRESENTATION

The attention SID consists of two or three rows of symbology positioned below the associated Interceptor track display. The first row presents four attention device symbols ( ⧄ ). The second row presents the letters HAND denoting that handover is imminent. If presented, the third row contains, for manned Interceptors only, the letter P or S denoting port or starboard direction of turn, and the new command heading in degrees. The TD presents the new assigned operator identification and the new radio frequency. The SID is forced to the assigned BSD/BWD in the losing facility for two cycles. The TD is forced for four cycles, and is accompanied by an audible alarm.

### b. CAUSES

The Interceptor track has been assigned in the receiving facility.

### c. EFFECTS

If a new command heading is presented and data link communications exist, the new heading is automatically transmitted to the manned Interceptor.

### d. CORRECTIVE ACTION

(1) The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(2) For manned Interceptors, the radio frequency (channel) for the new controller should be transmitted to the pilot as soon as possible.
(3) If a new command heading is presented and the manned Interceptor is under voice control, the new heading should be transmitted to the pilot as soon as possible.

## 9-14 MANNED INTERCEPTOR/BOMARC—HANDOVER COMPLETED ALERT

### a. PRESENTATION

This attention SID consists of two rows of symbology positioned below the associated Interceptor track display. The first row presents four attention device symbols ( ⧄ ). The second row presents the letters OVER denoting handover is completed. This display is forced for two cycles to the assigned BSD/BWD in the losing facility.

### b. CAUSES

Accept Handover action has been taken by the receiving assigned operator.

### c. EFFECTS

(1) The losing assigned operator is automatically deassigned the track.
(2) SIDs and TDs reflect the deassignment.
(3) The losing facility automatically drops the Interceptor track.

### d. CORRECTIVE ACTION

None.

## 9-15 BOMARC IMPOSSIBLE INTERCEPT

### a. PRESENTATION

This attention SID consists of two rows of symbology positioned below the associated Bomarc track display. The first row presents four attention device symbols ( ⧄ ). The second row presents one of the following symbologies:

| | |
|---|---|
| FUEL | denotes impossible intercept because of insufficient fuel. |
| IMP | denotes impossible intercept because of no solution to the intercept equations. |

This display is forced to the assigned BSD/BWD for the duration of the condition.

### b. CAUSES

(1) Bomarc fuel is insufficient to make the intercept.
(2) No solution to the intercept equations exists.

### c. EFFECTS

(1) For a fuel condition, the guidance computations continue.
(2) For a no-solution condition, the Bomarc is vectored on its last command heading. For a Bomarc, if a no-solution-because-of-speed occurs within one minute of offset, time to offset is set to zero, and the turn-to-attack heading begins.

### d. CORRECTIVE ACTION

The Recommit action to another target or to CAP may be taken.

## 9-16 BOMARC ASSIGNMENT CANCELLED

### a. PRESENTATION

This attention SID consists of three rows of symbology positioned below the Bomarc Base display. The first row presents four attention device symbols ( ⧄ ). The second row presents the letters CNCL denoting cancelled assignment. The bottom row contains the target track number. This display is forced for four cycles to the assigned BSD/BWD.

### b. CAUSES

(1) The Bomarc assignment has been manually cancelled by Cancel Bomarc Commitment action.
(2) The Bomarc assignment has been cancelled automatically by the computer because an impossible intercept condition exists, or because the target has been reidentified as non-Hostile.

### c. EFFECTS

The assignment is cancelled.

### d. CORRECTIVE ACTION

None.

## 9-17 BOMARC INTERCEPT/NUCLEAR BURST POINT

### a. PRESENTATION

This SID consists of an intercept-point symbol ( ⊜ ) positioned at the intercept point and three rows of symbology positioned to the left or right of the intercept-point symbol. The first row presents the Bomarc track number. The second row presents the tracking altitude, or BSD/BWD-inserted altitude in thousands of feet (61 if no altitude is available for a Bomarc target); and the time to go in minutes. The bottom row contains another Bomarc intercept-point symbol and either the letter C denoting the cutoff tactic or the letter F denoting the final turn tactic. This display is forced to the assigned BSD/BWD until TTG = 0. It is forced to all other weapons consoles from three minutes to intercept until one minute after intercept.

### b. CAUSES

Normal Bomarc intercept-point calculation.

### c. EFFECTS

None.

### d. CORRECTIVE ACTION

None.

## 9-18 BOMARC RECOMMIT IMPOSSIBLE

### a. PRESENTATION

This attention SID consists of three rows of symbology positioned below the associated Bomarc track display. The first row presents four attention device symbols ( ⧄ ). The second row presents one of the following symbologies:

| | |
|---|---|
| FUEL | denotes insufficient fuel. |
| IMP | denotes no solution to intercept equations, or the target has been reidentified or dropped. |
| FOLD | denotes a foldback condition. |

The bottom row contains the new target track number. This display is forced for two cycles to the assigned BSD/BWD.

### b. CAUSES

The Recommit action has been taken, but the recommitment is impossible.

### c. EFFECTS

The old commitment remains in effect.

### d. CORRECTIVE ACTION

The operator can take the Recommit to CAP action, or can attempt to recommit the Bomarc to another target.

## 9-19 BOMARC PRECOMMIT

### a. PRESENTATION

This attention SID consists of three rows of symbology positioned below the Bomarc's target track display. The first row presents four attention device symbols ( ⧄ ). The second row presents the letters WT denoting the wait condition, and the Bomarc squadron designation letters. The third row contains the time to wait and either the letter M or S (denoting minutes or seconds). This display is forced to the assigned BSD/BWD until fire up is initiated, or until commitment is cancelled.

### b. CAUSES

The predicted intercept point is outside the range of the Bomarc; however, the extrapolated target heading indicates the target will be within range at a later time.

### c. EFFECTS

(1) The launching is delayed.
(2) The assignment attention displays are delayed.

### d. CORRECTIVE ACTION

None.

## 9-20 COMMITTED TARGET TRACK CHANGE ALERT

### a. PRESENTATION

This attention SID consists of one or two rows of symbology replacing the regular Surveillance Track display symbology. The first row presents one of the following:

| | |
|---|---|
| ◁ ◁ ◁ | denotes a possible simultaneous engagement. |
| ⋈ ⋈ ⋈ | denotes a possible simultaneous commitment. |
| ⊠ ⊠ | denotes a drop, new altitude, or lost change. |
| ⊠ ⊠ I | denotes an identity change. |

If the first row denotes a drop, new altitude, or lost change, the second row identifies which condition exists by (1) the letters DROP, (2) the letter A and the new altitude in thousands of feet, or (3) the letters LOST. This display is forced for two cycles to all weapon consoles receiving the Surveillance Track display.

### b. CAUSES

The committed target track: (1) has a possible simultaneous engagement, (2) has a possible simultaneous commitment, (3) is being dropped, (4) has had an altitude change, (5) is in Lost status, or (6) has had an identity change.

### c. EFFECTS

(1) Affected SIDs and TDs reflect the change.
(2) A new altitude value is used in the guidance calculations.
(3) An identity change may affect the commitment.
(4) A dropped or lost target change affects the commitment.

### d. CORRECTIVE ACTION

(1) Possible simultaneous commitment or engagement must be checked for desirability and/or safety.
(2) Pilots of manned Interceptors committed against the target must be notified of the situation.

## 9-21 MK X EMERGENCY ALERT

### a. PRESENTATION

This display consists of two 3/4-inch nonexpandable vectors that are perpendicular to each other and that originate at the D character of the track display if the MK X datum correlates with a track; otherwise, the vectors originate at the position of the present radar datum. These vectors are forced to all consoles.

### b. CAUSES

The aircraft is transponding in the emergency SIF mode.

### c. EFFECTS

None.

### d. CORRECTIVE ACTION

All possible assistance should be provided for the aircraft.

