# 5. BSM On-Line Message

## 5.1. Fault/Alarm Message

### 5.1.1. Alarm Message

#### 5.1.1.1. CAN Occurrence Alarm Message

##### 5.1.1.1.1. CAMB

###### 5.1.1.1.1.1. CNP Processor

1) When A-Side of the duplicated CNP is normal and functional problems occur on the B- side board

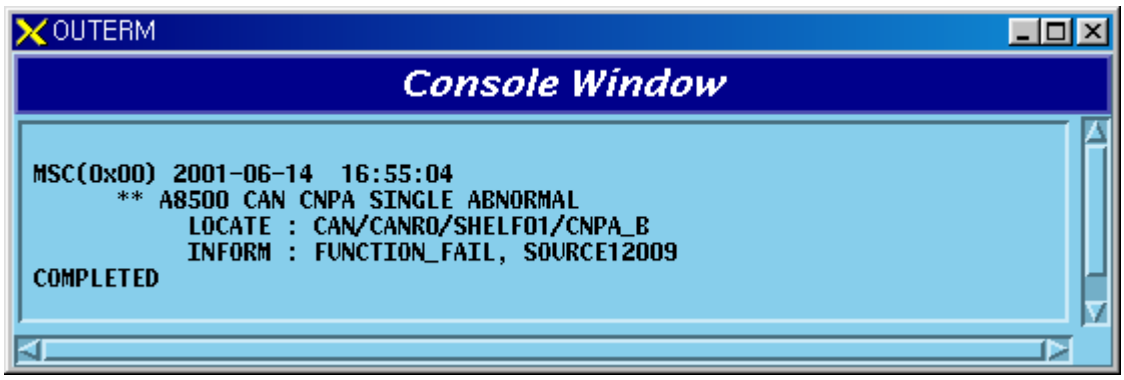



Fig. 5.1-1 CNP Single Function Fail

2) When functional problems occur on the B-Side after functional problems occur on the A-Side of the duplicated CNP,

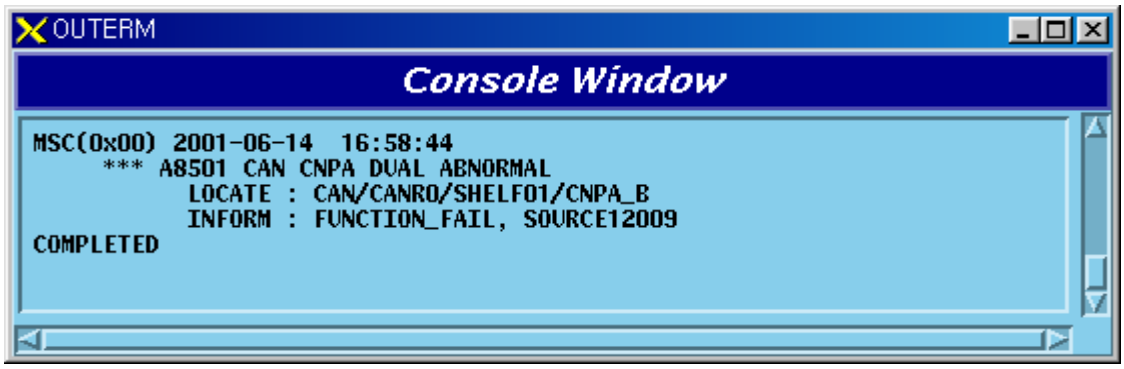



Fig. 5.1-2 CNP Dual Function Fail

3) When A-Side of the duplicated CNP is normal and the B-Side board is removed

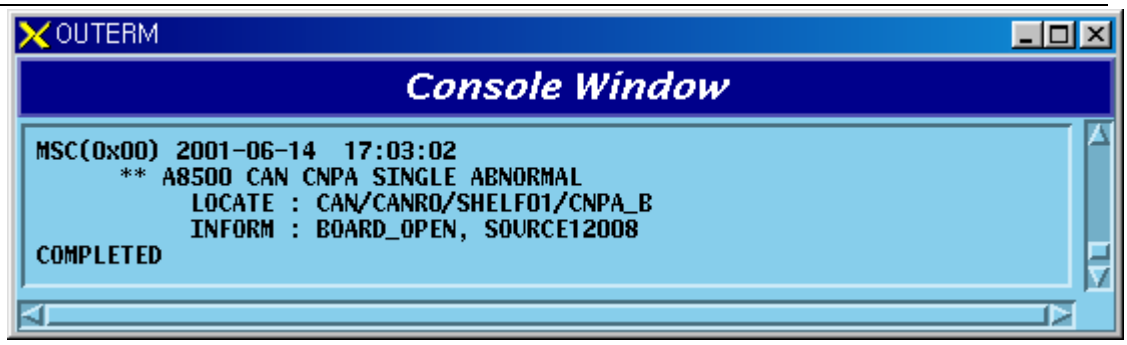



Fig. 5.1-3 CNP Single Board Open Fail

4) When B-Side is removed after A-Side of the duplicated CNP is removed

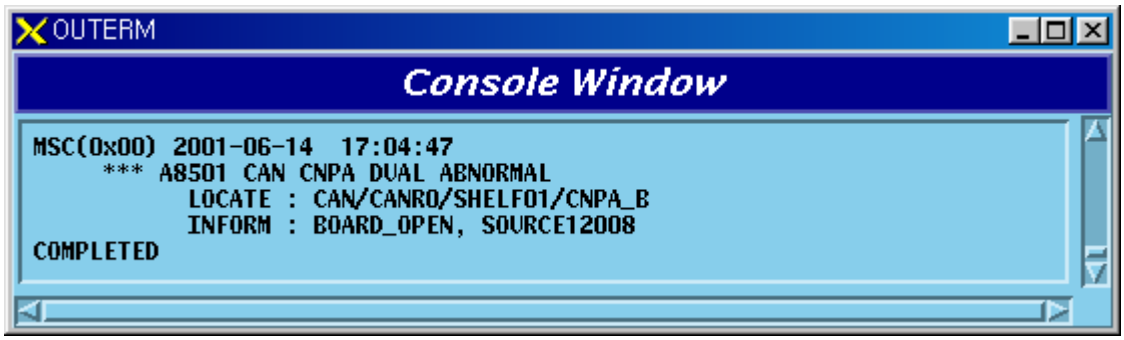



Fig. 5.1-4 CNP Dual Board Open Fail

#### 5.1.1.1.1.2. ASCA Board

1) When A-Side of the duplicated ASCA is normal and functional problems occur on the B-Side board

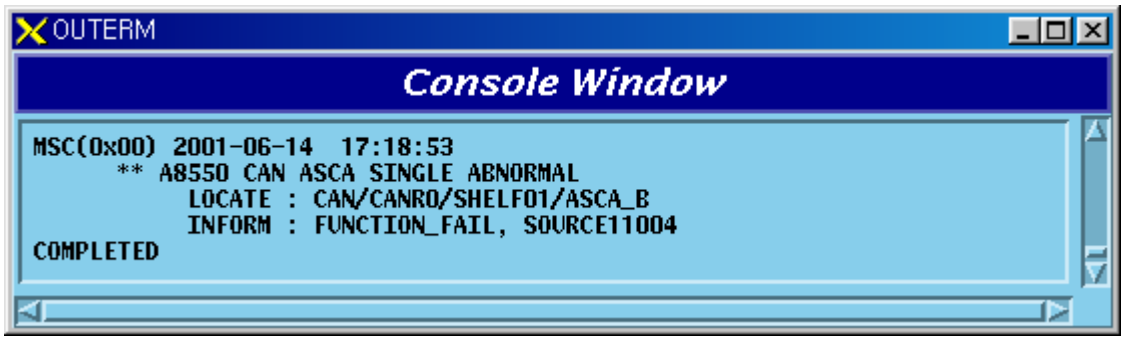



Fig. 5.1-5 CAN ASCA Single Function Fail

2) When functional problems occur on the B-Side after functional problems occur on the A-Side of the duplicated ASCA

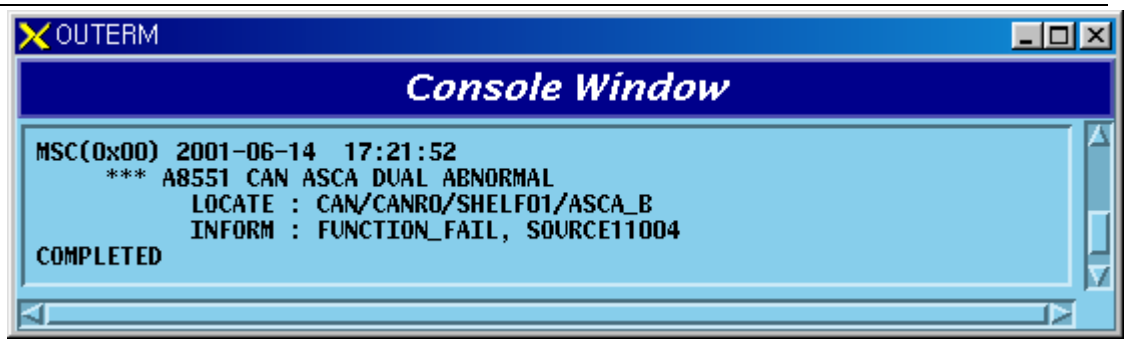



Fig. 5.1-6 CAN ASCA Dual Function Fail

3) When A-Side of the duplicated ASCA is normal and B-Side board is removed

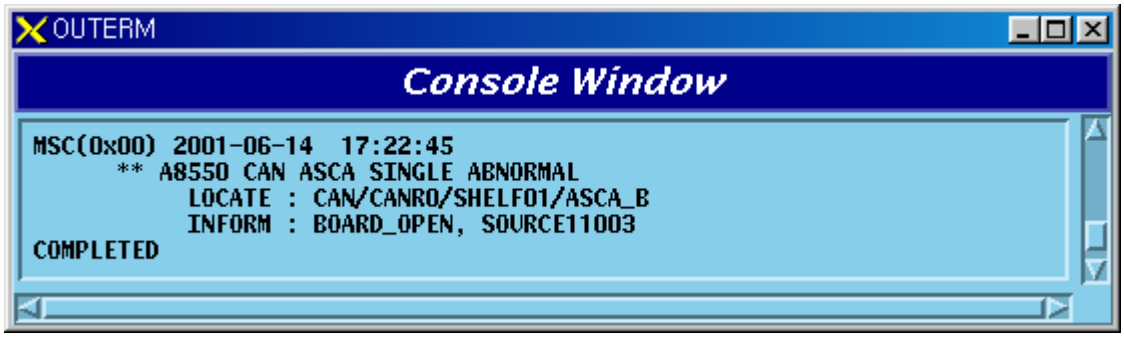



Fig. 5.1-7 CAN ASCA Single Board Open Fail

4) When B-Side is removed after A-Side of the duplicated ASCA is removed

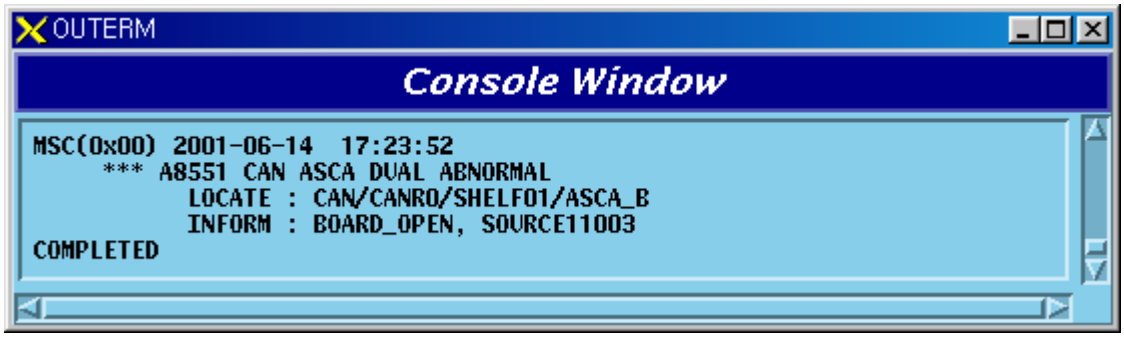



Fig. 5.1-8 CAN ASCA Dual Open Fail

#### 5.1.1.1.1.3. ASIA Board

1) When A-Side of the duplicated ASIA is normal and functional problems occur on the B-Side board

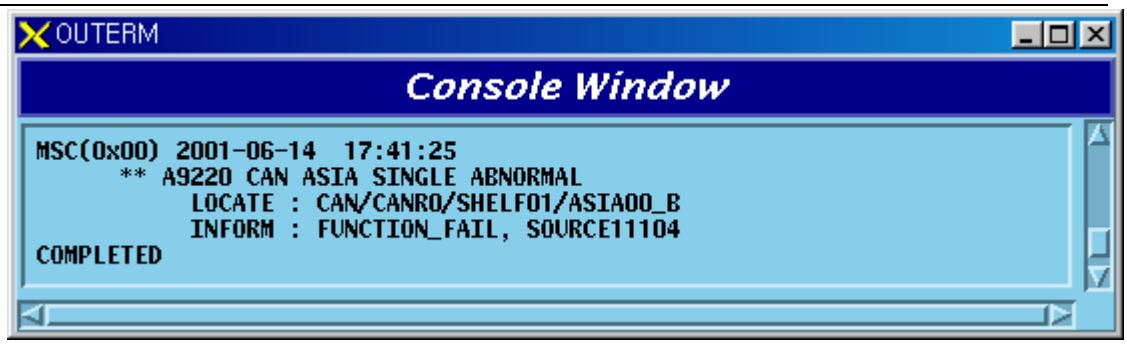



Fig. 5.1-9 CAN ASIA Single Function Fail

2) When functional problems occur on the B-Side board after functional problems occur on the A-Side of the duplicated ASIA

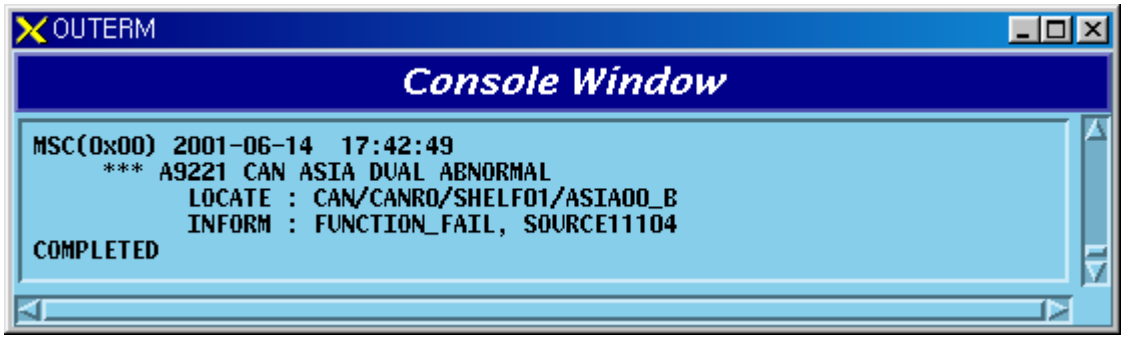



Fig. 5.1-10 CAN ASIA Dual Function Fail

3) When A-Side of the duplicated ASIA is normal and B-Side board is removed

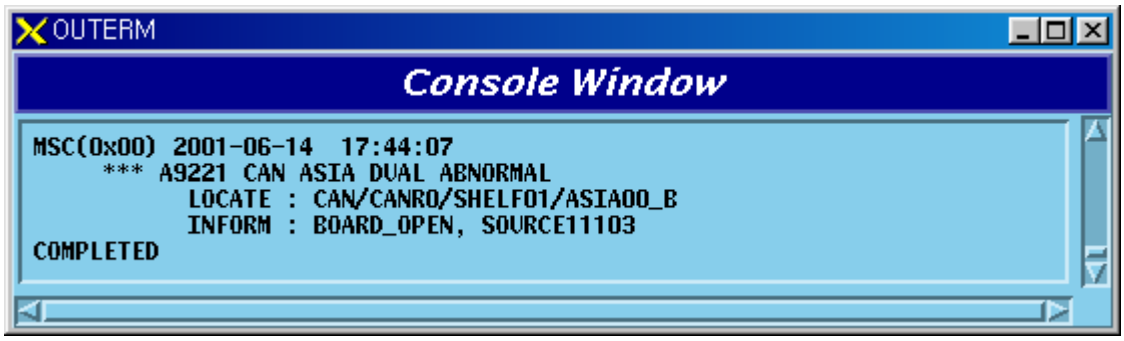



Fig. 5.1-11 CAN ASIA Single Board Open Fail

4) When B-Side board is removed after A-Side of the duplicated ASIA is removed

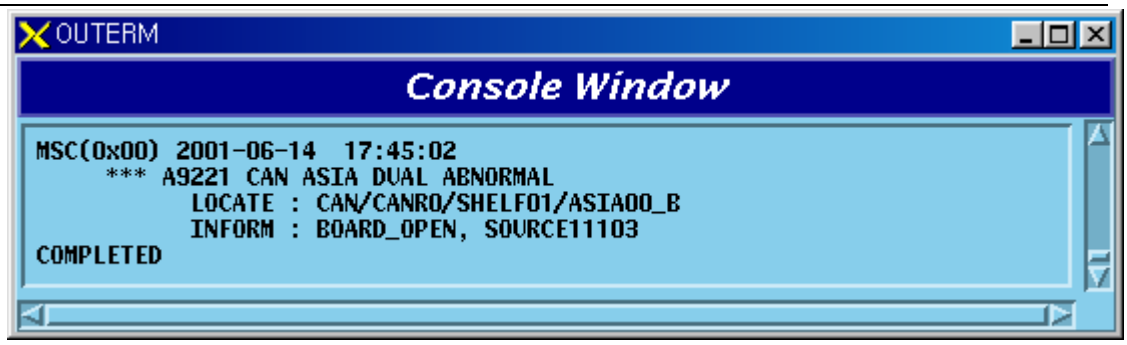



Fig. 5.1-12 CAN ASIA Single Board Open Fail

#### 5.1.1.1.1.4. AOTA Board

1) When functional faults occur on AOTA board

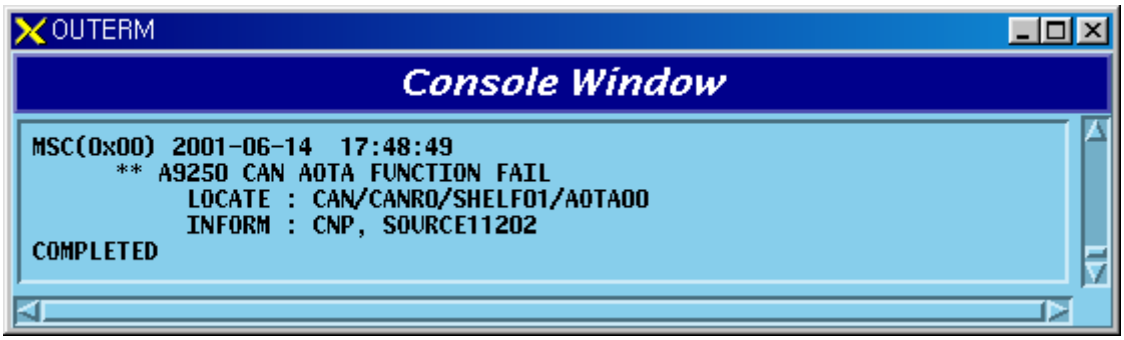



Fig. 5.1-13 CAN AOTA Function Fail

2) When AOTA board is removed

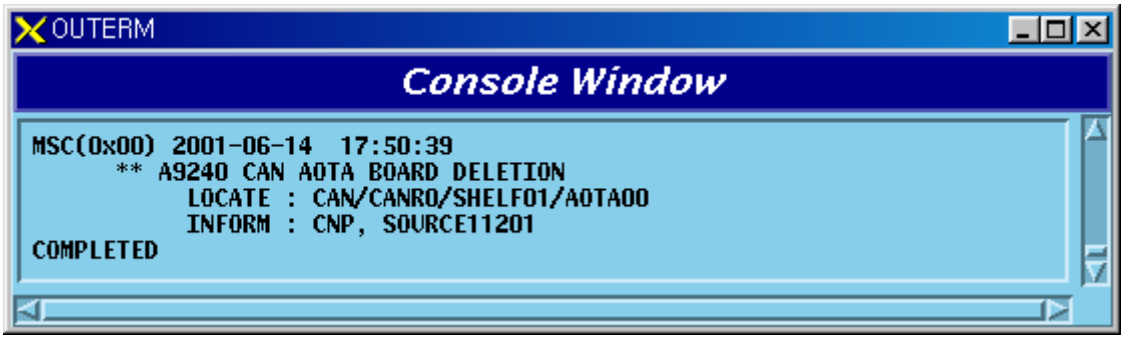



Fig. 5.1-14 CAN AOTA Board Open Fail

#### 5.1.1.1.1.5. ATSA Board

1) When functional faults occur on ATSA board

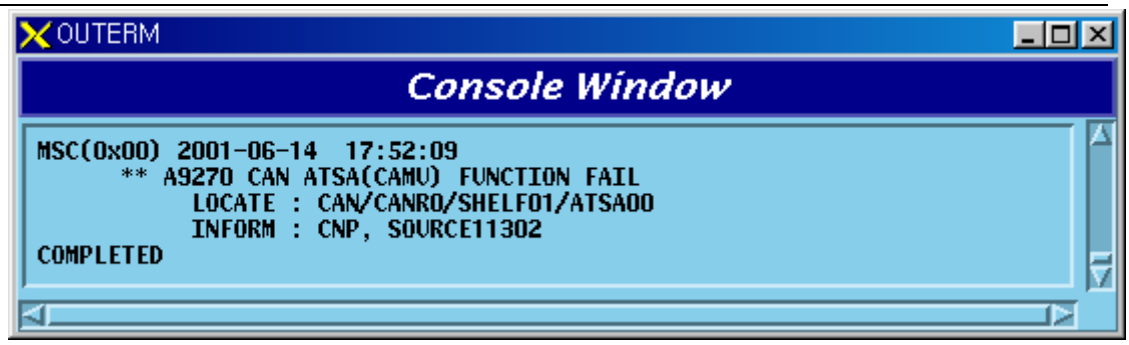



Fig. 5.1-15 CAN ATSA Function Fail

2) When ATSA board is removed

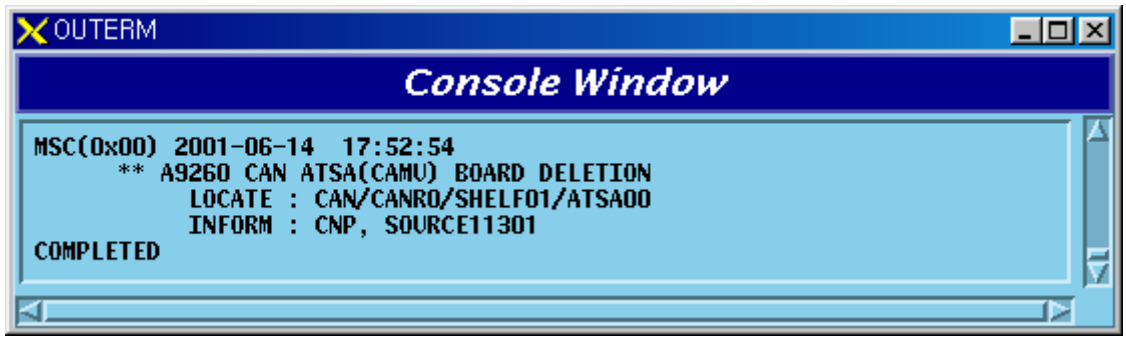



Fig. 5.1-16 CAN ATSA Board Open Fail

#### 5.1.1.1.1.6. PRI Board

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

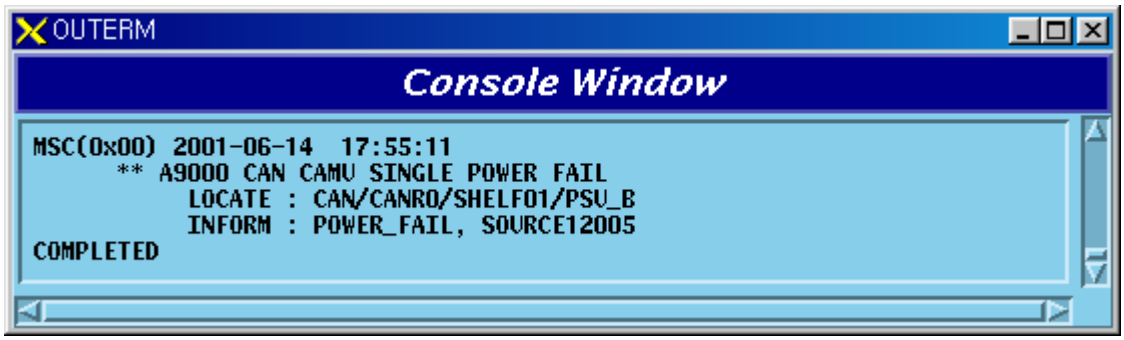



Fig. 5.1-17 CAMB PRI Single Power Fail

2) When functional problems occur on the A-Side after functional problems occur on the B-Side of the duplicated PRI

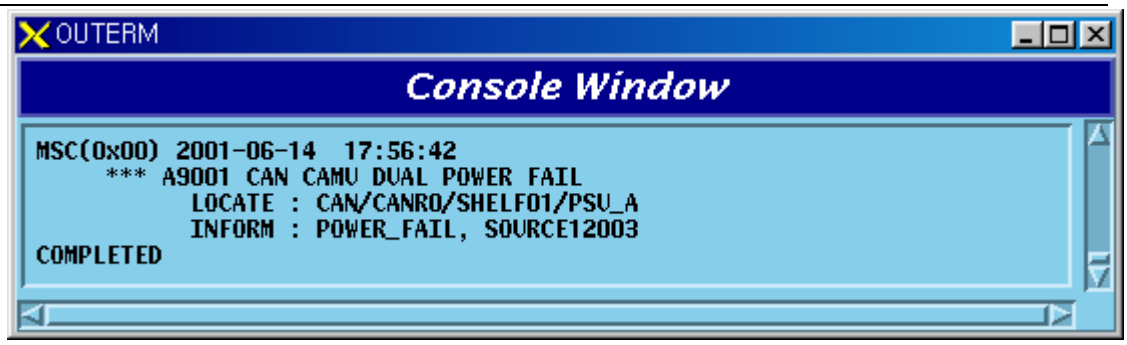



Fig. 5.1-18 CAMB PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B-Side board is removed

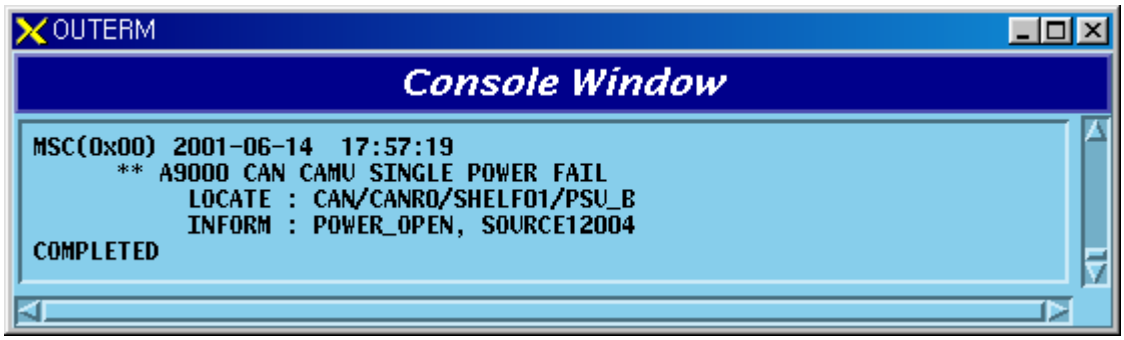



Fig. 5.1-19 CAMB PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

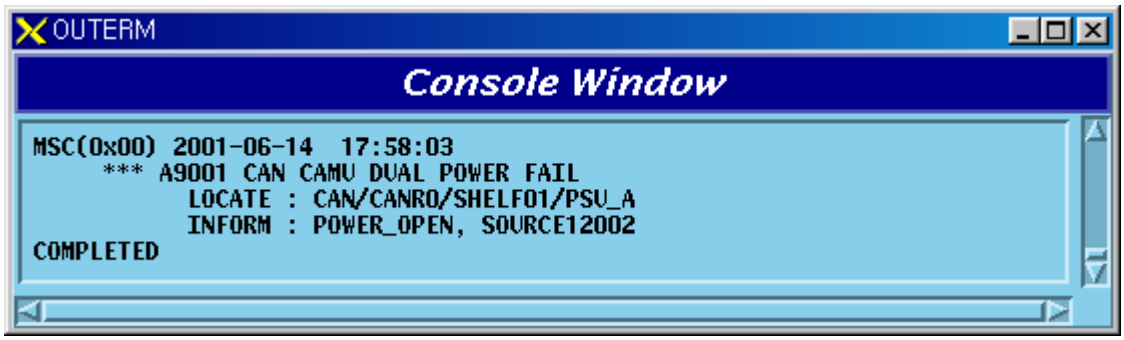



Fig. 5.1-20 CAMB PRI Dual Power Open Fail

#### 5.1.1.1.1.7. Others

1) When CAMB Alarm Cable is removed

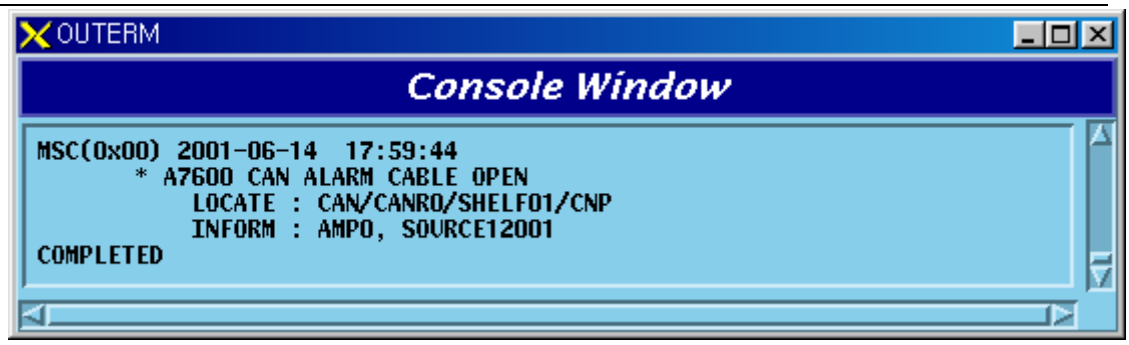



Fig. 5.1-21 CAN Alarm Cable Open

### 5.1.1.1.2. CPNB

#### 5.1.1.1.2.1. PNP Processor

1) When A-Side of the duplicated PNP is normal and functional problems occur on the B-Side board

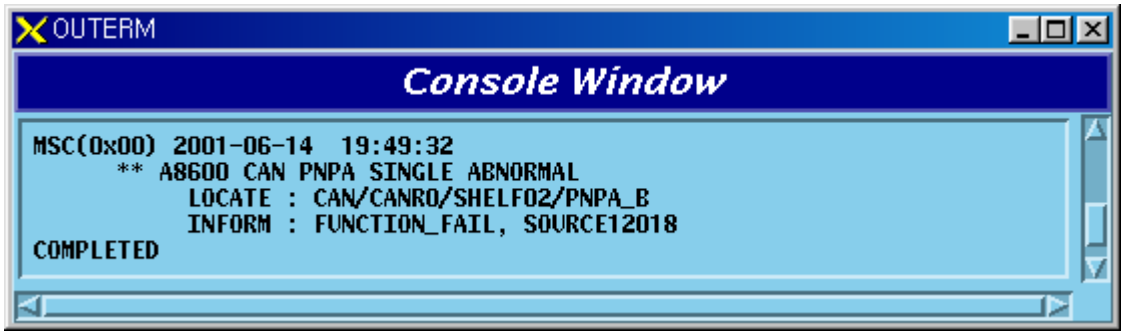



Fig. 5.1-22 CAN PNP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PNP has a functional problem

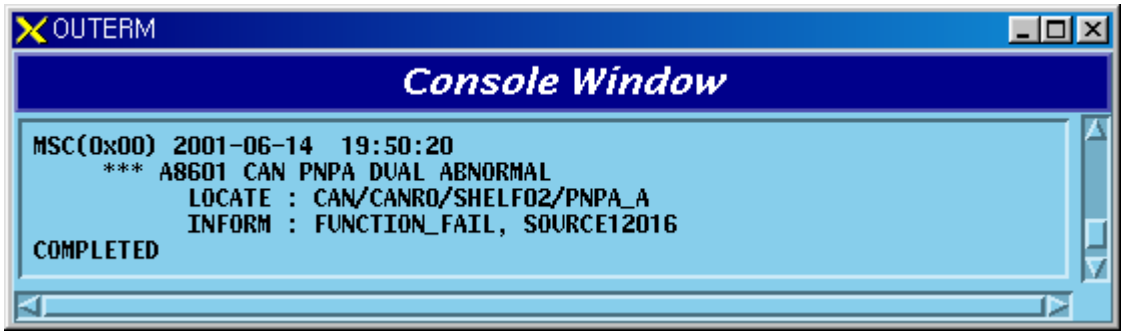



Fig. 5.1-23 CAN PNP Dual Function Fail

3) When A-Side of the duplicated PNP is normal and B-Side board is removed

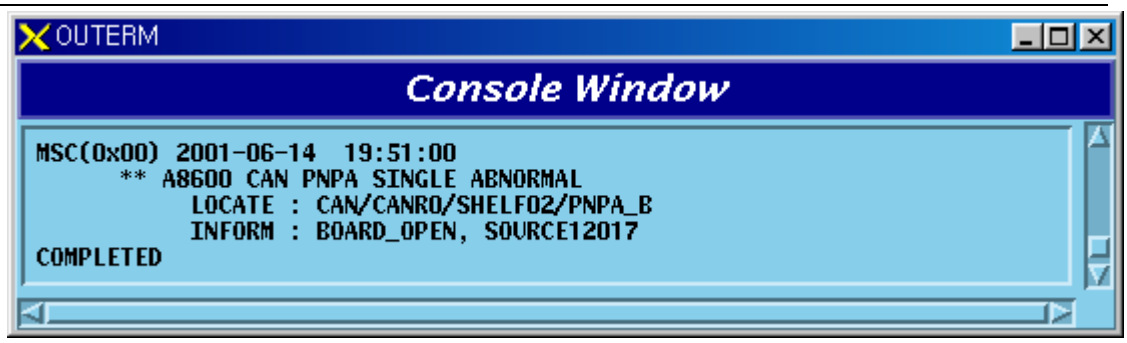



Fig. 5.1-24 CAN PNP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated PNP is removed

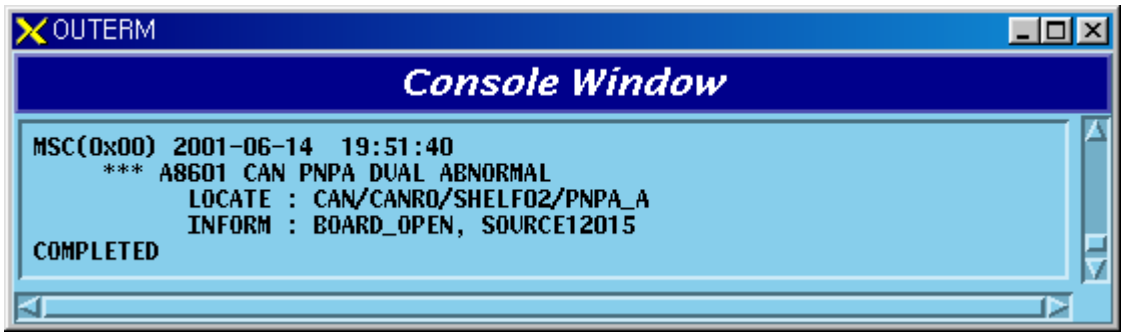



Fig. 5.1-25 CAN PNP Dual Board Open Fail

#### 5.1.1.1.2.2. ASCA Board

1) When A-Side of the duplicated ASCA is normal and functional problems occur on the B-Side board

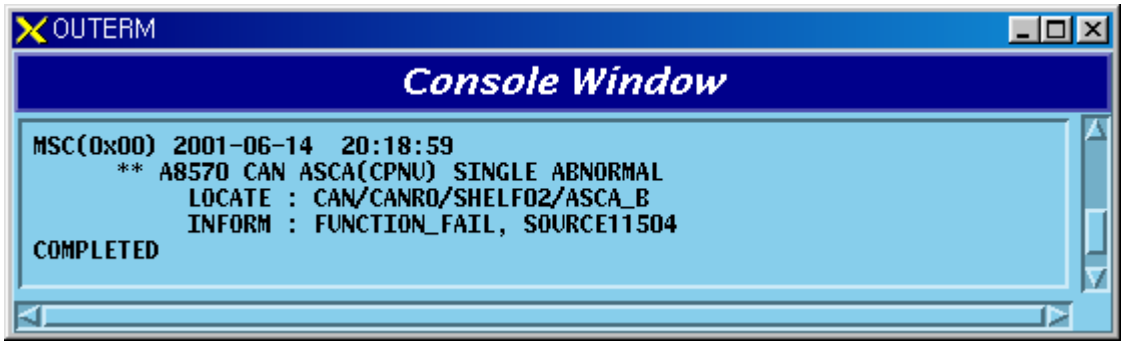



Fig. 5.1-26 CPNB ASCA Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated ASCA has a functional problem

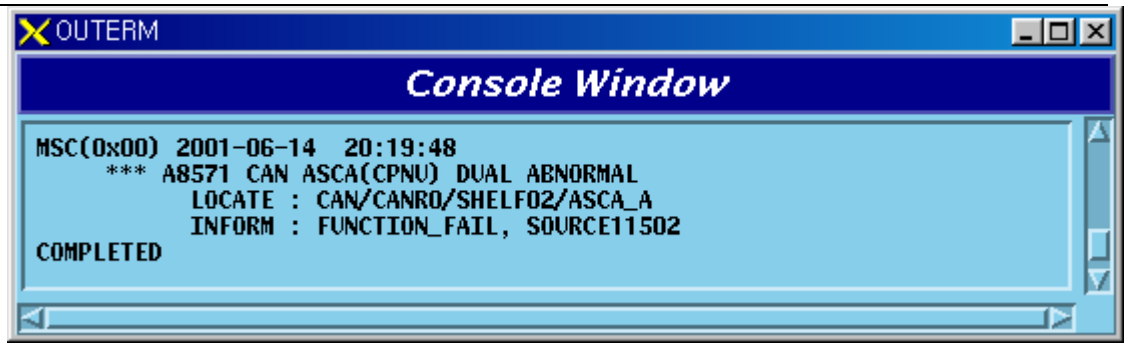



Fig. 5.1-27 CPNB ASCA Dual Function Fail

3) When A-Side of the duplicated ASCA is normal and B-Side board is removed

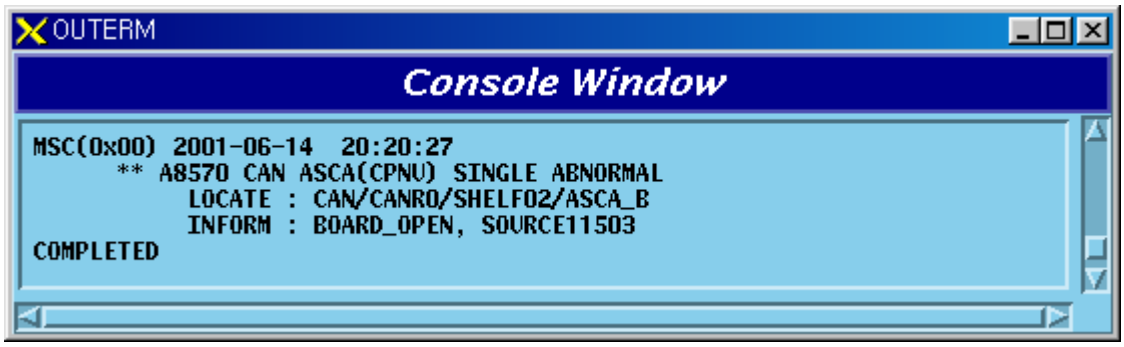



Fig. 5.1-28 CPNB ASCA Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated ASCA is removed

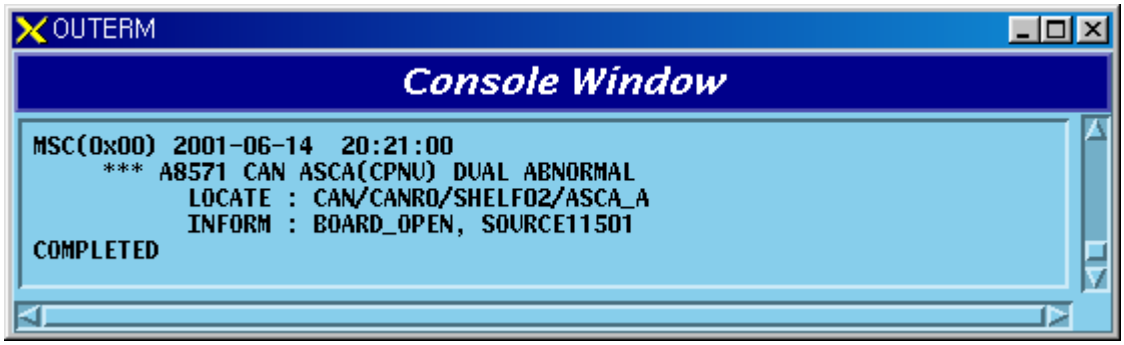



Fig. 5.1-29 CPNB ASCA Dual Board Open Fail

#### 5.1.1.1.2.3. ASIA Board

1) When A-Side of the duplicated ASIA is normal and functional problems occur on the B-Side board

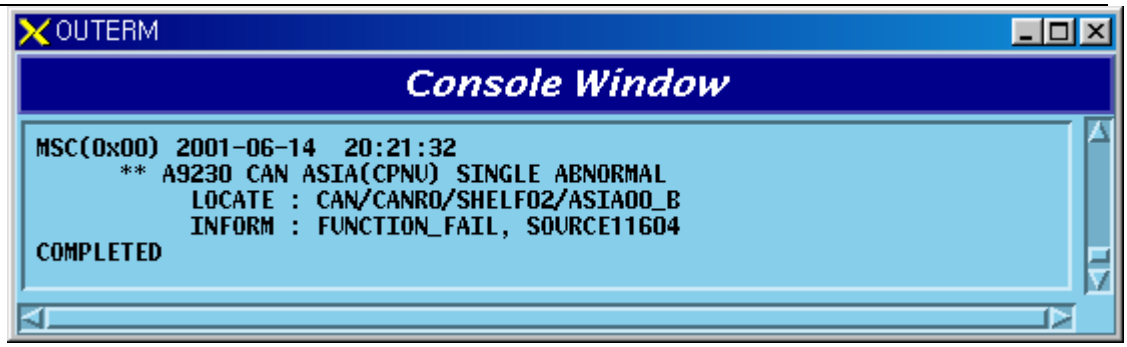



Fig. 5.1-30 CPNB ASIA Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated ASIA has a functional problem

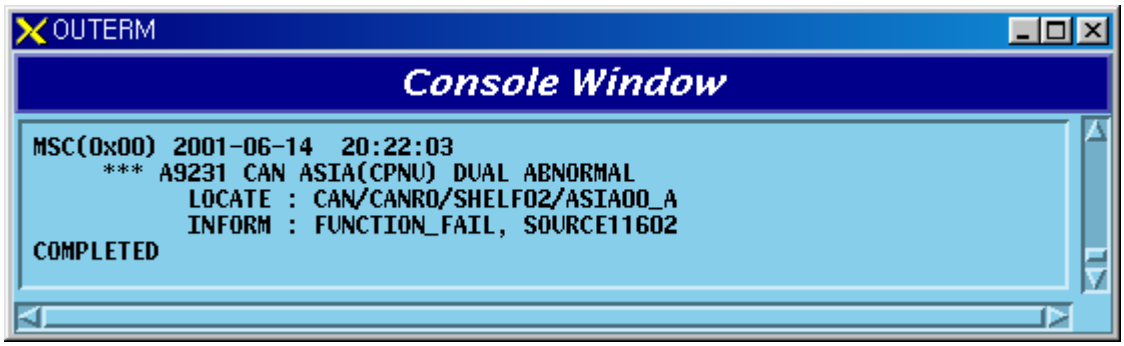



Fig. 5.1-31 CPNB ASIA Dual Function Fail

3) When A-Side of the duplicated ASIA is normal and B-Side board is removed

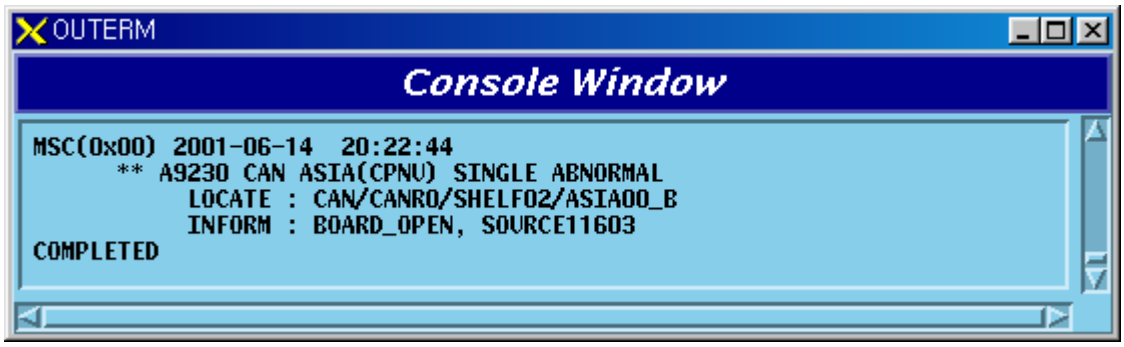



Fig. 5.1-32 CPNB ASIA Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated ASIA is removed

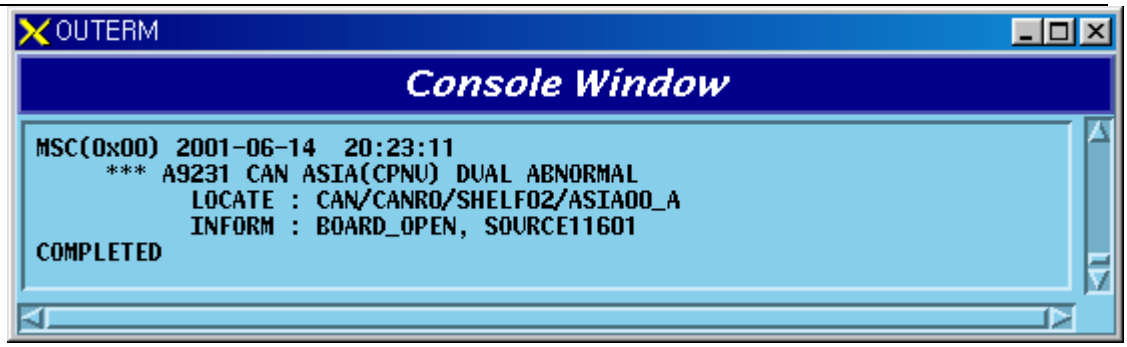



Fig. 5.1-33 CPNB ASIA Dual Board Open Fail

#### 5.1.1.1.2.4. PRI Board

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

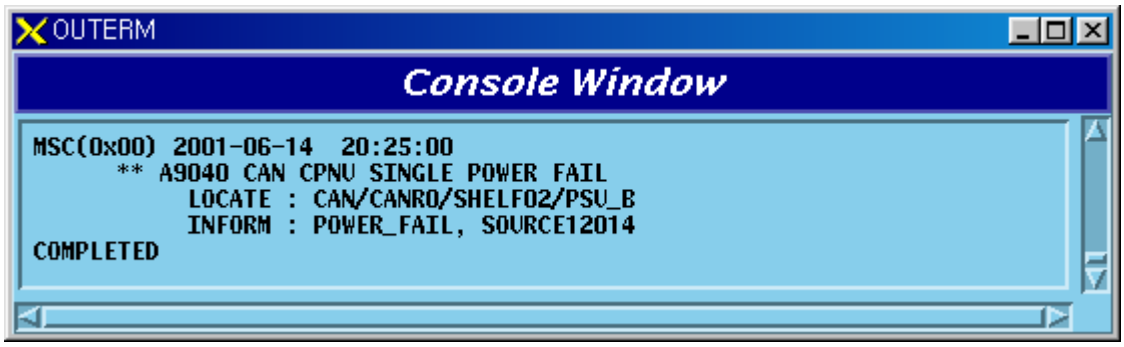



Fig. 5.1-34 CPNB PRI Single Power Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PRI has a functional problem

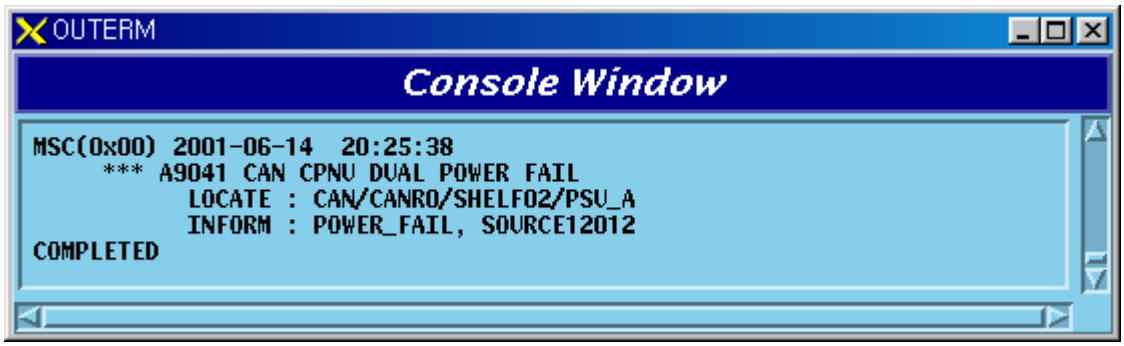



Fig. 5.1-35 CPNB PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B-Side board is removed

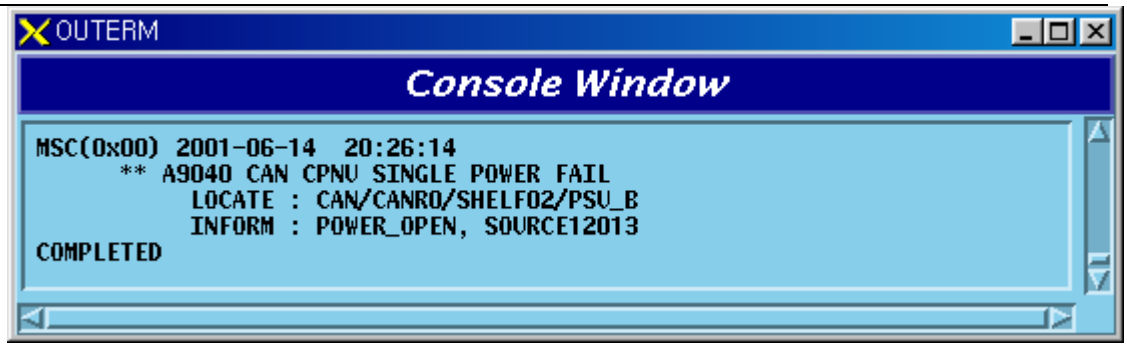



Fig. 5.1-36 CPNB PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

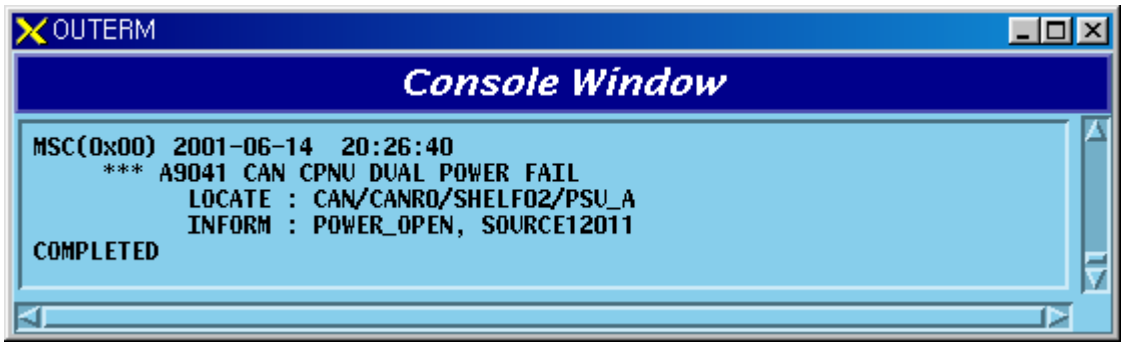



Fig. 5.1-37 CPNB PRI Dual Power Open Fail

#### 5.1.1.1.2.5. Others

1) CPNB Alarm Cable is removed

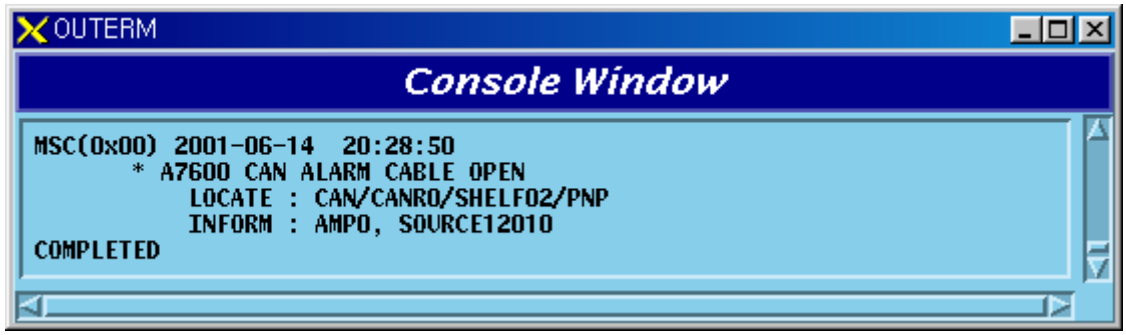



Fig. 5.1-38 CPNB Alarm Cable Open

### 5.1.1.1.3. PCFB(PCP)

#### 5.1.1.1.3.1. PCP Processor

1) When A-Side of the duplicated PCP is normal and functional problems occur on the B-Side board

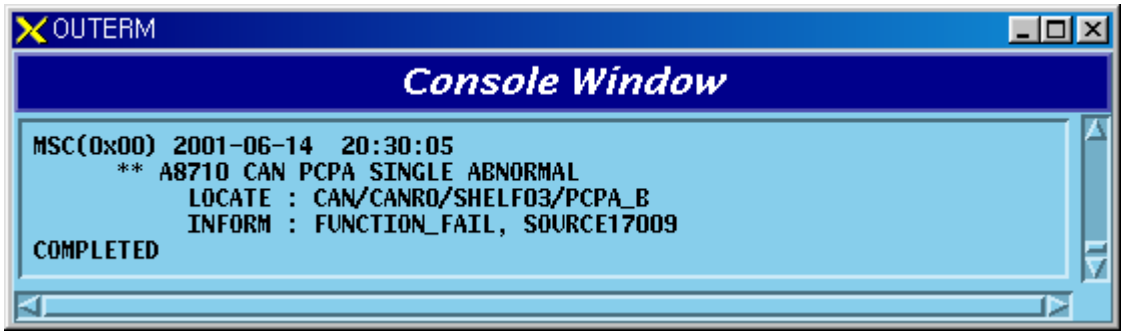



Fig. 5.1-39 PCFB PCP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PCP has a functional problem

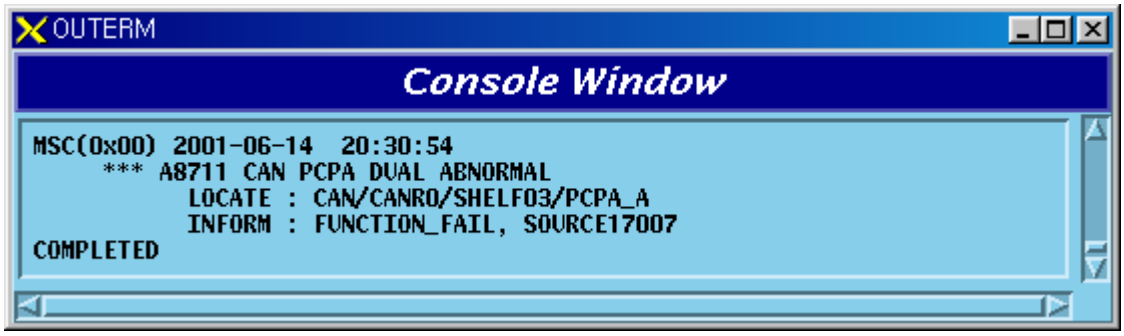



Fig. 5.1-40 PCFB PCP Dual Function Fail

3) When A-Side of the duplicated PCP is normal and B-Side board is removed

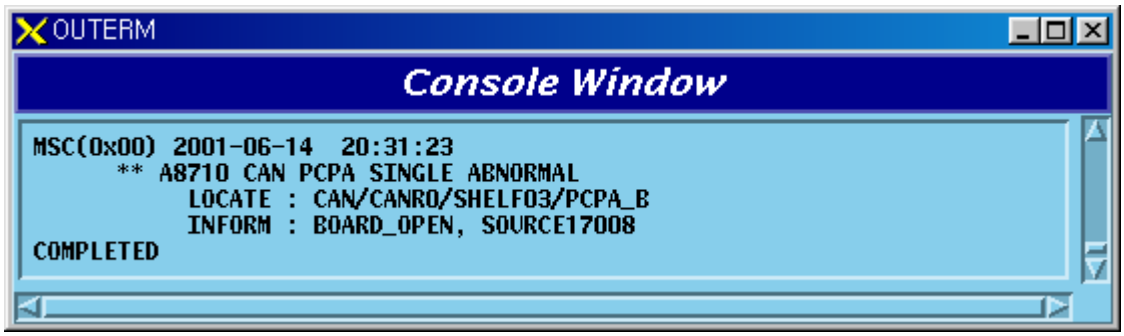



Fig. 5.1-41 PCFB PCP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated PCP is removed

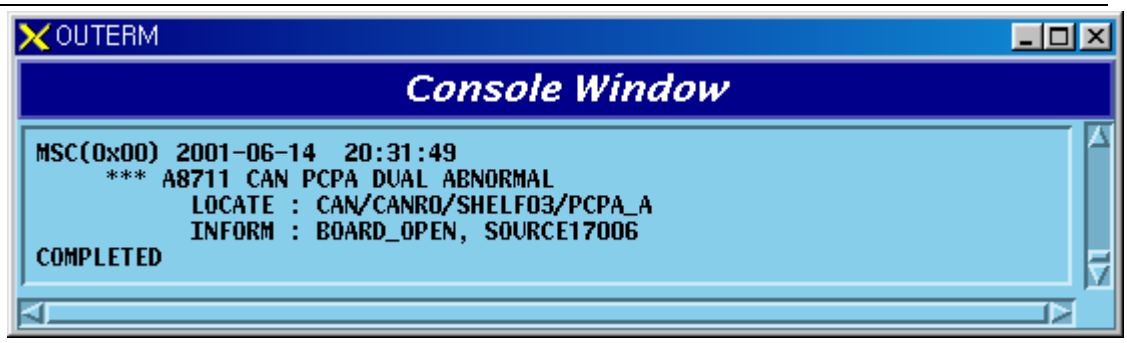



Fig. 5.1-42 PCFB PCP Dual Board Open Fail

#### 5.1.1.1.3.2. BCRA Board

1) When A-Side of the duplicated BCRA is normal and functional problems occur on the B-Side board

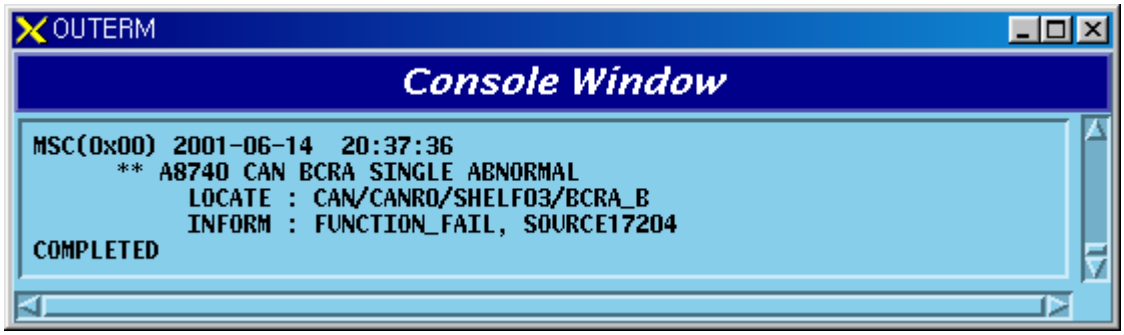



Fig. 5.1-43 CPNB(PCP) BCRA Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated BCRA has a functional problem

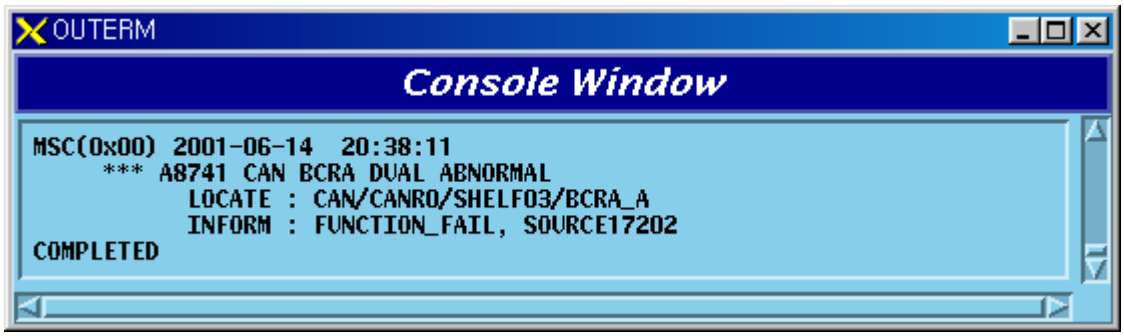



Fig. 5.1-44 CPNB(PCP) BCRA Dual Function Fail

3) When A-Side of the duplicated BCRA is normal and B-Side board is removed

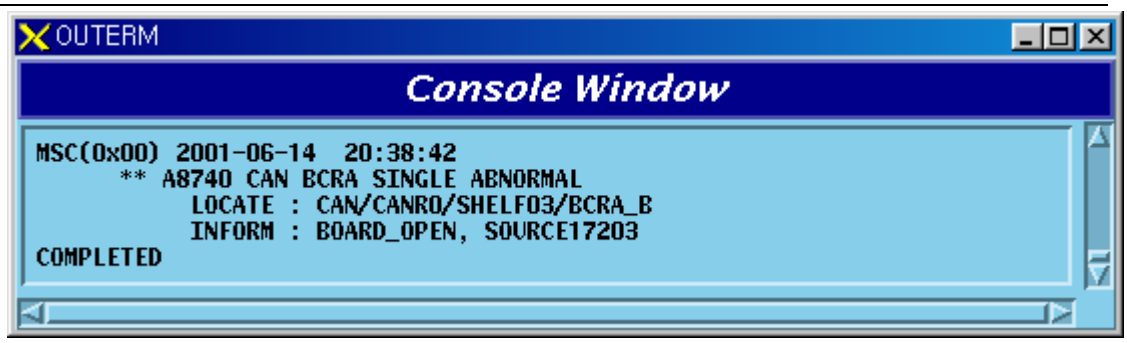



Fig. 5.1-45 CPNB(PCP) BCRA Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated BCRA is removed

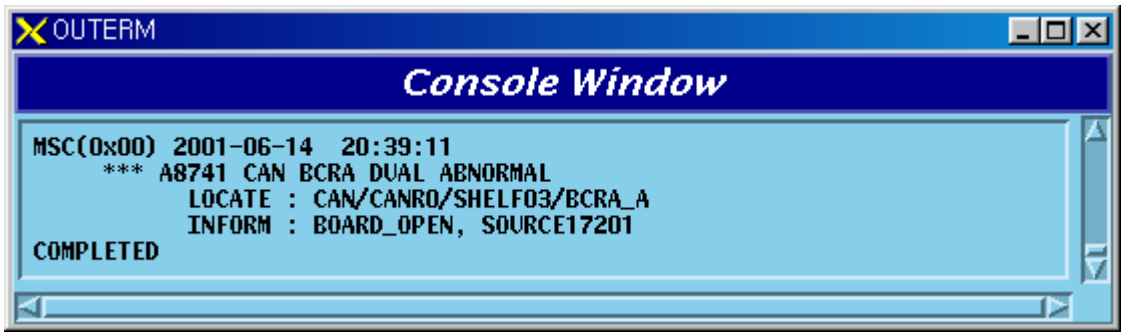



Fig. 5.1-46 CPNB(PCP) BCRA Dual Board Open Fail

#### 5.1.1.1.3.3. UCPA(PIP) Board

1) When functional faults occur on UCPA(PIP) board

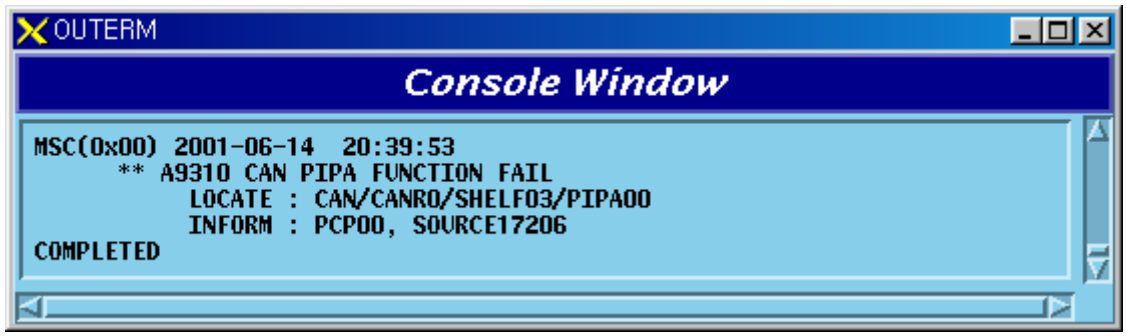



Fig. 5.1-47 CPNB(PCP) PIP Function Fail

2) When UPCA(PIP) board is removed

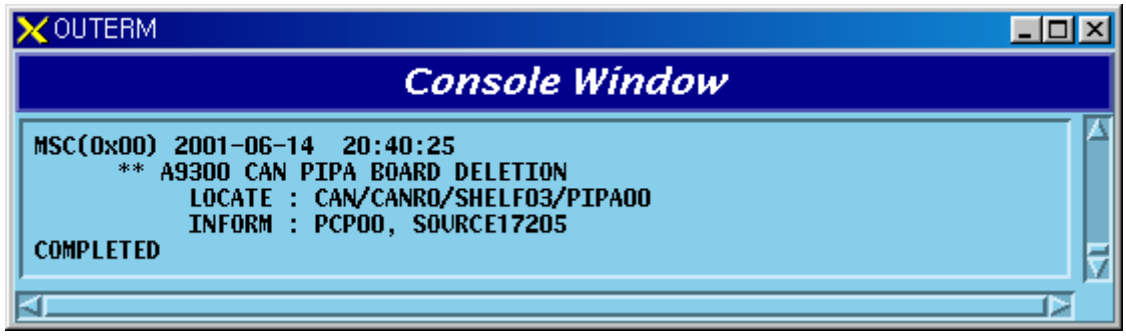



Fig. 5.1-48 CPNB(PCP) PIP Board Open Fail

#### 5.1.1.1.3.4. FERA Board

1) When A-Side of the duplicated FERA is normal and functional problems occur on the B-Side board

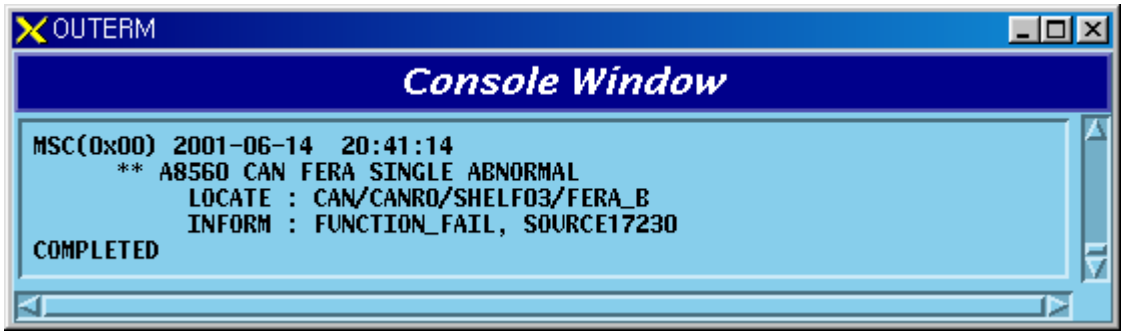



Fig. 5.1-49 CPNB(PCP) FERA Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated FERA has a functional problem

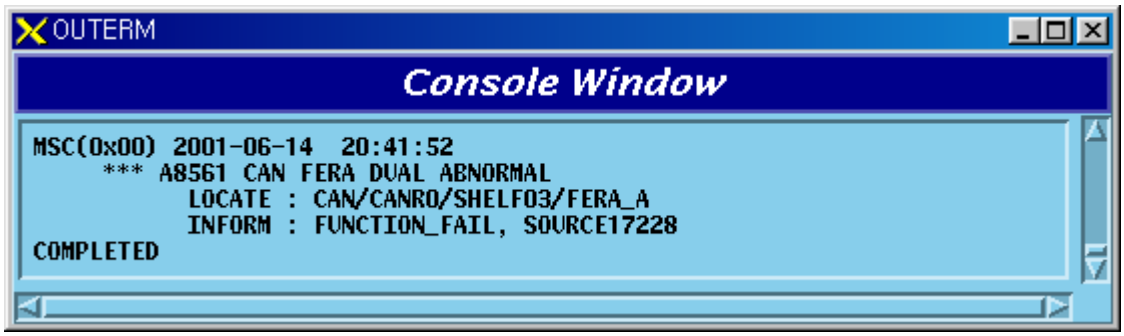



Fig. 5.1-50 CPNB(PCP) FERA Dual Function Fail

3) When A-Side of the duplicated FERA is normal and B-Side board is removed

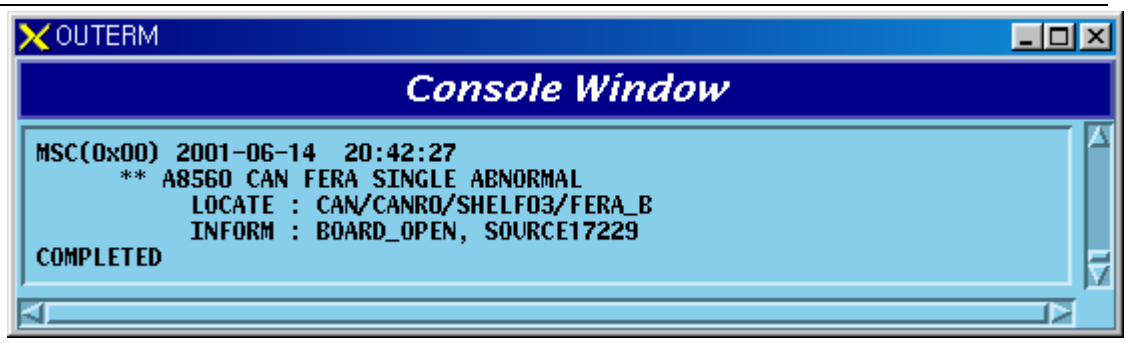



Fig. 5.1-51 CPNB(PCP) FERA Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated FERA is removed