## 9-22 SURVEILLANCE TRACK ATTENTION

### a. PRESENTATION

The following attention SIDs consist of one or two rows of symbology (A and B, B, or C characters) positioned beside the associated Surveillance track display:

A characters

? ? ? denotes Aircraft Unsafe--this display, together with the aircraft symbols ( ✱ ) in the B characters, is forced to all BSD/BWD consoles. The Aircraft Unsafe display has priority over any other attention display that appears in the A1, A2, A3 and B1, B2, B3 characters.

B characters

✱ ✱ ✱ denotes Aircraft Unsafe--(see explanation for A characters)

☐ H D denotes Handover Imminent--this display is forced to the assigned BSD/BWD in the facility for two cycles.

☐ O V denotes Handover Completed--this display is forced to the assigned BSD/BWD in the losing facility for two cycles.

☐ B B denotes Bomarc Backtold--this display is forced to the BSD or assigned BWD until an Accept action is taken on the track, or until the BUIC NCC goes into the Active mode.

C characters

☐ A S denotes Assignment--this SID and the Track Assignment TD are forced to the assigned BSD/BWD for two cycles. The TD, accompanied by an audible alarm, contains the track identity, track number, speed and altitude.

☐ U N denotes Unassigned--this SID and the Unassigned Track TD are forced to the BSD. The SID is forced for two cycles. The TD, accompanied by an audible alarm, is forced until an assignment is made. The TD contains the track identity, track number, mission status, and track information.

### b. CAUSES

(1) Aircraft Unsafe--the track has been designated as Unsafe by the BASO (TM).
(2) Handover Imminent--a lateraltold-out manned Interceptor on CAP (not on manual vectoring) has been assigned in the receiving facility.
(3) Handover Completed--the assigned operator in the receiving facility has taken Accept Handover action on the lateraltold manned Interceptor on CAP (not on manual vectoring).
(4) Bomarc Backtold--the Bomarc track is being backtold into the BUIC NCC.
(5) Assignment--the BSD has taken Assign action on the track, or a lateraltold track has been automatically assigned (non-Interceptors or Interceptors on CAP, but not on manual vectoring).
(6) Unassigned--a HUK unassigned track has entered the system.

### c. EFFECTS

(1) Aircraft Unsafe--alerts BUIC NCC personnel to the existence of an Unsafe track situation.
(2) Handover Imminent--none.

(3) Handover Completed--the manned Interceptor on CAP is deassigned from the assigned BSD/BWD, and the track is dropped.
(4) Bomarc Backtold--none.
(5) Assignment--assignment displays are presented to the assigned BSD/BWD.
(6) Unassigned--unassigned track displays are forced to the BSD.

d. **CORRECTIVE ACTION**

(1) Aircraft Unsafe--none.
(2) Handover Imminent/Completed--none.
(3) Bomarc Backtold--none.
(4) Assignment--the COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(5) Unassigned

(a) The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(b) The BSD should take Assign action to assign the HUK track either to a BWD or to himself.

## 9-23 AIRCRAFT UNSAFE ATTENTION DEVICE

a. **PRESENTATION**

This attention SID consists of two rows of symbology positioned below the associated Interceptor track display. The first row presents four attention symbols ( ? ). The second row presents four additional attention symbols ( ↯ ). If an Aircraft Unsafe action is taken on an aircraft against which an Interceptor is committed, aircraft unsafe attention symbols automatically appear for both the target and the Interceptor tracks.

The tracks displaying the aircraft unsafe attention symbols are forced to the BSD and to all BWDs. If an Unsafe track is assigned to a BSD or BWD, the responsible BSD or BWD also receives an audible alarm. This display has priority over any other Interceptor attention display, and is forced until the Aircraft Safe action has been taken on the track.

b. **CAUSES**

The BASO (TM) has designated the Interceptor or its target as Unsafe.

c. **EFFECTS**

None.

d. **CORRECTIVE ACTION**

No corrective action is required unless the BSD or BWD has responsibility for the Unsafe track. In this case, the responsible BSD or BWD should contact the BASO (TM) to coordinate on any action that may be taken against the Unsafe track situation.

## 9-24 SITUATION ALARM: ACTION FEEDBACK

### a. PRESENTATION

This alarm consists of an audible alarm and a forced TD showing either the character I, C, B, or ⩾ . The TD appears for 1/2 to 1 cycle on the console causing the alarm condition.

### b. CAUSES

(1) I--Illegal action. This alarm is generated when an action is taken with insertions that violate the restrictions imposed on the action.
(2) C--Computer confused. This alarm results when the light pen is used on SID symbology that is not light-pennable, or when the light-penned symbology is not relevant to the action.
(3) B--Computer busy. This alarm results from certain telling actions when the computer temporarily lacks the capacity to process the action.
(4) ⩾ --Exceeds track capacity. This alarm results when a legal action has been taken to introduce a new track into the system, and the track channel capacity has been reached for this type of track.

### c. EFFECTS

The inserted action is not accepted by the computer.

### d. CORRECTIVE ACTION

(1) The COMPUTER ALARM button can be pushed to silence the alarm before it is automatically turned off.
(2) If the action was illegal, correct the action error and repeat the action.
(3) If the computer is confused or busy, repeat the action.
(4) If the track capacity has been exceeded, it may be feasible to drop a track of this type and then repeat the action.

## 9-25 SITUATION ALARM: ADJACENT SECTOR STATUS CHANGE

(BSD only)

a. **PRESENTATION**

This alarm TD indicates an operational status change in an adjacent Sector. The adjacent Sector's letter designator is forced to the BSD for one cycle. This TD is accompanied by an audible alarm.

b. **CAUSES**

A status change in a Sector has occurred, or no Operational Status messages from a parent DC have been received for approximately two minutes.

c. **EFFECTS**

This change may affect certain lateraltell messages.

d. **CORRECTIVE ACTION**

(1) The COMPUTER ALARM button can be pushed to silence the alarm before it is automatically turned off.
(2) The BSD may request the Adjacent Sector Status TD for additional information.

## 9-26 UNASSIGNED TRACK

(BSD only)

a. **PRESENTATION**

This alarm TD consists of a two-line TD containing track information for either a Hostile, Unknown, Faker, manned Interceptor, or Bomarc track that is unassigned. It is forced to the BSD until an assignment is made, and is accompanied by audible alarm.

b. **CAUSES**

An unassigned HUKCT or D track is in the system.

c. **EFFECTS**

The associated SID for HUKCT or D tracks and the attention SID for Interceptor tracks are forced to the BSD console.

d. **CORRECTIVE ACTION**

(1) The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(2) The BSD should assign the track either to a BWD or to himself.

## 9-27 OPERATIONAL CONDITIONS DISPLAY

### a. PRESENTATION

This display consists of a two-line TD presenting the number of weapons channels available, Sector status, total number of track channels available, Bomarc-authorization indicator, and GAT-site-option indicator. This TD is always present at all consoles. An audible alarm is generated for the specified conditions noted.

### b. CAUSES

(1) System intercept capacity has been reached (all weapons channels are filled).
(2) Total number of track channels not in use is less than three.
(3) The BUIC NCC has changed operational mode.

### c. EFFECTS

(1) When weapons channel capacity saturation occurs, no additional Interceptor tracks requiring a weapons channel can be entered into the system.
(2) The track channel capacity of the system is approaching the limit, thus reducing the operational capability.
(3) A change of mode may require a change of operational functions.

### d. CORRECTIVE ACTION

(1) The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.
(2) For track channel capacity, relatively unimportant tracks must be dropped to allow more important tracks to enter the system.

## 9-28 HOLD CEASE FIRE ALARM

### a. PRESENTATION

This alarm TD, consisting of three lines, contains track information, cause of alarm, and the channel number (or BIRDIE-6 indicator) for each AADCP to which the track is currently being passed. The display is forced for two cycles to the BSD and assigned BWD consoles. It is accompanied by an audible alarm.

### b. CAUSES

(1) Hold Fire or Cease Fire action has been taken by the BSD/BWD.
(2) Told-in or feedback ADA status has changed to Hold Fire or Cease Fire.

### c. EFFECTS

Alerts the BSD and assigned BWD that the track status has changed to Hold Fire or Cease Fire.

### d. CORRECTIVE ACTION

The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off.

## 9-29 MODE OF STARTOVER

(BSD only)

a. **PRESENTATION**

This TD presents information on the mode of startover, the time the computer stopped, the nature of the startover trouble, and the unit status list. The display is forced to the BSD for the duration of the startover operation.

b. **CAUSES**

The Startover program is operating.

c. **EFFECTS**

Air defense is degraded.

d. **CORRECTIVE ACTION**

Refer to Chapter 10.

## 9-30 ADA INPUT STATUS ALARM

(BSD only)

a. **PRESENTATION**

NOTE: This alarm is not generated during training exercises that use inputs from simulation tapes.

This alarm consists of the ADA Input Status Alarm TD, and is accompanied by an audible alarm. It is presented on the BSD console for two cycles. The TD specifies the AADCP and the input-line number of an input line that has failed to transmit replyback messages. Only one line failure is displayed at a time; additional line failure alarms are delayed until removal of the existent display.

b. **CAUSES**

The program has monitored the input data link line of each AADCP turned on, and has determined that a given line has not transmitted a replyback message for a period of two consecutive cycles.

c. **EFFECTS**

Alerts the BSD that data link line transmission between AADCP sites and the BUIC NCC is below normal capacity. A line failure exists until at least one replyback message is received over that line.

d. **CORRECTIVE ACTION**

The COMPUTER ALARM button may be pushed to silence the audible alarm before it is automatically turned off.

## 9-31 EQUIPMENT MALFUNCTION DISPLAY

(BSD only)

### a. PRESENTATION

This display consists of a one-line TD that presents a coded, five-character error message on terminal device malfunctions. This display is forced to line fifteen of the BSD's TD. It appears for two cycles and is accompanied by an audible alarm. If a different error message condition occurs during the two-cycle period, a second message is also forced, with an audible alarm, to line sixteen of the BSD's TD.

The equipment malfunction message is five characters in length. Character one indicates the type of message. Characters two and three depict the device involved. Characters four and five indicate the type of error. These codes are combined into a five-character message similar to the following example:

MD1PC = A parity error was detected on information transferred from magnetic drum one.

### b. CAUSES

The Flexowriter is inoperative, or the Flexowriter has been inoperative and another terminal device has malfunctioned.

### c. EFFECTS

Alerts the BSD that his TD is now being used as an alternate output device for the terminal device malfunction messages.

### d. CORRECTIVE ACTION

The COMPUTER ALARM button may be pushed to silence the alarm before it is automatically turned off. The BSD should relay the message to the BFMM as soon as possible.

# CHAPTER 10

# EMERGENCY CONDITIONS

## 10-1 STARTUP/STARTOVER

Startup is the process that commences cycling of the programs that perform the BUIC NCC air defense function. Startover is the process that restores cycling of the programs that perform the BUIC NCC air defense function. The BSD is responsible for the control and scheduling of startup and operator-requested startovers.

The operations that are necessary to either prepare or restore the Data Processing Set for performing the air defense function vary.

These operations are dependent upon operator actions and/or program conditions prior to operation of the startover function. The nature and sequence of operations performed by the startover function are dependent on the mode of startup/startover selected. After a startup or a startover, the Mode of Startover tabular display is forced to the BSD for approximately two cycles.

### a. DESCRIPTION

(1) INITIATE MODE

The mode of startup that is used to commence cycling of the BUIC Operational Program under one of the following conditions:

(a) Air defense is begun.
(b) Computer downtime is of such duration, normally 10 minutes or more, that all table data are invalid.
(c) Startovers in the Reestablish mode have failed.

In this mode of startup, only the Master Program Tape and preset initial conditions are available. A binary deck of the recording specification table may also be used to replace the existing table. The entire air picture must be constructed from radar data, operator inputs and manual inputs.

(2) TEST MODE

The mode of startup that is used to commence cycling of the BUIC Operational Program under one of the following conditions:

(a) To change from an Active mode to a Simulated mode of BUIC NCC operation and to cycle with a simulation tape.
(b) To test the system and use a simulation tape, program corrections, and/or a modified recording specifications table.

In this mode of startup, the Master Program Tape, modified initial conditions, a simulation tape, and a modified recording table are available, as required. The air picture is constructed from live and/or simulated radar data, operator inputs and manual inputs.

(3) REESTABLISH MODE

The mode of startover that is used to restore cycling of the BUIC Operational Program under one of the following conditions:

(a) After the completion of the Fault Isolation Program (automatically).
(b) After a drum failure necessitating the transfer of drum bulk storage, or after initializing displays (automatically).
(c) After a manual request by the BFMM for a Reestablish mode of startover. At this time a binary deck of the recording specifications table may be used to replace the existing table.

After a Reestablish mode of startover where downtime was 20 seconds or more, each track that is in the BUIC NCC tracking tables and is displayed to operational personnel, is updated unless appropriate action was taken by the BFMM prior to a startup. Each non-Interceptor and manned Interceptor retains its last assigned track status and track merit. A non-Interceptor is extrapolated using the velocity of the track and the elapsed computer downtime. A manned Interceptor is extrapolated using the last command heading of the track and the elapsed computer downtime. The status, altitude, position, and phase of a Bomarc are updated during a Reestablish mode of startover. Updating of a Bomarc is dependent on the amount of downtime and the phase of the Bomarc prior to the startover. After a Reestablish mode of startover, a Bomarc is updated as follows:

(a) Prelaunch. The Bomarc is dropped.

(b) Fire-up. If the current time is less than the predicted time of launch, the Bomarc remains in Fire-up. If the current time is equal to or greater than the predicted time of launch, the Bomarc is assigned a track status of Airborne. The phase is advanced to Climb, and updating continues.

(c) Climb. If the current time is less than the predicted time to cruise altitude, the Bomarc remains in Climb phase.

When cruise altitude is reached, if updated TRUT is greater than zero, the phase of the Bomarc is advanced to Midcourse. If updated TRUT equals zero, Profile I Bomarcs enter Combat phase; Profile II and Profile III Bomarcs enter Transition phase. Updating continues.

(d) Midcourse. The missile remains in Midcourse until the offset point is reached. When the offset point is reached, the phase is advanced to transition, and updating continues.

(e) Transition. The missile remains in the Transition phase until the target seeker is activated. When the target seeker is activated, the phase is advanced to Combat, and updating continues.

(f) Combat. The missile remains in the Combat phase until time to intercept is zero. When time to intercept has passed, the phase is advanced to Frozen, and updating continues.

(g) Frozen. All guidance computations end, and the Bomarc is automatically dropped 5 minutes after the predicted time to intercept.

b. **ACTIONS**

(1) INITIATE OR TEST MODE

The following actions are performed by Weapons personnel after a startup in the Initiate or Test mode.

(a) BSD--Direct BFMM to load appropriate tapes and indicate mode of startup.
(b) BSD--Direct BASO to take actions to initiate recording, as required.
(c) BSD--Make radio-frequency channel assignments for each member of the Weapons Section.
(d) BSD--Take Active Mode action if the BUIC NCC is to conduct either live or simulated live air defense.
(e) BSD/SWD--Take AADCP On action for each AADCP that is to communicate directly via data link with the BUIC NCC.
(f) BSD--Take Bomarc Authorized action to allow commitment of Bomarcs by the BUIC NCC, if authorized.
(g) BSD--Coordinate with the BMIO and the BASOs to insure an accurate and updated reconstruction of the air picture.
(h) BSD/BWD--Make pseudo-scramble of each Interceptor (action only) that was scrambled prior to or during computer downtime.
(i) BSD/BWD--Take Assign SIF Number action on each manned Interceptor that was scrambled prior to or during computer downtime.
(j) BSD/BWD--Take Reinitiate action on each Interceptor track, associating pseudo-scramble track number and symbology with the appropriate radar trail, to obtain program-generated vectoring instructions for the Interceptor.
(k) BSD/BWD--Take RTB or CAP action on each Interceptor as required.
(l) BSD/BWD--Take Hold Fire or Cease Fire action on each track, and manually pass the tracks to the eligible AADCPs, as required.