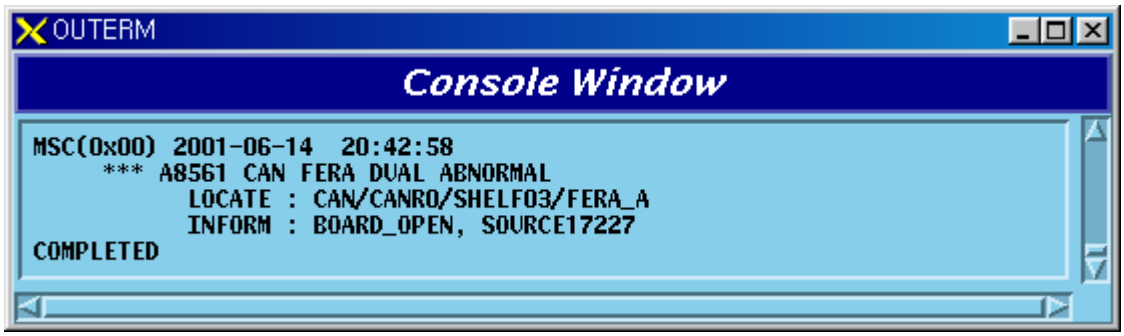



Fig. 5.1-52 CPNB(PCP) FERA Dual Board Open Fail

#### 5.1.1.1.3.5. FETA Board

1) When functional faults occur on FETA board

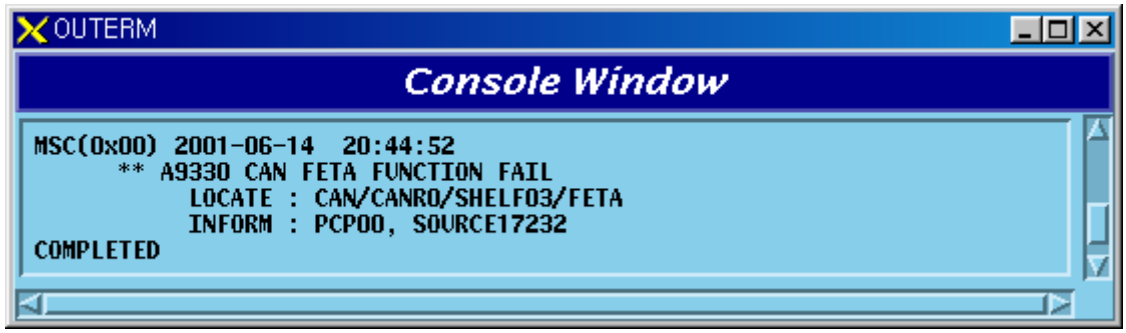



Fig. 5.1-53 CPNB(PCP) FETA Function Fail

2) When FETA board is removed

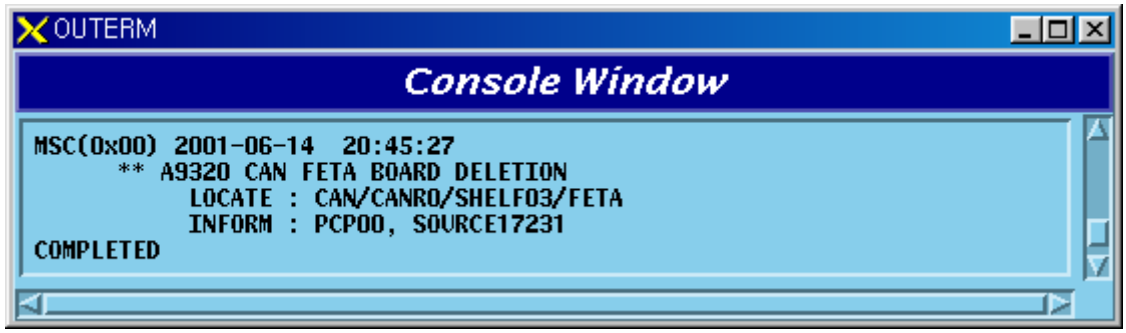



Fig. 5.1-54 CPNB(PCP) FETA Board Open Fail

#### 5.1.1.1.3.6. PRI Board

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

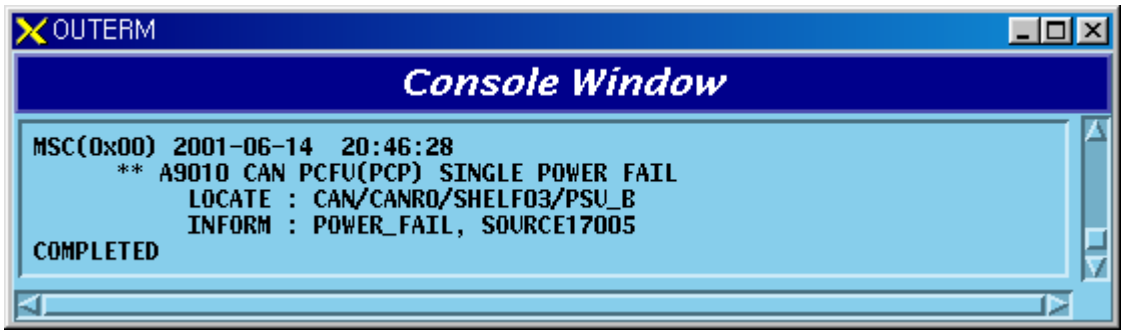



Fig. 5.1-55 CPNB(PCP) PRI Single Power Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PRI has a functional problem

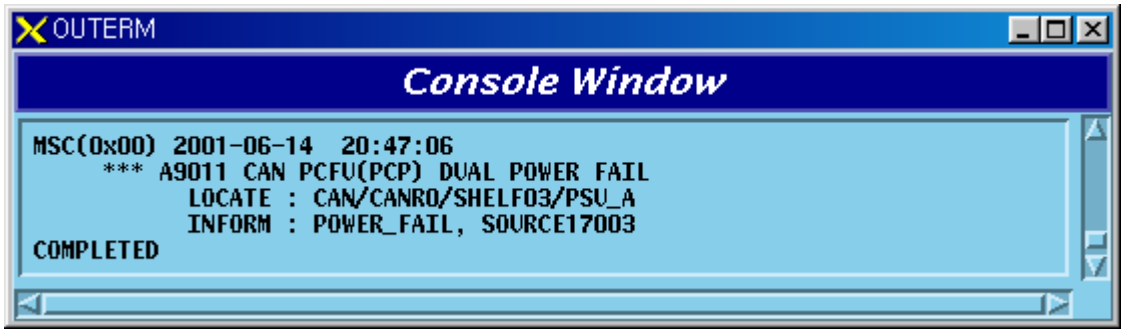



Fig. 5.1-56 CPNB(PCP) PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B-Side board is removed

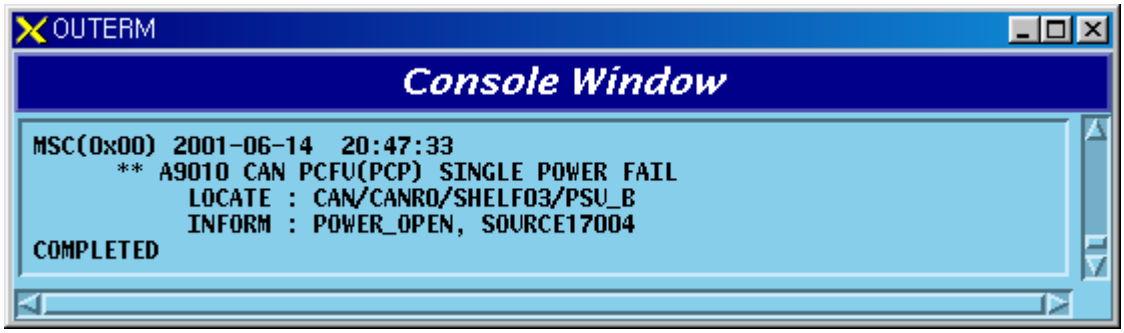



Fig. 5.1-57 CPNB(PCP) PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

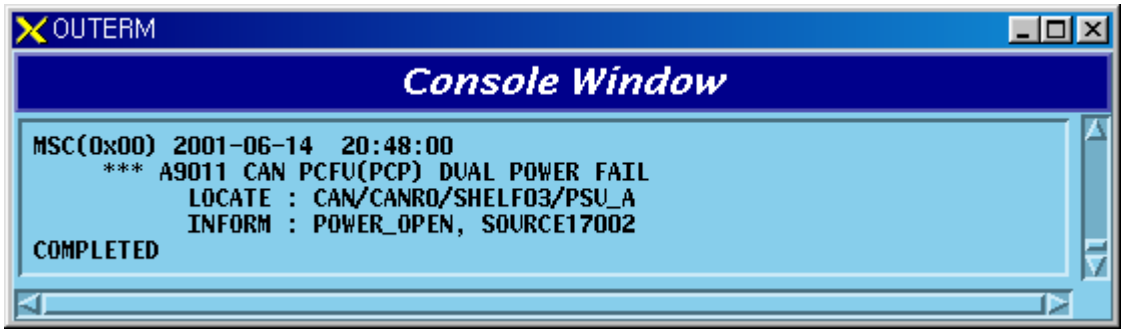



Fig. 5.1-58 CPNB(PCP) PRI Dual Power Open Fail

#### 5.1.1.1.3.7. Others

1) When PCFU(PCP) Alarm Cable is removed

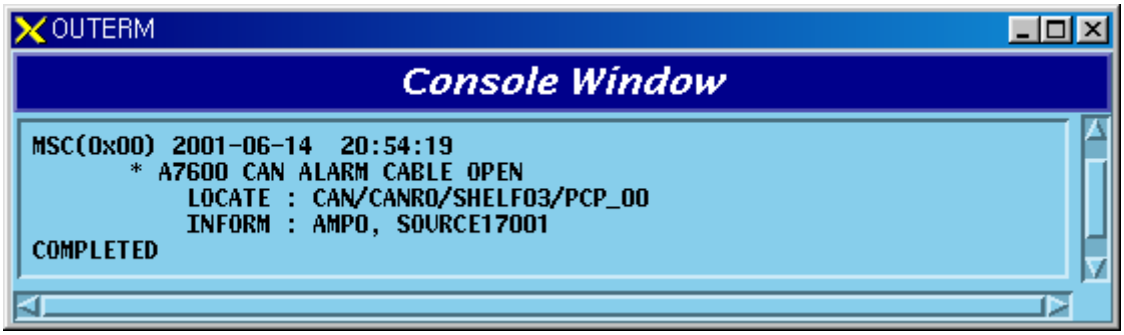



Fig. 5.1-59 CPNB(PCP) Alarm Cable Open

2) When faults occur in the link between FERA B-Side and FETA after the link between FERA A-Side and FETA operates normally (maximum 3 links exist)

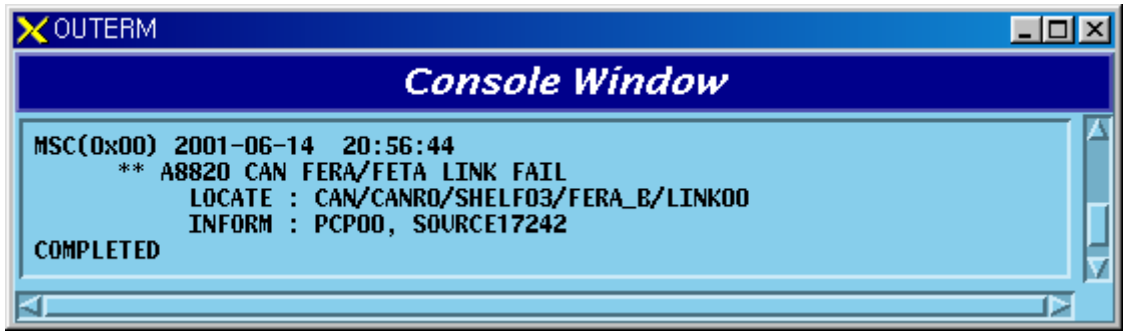



Fig. 5.1-60 LINK Fail between CPNB(PCP) FERA and FETA

3) When faults occur in the link between FERA A-Side and FETA after faults occur in the link between FERA B-Side and FETA(maximum 3 links exist)

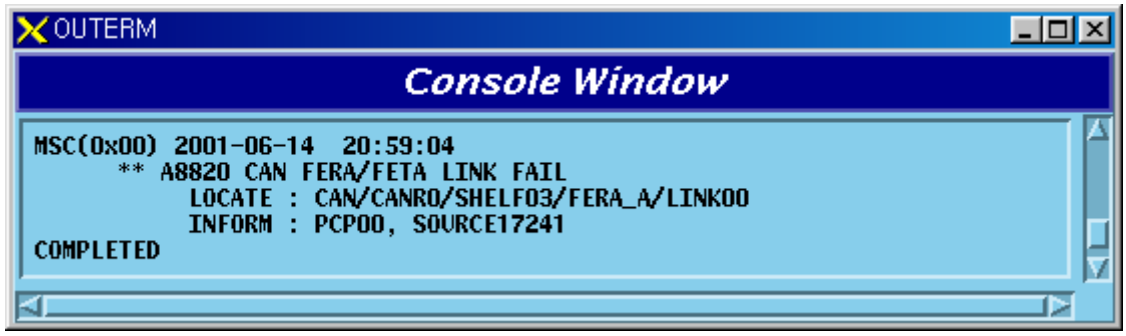



Fig. 5.1-61 LINK Fail between CPNB(PCP) FERA and FETA

4) When faults occur in the link between FETA and PDSN(maximum3 links exist)

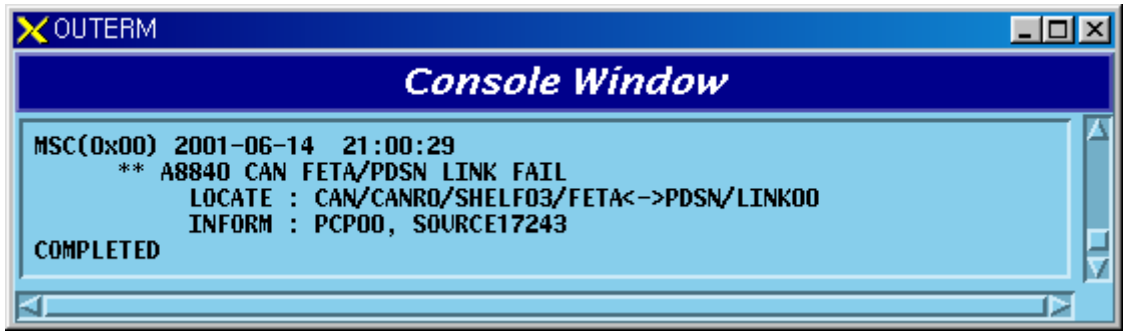



Fig. 5.1-62 LINK Fail between CPNB(PCP) FETA and PDSN

5) When 1pps Clock is not provided for PCP normally

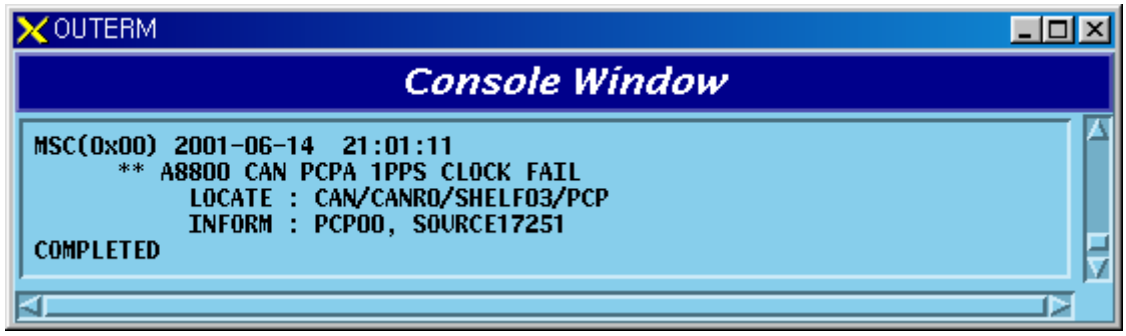



Fig. 5.1-63 PCFB PCP 1pps Clock Fail

6) When 10MHz Clock is not provided for PCP normally

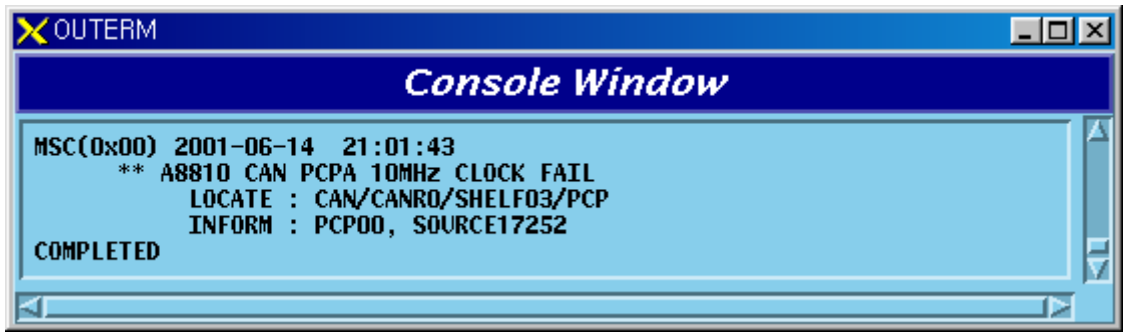



Fig. 5.1-64 PCFB PCP 10MHz Clock Fail

### 5.1.1.1.4. PCFB(PMP)

#### 5.1.1.1.4.1. PMP Processor

1) When A-Side of the duplicated PMP is normal and functional problems occur on the B-Side board

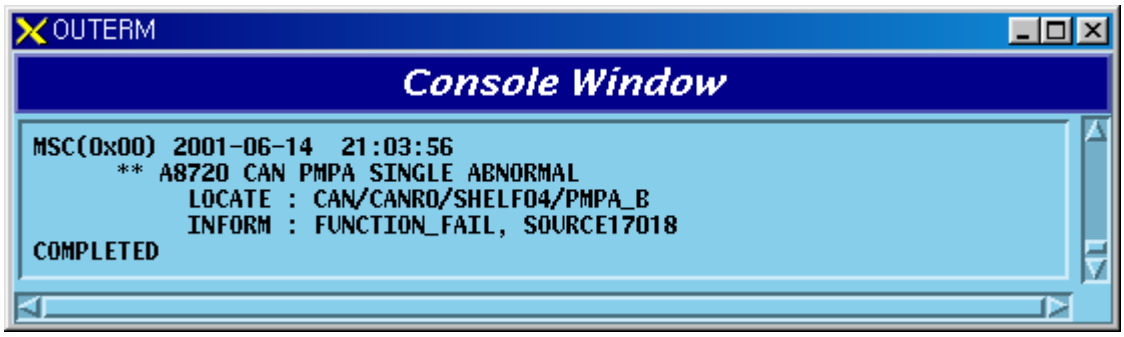



Fig. 5.1-65 PCFB(PMP) PMP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PMP has a functional problem

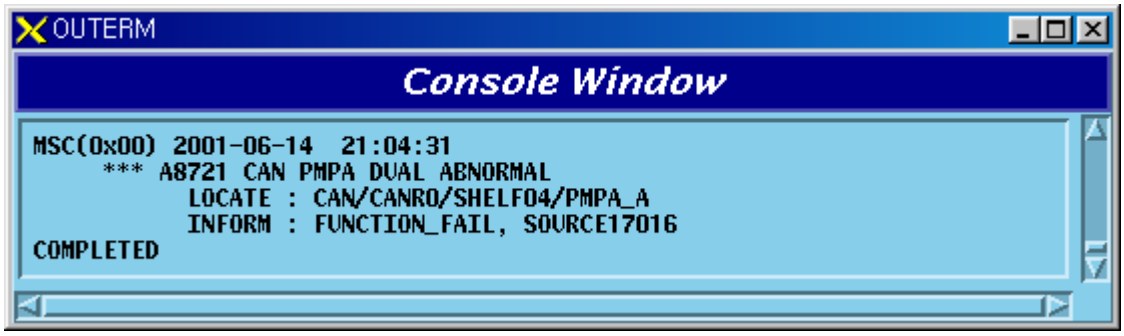



Fig. 5.1-66 PCFB(PMP) PMP Dual Function Fail

3) When A-Side of the duplicated PMP is normal and B-Side board is removed

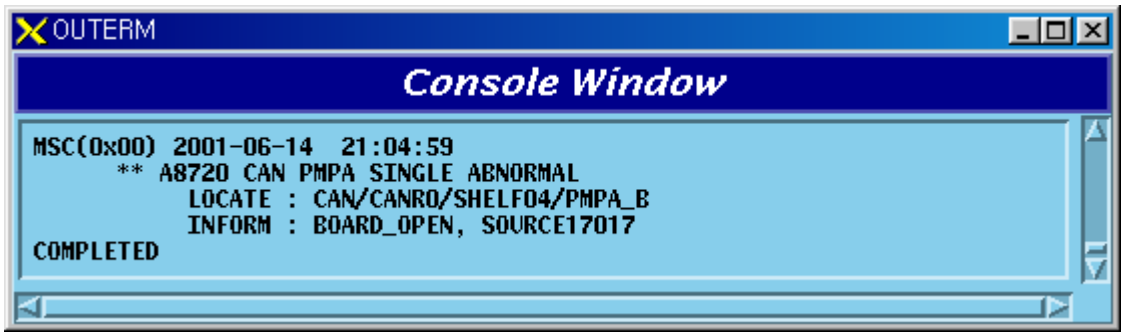



Fig. 5.1-67 PCFB(PMP) PMP Single Board Open Fail

4) When A-Side is removed after B-Side board of the duplicated PMP is removed

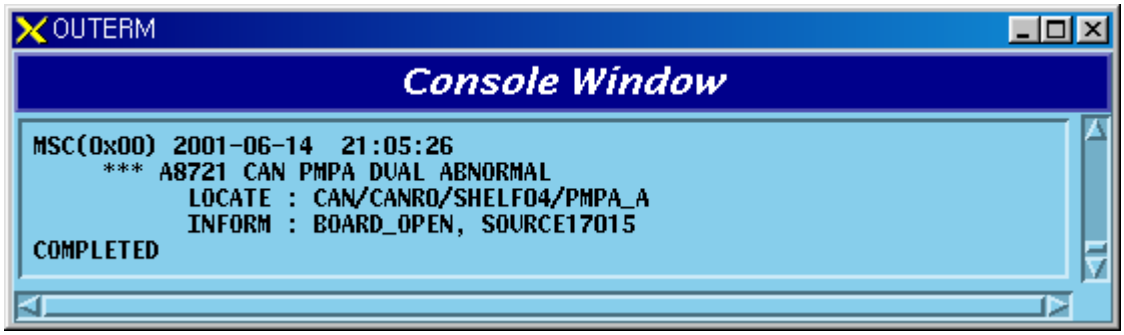



Fig. 5.1-68 PCFB(PMP) PMP Dual Board Open Fail

#### 5.1.1.1.4.2. BCRA Board

See BCRA of PCFU(PCP).

#### 5.1.1.1.4.3. UCPA(PIP) Board

See UCPA(PIP) of PCFU(PCP).

#### 5.1.1.1.4.4. FERA Board

See FERA of PCFU(PCP).

#### 5.1.1.1.4.5. FETA Board

See FETA of PCFU(PCP).

#### 5.1.1.1.4.6. PRI Board

See PRI of PCFU(PCP).

#### 5.1.1.1.4.7. Others

See others of PCFU(PCP).

### 5.1.1.1.5. TGDB

#### 5.1.1.1.5.1. GPSR Board

1) When A-Side of the duplicated GPSR is normal and functional problems occur on the B-Side board

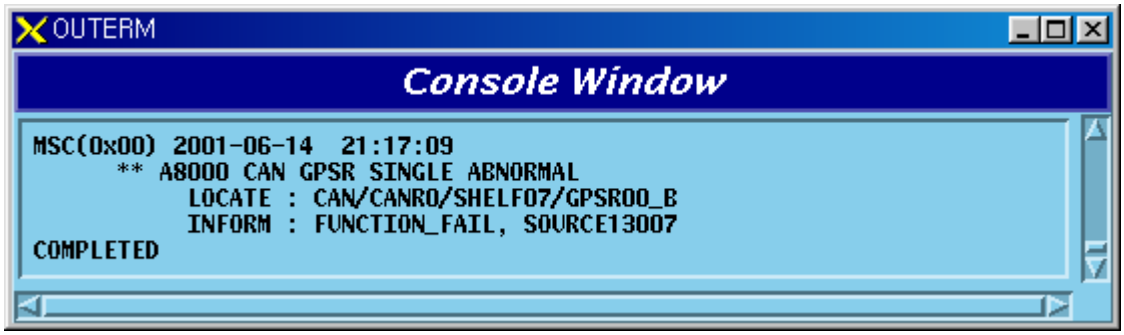



Fig. 5.1-69 TGDB GPSR Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated GPSR has a functional problem

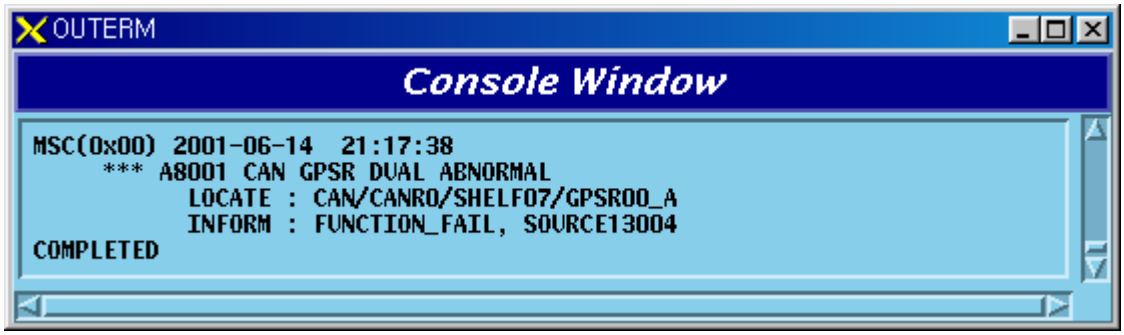



Fig. 5.1-70 TGDB GPSR Dual Function Fail

3) When A-Side of the duplicated GPSR is normal and faults occur on the B-Side power

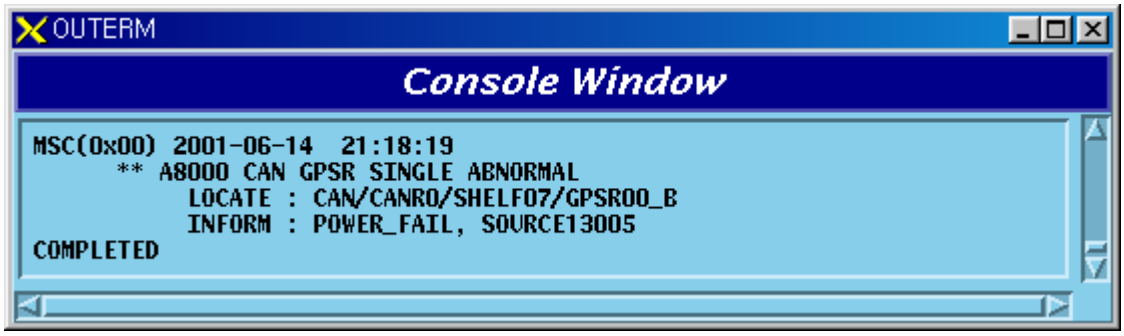



Fig. 5.1-71 TGDB GPSR Single Power Fail

4) When a problem occurs on the A-Side power after B-Side power of the duplicated GPSR has a problem

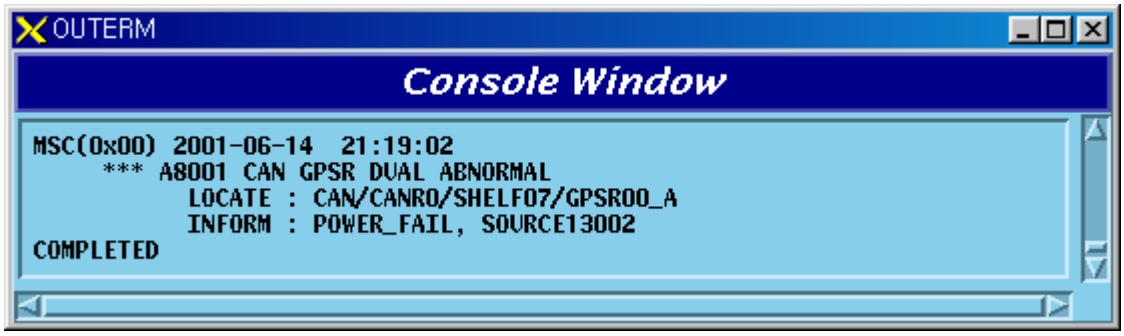



Fig. 5.1-72 TGDB GPSR Dual Power Fail

5) When A-Side of the duplicated GPSR is normal and B-Side board is removed

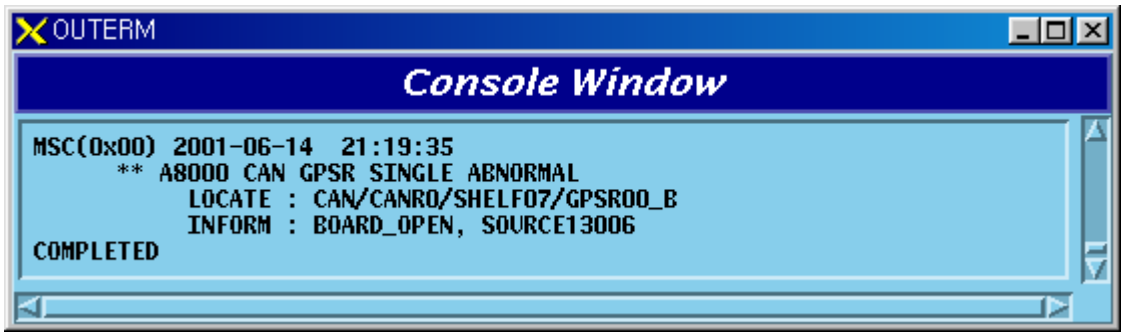



Fig. 5.1-73 TGDB GPSR Single Board Open Fail

6) When A-Side is removed after B-Side of the duplicated GPSR is removed

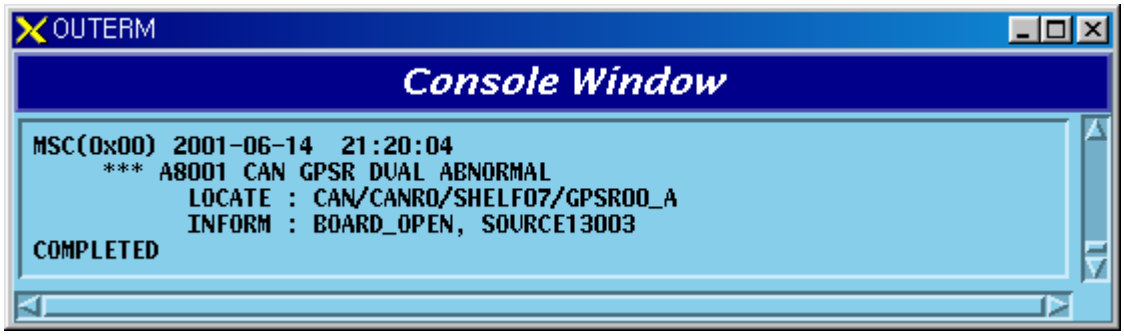



Fig. 5.1-74 TGDB GPSR Dual Board Open Fail

#### 5.1.1.1.5.2. GPSD Board

1) When A-Side of the duplicated GPSD is normal and functional problems occur on the B-Side board

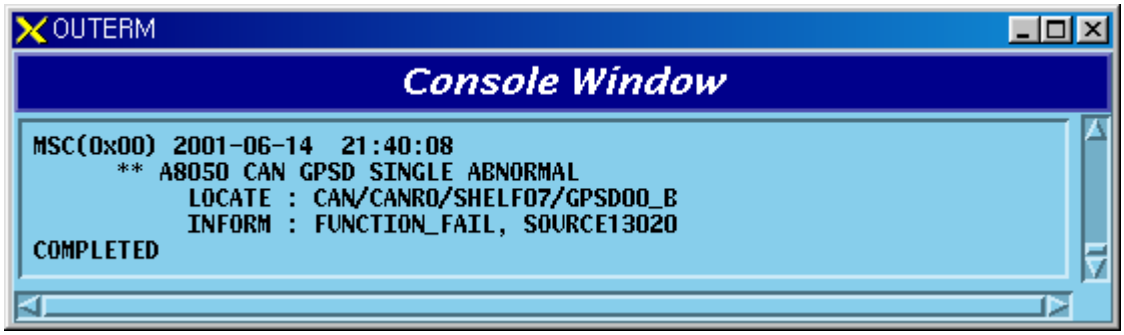



Fig. 5.1-75 TGDB GPSD Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated GPSD has a functional problem

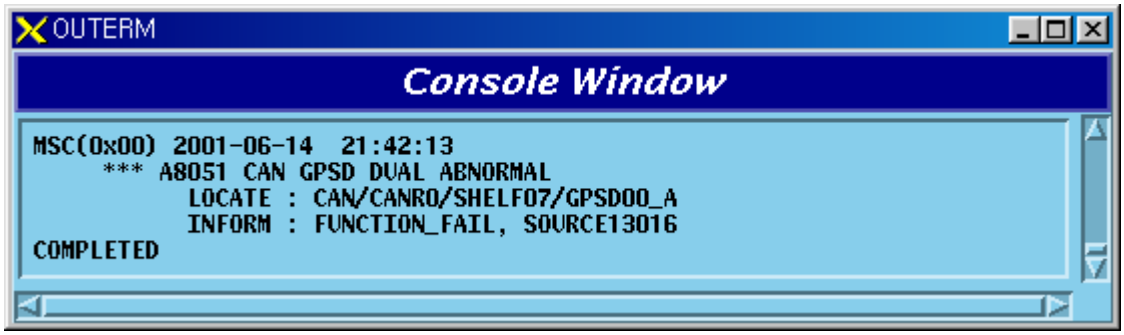



Fig. 5.1-76 TGDB GPSD Dual Function Fail

3) When A-Side of the duplicated GPSD is normal and faults occur on the B-Side power

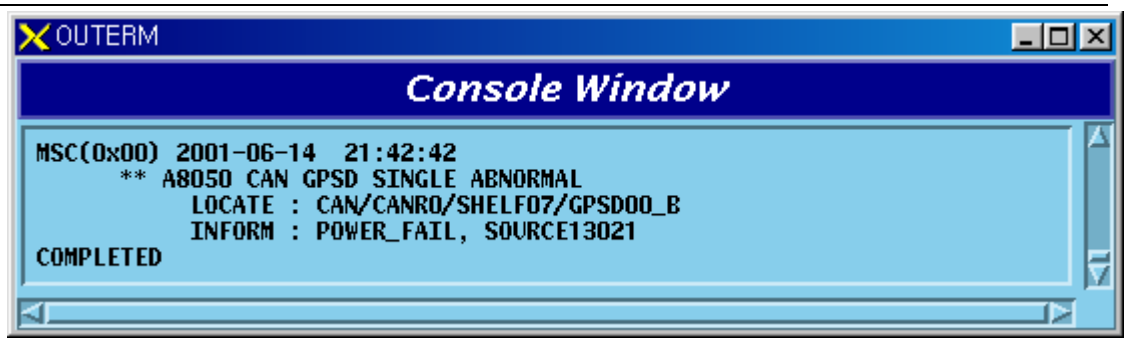



Fig. 5.1-77 TGDB GPSD Single Power Fail

4) When faults occur on the A-Side power after faults occur on the B-Side power of the duplicated GPSD

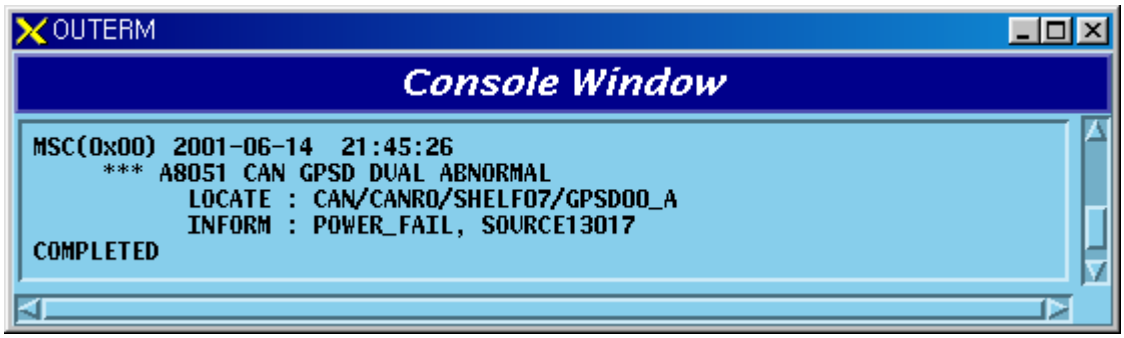



Fig. 5.1-78 TGDB GPSD Dual Power Fail

#### 5.1.1.1.5.3. AMP Processor

1) When faults occur in AMP Processor or a problem occurs in TCP/IP link between BSM and AMP

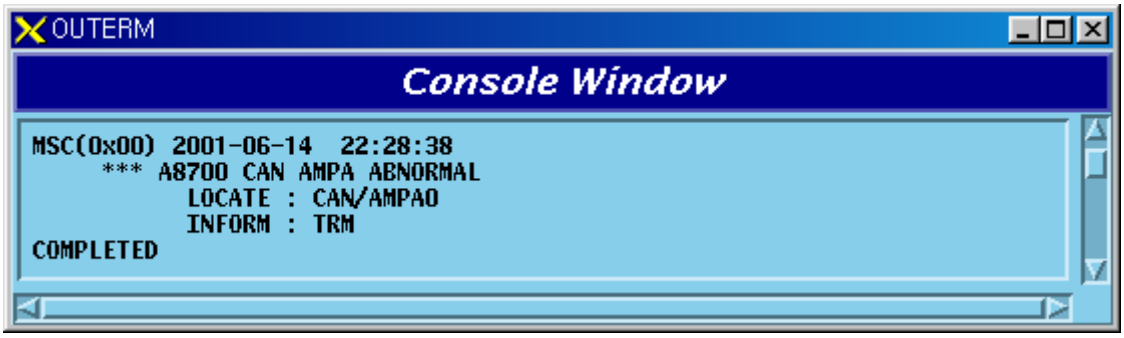



Fig. 5.1-79 TGDB AMP Abnormal

#### 5.1.1.1.5.4. Others

1) When a problem occurs in GPSR Alarm Cable

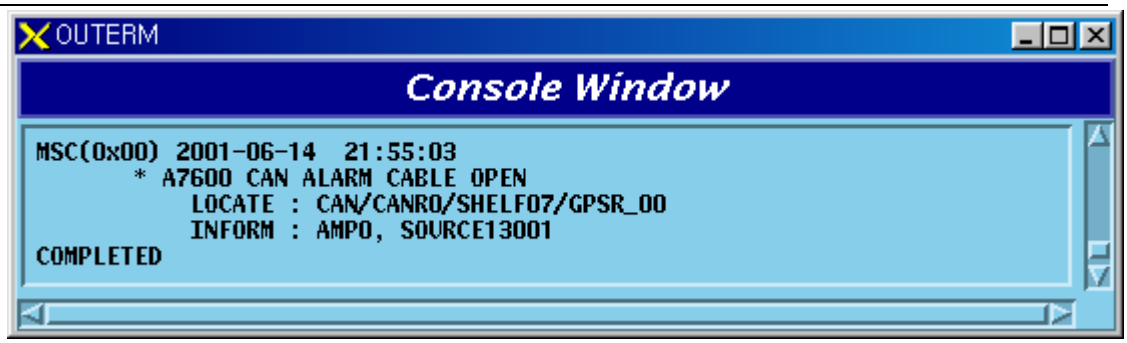



Fig. 5.1-80 TGDB GPSR Alarm Cable Open

2) When a problem occurs in GPSD Alarm Cable

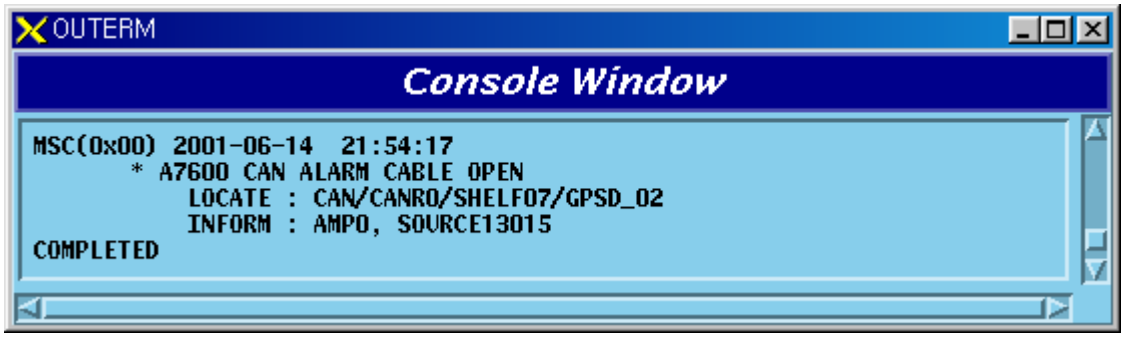



Fig. 5.1-81 TGDB GPSD Alarm Cable Open

3) When a problem occurs in GPSR Control Cable

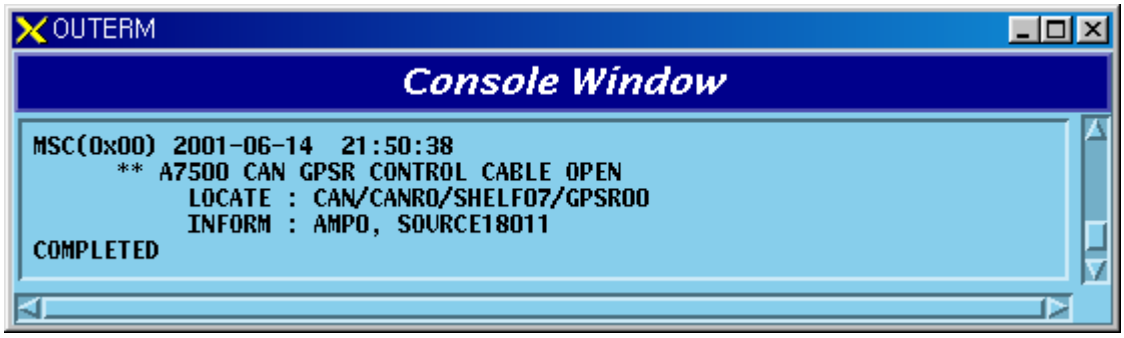



Fig. 5.1-82 TGDB GPSR Control Cable Open

### 5.1.1.1.6. FAN and Others

1) When a problem occurs in CAN FAN

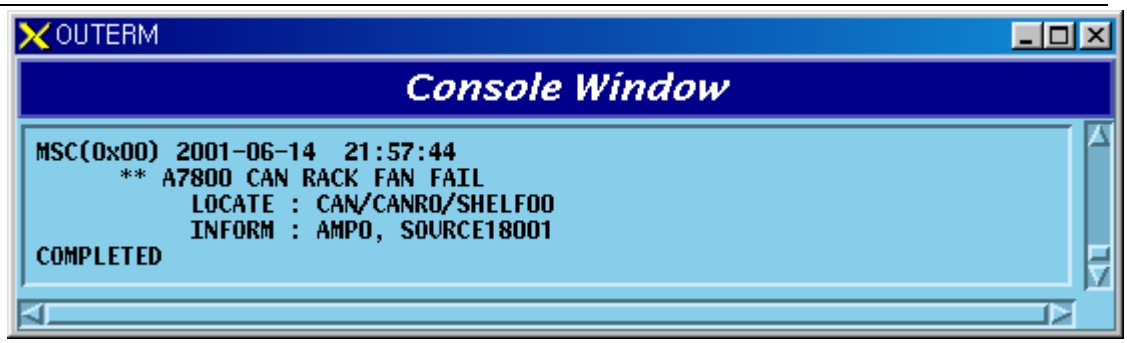



Fig. 5.1-83 CAN Rack FAN Fail

## 5.1.1.2. BSC Occurrence Alarm Message

### 5.1.1.2.1. CCSB

#### 5.1.1.2.1.1. CCP Processor

1) When A-Side of the duplicated CCP is normal and functional problems occur on the B-Side board

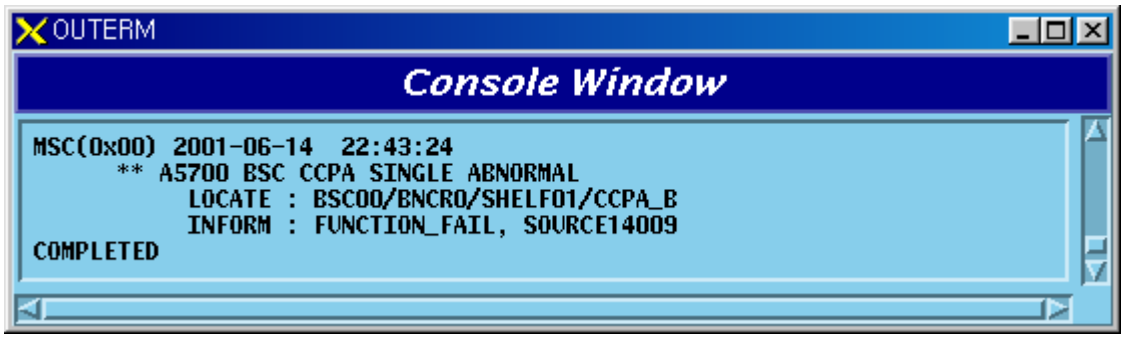



Fig. 5.1-84 CCSB CCP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated CCP has a functional problem

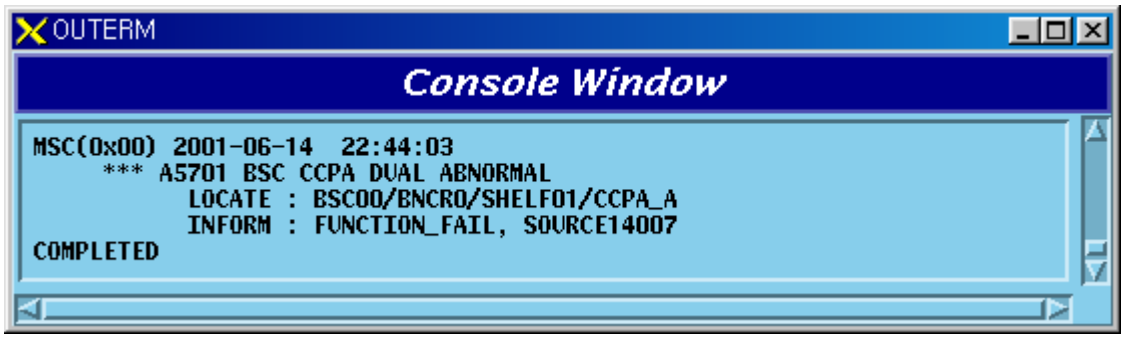



Fig. 5.1-85 CCSB CCP Dual Function Fail

3) When A-Side of the duplicated CCP is normal and B-Side board is removed

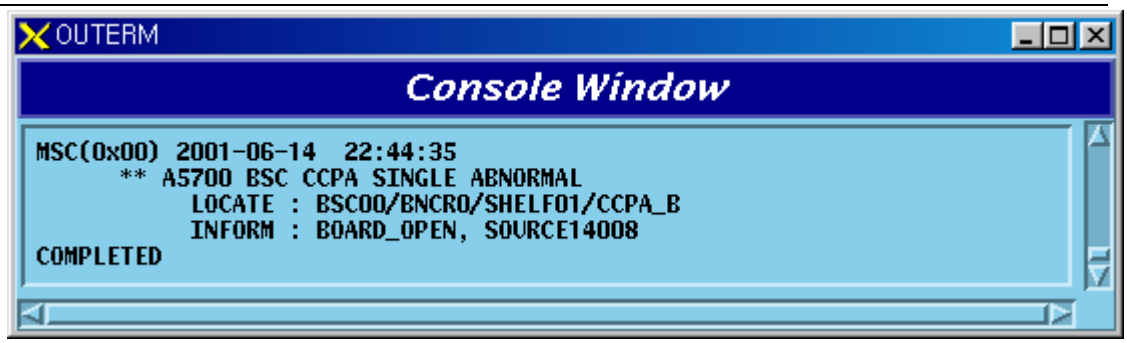



Fig. 5.1-86 CCSB CCP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated CCP is removed

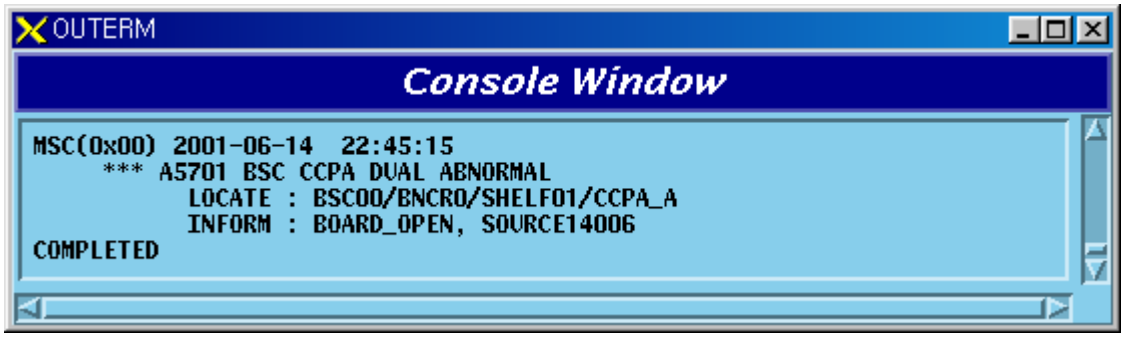



Fig. 5.1-87 CCSB CCP Dual Board Open Fail

#### 5.1.1.2.1.2. SCP Processor

1) When A-Side of the duplicated SCP is normal and functional problems occur on the B-Side board

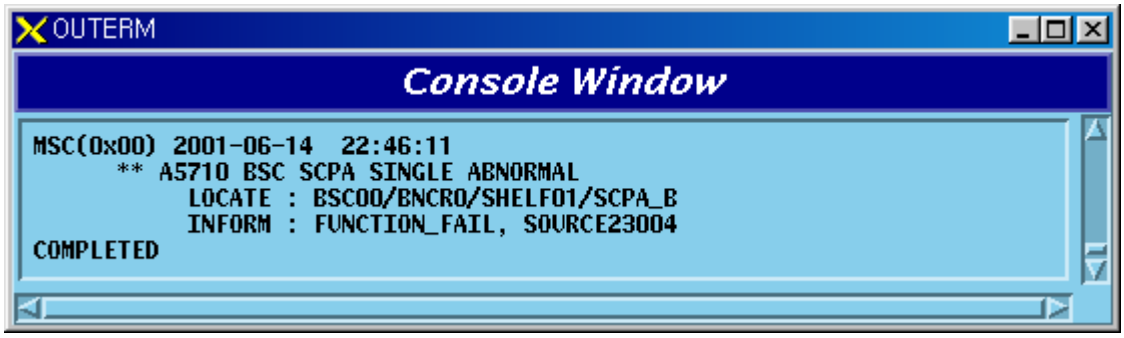



Fig. 5.1-88 CCSB SCP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated SCP has a functional problem

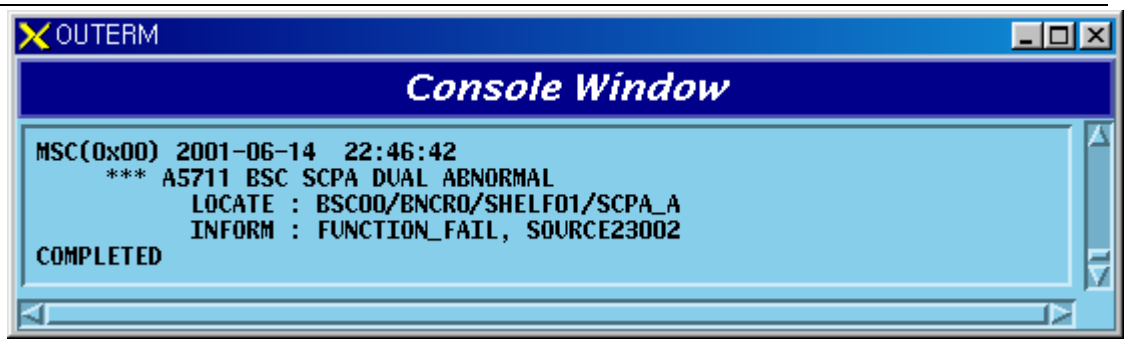



Fig. 5.1-89 CCSB SCP Dual Function Fail

3) When A-Side of the duplicated SCP is normal and B-Side board is removed

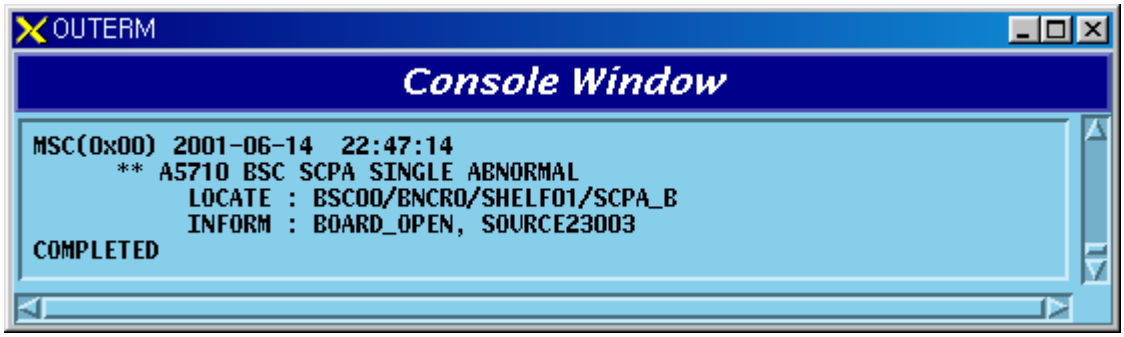



Fig. 5.1-90 CCSB SCP Single Board Open Fail

4) When A-Side is removed entire B-Side of the duplicated SCP is removed

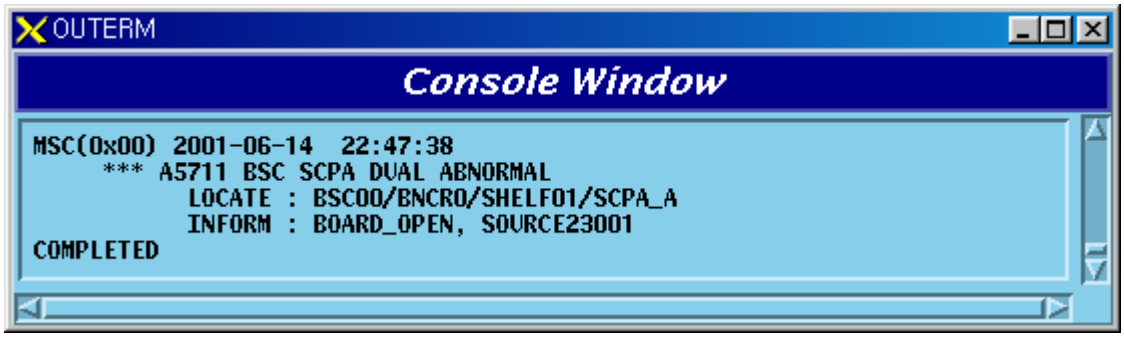



Fig. 5.1-91 CCSB SCP Dual Board Open Fail

#### 5.1.1.2.1.3. STIA Board

1) When functional faults occur on STIA board

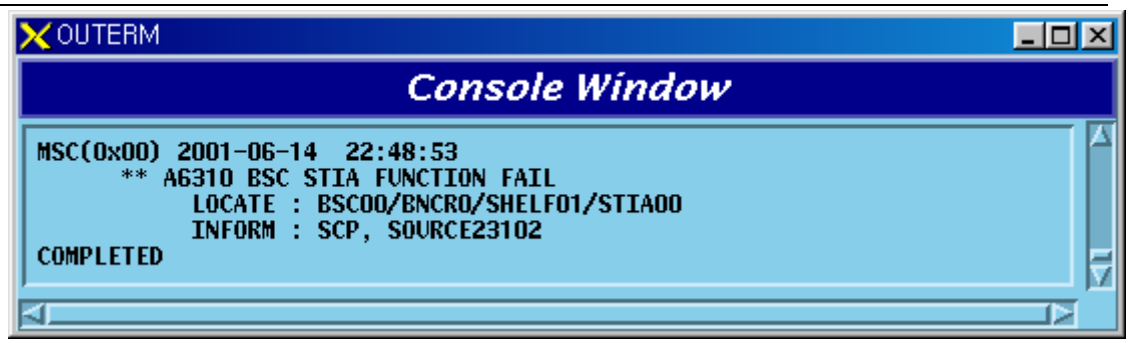



Fig. 5.1-92 CCSB STIA Function Fail

2) When STIA board is removed

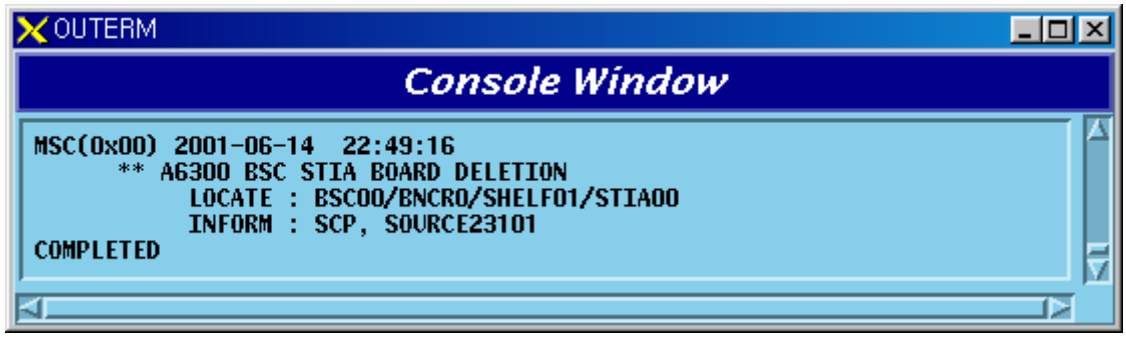



Fig. 5.1-93 CCSB STIA Board Open Fail

#### 5.1.1.2.1.4. PRI Board

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

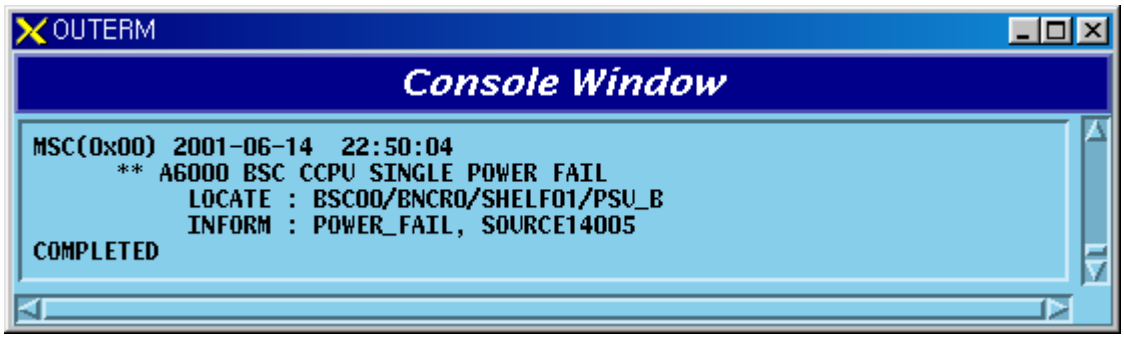



Fig. 5.1-94 CCSB PRI Single Power Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PRI has a functional problem

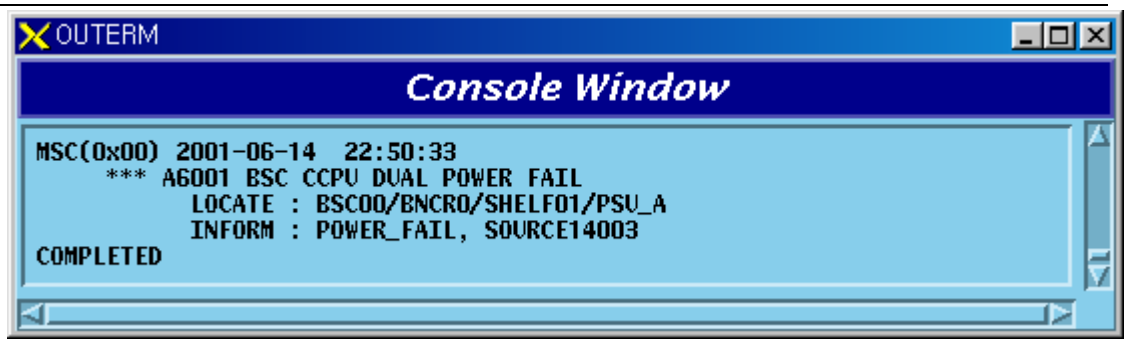



Fig. 5.1-95 CCSB PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B-Side board is removed

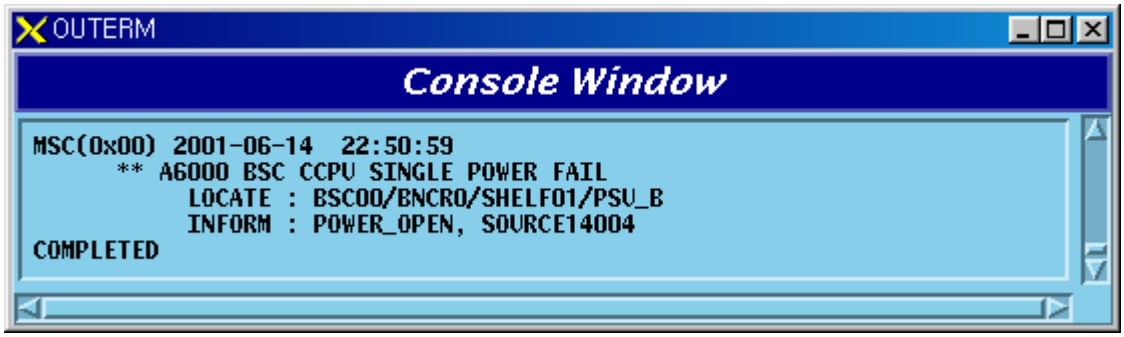



Fig. 5.1-96 CCSB PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

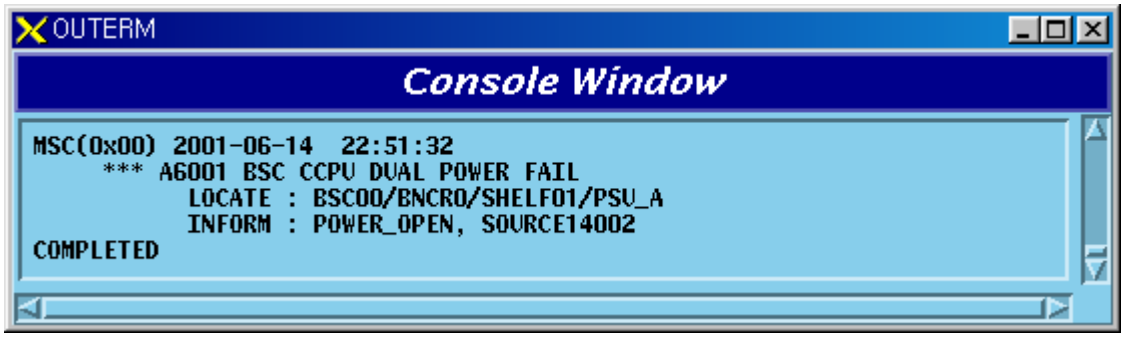



Fig. 5.1-97 CCSB PRI Dual Power Open Fail

#### 5.1.1.2.1.5. Others

1) When ABID board is removed

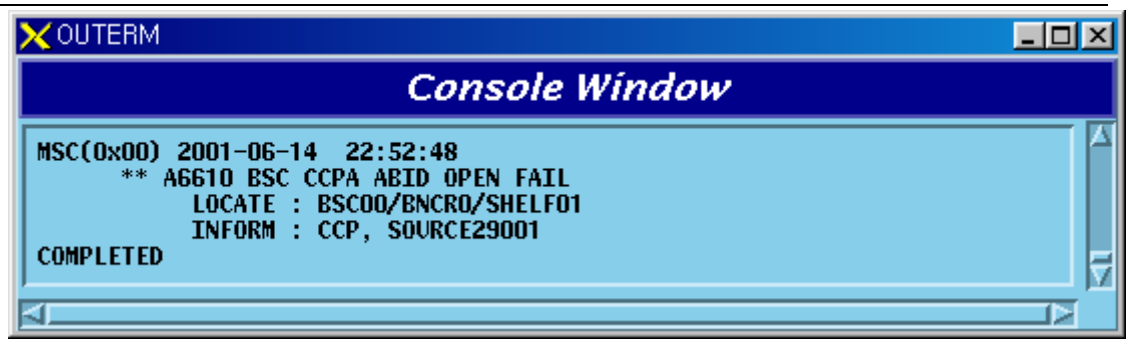



Fig. 5.1-98 CCSB ABID Board Open

2) When CCP does not receive 1pps Clock from GPSD normally

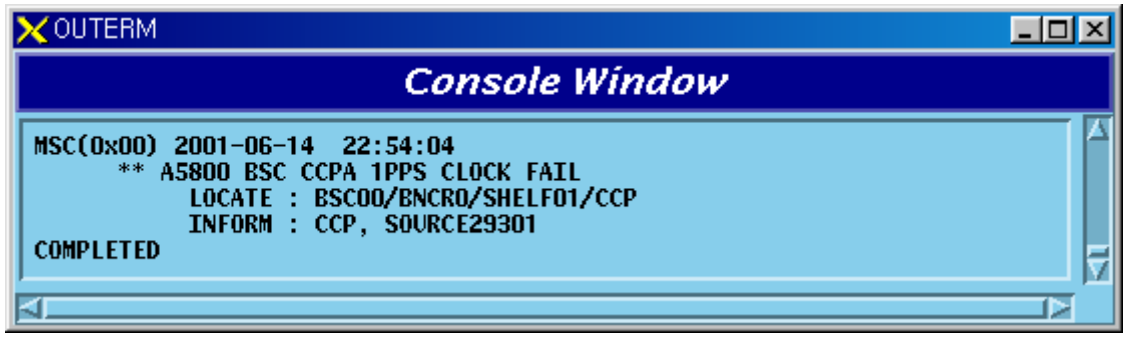



Fig. 5.1-99 CCSB 1PPS Clock Fail

3) When CCP does not receive 10MHz Clock from GPSD normally

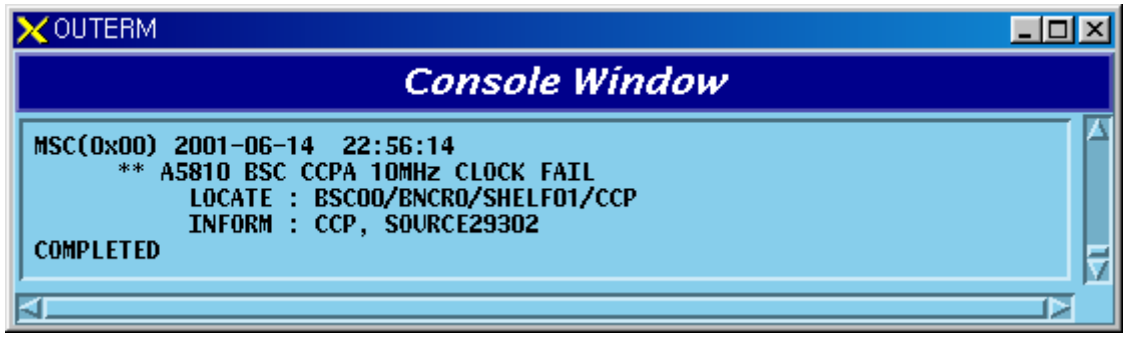



Fig. 5.1-100 CCSB 10MHz Clock Fail

4) When faults occur in SubHiway Cable between STIA and VLIA

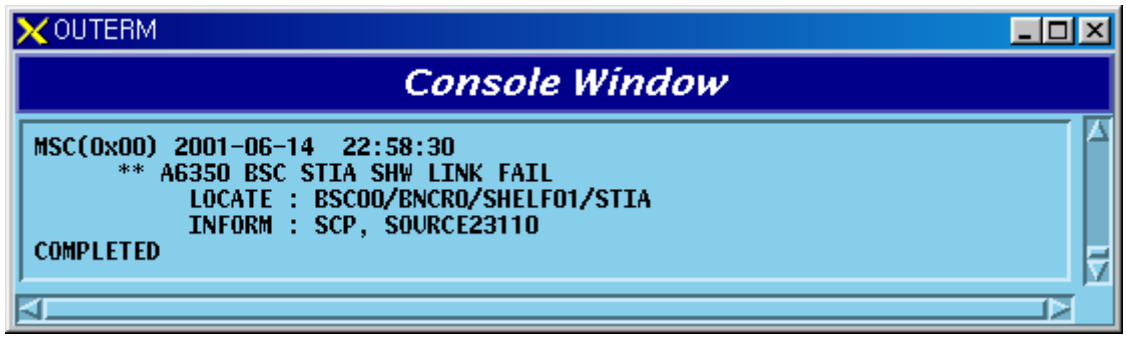


Fig. 5.1-101 CCSB STIA SHW Link Fail

5) When faults occur in CCBU Alarm Cable

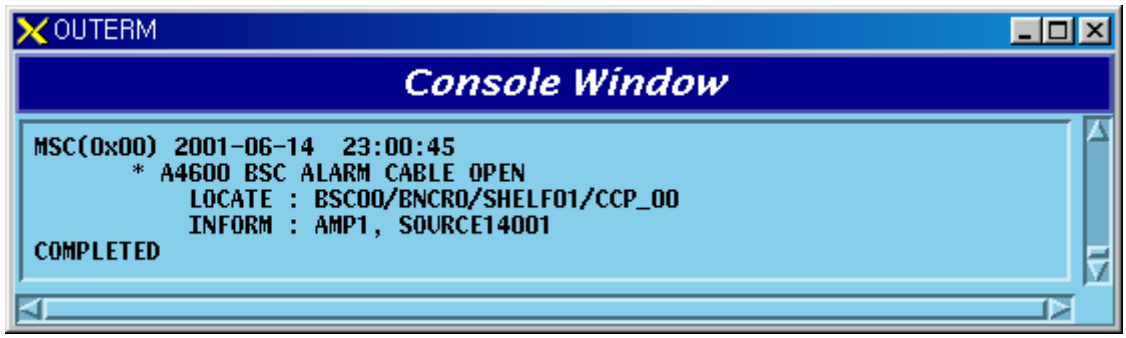



Fig. 5.1-102 CCSB Alarm Cable Open

## 5.1.1.2.2. ASMB

### 5.1.1.2.2.1. NCP Processor

1) When A-Side of the duplicated NCP is normal and functional problems occur on B-Side board

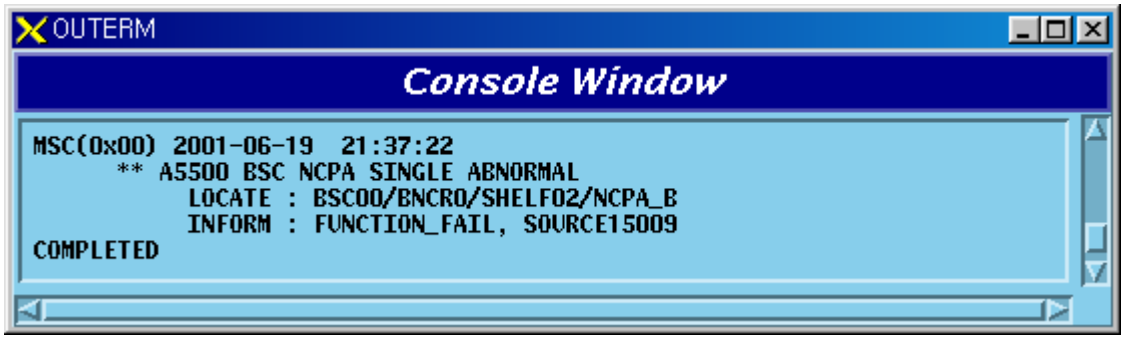



Fig. 5.1-103 ASMB NCP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated NCP has a functional problem