(2) REESTABLISH MODE

The following actions are performed by Weapons personnel after a startover in the Reestablish mode.

(a) BSD--Take Active Mode action if the BUIC NCC is to conduct either live or simulated live air defense.
(b) BSD--Coordinate with the BMIO and the BASOs to insure an accurate and updated air picture.
(c) BSD/BWD--Make pseudo-scramble of each Interceptor (action only) that was scrambled during computer downtime.
(d) BSD/BWD--Take Assign SIF Number action on each Interceptor that was scrambled during computer downtime.
(e) BSD/BWD--Take Reinitiate action on each Interceptor track, associating the pseudo-scramble track number and symbology with the associated radar trail, to obtain program-generated vectoring instructions for the Interceptor.
(f) BSD/BWD--Take RTB or CAP action on each Interceptor, as required.
(g) BSD/BWD--Take Drop action on each Interceptor track that is no longer the responsibility of the BUIC NCC.
(h) BSD/BWD--Take Drop action on each track that either was splashed during computer downtime or no longer contributes to the air picture.
(i) BSD/BWD--Take Hold Fire or Cease Fire action on each track, and manually pass tracks to eligible AADCPs, as required.

(3) DURING DOWNTIME

The following actions are performed by Weapons personnel during computer downtime.

(a) BSD/BWD--Inform pilots that this BUIC NCC is not transmitting TDDL messages.
(b) BSD/BWD--Voice-scramble manned-Interceptors against target tracks.
(c) BSD/BWD--Voice-pass tracks to AADCPs.
(d) BSD--Coordinate with the BFMM as to the anticipated amount of computer downtime.
(e) BSD--Inform other BUIC NCCs in the Sector and in adjacent Sectors that the BUIC NCC is inoperative.

# CHAPTER 11

# BSD COORDINATION WITH THE BFMM

## 11-1 DISPLAY OF EQUIPMENT ERROR INFORMATION

The BSD's console is the alternate output device for the BFMM's Flexowriter. When the Flexowriter becomes inoperable, a five-character error message is displayed in line fifteen of the BSD's TD scope. This display, accompanied by an audible alarm, is forced for two cycles. If a different error message condition occurs during this two-cycle period, a second message is also forced, with an audible alarm, to line sixteen of the BSD's TD scope. This information should be relayed to the BFMM as soon as possible.

## 11-2 STATUS INFORMATION RECEIVED FROM BFMM

The BSD must coordinate with the BFMM when revisions to the current air defense situation may require BFMM action, or when an equipment or program malfunction occurs in the computer system. The BFMM advises the BSD on the status of the AN/GSA-51 equipment, and provides information concerning equipment outages and estimated repair times.

# 11-3 REPAIR DECISIONS

## a. USE OF TERMINAL DEVICE FAULT DIAGNOSTIC ROUTINE

Terminal device malfunctions may or may not degrade the activity of the BUIC Operational Program; it depends on the nature of the malfunction, the units available, the device in question, and the current air situation. When a device malfunctions, the appropriate Terminal Device Fault Diagnostic Routine can be initiated to find and analyze faults in a terminal device, and to notify the BFMM of the corrective measures that are necessary to effect repairs. This notification is printed out on the Flexowriter.

During operational recording periods or during training exercises that utilize inputs from a simulation tape, the use of the Terminal Device Fault Diagnostic Routine must be coordinated between the BSD and the BFMM. A Terminal Device Fault Diagnostic Routine can be loaded while the BUIC Operational Program is operating, only if both simulation and recording are not being performed.

## b. MAKING A MAGNETIC DRUM UNAVAILABLE

- The BUIC Operational Program operates with two magnetic drums (logical drum basis). A drum switchover logic exists in the BUIC Operational Program to automatically offset drum malfunctions, and to provide sufficient time for the BFMM to complete drum repair and testing. However, during live testing or during actual wartime emergency situations, the BSD can order the BFMM to operate on a logical drum basis even though a malfunction may occur in one, or both magnetic drums.

# 11-4 OTHER TYPES OF DECISIONS

## a. MODE CHANGES

The activities of a BUIC NCC are determined by the mode in which the BUIC Operational Program is operating. During the conduct of normal BUIC activities, the BUIC NCC may be required to change from one mode of operation to another. The BSD is responsible for mode changes and must coordinate with the BFMM when a mode change requires program tape changes and/or BFMM action.

## b. SIM TAPE LOADING OR UNLOADING

During Test mode operation or during active air defense operation, the BUIC Operational Program can record operational information on magnetic tapes. However, the BSD must authorize the BFMM to mount a blank recording tape onto an available tape drive. Similarly, when additional blank tapes are required to maintain recording continuity, the tape changeover (usually involving a change of tape from a second tape drive) must be authorized by the BSD.

## c. REMOVAL OF MASTER PROGRAM TAPE

As a recording tape approaches its end-of-tape mark, the BFMM must prepare a second tape drive to maintain recording continuity. If a simulation tape is presently occupying a tape drive and no unused tape drive is available, the BSD must authorize the BFMM to remove the Master Program tape to obtain the necessary second tape drive.

If the Master Program tape is removed, the BSD must make certain that the BFMM quickly replaces the Master Program tape on the tape drive that was previously being used for recording, and that the tape drive is redesignated as tape drive number one.

## d. STARTUP, STARTOVER, AND SHUTDOWN

The BSD must coordinate with the BFMM on startup, startover, and shutdown of air defense functions. During startup and startover, the BSD must inform the BFMM as to the BUIC NCC's mode of operation, so that the appropriate tapes may be loaded

The BSD has the option to shutdown the AN/GSA-51 subsystem when a malfunction is detected in the BUIC equipment. The BSD's decision to shutdown depends on the advice given to him by the BFMM, and on the current air defense situation. In advising the BSD concerning a shutdown due to equipment malfunction, the BFMM estimates the time needed to restore the faulty equipment to full operational capability. The BSD authorizes the BFMM to proceed with normal shutdown operations when necessary. In lieu of system shutdown, it may only be necessary to designate one or more units as unavailable. The BSD must specifically authorize the BFMM to manually make any unit unavailable.

HQ ESD (ESSG)..... 2
SYSTEM PROG. DIRECTOR
416-M HANSCOM FIELD BEDFORD MASS.
SAC/NORAD JOINT OPERATIONS TASK F..... 1
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

PIR-F-6 DISTRIBUTION FOR NORAD

NORAD (NPSD)..... 5
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
NORAD (NOFV-L)..... 2
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
NORAD (NODP-E)..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO

PIR-F-9 DISTRIBUTION FOR HQ ADC

ADLPL-A..... 3
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
ADOWX..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
ADOOP-E..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
ADOTT-C..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
PCO 4001 (STOCK)..... 50
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

PIR-F-22 DISTRIBUTION FOR ADC UNITS

PIR-F-22A 25 AIR DIVISION (25ODC)..... 5
MCCHORD AFB, WASH 98438
PIR-F-22AG 26 AIR DIVISION (26OOP..... 2
STEWART AFB, NY 12554
PIR-F-22C 28 AIR DIVISION (28ODC)..... 4
HAMILTON AFB, CALIF. 94935
PIR-F-22D 29 AIR DIV (29OOT-A)..... 5
RICHARDS GEBAUR AFB, MO 64031
PIR-F-22E 30 AIR DIV (30-OOP-FV)..... 2
TRUAX FLD, WIS 53707
PIR-F-22H BAADS (BAOOP-CP)..... 2
TOPSHAM AFS, TOPSHAM, MAINE 04086
PIR-F-22 765TH RADAR SQ..... 2
CHARLESTON AFS, DOVER-FOXCROFT, MAINE 04426
PIR-F-22J BOADS (BOOPR)..... 3
HANCOCK FLD SYRACUSE, NY 13225
PIR-F-22 762 RADAR SQ..... 2
NORTH TRURO AFS NORTH TRURO, MASS 02652
PIR-F-22K CHADS (CHOOP-3)..... 1
TRUAX FLD, WIS 53707
PIR-F-22L DEADS (DEOOG-P)..... 2
CUSTER AFS BATTLE CREEK, MICH 49016
PIR-F-22 754 RADAR SQ..... 2
PORT AUSTIN AFS PORT AUSTIN, MICH 48467
PIR-F-22M DUADS (DUDCO)..... 3
DULUTH INTL APRT DULUTH, MINN 55814
PIR-F-22 756 RADAR SQ..... 2
FINLAND AFS FINLAND, MINN 55603
PIR-F-22 665 RADAR SQ..... 2
CALUMET AFS CALUMET, MICH 44913
PIR-F-22N GRADS (GRODC)..... 2
MALMSTROM AFB, MONT. 59402
PIR-F-22 778 RADAR SQ..... 3
HAVRE AFS HAVRE, MONT. 59501
PIR-F-22 780 RADAR SQ..... 3
FORTUNA AFS WESTBY, MONT. 59275
PIR-F-22 716 RADAR SQ..... 1
KALISPELL AFS LAKESIDE, MONT. 59922
PIR-F-22 786 RADAR SQ..... 1
MINOT AFS MINOT, N D 58702
PIR-F-22 779 RADAR SQ..... 1
OPHEIM AFS OPHEIM, MONT. 59250
PIR-F-22 694 RADAR SQ..... 1
LEWISTOWN AFS LEWISTOWN, MONT. 59457
PIR-F-22 801 RADAR SQ..... 1
MALMSTROM AFB, MONT. 59402
PIR-F-22 902 RADAR SQ..... 1
MILES CITY AFS MILES CITY, MONT. 59301

PIR-F-22Q LAADS (LAOTN)..... 1
NORTON AFB, CALIF. 92409
PIR-F-22 750 RADAR SQ..... 1
BORON AFS BORON, CALIF. 93516
PIR-F-22 751 RADAR SQ..... 1
MOUNT LAGUNA AFS MOUNT LAGUNA, CALIF. 92080
PIR-F-22 682 RADAR SQ..... 1
ALMADEN AFS NEW ALMADEN, CALIF. 95042
PIR-F-22 669 RADAR SQ..... 1
VANDENBERG AFB, CALIF. 93437
PIR-F-22 670 RADAR SQ..... 1
FORT MACARTHUR AI, CALIF.
PIR-F-22 774 RADAR SQ..... 1
MADERA AFS MADERA, CALIF. 93637
PIR-F-22 775 RADAR SQ..... 1
CAMBRIA AFS CAMBRIA, CALIF. 93428
PIR-F-22S MOADS (MOCAS)..... 1
GUNTER AFB, ALA 36114
PIR-F-22 644 RADAR SQ..... 4
HOMESTEAD AFB, FLA 33033
PIR-F-22 657 RADAR SQ..... 1
HOUMA AFS HOUMA, LA 70360
PIR-F-22 678 ACW SQ..... 5
TYNDALL AFB, FLA 32403
PIR-F-22 693 RADAR SQ..... 1
DAUPHIN ISLAND AFS DAUPHIN ISLAND, ALA 36528
PIR-F-22 861 RADAR SQ..... 1
AIKEN AFS AIKEN, SC 29802
PIR-F-22 2 MSL BN, 43 ARTY..... 2
TURNER AFB, GA
PIR-F-22 4 MSL BN, 61 ARTY..... 2
ROBBINS AFB, GA
PIR-F-22 13 ARTY GP (AD)..... 4
HOMESTEAD AFB, FLA 33033
PIR-F-22 6 MSL BN, 65 ARTY..... 4
KEY WEST NAS, FLA
PIR-F-22T NYADS (NYOOP-G)..... 2
MCGUIRE AFB, NJ 08641
PIR-F-22 680 RADAR SQ..... 2
PALERMO AFS OCEAN CITY, NJ 08226
PIR-F-22U PHADS (PHOCO-T)..... 1
LUKE AFB, ARIZONA 85301
PIR-F-22 612 RADAR SQ..... 1
LUKE AF RANGE AJO, ARIZONA 85321
PIR-F-22 684 RADAR SQ..... 1
MOUNT LEMMON AFS
MOUNT LEMMON AFS, ARIZONA 85619
PIR-F-22 865 RADAR SQ..... 1
LAS VEGAS AFS LAS VEGAS, NEV. 89101
PIR-F-22V POADS (POODC-T)..... 8
ADAIR AFS CORVALLIS, OREGON 97330
PIR-F-22 827 RADAR SQ..... 2
KINGSLEY FLD KLAMATH FALLS, OREGON 97601
PIR-F-22 761 RADAR SQ..... 1
NORTH BEND AFS NORTH BEND, OREGON 97459
PIR-F-22 777 RADAR SQ..... 1
KLAMATH AFS REQUA, CALIF 95561
PIR-F-22 689 RADAR SQ..... 1
MOUNT HERO AFS MOUNT HERO, OREGON 97122
PIR-F-22 776 RADAR SQ..... 1
POINT ARENA AFS POINT ARENA, CALIF 95468
PIR-F-22 859 RADAR SQ..... 1
RED BLUFF AFS, RED BLUFF, CALIF 96080
PIR-F-22 634 RADAR SQ..... 1
BURNS AFS BURNS, OREGON 97720
PIR-F-22W READS (ODC-A)..... 1
STEAD AFB, NEV. 89506
PIR-F-22 858 RADAR SQ..... 1
FALLON AFS FALLON, NEV. 89406
PIR-F-22AA SCADS (SCODC-E)..... 1
SIOUX CITY AB, IOWA 51110
PIR-F-22Z SEADS (SEOTN-G)..... 1
MCCHORD AFB, WASH 98438
PIR-F-22 636 RADAR SQ..... 1
CONDON AFS CONDON, OREGON 97823
PIR-F-22 637 RADAR SQ..... 2
OTHELLO AFS OTHELLO, WASH 99344
PIR-F-22 757 RADAR SQ..... 1
BLAINE AFS BLAINE, WASH 98230
PIR-F-22 758 RADAR SQ..... 1
MAKAH AFS NEAH BAY, WASH 98357
PIR-F-22 823 RADAR SQ..... 1
SPOKANE INTL APRT, WAS 99217
PIR-F-22 CHIEF OPNS OFFICER..... 1
RCAF STA, HOLBERG, B C

PIR-F-22 COMMANDING OFFICER..... 1
RCAF STA, BALDY HUGHES PRINCE GEORGE, B C
PIR-F-22 COMMANDING OFFICER..... 1
RCAF STA, PUNTZI MT WILLIAMS LAKE, BC
PIR-F-22 COMMANDING OFFICER..... 2
RCAF STA, KAMLOOPS, B C
PIR-F-22 COMMANDING OFFICER..... 1
RCAF STA, BEAVER LODGE, ALTA
PIR-F-22 116 FIS (ANG)..... 1
SPOKANE INTL APRT, WASH 99217
PIR-F-22 141 FTR GP (ANG)..... 1
SPOKANE INTL APRT, WASH 99217
PIR-F-22 64 FIS..... 1
PAINE FLD, WASH 98205
PIR-F-22 318 FIS..... 1
MCCHORD AFB, WASH 98438
PIR-F-22 325 FTR WG..... 1
MCCHORD AFB, WASH 98438
PIR-F-22 57 FTR GP..... 1
PAINE FLD, WASH 98205
PIR-F-22 409 AW SQ..... 1
RCAF STA, COMOX, B C
PIR-F-22 498 FIS..... 1
MCCHORD AFB, WASH 98438
PIR-F-22AD WADDS (WADDC-UG)..... 2
FT LEE AFS FT LEE, VA 23801
PIR-F-22 771 RADAR SQ..... 2
CAPE CHARLES AFS, VA 23310