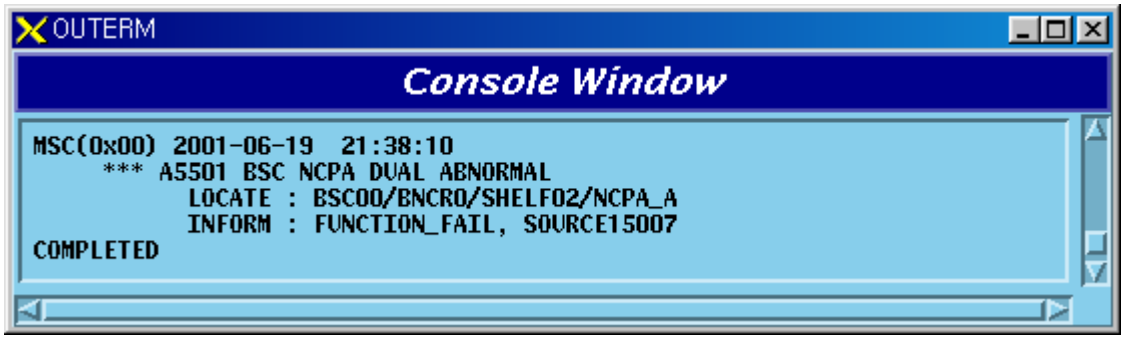



Fig. 5.1-104 ASMB NCP Dual Function Fail

3) When A-Side of the duplicated NCP is normal and B-Side board is removed

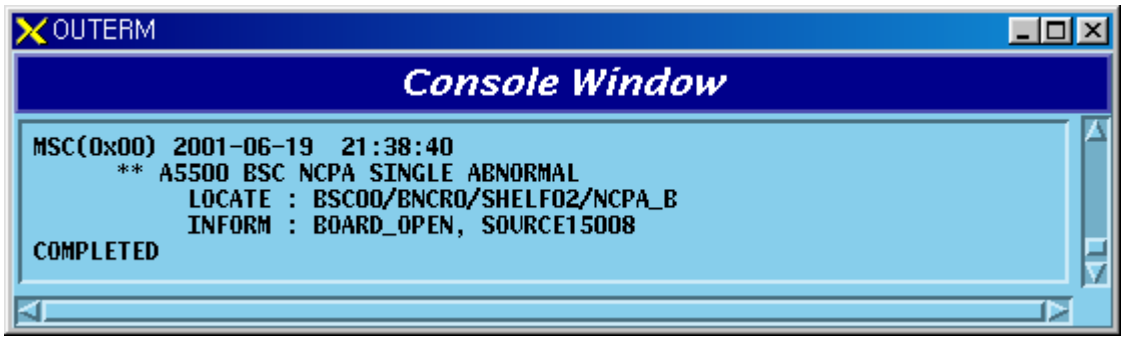



Fig. 5.1-105 ASMB NCP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated NCP is removed

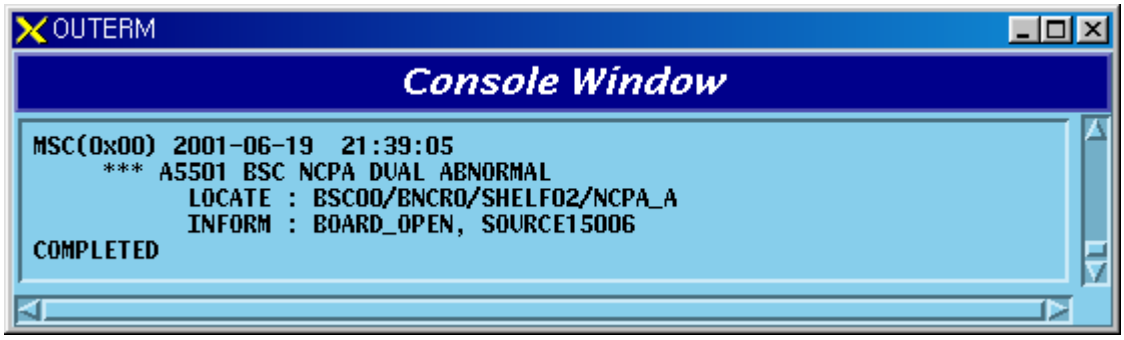



Fig. 5.1-106 ASMB NCP Dual Board Open Fail

#### 5.1.1.2.2.2. ASCA Board

1) When A-Side of the duplicated ASCA is normal and functional problems occur on the B-Side board

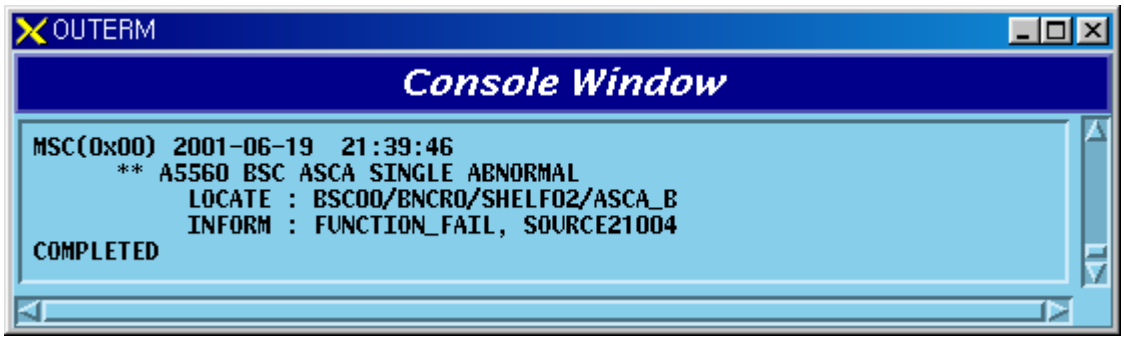



Fig. 5.1-107 ASMB ASCA Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated ASCA has a functional problem

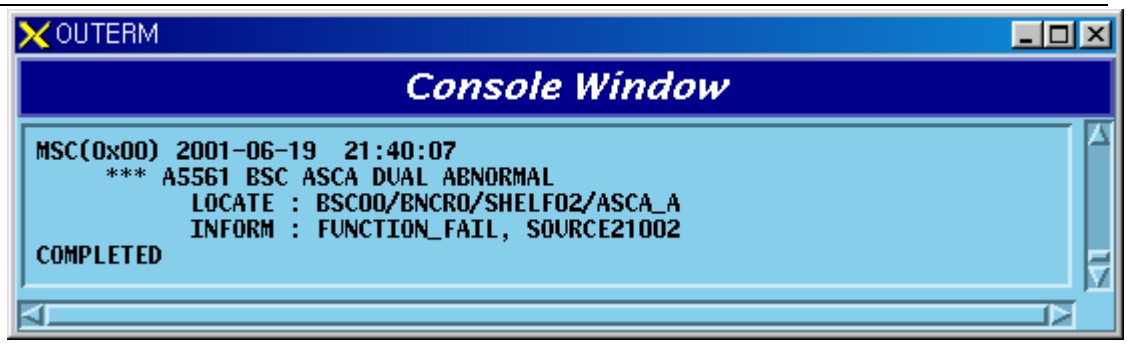



Fig. 5.1-108 ASMB ASCA Dual Function Fail

3) When A-Side of the duplicated ASCA is normal and B-Side board is removed

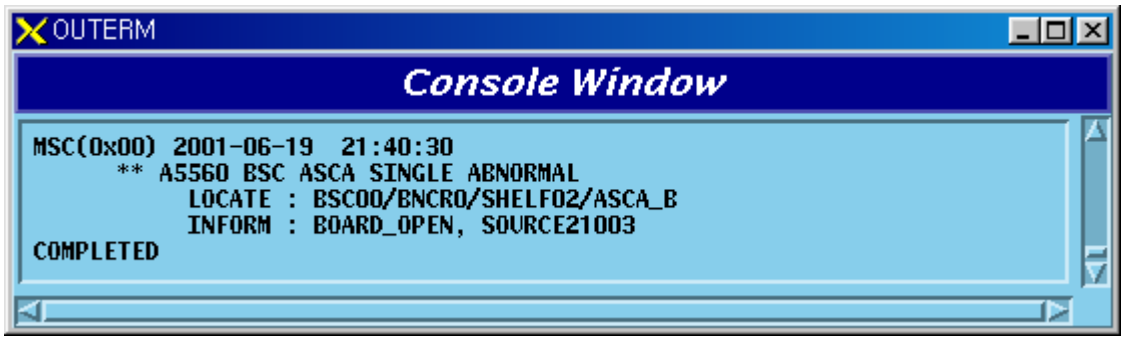



Fig. 5.1-109 ASMB ASCA Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated ASCA is removed

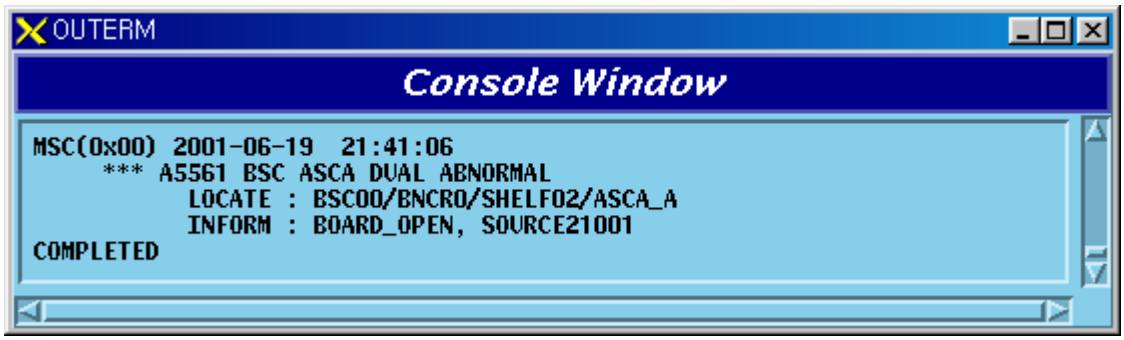



Fig. 5.1-110 ASMB ASCA Dual Board Open Fail

#### 5.1.1.2.2.3. ASIA Board

1) When A-Side of the duplicated ASIA is normal and functional problems occur on the B-Side board

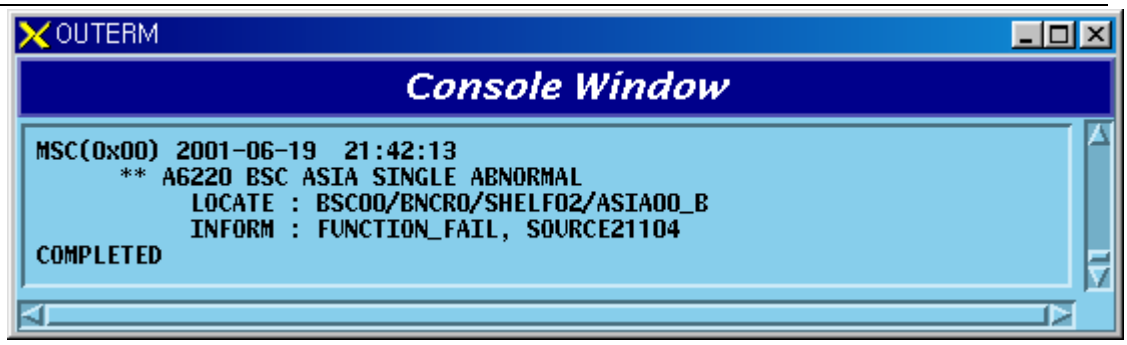



Fig. 5.1-111 ASMB ASIA Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated ASIA has a functional problem

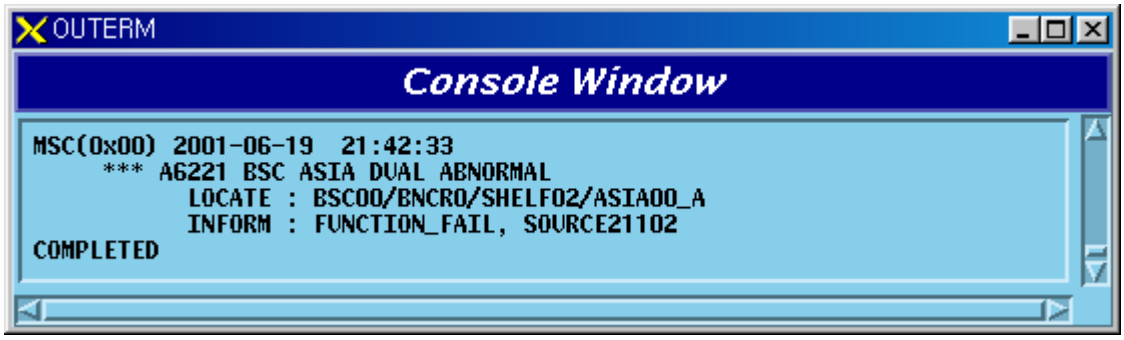



Fig. 5.1-112 ASMB ASIA Dual Function Fail

3) When A-Side of the duplicated ASIA is normal and B-Side board is removed

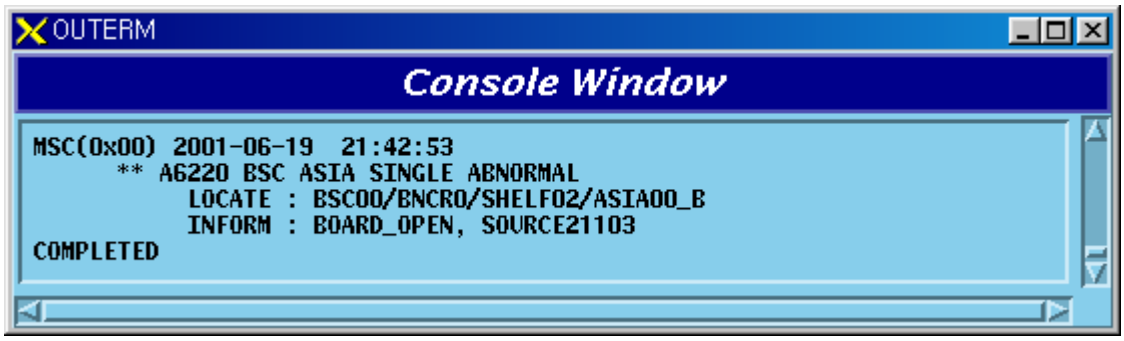



Fig. 5.1-113 ASMB ASIA Single Board Fail

4) When A-Side is removed after B-Side of the duplicated ASIA is removed

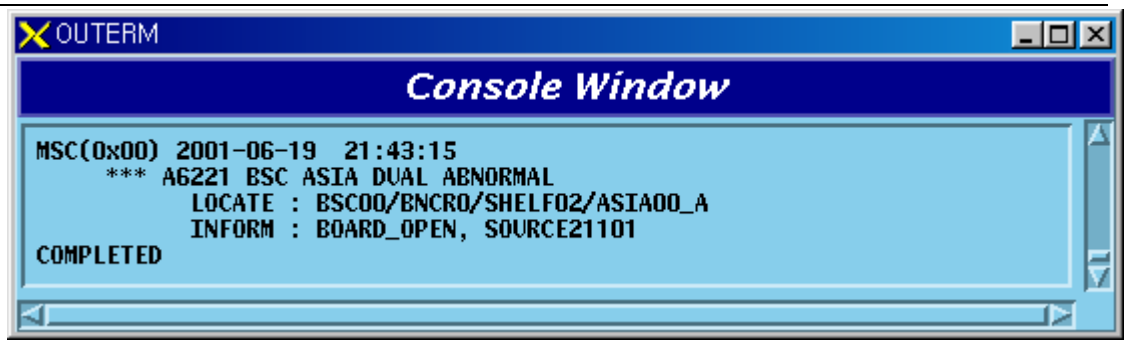



Fig. 5.1-114 ASMB ASIA Dual Board Open Fail

#### 5.1.1.2.2.4. ATSA Board

6) When functional problems occur on ATSA board

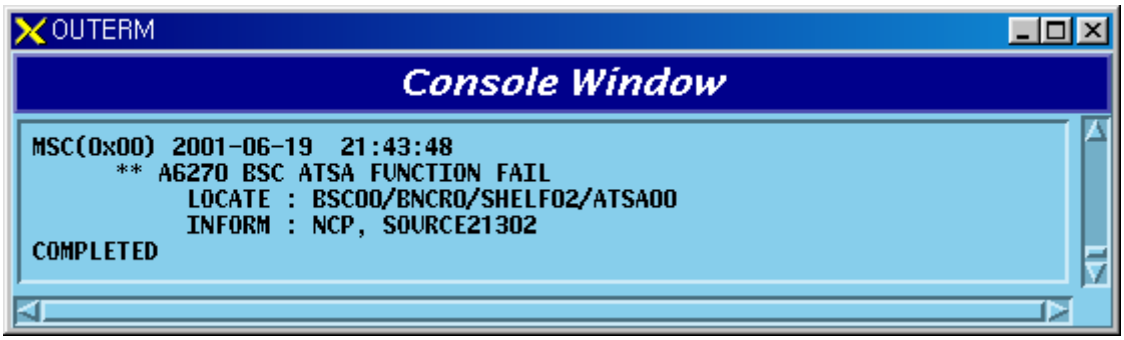



Fig. 5.1-115 ASMB ATSA Function Fail

7) When ATSA board is removed

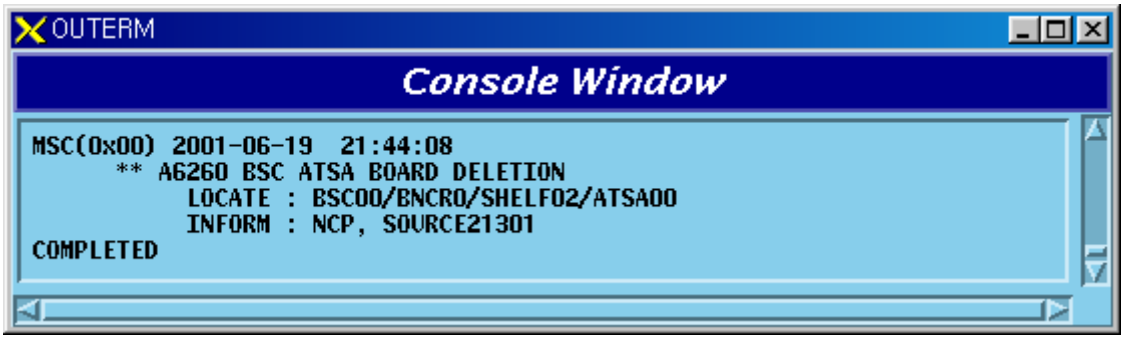



Fig. 5.1-116 ASMB ATSA Board Open Fail

#### 5.1.1.2.2.5. PRI Board

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

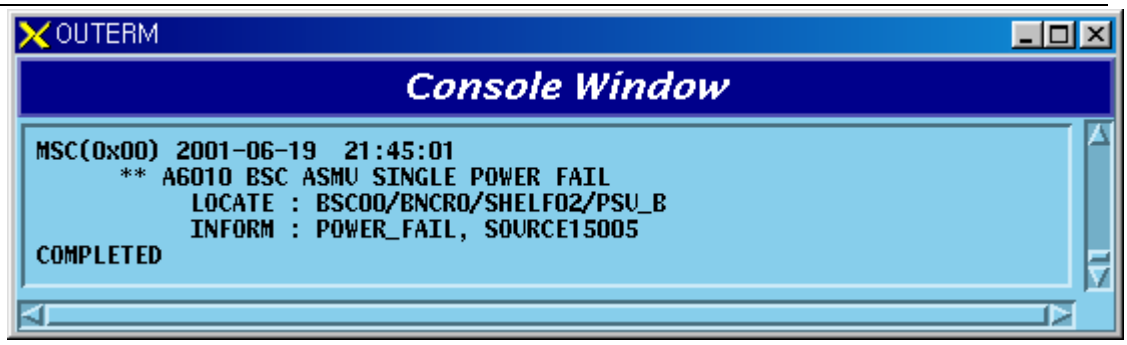



Fig. 5.1-117 ASMB PRI Single Power Fail

2) When functional problems occur on the A-Side and B-Side of the duplicated PRI has a functional problem

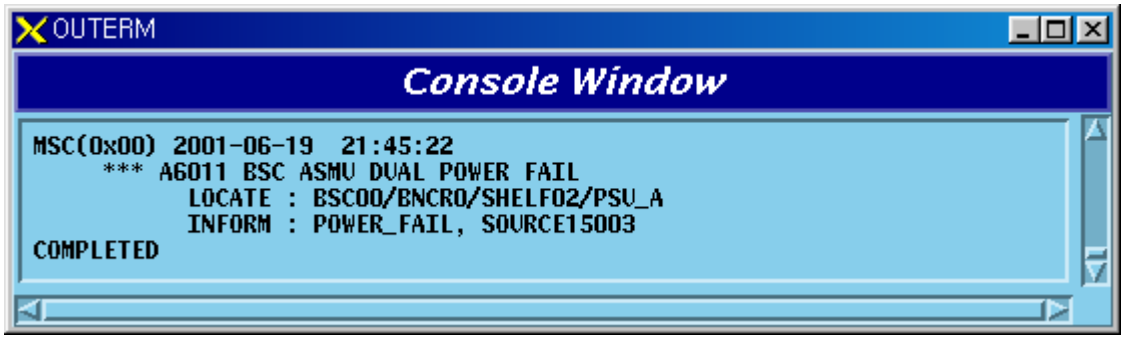



Fig. 5.1-118 ASMB PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B-Side board is removed

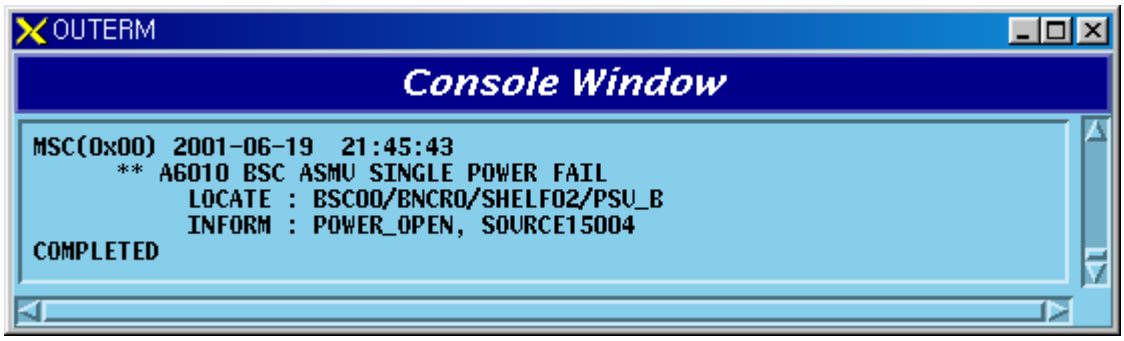



Fig. 5.1-119 ASMB PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

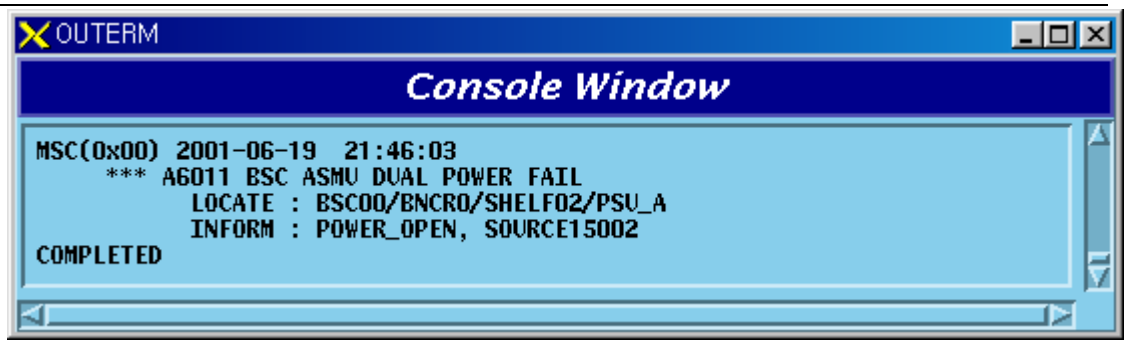



Fig. 5.1-120 ASMB PRI Dual Power Open Fail

#### 5.1.1.2.2.6. Others

1) When ASMB Alarm Cable opens

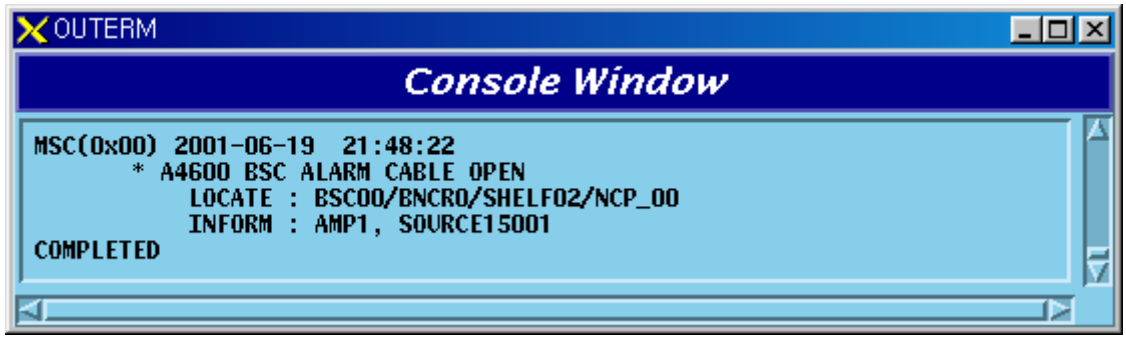



Fig. 5.1-121 ASMB Alarm Cable Open

### 5.1.1.2.3. ALSB

#### 5.1.1.2.3.1. ALP Processor

1) When A-Side of the duplicated ALP is normal and functional problems occur on the B-Side board

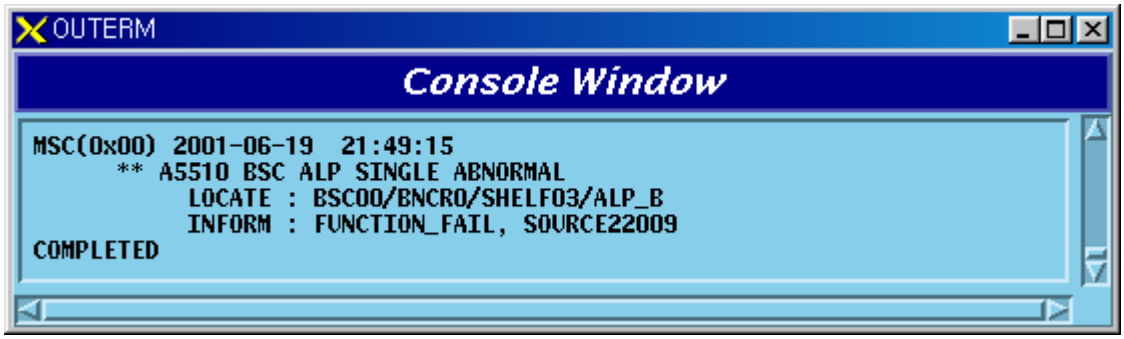



Fig. 5.1-122 ASLB ALP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated ALP has a functional problem

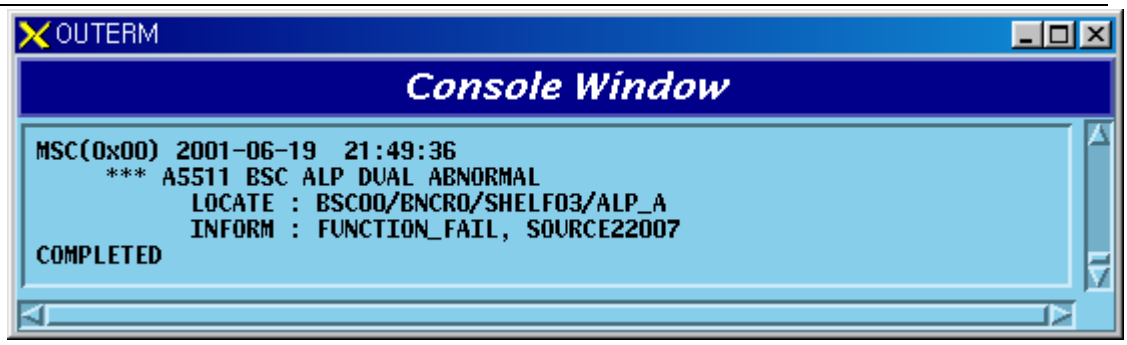



Fig. 5.1-123 ASLB ALP Dual Function Fail

3) When A-Side of the duplicated ALP is normal and B-Side board is removed

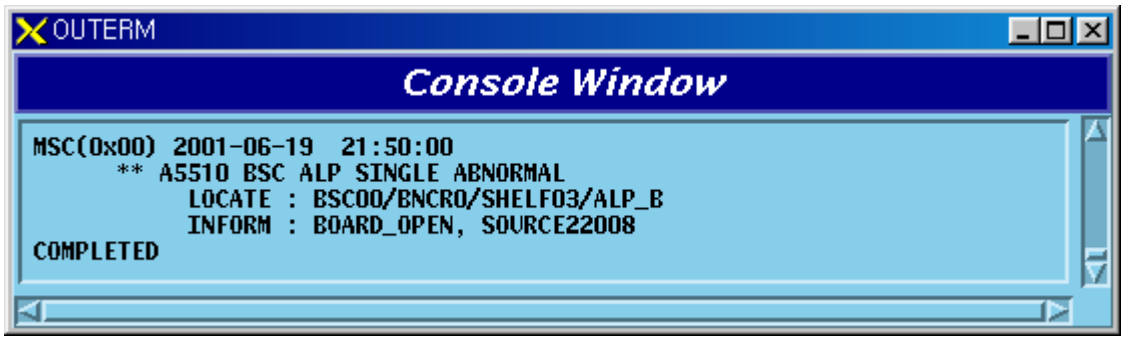



Fig. 5.1-124 ASLB ALP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated ALP is removed

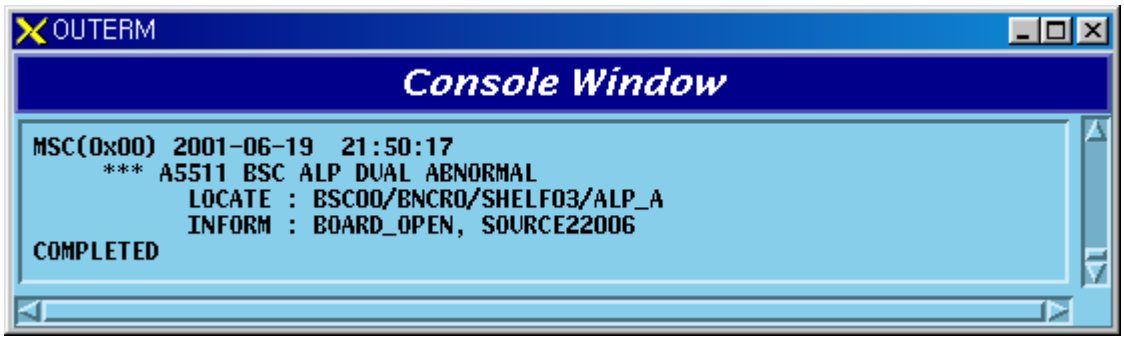



Fig. 5.1-125 ASLB ALP Dual Board Open Fail

#### 5.1.1.2.3.2. ALMA Board

1) When A-Side of the duplicated ALMA is normal and functional problems occur on the B-Side board

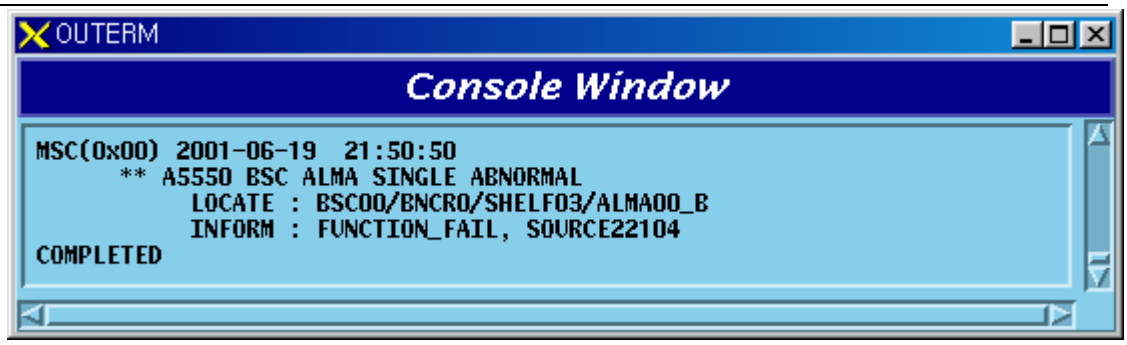



Fig. 5.1-126 ASLB ALMA Single Function Fail

2) When functional problems occur A-Side after B-Side of the duplicated ALMA has a functional problem

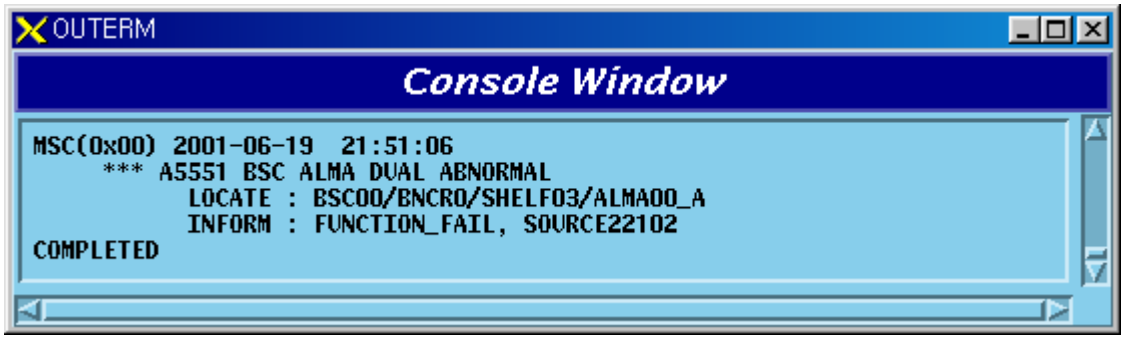



Fig. 5.1-127 ASLB ALP Dual Function Fail

3) When A-Side of the duplicated ALMA is normal and B-Side board is removed

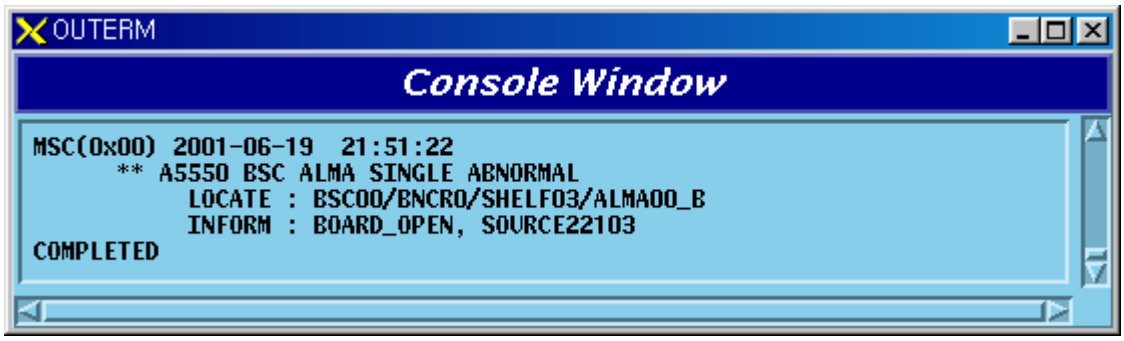



Fig. 5.1-128 ASLB ALP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated ALMA is removed

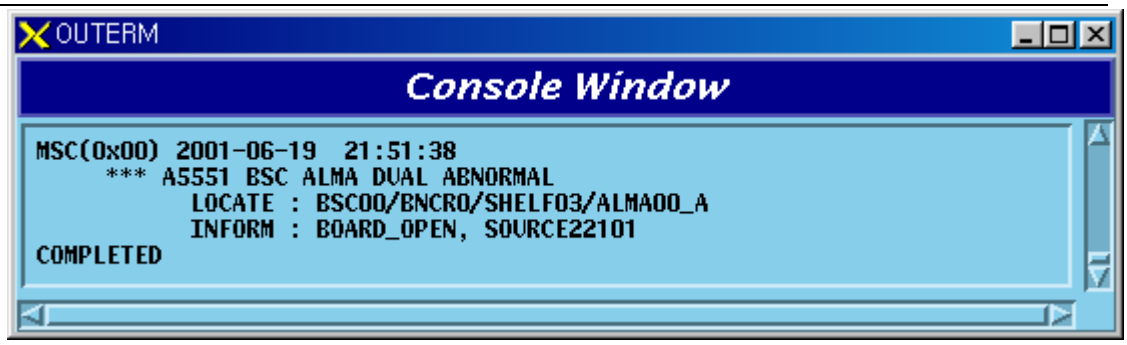



Fig. 5.1-129 ASLB ALP Dual Board Open Fail

#### 5.1.1.2.3.3. ALPA Board

1) When functional faults occur on ALPA board

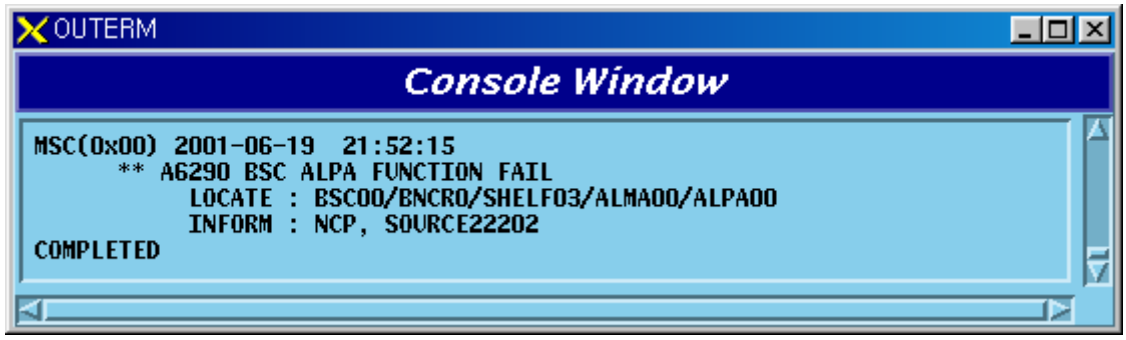



Fig. 5.1-130 ASLB ALPA Function Fail

2) When ALPA board is removed

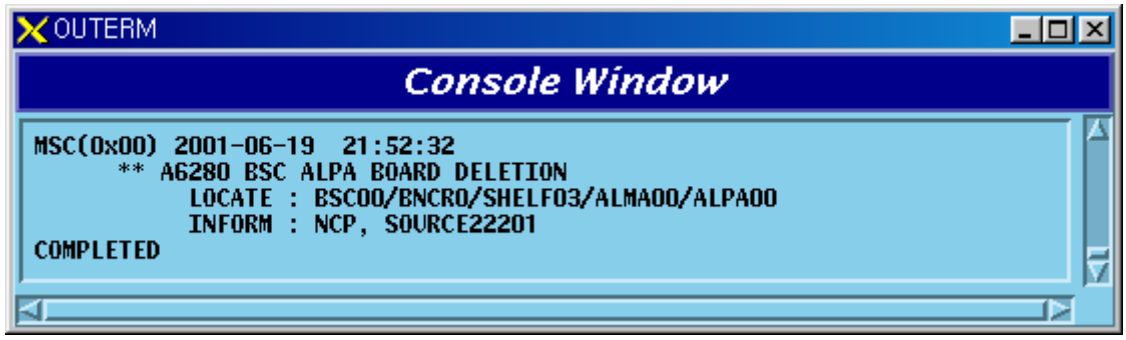



Fig. 5.1-131 ASLB ALPA Board Open Fail

#### 5.1.1.2.3.4. PRI Board

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

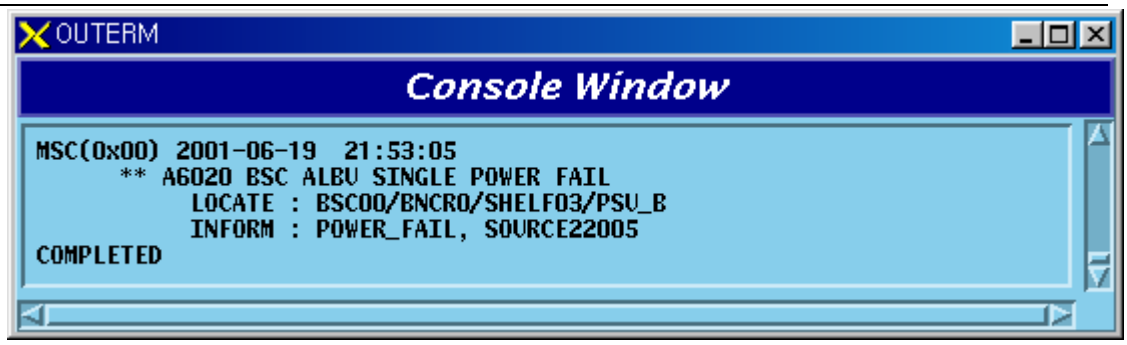



Fig. 5.1-132 ASLB PRI Single Power Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PRI has a functional problem

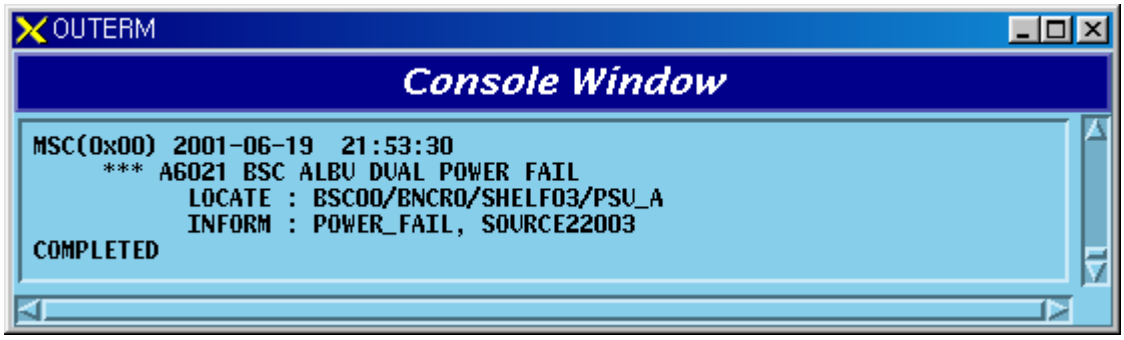



Fig. 5.1-133 ASLB PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B-Side board is removed

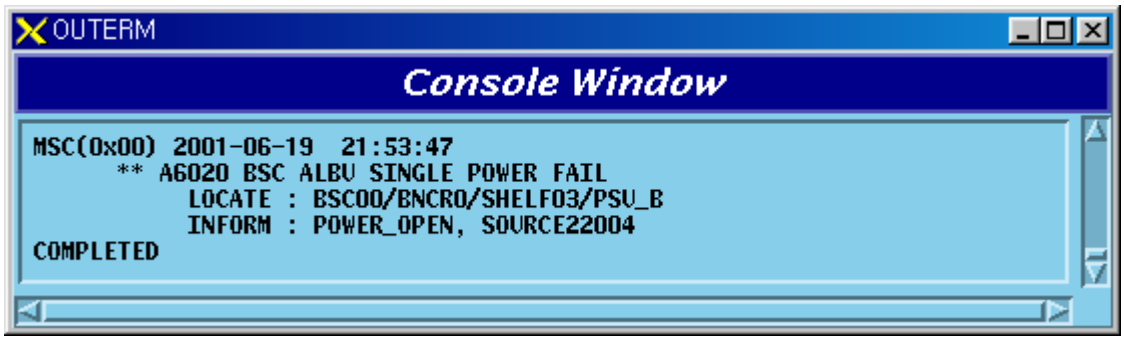



Fig. 5.1-134 ASLB PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

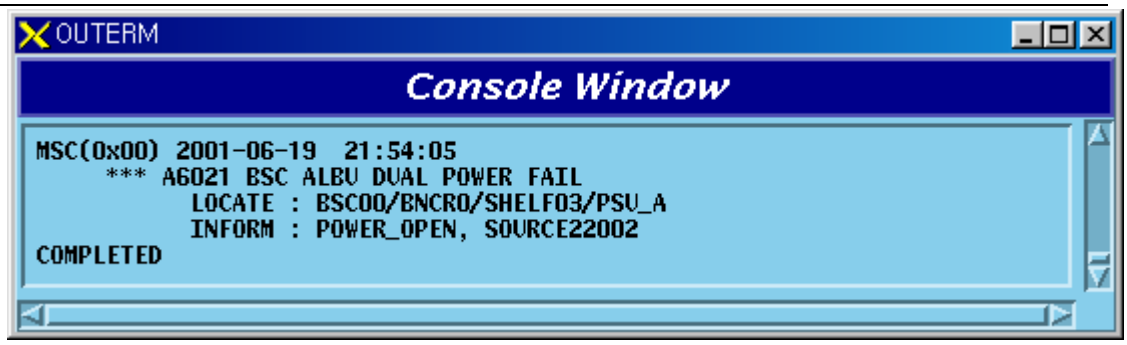



Fig. 5.1-135 ASLB PRI Dual Power Open Fail

#### 5.1.1.2.3.5. Others

1) When ALSB Shelf Alarm Cable is removed

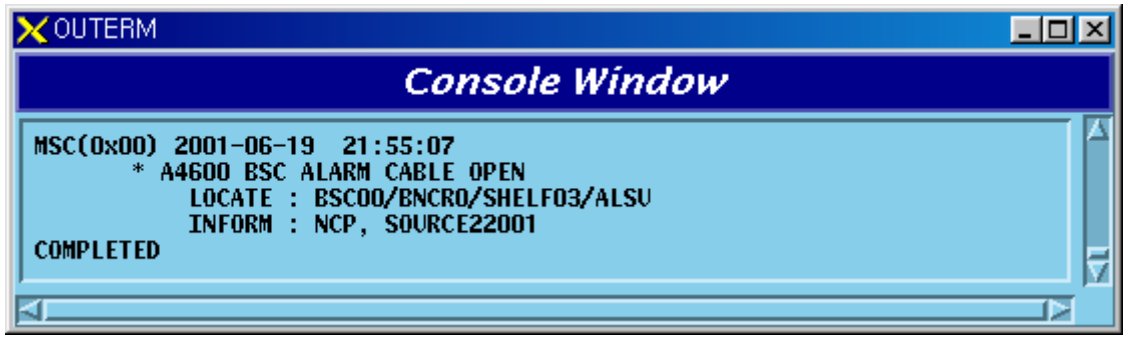



Fig. 5.1-136 ASLB Alarm Cable Open

2) When Loss Of Signal Error occurs in ALPA link

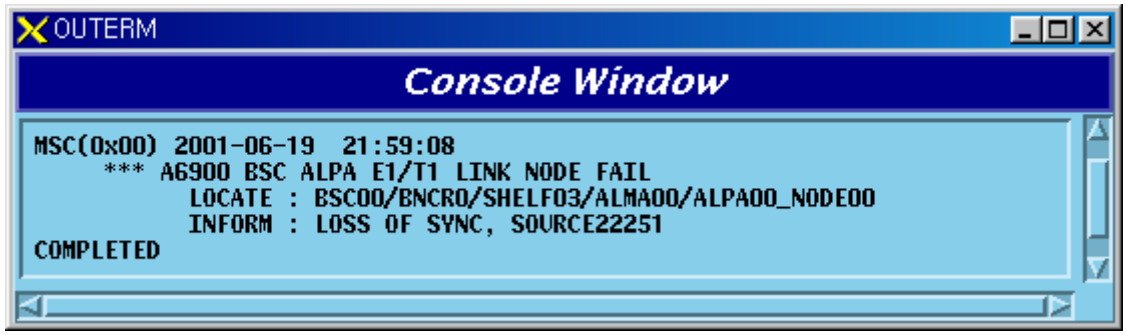



Fig. 5.1-137 ASLB ALPA Link Fail((LOS)

3) When Out Of Frame Error occurs in ALPA link

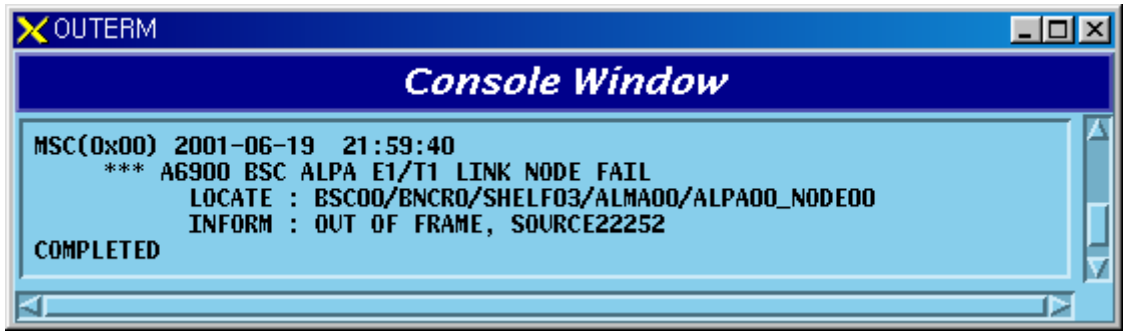



Fig. 5.1-138 ASLB ALPA Link Fail((OOF)

4) When Alarm Indication Signal Error occurs in ALPA link

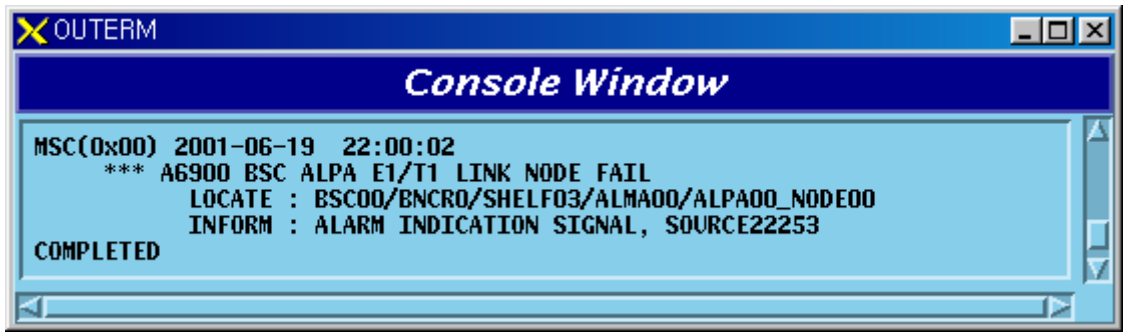



Fig. 5.1-139 ASLB ALPA Link Fail((AIS)

5) When Remote Alarm Indication Error occurs in ALPA link

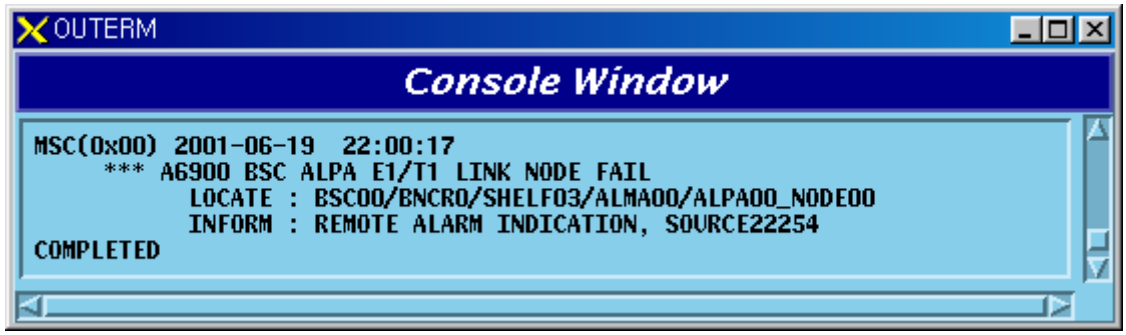



Fig. 5.1-140 ASLB ALPA Link Fail((RAI)

## 5.1.1.2.4. SLB

### 5.1.1.2.4.1. SMP(SLMA) Processor

1) When functional faults occur on SLMA board

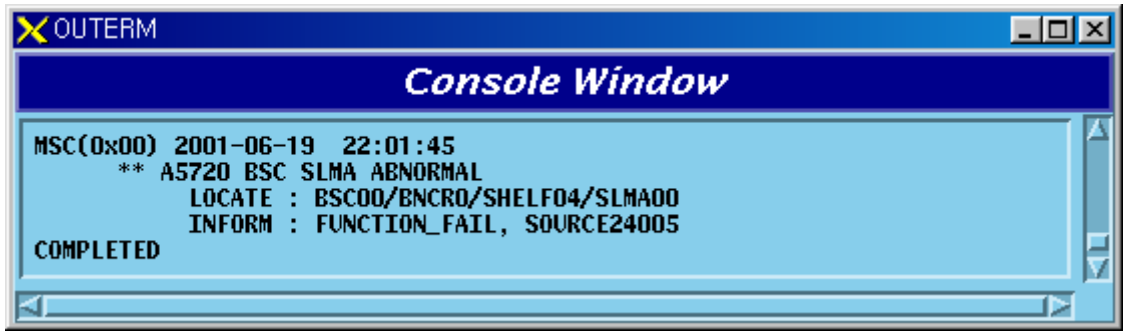



Fig. 5.1-141 SLB SMP Function Fail

2) When SLMA board is removed

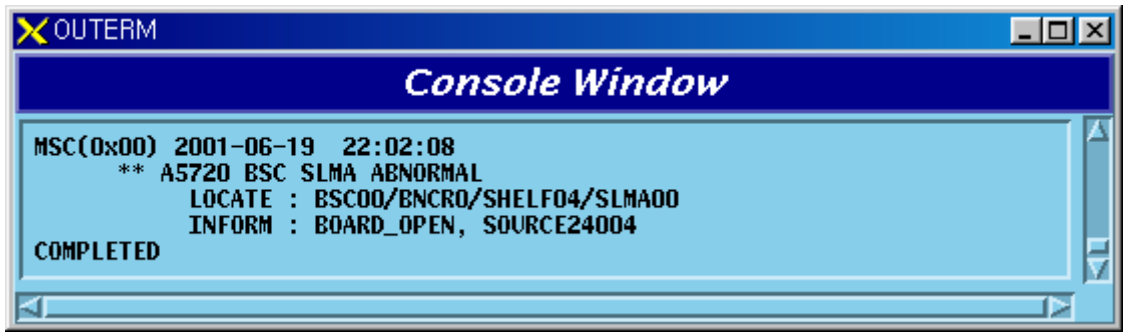



Fig. 5.1-142 SLB SMP Board Open Fail

#### 5.1.1.2.4.2. SLPA Board

1) When functional faults occur on SLPA board

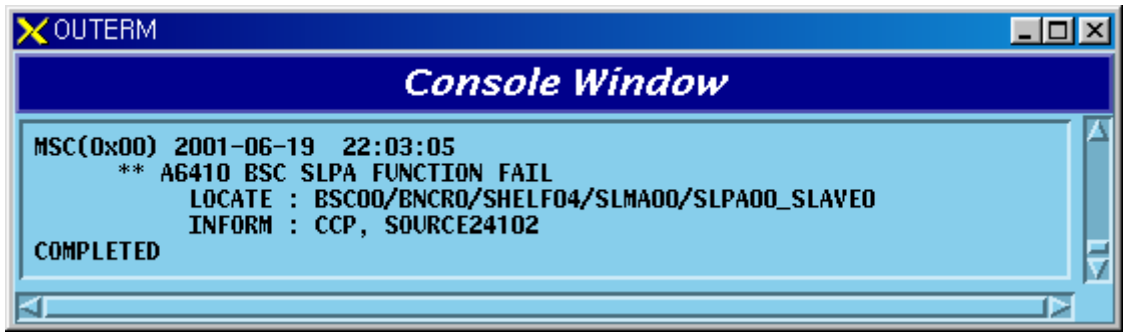



Fig. 5.1-143 SLB SLPA Function Fail

2) When SLPA board is removed

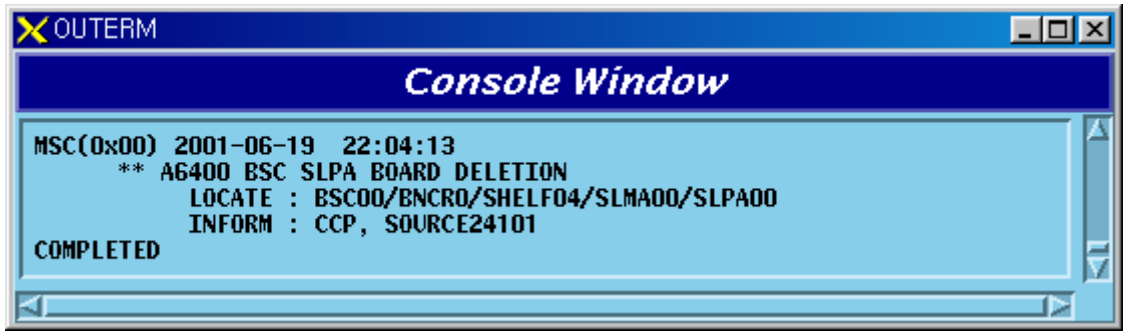



Fig. 5.1-144 SLB SLPA Board Open Fail

#### 5.1.1.2.4.3. PRI

1) When functional faults occur on PRI board

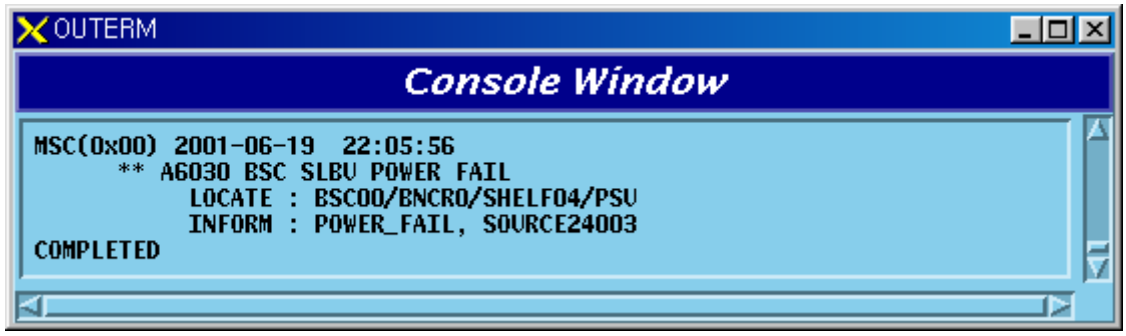



Fig. 5.1-145 SLB PRI Power Fail

2) When PRI board is removed

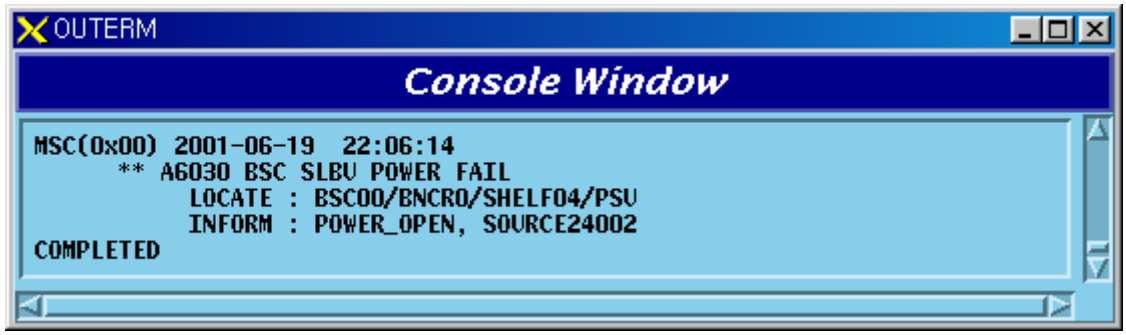



Fig. 5.1-146 SLB PRI Power Open Fail

#### 5.1.1.2.4.4. Others

1) When SLB Shelf Alarm Cable is removed

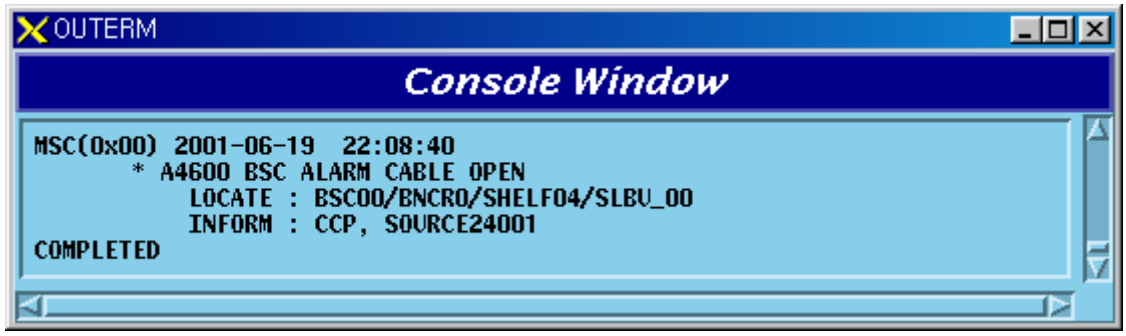



Fig. 5.1-147 SLB Alarm Cable Open

2) When Clock Cable is removed from CCP

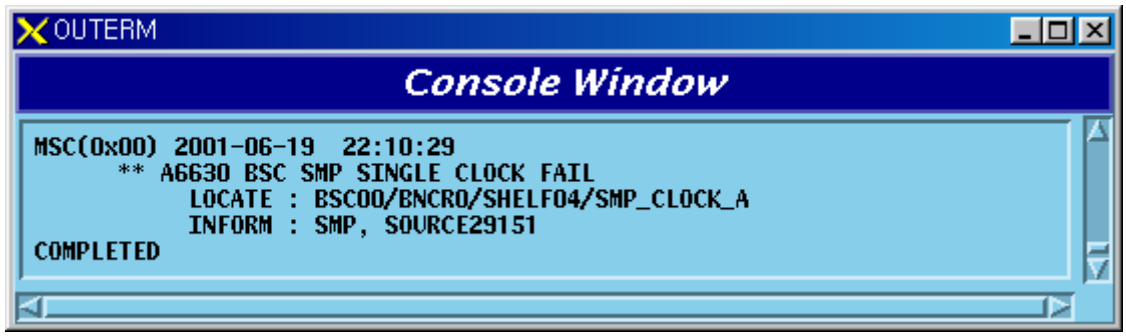



Fig. 5.1-148 SLB SMP Clock Fail

3) When SAID board is removed

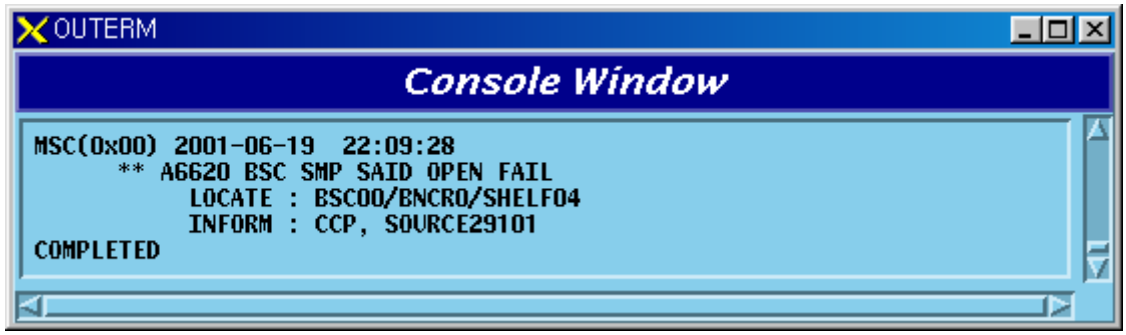



Fig. 5.1-149 SLB SMP SAID Open Fail

### 5.1.1.2.5. VCB

#### 5.1.1.2.5.1. VMP(VCMA) Processor

1) When functional problems occur on VCMA board

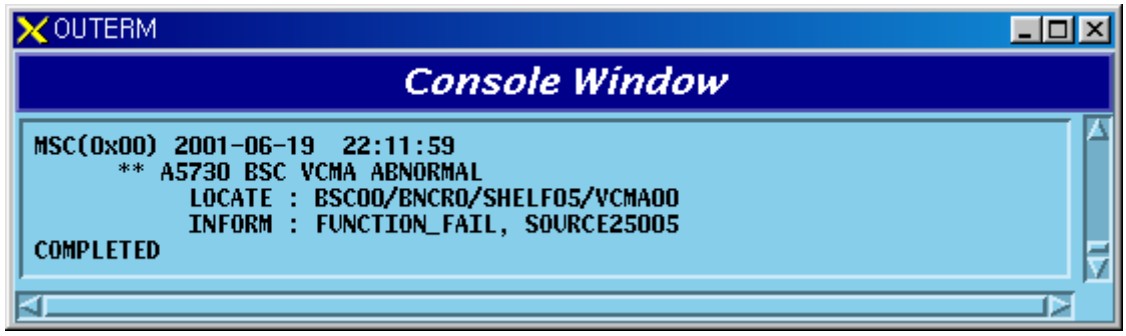



Fig. 5.1-150 VCB VMP Function Fail

2) When VCMA board is removed

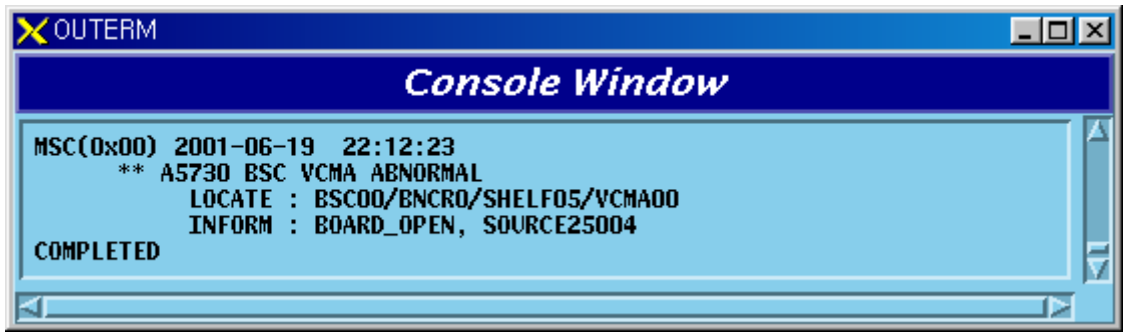



Fig. 5.1-151 VCB VMP Board Open Fail

#### 5.1.1.2.5.2. VCPA Board

1) When functional faults occur on VCPA board

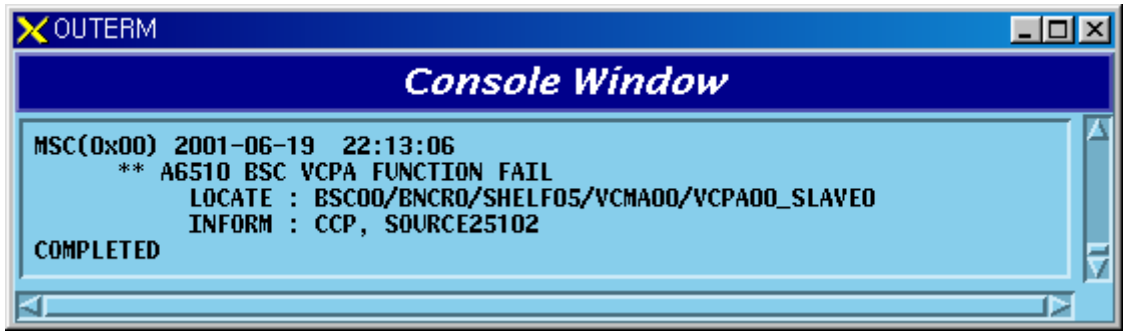



Fig. 5.1-152 VCB VCPA Function Fail

2) When VCPA board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-19  22:13:24
      ** A6500 BSC VCPA BOARD DELETION
           LOCATE : BSC00/BNCR0/SHELF05/VCMA00/VCPA00
           INFORM : CCP, SOURCE25101
COMPLETED
```

Fig. 5.1-153 VCB VCPA Board Open Fail

#### 5.1.1.2.5.3. VLIA Board

1) When a functional board occurs on VLIA board

```
OUTERM
Console Window
MSC(0x00) 2001-06-19  22:14:09
      ** A6530 BSC VLIA FUNCTION FAIL
           LOCATE : BSC00/BNCR0/SHELF05/VCMA00/VLIA00
           INFORM : CCP, SOURCE25150
COMPLETED
```

Fig. 5.1-154 VCB VLIA Function Fail

2) When VLIA board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-19  22:14:25
      ** A6520 BSC VLIA BOARD DELETION
           LOCATE : BSC00/BNCR0/SHELF05/VCMA00/VLIA00
           INFORM : CCP, SOURCE25149
COMPLETED
```

Fig. 5.1-155 VCB VLIA Board Open Fail

3) When Remote Error occurs in the link between VLIA and MSC

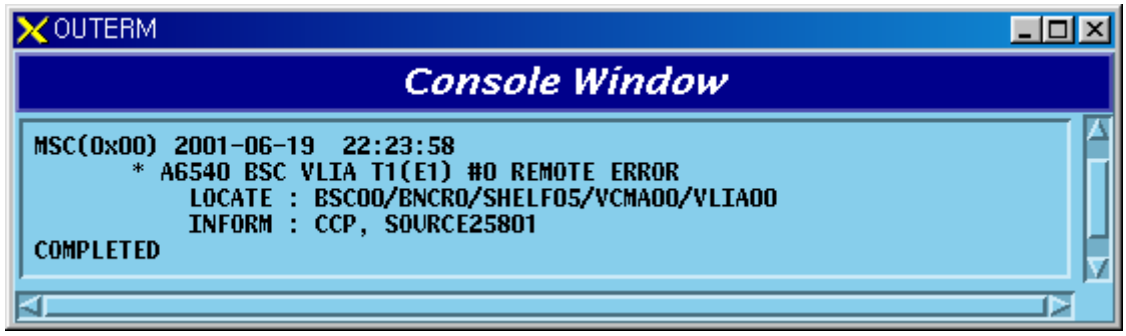



Fig. 5.1-156 VCB VLIA Link Fail(Remote Error)

4) When Local Error occurs in the link between VLIA and MSC

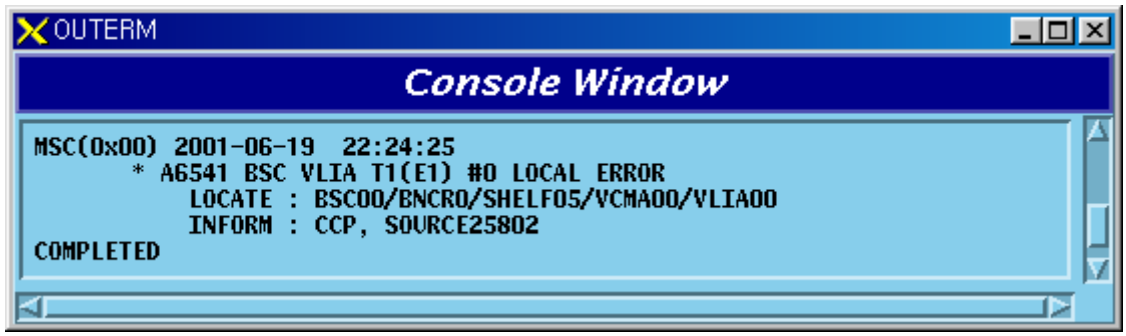



Fig. 5.1-157 VCB VLIA Link Fail(Local Error)

5) When SLIP Error occurs in the link between VLIA and MSC

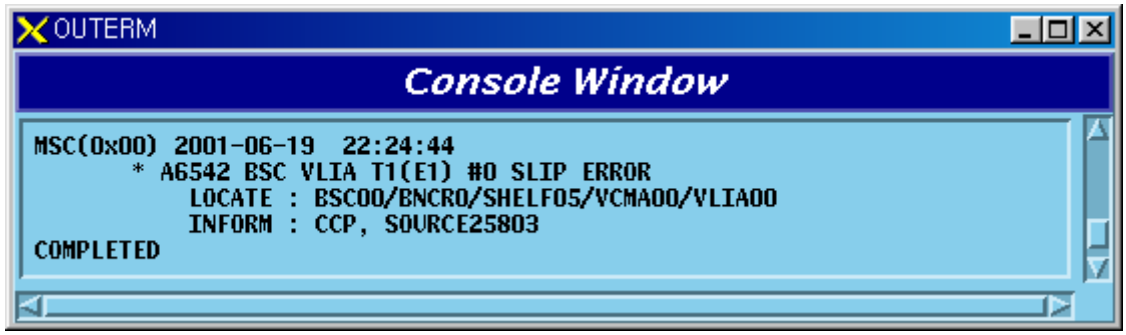



Fig. 5.1-158 VCB VLIA Link Fail(SLIP Error)

6) When BIT Error occurs in the link between VLIA and MSC

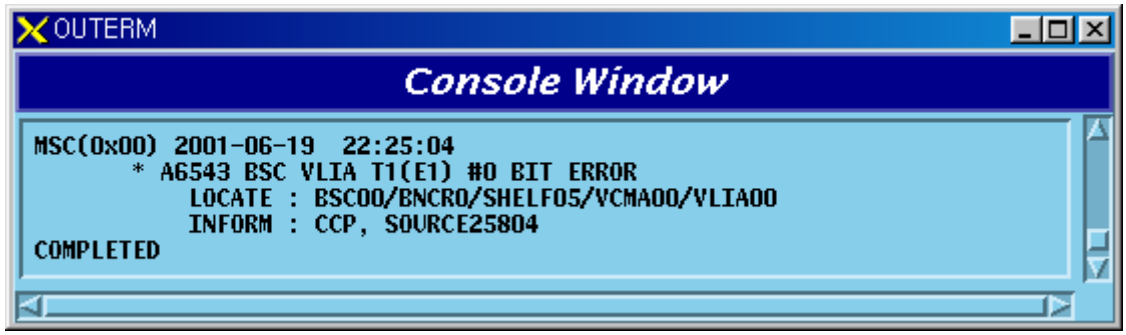


Fig. 5.1-159 VCB VLIA Link Fail(BIT Error)

#### 5.1.1.2.5.4. PRI

1) When functional faults occur on PRI board

```
OUTERM
Console Window
MSC(0x00) 2001-06-19  22:14:59
      ** A6040 BSC VCBU POWER FAIL
           LOCATE : BSC00/BNCR0/SHELF05/PSU
           INFORM : POWER_FAIL, SOURCE25003
COMPLETED
```

Fig. 5.1-160 VCB PRI Power Fail

2) When PRI board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-19  22:15:28
      ** A6040 BSC VCBU POWER FAIL
           LOCATE : BSC00/BNCR0/SHELF05/PSU
           INFORM : POWER_OPEN, SOURCE25002
COMPLETED
```

Fig. 5.1-161 VCB PRI Power Open Fail

#### 5.1.1.2.5.5. Others

1) When VCB Shelf Alarm Cable is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-19  22:17:45
       * A4600 BSC ALARM CABLE OPEN
           LOCATE : BSC00/BNCR0/SHELF05/VCBU_00
           INFORM : CCP, SOURCE25001
COMPLETED
```

Fig. 5.1-162 VCB Alarm Cable Open

2) When Clock Cable is removed from CCP

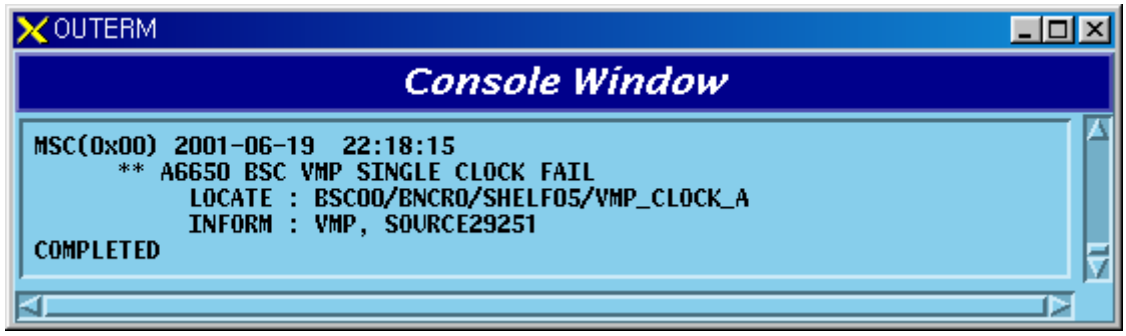



Fig. 5.1-163 VCB VMP Clock Cable Open Fail

3) When SAID board is removed

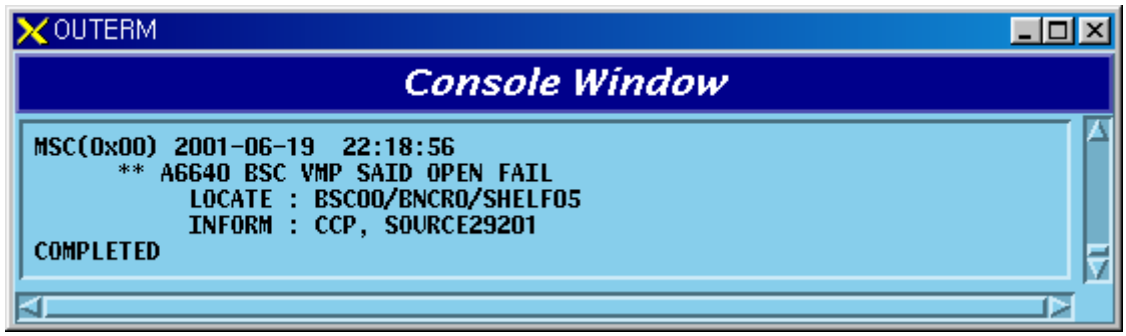



Fig. 5.1-164 VCB SAID Board Open

#### 5.1.1.2.6. FAN and Others

1) When a problem occurs in BSC FAN

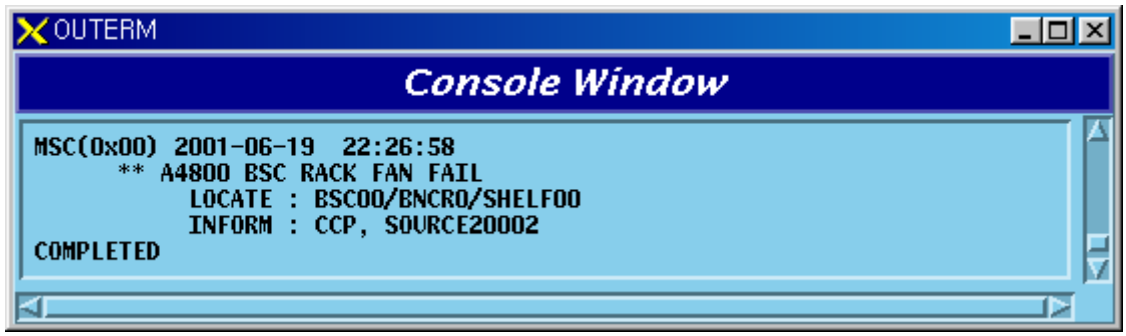



Fig. 5.1-165 VCB Rack FAN Fail

### 5.1.1.3. BTS Occurrence Alarm Message

#### 5.1.1.3.1. BSPB

##### 5.1.1.3.1.1. BSP Processor

1) When A-Side of the duplicated BSP is normal and functional problems occur on the B-Side board

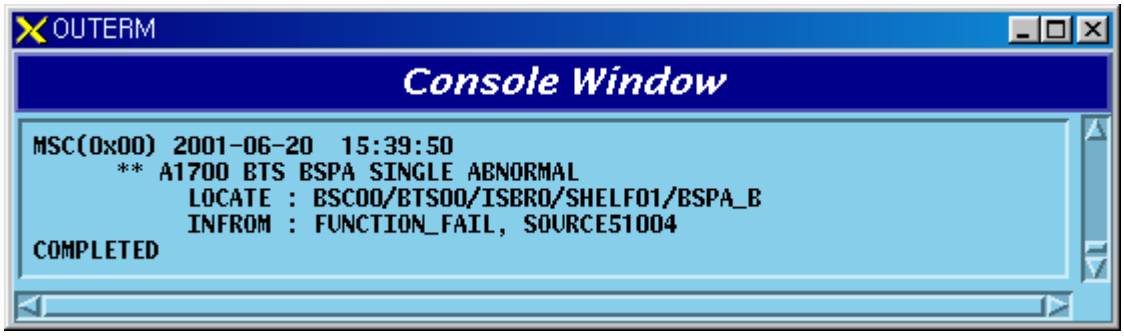



Fig. 5.1-166 BSPB BSP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated BSP has a functional problem

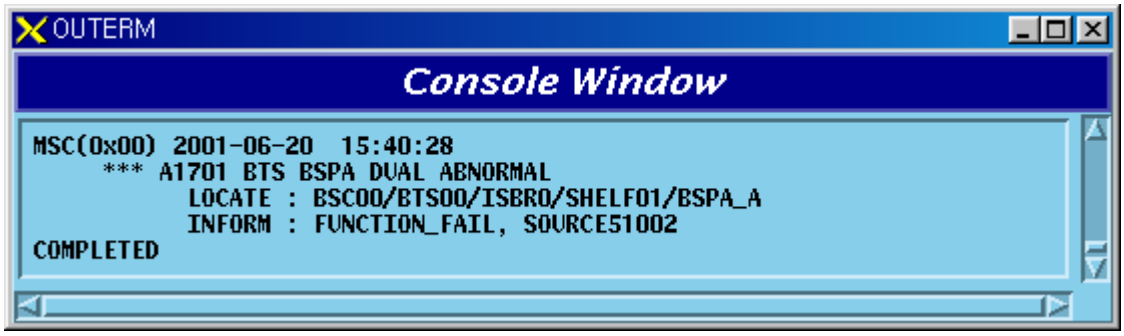



Fig. 5.1-167 BSPB BSP Dual Function Fail

3) When A-Side of the duplicated BSP is normal and B-Side board is removed

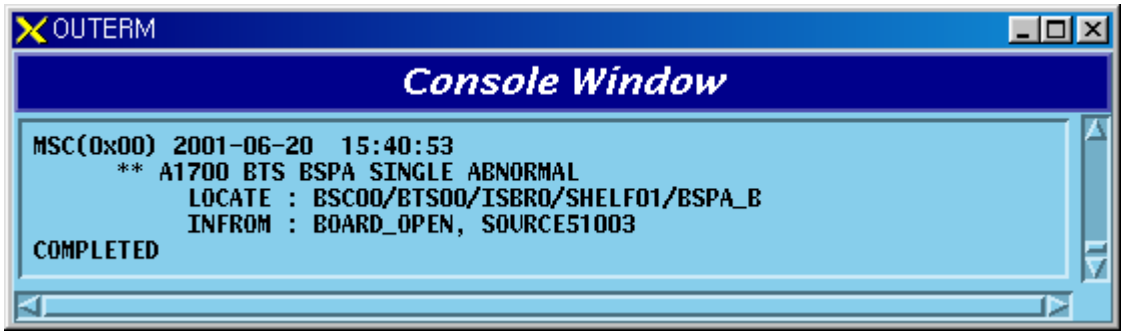



Fig. 5.1-168 BSPB BSP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated BSP is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  15:41:14
     *** A1701 BTS BSPA DUAL ABNORMAL
           LOCATE : BSC00/BTS00/ISBR0/SHELF01/BSPA_A
           INFORM : BOARD_OPEN, SOURCE51001
COMPLETED
```

Fig. 5.1-169 BSPB BSP Dual Board Open Fail

#### 5.1.1.3.1.2. PRI within BSPB, BANB Unit

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  15:43:07
      ** A2000 BTS BSPU SINGLE POWER FAIL
           LOCATE : BSC00/BTS00/ISBR0/SHELF01/PSU_B
           INFORM : POWER_FAIL, SOURCE31004
COMPLETED
```

Fig. 5.1-170 BSPB PRI Single Power Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PRI has a functional problem

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  15:43:30
     *** A2001 BTS BSPU DUAL POWER FAIL
           LOCATE : BSC00/BTS00/ISBR0/SHELF01/PSU_A
           INFORM : POWER_FAIL, SOURCE31002
COMPLETED
```

Fig. 5.1-171 BSPB PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B –Side board is removed

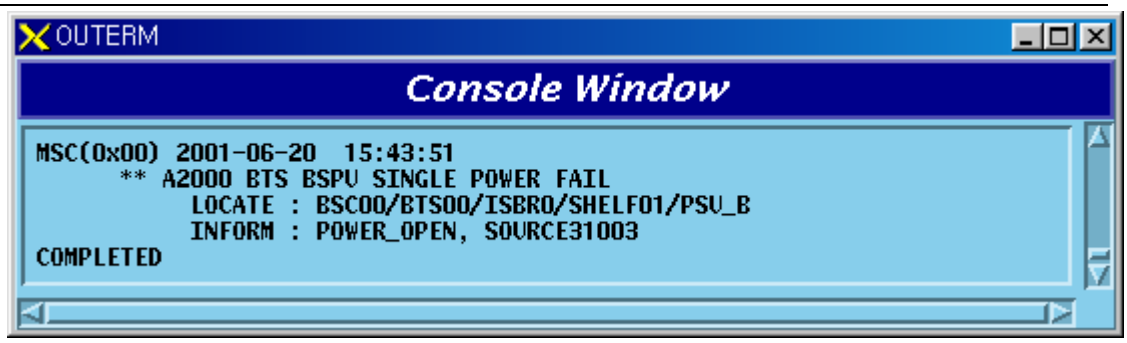



Fig. 5.1-172 BSPB PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

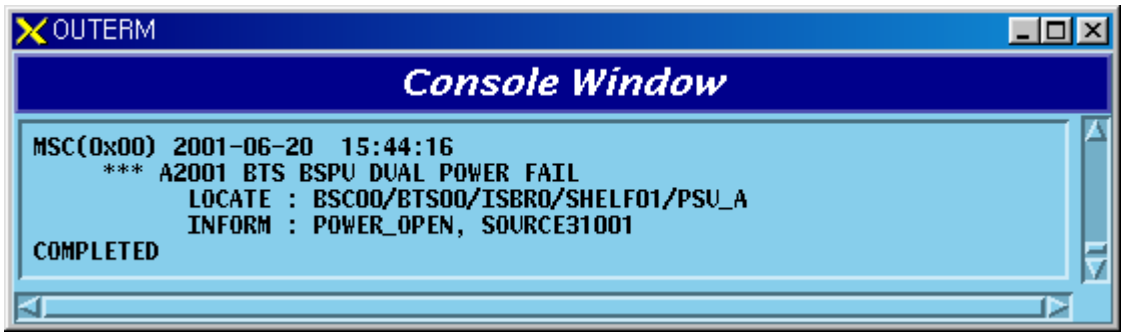



Fig. 5.1-173 BSPB PRI Dual Power Open Fail

#### 5.1.1.3.1.3. Others

1) When BSP does not receive 1pps Clock from GPSD normally

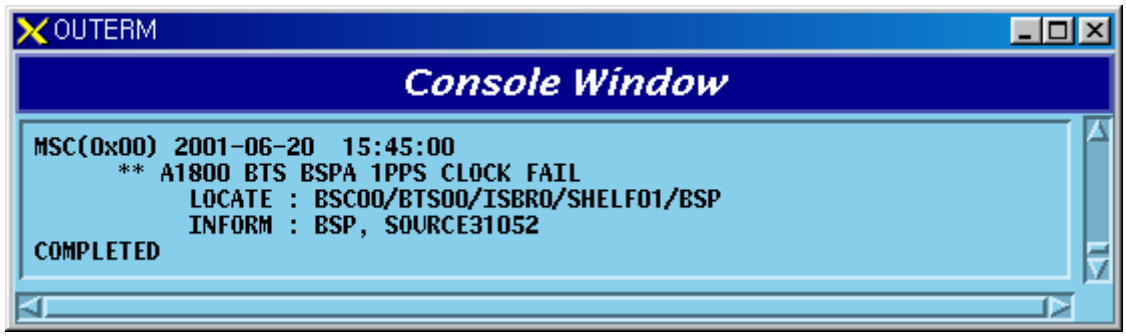



Fig. 5.1-174 BSPB BSP 1PPS Clock Fail

2) When BSP does not receive 10MHz Clock from GPSD normally

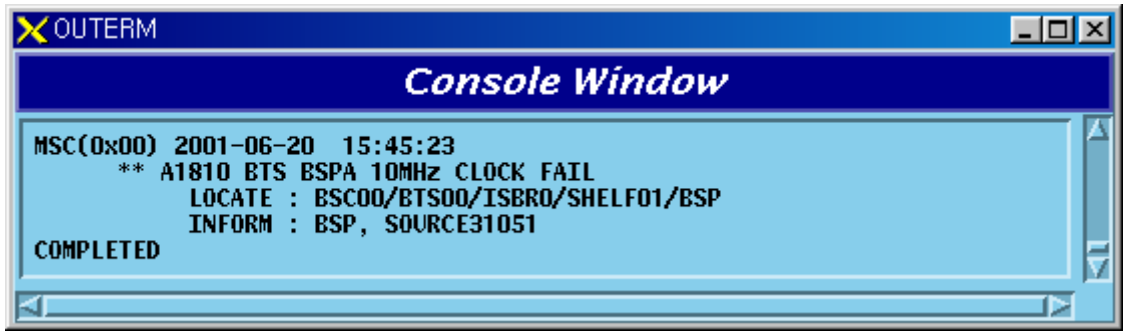
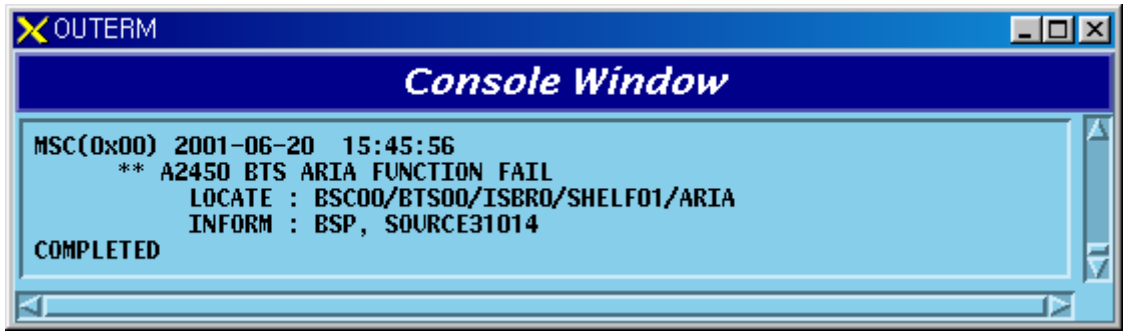



Fig. 5.1-175 BSPB BSP 10MHz Clock Fail

### 5.1.1.3.2. BANB

#### 5.1.1.3.2.1. ARIA Board

1) When functional faults occur on ARIA board




Fig, 5.1-176 BANB ARIA Function Fail

2) When ARIA board is removed

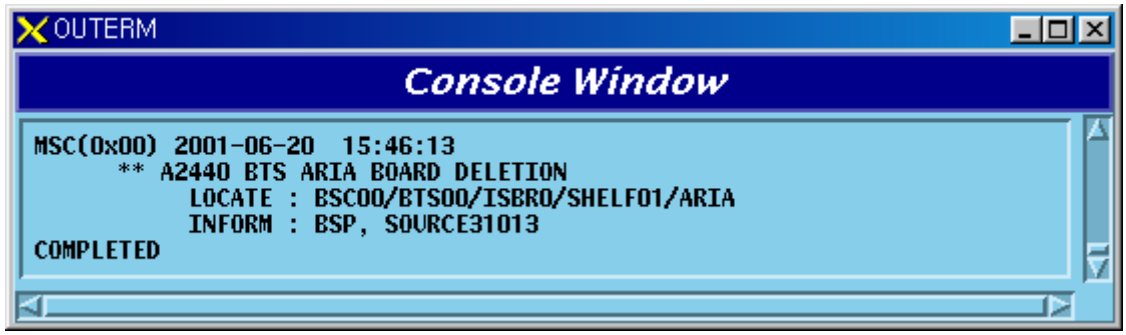



Fig. 5.1-177 BANB ARIA Board Open Fail

#### 5.1.1.3.2.2. BPPA Board

1) When functional faults occur on BPPA board

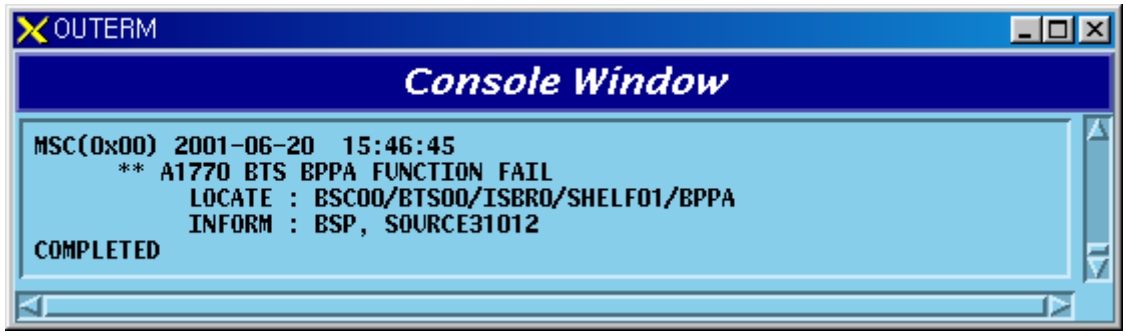



Fig. 5.1-178 BANB BPPA Function Fail

2) When BPPA board is removed

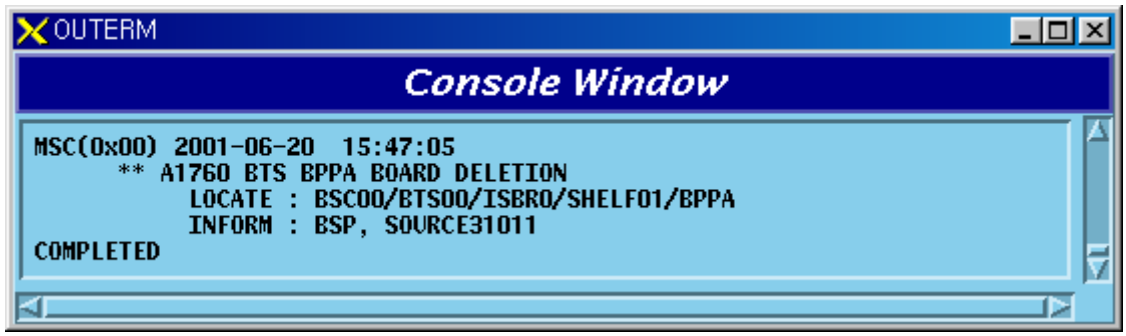



Fig. 5.1-179 BANB BPPA Board Open Fail

#### 5.1.1.3.2.3. BCRA Board

1) When A-Side of the duplicated BCRA is normal and functional problems occur on the B-Side board

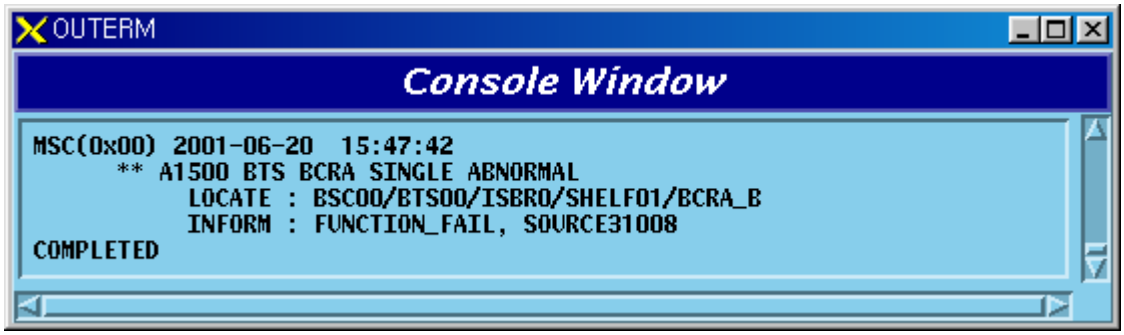



Fig. 5.1-180 BANB BCRA Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated BCRA has a functional problem

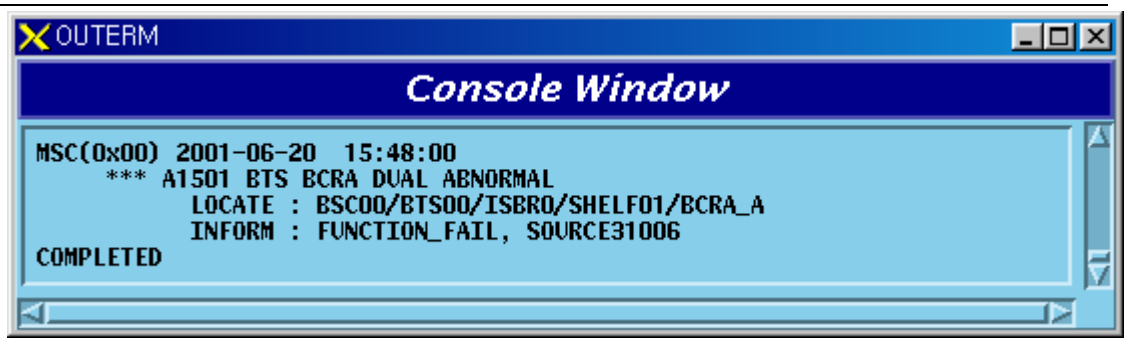



Fig. 5.1-181 BANB BCRA Dual Function Fail

3) When A-Side of the duplicated BCRA is normal and B-Side board is removed

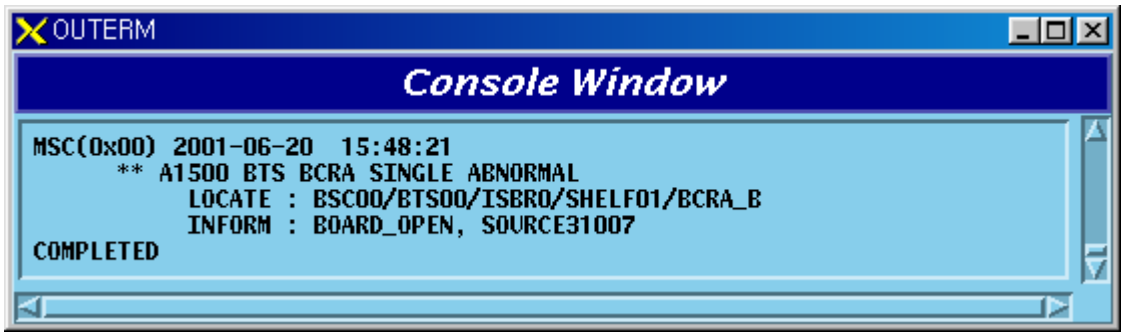



Fig. 5.1-182 BANB BCRA Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated BCRA is removed.

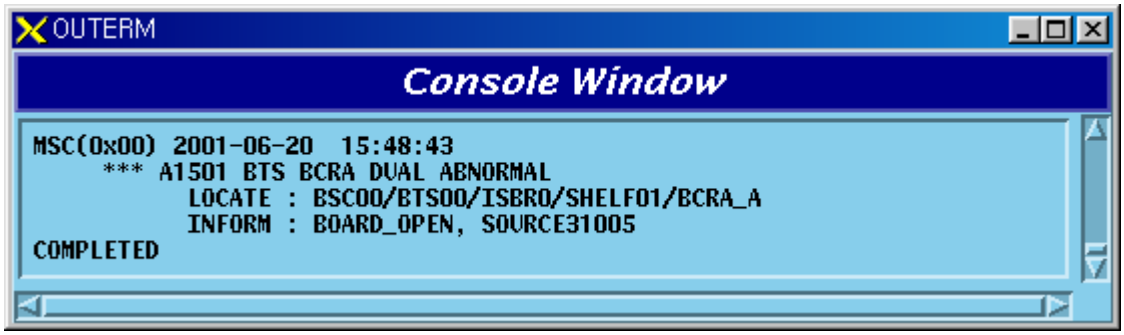



Fig. 5.1-183 BANB BCRA Dual Board Open Fail

#### 5.1.1.3.2.4. LICA Board

1) When functional faults occur on LICA board

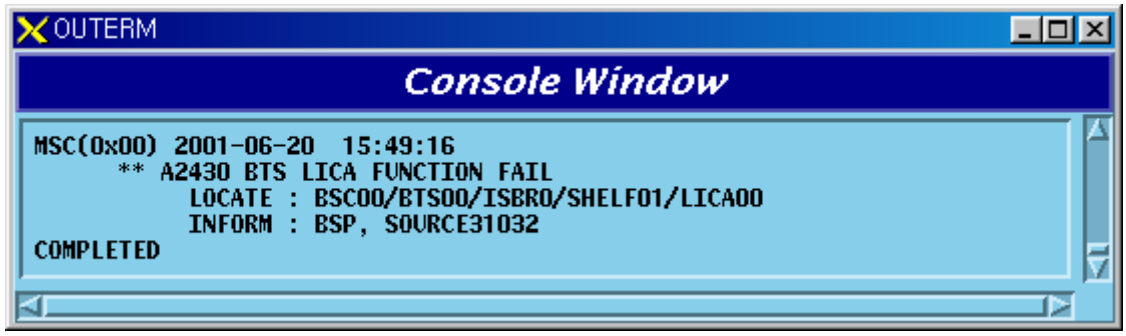



Fig. 5.1-184 BANB LICA Function Fail

2) When LICA board is removed

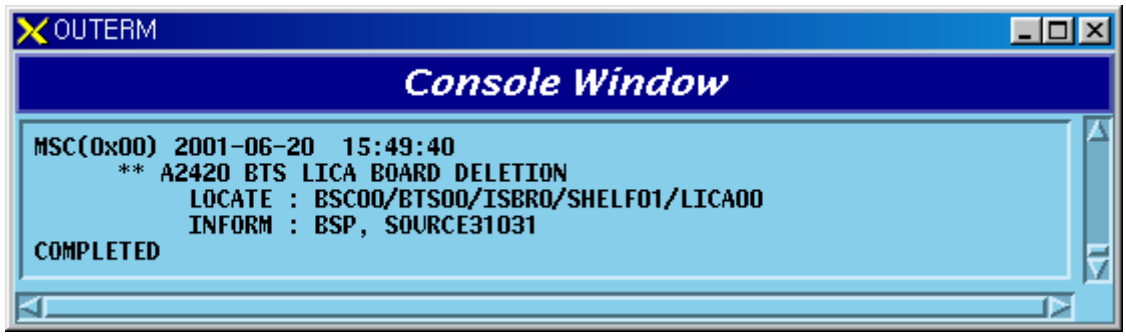



Fig. 5.1-185 BANB LICA Board Fail

### 5.1.1.3.3. BSTB

#### 5.1.1.3.3.1. BADA Board

1) When BADA Board Alarm Cable is removed

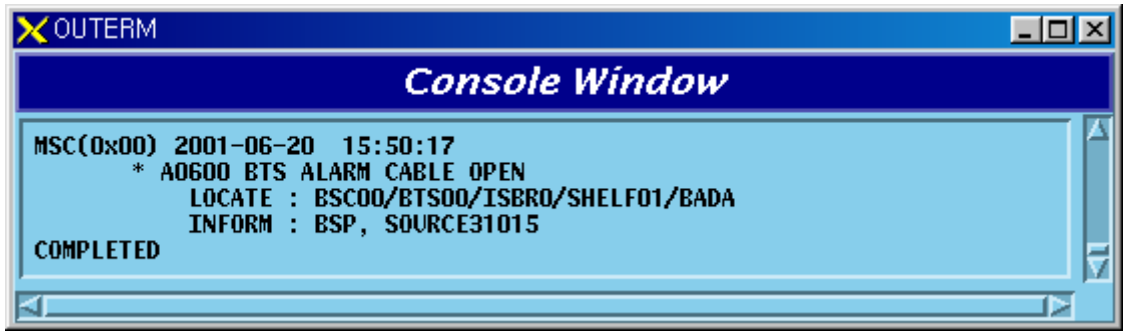



Fig. 5.1-186 BSTB BADA Alarm Cable Open

2) When a problem occurs in BADA Board power

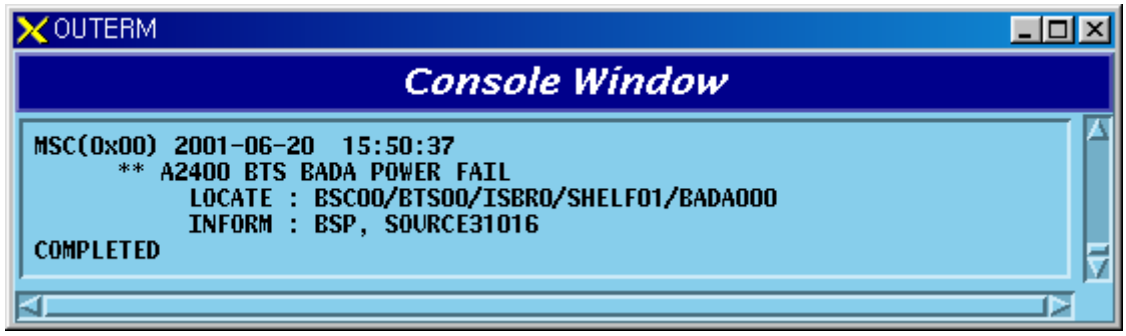



Fig. 5.1-187 BSTB BADA Power Fail

3) When functional faults occur on BADA board

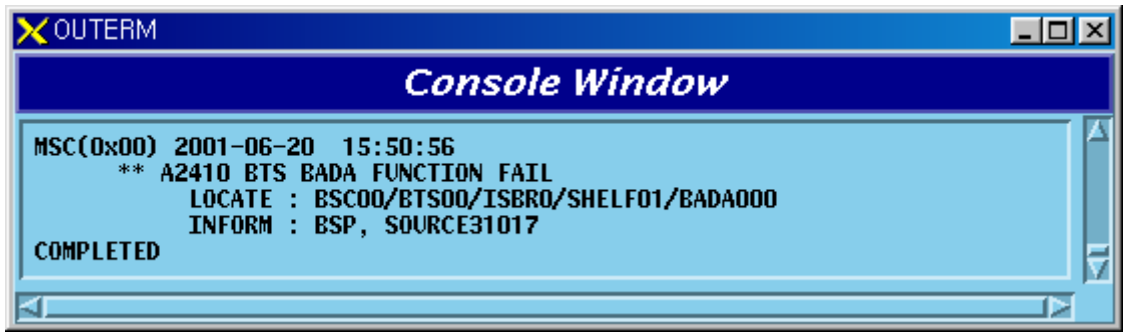



Fig. 5.1-188 BSTB BADA Function Fail

### 5.1.1.3.4. RISB

#### 5.1.1.3.4.1. RISA Board

1) When RISA Board Alarm Cable is removed

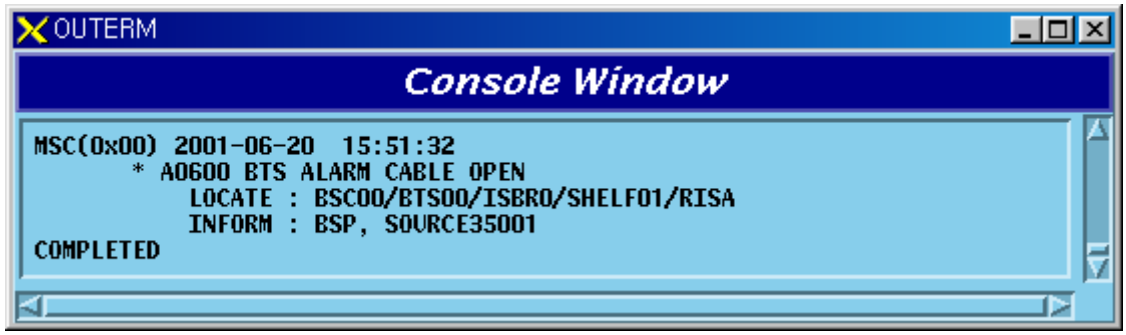



Fig. 5.1-189 RISB RISA Alarm Cable Open

2) When a problem occurs in RISA board power

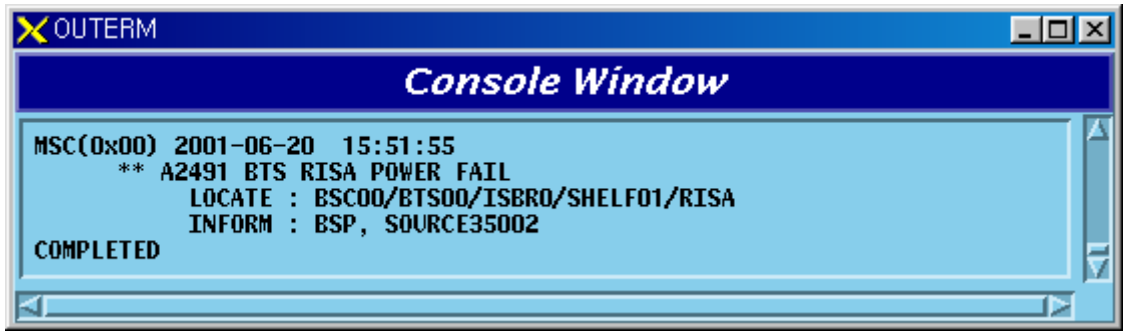



Fig. 5.1-190 RISB RISA Power Fail

3) When functional faults occur on RISA board

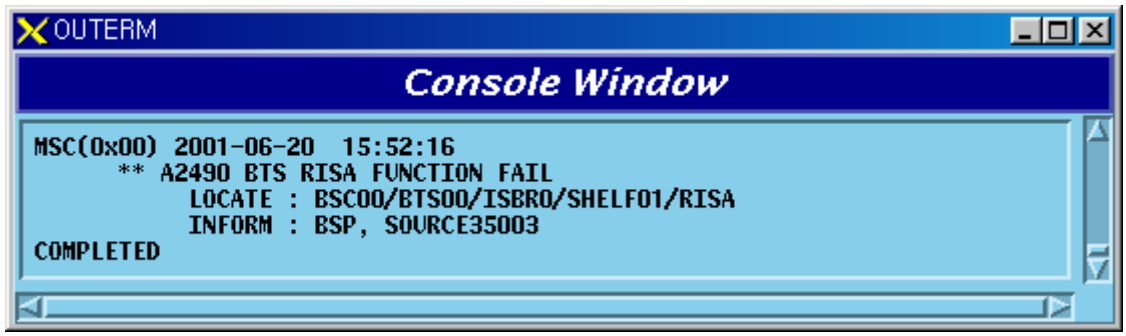



Fig. 5.1-191 RISB RISA Function Fail

## 5.1.1.3.5. BOTB

### 5.1.1.3.5.1. BOTA Board

1) When BOTA Board Alarm Cable is removed

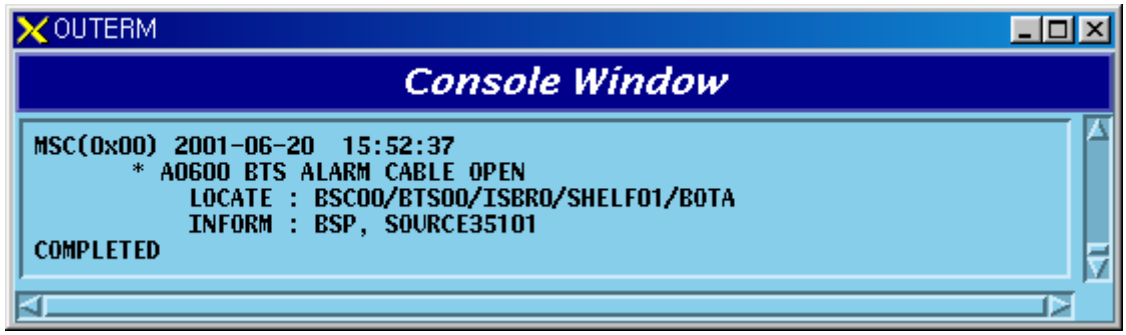



Fig. 5.1-192 BOTB BOTA Alarm Cable Open

2) When a problem occurs in BOTA board power

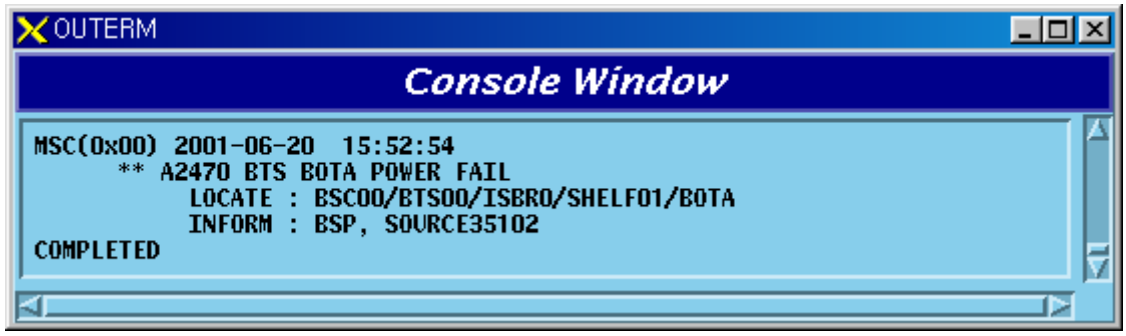



Fig. 5.1-193 BOTB BOTA Power Fail

3) When functional faults occur on BOTA board

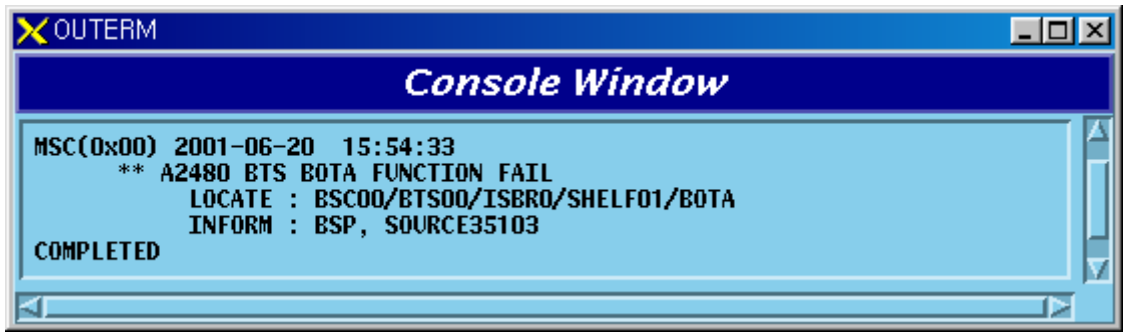



Fig. 5.1-194 BOTB BOTA Board Open Fail

## 5.1.1.3.6. BTGB

### 5.1.1.3.6.1. GPS-R Board

1) When A-Side of the duplicated GPSR is normal and functional problems occur on B –Side board

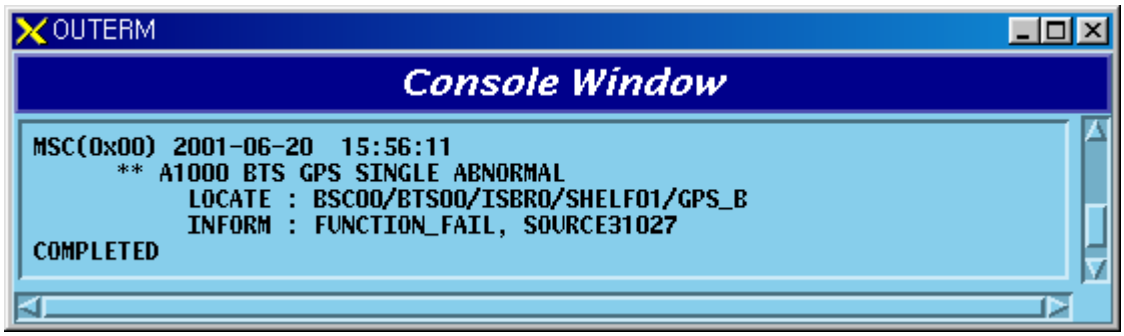



Fig. 5.1-195 BTGB GPS Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated GPSR has a functional problem

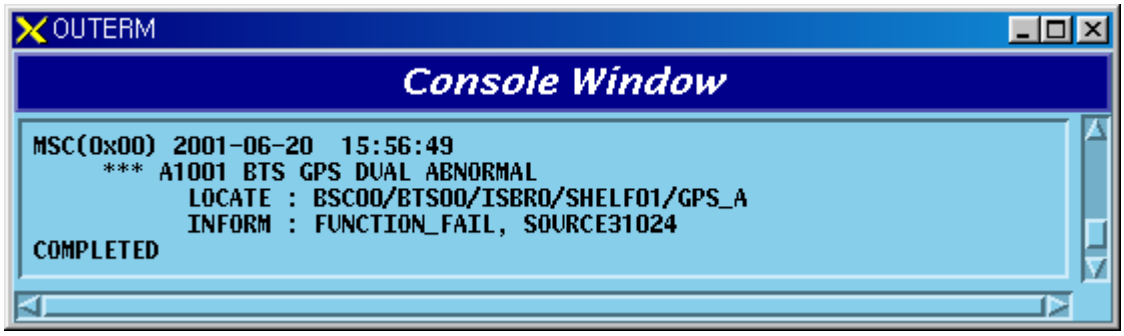



Fig. 5.1-196 BTGB GPS Dual Function Fail

3) When A-Side of the duplicated GPSR is normal and faults occur in B-Side power

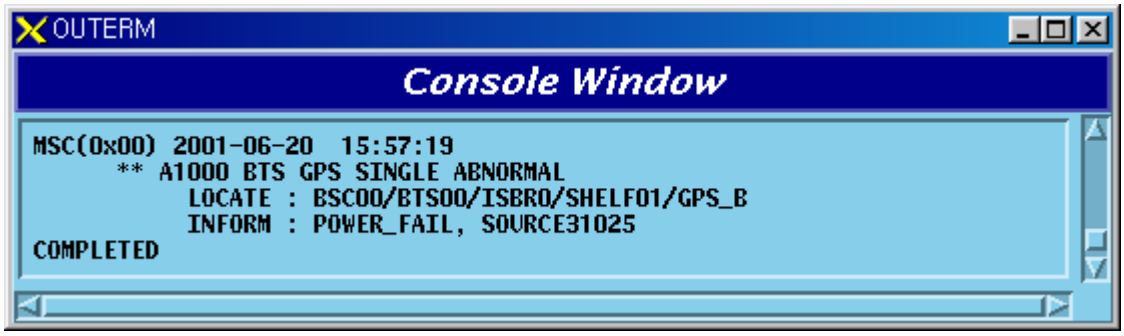



Fig. 5.1-197 BTGB GPS Single Power Fail

4) When a problem occurs in A-Side power after B-Side power of the duplicated GPSR has a problem

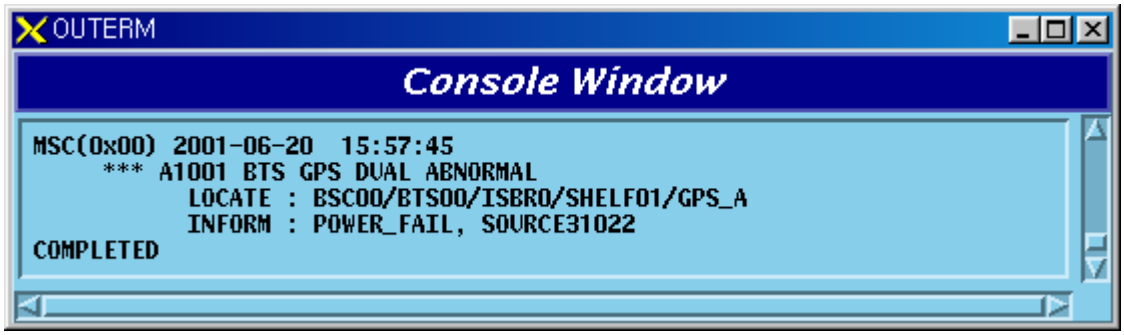



Fig. 5.1-198 BTGB GPS Dual Power Fail

5) When A-Side of the duplicated GPSR is normal and B-Side board is removed

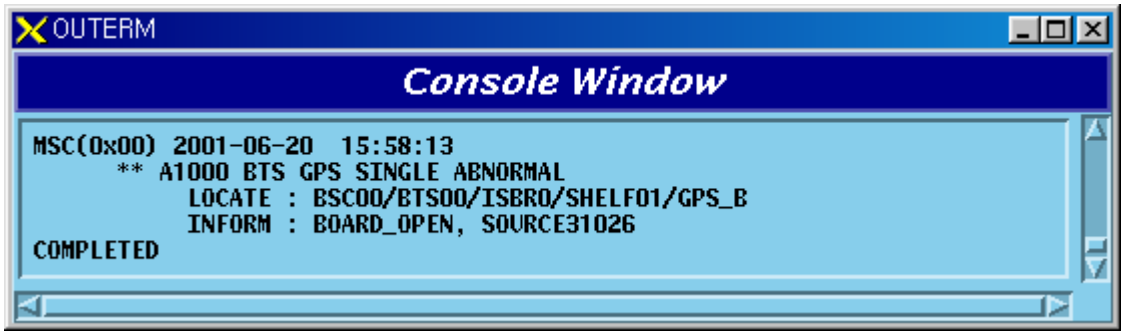



Fig. 5.1-199 BTGB GPS Single Board Open Fail

6) When A-Side is removed after B-Side of the duplicated GPSR is removed

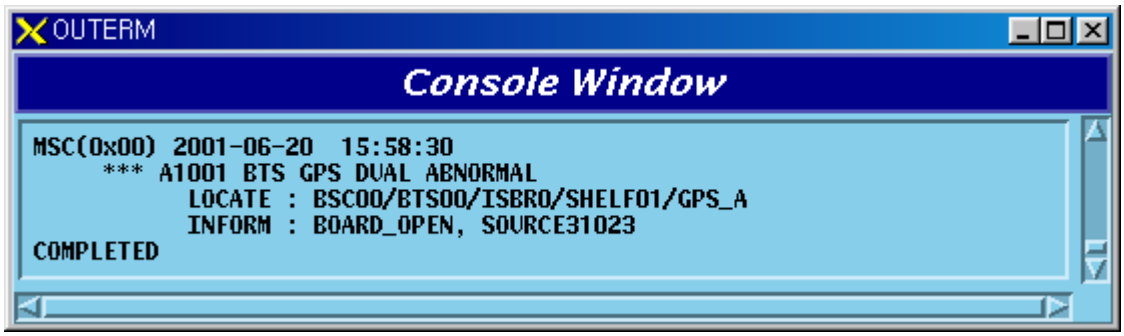



Fig. 5.1-200 BTGB GPS Dual Board Open Fail

7) When GPSR Control Cable is removed

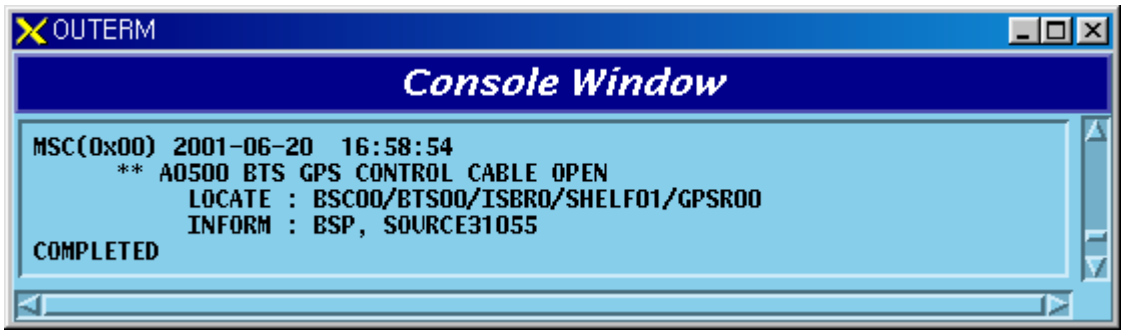



Fig. 5.1-201 BTGB GPS Control Cable Open

8) When GPSR Alarm Cable is removed

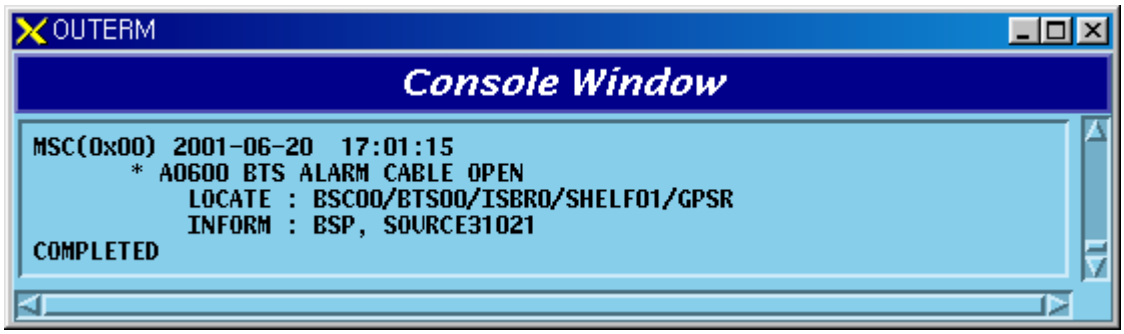


Fig. 5.1-202 BTGB GPS Alarm Cable Open

### 5.1.1.3.7. DBPB

#### 5.1.1.3.7.1. DBPA Board

1) When functional faults occur on DBPA board

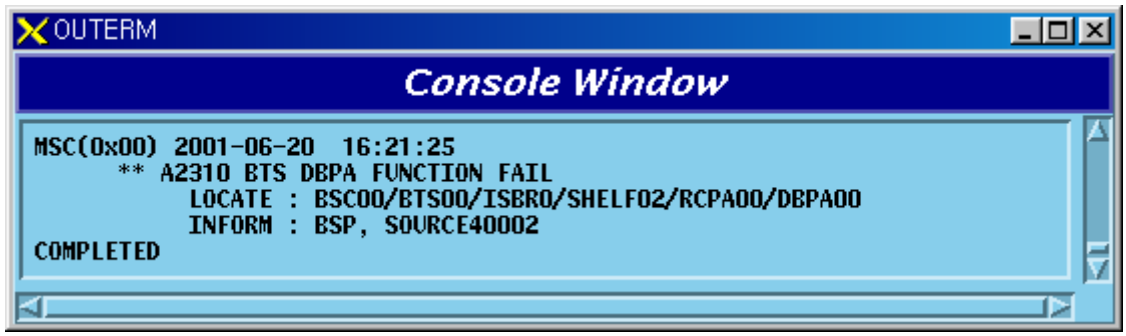



Fig. 5.1-203 DBPB DBPA Function Fail

2) When DBPA board is removed

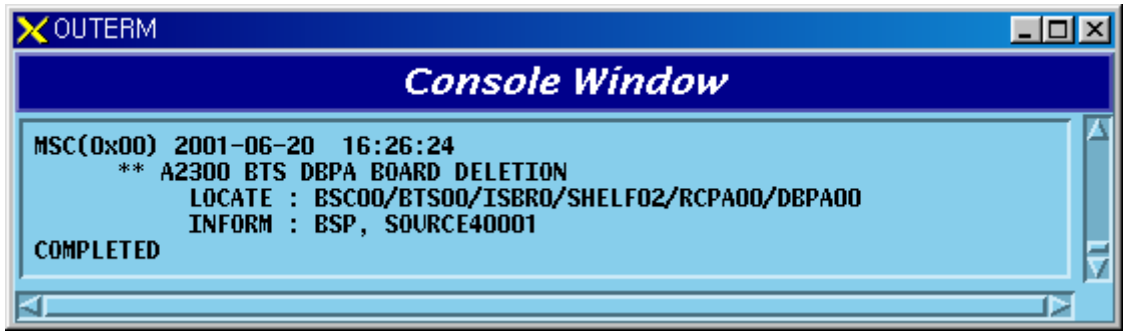



Fig. 5.1-204 DBPB DBPA Board Open Fail

### 5.1.1.3.8. RCCB

#### 5.1.1.3.8.1. RCP Processor

1) When A-Side of the duplicated RCP is normal and functional problems occur on the B-Side board

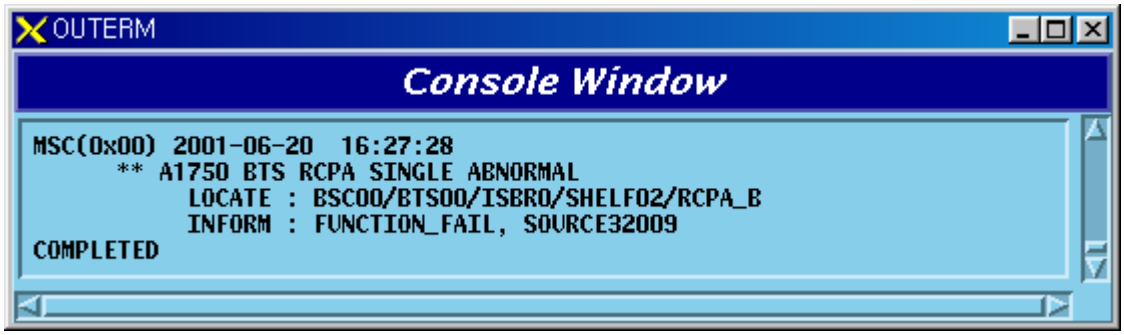



Fig. 5.1-205 RCCB RCP Single Function Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated RCP has a functional problem

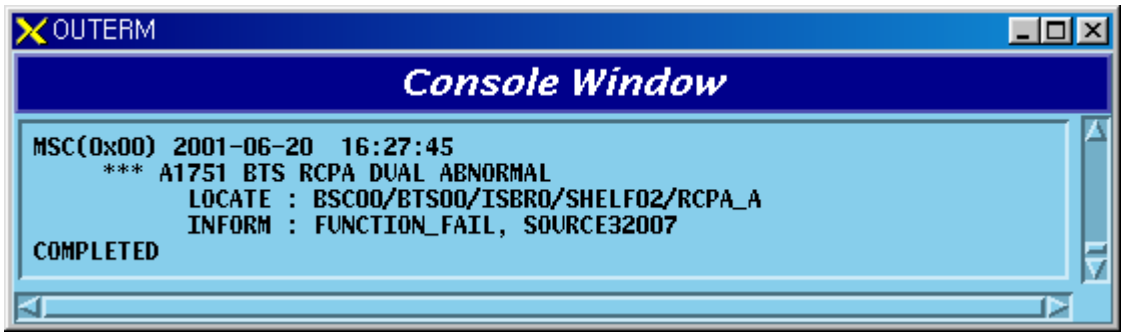



Fig. 5.1-206 RCCB RCP Dual Function Fail

3) When A-Side of the duplicated RCP is normal and B-Side board is removed

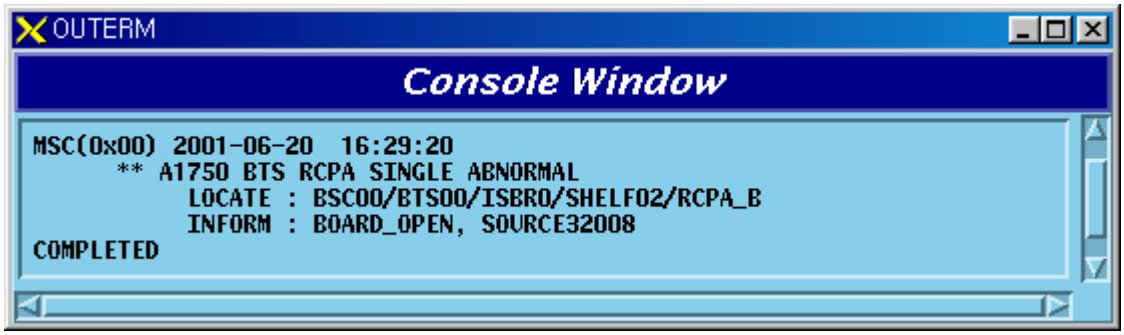



Fig. 5.1-207 RCCB RCP Single Board Open Fail

4) When A-Side is removed after B-Side of the duplicated RCP is removed

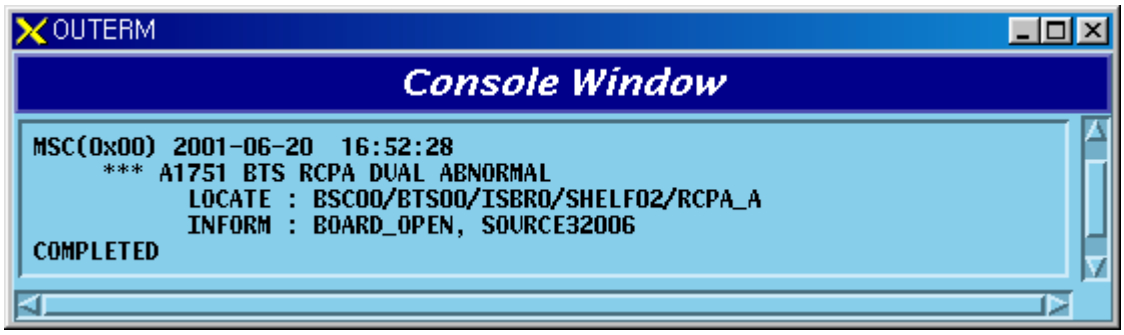



Fig. 5.1-208 RCCB RCP Dual Board Open Fail

#### 5.1.1.3.8.2. BUDA Board

1) When functional faults occur on BUDA board

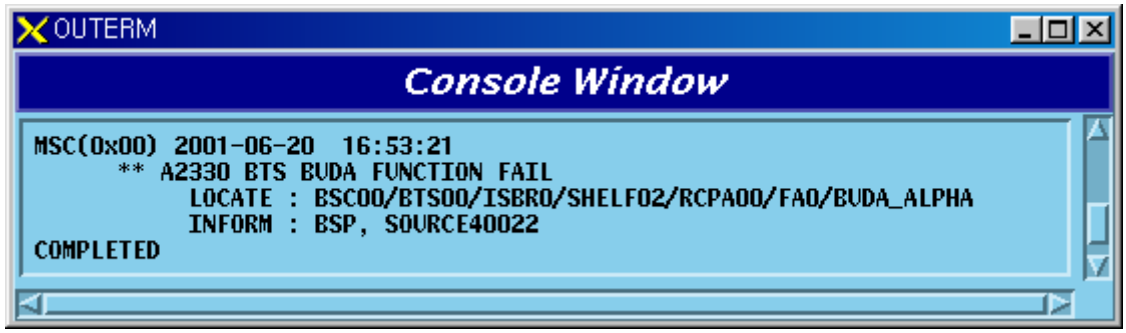



Fig. 5.1-209 RCCB BUDA Function Fail

2) When BUDA board is removed

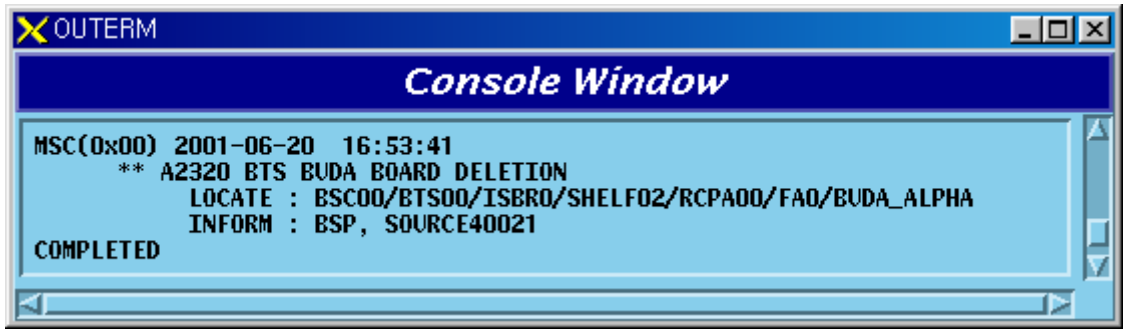



Fig. 5.1-210 RCCB BUDA Board Open Fail

#### 5.1.1.3.8.3. PACA Board

1) When functional faults occur on PACA board

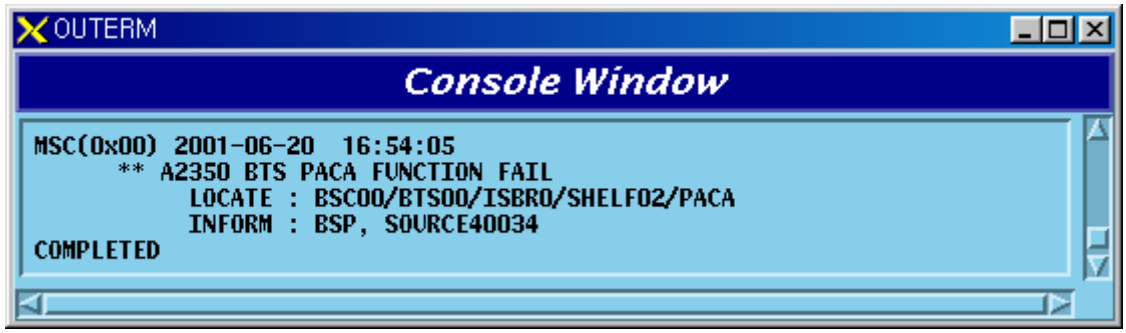



Fig. 5.1-211 RCCB PACA Function Fail

2) When PACA board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  16:54:20
      ** A2340 BTS PACA BOARD DELETION
           LOCATE : BSC00/BTS00/ISBR0/SHELF02/PACA
           INFORM : BSP, SOURCE40033
COMPLETED
```

Fig. 5.1-212 RCCB PACA Board Open Fail

#### 5.1.1.3.8.4. PRI Board for Providing DBPB/RCCB UNIT Power

1) When A-Side of the duplicated PRI is normal and functional problems occur on the B-Side board

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  16:55:33
      ** A2010 BTS RCBU SINGLE POWER FAIL
           LOCATE : BSC00/BTS00/ISBR0/SHELF02/PSU_B
           INFORM : POWER_FAIL, SOURCE32005
COMPLETED
```

Fig. 5.1-213 DBPB/RCCB PRI Single Power Fail

2) When functional problems occur on the A-Side after B-Side of the duplicated PRI has a functional problem

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  16:55:51
     *** A2011 BTS RCBU DUAL POWER FAIL
           LOCATE : BSC00/BTS00/ISBR0/SHELF02/PSU_A
           INFORM : POWER_FAIL, SOURCE32003
COMPLETED
```

Fig. 5.1-214 DBPB/RCCB PRI Dual Power Fail

3) When A-Side of the duplicated PRI is normal and B-Side board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  16:56:10
      ** A2010 BTS RCBU SINGLE POWER FAIL
           LOCATE : BSC00/BTS00/ISBR0/SHELF02/PSU_B
           INFORM : POWER_OPEN, SOURCE32004
COMPLETED
```

Fig. 5.1-215 DBPB/RCCB PRI Single Power Open Fail

4) When A-Side is removed after B-Side of the duplicated PRI is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  16:56:30
     *** A2011 BTS RCBU DUAL POWER FAIL
           LOCATE : BSC00/BTS00/ISBR0/SHELF02/PSU_A
           INFORM : POWER_OPEN, SOURCE32002
COMPLETED
```

Fig. 5.1-216 DBPB/RCCB PRI Dual Power Open Fail

#### 5.1.1.3.8.5. Others

1) When DBPB/RCCB UNIT Alarm Cable is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  16:59:17
       * A0600 BTS ALARM CABLE OPEN
           LOCATE : BSC00/BTS00/ISBR0/SHELF02/RCP_00
           INFORM : BSP, SOURCE32001
COMPLETED
```

Fig. 5.1-217 DBPB/RCCB Alarm Cable Open

### 5.1.1.3.9. LPAB

#### 5.1.1.3.9.1. LPAU Board

1) When LPAB Alarm Cable is removed

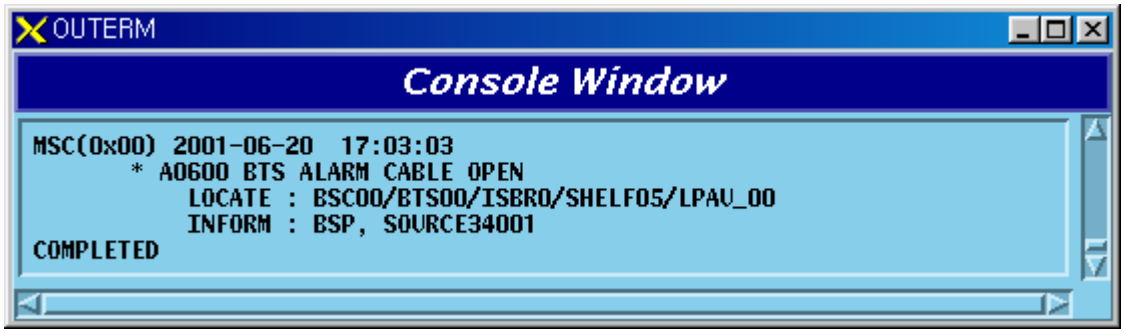



Fig. 5.1-218 LPAB Alarm Cable Open

2) When functional faults occur in LPAB Combiner

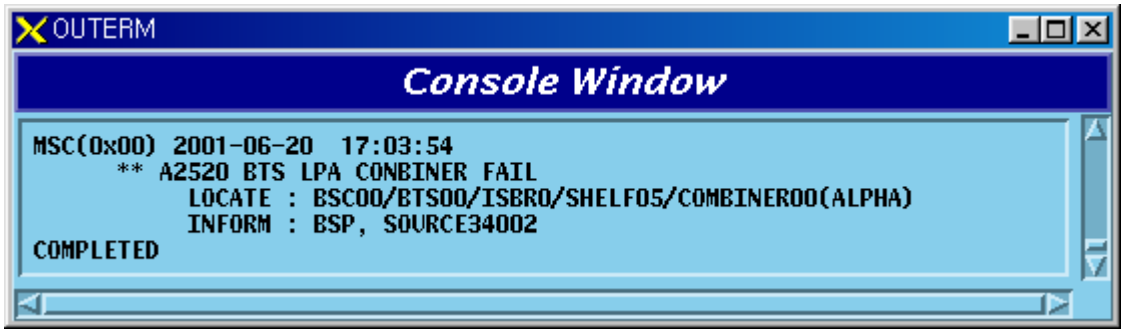



Fig. 5.1-219 LPAB LPA Combiner Fail

3) When faults occur in LPAB Combiner FAN

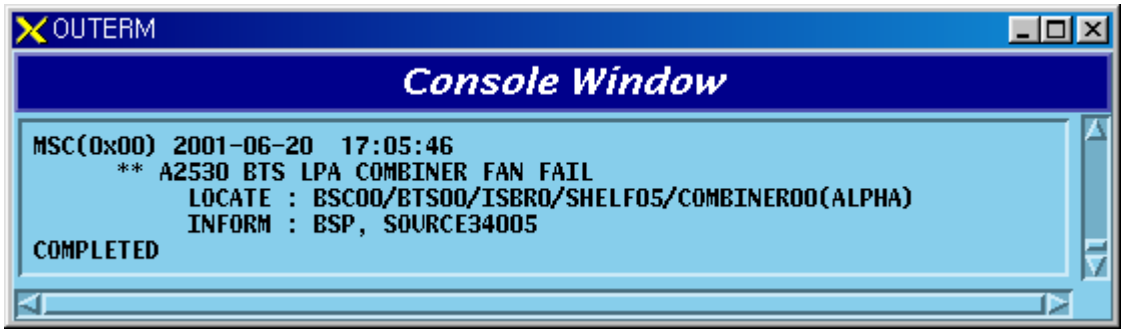



Fig. 5.1-220 LPAB LPA Combiner FAN Fail

4) When LPA board is removed

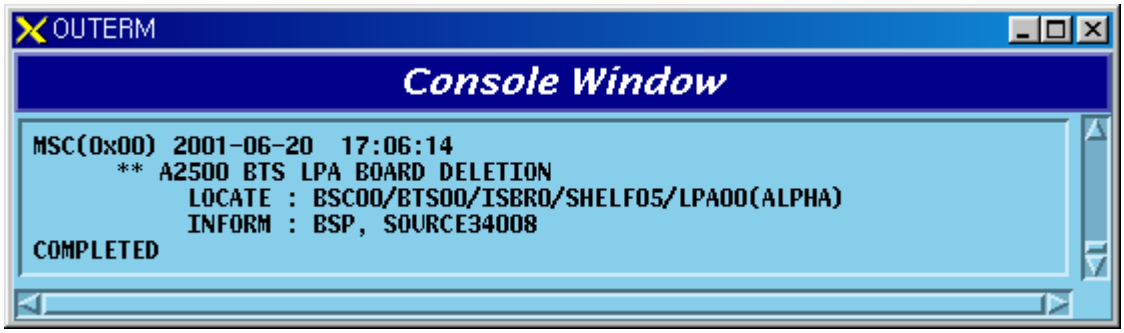


Fig. 5.1-221 LPAB LPA Board Open Fail

5) When functional faults occur on LPA board

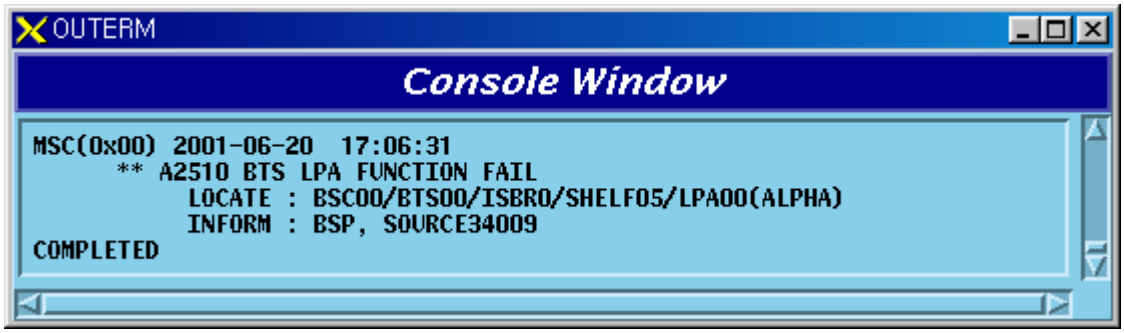



Fig. 5.1-222 LPAB LPA Board Function Fail

6) When DC power of LPA board is unstable

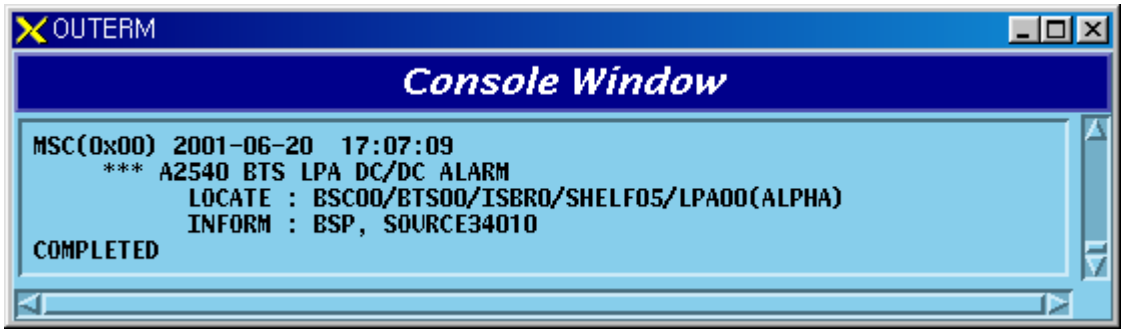



Fig. 5.1-223 LPAB LPA DC/DC Alarm

7) When much RF power is reflected in output end of LPA board

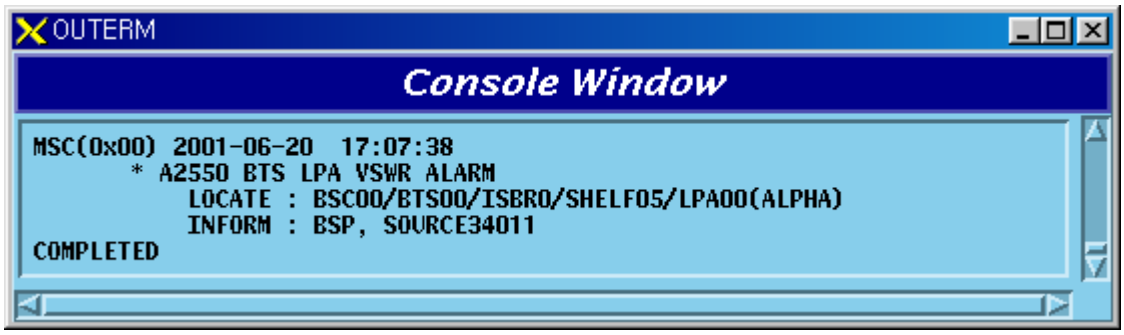



Fig. 5.1-224 LPAB LPA VSWR Alarm

8) When LPA board is disabled

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  17:07:54
      ** A2560 BTS LPA DISABLE ALARM
           LOCATE : BSC00/BTS00/ISBR0/SHELF05/LPA00(ALPHA)
           INFORM : BSP, SOURCE34012
COMPLETED
```