OTHER DISTRIBUTION

PIR-F-8 APASTC SANTA MONICA..... 2
PIR-F-11 CCDSC DET 4 (AD4SY-Z)..... 1
L. G. HANSCOM FLD, BEDFORD, MASS.
PIR-F-1 WECO, NY.....VELLUM + 2
200 CHURCH ST. NEW YORK, NY. 10013
PIR-F-2 PHILCO, TECH REP DIV.....VELLUM + 2
442 MARRETT ROAD, LEXINGTON 73, MASS.
PIR-F-3 BURROUGHS..... 3
BOX 894 PAOLI, PENNSYLVANIA
PIR-F-4 RADC (EMAEV)..... 3
GRIFFISS AFB NY 13442
PIR-F-7 MITRE.....VELLUM + 10
P.O. BOX 208 BEDFORD, MASS.
PIR-F-10 ATC(ATTSC)..... 1
L. G. HANSCOM FIELD BEDFORD, MASS. 01731
PIR-F-14 AIR UNIVERSITY LIBRARY..... 1
AUL3T-63-708 MAXWELL AFB ALA 36112
PIR-F-16 ATC.....VELLUM + 2
TYNDALL AFB, FLA.
PIR-F-18 4751 ST ADS..... 1
EGLIN AF AUXILIARY FIELD NR 9, FLA 32544
PIR-F-5 ADC, RCAF STN. ST HUBERT..... 1
C/O HQ ESD (ESSG) L.G. HANSCOM FIELD
BEDFORD, MASSACHUSETTS 01731
PIR-F-12 RCAF, OTTAWA 4, CANADA..... 3
C/O HQ ESD (ESSG) L.G. HANSCOM FIELD
BEDFORD, MASSACHUSETTS 01731
PIR-F-13 RCAF LO, SANTA MONICA..... 1
C/O HQ ESD (ESSG) L.G. HANSCOM FIELD
BEDFORD, MASSACHUSETTS 01731
PIR-F-15 USARADCOM (ADGCC)..... 1
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO
PIR-F-17 NORTHERN NORAD REGION HQ..... 1
RCAF STATION NORTH BAY ONTARIO, CANADA

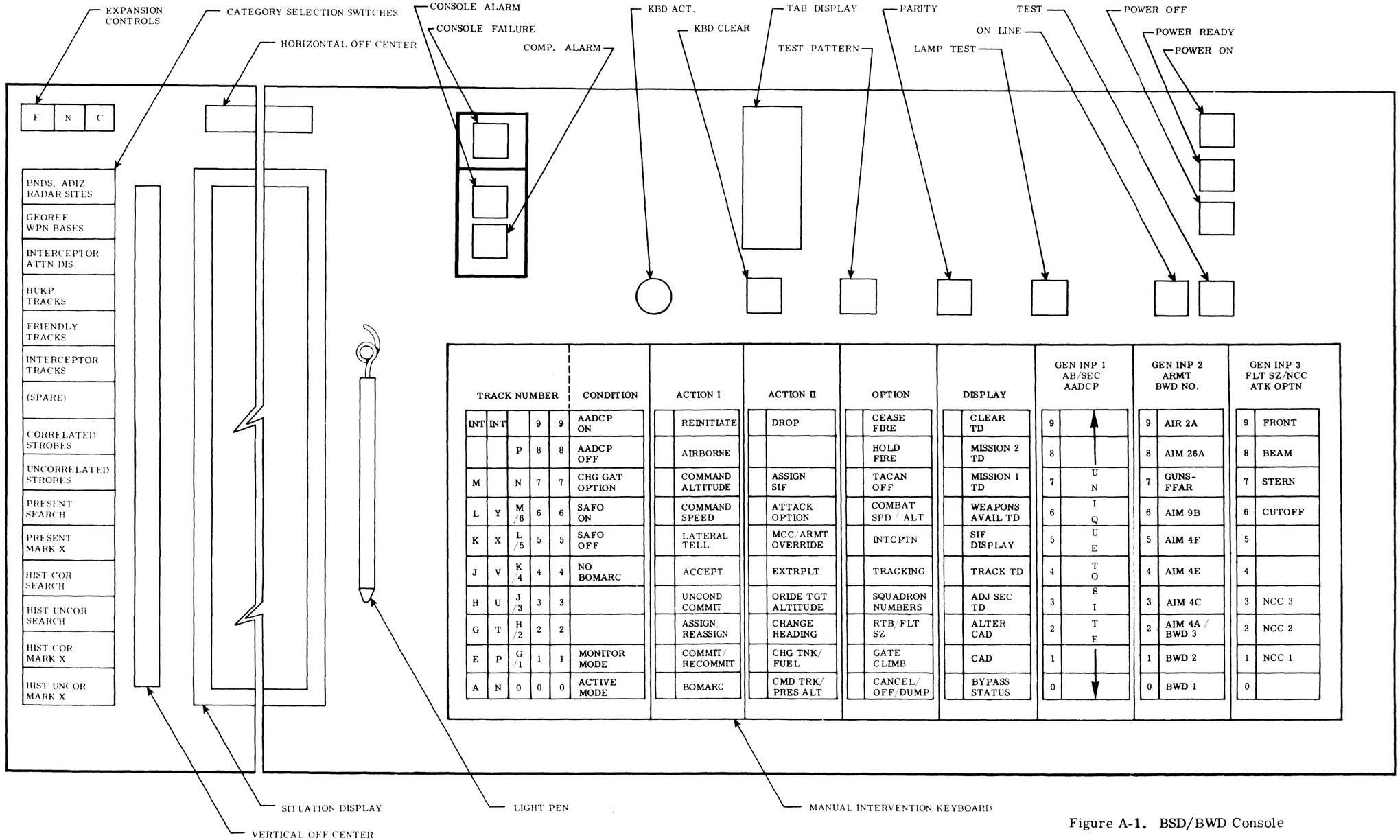
SDC SITE DISTRIBUTION

SYSTEM DEVELOPMENT CORPORATION..... 1
SAGE BLDG TRUAX FIELD MADISON WISCONSIN 53707
SYSTEM DEVELOPMENT CORPORATION..... 1
STEWART AFB P.O. BOX 1269 NEWBURGH, N.Y. 12550
SYSTEM DEVELOPMENT CORPORATION..... 2
TYNDALL AFB P.O. BOX 2239 PANAMA CITY, FLA 32402
SYSTEM DEVELOPMENT CORPORATION..... 5
PALERMO AFS P.O. BOX 81 SOMERS POINT N.J. 08244
SYSTEM DEVELOPMENT CORPORATION..... 2
PORT AUSTIN AFS P.O. BOX 252 PORT AUSTIN, MICH 4846
SYSTEM DEVELOPMENT CORPORATION..... 2
CALUMET AFS CALUMET, MICH. 49913
SYSTEM DEVELOPMENT CORPORATION..... 2
CAPE CHARLES AFS BOX 221 CAPE CHARLES, VA.
SYSTEM DEVELOPMENT CORPORATION..... 1
BLDG 241 ATTN H M POOL
LUKE AFB ARIZ. 85301
SYSTEM DEVELOPMENT CORPORATION..... 2
1719 E. BIJOU ST. SUITE 1030 ATTN TRECHTER, NYSTROM
COLORADO SPRINGS, COLORADO
SYSTEM DEVELOPMENT CORPORATION..... 8
P.O. BOX 266
NORTH TRURO, MASS. 02652
SYSTEM DEVELOPMENT CORPORATION..... 1
45 HARTWELL AVE ATTN J CAREY
LEXINGTON, MASS. 02173