Fig. 5.1-225 LPAB LPA Disable Alarm

9) When input power level of LPA board is high

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  17:08:09
       * A2570 BTS LPA OVER POWER WARNING
           LOCATE : BSC00/BTS00/ISBR0/SHELF05/LPA00(ALPHA)
           INFORM : BSP, SOURCE34013
COMPLETED
```

Fig. 5.1-226 LPAB LPA Over Power Warning

10) When LPA board temperature is high

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  17:08:32
     *** A2580 BTS LPA OVER TEMPERATURE ALARM
           LOCATE : BSC00/BTS00/ISBR0/SHELF05/LPA00(ALPHA)
           INFORM : BSP, SOURCE34014
COMPLETED
```

Fig. 5.1-227 LPAB LPA Over Temperature Alarm

11) When input Power level of LPA board is high

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  17:08:47
     *** A2590 BTS LPA OVER POWER ALARM
           LOCATE : BSC00/BTS00/ISBR0/SHELF05/LPA00(ALPHA)
           INFORM : BSP, SOURCE34015
COMPLETED
```

Fig. 5.1-228 LPAB LPA Over Power Alarm

### 5.1.1.3.10. HPAB

#### 5.1.1.3.10.1. HPA Board

1) When HPAB Alarm Cable is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  17:14:02
      * A0600 BTS ALARM CABLE OPEN
          LOCATE : BSC00/BTS01/ISBR0/SHELF09/HPA_00
          INFORM : BSP, SOURCE40041
COMPLETED
```

Fig. 5.1-229 HPAB HPA Alarm Cable Open

2) When HPA board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  17:14:51
      ** A2700 BTS HPA BOARD DELETION
          LOCATE : BSC00/BTS01/ISBR0/SHELF09/HPA00(ALPHA)
          INFORM : BSP, SOURCE40042
COMPLETED
```

Fig. 5.1-230 HPAB HPA Board Open Fail

3) When functional faults occur on HPA board

```
OUTERM
Console Window
MSC(0x00) 2001-06-20  17:15:35
      ** A2710 BTS HPA POWER FAIL
          LOCATE : BSC00/BTS01/ISBR0/SHELF09/HPA00(ALPHA)
          INFORM : BSP, SOURCE40043
COMPLETED
```

Fig. 5.1-231 HPAB HPA Power Fail

4) When faults occur in HPA Board Power Supply

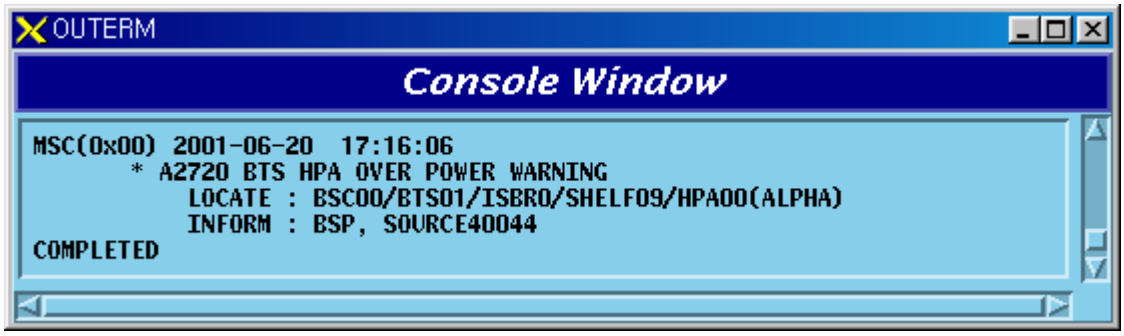



Fig. 5.1-232 HPAB HPA Power Supply Alarm

5) When much RF power is reflected in HPA output end

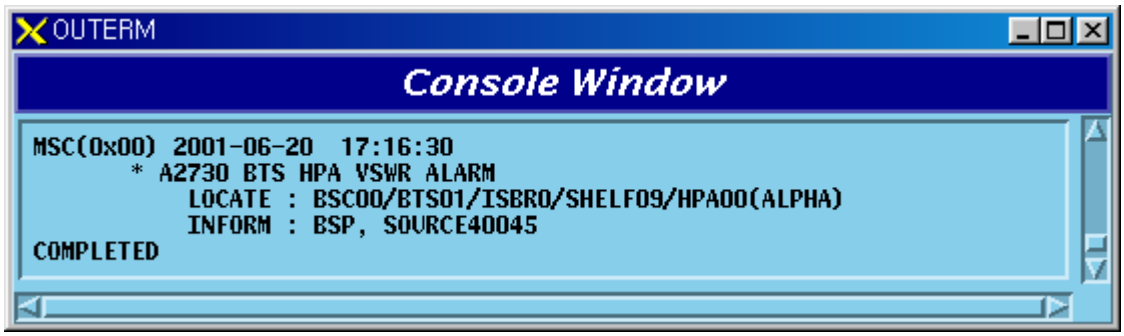



Fig. 5.1-233 HPAB HPA VSWR Alarm

6) When HPA board is disabled

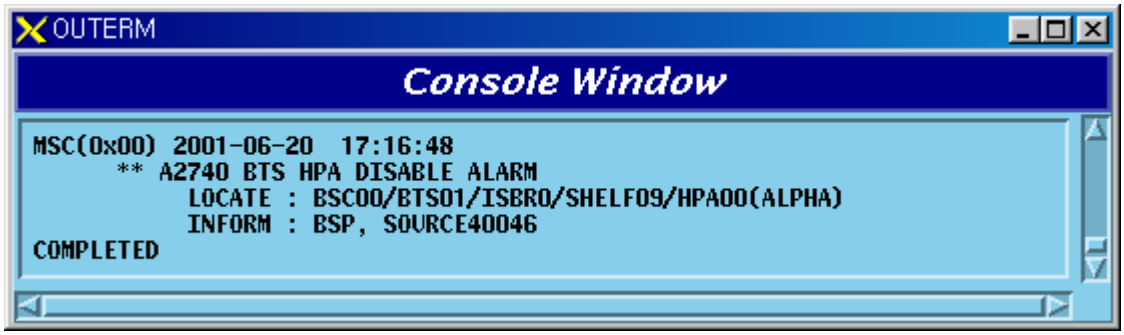



Fig. 5.1-234 HPAB HPA Disable Alarm

7) When HPA board temperature is high

Fig. 5.1-235 HPAB HPA Over Temperature Alarm

8) When input Power level of HPA board is high

Fig. 5.1-236 HPAB HPA Over Power Alarm

### 5.1.1.3.11. CFEB

#### 5.1.1.3.11.1. LNA Board

1) When LNA Alarm Cable board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  09:15:23
      * A0600 BTS ALARM CABLE OPEN
          LOCATE : BSC00/BTS00/ISBR0/SHELF07/LNA_ALPHA/A_PATH
          INFORM : BSP, SOURCE33001
COMPLETED
```

Fig. 5.1-237 CFEB LNA Alarm Cable Open Fail

2) When LNA board is removed

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  09:15:56
     ** A2600 BTS LNA BOARD DELETION
          LOCATE : BSC00/BTS00/ISBR0/SHELF07/LNA_ALPHA/A_PATH
          INFORM : BSP, SOURCE33002
COMPLETED
```

Fig. 5.1-238 CFEB LNA Board Open Fail

3) When functional faults occur on LNA board

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  09:16:15
     ** A2610 BTS LNA FUNCTION FAIL
          LOCATE : BSC00/BTS00/ISBR0/SHELF07/LNA_ALPHA/A_PATH
          INFORM : BSP, SOURCE33003
COMPLETED
```

Fig. 5.1-239 CFEB LNA Function Fail

### 5.1.1.3.12. Environment Alarm

1) When outdoor BTS Environment Alarm Cable is removed

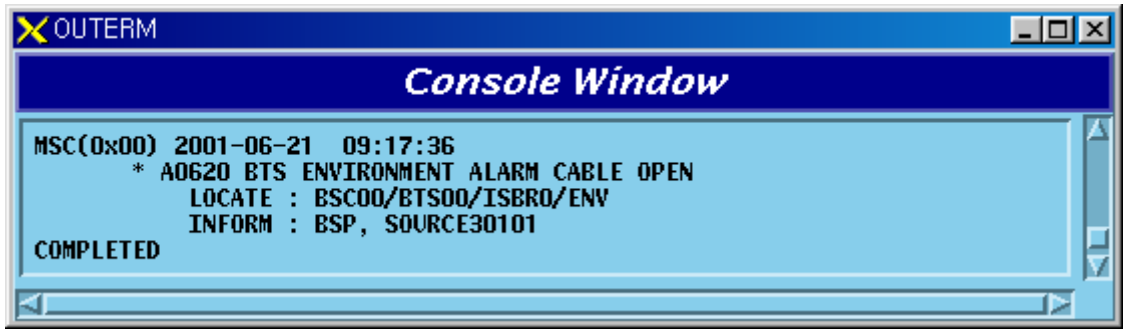



Fig. 5.1-240 Outdoor BTS ENV Alarm Cable Open

2) When outdoor BTS Rectifier Alarm Cable is removed

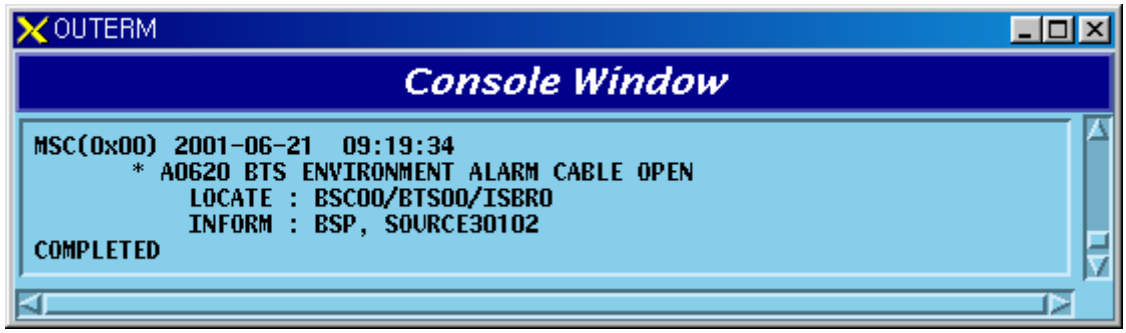



Fig. 5.1-241 Outdoor BTS ENV Rectifier Unit Alarm Cable Open

3) When outdoor BTS Cold Starter fails

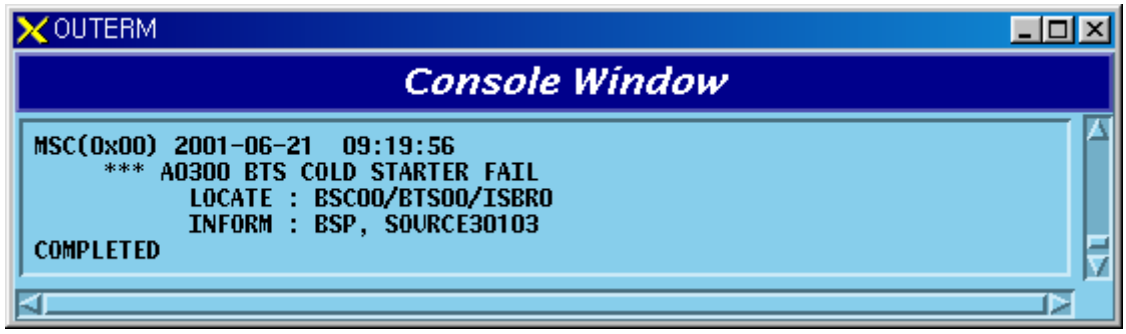



Fig. 5.1-242 Outdoor BTS ENV Cold Starter Fail

4) When outdoor BTS Rectifier Unit fails

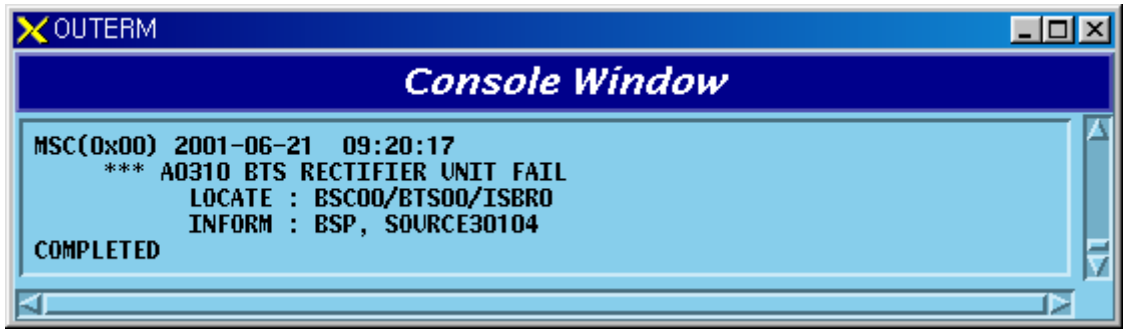


Fig. 5.1-243 Outdoor BTS ENV Rectifier Unit Fail

5) Outdoor BTS Voltage High Alarm

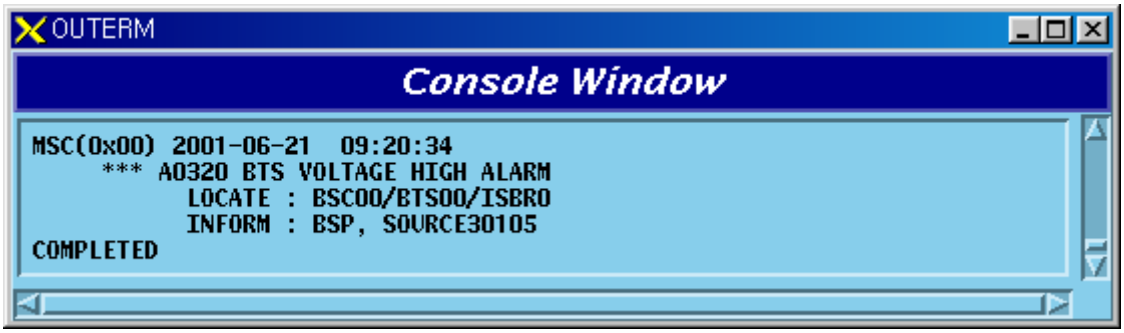



Fig. 5.1-244 Outdoor BTS ENV Voltage High Alarm

6) Outdoor BTS Voltage Low Alarm

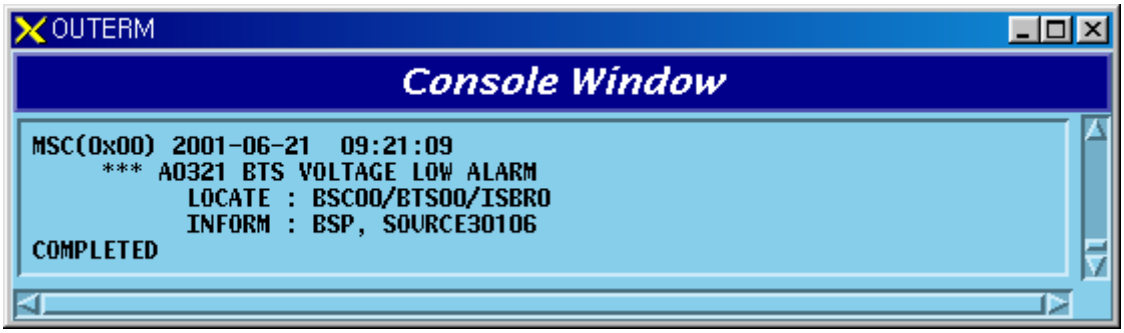



Fig. 5.1-245 Outdoor BTS ENV Voltage Low Alarm

7) When outdoor BTS AC fails

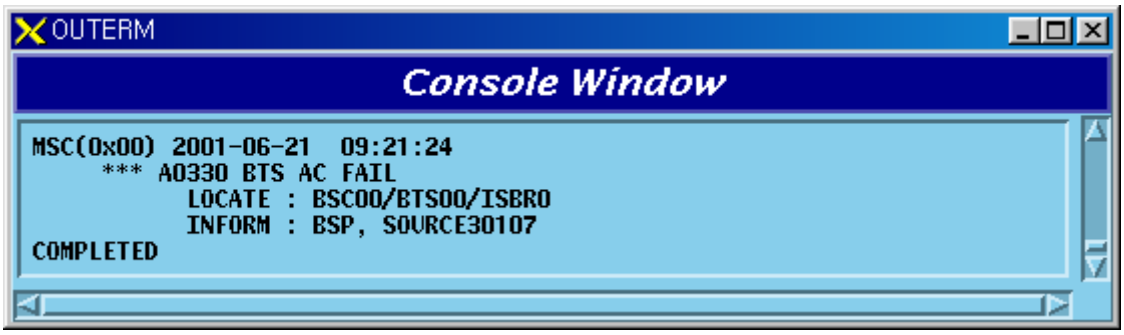



Fig. 5.1-246 Outdoor BTS AC Fail

8) Outdoor BTS Battery Voltage Low Alarm

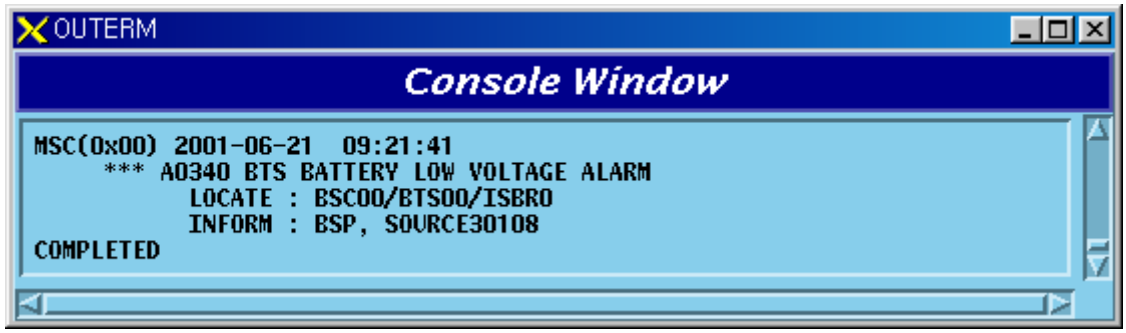



Fig. 5.1-247 Outdoor BTS ENV Battery Low Voltage Alarm

9) Outdoor BTS Fuse/Relay Loss Alarm

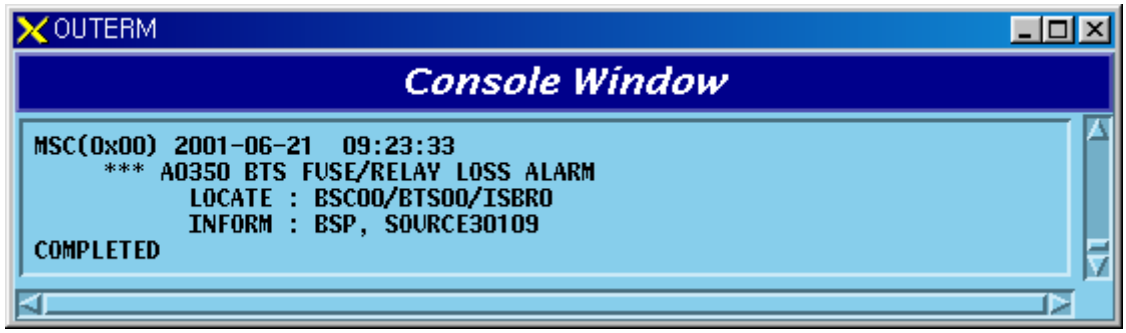



Fig. 5.1-248 Outdoor BTS ENV Fuse/Relay Loss Alarm

10) When outdoor BTS DMC-14 fails

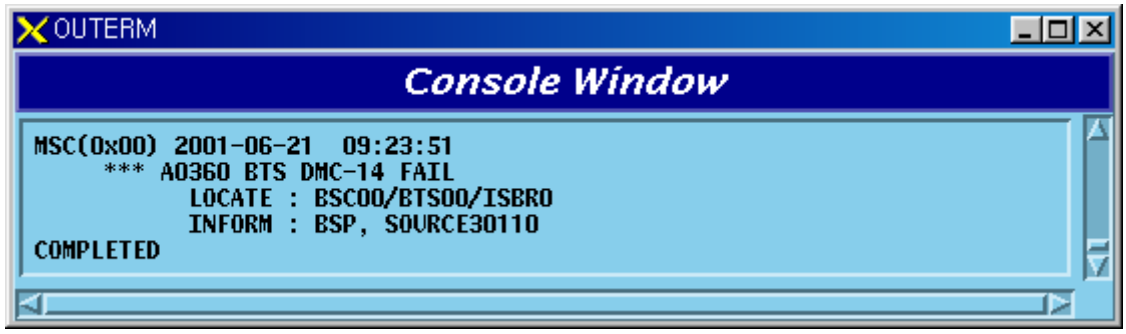



Fig. 5.1-249 Outdoor BTS ENV DMC-14 Fail

11) Outdoor BTS Power Cut Alarm

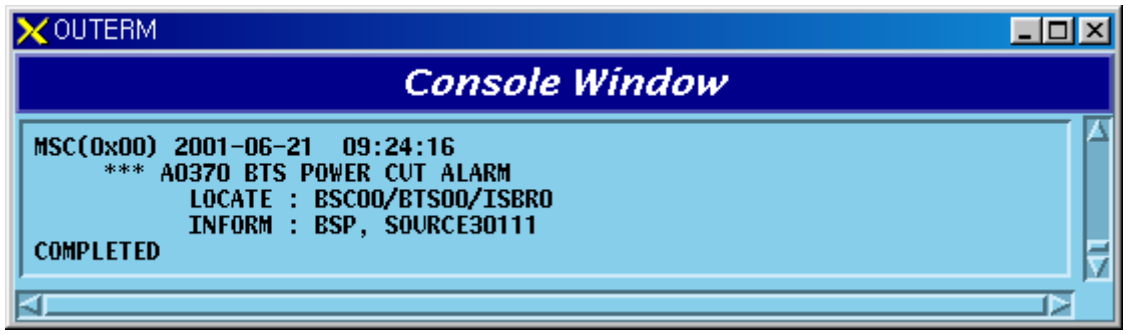


Fig. 5.1-250 Outdoor BTS ENV Power Cut Alarm

12) Outdoor BTS Temperature High Alarm

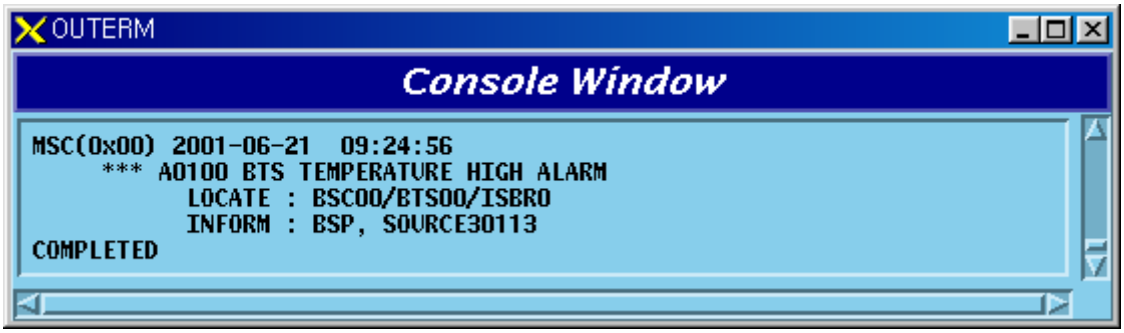



Fig. 5.1-251 Outdoor BTS ENV Temperature High Alarm

13) Outdoor BTS Temperature Low Alarm

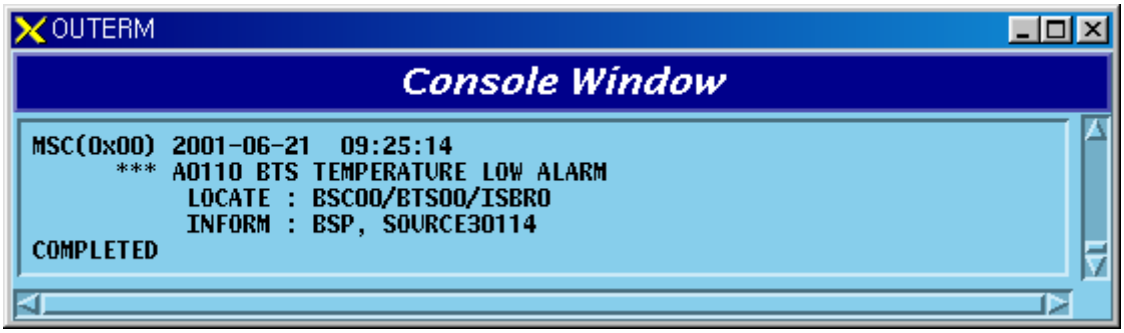



Fig. 5.1-252 Outdoor BTS ENV Temperature Low Alarm

14) Outdoor BTS Water High Alarm

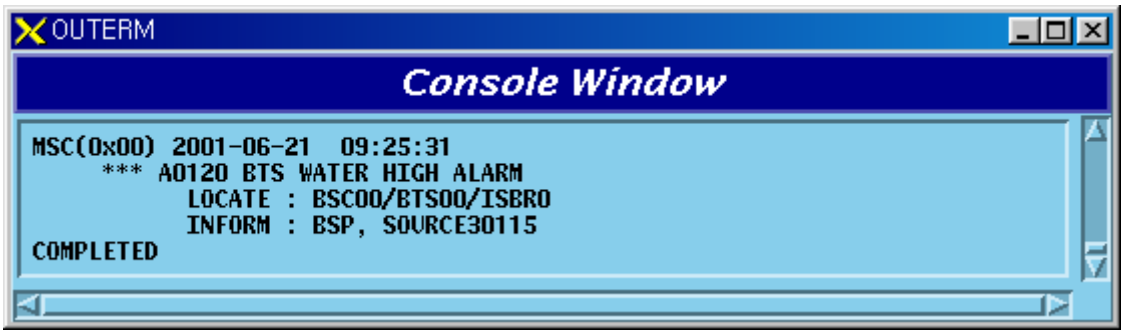



Fig. 5.1-253 Outdoor BTS ENV Water High Alarm

15) Outdoor BTS Water Low Alarm

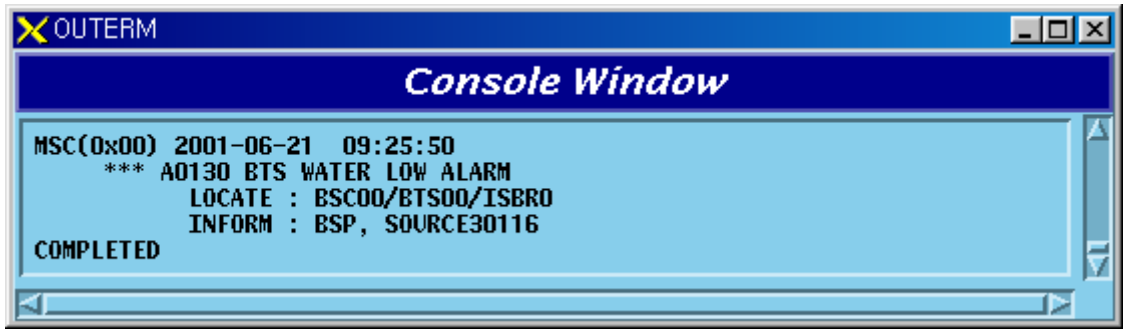



Fig. 5.1-254 Outdoor BTS ENV Water Low Alarm

16) Outdoor BTS Fire Alarm

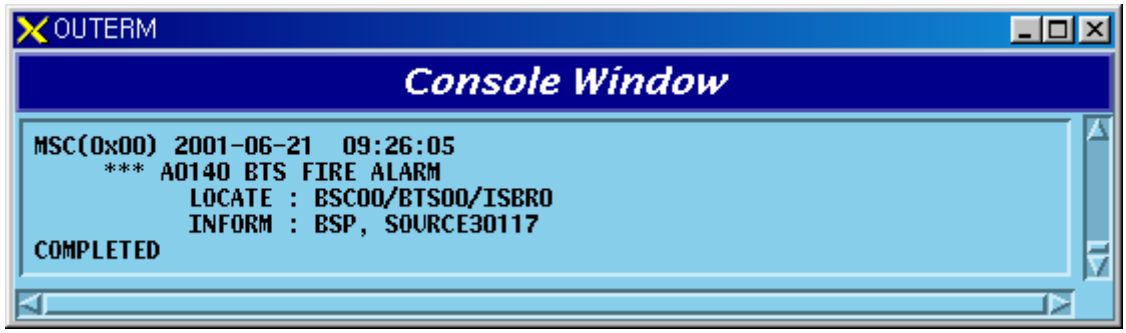



Fig. 5.1-255 Outdoor BTS ENV Fire Alarm

17) Outdoor BTS Humidity High Alarm

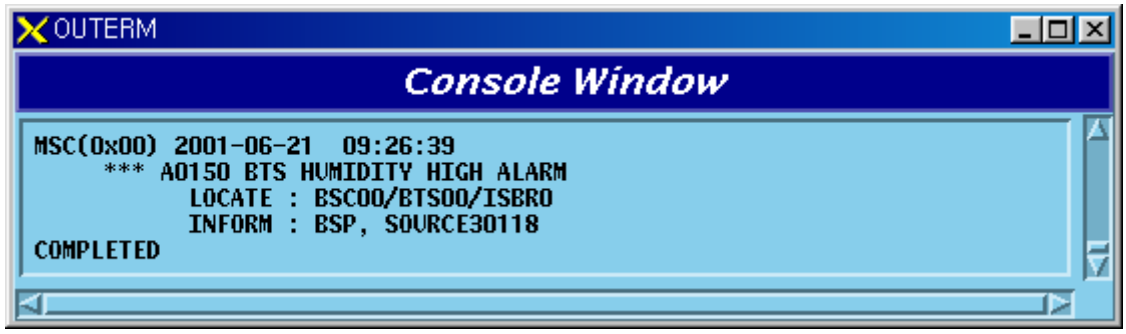



Fig. 5.1-256 Outdoor BTS ENV Humidity High Alarm

18) When outdoor BTS ACU Module fails

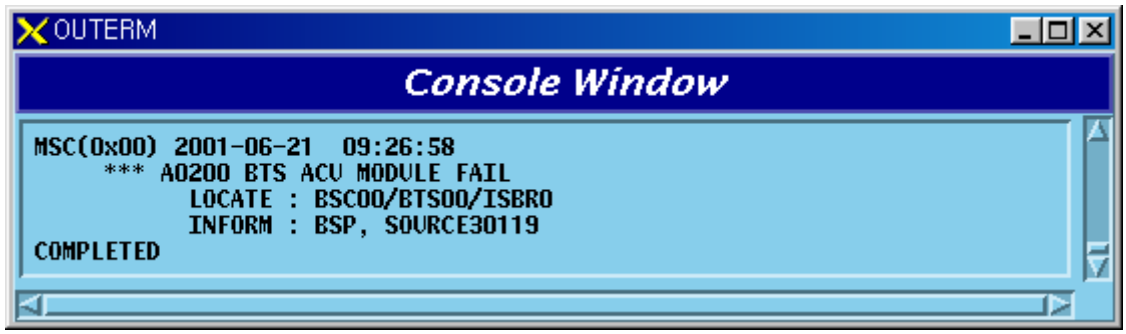


Fig. 5.1-257 Outdoor BTS ENV ACU Module Fail

19) When outdoor BTS Heat Exchanger Power fails

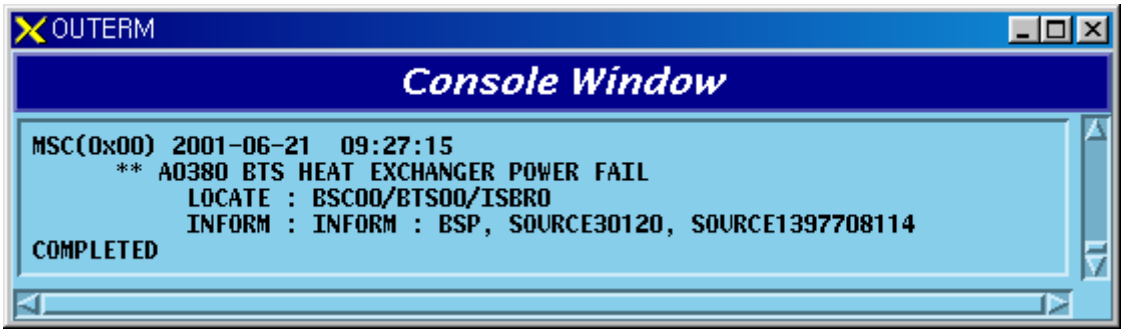



Fig. 5.1-258 Outdoor BTS ENV Heat Exchanger Power Fail

20) When outdoor BTS Heat Exchanger fails

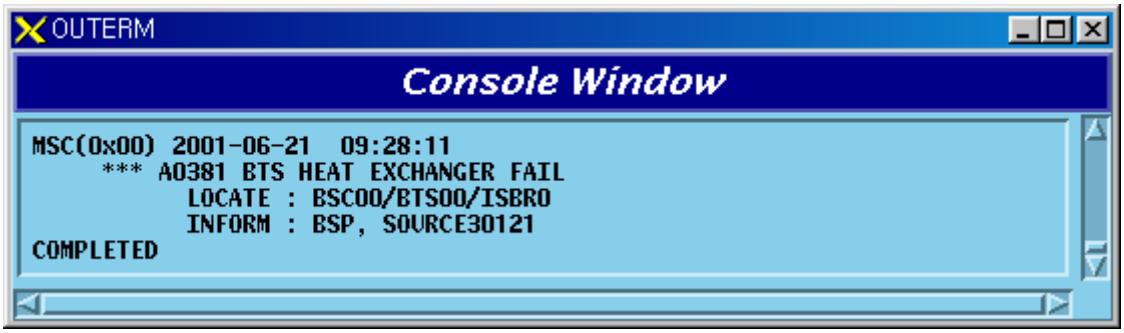



Fig. 5.1-259 Outdoor BTS ENV Heat Exchanger Fail

21) When outdoor BTS LPA FAN fails

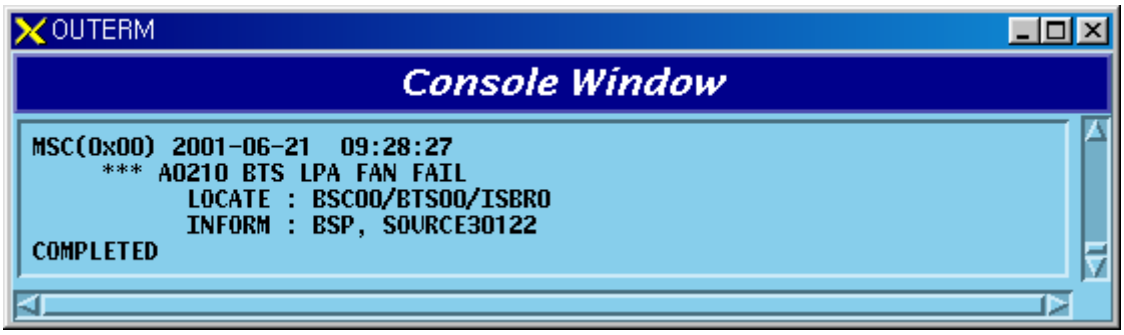



Fig. 5.1-260 Outdoor BTS ENV LPA FAN Fail

22) When outdoor BTS AC Equipment Heater fails

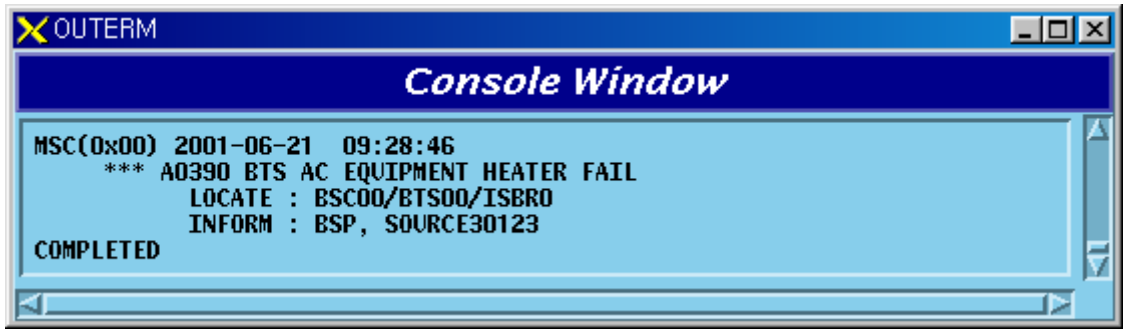



Fig. 5.1-261 Outdoor BTS ENV AC Equipment Heater Fail

23) Outdoor BTS Front/Rear Door Open Alarm

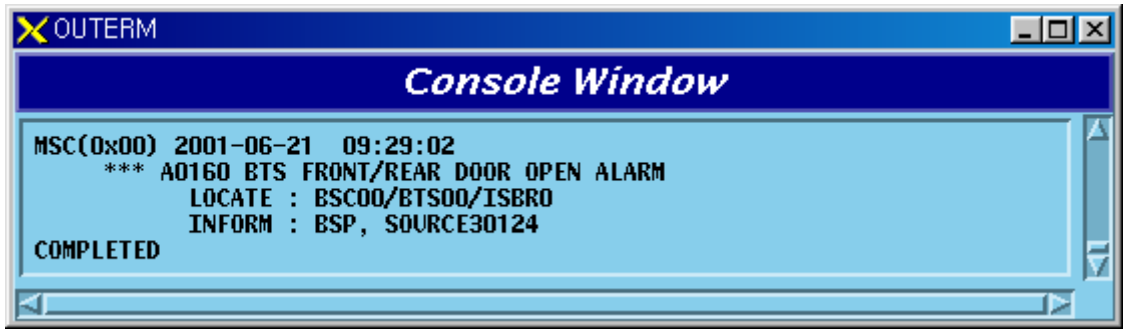



Fig. 5.1-262 Outdoor BTS ENV Front/Rear Door Open Alarm

24) Outdoor BTS Side Door Open Alarm

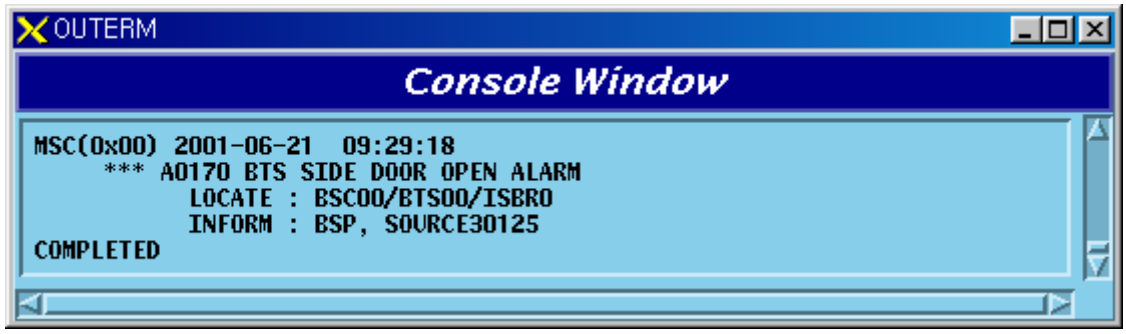



Fig. 5.1-263 Outdoor BTS ENV Side Door Open Alarm

25) When outdoor BTS FAN fails

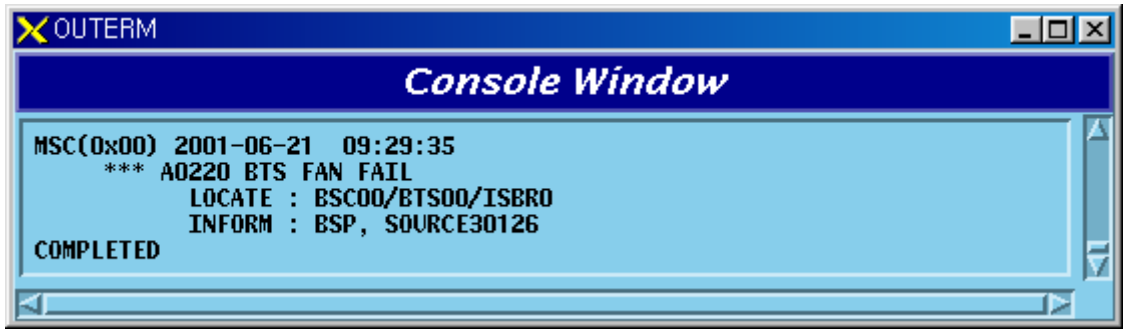


Fig. 5.1-264 Outdoor BTS ENV FAN Fail

26) When outdoor BTS AC Battery Heater fails

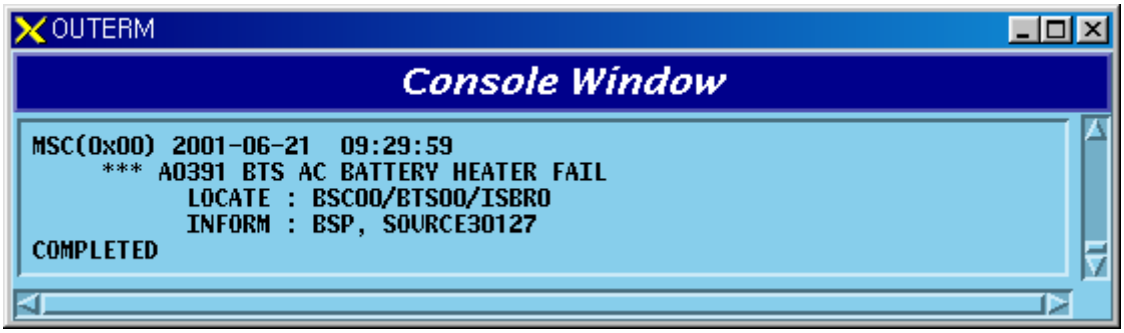



Fig. 5.1-265 Outdoor BTS ENV AC Battery Heater Fail

27) Indoor BTS Temperature High Alarm

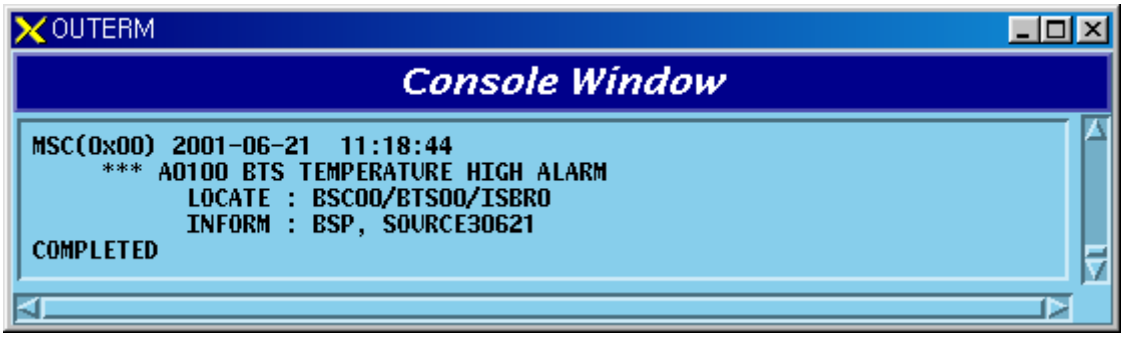



Fig. 5.1-266 Indoor BTS ENV Temperature High Alarm

28) Indoor BTS Temperature Low Alarm

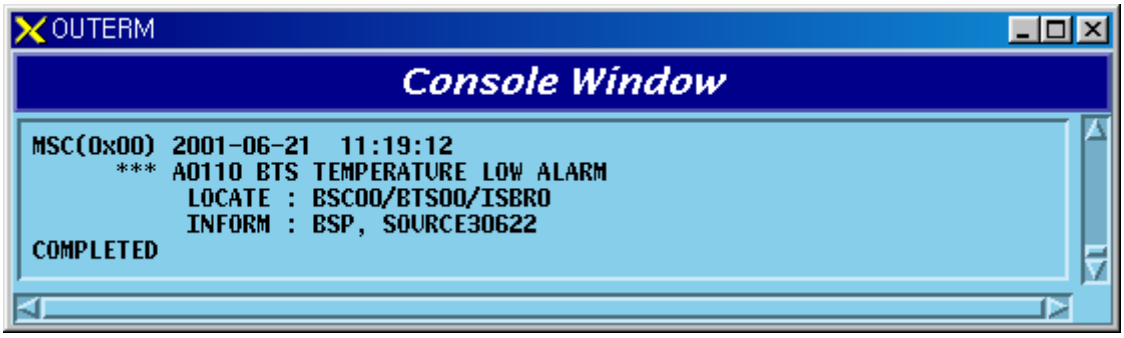



Fig. 5.1-267 Indoor BTS ENV Temperature Low Alarm

30) Indoor BTS Flood Alarm

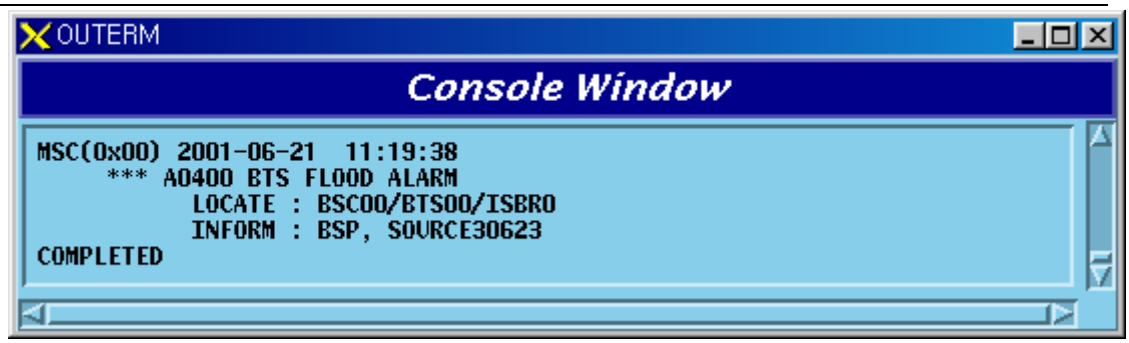



Fig. 5.1-268 Indoor BTS ENV Flood Alarm

31) Indoor BTS Door #1 Open Alarm

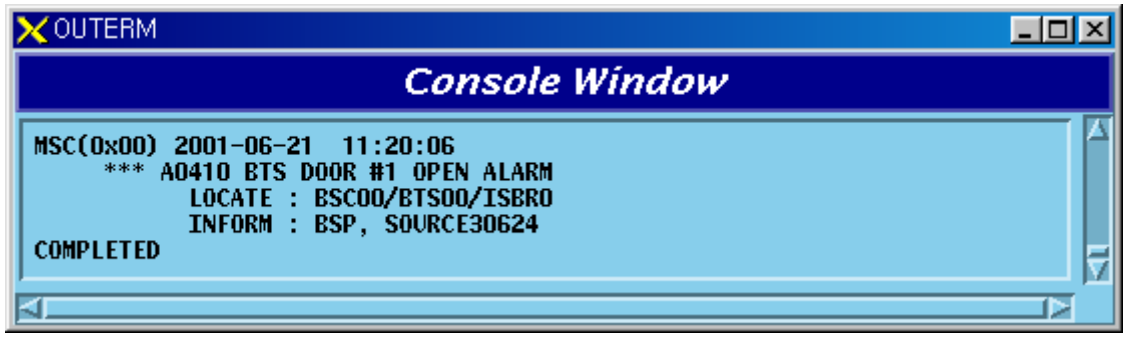



Fig. 5.1-269 Indoor BTS ENV Door #1 Open Alarm

32) Indoor BTS Door #2 Open Alarm

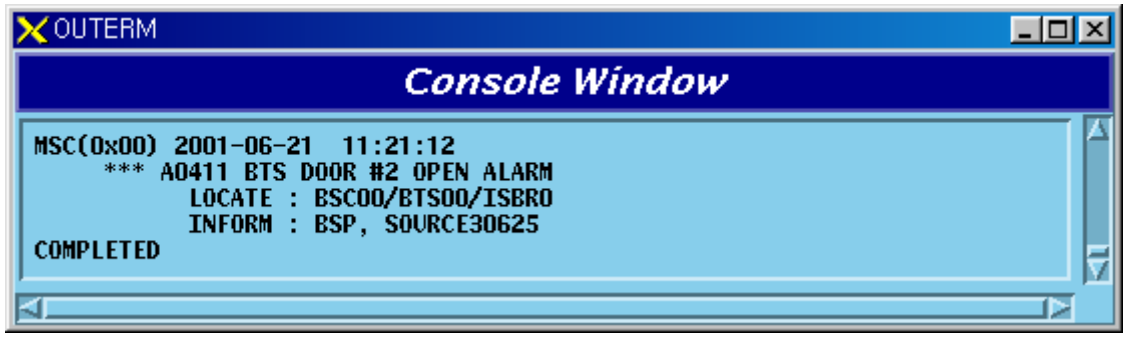



Fig. 5.1-270 Indoor BTS ENV Door #2 Open Alarm

33) Indoor BTS Fire Alarm

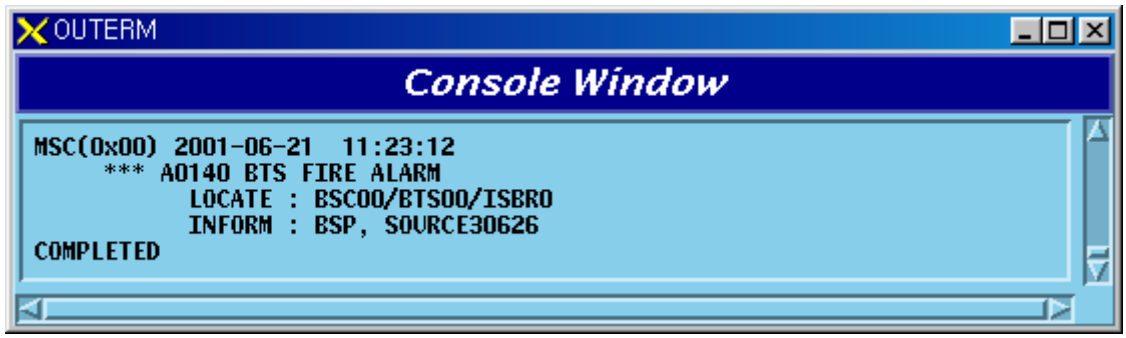


Fig. 5.1-271 Indoor BTS ENV Fire Alarm

34) When indoor BTS Rectifier #1 fails

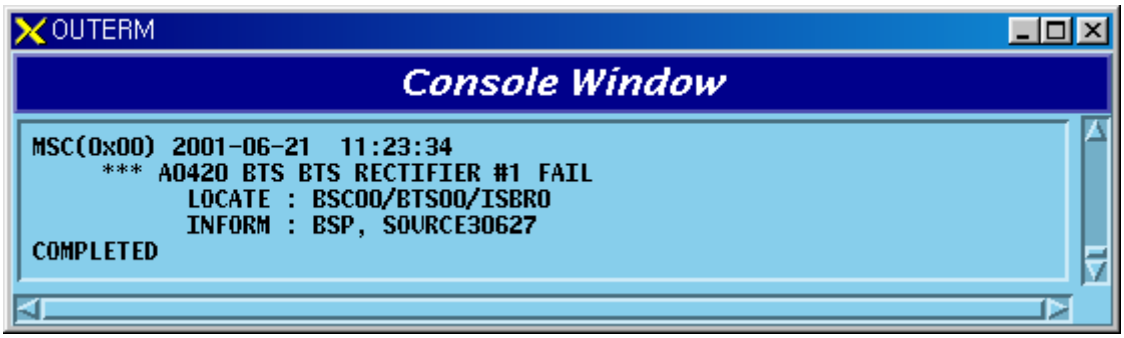



Fig. 5.1-272 Indoor BTS ENV Rectifier #1 fails

35) When indoor BTS Rectifier #2 fails

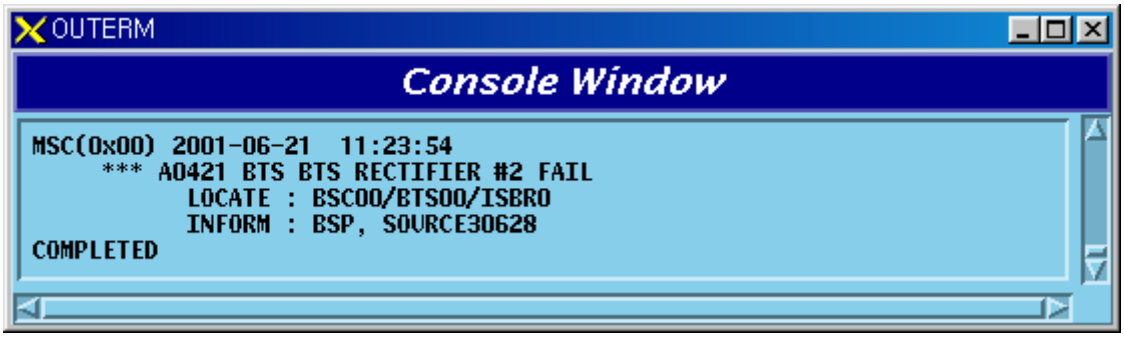



Fig. 5.1-273 Indoor BTS ENV Rectifier #2 Fail

36) When indoor BTS Aircon #1 fails

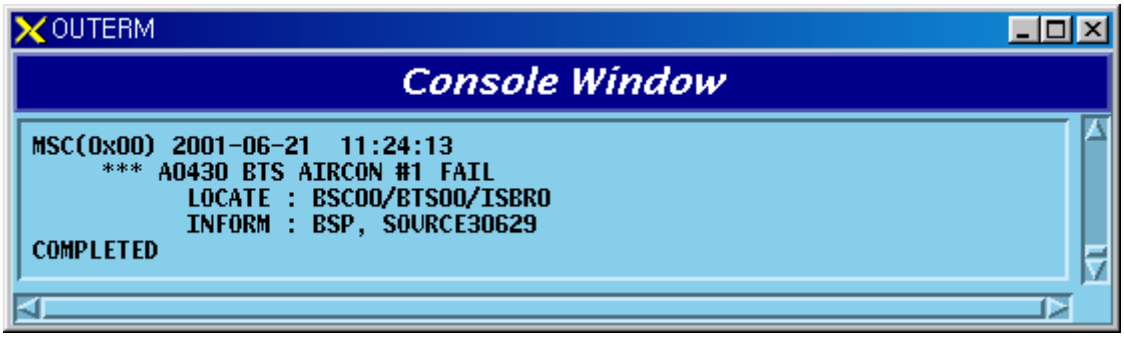



Fig. 5.1-274 Indoor BTS ENV Aircon #1 Fail

37) When indoor BTS Aircon #2 fails

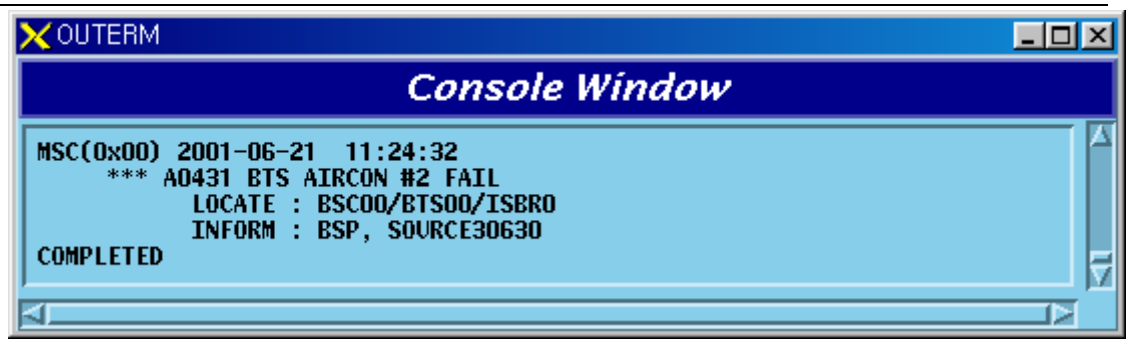



Fig. 5.1-275 Indoor BTS ENV Aircon #2 Fail

38) Indoor BTS Water Leakage Alarm

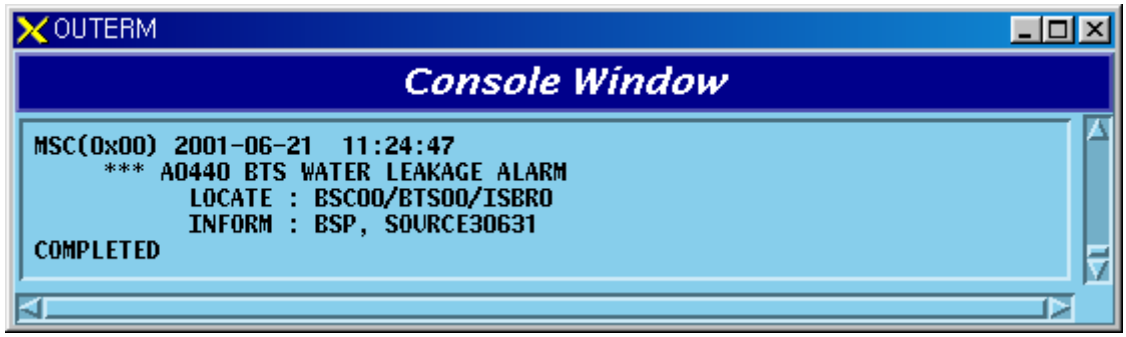



Fig. 5.1-276 Indoor BTS ENV Water Leakage Alarm

#### 5.1.1.3.13. Others

1) If a problem occurs in BTS FAN

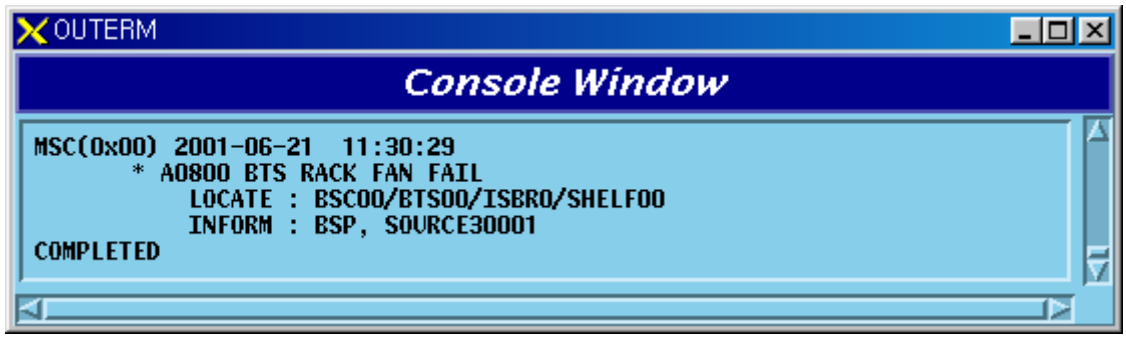



Fig. 5.1-277 BTS Rack FAN Fail

## 5.1.2. Fault Message

### 5.1.2.1. Keep-Alive-related Fault

Keep-Alive Fault occurs by two reasons. One in Tx section

#### 5.1.2.1.1.1. CNP Report

1) CNP ←→ NCP section

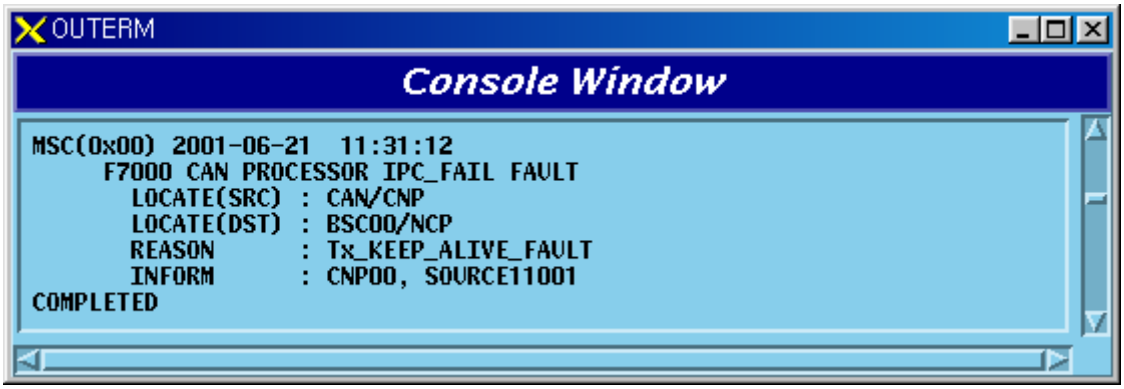



Fig. 5.1-278 Keep-Alive Fault between CNP and NCP

#### 5.1.2.1.1.2. PNP Report

1) PNP ←→ NCP section

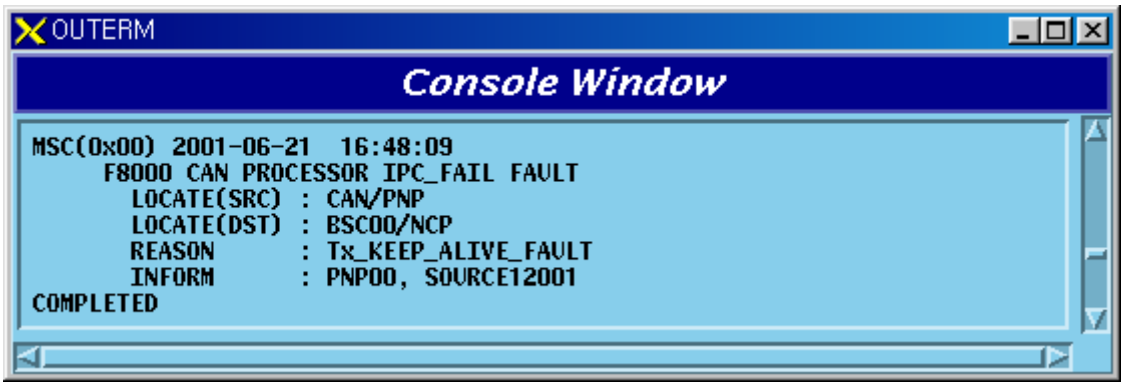



Fig. 5.1-279 Keep-Alive Fault between PNP and NCP

2) PNP ←→ PCP section

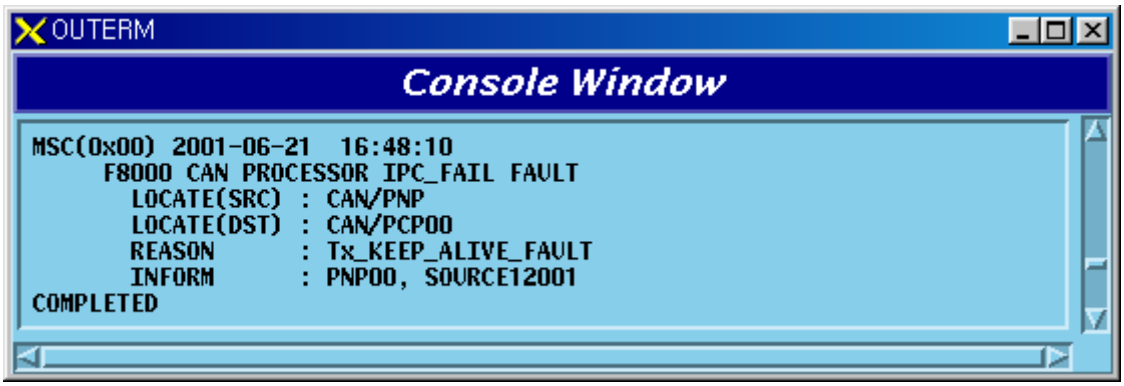



Fig. 5.1-280 Keep-Alive Fault between PNP and PCP

#### 5.1.2.1.1.3. PCP Report

1) PCP ←→ CCP section

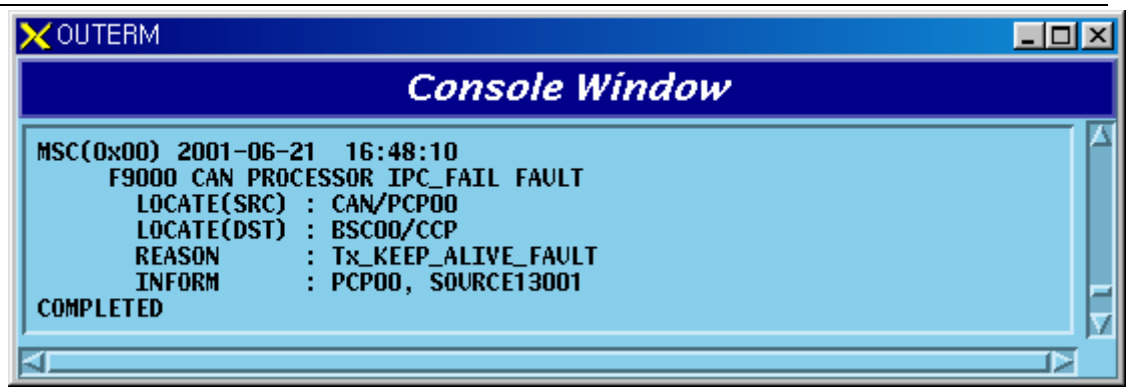



Fig. 5.1-281 Keep-Alive Fault between PCP and CCP

2) PCP ←→ PNP section

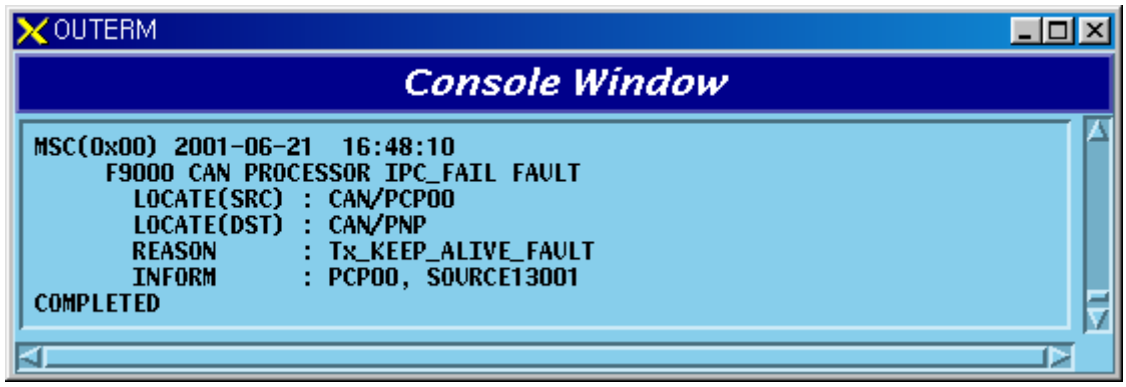



Fig. 5.1-282 Keep-Alive Fault between PCP and PNP

#### 5.1.2.1.1.4. CCP Report

1) CCP ←→ NCP section

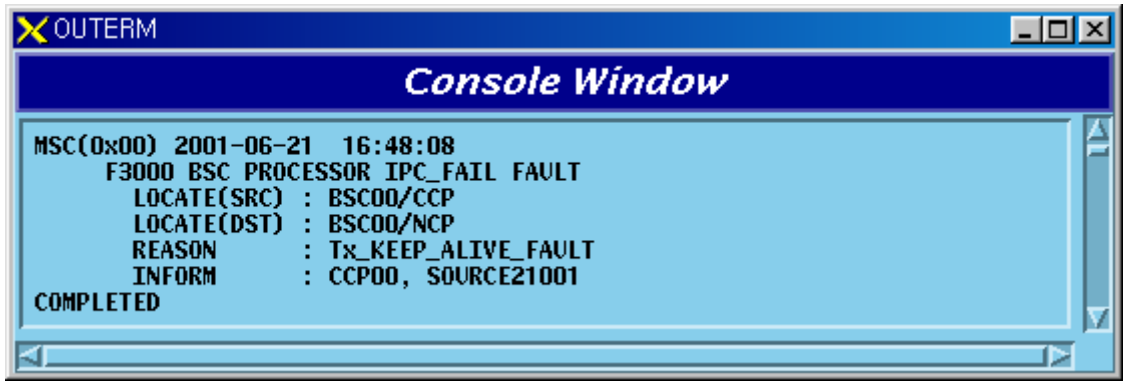



Fig. 5.1-283 Keep-Alive Fault between CCP and NCP

2) CCP ←→ PCP section

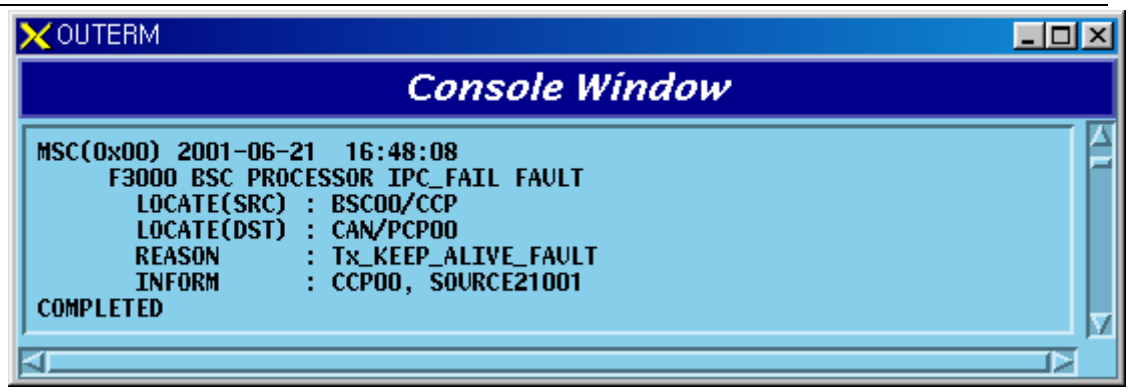



Fig. 5.1-284 Keep-Alive Fault between CCP and PCP

3) CCP ←→ BSP section

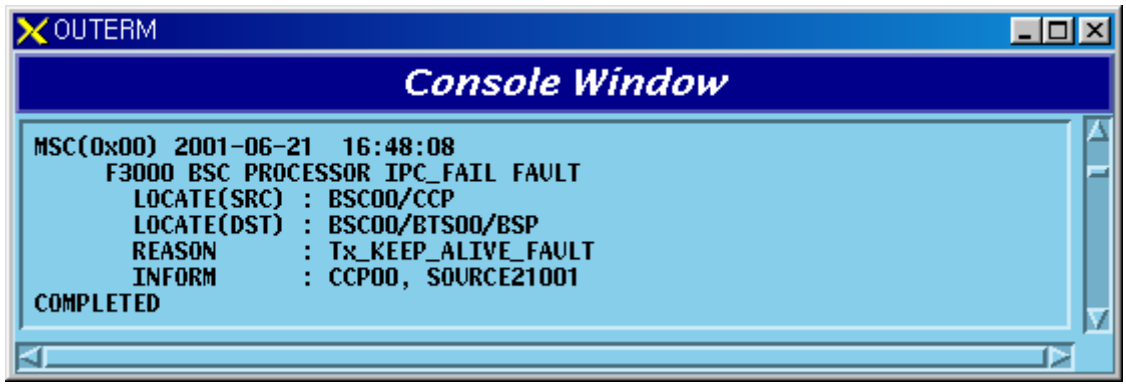



Fig. 5.1-285 Keep-Alive Fault between CCP and BSP

4) CCP ←→ SCP section

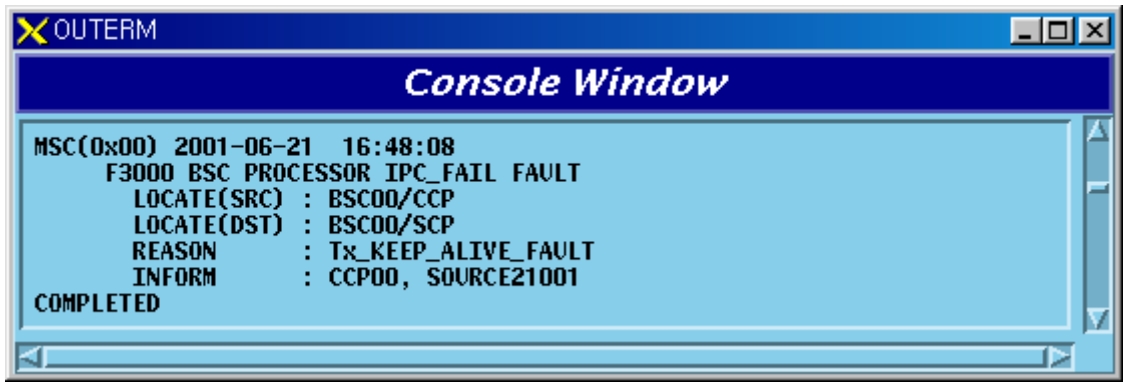



Fig. 5.1-286 Keep-Alive Fault between CCP and SCP

5) CCP ←→ SMP section

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  16:48:08
     F3000 BSC PROCESSOR IPC_FAIL FAULT
       LOCATE(SRC) : BSC00/CCP
       LOCATE(DST) : BSC00/SMP00
       REASON      : Tx_KEEP_ALIVE_FAULT
       INFORM      : CCP00, SOURCE21001
COMPLETED
```

Fig. 5.1-287 Keep-Alive Fault between CCP and SMP

6) CCP ←→ VMP section

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  16:48:09
     F3000 BSC PROCESSOR IPC_FAIL FAULT
       LOCATE(SRC) : BSC00/CCP
       LOCATE(DST) : BSC00/VMP00
       REASON      : Tx_KEEP_ALIVE_FAULT
       INFORM      : CCP00, SOURCE21001
COMPLETED
```

Fig. 5.1-288 Keep-Alive Fault between CCP and VMP

#### 5.1.2.1.1.5. NCP Report

1) NCP ←→ CNP section

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  16:48:09
     F4000 BSC PROCESSOR IPC_FAIL FAULT
       LOCATE(SRC) : BSC00/NCP
       LOCATE(DST) : CAN/CNP
       REASON      : Tx_KEEP_ALIVE_FAULT
       INFORM      : NCP00, SOURCE22001
COMPLETED
```

Fig. 5.1-289 Keep-Alive Fault between NCP and CNP

2) NCP ←→ CCP section

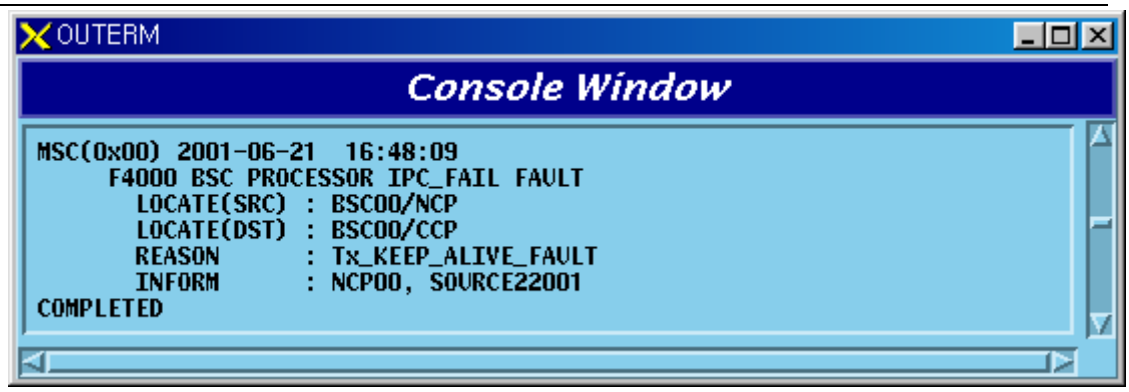



Fig. 5.1-290 Keep-Alive Fault between NCP and CCP

3) NCP ←→ PNP section

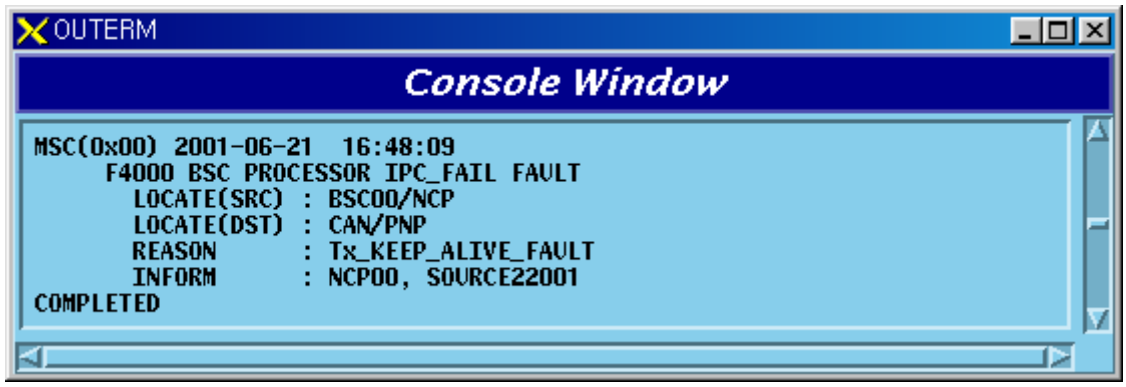



Fig. 5.1-291 Keep-Alive Fault between NCP and PNP

4) NCP ←→ CRP section

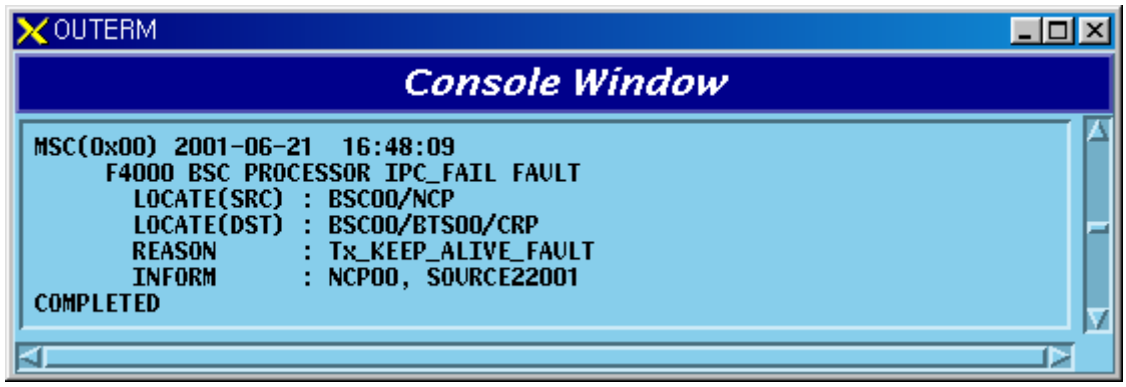



Fig. 5.1-292 Keep-Alive Fault between NCP and CRP

#### 5.1.2.1.1.6. SCP Report

1) SCP ←→ CCP section

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  16:48:09
     F5000 BSC PROCESSOR IPC_FAIL FAULT
       LOCATE(SRC) : BSC00/SCP
       LOCATE(DST) : BSC00/CCP
       REASON      : Tx_KEEP_ALIVE_FAULT
       INFORM      : SCP00, SOURCE23001
COMPLETED
```

Fig. 5.1-293 Keep-Alive Fault between SCP and CCP

2) SCP ←→ STIA section

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  16:48:09
     F5000 BSC PROCESSOR IPC_FAIL FAULT
       LOCATE(SRC) : BSC00/SCP
       LOCATE(DST) : BSC00/STIA-16675596
       REASON      : Tx_KEEP_ALIVE_FAULT
       INFORM      : SCP00, SOURCE23001
COMPLETED
```

Fig. 5.1-294 Keep-Alive Fault between SCP and STIA

#### 5.1.2.1.1.7. BSP Report

1) BSP ←→ CCP section

```
OUTERM
Console Window
MSC(0x00) 2001-06-21  22:11:46
     F1000 BTS PROCESSOR IPC_FAIL FAULT
       LOCATE(SRC) : BSC00/BTS00/BSP
       LOCATE(DST) : BSC00/CCP
       REASON      : Tx_KEEP_ALIVE_FAULT
       INFORM      : BSP00, SOURCE31001
COMPLETED
```

Fig. 5.1-295 Keep-Alive Fault between BSP and CCP

2) BSP ←→ RCP section

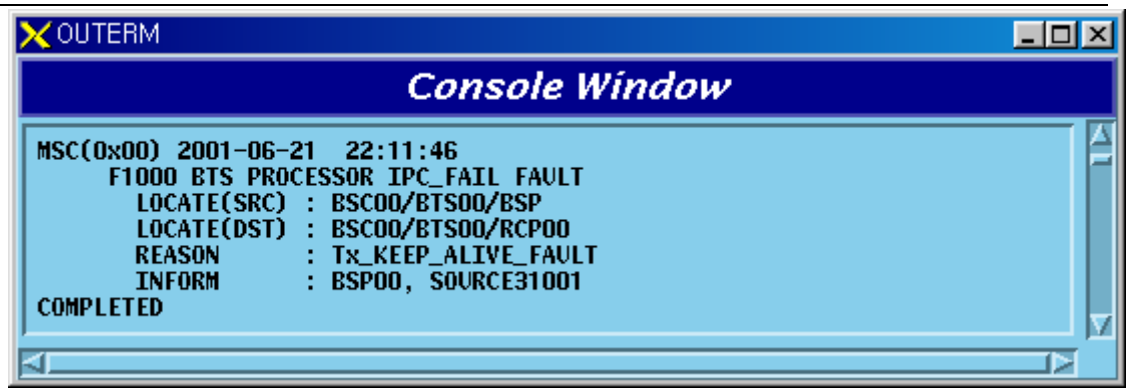



Fig. 5.1-296 Keep-Alive Fault between BSP and RCP

3) BSP ←→ BPP section

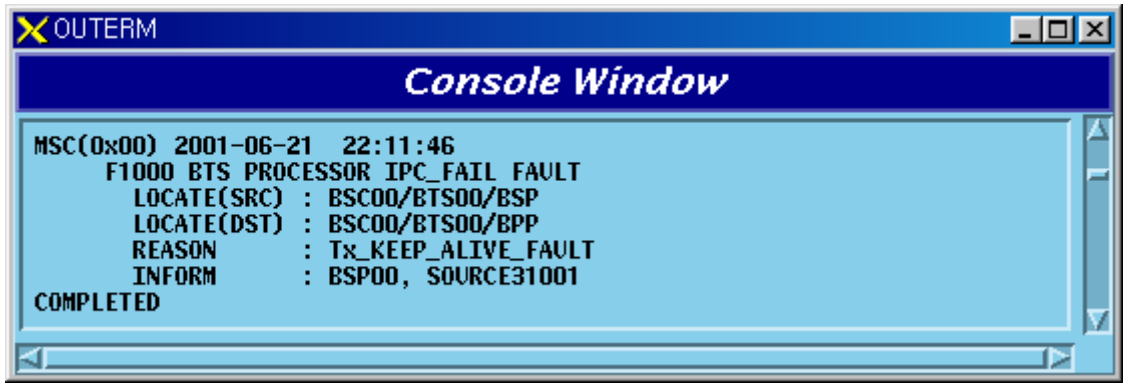



Fig. 5.1-297 Keep-Alive Fault between BSP and BPP

4) RCP ←→ DBPA section

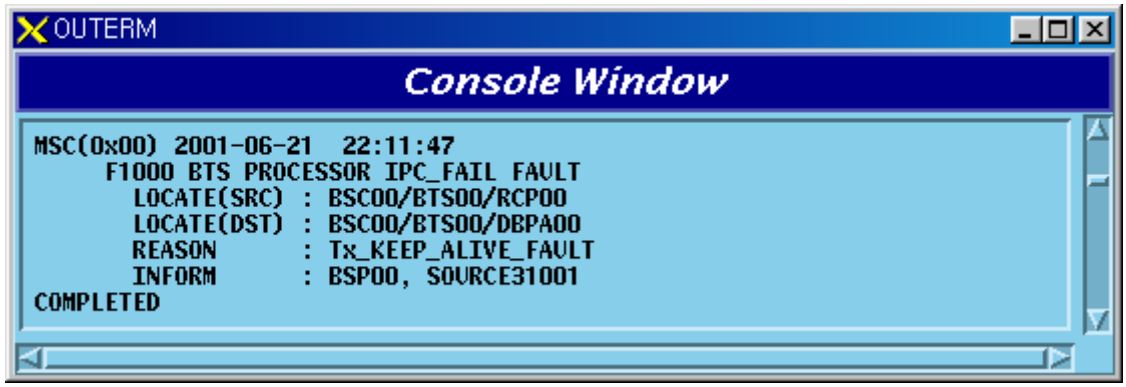



Fig. 5.1-298 Keep-Alive Fault between RCP and DBPA

### 5.1.2.2. CCP Processing-related Fault

#### 5.1.2.2.1. VCE Qcelp Algorithm Test Fault

1) Vocoder Clock Fault

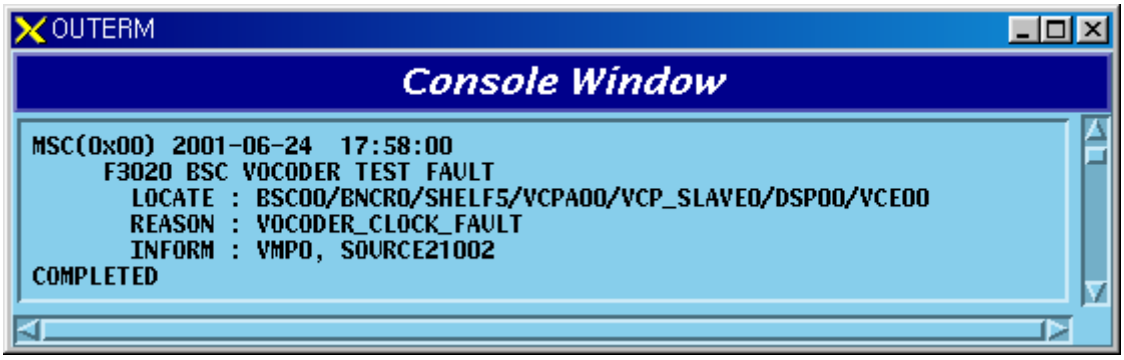



Fig. 5.1-299 Vocoder Clock Fault

2) QCELP0 Algorithm Fault

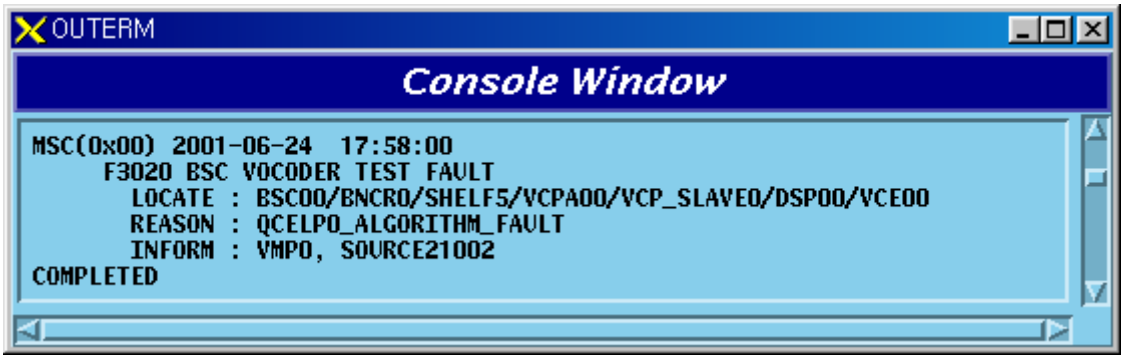



Fig. 5.1-300 QCELP0 Algorithm Fault

3) QCELP1 Algorithm Fault

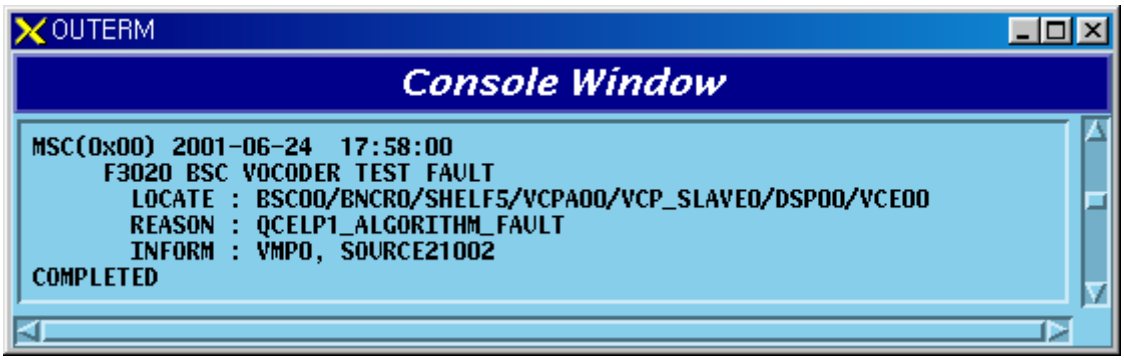



Fig. 5.1-301 QCELP1 Algorithm Fault

4) QCELP2 Algorithm Fault

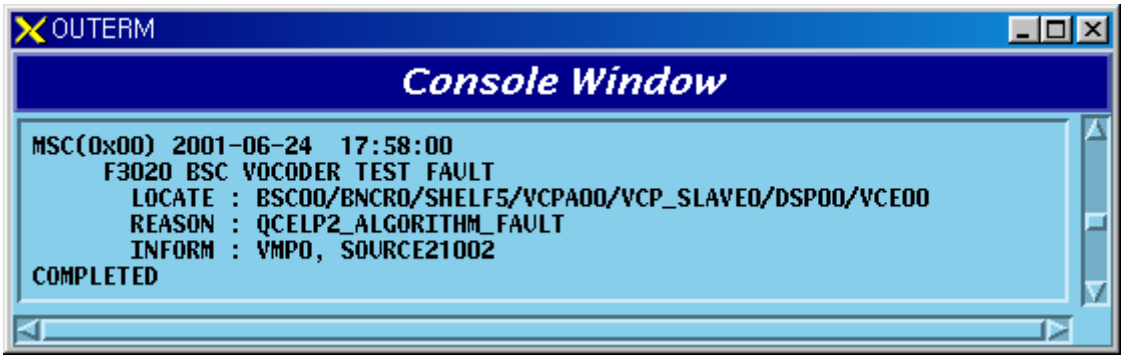



Fig. 5.1-302 QCELP2 Algorithm Fault

5) QCELP3 Algorithm Fault

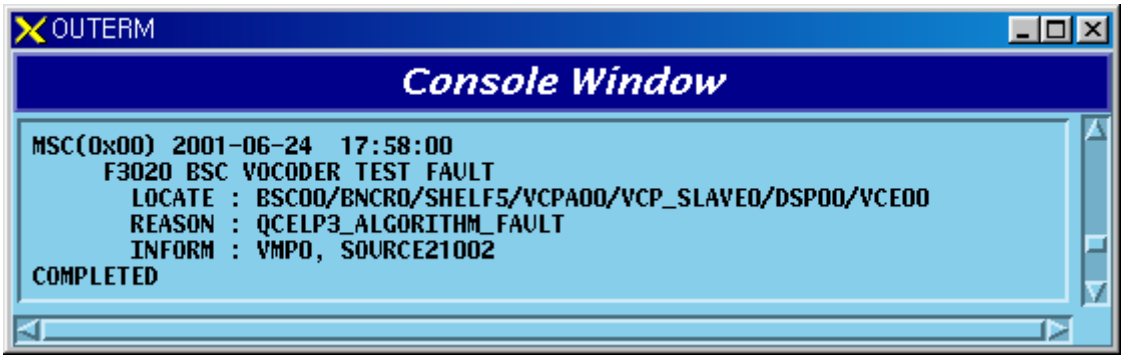



Fig. 5.1-303 QCELP3 Algorithm Fault

6) VCPA LoopBack Test Fault

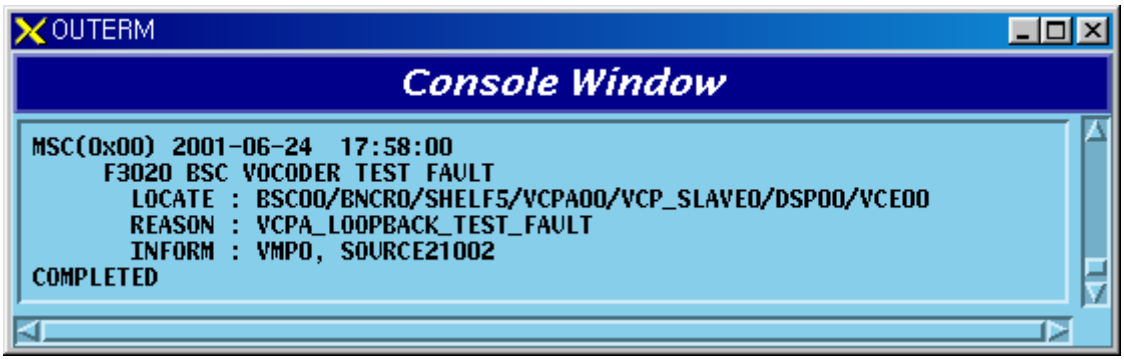



Fig. 5.1-304 VCPA Loop-Back Test Fault

### 5.1.2.2.2. VCE DSP Test Fault

1) When faults occur upon DSP ROM TEST

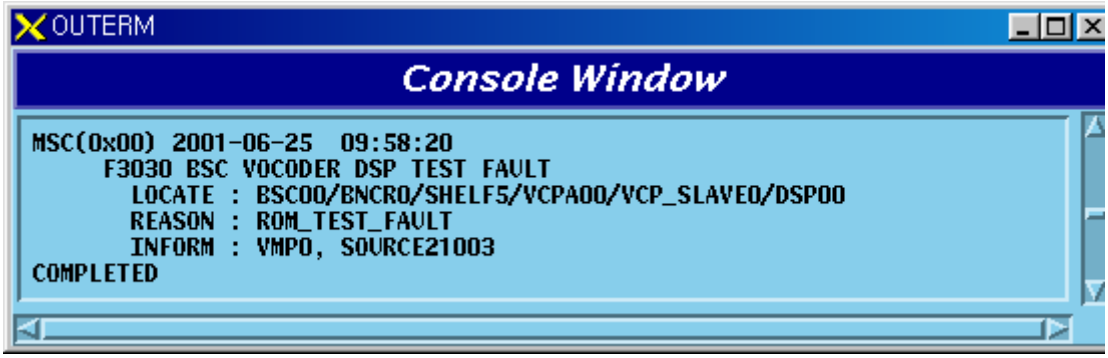



Fig. 5.1-305 Vocoder DSP ROM TEST Fault

2) When faults occur upon DSP RAM TEST

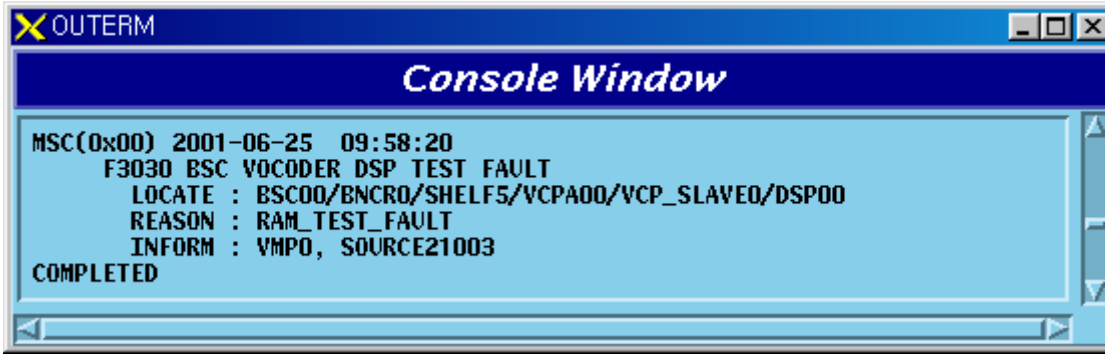



Fig. 5.1-306 Vocoder DSP RAM TEST Fault

3) When faults occur upon DSP ROM/RAM TEST

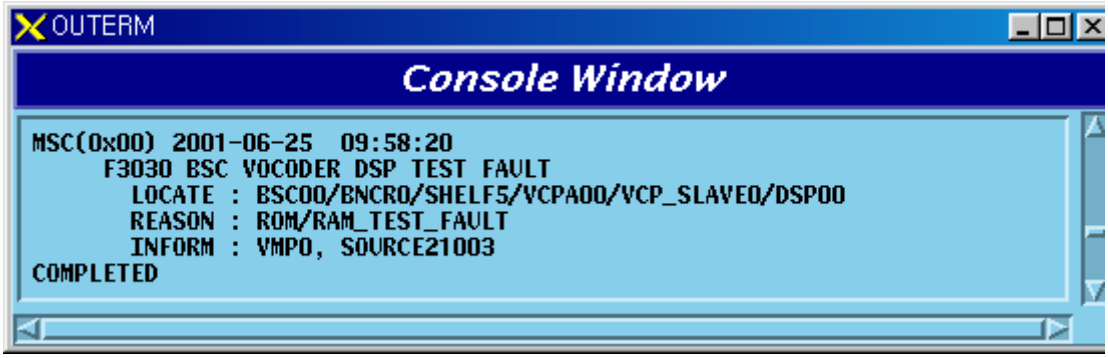



Fig. 5.1-307 Vocoder DSP ROM/RAM TEST Fault

4) When faults occur upon DSP ALU TEST

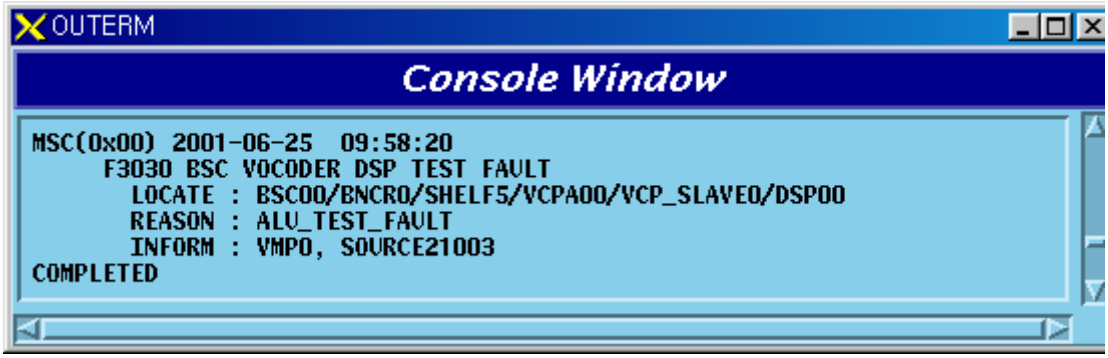



Fig. 5.1-308 Vocoder DSP ALU TEST Fault

5) When faults occur DSP ROM/ALU TEST

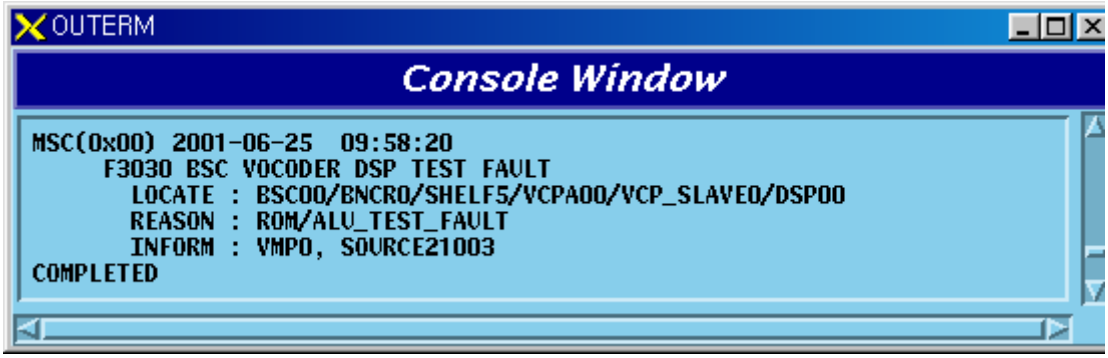



Fig. 5.1-309 Vocoder DSP ROM/ALU TEST Fault

6) When faults occur upon DSP RAM/ALU TEST

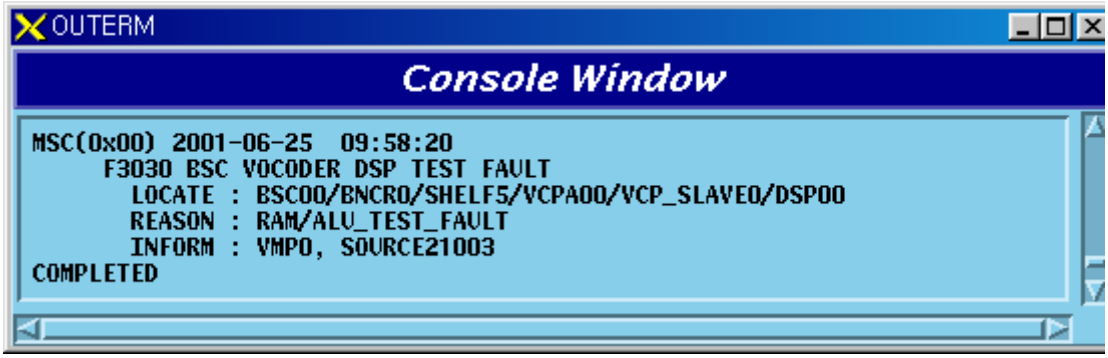



Fig. 5.1-310 Vocoder DSP RAM/ALU TEST Fault

7) When faults occur upon DSP ROM/RAM/ALU TEST

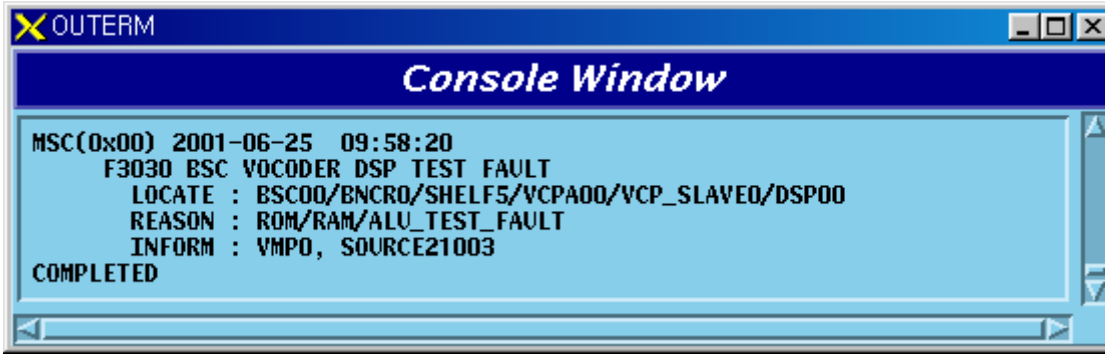



Fig. 5.1-311 Vocoder DSP ROM/RAM/ALU TEST Fault

### 5.1.2.2.3. VLIA T1/E1 Trunk Time Slot Fault

1) When faults occur upon VLIA E1/T1 Trunk Time-Slot TEST

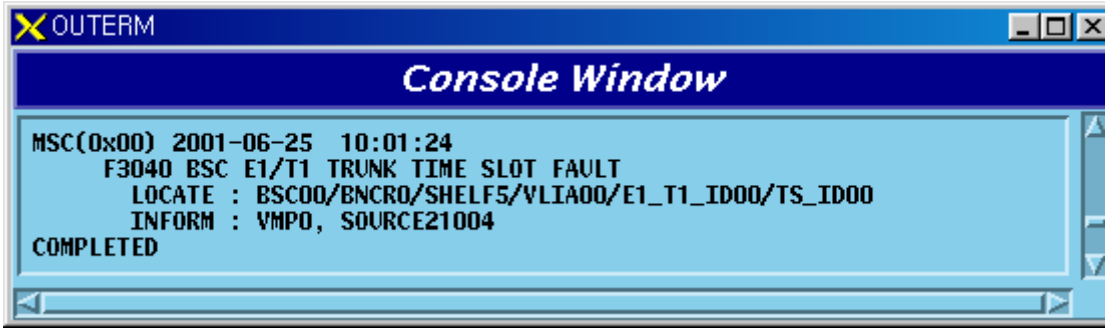



Fig. 5.1-312 VLIA E1/T1 Trunk Time-Slot Test Fault

### 5.1.2.2.4. Call Fail

1) SCI Fault

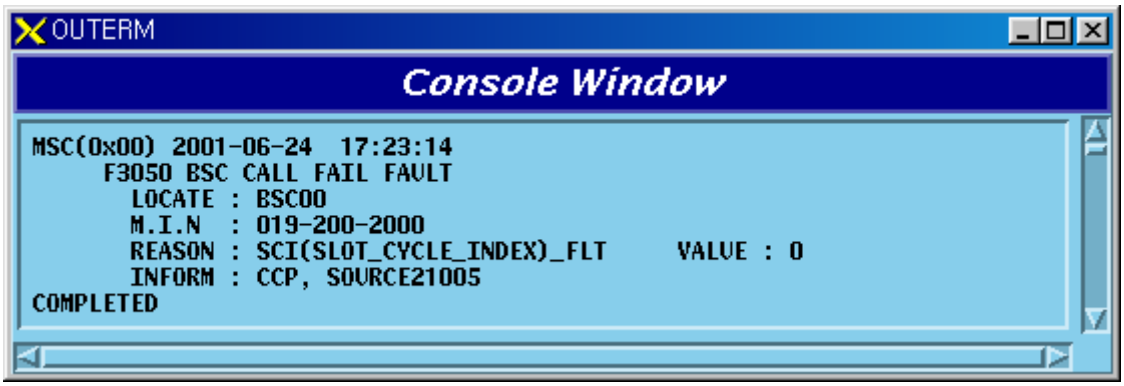



Fig. 5.1-313 SCI Fault

2) BASE ID Fault

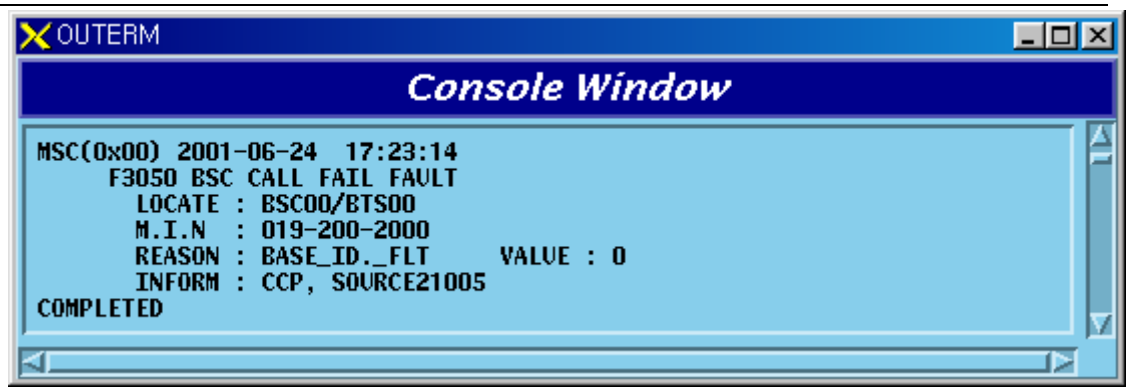



Fig. 5.1-314 Base ID Fault

3) BTS ID Fault

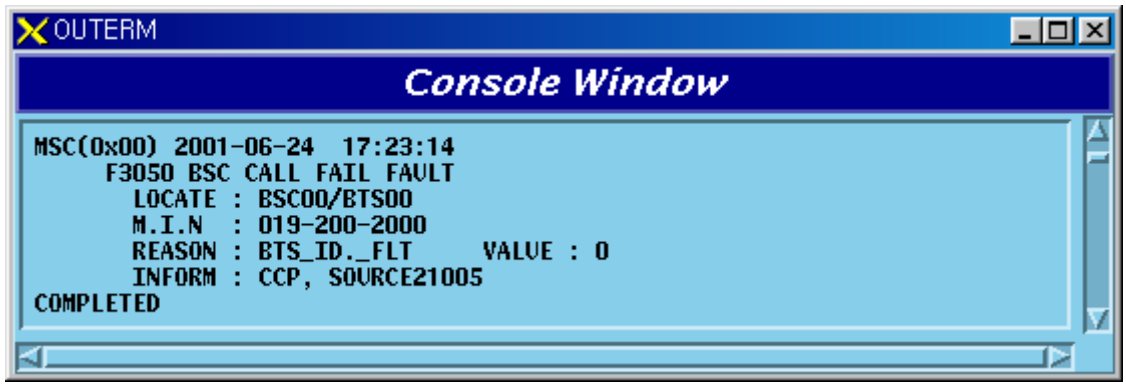



Fig. 5.1-315 BTS ID Fault

4) Sector ID Fault

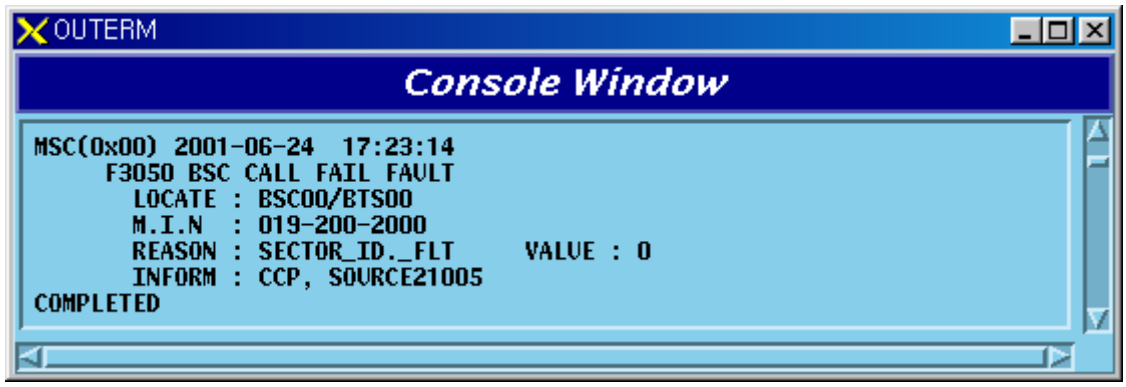



Fig. 5.1-316 Sector ID Fault

5) Neighbor List Fault

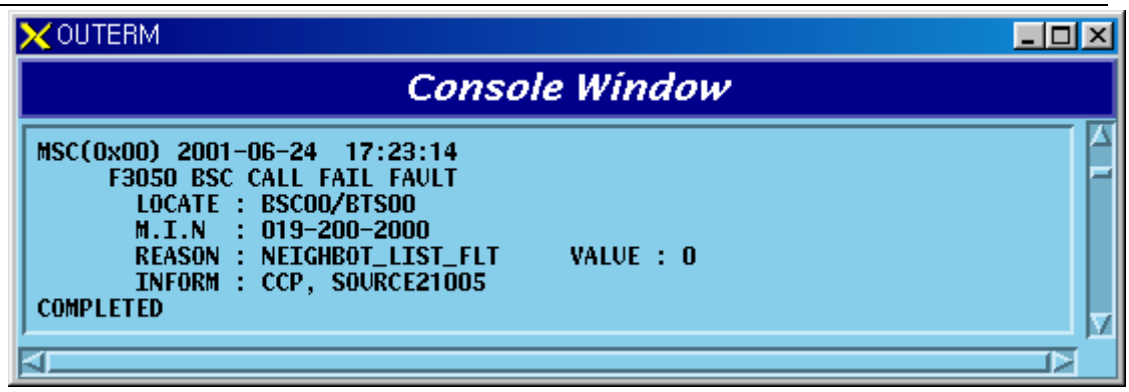



Fig. 5.1-317 Neighbor List Fault

6) MSC Overload Fault

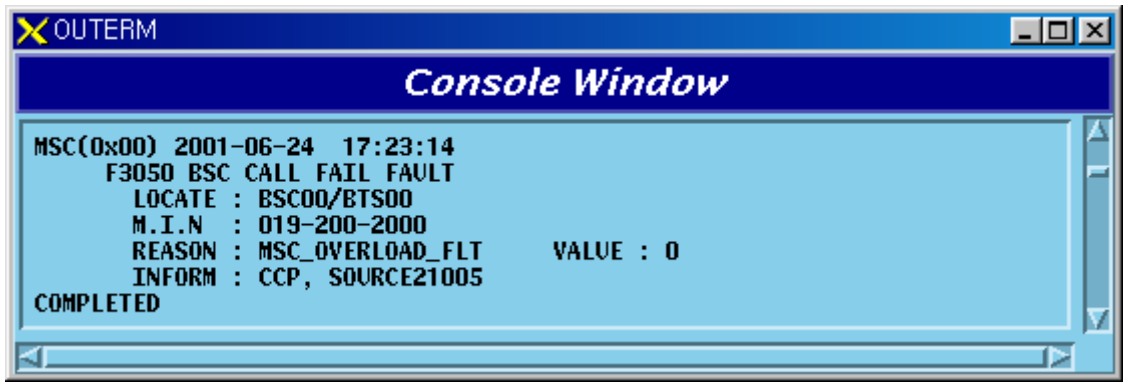



Fig. 5.1-318 MSC Overload Fault

7) CCP Overload Fault

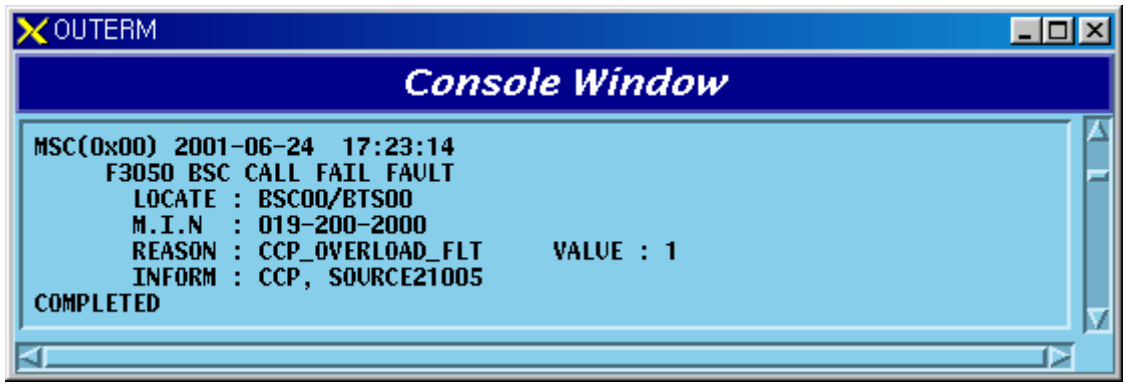



Fig. 5.1-319 CCP Overload Fault

8) BSP Overload Fault

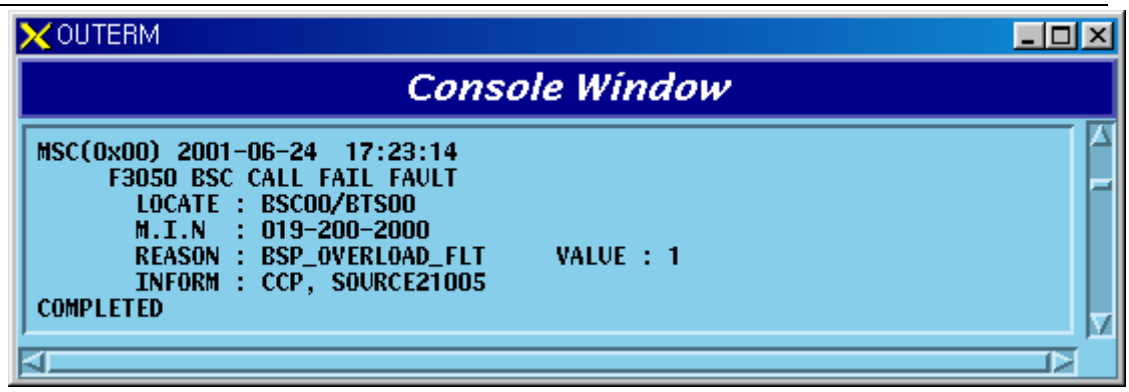



Fig. 5.1-320 BSP Overload Fault

9) Get Task Function Fault

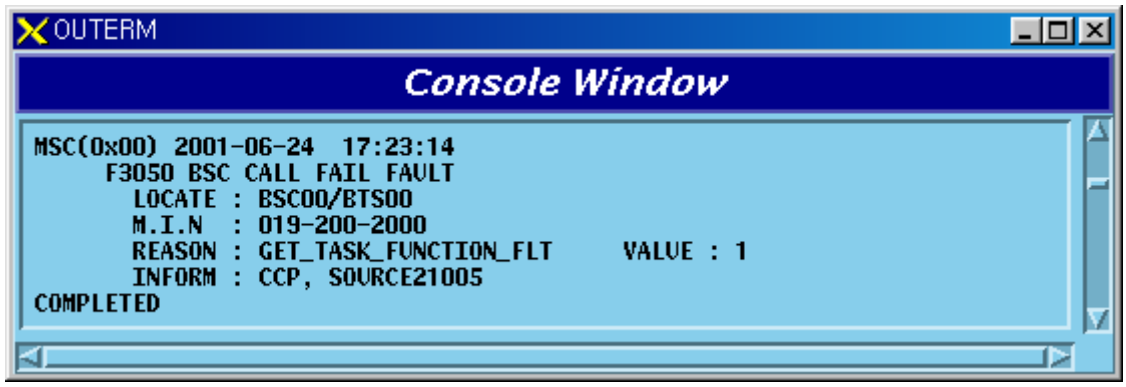



Fig. 5.1-321 Get Task Function Fault

10) Free Task Function Fault

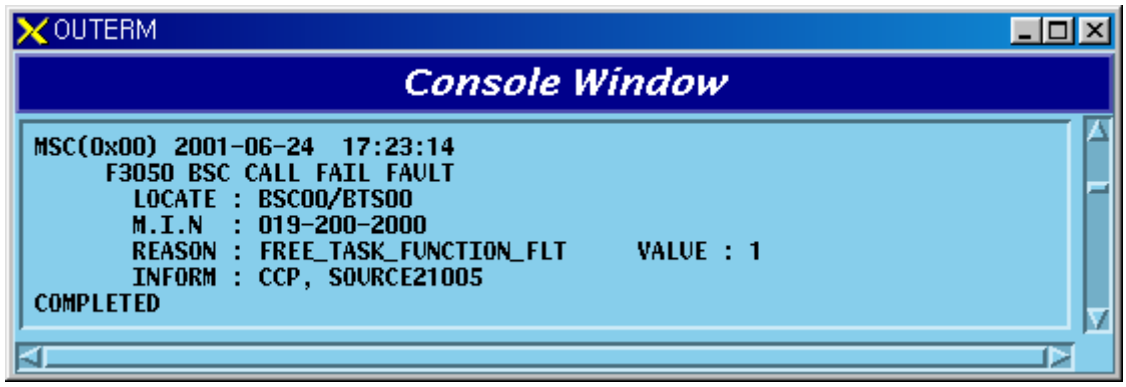



Fig. 5.1-322 Free Task Function Fault

11) Get Buffer Function Fault

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  17:23:14
     F3050 BSC CALL FAIL FAULT
       LOCATE : BSC00/BTS00
       M.I.N  : 019-200-2000
       REASON : GET_BUFFER_FUNCTION_FLT     VALUE : 1
       INFORM : CCP, SOURCE21005
COMPLETED
```

Fig. 5.1-323 Get Buffer Function Fault

12) Authentication Fault

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  17:23:14
     F3050 BSC CALL FAIL FAULT
       LOCATE : BSC00/BTS00
       M.I.N  : 019-200-2000
       REASON : AUTHENTICATION_FLT     VALUE : 1
       INFORM : CCP, SOURCE21005
COMPLETED
```

Fig. 5.1-324 Authentication Fault

### 5.1.2.3. RCP Processing-related Fault

1) When a problem occurs in STM SYSTEM TIME

```
OUTERM
Console Window
MSC(0x00) 2001-06-25  11:56:00
     F1100 BTS STM SYSTEM TIME FAULT
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP
       INFORM : RCP00, SORUCE31061
COMPLETED
```

Fig. 5.1-325 STM System Time Fault

2) CDM TX Parity Fault

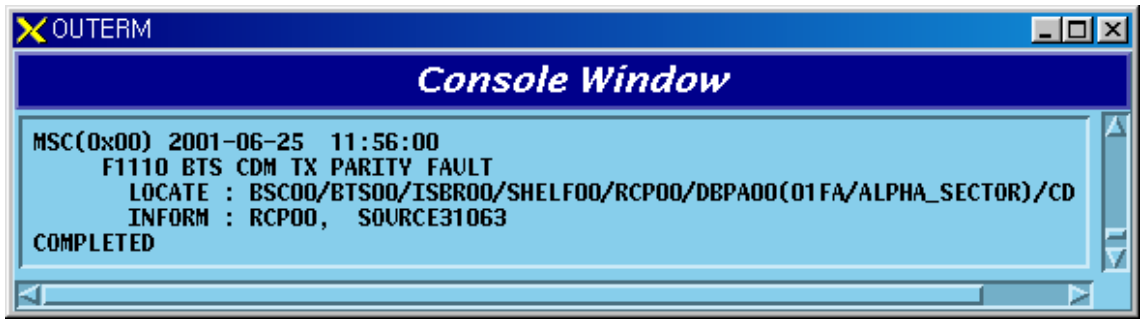



Fig. 5.1-326 CDM TX Parity Fault

3) CDM RX Parity Fault

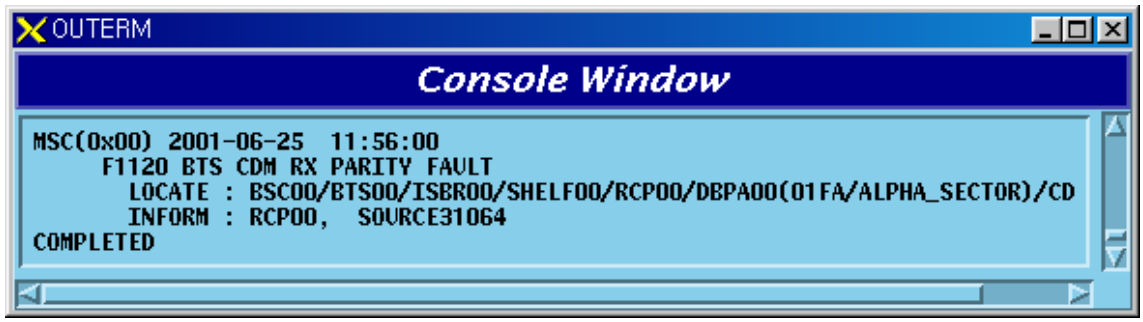



Fig. 5.1-327 CDM RX Parity Fault

4) CDM TX Over-Flow Fault

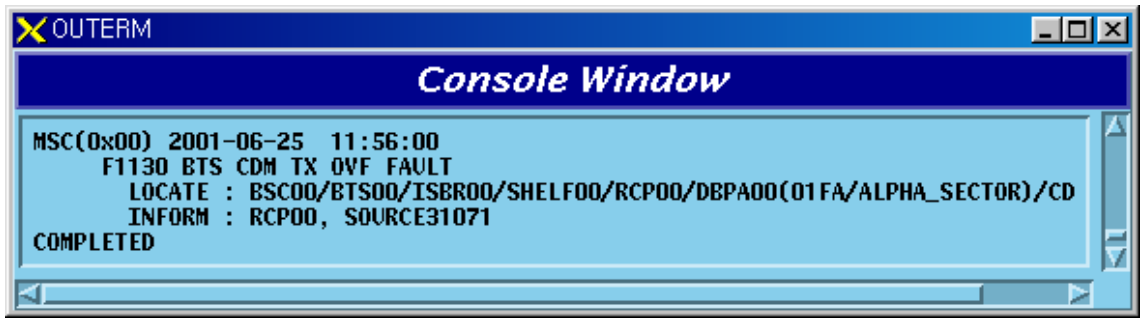



Fig. 5.1-328 CDM TX Over-Flow Fault

5) CDM TX M2R DATA Error

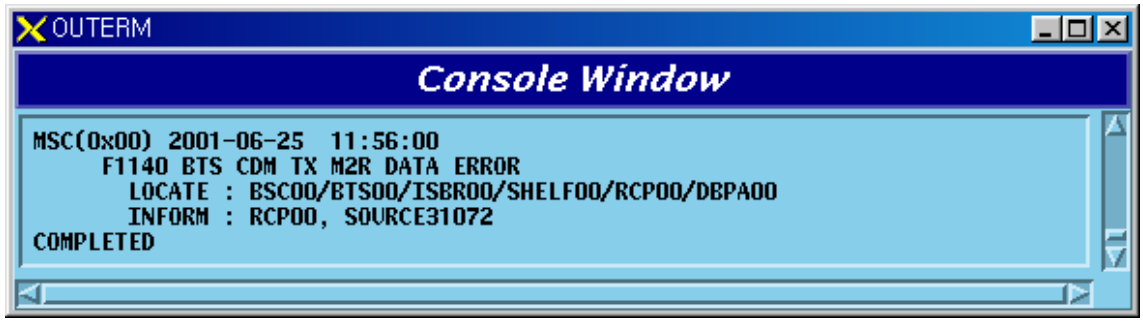


Fig. 5.1-329 CDM TX M2R DATA Error

6) CDM TX R2B DATA Error

```
OUTERM
Console Window
MSC(0x00) 2001-06-25  11:56:00
     F1150 BTS CDM TX R2B DATA ERROR
       LOCATE : BSC00/BTS00/ISBR00/SHELF00/RCP00/BUDA00
       INFORM : RCP00, SOURCE31073
COMPLETED
```

Fig. 5.1-330 CDM TX R2B DATA Error

7) CDM RX B2R DATA Error

```
OUTERM
Console Window
MSC(0x00) 2001-06-25  11:56:00
     F1160 BTS CDM RX B2R DATA ERROR
       LOCATE : BSC00/BTS00/ISBR00/SHELF00/RCP00/DBPA00(01FA/ALPHA_SECTOR)/CD
       INFORM : RCP00, SOURCE31074
COMPLETED
```

Fig. 5.1-331 CDM RX B2R DATA Error

8) OverHead Channel Config No Received Fault

```
OUTERM
Console Window
MSC(0x00) 2001-06-25  11:56:00
     F1170 BTS OVERHEAD CHANNEL CONFIG NO RECEIVED FAULT
       LOCATE : BSC00/BTS00/ISBR01/SHELF95/RCP96/DBPA00
       INFORM : RCP96, SOURCE31081
COMPLETED
```

Fig. 5.1-332 OverHead Channel Config No Received Fault

9) OverHead Channel Config Invalid Fault

```
OUTERM
Console Window
MSC(0x00) 2001-06-25  11:56:00
     F1180 BTS OVERHEAD CHANNEL CONFIG INVALID FAULT
       LOCATE : BSC00/BTS00/ISBR01/SHELF95/RCP96/DBPA00
       INFORM : RCP96, SOURCE31082
COMPLETED
```

Fig. 5.1-333 OverHead Channel Config Invalid Fault

### 5.1.2.4. DBPA Processing-related Fault

1) When faults occur in DBPA Internal Even Clock

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1300 BTS DBPA INTERNAL EVEN CLOCK FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA01
       INFORM : BSP, SOURCE31100(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-334 DBPA Internal Even Clock Fault

2) When faults occur in DBPA External System Clock

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1301 BTS DBPA EXTERNAL SYSTEM CLOCK FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA02
       INFORM : BSP, SOURCE31101(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-335 DBPA External System Clock Fault

3) When DBPA Channel Card can not receive TOD within 10 seconds

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1302 BTS DBPA TOD NOT ACTIVE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA03
       INFORM : BSP, SOURCE31102(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-336 DBPA TOD Not Active Fault

4) DBPA Common Channel No Free Queue Fail

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1303 BTS DBPA CMC NO FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA04
       INFORM : BSP, SOURCE31103(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-337 DBPA CMC No Free Queue Fault

5) When faults occur in DBPA Internal System Clock

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1304 BTS DBPA INTERNAL SYNC CLOCK FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA05
       INFORM : BSP, SOURCE31104(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-338 DBPA Internal Sync Clock Fault

6) DBPA Core No Free Queue Fail

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1305 BTS DBPA CORE NO FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA01
       INFORM : BSP, SOURCE31105(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-339 DBPA Core No Free Queue Fault

7) DBPA Queue Put Fail

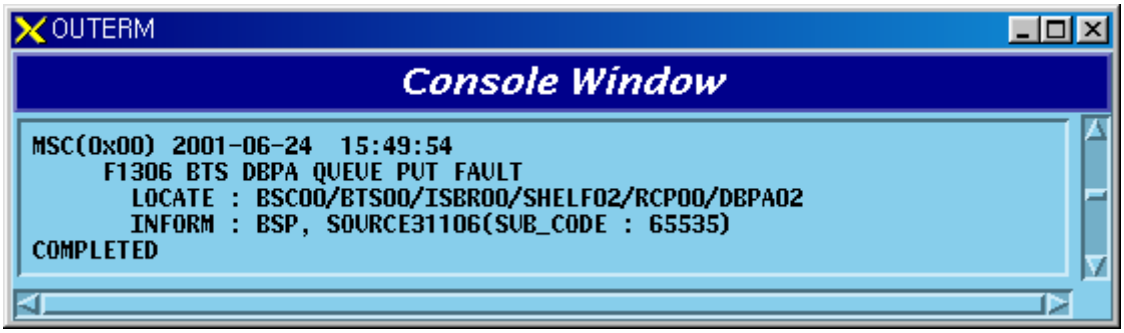



Fig. 5.1-340 DBPA Queue Put Fault

8) DBPA Queue Get Fail

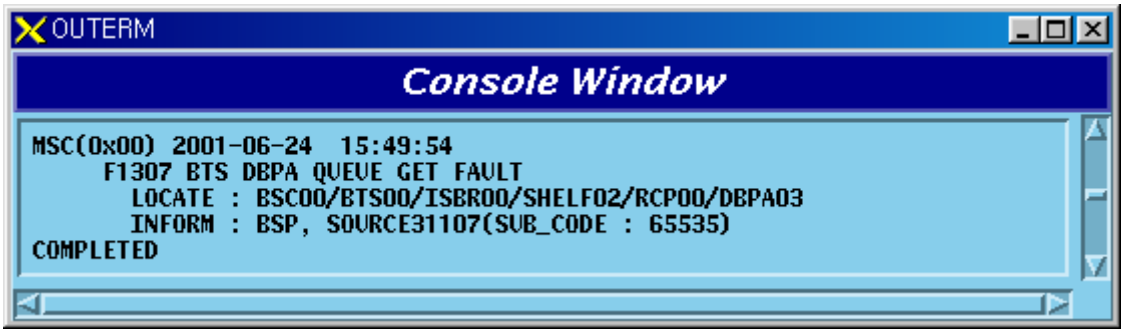



Fig. 5.1-341 DBPA Queue Get Fault

9) DPBA S/W WatchDog TimeOut Fail

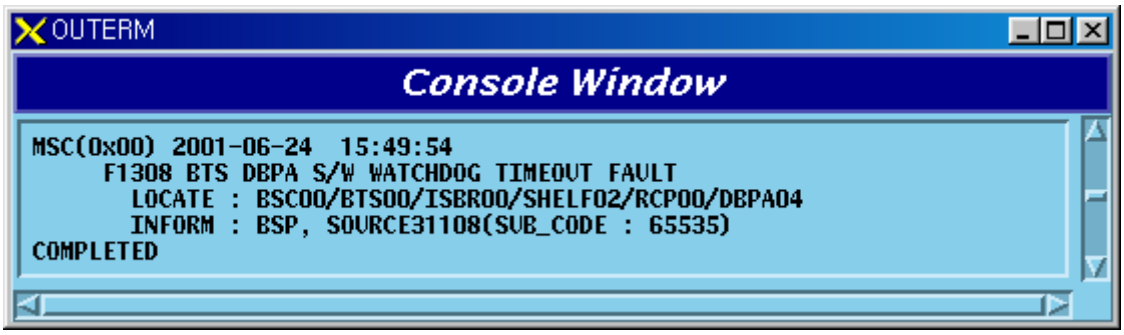



Fig. 5.1-342 DBPA S/W Watchdog Timeout Fault

10) DBPA Fatal Fault

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1309 BTS DBPA FATAL FAULT
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA05
       INFORM : BSP, SOURCE31109(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-343 DBPA Fatal Fault

11) When DBPA Clock and Modem Control are bad

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1310 BTS DBPA BAD CHANNEL MODEM FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA01
       INFORM : BSP, SOURCE31110(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-344 DBPA Bad Channel Modem Fault

12) When DBPA has a false TOD information

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1311 BTS DBPA EXTERNAL TOD FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA02
       INFORM : BSP, SOURCE31111(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-345 DBPA External TOD Fault

13) DBPA Internal OS Clock Fail

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1312 BTS DBPA INTERNAL OS CLOCK FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA03
       INFORM : BSP, SOURCE31112(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-346 DBPA Internal OS Clock Fault

14) DBPA BIT Chip Fail

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1313 BTS DBPA BIT FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA04
       INFORM : BSP, SOURCE31113(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-347 DBPA BIT Fail

### 5.1.2.5. Channel-related Fault

1) When messages cannot be transferred to SVC because Message Queue for messages to be delivered to SVC is empty

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1400 BTS DBPA TC NO SVC FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA01/CE01
       INFORM : RCP00, SOURCE31120(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-348 DBPA TC No SVC Free Queue Fail

2) When Queue resources that save messages from BSP and RCP are used up

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1410 BTS DBPA TC NO NORMAL FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA02/CE02
       INFORM : RCP00, SOURCE31128(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-349 DBPA TC No Normal Free Queue Fail

3) When a problem occurs during Built-In Test

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1420 BTS DBPA TC TX FIFO FULL FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA03/CE03
       INFORM : RCP00, SOURCE31129(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-350 DBPA TC Tx FWHENO Full Fail

4) When Queue resources that save messages to be sent to BSP are used up

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1510 BTS DBPA ACH NO FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA04/CE04
       INFORM : RCP00, SOURCE31141(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-351 DBPA ACH No Free Queue Fail

5) When Encoder Queue resources are used up

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1600 BTS DBPA PC NO ENCODER FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA05/CE05
       INFORM : RCP00, SOURCE31160(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-352 DBPA PC No Encoder Free Queue Fail

6) When Queue resources that save page messages except General Page messages are used up

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:54
     F1610 BTS DBPA PC NO PAGE FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA06/CE06
       INFORM : RCP00, SOURCE31161(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-353 DBPA PC No Page Free Queue Fail

7) When Queue resources that save Quick Page messages are used up

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:55
     F1620 BTS DBPA PC NO QUICK PAGE FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA07/CE07
       INFORM : RCP00, SOURCE31163(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-354 DBPA PC No Quick Page Free Queue Fail

8) When Queue resources that save Reply Message are consumed as Reply is requested for the messages from BSP

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:55
     F1630 BTS DBPA PC NO REPLY FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA08/CE08
       INFORM : RCP00, SOURCE31164(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-355 DBPA PC No Reply Free Queue Fail

9) When Write errors occur more than 20 times continuously as Paging Channel performs Write Frame every 20ms

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:55
     F1640 BTS DBPA PC WRITE FRAME FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA09/CE09
       INFORM : RCP00, SOURCE31166(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-356 DBPA PC Write Frame Fail

10) When Queue resources that save General Page messages from BSP are consumed

```
OUTERM
Console Window
MSC(0x00) 2001-06-24  15:49:55
     F1650 BTS DBPA PC NO GENERAL PAGE FREE QUEUE FAIL
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/DBPA01/CE00
       INFORM : RCP00, SOURCE31167(SUB_CODE : 65535)
COMPLETED
```

Fig. 5.1-357 DBPA PC No General Page Free Queue Fail

### 5.1.2.6. BUDA Processing-related Fault

1) BUDA CHIPx16 Fault