TOTAL 267

# APPENDIX

## BSD/BWD CONSOLE




| TRACK NUMBER | | | | | CONDITION | ACTION I | ACTION II | OPTION | DISPLAY | GEN INP 1 AB/SEC AADCP | GEN INP 2 ARMT BWD NO. | GEN INP 3 FLT SZ/NCC ATK OPTN |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| INT | INT | | 9 | 9 | AADCP ON | REINITIATE | DROP | CEASE FIRE | CLEAR TD | 9 | 9 AIR 2A | 9 FRONT |
| | | P | 8 | 8 | AADCP OFF | AIRBORNE | | HOLD FIRE | MISSION 2 TD | 8 | 8 AIM 26A | 8 BEAM |
| M | | N | 7 | 7 | CHG GAT OPTION | COMMAND ALTITUDE | ASSIGN SIF | TACAN OFF | MISSION 1 TD | 7 UNIQUE | 7 GUNS-FFAR | 7 STERN |
| L | Y | M/6 | 6 | 6 | SAFO ON | COMMAND SPEED | ATTACK OPTION | COMBAT SPD / ALT | WEAPONS AVAIL TD | 6 | 6 AIM 9B | 6 CUTOFF |
| K | X | L/5 | 5 | 5 | SAFO OFF | LATERAL TELL | MCC/ARMT OVERRIDE | INTCPTN | SIF DISPLAY | 5 | 5 AIM 4F | 5 |
| J | V | K/4 | 4 | 4 | NO BOMARC | ACCEPT | EXTRPLT | TRACKING | TRACK TD | 4 | 4 AIM 4E | 4 |
| H | U | J/3 | 3 | 3 | | UNCOND COMMIT | ORIDE TGT ALTITUDE | SQUADRON NUMBERS | ADJ SEC TD | 3 SIT | 3 AIM 4C | 3 NCC 3 |
| G | T | H/2 | 2 | 2 | | ASSIGN REASSIGN | CHANGE HEADING | RTB/FLT SZ | ALTER CAD | 2 TE | 2 AIM 4A / BWD 3 | 2 NCC 2 |
| E | P | G/1 | 1 | 1 | MONITOR MODE | COMMIT/ RECOMMIT | CHG TNK/ FUEL | GATE CLIMB | CAD | 1 | 1 BWD 2 | 1 NCC 1 |
| A | N | 0 | 0 | 0 | ACTIVE MODE | BOMARC | CMD TRK/ PRES ALT | CANCEL/ OFF/DUMP | BYPASS STATUS | 0 | 0 BWD 1 | 0 |

Figure A-1. BSD/BWD Console

HQ ESD (ESSG)..... 2
SYSTEM PROG. DIRECTOR
416-M MANSCOM FIELD BEDFORD MASS.
SAC/NORAD JOINT OPERATIONS TASK F..... 1
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

PIR-F-6 DISTRIBUTION FOR NORAD

NORAD (NPSD)..... 5
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
NORAD (NOEV-L)..... 2
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
NORAD (NODP-E)..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO

PIR-F-9 DISTRIBUTION FOR HQ ADC

ADLPL-A..... 3
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
ADOWX..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
ADOOP-E..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
ADOTT-C..... 1
ENT AIR FORCE BASE COLORADO SPRINGS COLORADO
PCO 4001 (STOCK)..... 50
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO

PIR-F-22 DISTRIBUTION FOR ADC UNITS

PIR-F-22A 25 AIR DIVISION (25ODC)..... 5
MCCHORD AFB, WASH 98438
PIR-F-22AG 26 AIR DIVISION (26OOP..... 2
STEWART AFB, NY 12554
PIR-F-22C 28 AIR DIVISION (28ODC)..... 4
HAMILTON AFB, CALIF. 94935
PIR-F-22D 29 AIR DIV (29OOT-A)..... 5
RICHARDS GEBAUR AFB, MO 64031
PIR-F-22E 30 AIR DIV (3O-OOP-EV)..... 2
TRUAX FLD, WIS 53707
PIR-F-22H BAADS (BAOOP-CP)..... 2
TOPSHAM AFS, TOPSHAM, MAINE 04086
PIR-F-22 765TH RADAR SQ..... 2
CHARLESTON AFS, DOVER-FOXCROFT, MAINE 04426
PIR-F-22J BOADS (ROOPR)..... 3
HANCOCK FLD SYRACUSE, NY 13225
PIR-F-22 762 RADAR SQ..... 2
NORTH TRURO AFS NORTH TRURO, MASS 02652
PIR-F-22K CHADS (CHCOP-3)..... 1
TRUAX FLD, WIS 53707
PIR-F-22L DEADS (DEOOG-P)..... 2
CUSTER AFS BATTLE CREEK, MICH 49016
PIR-F-22 754 RADAR SQ..... 2
PORT AUSTIN AFS PORT AUSTIN, MICH 48467
PIR-F-22M DUADS (DUDCU)..... 3
DULUTH INTL APRT DULUTH, MINN 55814
PIR-F-22 756 RADAR SQ..... 2
FINLAND AFS FINLAND, MINN 55603
PIR-F-22 665 RADAR SQ..... 2
CALUMET AFS CALUMET, MICH 44913
PIR-F-22N GRADS (GRODC)..... 2
MALMSTROM AFB, MONT. 59402
PIR-F-22 778 RADAR SQ..... 3
HAVRE AFS HAVRE, MONT. 59501
PIR-F-22 780 RADAR SQ..... 3
FORTUNA AFS WESTBY, MONT. 59275
PIR-F-22 716 RADAR SQ..... 1
KALISPELL AFS LAKESIDE, MONT. 59922
PIR-F-22 786 RADAR SQ..... 1
MINOT AFS MINOT, N D 58702
PIR-F-22 779 RADAR SQ..... 1
OPHEIM AFS OPHEIM, MONT. 59250
PIR-F-22 694 RADAR SQ..... 1
LEWISTOWN AFS LEWISTOWN, MONT. 59457
PIR-F-22 801 RADAR SQ..... 1
MALMSTROM AFB, MONT. 59402
PIR-F-22 902 RADAR SQ..... 1
MILES CITY AFS MILES CITY, MONT. 59301
PIR-F-22Q LAADS (LAOTN)..... 1
NORTON AFB, CALIF. 92409
PIR-F-22 750 RADAR SQ..... 1
BORON AFS BORON, CALIF. 93516
PIR-F-22 751 RADAR SQ..... 1
MOUNT LAGUNA AFS MOUNT LAGUNA, CALIF. 92408
PIR-F-22 682 RADAR SQ..... 1
ALMADEN AFS NEW ALMADEN, CALIF. 95042
PIR-F-22 669 RADAR SQ..... 1
VANDENBERG AFB, CALIF. 93437
PIR-F-22 670 RADAR SQ..... 1
FORT MACARTHUR AI, CALIF.
PIR-F-22 774 RADAR SQ..... 1
MADERA AFS MADERA, CALIF. 93637
PIR-F-22 775 RADAR SQ..... 1
CAMBRIA AFS CAMBRIA, CALIF. 93428
PIR-F-22S MOADS (MOCAS)..... 1
GUNTER AFB, ALA 36114
PIR-F-22 644 RADAR SQ..... 4
HOMESTEAD AFB, FLA 33033
PIR-F-22 657 RADAR SQ..... 1
HOUMA AFS HOUMA, LA 70360
PIR-F-22 678 ACW SQ..... 5
TYNDALL AFB, FLA 32403
PIR-F-22 693 RADAR SQ..... 1
DAUPHIN ISLAND AFS DAUPHIN ISLAND, ALA 36528
PIR-F-22 861 RADAR SQ..... 1
AIKEN AFS AIKEN, SC 29802
PIR-F-22 2 MSL BN, 43 ARTY..... 2
TURNER AFB, GA
PIR-F-22 4 MSL BN, 61 ARTY..... 2
ROBBINS AFB, GA
PIR-F-22 13 ARTY GP (AD)..... 4
HOMESTEAD AFB, FLA 33033
PIR-F-22 6 MSL BN, 65 ARTY..... 4
KEY WEST NAS, FLA
PIR-F-22T NYADS (NYOOP-G)..... 2
MCGUIRE AFB, NJ 08641
PIR-F-22 680 RADAR SQ..... 2
PALERMO AFS OCEAN CITY, NJ 08226
PIR-F-22U PHADS (PHOCO-T)..... 1
LUKE AFB, ARIZONA 85301
PIR-F-22 612 RADAR SQ..... 1
LUKE AF RANGE AJO, ARIZONA 85321
PIR-F-22 684 RADAR SQ..... 1
MOUNT LEMMON AFS
MOUNT LEMMON AFS, ARIZONA 85619
PIR-F-22 865 RADAR SQ..... 1
LAS VEGAS AFS LAS VEGAS, NEV. 89101
PIR-F-22V POADS (POODC-T)..... 8
ADAIR AFS CORVALLIS, OREGON 97330
PIR-F-22 827 RADAR SQ..... 2
KINGSLEY FLD KLAMATH FALLS, OREGON 97601
PIR-F-22 761 RADAR SQ..... 1
NORTH BEND AFS NORTH BEND, OREGON 97459
PIR-F-22 777 RADAR SQ..... 1
KLAMATH AFS REQUA, CALIF 95561
PIR-F-22 689 RADAR SQ..... 1
MOUNT HEBO AFS MOUNT HEBO, OREGON 97122
PIR-F-22 776 RADAR SQ..... 1
POINT ARENA AFS POINT ARENA, CALIF 95468
PIR-F-22 859 RADAR SQ..... 1
RED BLUFF AFS, RED BLUFF, CALIF 96080
PIR-F-22 634 RADAR SQ..... 1
BURNS AFS BURNS, OREGON 97720
PIR-F-22W READS (COC-A)..... 1
STEAD AFB, NEV. 89506
PIR-F-22 858 RADAR SQ..... 1
FALLON AFS FALLON, NEV. 89406
PIR-F-22AA SCADS (SCODC-E)..... 1
SIOUX CITY AB, IOWA 51110
PIR-F-22Z SEADS (SEOTN-G)..... 1
MCCHORD AFB, WASH 98438
PIR-F-22 636 RADAR SQ..... 1
CONDON AFS CONDON, OREGON 97823
PIR-F-22 637 RADAR SQ..... 2
OTHELLO AFS OTHELLO, WASH 99344
PIR-F-22 757 RADAR SQ..... 1
BLAINE AFS BLAINE, WASH 98230
PIR-F-22 758 RADAR SQ..... 1
NAKAH AFS NEAH BAY, WASH 98357
PIR-F-22 823 RADAR SQ..... 1
SPOKANE INTL APRT, WAS 99217
PIR-F-22 CHIEF OPNS OFFICER..... 1
RCAF STA, HOLBERG, B C