```
OUTERM
Console Window
MSC(0x00) 2001-06-25  15:50:45
     F1700 BTS BUDA CHIPx16 FAULT
       LOCATE : BSC00/BTS00/ISBR00/SHELF02/RCP00/BUDA00_ALPHA_SECTOR(00FA
       INFORM : RCP00, SOURCE31201
COMPLETED
```

Fig. 5.1-358 BUDA CHIPx16 Fault

2) BUDA Forward Sync Fault

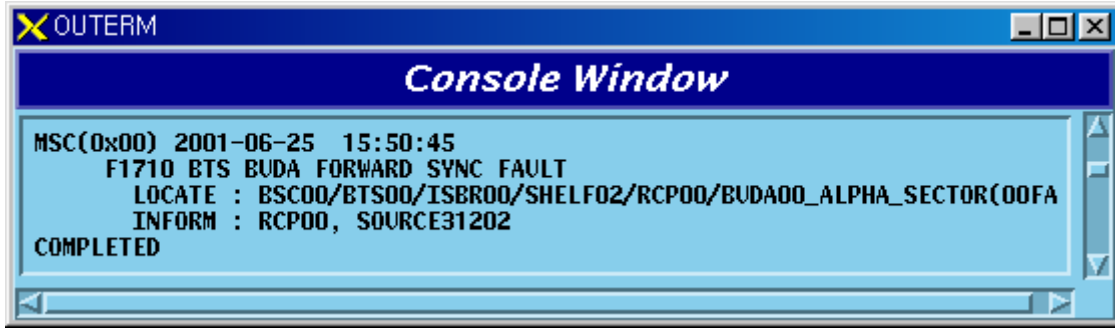



Fig. 5.1-359 BUDA Forward Sync Fault

3) BUDA Tx Saturation Fault

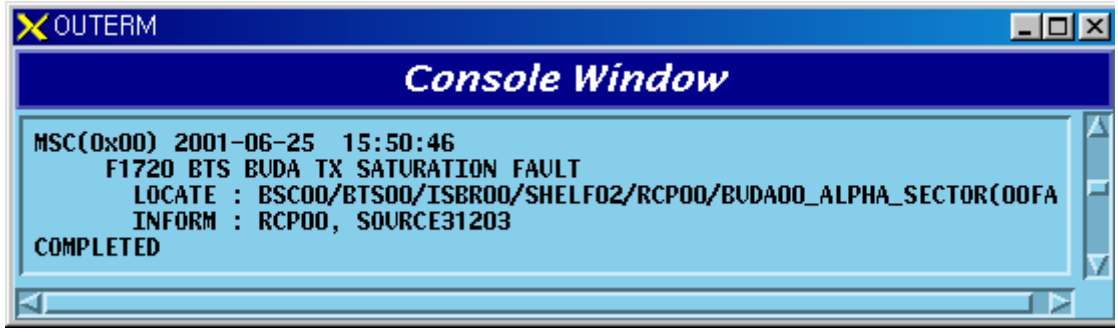



Fig. 5.1-360 BUDA Tx Saturation Fault

4) BUDA Frame Error Fault

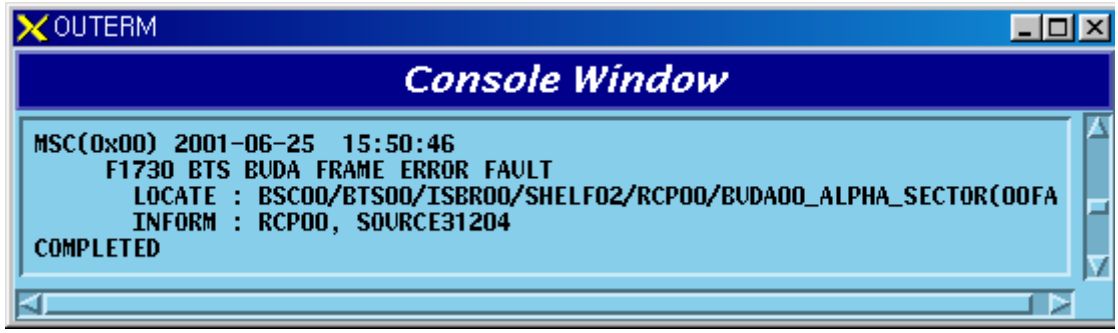



Fig. 5.1-361 BUDA Frame Error Fault

### 5.1.2.7. BOTA Processing-related Fault

1) BOTA TOD Error Fault

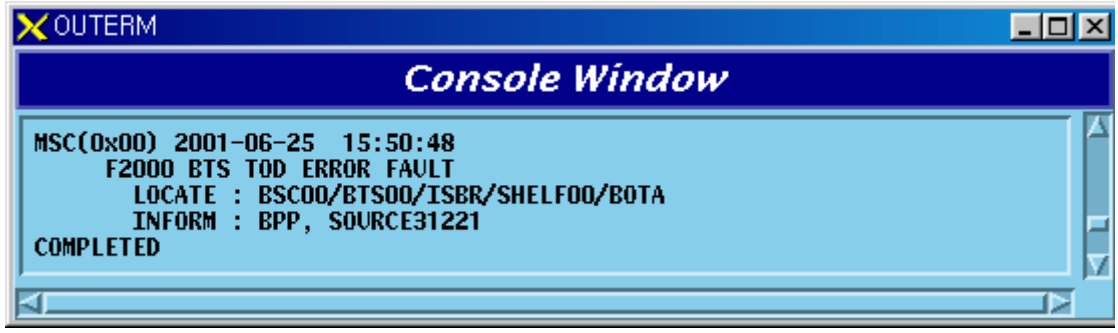



Fig. 5.1-362 BOTA TOD Error Fault

2) BOTA TOD Not Active Fault

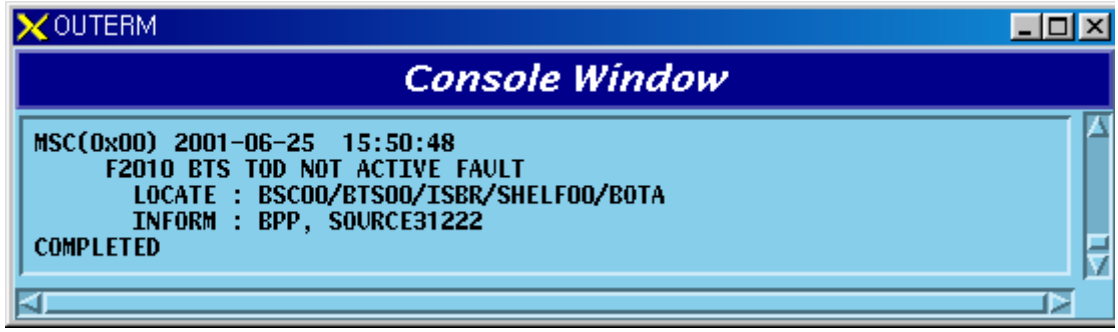



Fig. 5.1-363 BOTA TOD Not Active Fault

# 5.2. Status Command

## 5.2.1. Processor Status Change Report

When processor status is changed in state block, the status change report messages are displayed on Console Window. This function can allow or inhibit messages display as a function that allows/inhibits the status message display..

### 5.2.1.1. CNP Status Change Report

When CNP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSM keeps Alive and displays the messages, judging from the BSM status block.

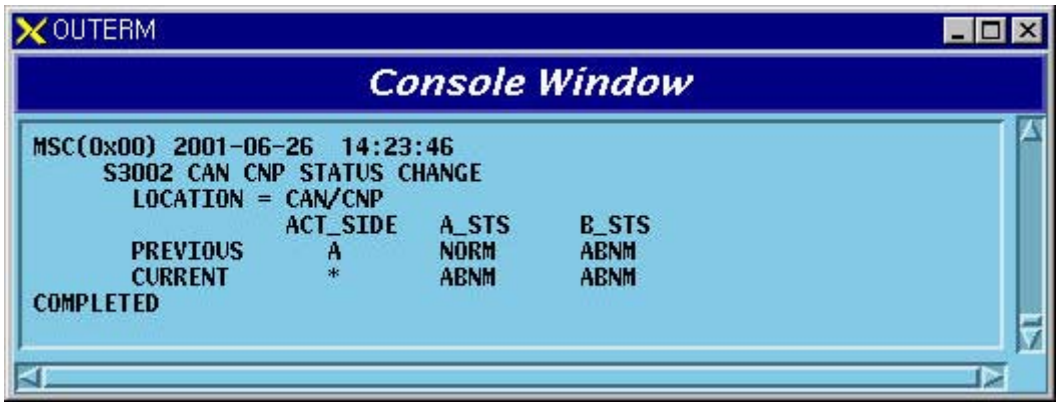



Fig. 5.2-1 CNP Processor Status Change Report

### 5.2.1.2. PNP Status Change Report

When PNP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSM keeps Alive and displays the messages, judging from the BSM status block.

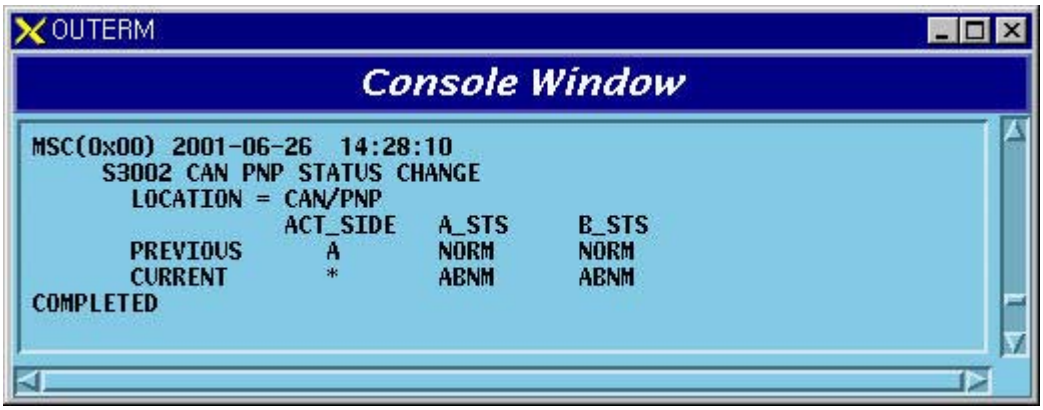



Fig. 5.2-2 PNP Processor Status Change Report

### 5.2.1.3. PCP Status Change Report

When PCP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSM keeps Alive and displays the messages, judging from the BSM status block.

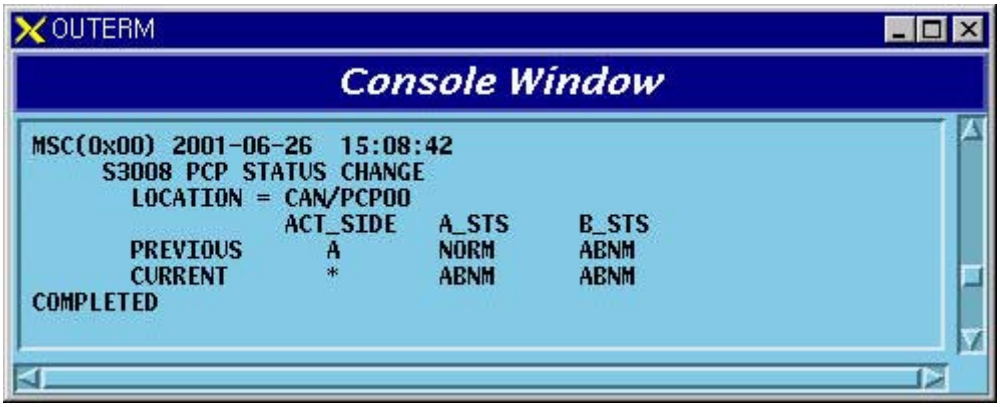



Fig. 5.2-3 PCP Processor Status Change Report

### 5.2.1.4. PMP Status Change Report

When PMP processor status is changed, the messages are displayed on Console Window. It is the processor that PCP keeps Alive and reports the messages to the upper level BSM, judging from the PCP status block.

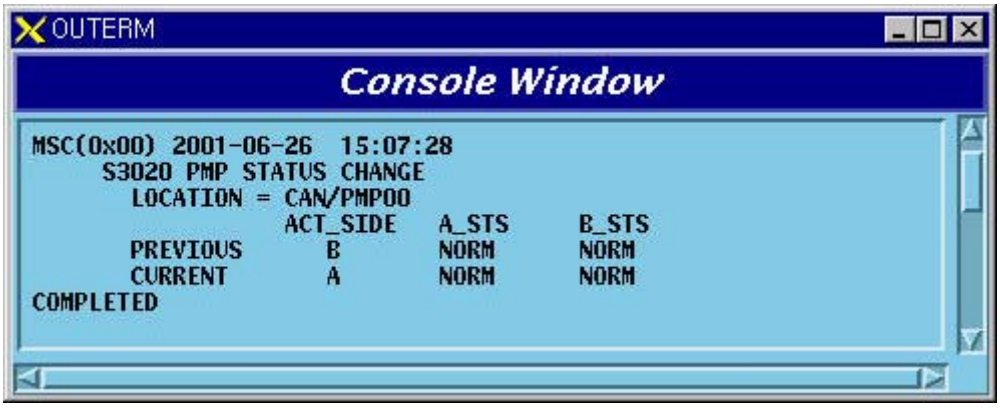



Fig. 5.2-4 PMP Processor Status Change Report

### 5.2.1.5. CCP Status Change Report

When CCP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSM keeps Alive and displays the messages, judging from the BSM status block.

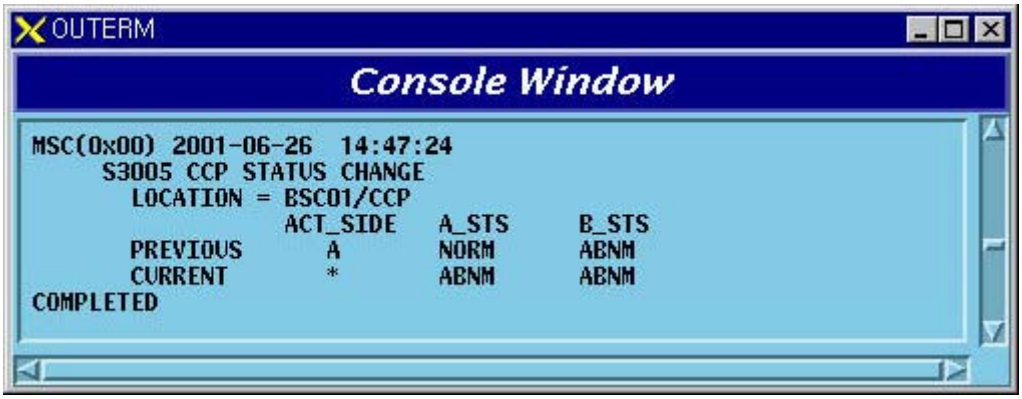



Fig. 5.2-5 CCP Processor Status Change Report

### 5.2.1.6. NCP Status Change Report

When NCP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSM keeps Alive and displays the messages, judging from the BSM status block.

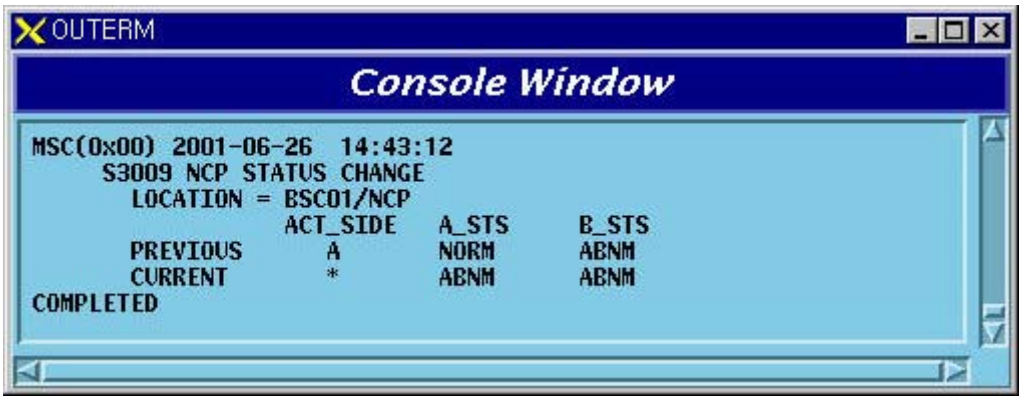



Fig. 5.2-6 NCP Processor Status Change Report

### 5.2.1.7. SCP Status Change Report

When SCP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSM keeps Alive and displays the messages, judging from the BSM status block.

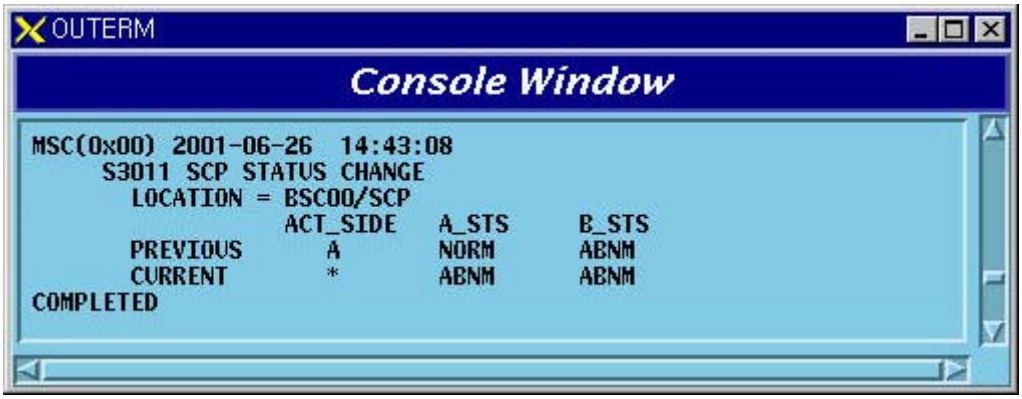



Fig. 5.2-7 SCP Processor Status Change Report

### 5.2.1.8. SMP Status Change Report

When SMP processor status is changed, the messages are displayed on Console Window. It is the processor that the CCP keeps Alive and reports the messages to the upper level BSM, judging from the CCP status block.

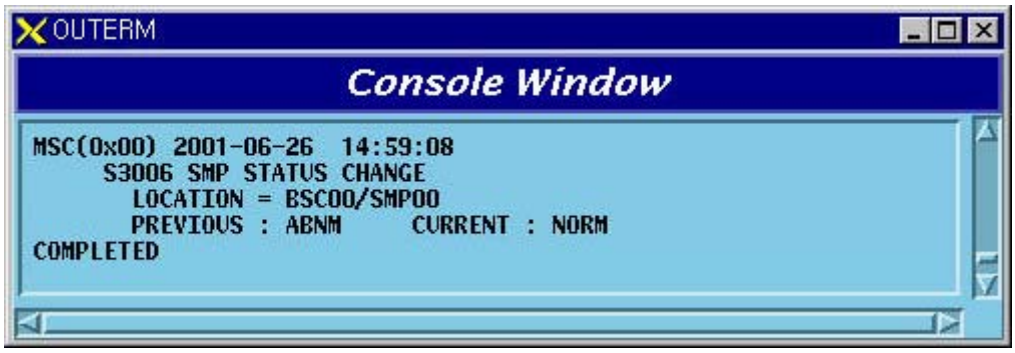



Fig. 5.2-8 SMP Processor Status Change Report

### 5.2.1.9. VMP Status Change Report

When VMP processor status is changed, the messages are displayed on Console Window. It is the processor that the CCP keeps Alive and reports the messages to the upper level BSM, judging from the CCP status block.

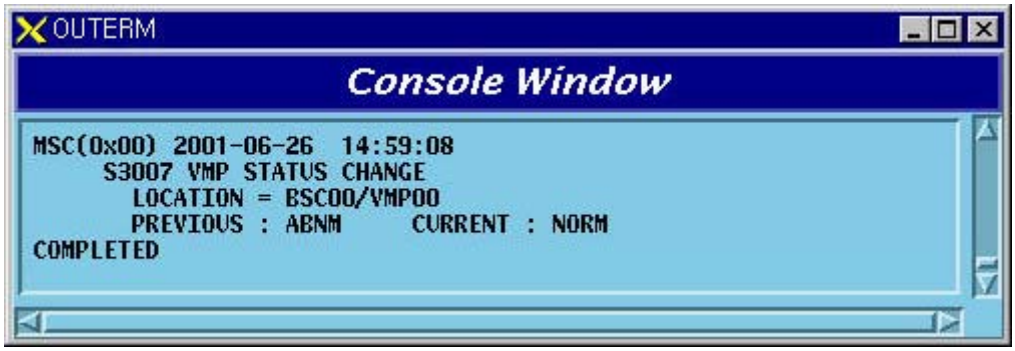



Fig. 5.2-9 VMP Processor Status Change Report

### 5.2.1.10. ALP Status Change Report

When ALP processor status is changed, the messages are displayed on Console Window. It is the processor that the CCP keeps Alive and reports the messages to the upper level BSM, judging from the CCP status block.

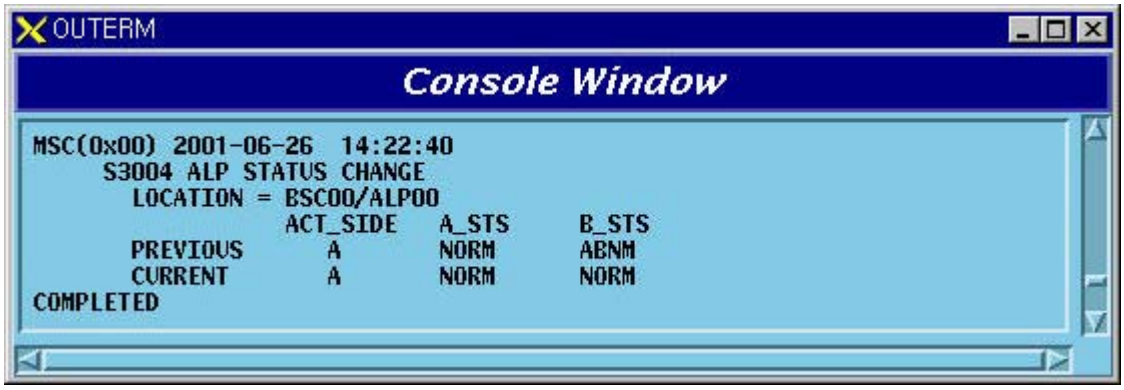



Fig. 5.2-10 ALP Processor Status Change Report

### 5.2.1.11. BSP Status Change Report

When BSP processor status is changed, the messages are displayed on Console Window. It is the processor that the CCP keeps Alive and reports the messages to the upper level BSM, judging from the CCP status block.

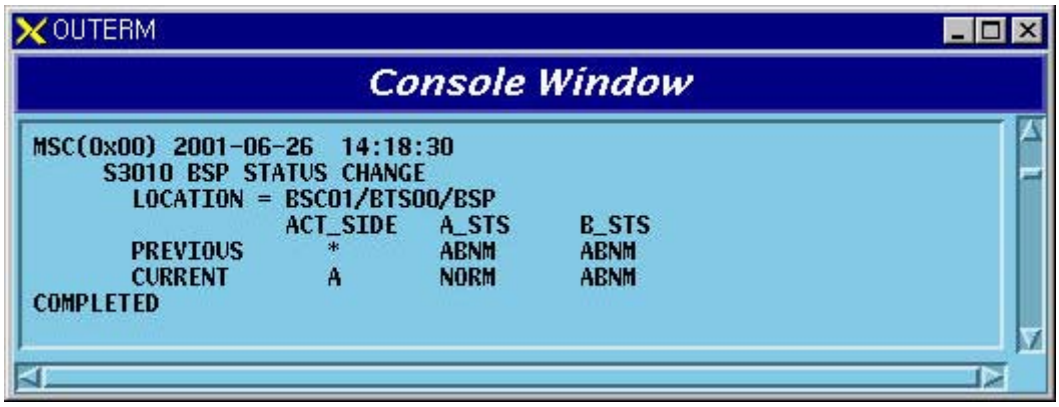



Fig. 5.2-11 BSP Processor Status Change Report

### 5.2.1.12. CRP Status Change Report

When CRP processor status is changed, the messages are displayed on Console Window. It is the processor that the NCP keeps Alive and reports the messages to the upper level BSM, judging from the NCP status block.

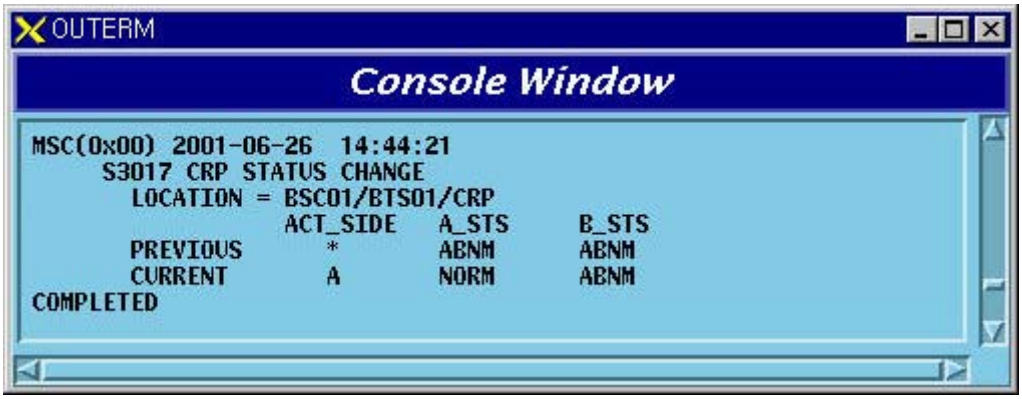



Fig. 5.2-12 CRP Processor Status Change Report

### 5.2.1.13. RCP Status Change Report

When RCP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSP keeps Alive and reports the messages to the upper level BSM, judging from the BSP status block.

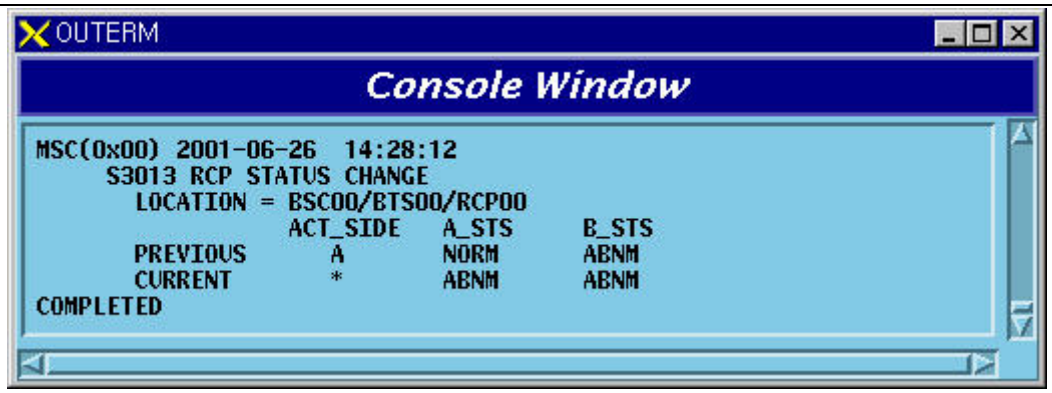



Fig. 5.2-13 RCP Processor Status Change Report

### 5.2.1.14. BPP Status Change Report

When BPP processor status is changed, the messages are displayed on Console Window. It is the processor that the BSP keeps Alive and reports the messages to the upper level BSM, judging from the BSP status block.

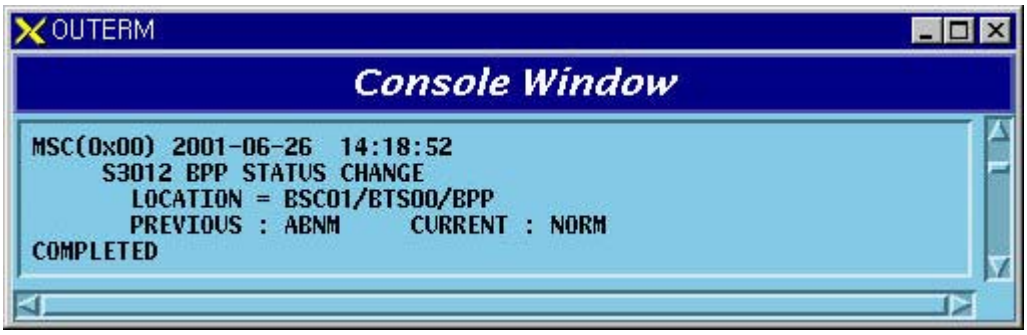



Fig. 5.2-14 BPP Processor Status Change Report

## 5.2.2. Overload Status Change Report Function

When overload occurs/is changed/is released in CCP or BSP processor, it is displayed on Console Window. This function can allow or inhibit message display as a function that allows/inhibits the status message display.

### 5.2.2.1. Overload Status Occurred Message

When overload occurs in CCP or BSP processor, it is reported to upper level BSM. Overload occurs when Level is 12.

Fig. 5.2-15 Overload Status Occurred Message

### 5.2.2.2. Overload Status Change Message

After overload occurs in CCP or BSP processor, when overload status is changed, it is reported to upper level BSM.

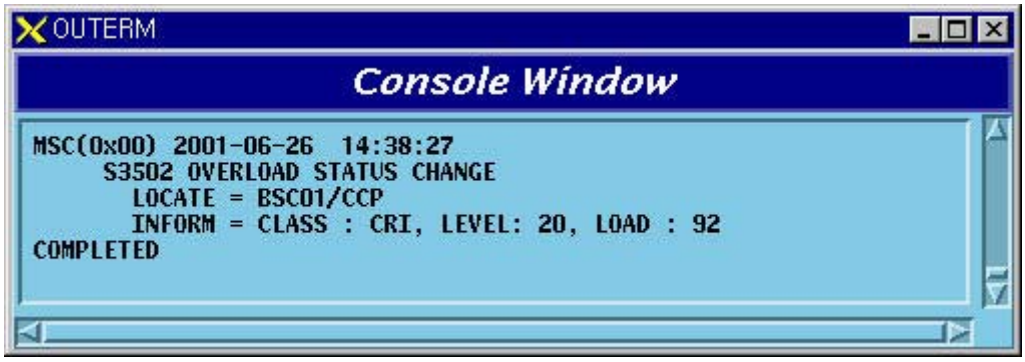



Fig. 5.2-16 Overload Status Change Message

### 5.2.2.3. Overload Status Released Message

When overload is released in CCP or BSP processor, it is reported to upper level BSM.

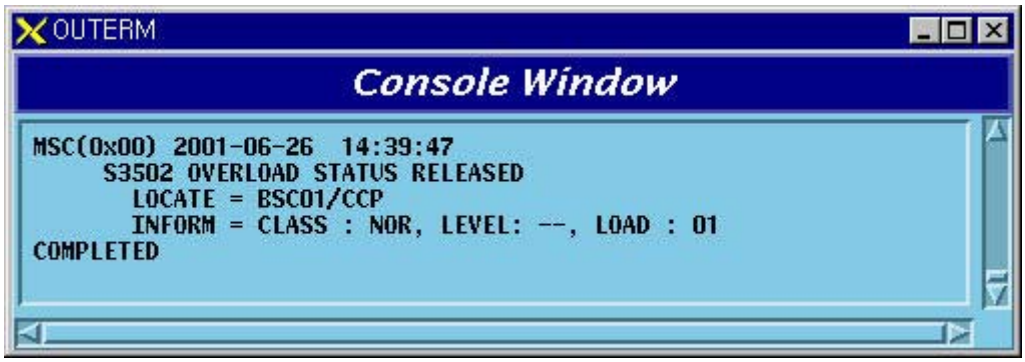



Fig. 5.2-17 Overload Status Released Message

# 5.3. Loading Message

## 5.3.1. Processor Initialization Start Message

Processor initialization start message is displayed when a target processor starts initialization. The following messages are displayed depending on the initialization type.

| Classification | Message Type |
|---|---|
| Initial Loading | S2002 PROCESSOR INITIALIZATION START |
| Standby Loading | S2002 PROCESSOR STANDBY INITIALIZATION START |

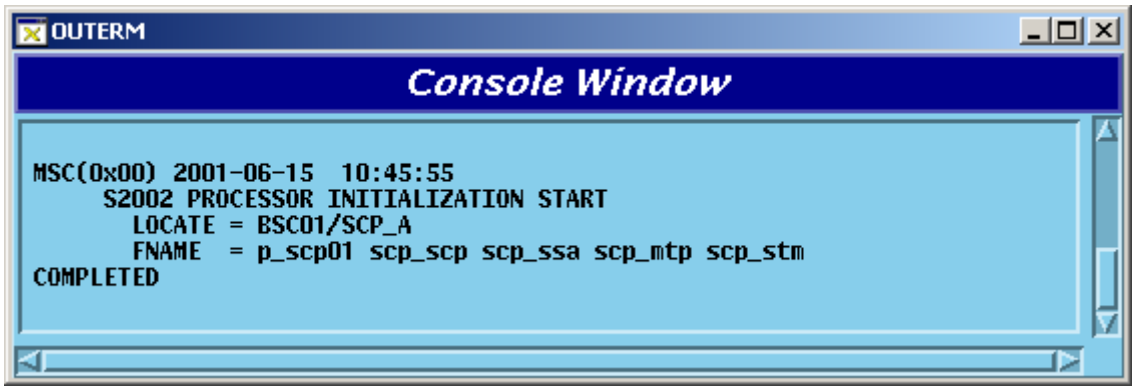



Fig. 5.3-1 Processor Initialization Start Message

## 5.3.2. Processor Initialization End Message

Processor initialization end message is displayed when a target processor ends initialization. The following messages are displayed depending on the initialization type.

| Classification | Message Type |
|---|---|
| Initial Loading | S2100 PROCESSOR INITIALIZATION END |
| Standby Loading | S2100 PROCESSOR STANDBY INITIALIZATION END |

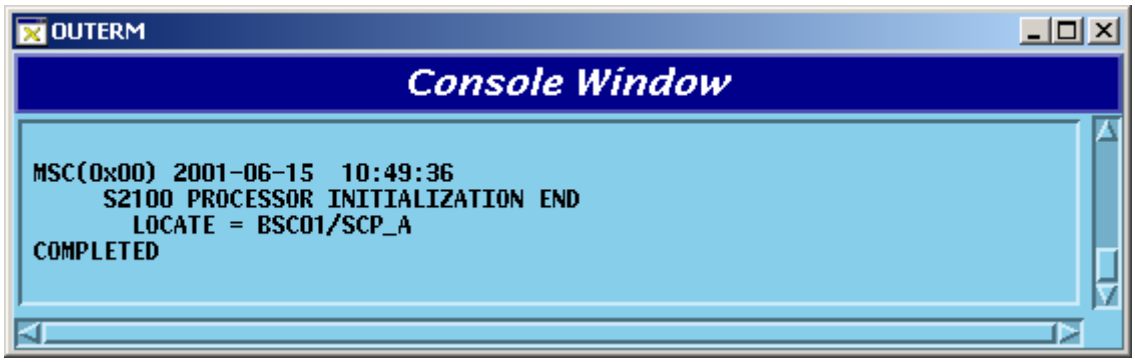



Fig. 5.3-2 Processor Initialization End Message

## 5.3.3. Loading Start Message

Processor loading start message is a message that reports loading start of each block upon loading target processor. The following messages are displayed depending on the loading type.

| Classification | Message Type |
|---|---|
| General Loading | S2000 PROCESSOR LOADING START |
| Block Loading | S2000 PROCESSOR BLOCK LOADING START |
| Activation Loading | S2000 PROCESSOR ACTIVATION LOADING START |
| Standby Loading | S2000 PROCESSOR STANDBY LOADING START |
| Firmware Loading | S2000 PROCESSOR FIRMWARE LOADING START |

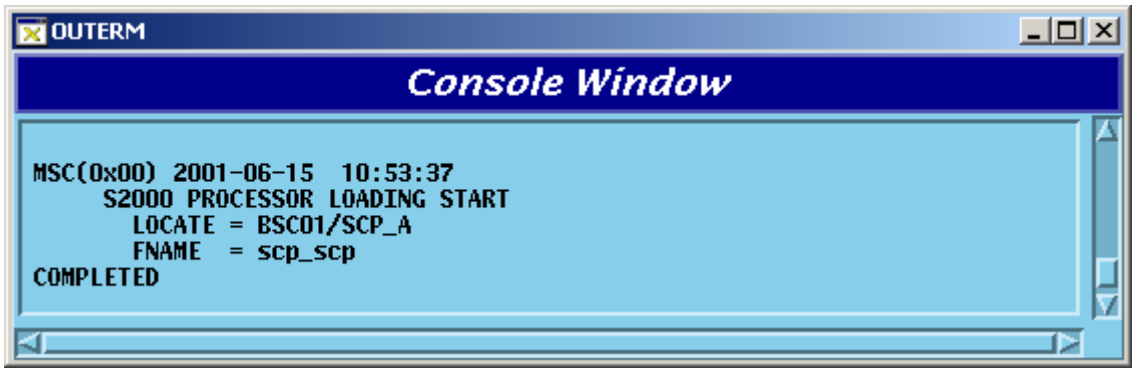



Fig. 5.3-3 Loading Start Message

## 5.3.4. Loading Completion Message

Processor loading completion message is a message that reports loading completion of each block upon loading target processor. The following messages are displayed depending on the loading type.

| Classification | Message Type |
|---|---|
| General Loading | S2001 PROCESSOR LOADING COMPLETE |
| Block Loading | S2001 PROCESSOR BLOCK LOADING COMPLETE |
| Activation Loading | S2001 PROCESSOR ACTIVATION LOADING COMPLETE |
| Standby Loading | S2001 PROCESSOR STANDBY LOADING COMPLETE |
| Firmware Loading | S2001 PROCESSOR FIRMWARE LOADING COMPLETE |

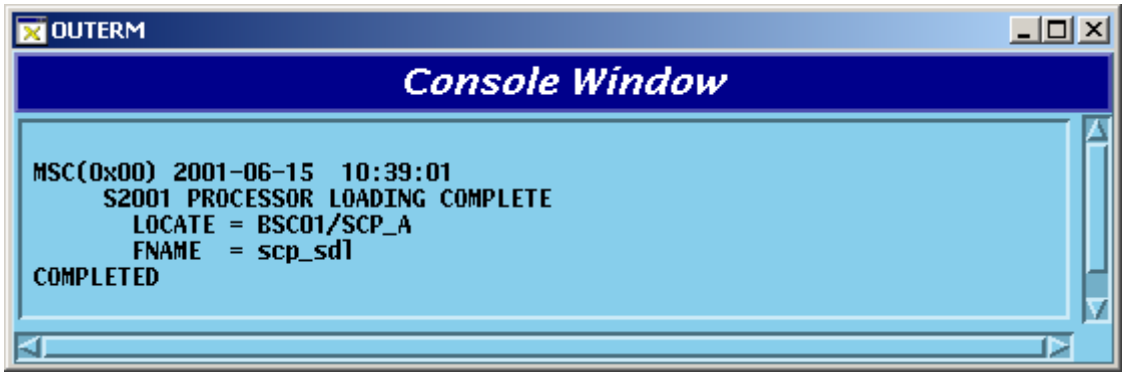



Fig. 5.3-4 Loading Completion Message

## 5.3.5. Loading Failure Message

Processor loading failure message is a message displayed when block fails in loading upon loading target processor. The following messages are displayed depending on the loading type.

| Classification | Message Type |
|---|---|
| General Loading | S2105 PROCESSOR LOADING FAIL |
| Block Loading | S2105 PROCESSOR BLOCK LOADING FAIL |
| Activation Loading | S2105 PROCESSOR ACTIVATION LOADING FAIL |
| Standby Loading | S2105 PROCESSOR STANDBY LOADING FAIL |

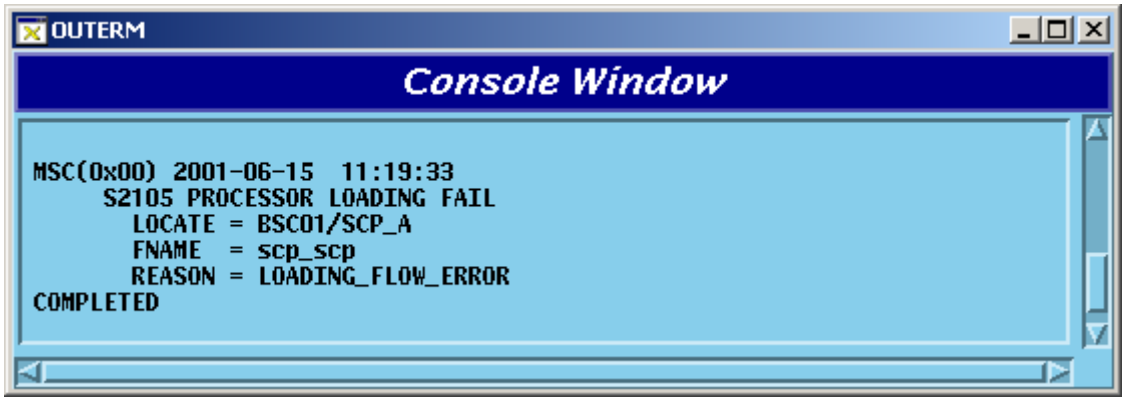



Fig. 5.3-5 Loading Failure Message

## 5.3.6. Firmware Update Report Message

Firmware update report message is a message that reports if the update succeeds when firmware update is completed.

# 6. Trouble Shoot

This chapter describes problems caused by operating and solution to them.

## 6.1. If BSM is not operated

### 6.1.1. If BSM is not initialized

#### 6.1.1.1. Shared Memory or Queue Problem

##### 6.1.1.1.1. IPC Initialization Problem

- If the following messages are displayed

```
start of MMI_server program
[mmi] mmi is already in service.
        You can remove a file "IPCHEAD" and try again... sorry!!!
```

The above cases can occur when BSM is already initialized and used or when the formerly executed BSM ends abnormally or by force. When these cases occur, it is possible to delete them compulsorily using *rmipc* command provided by BSM. However, when initializing IPC by force, perform the work after checking if it is currently in operation. (See " Overlapped Use Problem of IPC" if UNIX ID which operated BSM previously is different from the ID currently logged in.

##### 6.1.1.1.2. Overlapped Use Problem of IPC

- BSM initialization and operation can be performed by logging in as one UNIX ID. But after executing BSM by logging in as other UNIX IDs, none can reoperate BSM except the operated ID. Therefore, check Queue and Shared Memory currently in use by using UNIX command called *"/usr/bin/ipcs –a"* to see if other IDs operated BSM. In this case, remove the generated IPC Header and the assigned IPC by performing *"rmipc"* command with ID or UNIX Root authorization that operates BSM

### 6.1.1.1.3. If IPC is not deleted

- If IPC is not deleted by *"rmipc"* command to operate BSM, delete it by force through the following command.

  ipcrm [ -m shmid ] [ -q msqid ] [ -s semid ] [ -M shmkey ]
  [ -Q msgkey ] [ -S semkey ]

  Description of each factor

  -m shmid Remove the shared memory identWhenier shmid from the system. The shared memory segment and data structure associated with it are destroyed after the last detach.

  -q msqid Remove the message queue identWhenier msqid from the system and destroy the message queue and data structure associated with it.

  -s semid Remove the semaphore identWhenier semid from the system and destroy the set of semaphores and data structure associated with it.

  -M shmkey Removes the shared memory identWhenier, created with key shmkey, from the system. The shared memory segment and data structure associated with it are destroyed after the last detach.

  -Q msgkey Remove the message queue identWhenier, created with key msgkey, from the system and destroy the message queue and data structure associated with it.

  -S semkey Remove the semaphore identWhenier, created with key semkey, from the system and destroy the set of

semaphores and data structure associated with it.

### 6.1.2. It can not function normally despite of its initialization

#### 6.1.2.1. Informix Problem

BSM Applications are saved as temporary data and data for reference in other blocks using Informix Database. Therefore, if Informix does not operate, BMS Applications cannot be run or run abnormally.

##### 6.1.2.1.1. Informix Initialization

Check to see if Informix Database is normally operated by using the following command:
"*onstat –*"

Normal if messages similar to the following are displayed.

Informix Dynamic Server Version 7.31.UD1 -- On-Line -- Up 1 days 22:53:08 -- 133904 Kbytes

If error messages are displayed, refer to the item " Informix Installation" of BSM environmental configuration.

##### 6.1.2.1.2. Informix Database Error

Informix DB errors occur in the following cases: 1) when Database is damaged while operating the BSM; 2) when Applications are not normally run after normal initialization of Informix and 3) when a part of all Applications cannot be run. In this case, it is able to run Applications normally by dropping DB Table of Informix Database artificially.

## 6.2. If Graphic Application is not run

BSM inputs a command in the user-friendly environment and provides a variety of GUIs to monitor the system. However, the user should check the environment to run GUI.

The following describes causes for errors and its solution when environment variables are wrongly set up or the files needed for operating GUI do not exist.

## 6.2.1. Environment Variables

### 6.2.1.1. Display Setup Problem

Register the system that corresponds to /etc/host files to protect BSM from external Access and allow to use the authenticated system.
Make the format consistent with the following contents:

#### 6.2.1.1.1. Main Server Name

```
150.150.62.100   zen.lgic.co.kr     zen      loghost
```

In the above example, it is /etc/hosts file to operate the host called "zen" as a main server.
If the following is registered, the BSM causes segmentation fault and stops operation.

```
150.150.62.100   zen        zen.lgic.co.kr   loghost
```

#### 6.2.1.1.2. Remote Server

Even if PC/Workstation to be operated in remote area is the same as the above item, register the following contents in /etc/hosts file.

```
150.150.62.102   feel.lgic.co.kr            feel
```

The above example is the contents that register the system called "feel" to access the Main Server. Register the following contents in a /etc/hosts file of the
Main Server.

### 6.2.1.2. GUI Library

When GUI is operated, the following messages are displayed on xterm window that runs mmi. If GUI is not operated, it can be regarded as GUI without library.