(Page A-4 Blank)

PIR-F-22 COMMANDING OFFICER..... 1
RCAF STA, BALDY HUGHES PRINCE GEORGE, B C
PIR-F-22 COMMANDING OFFICER..... 1
RCAF STA, PUNTZI MT WILLIAMS LAKE, BC
PIR-F-22 COMMANDING OFFICER..... 2
RCAF STA, KAMLOOPS, B C
PIR-F-22 COMMANDING OFFICER..... 1
RCAF STA, BEAVER LODGE, ALTA
PIR-F-22 116 FIS (ANG)..... 1
SPOKANE INTL APRT, WASH 99217
PIR-F-22 141 FTR GP (ANG)..... 1
SPOKANE INTL APRT, WASH 99217
PIR-F-22 64 FIS..... 1
PAINE FLD, WASH 98205
PIR-F-22 318 FIS..... 1
MCCHORD AFB, WASH 98438
PIR-F-22 325 FTR WG..... 1
MCCHORD AFB, WASH 98438
PIR-F-22 57 FTR GP..... 1
PAINE FLD, WASH 98205
PIR-F-22 409 AW SQ..... 1
RCAF STA, COMOX, B C
PIR-F-22 498 FIS..... 1
MCCHORD AFB, WASH 98438
PIR-F-22AD WADDS (WADDC-DG)..... 2
FT LEE AFS FT LEE, VA 23801
PIR-F-22 771 RADAR SQ..... 2
CAPE CHARLES AFS, VA 23310

OTHER DISTRIBUTION

PIR-F-8 APASTC SANTA MONICA..... 2
PIR-F-11 CCDSO DET 4 (AD4SY-Z)..... 1
L. G. HANSCOM FLD, BEDFORD, MASS.
PIR-F-1 WECO, NY.....VELLUM + 2
200 CHURCH ST. NEW YORK, NY. 10013
PIR-F-2 PHILCO, TECH REP DIV.....VELLUM + 2
442 MARRETT ROAD, LEXINGTON 73, MASS.
PIR-F-3 BURROUGHS..... 3
BOX 894 PAOLI, PENNSYLVANIA
PIR-F-4 RADC (EMAEV)..... 3
GRIFFISS AFB NY 13442
PIR-F-7 MITRE.....VELLUM + 10
P.O. BOX 208 BEDFORD, MASS.
PIR-F-10 ATC(ATTSC)..... 1
L. G. HANSCOM FIELD BEDFORD, MASS. 01731
PIR-F-14 AIR UNIVERSITY LIBRARY..... 1
AUL3T-63-708 MAXWELL AFB ALA 36112
PIR-F-16 ATC.....VELLUM + 2
TYNDALL AFB, FLA.
PIR-F-18 4751 ST ADS..... 1
EGLIN AF AUXILIARY FIELD NR 9, FLA 32544
PIR-F-5 ADC, RCAF STN. ST HUBERT..... 1
C/O HQ ESD (ESSG) L.G. HANSCOM FIELD
BEDFORD, MASSACHUSETTS 01731
PIR-F-12 RCAF, OTTAWA 4, CANADA..... 3
C/O HQ ESD (ESSG) L.G. HANSCOM FIELD
BEDFORD, MASSACHUSETTS 01731
PIR-F-13 RCAF LO, SANTA MONICA..... 1
C/O HQ ESD (ESSG) L.G. HANSCOM FIELD
BEDFORD, MASSACHUSETTS 01731
PIR-F-15 USARADCOM (ADGCC)..... 1
ENT AIR FORCE BASE
COLORADO SPRINGS, COLORADO
PIR-F-17 NORTHERN NORAD REGION HQ..... 1
RCAF STATION NORTH BAY ONTARIO, CANADA

SDC SITE DISTRIBUTION

SYSTEM DEVELOPMENT CORPORATION..... 1
SAGE BLDG TRUAX FIELD MADISON WISCONSIN 53707
SYSTEM DEVELOPMENT CORPORATION..... 1
STEWART AFB P.O. BOX 1269 NEWBURGH, N.Y. 12550
SYSTEM DEVELOPMENT CORPORATION..... 2
TYNDALL AFB P.O. BOX 2239 PANAMA CITY, FLA 32402
SYSTEM DEVELOPMENT CORPORATION..... 5
PALERMO AFS P.O. BOX 81 SOMERS POINT N.J. 08244
SYSTEM DEVELOPMENT CORPORATION..... 2
PORT AUSTIN AFS P.O. BOX 252 PORT AUSTIN, MICH 4846
SYSTEM DEVELOPMENT CORPORATION..... 2
CALUMET AFS CALUMET, MICH. 49913
SYSTEM DEVELOPMENT CORPORATION..... 2
CAPE CHARLES AFS BOX 221 CAPE CHARLES, VA.
SYSTEM DEVELOPMENT CORPORATION..... 1
BLDG 241 ATTN H M POOL
LUKE AFB ARIZ. 85301
SYSTEM DEVELOPMENT CORPORATION..... 2
1719 E. BIJOU ST. SUITE 1030 ATTN TRECHTER, NYSTROM
COLORADO SPRINGS, COLORADO
SYSTEM DEVELOPMENT CORPORATION..... 8
P.O. BOX 266
NORTH TRURO, MASS. 02652
SYSTEM DEVELOPMENT CORPORATION..... 1
45 HARTWELL AVE ATTN J CAREY
LEXINGTON, MASS. 02173

TOTAL 267