```
ld.so.1: stmGUI: fatal: libXpm.so.4.10: open failed: No such file or directory
Killed
```

The above is an example when GUI is not operated in spite of the attempt to operate GUI called "stmGUI". It means that libXpm.so.x.xx file does not exist as shown above. In this case, two problems can be taken into consideration.

#### 6.2.1.2.1. LD_LIBRARY_PATH Setup

Setting up GUI Library is to change the system environment variables called *LD_LIBRARY_PATH*. The following is an example of how to set up variables.

setenv LD_LIBRARY_PATH "*paths*"

The above path would be composed of the following contents:
/home/informix/lib:/home/informix/lib/esql:/opt/TclPro1.5/solaris-sparc/lib:/usr/openwin/lib:/usr/lib:/usr/ucblib:/usr/dt/lib:../DATA/LIB

GUI Libraries are generally installed in "/usr/dt/lib" or "/usr/openwin/lib". However, add ":*your_lib_path_dir*" upon using them additionally.

#### 6.2.1.2.2. libXpm File Absence

Even though OS is normally installed, XPM Library is not provided as a basic. Therefore, it is possible to set up by duplicating XPM Library provided by BSM and by adding Library to variables. Refer to the above item "LD_LIBRARY_PATH" for setting up.

## 6.2.2. If Manager in Remote Area is not operated

For safety, BSM does not allow to use two managers in one system remotely. Therefore, check to see if it corresponds to the following cases:

### 6.2.2.1. If the same name is already used

Check to see if the system attempting a remote operation uses the name already. It is possible to check if it is registered by operating controller on Main BSM Server. In this case, if the current system does not use the name, it means that it was abnormally terminated during the previous use. Therefore, it will be possible to reuse it if Main BSM controller deletes the corresponding host name.

#### 6.2.2.2. If it is not registered in /etc/hosts file

It is when registration is not allowed for security reasons. In this case, refer to how to compile /etc/hosts file of BSM environment variables setting among the above items and then add remote server name.

# 7. CHG- Appendix

## 7.1. Alarm/Fault Message Description and List

### 7.1.1. Alarm Message Description and List

#### 7.1.1.1. CAN Generated Alarm Message

Table 7.1-1 CAN Generated Alarm Message List

| Alarm Code | Alarm Description |
|---|---|
| A7500 | CAN GPSR CONTROL CABLE OPEN |
| A7600 | CAN ALARM CABLE OPEN |
| A7800 | CAN RACK FAN FAIL |
| A8000 | CAN GPSR SINGLE ABNORMAL |
| A8001 | CAN GPSR DUAL ABNORMAL |
| A8050 | CAN GPSD SINGLE ABNORMAL |
| A8051 | CAN GPSD DUAL ABNORMAL |
| A8100 | CAN RAPU ABNORMAL |
| A8110 | CAN RAPU LINK_OR_POWER FAIL |
| A8500 | CAN CNPA SINGLE ABNORMAL |
| A8501 | CAN CNPA DUAL ABNORMAL |
| A8550 | CAN ASCA(CAMU) SINGLE ABNORMAL |
| A8551 | CAN ASCA(CAMU) DUAL ABNORMAL |
| A8560 | CAN FERA SINGLE ABNORMAL |
| A8561 | CAN FERA DUAL ABNORMAL |
| A8570 | CAN ASCA(CPNU) SINGLE ABNORMAL |
| A8571 | CAN ASCA(CPNU) DUAL ABNORMAL |
| A8600 | CAN PNPA SINGLE ABNORMAL |
| A8601 | CAN PNPA DUAL ABNORMAL |
| A8700 | CAN AMPA ABNORMAL |
| A8710 | CAN PCPA SINGLE ABNORMAL |
| A8711 | CAN PCPA DUAL ABNORMAL |
| A8720 | CAN PMPA SINGLE ABNORMAL |

| | |
|---|---|
| A8721 | CAN PMPA DUAL ABNORMAL |
| A8730 | CAN ENPA SINGLE ABNORMAL |
| A8731 | CAN ENPA DUAL ABNORMAL |
| A8740 | CAN BCRA SINGLE ABNORMAL |
| A8741 | CAN BCRA DUAL ABNORMAL |
| A8800 | CAN PCPA 1PPS CLOCK FAIL |
| A8810 | CAN PCPA 10MHz CLOCK FAIL |
| A8820 | CAN FERA LINK FAIL |
| A8840 | CAN FERA PDSN LINK FAIL |
| A9000 | CAN CAMU SINGLE POWER FAIL |
| A9001 | CAN CAMU DUAL POWER FAIL |
| A9010 | CAN PCFU(PCP) SINGLE POWER FAIL |
| A9011 | CAN PCFU(PCP) DUAL POWER FAIL |
| A9020 | CAN PCFU(PMP) SINGLE POWER FAIL |
| A9021 | CAN PCFU(PMP) DUAL POWER FAIL |
| A9030 | CAN ATSU SINGLE POWER FAIL |
| A9031 | CAN ATSU DUAL POWER FAIL |
| A9040 | CAN CPNU SINGLE POWER FAIL |
| A9041 | CAN CPNU DUAL POWER FAIL |
| A9220 | CAN ASIA(CAMU) SINGLE ABNORMAL |
| A9221 | CAN ASIA(CAMU) DUAL ABNORMAL |
| A9230 | CAN ASIA(CPNU) SINGLE ABNORMAL |
| A9231 | CAN ASIA(CPNU) DUAL ABNORMAL |
| A9240 | CAN AOTA BOARD DELETION |
| A9250 | CAN AOTA FUNCTION FAIL |
| A9260 | CAN ATSA(ASMU) BOARD DELETION |
| A9270 | CAN ATSA(ASMU) FUNCTION FAIL |
| A9300 | CAN PIPA BOARD DELETION |
| A9310 | CAN PIPA FUNCTION FAIL |
| A9320 | CAN FETA BOARD DELETION |
| A9330 | CAN FETA FUNCTION FAIL |
| A9400 | CAN ATSA(ATSU) BOARD DELETION |
| A9410 | CAN ATSA(ATSU) FUNCTION FAIL |

### 7.1.1.2. BSC Generated Alarm Message

Table 7.1-2 BSC Generated Alarm Message List

| Alarm Code | Alarm Description |
|---|---|
| A4600 | BSC ALARM CABLE OPEN |
| A4800 | BSC RACK FAN FAIL |
| A5500 | BSC NCPA SINGLE ABNORMAL |
| A5501 | BSC NCPA DUAL ABNORMAL |
| A5510 | BSC ALP SINGLE ABNORMAL |
| A5511 | BSC ALP DUAL ABNORMAL |
| A5550 | BSC ALMA SINGLE ABNORMAL |
| A5551 | BSC ALMA DUAL ABNORMAL |
| A5560 | BSC ASCA SINGLE ABNORMAL |
| A5561 | BSC ASCA DUAL ABNORMAL |
| A5700 | BSC CCPA SINGLE ABNORMAL |
| A5701 | BSC CCPA DUAL ABNORMAL |
| A5710 | BSC SCPA SINGLE ABNORMAL |
| A5711 | BSC SCPA DUAL ABNORMAL |
| A5720 | BSC SLMA ABNORMAL |
| A5730 | BSC VCMA ABNORMAL |
| A5800 | BSC CCPA 1PPS CLOCK FAIL |
| A5810 | BSC CCPA 10MHz CLOCK FAIL |
| A6000 | BSC CCPU SINGLE POWER FAIL |
| A6001 | BSC CCPU DUAL POWER FAIL |
| A6010 | BSC ASMU SINGLE POWER FAIL |
| A6011 | BSC ASMU DUAL POWER FAIL |
| A6020 | BSC ALBU SINGLE POWER FAIL |
| A6021 | BSC ALBU DUAL POWER FAIL |
| A6030 | BSC SLBU POWER FAIL |
| A6040 | BSC VCBU POWER FAIL |

| | |
|---|---|
| A6220 | BSC ASIA SINGLE ABNORMAL |
| A6221 | BSC ASIA DUAL ABNORMAL |
| A6240 | BSC AOTA BOARD DELETION |
| A6250 | BSC AOTA FUNCTION FAIL |
| A6260 | BSC ATSA BOARD DELETION |
| A6270 | BSC ATSA FUNCTION FAIL |
| A6280 | BSC ALPA BOARD DELETION |
| A6290 | BSC ALPA FUNCTION FAIL |
| A6300 | BSC STIA BOARD DELETION |
| A6310 | BSC STIA FUNCTION FAIL |
| A6350 | BSC STIA SHW LINK FAIL |
| A6400 | BSC SLPA BOARD DELETION |
| A6410 | BSC SLPA FUNCTION FAIL |
| A6500 | BSC VCPA BOARD DELETION |
| A6510 | BSC VCPA FUNCTION FAIL |
| A6520 | BSC VLIA BOARD DELETION |
| A6530 | BSC VLIA FUNCTION FAIL |
| A6540 | BSC VLIA T1(E1) #x REMOTE ERROR |
| A6541 | BSC VLIA T1(E1) #x LOCAL ERROR |
| A6542 | BSC VLIA T1(E1) #x SLIP ERROR |
| A6543 | BSC VLIA T1(E1) #x BIT ERROR |
| A6610 | BSC CCP ABID BOARD DELETION |
| A6611 | BSC NCP ABID BOARD DELETION |
| A6620 | BSC SMP SAID BOARD DELETION |
| A6630 | BSC SMP SINGLE CLOCK FAIL |
| A6631 | BSC SMP DUAL CLOCK FAIL |
| A6640 | BSC VMP SAID BOARD DELETION |
| A6650 | BSC VMP SINGLE CLOCK FAIL |
| A6651 | BSC VMP DUAL CLOCK FAIL |
| A6900 | BSC ALPA E1/T1 LINK NODE FAIL |
| A6910 | BSC ALPA STM1 LINK NODE FAIL |

### 7.1.1.3. BTS Generated Alarm Message

Table 7.1-3 BTS Generated Alarm Message List

| Alarm Code | Alarm Description |
|---|---|
| A0100 | BTS TEMPERATURE HIGH ALARM |
| A0110 | BTS TEMPERATURE LOW ALARM |
| A0120 | BTS WATER HIGH ALARM |
| A0130 | BTS WATER LOW ALARM |
| A0140 | BTS FIRE ALARM |
| A0150 | BTS HUMIDITY HIGH ALARM |
| A0160 | BTS FRONT/REAR DOOR OPEN ALARM |
| A0170 | BTS SIDE DOOR OPEN ALARM |
| A0200 | BTS ACU MODULE FAIL |
| A0210 | BTS LPA FAN FAIL |
| A0220 | BTS FAN FAIL |
| A0300 | BTS COLD START ALARM |
| A0310 | BTS RECTIFIER UNIT FAIL |
| A0320 | BTS VOLTAGE HIGH ALARM |
| A0321 | BTS VOLTAGE LOW ALARM |
| A0330 | BTS AC FAIL |
| A0340 | BTS BATTERY LOW VOLTAGE ALARM |
| A0350 | BTS FUSE/RELAY LOSS ALARM |
| A0360 | BTS DMC-14 FAIL |
| A0370 | BTS POWER CUT ALARM |
| A0380 | BTS HEAT EXCHANGER POWER FAIL |
| A0381 | BTS HEAT EXCHANGER FAIL |
| A0390 | BTS AC EQUIPMENT HEATER FAIL |
| A0391 | BTS AC BATTERY HEATER FAIL |
| A0400 | BTS FLOOD ALARM |
| A0410 | BTS DOOR #1 OPEN FAIL |
| A0411 | BTS DOOR #2 OPEN FAIL |

| | |
|---|---|
| A0420 | BTS RECTIFIER #1 FAIL |
| A0421 | BTS RECTIFIER #2 FAIL |
| A0430 | BTS AIRCON #1 FAIL |
| A0431 | BTS AIRCON #2 FAIL |
| A0440 | BTS WATER LEAKAGE ALARM |
| A0500 | BTS GPSR CONTROL CABLE OPEN |
| A0600 | BTS ALARM CABLE OPEN |
| A0610 | BTS FAN CABLE OPEN |
| A0620 | BTS ENVIRONMENT ALARM CABLE OPEN |
| A0800 | BTS RACK FAN FAIL |
| A1000 | BTS GPS SINGLE ABNORMAL |
| A1001 | BTS GPS DUAL ABNORMAL |
| A1500 | BTS BCRA SINGLE ABNORMAL |
| A1501 | BTS BCRA DUAL ABNORMAL |
| A1550 | BTS DRAN POWER FAIL |
| A1560 | BTS DRAN FUNCTION FAIL |
| A1700 | BTS BSPA SINGLE ABNORMAL |
| A1701 | BTS BSPA DUAL ABNORMAL |
| A1750 | BTS RCPA SINGLE ABNORMAL |
| A1751 | BTS RCPA DUAL ABNORMAL |
| A1760 | BTS BPPA BOARD DELETION |
| A1770 | BTS BPPA FUNCTION FAIL |
| A1800 | BTS BSPA 1PPS CLOCK FAIL |
| A1810 | BTS BSPA 10MHz CLOCK FAIL |
| A1850 | BTS RCMD BOARD DELETION |
| A1860 | BTS RCMD FUNCTION FAIL |
| A2000 | BTS BSPU SINGLE POWER FAIL |
| A2001 | BTS BSPU DUAL POWER FAIL |
| A2010 | BTS RCBU SINGLE POWER FAIL |
| A2011 | BTS RCBU DUAL POWER FAIL |
| A2300 | BTS DBPA BOARD DELETION |
| A2310 | BTS DBPA FUNCTION FAIL |
| A2320 | BTS BUDA BOARD DELETION |

| | |
|---|---|
| A2330 | BTS BUDA FUNCTION FAIL |
| A2340 | BTS PACA BOARD DELETION |
| A2350 | BTS PACA FUNCTION FAIL |
| A2400 | BTS BADA POWER FAIL |
| A2410 | BTS BADA FUNCTION FAIL |
| A2420 | BTS LICA BOARD DELETION |
| A2430 | BTS LICA FUNCTION FAIL |
| A2440 | BTS ARIA BOARD DELETION |
| A2450 | BTS ARIA FUNCTION FAIL |
| A2470 | BTS BOTA POWER FAIL |
| A2480 | BTS BOTA FUNCTION FAIL |
| A2490 | BTS RISA FUNCTION FAIL |
| A2491 | BTS RISA POWER FAIL |
| A2500 | BTS LPA BOARD DELETION |
| A2510 | BTS LPA FUNCTION FAIL |
| A2520 | BTS LPA CONBINER FAIL |
| A2530 | BTS LPA CONBINER FAN FAIL |
| A2540 | BTS LPA DC/DC ALARM |
| A2550 | BTS LPA VSWR ALARM |
| A2560 | BTS LPA DISABLE ALARM |
| A2570 | BTS LPA OVER POWER WARNING |
| A2580 | BTS LPA OVER TEMPERATURE ALARM |
| A2590 | BTS LPA OVER POWER ALARM |
| A2600 | BTS LNA BOARD DELETION |
| A2610 | BTS LNA FUNCTION FAIL |
| A2700 | BTS HPA BOARD DELETION |
| A2710 | BTS HPA POWER FAIL |
| A2720 | BTS HPA POWER SUPPLY FAIL |
| A2730 | BTS HPA VSWR ALARM |
| A2740 | BTS HPA DISABLE ALARM |

## 7.1.2. Fault Message Description and List

Table 7.1-4 Fault Message List

| Alarm Code | Alarm Description |
|---|---|
| F1000 | BTS PROCESSOR KEEP-ALIVE FAULT |
| F1100 | BTS STM SYSTEM TIME FAULT |
| F1110 | BTS CDM TX PARITY FAULT |
| F1120 | BTS CDM RX PARITY FAULT |
| F1130 | BTS CDM TX OVF FAULT |
| F1140 | BTS CDM TX M2R DATA ERROR |
| F1150 | BTS CDM TX R2B DATA ERROR |
| F1160 | BTS CDM RX B2R DATA ERROR |
| F1170 | BTS CHANNEL CONFIG NO RECEIVED ERROR |
| F1180 | BTS CHANNEL CONFIG DATA INVALID ERROR |
| F1300 | BTS DBPA INTERNAL EVEN SEC ERROR |
| F1301 | BTS DBPA EXTERNAL SYSTEM CLOCK ERROR |
| F1302 | BTS DBPA TOD NOT ACTIVE |
| F1303 | BTS DBPA NO BTSC FREE Q Error |
| F1304 | BTS DBPA INTERNAL 80ms CLOCK Error |
| F1305 | BTS DBPA DIAG NO FREE Q FAULT |
| F1306 | BTS DBPA QUEUE PUT FAULT |
| F1307 | BTS DBPA QUEUE GET FAULT |
| F1308 | BTS DBPA S/W WATCHDOG TIMEOUT FAULT |
| F1309 | BTS DBPA FATAL FAULT |
| F1310 | BTS DBPA BAD CHANNEL MODEM FAULT |
| F1311 | BTS DBPA TOD Error |
| F1312 | BTS DBPA INTERNAL OS CLOCK Error |
| F1313 | BTS DBPA BIT CHIP FAULT |
| F1400 | BTS DBPA TC NO SI OUT FREE Q ERROR |
| F1410 | BTS DBPA TC NO NORMAL FREE Q ERROR |
| F1420 | BTS DBPA TC TX FIFO ERROR |
| F1510 | BTS DBPA ACH NO FREE QUEUE ERROR |

| | |
|---|---|
| F1600 | BTS DBPA NO PC ENCODER BUFFER ERROR |
| F1610 | BTS DBPA PC NO PAGE FREE QUEUE ERROR |
| F1620 | BTS DBPA PC NO QUICK PAGE FREE QUEUE ERROR |
| F1630 | BTS DBPA PC NO REPLY FREE QUEUE ERROR |
| F1640 | BTS DBPA PC WRITE FRAME FAIL |
| F1650 | BTS DBPA PC NO GEN PAGE FREE QUEUE ERROR |
| F1700 | BTS BUDA CHIPx16 FAULT |
| F1710 | BTS BUDA FORWARD SYNC FAULT |
| F1720 | BTS BUDA TX SATURATION FAULT |
| F1730 | BTS BUDA FRAME ERROR FAULT |
| F2000 | BTS BPPA TOD ERROR |
| F2010 | BTS BPPA TOD NOT ACTIVE FAULT |
| F3000 | BSC PROCESSOR KEEP-ALIVE FAULT |
| F3020 | BSC VCE QCELP ALGORITHM TEST FAULT |
| F3030 | BSC VCE DSP TEST FAULT |
| F3040 | BSC VLIA E1/T1 TRUNK TIME SLOT FAULT |
| F3050 | BSC CALL FAIL |
| F4000 | BSC PROCESSOR KEEP-ALIVE FAULT |
| F5000 | BSC PROCESSOR KEEP-ALIVE FAULT |
| F7000 | CAN PROCESSOR KEEP-ALIVE FAULT |
| F8000 | CAN PROCESSOR KEEP-ALIVE FAULT |
| F9000 | CAN PROCESSOR KEEP-ALIVE FAULT |

### 7.1.3. Measures for Alarm Message

Table 7.1-5 Measures for Alarm Message

| ALM CODE | Description | Measures |
|---|---|---|
| A0100 (BTS) | Generated when temperature in BTS is far above the basic level, or sensor and ACU are abnormal | If temperature is normal, replace sensor and ACU, and if temperature is high, check if FAN, Air Conditioner. Heat exchanger, etc. are normal. |

| | | |
|---|---|---|
| A0110 (BTS) | Generated when temperature in BTS is below the basic level, or sensor and ACU are abnormal | Upon low temperature, check if heater(Heating PAD) is normal, and upon normal temperature, replace sensor and ACU. |
| A0120 (BTS) | Generated when BTS is submerged owing to natural disaster and other reasons, or sensor and ACU are abnormal | As it does not operate normally even after water subsides, activate BTS through ACU OFF/ON. |
| A0130 (BTS) | Generated right before BTS is submerged owing to natural disaster and other reason, or sensor and ACU are abnormal. | As this alarm reports critical situation of BTS, take necessary measures, and replace sensor and ACU if they are not actually submerged. |
| A0140 (BTS) | Generated when fire occurs in BTS, or sensor and ACU are abnormal. | When sensor and ACU are abnormal, replace sensor and ACU. |
| A0150 (BTS) | Generated when humidity in BTS is higher or lower than the basic level, or sensor and ACU are abnormal. | When humidity is normal, replace sensor and ACU. |
| A0160 (BTS) | Generated when the entrance of BTS is open and closed, or sensor and cable are abnormal. | If the entrance is not open, replace sensor and cable. |
| A0170 (BTS) | Generated when side entrance of BTS is open and closed, or sensor and cable are abnormal. | If the entrance is not open, replace sensor and cable. |
| A0200 (BTS) | Generated when ACU-I4 module is abnormal. | After checking it is normally positioned and power is normal, replace ACU if normal. |
| A0210 (BTS) | Generated when cooling FAN of LPA/HPA is abnormal | Check the power of FAN and replace FAN when power is normal. |
| A0220 (BTS) | Generated when BTS FAN is abnormal | Check the power of FAN and replace FAN when power is normal. |
| A0300 (BTS) | Generated when initial power is applied at a very low temperature (below -5℃) | Release that at more than +5℃. |
| A0310 (BTS) | Generated when rectifier of BTS, AC/DC(MDR30), AC, and power are | Generated when rectifier of BTS, AC/DC(MDR30), AC, and power are |

| | | |
|---|---|---|
| | abnormal | abnormal |
| A0320 (BTS) | If normal, DC 27V is abnormal, but it is generated when voltage of more than 28.5V is supplied. | Replace rectifier if the status continues upon restart. |
| A0321 (BTS) | Generated when BTS rectifier voltage is below 24V (AC-commercial power fail) | If it continues while AC is normal, replace rectifier. |
| A0330 (BTS) | Generated when AC (220V/60Hz) input power is abnormal | Check if power is normally inlet, and check, upon normal inlet, if voltage is within 170V~270V. |
| A0340 (BTS) | Generated when battery voltage is below 22.5V, which is similar to low voltage alarm | Charge battery after recovery of commercial power. Final alarm is generated before shutdown at 20.5V. |
| A0350 (BTS) | Upon initial power application, battery is not connected, or fuse damage of battery power supply circuit. | When upon AC Fail, switchover is not made, replace rectifier. |
| A0360 (BTS) | DMC-I4 fault | If problem continues, replace DMC-I4. |
| A0370 (BTS) | Generated 10 seconds before rectifier shutdown after major fault | When major fault is cleared, recover the rectifier for auto clear. |
| A0380 (BTS) | Heat Exchanger Power Fault | |
| A0381 (BTS) | Heat Exchanger Fault | Check cable, replace FAN, and replace devices. |
| A0390 (BTS) | Internal Heater Fault | Check cable, replace FAN, and replace devices. |
| A0391 (BTS) | Heating Pad Fault | Replace power cable and heater. |
| A0400 (BTS) | BTS submersion | As it does not automatically operate even after water subsides, activate BTS by ACU OFF/ON. |
| A0410 (BTS) | BTS Door #1 Open | Check BTS Door and close the open door. |
| A0411 (BTS) | BTS Door #2 Open | Check BTS Door and close the open door. |

| | | |
|---|---|---|
| A0420 (BTS) | Rectifier #1 Fault | Replace rectifier. |
| A0421 (BTS) | Rectifier #2 Fault | Replace rectifier. |
| A0430 (BTS) | Aircon #1 fault | Check if AirCon operates, and replace that upon non-operation. |
| A0431 (BTS) | Aircon #2 fault | Check if AirCon operates, and replace that upon non-operation. |
| A0440 (BTS) | Water leakage | Prevent A/C water leakage from its affecting BTS operation. Replace sensor and ACU. |
| A0500 (BTS) | Generated when GPS Control Cable of corresponding rack, shelf is open. Check if Control Cable is normal. | After checking BackBoard Cable, replace that if abnormal. If not connected, take quick measure. |
| A0600 (BTS) | Generated when alarm cable of corresponding rack, shelf is open. Check if Alarm Cable is normal. | After checking BackBoard Cable, replace that if abnormal. If not connected, take quick measure. |
| A0610 (BTS) | Generated when Rack FAN Alarm Cable is Open. | After checking BackBoard Cable, replace that if abnormal. If not connected, take quick measure. |
| A0620 (BTS) | Generated when alarm cable of environmental sensor is open | Check cable connection, and replace that if normally connected. |
| A0800 (BTS) | Generated when Rack FAN Alarm Cable is Open. | After checking BackBoard Cable, replace that if abnormal. If not connected, take quick measure. |
| A1000 (BTS) | Generated when the status of the other board is abnormal while one side of dual GPS-R is normal. | As alarm generated from GPS-R may be generated owing to board deletion, GPS-R Antenna Cable Failure , OSC failure, etc., check up that. Replace power output module. |
| A1001 (BTS) | Generated when both sides of dual GPS-R are abnormal. | As alarm generated from GPS-R may be generated owing to board deletion, GPS-R Antenna Cable Failure , OSC failure, etc., check up that. Replace power output module. |
| A1500 | Generated when the status of the | BCRA HW mounting check or INIT |

| | | |
|---|---|---|
| (BTS) | other board is abnormal while one side of dual BCRA is normal | LED red or OFF, BCRA non-operation/ BCRA HW check |
| A1501 (BTS) | Generated when both sides of dual BCRA are abnormal. | BCRA HW mounting check or INIT LED red or OFF, BCRA non-operation/ BCRA HW check |
| A1700 (BTS) | Generated when the other side is abnormal while one side of dual BSP(UCPA) is normal | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A1701 (BTS) | Generated when both sides of dual BSP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A1750 (BTS) | Generated when the other side is abnormal while one side of dual RCP(RCCA) is normal.( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A1751 (BTS) | Generated when both sides of dual RCP(RCCA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A1760 (BTS) | Generated when BPPA is removed | Check the status of BPPA by status check command. Check BPPA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A1770 (BTS) | Generated when BPPA application falls into free running loop, thus generating watchdog, and Fault -address/bus error- occurs by BPPA application malfunction, and hardware is reset by Low Power warning | Check the status of BPPA by status check command. Check BPPA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board |
| A1800 (BTS) | Generated when 1pps clock reception from GPS-R fails, or received clock is wrong. | Check power, 1pps cable and UCPA H/W. |
| A1810 (BTS) | Generated when 10MHz Clock reception from GPS-R fails, or received clock is wrong | Check power, 10MHz cable and UCPA H/W. |
| A1850 | Generated when BTS RCMD board is | Check if RCMD board is removed |

| | | |
|---|---|---|
| (BTS) | deleted. | and mount that if removed. |
| A1860 (BTS) | Generated when CPU or FPGA Fail occurs in RCMD board. | Check the following as to RCMD.( check FAIL LED ON/R.C execution/R.C result) |
| A2000 (BTS) | Generated when one side of dual PRI boards of BSPB, BANB is abnormal. | Check power and replace that if abnormal. |
| A2001 (BTS) | Generated when both sides of dual PRI boards of BSPB, BANB are abnormal. | Check power and replace that if abnormal. |
| A2010 (BTS) | Generated when one side of dual PRI boards of RCCB, DBPB is abnormal. | Check power and replace that if abnormal. |
| A2011 (BTS) | Generated when both sides of dual PRI boards of BSPU, BANU are abnormal. | Check power and replace that if abnormal. |
| A2300 (BTS) | Generated when DBPA is removed | Check DBPA Slot, and if normal, check Backboard Pin, and if abnormal, replace board. |
| A2310 (BTS) | Generated when DBPA is removed or abnormal owing to other cause | Check DBPA Slot, and if normal, check Backboard Pin, and if abnormal, replace board |
| A2320 (BTS) | Generated when BUDA is removed. | Check BUDA Slot, and if normal, and if normal, check Backboard Pin, and if abnormal, replace board. |
| A2330 (BTS) | Generated 10MHz or PLL(IF,RF, 7.2(DCN case)) or DC power (5Vd, +/-12Va, 5Va) fail, or reset. | - REF(10MHz) : Check 10M Cable, and if normal, replace BUDA.<br>- SYNT1(RF PLL) : Replace BUDA.<br>- SYNT2(IF PLL) : Replace BUDA.<br>- SYNT3(7.2MHz) : Replace BUDA. |
| A2340 (BTS) | PACA removal (active high). | Check PACA Slot, and if normal, check Backboard Pin, and if abnormal, replace board. |
| A2350 (BTS) | - power fail : TTL<br>- H/W, S/W Reset<br>- PLL LOCK Fail (TTL)<br>- GPS 10MHz Reference Signal Fail(TTL) | - H/W, S/W Reset : auto recovery<br>- PLL Lock Fail : Check RCCA status or replace board.<br>- GPS Signal Fail : Check PACA GPS Input Cable. |

| | | |
|---|---|---|
| | - shunt port open (enable)/Short(disable). | - Aging Fail : Backboard shunt open |
| A2400 (BTS) | Generated +27V status is abnormal. | PWR_FAIL : Check up+27V status supplied from BUS BAR. |
| A2410 (BTS) | MS_OPEN, MAT_OPEN, DPDT_OPEN or CTL_OPEN(BDCD) DC power (27V, +/-12V, 5V) or Reset | - MS_OPEN : check MS status.<br>- MAT_OPEN : check BRMD status.<br>- DPDT_OPEN: check DPDT status.<br>- CTL_OPEN : check BDCD status. |
| A2420 (BTS) | LICA deletion | Check LICA Slot, and if normal, check Backboard Pin, and if abnormal, replace board. |
| A2430 (BTS) | CPU fail, SW reset, HW reset, remote reset, power fail | INIT LED red or OFF, ALPA non-operation/ LICA HW check |
| A2440 (BTS) | ARIA deletion (active high). | By status check command, check the status of ARIA. Check ARIA Slot, and if normal, check BackBoard Pin, and if abnormal, replace board. |
| A2450 (BTS) | When ARIA Application falls into free running loop, thus generating watchdog, and Fault -address/bus error- occurs owing to ARIA application malfunction, and hardware is reset by Low Power warning | Check ARIA status and ARIA Slot, and if normal, check Backboard Pin and if abnormal, replace board. |
| A2470 (BTS) | Power failure (active high) | RUN LED off, BOTA non-operation/BOTA power fail message/ power cable check and BOTA HW check |
| A2480 (BTS) | Reference signal cable open(A AND B) or system clock(A AND B) or even clock(A AND B) or 10M or reset or PLL unlock(A or B or G) or CPU faile | Function Fail LED red, BOTA non-operation/ MMC for fail cause analysis /clock and 10M cable connection check, BOTA HW check |
| A2490 | - H/W, S/W, PWR Reset : TTL High | - H/W, S/W Reset : auto recovery |

| | | |
|---|---|---|
| (BTS) | - PLL LOCK Fail : TTL High | - PLL Lock Fail : RISA status check or board replacement |
| A2491 (BTS) | - Power Fail : TTL High | Power +12V, -12V, +5V, -5V Power Short : H/W replacement and repair |
| A2500 (BTS) | LPA reportsd the status of insertion and deletion to combiner. | Check if LPA is normally installed in combiner. |
| A2510 (BTS) | DC Power off, or switch off, or Major alarm and Disable, or H/W reset. | Check if LPA DC switch is ON / check if DC power is normally applied while LPA is installed / check if major alarm was generated. |
| A2520 (BTS) | Combiner DC power off or Combiner H/W reset. | Check if DC is connected to Combiner #N / check is H/W is reset. |
| A2530 (BTS) | Combiner Alpha FAN fail report. | Check FAN power cable connection/ bad FAN? → FAN replacement |
| A2540 (BTS) | Generated when LPA DC power is unstable. | Check if DC voltage operates within operating voltage(21~30V). |
| A2550 (BTS) | A lot of RF power reflected on LPA output port | Check LPA and combiner RF connection/ check combiner RF output cable connection. |
| A2560 (BTS) | LPA disabled | Send RF enable command. |
| A2570 (BTS) | high input power level. | As it is generated owing to high LPA RF input power level, check RF input power level. |
| A2580 (BTS) | High LPA temperature. | Check if Shelf FAN is normal. |
| A2590 (BTS) | High input Power level. | Drop LPA output level, and send Status request or reset command to enable LPA. |
| A2600 (BTS) | - monitors status monitor line cable open.<br>- connects pin assigned to internal Front End to GROUND. | Check and connect cable. |
| A2610 | Apply power to LNA inside of Front | FEU(LNA) replacement. |

| | | |
|---|---|---|
| (BTS) | End or detect the status of supplied voltage and RF device, and composite them for provision at TTL Active High upon fail with one pin. | |
| A2700 (BTS) | Reports the status of HPA insertion/deletion. | Check if HPA cable is normal. |
| A2710 (BTS) | HPA DC power off or power failure. | Check if HPA DC power is normally supplied. |
| A2720 (BTS) | | |
| A2730 (BTS) | A lot of RF power reflected on HPA output port. | Check if HPA RF output cable connection is normal / replace RF output cable. |
| A2740 (BTS) | HPA disables. | Send HPA enable command. |
| A2750 (BTS) | High HPA temperature | Check if fan that provides ait flow to HPA is normal. |
| A2760 (BTS) | High input Power level / disable alarm along with Over Power warning alarm is defined as over power alarm. | Check if RF input power level is high, which is applied to HPA. |
| A4600 (BSC) | Generated if alarm cable connected to CCSB, ASMB, ALSB, SLB, VCB Shelf is deleted. | Check the status of Alarm Cable, and replace that if normal. |
| A4800 (BSC) | Abnormal FAN in BSC. | Check FAN Alarm Cable, and replace FAN if normal. |
| A5500 (BSC) | Generated when the other side is abnormal while one side of dual NCP(UCPA) is normal.( Board deletion, CPU or FPGA Fail) | Reinstall board upon deletion, or check FAIL LED ON/R.C execution/R.C result. |
| A5501 (BSC) | Generated when both sides of dual NCP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Reinstall board upon deletion, or check FAIL LED ON/R.C execution/R.C result. |
| A5510 | Generated when the other side is abnormal while one side of dual | Reinstall board upon deletion, or check FAIL LED ON/R.C |

| | | |
|---|---|---|
| | ALP(UCPA) is normal.( Board deletion, CPU or FPGA Fail) | execution/R.C result. |
| A5511 | Generated when both sides of dual ALP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Reinstall board upon deletion, or check FAIL LED ON/R.C execution/R.C result. |
| A5550 | Generated when the other side is abnormal while one side of dual ALMA is normal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - check ALMA HW status.<br>- INIT LED red or OFF, ALMA non-operation / ALMA HW check |
| A5551 | Generated when both sides of dual ALMA are abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - Check ALMA HW status.<br>- INIT LED red or OFF, ALMA non-operation/ ALMA HW check |
| A5560 | Generated when the other side is abnormal while one side of dual ASCA is normal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - Check ASCA HW status.<br>- INIT LED red or OFF, ASIA-E non-operation/ Check ASCA HW. |
| A5561 | Generated when both sides of dual ASCA are abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - Check ASCA HW status.<br>- INIT LED red or OFF, ASIA-E non-operation/ ASCA HW check |
| A5700 | Generated when the other side is abnormal while one side of dual CCP(UCPA) is normal.( Board deletion, CPU or FPGA Fail) | Reinstall board upon deletion, or check FAIL LED ON/R.C execution/R.C result. |
| A5701 (BSC) | Generated when both sides of dual CCP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Reinstall board upon deletion, or check FAIL LED ON/R.C execution/R.C result. |
| A5710 (BSC) | Generated when the other side is abnormal while one side of dual CCP(UCPA) is normal.( Board deletion, CPU or FPGA Fail) | Reinstall board upon deletion, or check FAIL LED ON/R.C execution/R.C result. |
| A5711 (BSC) | Generated when both sides of dual CCP(UCPA) are abnormal. ( Board | Reinstall board upon deletion, or check FAIL LED ON/R.C |

| | | |
|---|---|---|
| | deletion, CPU or FPGA Fail) | execution/R.C result. |
| A5720 (BSC) | Generated when SLMA is abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - check SLMA HW status.<br>- INIT LED red or OFF, SLMA non-operation/ SLMA HW check |
| A5730 (BSC) | Generated when VCMA is abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - check VCMA HW status.<br>- INIT LED red or OFF, VCMA non-operation/ VCMA HW check |
| A5800 (BSC) | Generated when CCP fails to receive 1pps Clock from GPS-D, or the received clock is wrong. | Check power, 1PPS cable and UCPA H/W. |
| A5810 (BSC) | Generated when CCP fails to receive 10MHz Clock from GPS-D, or the received clock is wrong. | Check power, 10MHz cable and UCPA H/W. |
| A6000 (BSC) | Generated when one side of dual PRI board is abnormal. | Check power and replace that if abnormal. |
| A6001 (BSC) | Generated when both sides of dual PRI board are abnormal. | Check power and replace that if abnormal. |
| A6010 (BSC) | Generated when one side of dual PRI board is abnormal. | Check power and replace that if abnormal. |
| A6011 (BSC) | Generated when both sides of dual PRI board are abnormal. | Check power and replace that if abnormal. |
| A6020 (BSC) | Generated when one side of dual PRI board is abnormal. | Check power and replace that if abnormal. |
| A6021 (BSC) | Generated when both sides of dual PRI board are abnormal. | Check power and replace that if abnormal. |
| A6030 (BSC) | When PRI board of SLB is abnormal | Check power and replace that if abnormal. |
| A6040 (BSC) | When PEI board of VCB is abnormal | Check power and replace that if abnormal. |
| A6220 (BSC) | Generated when the other side is abnormal while one side of dual ASIA is normal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - check ASIA HW status.<br>- INIT LED red or OFF, ASIA HW check |

| | | |
|---|---|---|
| A6221 (BSC) | Generated when both sides of dual ASIA are abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - check ASIA HW status.<br>- INIT LED red or OFF, ASIA HW check |
| A6260 (BSC) | ATSA Board deletion | Check ATSA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A6270 (BSC) | Generated when ATSA Application falls into free running loop, thus generating watchdog, and Fault - address/bus error occurs owing to ATSA Application malfunction, and hardware is reset | Although it attempts recovery automatically, replace the board if Function Fail continuously occurs. |
| A6280 (BSC) | ALPA Board Deletion | Check ALPA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A6290 (BSC) | CPU fail, SW reset, HW reset, remote reset, power failure | INIT LED red or OFF, ALPA non-operation / ALPA HW check |
| A6300 (BSC) | STIA Board deletion | By state check command, check the status of STIA. Check the status of STIA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A6310 (BSC) | Generated when STIA Application falls into free running loop, thus generating watchdog, and Fault - address/bus error occurs owing to STIA Application malfunction, and hardware is reset | By status check command, check the status of STIA. Generally, auto recovery is attempted, but if Function Fail continues, replace the board. |
| A6350 (BSC) | Generated subhighway cable open from STIA to VLIA. | Check the cable, and if normal, replace STIA. |
| A6400 (BSC) | Generated if SLPA is deleted. | Check SLPA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A6410 (BSC) | Generated when SLPA Application falls into free running loop, thus | Although it attempts recovery automatically, replace the board if |

| | | |
|---|---|---|
| | generating watchdog, and Fault - address/bus error occurs owing to SLPA Application malfunction, and hardware is reset | Function Fail continuously occurs. |
| A6500 (BSC) | VCPA Board deletion | Check VCPA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A6510 (BSC) | Generated when SLPA Application falls into free running loop, thus generating watchdog, and Fault - address/bus error occurs owing to SLPA Application malfunction, and hardware is reset | Although it attempts recovery automatically, replace the board if Function Fail continuously occurs. |
| A6520 (BSC) | VLIA Board deletion | Check VLIA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A6530 (BSC) | Generated when VLIA Application falls into free running loop, thus generating watchdog, and Fault - address/bus error occurs owing to VLIA Application malfunction, and hardware is reset | Although it attempts recovery automatically, replace the board if Function Fail continuously occurs. |
| A6540 (BSC) | Generated when link fault of target MSC on the link between VLIA and MSC is detected | Check the status of the link on MSC part and the status of trunk board. |
| A6541 (BSC) | Local Trunk Error due to Frame Error, Sync Error | Check the status of VLIA kink and replace the board if normal. |
| A6542 (BSC) | When more than 30 slips occur for 1 hour due to environmental cause concerning the link connected to MSC | Check VLIA status and if normal, replace the board. |
| A6543 (BSC) | When more than 288 BIT Errors occur for 1 hour due to environmental cause concerning the link connected to MSC | Check VLIA status and if normal, replace the board. |
| A6610 | Generated if ABID Board of CCSB | Check the status of ABID BOARD, |

| | | |
|---|---|---|
| (BSC) | Shelf is removed. | and if fault occurs despite its connection, replace ABID BOARD. |
| A6611 (BSC) | Generated when ABID Board of ASMB Shelf is removed. | Check the status of ABID BOARD, and if fault occurs despite its connection, replace ABID BOARD. |
| A6620 (BSC) | SAID Board of SLB Shelf is removed. | Check the status of SAID BOARD, and if fault occurs despite its connection, replace SAID BOARD. |
| A6630 (BSC) | When the other clock recept encounters a problem while one side of clock to clock cable of dual SMP is normally received | Check corresponding cable status and CCP status. If normal, replace SMP board. |
| A6631 (BSC) | When the other clock recept encounters a problem while one side of clock to clock cable of dual SMP is normally received | Check corresponding cable status and CCP status. If normal, replace SMP board. |
| A6640 (BSC) | Generated when SAID Board of VCB Shelf is deleted. | Check if SAID BOARD is equipped, and if a fault occurs despite its connection, replace SAID BOARD. |
| A6650 (BSC) | When the other clock receipt encounters a problem while one side of clock to clock cable of dual VMP is normally received | Check corresponding cable status and CCP status. If normal, replace SMP board. |
| A6651 (BSC) | When the other clock receipt encounters a problem while one side of clock to clock cable of dual VMP is normally received | Check corresponding cable status and CCP status. If normal, replace SMP board. |
| A6900 (BSC) | Error of E1/T1 link connected to ALPA (LOSS OF SYNC, REMOTE ALARM INDICATION, ALARM INDICATION SIGNAL, OUT OF FRAME) | Check E1/T1 link cable and ALPA, LICA, and if abnormal, replace that. |
| A6910 (BSC) | Error of STM-1 link connected to ALPA (LOSS OF SYNC, REMOTE ALARM INDICATION, ALARM INDICATION SIGNAL, OUT OF | Check STM-1 link cable and ALPA, LICA, and if abnormal, replace that. |

| | | |
|---|---|---|
| | FRAME) | |
| A7500 (CAN) | Generated when GPS-R Control Cable is open | Check BackBoard Cable, and if abnormal, replace that. |
| A7600 (CAN) | Alarm cable connected to CAMB, CPNB, PCFB is open or other fault occurs | Check cable status, and if normal, replace cable. |
| A7800 (CAN) | CAN Rack FAN failure. | Check FAN power status and alarm cable status, and if normal, replace FAN or Cable. |
| A8000 (CAN) | Generated when the other side is abnormal while one side of dual GPS-R is normal. | As alarms generated by GPS-R may be generated owing to board deletion, GPS-R Antenna Cable open, OSC defect, etc., check up that. Replace power output module. |
| A8001 (CAN) | Generated when both sides of dual GPS-R are abnormal. | As alarms generated by GPS-R may be generated owing to board deletion, GPS-R Antenna Cable open, OSC defect, etc., check up that. Replace power output module |
| A8050 (CAN) | Generated when the internal status of GPSD are abnormal. Generated if power output module is abnormal. | As alarms generated from GPSD may be generated owing to GPSD Antenna Cable open, OSC defect, etc., check up that. Replace power output module. |
| A8110 (CAN) | Generated if RS422 Cable that connects RAPU(Remote Alarm Panel Unit) to AMPA is open or communication between them is impossible due to fault. | Check if RS422 Cable is open, and if it continues, replace cable. |
| A8500 (CAN) | Generated when the other side is abnormal while one side of dual CNP(UCPA) is normal.( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall the board or if not, check FAIL LED ON/R.C execution /R.C result. |
| A8501 | When both sides of dual | Upon board deletion, reinstall the |

| | | |
|---|---|---|
| (CAN) | CNP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | board or if not, check FAIL LED ON/R.C execution /R.C result. |
| A8550 (CAN) | Generated when the other side is abnormal while one side of dual ASCA is normal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power defect) | - check ASCA HW status<br>- INIT LED red or OFF, ASIA-E non-operation / ASCA HW check |
| A8551 (CAN) | Generated when the other side is abnormal while one side of dual ASCA is normal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power defect) | - check ASCA HW status.<br>- INIT LED red or OFF, ASIA-E non-operation / ASCA HW check |
| A8560 (CAN) | Pcgenerated when the other side is abnormal while obe side of dual FERA is normal. | Check FERA status and if normal, replace bpard. |
| A8561 (CAN) | Generatede when both sides of dual FERA are abnormal. | Check FERA status and if normal, replace the board. |
| A8570 (CAN) | Generated when the other side is abnormal while one side of dual ASCA is nlormal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - check ASCA HW status.<br>- INIT LED red or OFF, ASIA-E non-operation / ASCA HW check. |
| A8571 (CAN) | Generated when both sides of dual ASCA are abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - check ASCA HW status.<br>- INIT LED red or OFF, ASIA-E non-operation/ ASCA HW check. |
| A8600 (CAN) | Generated when the other side is abnormal while one side of dual PNP(UCPA) is abnormal.( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A8601 (CAN) | Generated when both sides of dual PNP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A8700 (CAN) | Controlled by communication with AMPA in case AMPA(Remote Alarm Panel Unit) connected to AMPA via | If AMPA is normal, check alarm panel status, and if AMPA is abnormal, immediate measure should |

| | | |
|---|---|---|
| | Ethernet is abnormal. | be taken. |
| A8710 (CAN) | Generated when the other side is abnormal while one side of dual PCP(UCPA) is normal.( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A8711 (CAN) | Generated when both sides of dual PCP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A8720 (CAN) | Generated when the other side is abnormal while one side of dual PMP(UCPA) is normal( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A8721 (CAN) | Generated when both sides of dual PMP(UCPA) are abnormal. ( Board deletion, CPU or FPGA Fail) | Upon board deletion, reinstall that, or check FAIL LED ON/R.C execution/R.C result. |
| A8740 (CAN) | generated when the other side is abnormal while one side of dual BCRA is normal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | BCRA HW status checj or INIT LED red or OFF, BCRA non-operation/ BCRA HW check |
| A8741 (CAN) | Generated when both sides of dual BCRA are abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | BCRA HW status check or INIT LED red or OFF, BCRA non-operation/ BCRA HW check |
| A8800 (CAN) | When PCP could not receive 1pps Clock from GPS-D, or the received clock is wrong. | power, 1PPS cable and UCPA H/W check |
| A8810 (CAN) | When PCP could not receive 10MHz Clock from GPS-D, or the received clock is wrong. | power, 10MHz cable and UCPA H/W check |
| A8820 (CAN) | While one side of FERA is normal, there occurs a failure on the link between FERA and FETA of the other side. | Check the link between FETA and PDSN, and if normally connected, replace FERA, FETA. |
| A8821 (CAN) | While one side of FERA is abnormal, there occurs a failure on the link | Check the link between FETA and PDSN, and if normally connected, |

| | | |
|---|---|---|
| | between FERA and FETA of the other side. | replace FERA, FETA. |
| A8840 (CAN) | Failure in link between FETA and PDSN | Check the link between FETA and PDSN, and if normally connected, replace FETA. |
| A9000 (CAN) | One side failure of dual PRI board of CAMB. | Check up power and replace that if abnormal. |
| A9001 (CAN) | Both side failure of dual PRI board of CAMB. | Check up power and replace that if abnormal. |
| A9010 (CAN) | One side failure of dual PRI board of PCFB(PCP included Shelf). | Check up power and replace that if abnormal. |
| A9011 (CAN) | Both side failure of dual PRI board of PCFB(PCP included Shelf). | Check up power and replace that if abnormal. |
| A9020 (CAN) | One side failure of dual PRI board of PCFB(PMP included Shelf). | Check up power and replace that if abnormal. |
| A9021 (CAN) | Both side failure of dual PRI board of PCFB(PMP included Shelf). | Check up power and replace that if abnormal. |
| A9040 (CAN) | One side failure of dual PRI board of CPNB. | Check up power and replace that if abnormal. |
| A9041 (CAN) | One side failure of dual PRI board of CPNB. | Check up power and replace that if abnormal. |
| A9220 (CAN) | Generated when the other side is abnormal while one side of dual ASIA in CAMB is normal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - Check ASIA HW status.<br>- INIT LED red or OFF, ASIA HW check |
| A9221 (CAN) | Bothy sides of dual ASIA in CAMB are abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - Check ASIA HW status.<br>- INIT LED red or OFF, ASIA HW check |
| A9230 (CAN) | When the other side is abnormal while one side of dual ASIA is normal.(board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - Check ASIA HW status.<br>- INIT LED red or OFF, ASIA HW check |
| A9231 | Both sides of dual ASIA are | - Check ASIA HW status. |

| | | |
|---|---|---|
| (CAN) | abnormal. (board deletion, CPU fail, SW reset, HW reset, remote reset, power failure) | - INIT LED red or OFF, ASIA HW check |
| A9240 (CAN) | AOTA Board deletion | Check AOTA HW status. |
| A9250 (CAN) | In-CAMB AOTA Board CPU fail, SW reset, HW reset, remote reset, power failure, etc. | INIT LED red or OFF, AOTA non-operation/ AOTA HW check |
| A9260 (CAN) | In-CAMB ATSA Board deletion | Check ATSA Slot, and if normal, check BackBoard Pin, and if normal, replace the board. |
| A9270 (CAN) | When ATSA Application falls into free running loop, thus generating watchdog, and Fault, address/bus error occurs by ATSA Application malfunction, and hardware is reset. | Generally, auto recovery is attempted, but if Function Fail continues, replace the board. |
| A9300 (CAN) | In-PCFB PIPA Board deletion | Check PIPA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A9310 (CAN) | When PIPA Application falls into free running loop, thus generating watchdog, and Fault, address/bus error occurs by ATSA Application malfunction, and hardware is reset. | Generally, auto recovery is attempted, but if Function Fail continues, replace the board. |
| A9320 (CAN) | FETA Board deletion | Check FETA Slot, and if normal, check BackBoard Pin, and if abnormal, replace the board. |
| A9330 (CAN) | When FETA Application falls into free running loop, thus generating watchdog, and Fault, address/bus error occurs by ATSA Application malfunction, and hardware is reset. | Generally, auto recovery is attempted, but if Function Fail continues, replace the board. |

## 7.1.4. Measures for Fault Message

| FAULT | Description | Measures |
|---|---|---|
| F1000 | Generated when there is no response after Processor Keep Alive, and link is blocked or there is actual problem in processor. | Check Network Link, and if abnormal, check Network Card. |
| F1110 | Tx Parity Fault in CDMA Data Combine Module. | 1. Check BUDA contact 2. Switch over RCP 3. Replace BUDA |
| F1170 | Channel Configuration info receipt failure. | Check BSP and network between BSP/RCP, and if normal, switch over or reset RCP. |
| F1180 | Wrong Channel Configuration info | Switch over BSP. |
| F1300 | When there is an error in Even System Clock. | Reset CH CARD as interrupt malfunctions or CH S/W malfunctions. |
| F1301 | Error in external system clock. | Reset Channel Card. |
| F1302 | Generated when after CHC activation, it can't receive TOD info within 10 seconds. | Reset Channel Card, and if it continues, check BSP status and IPC PATH. |
| F1303 | No FREE_Q for message transfer from Channel to RCP | Reset Channel Card. |
| F1304 | Generated when internal time of channel is different from the time that increases by 80ms INT, and call setup malfunctions. | Reset Channel Card. |
| F1310 | Generated upon Clock Error and Modem Control Defect. | Reset Channel Card. |
| F1311 | Wrong TOD information. | Reset Channel Card. |
| F1400 | Generated when there is no message to SVC as Message Free Queue to SVC is empty. | Reset Channel Card. |
| F1410 | Generated when there is no queue resources to store message from BSP or RCP. | Reset Channel Card. |
| F1420 | If Tx FIFO for Traffic Channel is Full. | Reset Channel Card. |

| | | |
|---|---|---|
| F1510 | Generated when there is no queue resource to store message to be sent to BSP. | Reset Channel Card. |
| F1600 | When there is no Encoder Queue resource. | Reset Channel Card. |
| F1610 | No queue resource to store page message except for General Page message. | Reset Channel Card. |
| F1620 | No queue message to generate and store Quick Page message. | Reset Channel Card. |
| F1630 | No queue resource to store Reply Message when reply is required regarding message from BSP. | Reset Channel Card. |
| F1640 | As the case that Paging Channel prroly writes frame every 20ms, it is generated more than 20 times consecutively. | Reset Channel Card. |
| F1650 | No queue resource to store General Page message from BSP. | Reset Channel Card. |
| F3000 | Generated when there is no response after keeping alive the processor, and link is blocked or the processor itself encounters a problem. | Check Network Link, and if there is any error, check Network Card. |
| F3020 | Error occurs in the course of testing VCE | Generated also if there is no None Zero PCM Frame from TSLU. But, as QAT_F does not conduct vocoder test as to VOC that was once generated, test that by giving load to entire SVC Card. If the problem continues, replace VOC. |
| F3030 | Error in the course of testing DSP | Check up Checksum, Read/Write, Flag Set, etc. |
| F3040 | There is error in time-slot in the course of testing VLIA T1/E1 Trunk. | As there is high possibility of physical problem in corresponding trunk itself, check up trunk section |

| | | |
|---|---|---|
| | | and replace that if necessary. |
| F3050 | If call is not connected in the course of call processing, this cause is displayed. | Check PLD Data and modify wrong DATA. Check Parameter DATA error cause and value and request the person in charge to take measures. |
| F4000 | Generated when there is no response after keeping alive the processor, and link is blocked or the processor itself encounters a problem. | Check Network Link, and if there is any error, check Network Card.. |
| F5000 | Generated when there is no response after keeping alive the processor, and link is blocked or the processor itself encounters a problem. | Check Network Link, and if there is any error, check Network Card.. |
| F6000 | Generated when there is no response after keeping alive the processor, and link is blocked or the processor itself encounters a problem. | Check Network Link, and if there is any error, check Network Card.. |
| F7000 | Generated when there is no response after keeping alive the processor, and link is blocked or the processor itself encounters a problem. | Check Network Link, and if there is any error, check Network Card.. |
| F8000 | Generated when there is no response after keeping alive the processor, and link is blocked or the processor itself encounters a problem. | Check Network Link, and if there is any error, check Network Card. |
| F9000 | Generated when there is no response after keeping alive the processor, and link is blocked or the processor itself encounters a problem. | Check Network Link, and if there is any error, check Network Card. |

## 7.2. Status Message Description and LIST Status Definition and LIST

Table 7.2-1 Status Message LIST

| Code | Definition | Description |
|---|---|---|
| S3002 | CAN CNP/PNP Status Change Display | Displayed upon processor status change |
| S3003 | AMP Status Change Display | Displayed upon processor status change |
| S3004 | ALP Status Change Display | Displayed upon processor status change |
| S3005 | CCP Status Change Display | Displayed upon processor status change |
| S3006 | SMP Status Change Display | Displayed upon processor status change |
| S3007 | VMP Status Change Display | Displayed upon processor status change |
| S3008 | PCP Status Change Display | Displayed upon processor status change |
| S3009 | BSC-NCP Status Change Display | Displayed upon processor status change |
| S3010 | BSP Status Change Display | Displayed upon processor status change |
| S3011 | SCP Status Change Display | Displayed upon processor status change |
| S3012 | BPP Status Change Display | Displayed upon processor status change |
| S3013 | RCP Status Change Display | Displayed upon processor status change |
| S3017 | CRP Status Change Display | Displayed upon processor status change |
| S3020 | PMP Status Change Display | Displayed upon processor status change |
| S3201 | CNP ASIA Status Change Display | Displayed upon device status change |
| S3202 | CNP ASCA Status Change Display | Displayed upon device status change |
| S3205 | PNP ASIA Status Change Display | Displayed upon device status change |
| S3206 | PNP ASCA Status Change Display | Displayed upon device status change |
| S3209 | PCP BCRA Status Change Display | Displayed upon device status change |
| S3210 | PMP BCRA Status Change Display | Displayed upon device status change |

| | | |
|---|---|---|
| S3211 | AMP GPSR Status Change Display | Displayed upon device status change |
| S3220 | NCP ASIA Status Change Display | Displayed upon device status change |
| S3221 | NCP ASCA Status Change Display | Displayed upon device status change |
| S3222 | NCP ATSA Status Change Display | Displayed upon device status change |
| S3224 | ALP ALMA Status Change Display | Displayed upon device status change |
| S3230 | BSP GPS Status Change Display | Displayed upon device status change |
| S3501 | CCP Overload State Change Display | Displayed when overload status is generated, released and changed owing to load change in CCP |
| S3502 | BSP Overload State Change Display | Displayed when overload status is generated, released and changed owing to load change in BSP |

Table7.2-2 Processor Status LIST

| Status Type | Definition |
|---|---|
| NORM | NORMAL |
| ABNM | Abnormal |
| DCPY | Dual Copy |
| LDNG | StandBy Loading |
| NORM(OLD) | Normal (after StandBy Loading, Old version) |
| NORM(NEW) | Normal (after StandBy Loading, New version) |
| ABN_K | Abnormal with Keep Alive Fault |
| ABN_I | Abnormal with Process Isolation |
| UNDEF | Undefined Status |

Table 7.2-3 Network Node Status LIST

| Status Type | Definition | Description |
|---|---|---|
| NORM | Normal | Normal |
| NOR_A | Normal Act | Normal Activation (dual node) |

| | | |
|---|---|---|
| NOR_S | Normal Standby | Normal Standby (dual node) |
| ABN_D | Abnormal Deletion | Card deltion |
| ABN_F | Abnormal Fault | Local Fault |
| ABN_M | Abnormal MMC Block | Abnormal MMC block |
| INIT | Initial | Despite being equipped in PLD, processor in charge of corresponding device malfunctions from the start to the present. |
| AB_OB | Abnormal Online Block | Device blocked as normal call is impossible diw to other device fault |
| N_EQP | Not Equipped | Card type is not defined in PLD |

Table 7.2-4 Vocoder Channel Element Status LIST

| Status Type | Definition | Description |
|---|---|---|
| IDLE | Idle | Idle |
| 8K_Qcelp | 8k Qcelp Call | 8k QCELP call setup |
| 8K_EVRC | 8k EVRC Call | 8k EVRC call setup |
| 13K_Qcelp | 13k Qcelp Call | 13k QCELP call setup |
| 13K_EVRC | 13k EVRC Call | 13k EVRC call setup |
| ABN_M | Abnormal MMC Block | Abnormal MMC block |
| UNDEF | Undefined Status | Undefined status |

Table 7.2-5 Network Node Mode List

| Mode Type | Definition | Description |
|---|---|---|
| ACT | Active | Normal (ACT LED ON) |
| SBY | StandBy | Normal (ACT LED OFF) |

Table7.2-6 DEVICE Status List

| Status Tyoe | Definition |
|---|---|
| NORM | Normal |
| ABN_D | Abnormal Deletion |

| | |
|---|---|
| ABN_F | Abnormal Fault<br>(Test: As a result of DSP Chip Hardware test, NOK) |
| ABN_M | Abnormal MMC Block |
| INIT | Initial |
| AB_OB | Abnormal Online Block |
| IDLE | Idle (CE, VCE) |
| BUSY | Busy (CE, VCE) |
| N_EQP | Not Equipped in PLD |
| READY | Device mounted although not defined in PLD |
| UNDEF | Undefined status |
| ABN_I | H/W Reset isolation |
| ABN_B | On-demand BER Test status |
| NOR_PB | Status until call is disconnected if there is a call when blocking CHC, Chip,<br>Status until call is terminated for vocoder test |
| REDNCY | Standby side Redundancy (FETA Only) |
| CB_OPN | Faulty Cable Open |
| CLK_F | As a result of Timing-Module test, NOK (Test Only) |
| TSW_F | As a result of TSLU Loopback test, NOK (Test Only) |
| ABN_AT | Auto test of vocoder (Online) (Test Only) |
| ABN_MT | Manual test of vocoder (Ondemand) (Test Only) |
| QAT0_F | As a result of QCELP Algorithm test, NOK in State0 (Test Only) |
| QAT1_F | As a result of QCELP Algorithm test, NOK in State1 (Test Only) |
| QAT2_F | As a result of QCELP Algorithm test, NOK in State2 (Test Only) |
| QAT3_F | As a result of QCELP Algorithm test, NOK in State3 (Test Only) |
| VPLB_F | As a result of VCPA Loopback test result, NOK (Test Only) |
| VMLB_F | As a result of VCMA Loopback test result, NOK (Test Only) |
| VLLB_F | As a result of VLIA Loopback test, NOK (Test Only) |

# 7.3. DCI Debugger Command

## 7.3.1. Tx/Rx Message Trace Function

This function includes asf, arf command, etc. asf command trances message from BSM to lower processor, and arf command traces message from lower processor to BSM.

### 7.3.1.1. asf Command

#### 7.3.1.1.1. Input

asf [all/off] : If a factor is not set in asf command, or as a factor, all is set, it can trace all messages from BSM. It can stop Tx message trace set to asf off command.

asf sigid [dstaddr] : It can be used to trace only Tx message to specific IP or specific signal ID value without tracing all messages. To trace specific signal ID to all targets, it is used in the form of asf sigid, and to trace specific signal ID to specific target, it can be used in the form of asf sigid dstaddr. Here, dstaddr can set a factor in the form of hexadecimal 32bit-word value or dotted-decimal.

asf ffff dstaddr : It can be used to trace all signals to specific IP. Likewise, IP address is set in the form of 32bit-word or dotted-decimal.

#### 7.3.1.1.2. Output

Message traced by asf command has the following output format. The output contents are message Tx time and message header information.

```
                                                  Message Tx time
=> ASF(qid:5101) at Fri Feb  2 10:40:25 2001
Msg_flag     [0xF634]              Msg_len  [0028]          Message
length
Src_IP       [0x1DC00001]   Dest_IP  [0x11400101]      Dest(target)
Src_TID      [000682]        Dest_TID [000000]          IP & Task ID
Remain_conn [FALSE ]            Sig_id   [0x0A66]        signal ID
Remain_time [00 sec]
                                Src(BSM) IP and Task ID
```

## 7.3.1.2. arf Command

### 7.3.1.2.1. Input

arf [all/off] : This can trace all messages received to BSM if a factor is not set in arf command, or all is set as factor. IT can stop tracing Rx message set as arf off command.

arf sigid [srcaddr] : Without tracing all messages, this can be used only to trace specific signal ID value or Rx message from specific IP. To trace specific signal ID from all targets, it is ued in the form of arf sigid, and to trace specific signal ID from specific target, it can be used in the form of arf sigid srcaddr. Here, srcaddr can set a factor in the form of hexademical 32bit-word value or dotted-decimal.

asf ffff srcaddr : This is to trace all signals from specific IP. Likewise, IP address is set in the form of 32bit-word or dotted-decimal.

### 7.3.1.2.2. Output

Message traced by arf command has the following output format. The output contents are message Tx time and message header information.

```
Info on App to receive message                                  Message Rx time
        => ARF[0x0A65](qid:5105/pid:670) at Fri Feb  2 10:40:25 2001
        Msg_flag    [0xF634]      Msg_len  [0225]                Message length
        Src_IP            [0x11400201]              Dest_IP    [0x1DC00001]
        Dest(BSM)
        Src_TID      [000074]              Dest_TID [000000]              IP &
        Task ID
        Remain_conn [FALSE ]            Sig_id   [0x0A65]              Signal ID
        Remain_time [00 sec]
                                    Src(Target) IP & Task ID
```

## 7.3.2. Function to test Function

This function includes sis and ipclog console command. sis command is to send IPC signal message for test to message queue, and ipclog command is to send test message to monitor the status of slave processor.

### 7.3.2.1. sis Command

#### 7.3.2.1.1. Input

If simply inputting sis, the following question is displayed:

Message queue key? (HEX) 20B *key value of message queue to store message*
Message type? (DECIMAL) 1920 *message type: Sets task ID(or process ID) of processor to receive message.*
Source IP address? (HEX or DOTTED-DECIMAL) 11400201
*message header Src IP value*
Source Task ID? (DECIMAL) 82 *message header Src TID value*
Destination IP address? (HEX or DOTTED-DECIMAL) 1DC00001
*message header Dest IP value*
Destination Task ID? (DECIMAL) 1920 *message header Dest TID value*
Signal ID? (HEX) A30 *message header signal ID value*
Body Length? (DECIMAL) 8 *test message body length*
Body Message? (8 HEX's) 01 23 45 67 89 AB CD EF
*test message body*

To avoid the above procedure, you can set the following factor:

sis [Qkey Mtype SrcIP SrcTID DstIP DstTID SigID BodyLen Msg]

To create test message the same as the above example, you can enter the following:

sis 20B 1920 11400201 82 1DC00001 1920 A30 8 "01 23 45 67 89 AB CD EF"

#### 7.3.2.1.2. Output

Display of this command is to display the status of messsssage sending to message queue.

COMPLETED! (sis)

ERROR! sending IPC message... (sis)

### 7.3.2.2. ipclog Command

#### 7.3.2.2.1. Input

Enter ipclog in DCI console to display a window for ping test on target. To adjust $DISPLAY environmental variable, use display command(see 5.5).

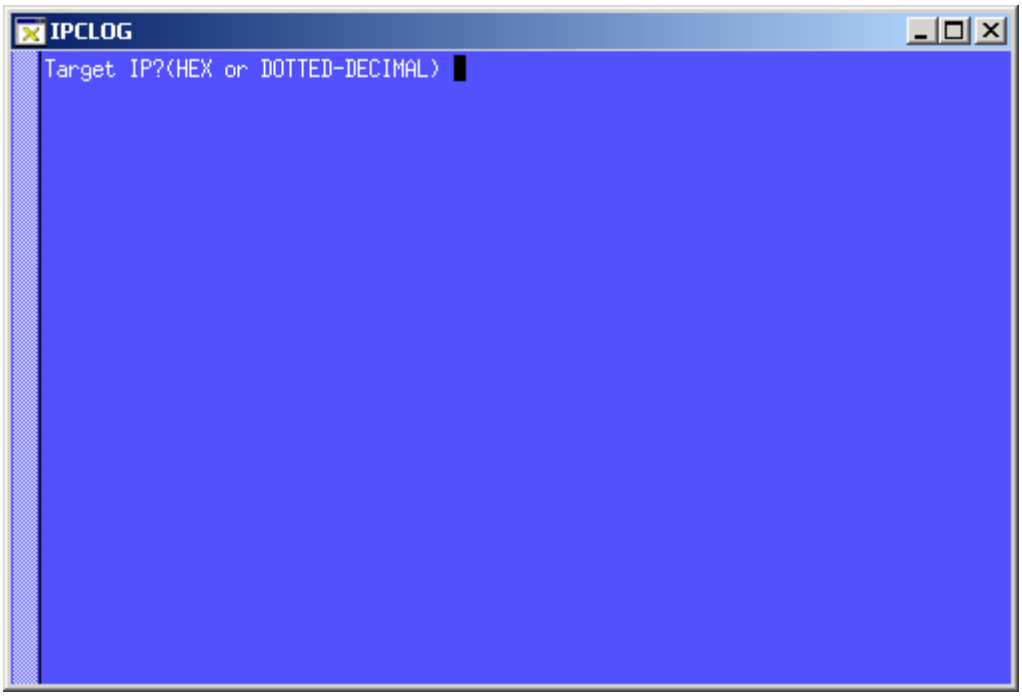



Figure 7.3-1 IP Input Request Window in DCI Window

Factors to enter are as follows:

Target IP?(HEX or DOTTED-DECIMAL) 11400201 *IP address of target to send test message*

Target=17.64.2.1

Packet Size?(byte) 512 *test message byte number*

Test count? 20 *test message count to send*

Test interval?(usec) 10 *interval to send test message*

#### 7.3.2.2.2. Output

The result of test message sending is as follows:

```
### RESULT ###
=====================================
 TargetIP     SEND     RECV    CORRUPT
-------------------------------------
 11400201     0020     0016     0001
=====================================
```

message number with broken contents

message number with test message received

target address sent

number of messasges sent

## 7.3.3. Status Display Funciton

This function includes ipcs, isig, status, rsock, ssock, etc. ipcs command is to display the status of current IPC message queue in window, and isig command is to display the contents of link table in window, and status displays the status of DCI console in window. rsock command displays the status of socket connection for message receipt in window. ssock command displays the status of socket connection for message sending. ssock command displays only the status of the connection to use connection maintenance function.

### 7.3.3.1. ipcs Command

#### 7.3.3.1.1. Input

ipcs command is to be unput with only ipcs without factor.

#### 7.3.3.1.2. Output

ipcs command is displayed in window as follows:

```
                    ### IPC Status Information ###
                    TX Errors                RX Errors
                    txerr_msgq: 000000       rxerr_msgq: 000000
                    txerr_leng: 000000       rxerr_leng: 000000
                    txerr_sock: 000028       rxerr_sock: 000000          message Rx
  message Tx                                 rxerr_udst: 000032   related accumulated
  related    accumulated-------------------------------------------------    error
number
  error number QKEY  QID       CBYTES    QNUM    FLUSH   RLOST
                    ---------------------------------------------------
                    0200  00000800  00000000  000000  000000  000000
                    0201  00000001  00000120  000002  000000  000000
                    0202  00000002  00000080  000001  000000  000000
                    ...   ...       ...       ...     ...     ...
                    0209  00000009  00000322  000002  000001  000000
                    020A  00000010  00000000  000000  000000  000000
                    020B  00000011  00000000  000000  000000  000000
                    020C  00000012  00000000  000000  000000  000000
                    020D  00000013  00000000  000000  000000  000000
                    020E  00000014  00000000  000000  000000  000000 -> lost message
    number
                    ↓       ↓       ↓       ↓       ↘
              queue-key   queue-id  in-queue   in-queue      queue flush count
                                    message    message number
                                    byte number
```

## 7.3.3.2. isig Command

### 7.3.3.2.1. Input

isig command is to be entered only with isig without factor.

### 7.3.3.2.2. Output

Te result of isig command output is as follows:

```
                                                  queue key
                    ### Initial Signal ID Information ###
                    [#2561] SID(0x0A01) / QKey(0x020D) / PID(00779)
    signal ID         [#2562] SID(0x0A02) / QKey(0x020D) / PID(00779)    application
to receive corresponding signal [#2563] SID(0x0A03) / QKey(0x020D) / PID(00779)
                    [#2573] SID(0x0A0D) / QKey(0x020D) / PID(00779)    process id
                    [#2656] SID(0x0A60) / QKey(0x0205) / PID(00787)
                    ...     ...           ...            ...
                    [#2690] SID(0x0A82) / QKey(0x0207) / PID(00792)
                    [#2691] SID(0x0A83) / QKey(0x0208) / PID(00798)
                    [#2705] SID(0x0A91) / QKey(0x0209) / PID(00829)
                    [#2707] SID(0x0A93) / QKey(0x0209) / PID(00829)
```

### 7.3.3.3. status command

#### 7.3.3.3.1. Input

Only status is input without factor.

#### 7.3.3.3.2. Output

Output type of status command is as follows:

```
                    Debug flag       log flag              eprt flag
            For developer only       status(see 5.2)       status(see 5.3)
### DCI Console Status ###
PRINTF flag [OFF]       LOG flag [ON ]          EPRT flag [ON ]
ASF flag [ON ]          ASF SIGID [ALL ]        ASF DST.IP [ALL      ]    asf flag
ARF flag [ON ]          ARF SIGID [0A00]        ARF SRC.IP [11400101]  state(see
2.1)
                                                                arf flag state(see 2.2)
```

### 7.3.3.4. rsock command

#### 7.3.3.4.1. input

Withput factor, rsock should be input.

#### 7.3.3.4.2. Output

The output of rsock command is reported in the following format.

```
                                                    ### RECEIVE SOCKET TABLE ###
[0]  FD[4]  IP[11400201]  READY[0]  CREAT[02-26 12:06:11]
[1]  FD[6]  IP[12400501]  READY[1]  CREAT[02-26 11:03:23]
[2]  FD[7]  IP[11400101]  READY[0]  CREAT[02-26 11:22:13]
...
     socket      target          receipt message          connection creation
time
     descriptor  IP address      waiting status
```

### 7.3.3.5. ssock command

#### 7.3.3.5.1. Input

Only ssock should be input withput factor.

#### 7.3.3.5.2. Output

The output of ssock command is reported in the following format:

```
### SEND SOCKET TABLE ###
[0]  FD[3]  IP[11400201]  CREAT[02-26 12:06:11]  FINISH[02-26 12:06:28]
[1]  FD[4]  IP[11400101]  CREAT[02-26 12:06:15]  FINISH[02-26 12:06:32]
...
    socket      target          connection creation time          connection end
   descriptor     IP address                                        time expected
```

## 7.3.4. Other Supplementary Function

ls command can display available command list in window. log command is used to switch on and off the function to store event generated from DCI console and DCI in log file, and eprt command is used to switch on and off the function to display error generated from DCI in window. History related command is used for convenience in the case of repeatedly executing the previous command in DCI console. display command can be used to change $DISPLAY environmental variable necessary for ipclog window display.

### 7.3.4.1. ls command

ls command is used to display the list of commands acailable in current DCI console in window.

### 7.3.4.2. log command

log command can adjust save of DCI related log file. The usage of log command can be done in the format of log [on/off], and the status of current log flag can be checked by status command.
The location for log file save is $EXECPATH/DCI_LOGS/dci.log*dd*, and (*dd being* current date), log file is stored for one month from the record date.

### 7.3.4.3. eprt command

eprt command can adjust the status of whether to display various error messages generated from DCI in window, and default is on state. The usage of eprt command can be done in the format of eprt [on/off], and the status of current eprt flag can be checked by status command.

### 7.3.4.4. history, !!, !*n* command

By history command, you can check the list of commands that have been used for 10 times, and by !!, !*n* command, you can repeat the previous command.
History related commands can be used as follows:

```
DCI_CON>> history
### Command History ###
 9 :
 8 : ls
 7 : asf a01
 6 : arf a03 11400101
 5 : arf off
 4 : rsock
 3 : ipclog
 2 : isig
 1 : status
 0 : ls

DCI_CON>> !2
isig
### Initial Signal ID Information ###
[#2690] SID(0x0A82) / QKey(0x0207) / PID(00792)
[#2691] SID(0x0A83) / QKey(0x0208) / PID(00798)
...
```

### 7.3.4.5. display command

By display command, you can change the address to display ipclog window. When using DCI console for remote host other than workstation that activates BSM, upon use of ipclog, you should use display command in advance to change the value of $DISPLAY environmental variable. Set IP address of the host for display in the form of display 150.150.62.71.

# 7.4. Statistic Message

## 7.4.1. Traffic Related

### 7.4.1.1. Traffic Statistics by Service Option

#### 7.4.1.1.1. SERVICE OPTION

Table 7.4-1 IS-2000 Service Option Type

| | |
|---|---|
| VOICE | Basic Variable Rate (8K Voice) |
| VARI_VOICE | Enhanced Variable Rate (8K Voice) |
| ASYNC | Asyncronous Data (9.6 Kbps) : To provide Dial Up MODEM function, it provides AT command, and subscriber can use this for end-to-end communication or access public data network. |
| G3FAX | Group 3 Facsimile (9.6 Kbps) : By adding the function to process extension AT command for FAX to Dial Up MODEM, subscriber with FAX can use FAX accommodated in PSTN. |
| SMS | Short Message (Rate Set 1) : Service to exchange SMS between external device and PCS network or MS and Network |
| PPP_PKT | PPP protocol Stack is mounted on Packet Data (Internet/ISO Protocol Stack), MS and IWF. Point-to-Point Packet Data Service |
| 13K_ASYNC | Asyncronous Data (14.4 Kbps) |
| 13K_G3FAX | Group 3 Facsimile (14.4 Kbps) |
| 13K_SMS | Short Message (Rate Set 2) |
| 13K_VOICE | 13K VOICE (IS-96) |
| PKT_TYPE1_22 | High Speed Packet Data Service - Internet or IOS Protocol Stack (RS1 forward, RS1 reverse) : IS-707A |
| PKT_TYPE2_25 | High Speed Packet Data Service - Internet or IOS Protocol Stack (RS2 forward, RS2 reverse) : IS-707A |
| 144K Packet Data | 144kbps Packet Data, Internet or IOS Protocol Stack : IS-707A |

### 7.4.1.1.2. ORIGINATION

Table 7.4-2 Origination Call Traffic Statistics

| Statistic ITEM | Cause |
|---|---|
| ATTEMPT | Origination attempt count |
| SEIZURE | Count of all procedure completion related to cal between MS-CE-SVC |
| CALL_DROP | Call DROP count |
| TRAFFIC | Origination call erlang |
| AVG_HOLD | Average call holding time of origination call |
| NOR_REL | Release by user, release by MS power down |
| BAD_FR | Release owing to electronic wave environment defect before normal call |
| MS_SLP_TO | Release owing to control message switch failure between MS and SLP |
| ACQFAIL | Count of CE having failed in obtaining MS preamble |
| TCE_SLP_TO | TimeSync message switch failure between CE and SLP |
| SO_REJ | Call release owing to service processing impossible of MS |
| VOC_ERR | After vocoder assignment by CCP, call release owing to error in the course of vocoder initialization |
| TC_FAIL | TCE assignment impossible owing to no TCE to assign or channel for handoff only residing, and no code channel for TC assignment |
| TC_UNAV | Abnormal TC assigned |
| TC_PWR_FAIL | No spare TC TOTAL POWER |
| VOC_UNA | No vocoder |
| CCP_SMP_TO | No response after CCP sends call setup message to SMP ( 10 seconds ) |
| CCP_VMP_TO | Timeout between CCP-VMP |
| CCP_NCP_TO | Timeout between CCP-VMP |
| NETWORK_FAIL | |
| TRM_REL | Normal release from MSC |
| BSP_REJ | TC assignment rejected, BTS rejection to calls connected owing to abnormal call |
| SCCP_FAIL | SCCP connection setup failure between BSC-MSC or call setup failure owing to abnormal SCCP Connection release |
| CCP_PCP_TO | Timeout between CCP-PCP(PCF) |
| PCP_FAIL | Call setup failure owint to internal PCF error |
| SEL_ERR | Call setup failure owint to internal selector error |
| SEL_UNA | No selector available |

### 7.4.1.1.3. TERMINATION

Table 7.4-3 Termination Call Traffic Statistics

| Statistic ITEM | Cause |
|---|---|
| ATTEMPT | Paging response count |
| SEIZURE | Count of all procedure completion related to cal between MS-CE-SVC |
| ALERT | After TC_Link completion, the count that MSC ordered Ring on to termination MS |
| ANSWER | Call access count with termination response |
| CALL_DROP | Call DROP count ( Bad frame included ) |
| TRAFFIC | Termination call erlang |
| AVG_HOLD | Average call holding time |
| TRM_REL | Release by user, release by MS power down |
| BAD_FR | Release owing to electronic wave environment defect before normal call |
| MS_SLP_TO | Release owing to control message switch failure between MS and SLP |
| ACQFAIL | Count of CE having failed in obtaining MS preamble |
| TCE_SLP_TO | TimeSync message switch failure between CE and SLP |
| SO_REJ | Call release owing to service processing impossible of MS |
| VOC_ERR | After vocoder assignment by CCP, call release owing to error in the course of vocoder initialization |
| TC_FAIL | TCE assignment impossible owing to no TCE to assign or channel for handoff only residing, and no code channel for TC assignment |
| TC_UNAV | Abnormal TC assigned |
| TC_PWR_FAIL | No spare TC TOTAL POWER |
| VOC_UNA | No vocoder |
| CCP_SMP_TO | No response after CCP sends call setup message to SMP ( 10 seconds ) |
| CCP_VMP_TO | Timeout between CCP-VMP |
| CCP_NCP_TO | Timeout between CCP-VMP |
| NETWORK_FAIL | |
| ORG_REL | Normal release from MSC |
| BSP_REJ | TC assignment rejected, BTS rejection to calls connected owing to abnormal call |
| SCCP_FAIL | SCCP connection setup failure between BSC-MSC or call setup failure owing to abnormal SCCP Connection release |
| CCP_PCP_TO | Timeout between CCP-PCP(PCF) |
| PCP_FAIL | Call setup failure owint to internal PCF error |
| SEL_ERR | Call setup failure owint to internal selector error |

| | |
|---|---|
| SEL_UNA | No selector available |

## 7.4.2. Handoff Statistic Function

### 7.4.2.1. Handoff Statistic Type

Table 7.4-4 Handoff Statistic Type

| ITEM | | Description |
|---|---|---|
| Softer Handoff | | Softer ADD handoff |
| Soft Handoff | Intra BSC Soft Handoff | Soft ADD handoff |
| | Inter BSC Soft Handoff | Soft ADD handoff between other BSCs |
| Hard Handoff | Intra Cell Hard Handoff | Hard handoff by frequency change |
| | Intra BSC FR Hard Handoff | Intra-BSC Hard handoff by frequency change |
| | Intra BSC FO Hard Handoff | Hard handoff by frame offset change |
| | Inter BSC FR Hard Handoff | Hard handoff by frequency change |
| | Inter BSC FO Hard Handoff | Hard handoff by frame offset change between other BSCs |
| | Inter-RC Hard Handoff | |

### 7.4.2.2. Hand off Statistic Collection ITEM

Table 7.4-5 Handoff Statistic Collection ITEM

| Item | Cause |
|---|---|
| ATTEMPT | Handoff count |
| SUCCESS | Success count |
| NETWORK_FAIL | ATM Connection Fail |
| TC_UNAV | NO_CDMA_AVAIL, NO_CODE_CH, NO_FRAME_OFFSET, NO_TC_AVAIL received from BSP |
| TC_FAIL | TX_ON_TIMEOUT received from BSP |
| BSP_CAPA_FAIL | TC_PWR_ALLOC_ERR, EXCESS_CAPACITY_UNAVAIL |
| BSP_REJ | Value other than TC_UNAV, TC_FAIL, BSP_CAPA_FAIL |
| A3_CONN_FAIL | A3 Connection Fail |
| FO_UNAV | For FO Hard Handoff, unavailable to assign changed frame offset to SLP |
| CAI_TO | CAI Message Timeout ( i.e. HDM ACK timeout, HCM MSG Timeout ) |
| CCP_NCP_TO | Timeout between CCP and NCP |
| CCP_BSP_TO | Timeout between CCP and BSP |
| CCP_SMP_TO | Timeout between CCP and SMP |

| | |
|---|---|
| INTER_CCP_TO | Timeout between Source CCP and Target CCP |
| OTHER_FAIL | Fail other than #2 ~ 14 |

## 7.4.3. Call Related Statistic Function

### 7.4.3.1. Channel Element Statistics

Table 7.4-6 Channel Element Statistics

| ITEM | DESCRIPTION |
|---|---|
| tc_att | Traffic Channel Assignment Count |
| tc_suc | Traffic Channel Assignment Success Count |
| tc_hold | Traffic Channel Assignment Success and total seizure time of used tc resource |
| ho_att | Handoff Channel assignment count |
| ho_suc | Handoff Channel assignment success count |
| ho_hold | Handoff Channel assignment success and total seizure time of used tc resource |

### 7.4.3.2. Vocoder Statistics

Table 7.4-7 Vocoder Statistics

| ITEM | DESCRIPTION |
|---|---|
| NUM_SEIZURES | Total seizure call count |
| TOTAL_DURATION | Total seizure time (second) |

## 7.4.3.3. Network Link Statistics

### 7.4.3.3.1. (ALPA,LICA,ASCA,ASIA)

Table 7.4-8 ATM Network Statistics (LINK/PORT statistics)

| ITEM | DESCRIPTION |
|---|---|
| Rx_cnt | Cell Counter received from Link |
| Tx_cnt | Cell Counter sent from Link |

### 7.4.3.3.2. BSC-MSC Trunk Statistics

Table 7.4-9 Trunk Statistic Item between MSC-BSC

| ITEM | DESCRIPTION |
|---|---|
| NORMAL TIME | Normal T1/E1 Trunk time (sec) |
| REMOTE ABNORMAL TIME | Abnormal MSC time (sec) |
| LOCAL ABNORMAL TIME | Abnormal T1/E1 Trunk itself duw to Frame Error, Sync. Error (sec) |
| SLIP ABNORMAL TIME | SLIP time due to environmental cause of link connected to MSC (sec) |
| BIT ERROR ABNORMAL TIME | AIS(Alarm Indication Signal) – E1 : When alarm with All 1's Condition (all receipt data are 1) is detected for more than 100ms, T1 : when alaem with All 's Condition is detected for more than 60ms<br>RED Alarm – E1 : Out of Frame(Incorrect Frameing Format) for more than 100ms, T1 : Out of Frame(Incorrect Framing Format) for more than 40ms |
| OTHER ABNORMAL TIME | Abnormal time other than the above item (sec) |

## 7.4.3.4. Radio Channel Quality Statistics

Table 7.4-10 Radio Channel Quality Statistic Item

| ITEM | DESCRIPTION |
|---|---|
| rx_fr_cnt | Number of frame from MS by CE |
| tx_fr_cnt | Number of frame that CE sent to MS |
| fr_err_cnt | Packet error count from MS |
| fr_miss_cnt | Error count that CE count not send, to MS, packet |

### 7.4.3.5. Processor Statistics

Table 7.4-11 Processor Statistic Item

| ITEM | DESCRIPTION |
|---|---|
| CPU_IDLE | CPU Load : xx.xx * 100 |
| SEND_IPC_NUM | Total IPC Send Number |
| RECEIVE_IPC_NUM | Total IPC Receive Number |
| SEND_AVERAGE_LENGTH | Average Send IPC Length |
| RECEIVE_AVERGAE_LENGTH | Average Receive IPC Length |

### 7.4.3.6. Selector Statistics

Table 7.4-12 Selector Statistic Item

| ITEM | DESCRIPTION |
|---|---|
| NUM_SEIZURES | Number of total seizure calls |
| TOTAL_DURATION | Total seizure time (seconds) |
| NUM_BIT_ERRS | Reverse FCH CRC error frame number |
| NUM_ERASURES | Reverse FCH Bad frame number |
| FORWARD_SCH_DURATION | Forward SCH seizure time (second) |
| REVERSE_SCH_DURATION | Reverse SCH seizure time (sec) |
| AVERAGE_FORWARD_SCH_RATE | Seized forward SCH's average rate (OOXX ⇒ OO.XX) |
| AVERAGE_REVERSE_SCH_RATE | Seized reverse SCH's average rate (OOXX ⇒ OO.XX) |

### 7.4.3.7. BTS Performance Statistics (Call Delay Statistics)

Table 7.4-13 BTS Performance Statistics (Call Delay Statistics) Item

| ITEM | DESCRIPTION |
|---|---|
| **Origination Call Statistics** | |
| ms_500_under | Under 500ms, origination call setup count |
| ms_500 | Under 600ms, origination call setup count |
| ms_600 | Under 700ms, origination call setup count |
| ms_700 | Under 800ms, origination call setup count |
| ms_800 | Under 900ms, origination call setup count |
| ms_900 | Under 1000ms, origination call setup count |

| | |
|---|---|
| ms_1000 | Under 1100ms, origination call setup count |
| ms_1100_over | Over 1100ms, origination call setup count |
| s_3_under | Under 3SEC, termination call setup count |
| s_3 | Under 4SEC, termination call setup count |
| s_40 | Under 4.5 SEC, termiknation call setup count |
| s_45 | Under 5SEC, termination call setup |
| s_5 | Under 6SEC, termination call setup count |
| s_6 | Under 7SEC, termination call setup count |
| s_7 | Under 8SEC, termination call setup count |
| s_8_over | Over 8SEC, termination call setup count |

### 7.4.3.8. Paging Statristics

Table 7.4-14 Paging Statistics Item

| ITEM | DESCRIPTION |
|---|---|
| page_cnt(1,2) | 1st, 2nd paging attempt count |
| rsps_cnt(1,2) | Response count |
| pc_unav(1,2) | Failure count owing to pc unavailable |
| tc_unav(1,2) | Failure count owing to TC unavailable |
| page_tmo(1,2) | Paging Time-out count |
| sys_fail(1,2) | Failure count by other reason |

### 7.4.3.9. CAI Signaling Statistics

Table 7.4-15 CAI Signaling Statistics Item

| ITEM | DESCRIPTION |
|---|---|
| **Access Channel related** | |
| msg_cnt | Message count received to access channel |
| orig_cnt | MS Call Origination message count |
| reg_cnt | Location registration count |
| order_cnt | Count that MS transmitted order message to BTS via access channel |
| page_rsps | MS answer count |
| data_burst | Count that BTS received Data Burst message |
| Paging Channel reloated | |
| msg_cnt | Message count transmitted to paging channel |
| paging | Subscriber pure paging |

| | |
|---|---|
| order | Count of having sent various messages to MS through paging channel |
| ch_asign | Count of having sent information of forward call channel to MS |
| data_burst | Count of having sent data BURST message |
| ser_redir | Count of having sent Service Redirection message |

### 7.4.3.10. NO.7Statistics

Table 7.4-16 NO7 Statistic Item

| ITEM | Description |
|---|---|
| MTP related | |
| SL_NO | Signaling Link Number |
| LOSS MSG | Missed MSU count |
| ERR_MSG | number of Signal Unit in error |
| NACK_NO | number of negative ack. Received |
| RTX_OCT | Number of MSU octets retransmitted |
| TX_MSG | Tx MSU number |
| RX_MSG | Rx MSU number |
| TX_OCT | Tx MSU octet |
| RX_OCT | Rx MSU octet |
| SCCP related | |
| TX_UDTS | Tx UDT number |
| RX_UDTS | Rx UDT number |
| TX_DTL | Tx DT1 number |
| RX_DTL | Rx DT1 number |
| SCCP_CONN | connection count |
| SCCP_REL | connection release count |
| CONN_FAIL | connection refused count |

### 7.4.3.11. RTD Statistics

| ITEM | Description |
|---|---|
| Origination/termination identical | |
| 200 | 0 ~ 200 M |
| 400 | 200 ~ 400 M |
| 600 | 500 ~ 600 M |
| 800 | 600 ~ 800 M |
| 1.0 K | 800 M ~ 1.0 Km |

| | |
|---|---|
| 1.2 K | 1.0 ~ 1.2 Km |
| 1.4 K | 1.2 ~ 1.4 Km |
| 1.6 K | 1.4 ~ 1.6 Km |
| 1.8 K | 1.6 ~ 1.8 Km |
| 2.0 K | 1.8 ~ 2.0 Km |
| 2.5 K | 2.0 ~ 2.5 Km |
| 3.0 K | 2.5 ~ 3.0 Km |
| 3.5 K | 3.0 ~ 3.5 Km |
| 4.0 K | 3.5 ~ 4.0 Km |
| 5.0 K | 4.0 ~ 5.0 Km |
| 6.0 K | 5.0 ~ 6.0 Km |
| 7.0 K | 6.0 ~ 7.0 Km |
| 8.0 K | 7.0 ~ 8.0 Km |
| 9.0 K | 8.0 ~ 9.0 Km |
| 10.0K | 9.0 ~ 10.0 Km |
| OVER_10K | 10.0 Km or above |

#### 7.4.3.12. RF MIN/MAX Statistics

Table 7.4-17 RF MIN-MAX Statistic Item

| ITEM | Description |
|---|---|
| TX_MIN | Minimum Tx RF value(unit:W) |
| TX_MAX | Maximum Tx RF value(unit:W) |

### 7.4.4. Packet

#### 7.4.4.1. Packet Data

Table 7.4-18 Packet Data Statistic Item

| ITEM | DESCRIPTION |
|---|---|
| PKT_SUCCESS_CNT | Active Packet Call Success Count |
| RN_SDB_ATTEMPT | SDB attempt count |
| RN_SDB_SUCCESS | SDB success count |
| PDSN_SDB_ATTEMPT | SDB attempt count |
| PDSN_SDB_SUCCESS | SDB success count from CCP |
| TOTAL_SDB_FORWARD_KByte | Total bytes of SDB from PDSN to MS in dormant state |

| | |
|---|---|
| TOTAL_SDB_FORWARD_Byte | |
| TOTAL_SDB_REVERSE_KByte<br>TOTAL_SDB_REVERSE_Byte | Total bytes of SDB from MS to PDSN in dormant state |
| TOTAL_ACT_FORWARD_KByte<br>TOTAL_ACT_FORWARD_Byte | Total bytes of packet from PDSN to SLP in active state |
| TOTAL_ACT_REVERSE_KByte<br>TOTAL_ACT_REVERSE_Byte | Total bytes of packet from SLP to PDSN in active state |

### 7.4.4.2. Packet Control

Table 7.4-19 Packet Control Statistic Item

| ITEM | DESCRIPTION |
|---|---|
| PKT_ATTEMPT | Packet call origination attempt count |
| PKT_SUCCESS | Packet call success count (PIP, ATM resource assignment, R-P setup success) |
| DORMANT_ATTEMPT | dormant state transition attempt count by system / MS request |
| DORMANT_SUCCESS | Dormant state transition success count |
| PKT_PAGING_ATTEMPT | Paging request count from PDSN to MS |
| PKT_PAGING_FAIL_CNT | Packet Paging failure count |
| ACTIVE_ATTEMPT | Active state transition attempt count |
| ACTIVE_SUCCESS | Active state transition success count |
| A10_CONNECTION_REJECT_CNT | Call setup failure count due to A10 connection setup failure |
| DCR_FAIL_CNT | Call setup failure count due to initialization error of PIP DCR instance |
| PDSN_RELEASE_CNT | Call release attempt count by PDSN |
| RN_RELEASE_CNT | Call release attempt count by BSC/BTS/MS request |
| TOTAL_PKT_TIME | Total time from call setup attempt point to call release point (10msec)<br>(average time = Total Duration/ pkt_succ: all successful call's Active + Dormant Duration ) |
| TOTAL_ACT_TIME | Total time in Active state (10msec)<br>(average time = Total Active Duration/pkt_succ: Total Active Duration only calculates duration in Active state) |
| TOTAL_DOR_TIME | Total time in Dormant state (10msec) (average time = Total Dormant Duration/Pkt_succ) |

### 7.4.4.3. Packet Handoff

Table 7.4-20 Packet Handoff Statistic Item

| ITEM | DESCRIPTION |
|---|---|
| Dormant_HO_Cnt | Dormant HO count |
| Serving_PCF_HO_Cnt | Serving PCF HO count |
| Target_PCF_HO_Cnt | Target PCF HO count |
| HO_FAIL_CNT | HO failure count |

# 7.5. PLD Data Structure

## 7.5.1. BSM layer

### 7.5.1.1. St_Bsm_Cfg.dg

Table 7.5-1 St_Bsm_Cfg

| Data Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | ccp_id | 0 ~ 12 | |
| byte | bts_eqp[MAX_BTS] | | Current BTS equip<br>( 0: Not_equip 1 : Equip ) |
| byte | smp_eqp[MAX_SMP] | | Current SMP equip<br>( 0: Not_equip 1 : Equip ) |
| byte | vmp_eqp[MAX_VMP] | | |
| byte | msc_id | 0 ~ 255 | MSC Identification |
| byte | pcf_equ[MAX_PCF] | 0 ~ 255 | CAN PCF equip<br>(0:Not_equip 1 : Equip)<br>MAX_PCF : 3<br>ccp_id=0 is only valid. |
| byte | reserved_byte[35] | 0 | |

## 7.5.2. CNP ONLY

### 7.5.2.1. St_re_can_node.dg

Table 7.5-2 t_re_can_node

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | card_id | key | full equip (MAX_ATM_CARD:5) |
| byte | link_id | key | full equip (MAX_ATM_LINK:32) |
| byte | equip | | Depending on the below Node Config, Equip Node status 1:Equip, 0:Not Equip |
| byte | link_type | 1 | ATM Link Type STM-1,STM-4,Cell Bus<br>(LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM |

| | | | |
|---|---|---|---|
| | | | 12(2), LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | link_status | 1 | ATM Link Acktivity Init/Active/Block (LINK_STS_NONE(0), LINK_STS_ACTIVE(1), LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3)) |
| byte | connect_type | | Node Connection ID: End-User's own ID (see Appendix Connection ID) |
| byte | fabric_no | | Switch Fabric No.<br>(0: ASCA APC0,1: ASIA0 APC0,2: ASIA0 APC1,<br>3: ASIA1 APC0, 4: ASIA1 APC1, 5: ASIA2 APC0,<br>6: ASIA2 APC1, 7: ASIA3 APC0, 8: ASIA3 APC1) |
| byte | reserved[7] | | |

### 7.5.2.2. St_re_can_addr.dg

Table 7.5-3 St_re_can_addr

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | shelf_id | key | full equip (MAX_CAN_SHELF: 4) |
| byte | slot_id | key | full equip (MAX_CAN_SLOT: 22) |
| byte | equip | '0' | |
| byte | bd_type | | PBA's own number (not yet set) |
| byte | no_sub | | Sub Processor Number in case of Sub processor had IP |
| byte | reserved | | |
| word32 | addr[MAX_SUB] | | MAX_SUB: 8 |

### 7.5.2.3. St_re_can_pvc.dg

Table 7.5-4 St_re_can_pvc

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, number of defined PVC information (~4096) |
| word16 | reserved | | |

| | | | |
|---|---|---|---|
| byte | equipage[4096] | | |
| byte | node_a[4096] | | Peer1 connection ID |
| byte | sub_a[4096] | | Peer1 Logical Info |
| byte | node_b[4096] | | Peer2 Connection ID |
| byte | sub_b[4096] | | Peer2 Logical info |
| byte | no_vc[4096] | | Number of VC to be used between Allocated VC Number Peers |
| byte | link_type[4096] | | Link Usage AAL1/2/5, Test (LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2)) |
| word16 | link_bw[4096] | 0x100 | VC Link Bandwidth (Cell Bandwidth(~0x40) to be assigned to Link) |
| word32 | vpci_a[4096] | | Peer1 VPI/VCI(Ingress VPCI) |
| word32 | vpci_b[4096] | | Peer2 VPI/VCI(Egress VPCI) |

### 7.5.2.4. St_re_can_svc.dg

Table 7.5-5 St_re_can_svc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, defined PVC information number (~4096) |
| byte | no_hdr | | Header Address Length Upper ATM Address length |
| byte | reserved | | |
| byte | addr_hdr[20] | | Higher ATM address |
| byte | equipage[512] | | |
| byte | a_mask1[512][10] | | First address mask to be connected |
| byte | addr1[512][10] | | First address to be connected |
| byte | a_mask2[512][10] | | Second address mask to be connected |
| byte | addr2[512][10] | | Second address to be connected |
| byte | no_vc[512] | | Number of VC to be used between peers |
| word32 | atm_id1[512] | | vc id of the first node (VPI:VCI) |
| word32 | atm_id2[512] | | vc id of the second node (VPI:VCI) |
| byte | link_type[512] | | Link Usage(AAL1/2/5,Test) |

| | | | |
|---|---|---|---|
| | | | ( LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2)) |
| word16 | link_bw[512] | | VC Link BandWidth<br>(Cell Bandwidth(~0x40) to be assigned to Link) |

### 7.5.2.5. St_re_can_net_cfg.dg

Table 7.5-6 St_re_can_net_cfg

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | can_net_shelf_id | key | full equip (MAX_CAN_NET_SHELF: 2) |
| byte | can_net_slot_id | key | full equip (MAX_CAN_SLOT: 22) |
| byte | equip | '0' | |
| byte | bd_type | | Network Board Type |
| byte | no_sub | | # of Sub Device |
| byte | no_link | | # of Physical Link |
| byte | hw_ctrl | | HW Reset : 0(Init), 1, 2, 3 added |
| byte | link_type[MAX_LINK] | 1 | Physical Link Type : STM1, E1,...(MAX_LINK: 64)<br>LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2),<br>LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5) |
| byte | sub_type[MAX_SUB] | | Sub Device Type (MAX_SUB : 16)<br>SBTYPE_NONE(0), SBTYPE_APC(1), SBTYPE_APPD(2) |
| byte | sub_id[MAX_SUB] | | Sub Device ID (MAX_SUB : 16) |

### 7.5.2.6. St_re_can_net_data.dg

Table 7.5-7 St_re_can_net_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| byte | cn_id | msc_no | Core Network ID |

| | | | |
|---|---|---|---|
| byte | no_addr_hdr | | ATM Address Header Len |
| byte | reserved[2] | | |
| byte | rnc_equip[MAX_RNC] | rnc_eqp | RNC Equipage |
| byte | atm_addr_hdr[20] | | ATM Address Header |
| byte | rnc_conn_type[MAX_RNC] | | RNC Connectino ID |
| byte | atsa_conn_type[12] | | ATSA Connection ID |
| word32 | rnc_addr[MAX_RNC] | | RNC NCP Network Address |
| word32 | camu_addr[16] | | CAMU Device Network Addr.<br>(0 : ASCA_A, 1 : ASCA_B, 2 : ASIA0_A, 3 : ASIA0_B, 4 : ASIA1_A, 5 : ASIA1_B 6 : ASIA2_A, 7 : ASIA2_B, 8 : ASIA3_A, 9 : ASIA3_B, 10 : AOTA0, 11 : AOTA1,<br>12 : AOTA2, 13 : AOTA3, 14 : ATSA0, 15 : ATSA1) |
| byte | reserved[8] | | |

### 7.5.2.7. St_re_can_iur_con.dg

Table 7.5-8 St_re_can_iur_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | rnc_id | key | full equip |
| word32 | start_aal2_vc_id[MAX_RNC] | See *1 | AAL2 Start VC Id |
| word16 | no_aal2_vc | 32 | Number of AAL2 VCs |
| word16 | reserved | | |

### 7.5.2.8. St_re_can_rnc5_con.dg

Table 7.5-9 St_re_can_rnc5_con

| Data Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word32 | start_aal5_vc_id[2] | [10/32] = 0xA0020<br>[12/32] = 0xC0020 | AAL5 Start VC Id |
| word16 | no_aal5_vc | 8192 | Number of AAL5 VCs |
| word16 | reserved | | |

## 7.5.3. PNP ONLY

### 7.5.3.1. St_re_cand_node.dg

Table 7.5-10 St_re_cand_node

| Data Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | card_id | key | full equip (MAX_ATM_CARD:5) |
| byte | link_id | key | full equip (MAX_ATM_LINK:32) |
| byte | equip | | LINK_NOT_EQUIP(0), LINK_EQUIP(1) |
| byte | link_type | 1 | ATM Link Type STM-1,STM-4,Cell Bus (LINK_TYPE_NONE(0),LINK_TYPE_STM1(1), LINK_TYPE_STM12(2), LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | link_status | 1 | ATM Link Acktivity Init/Active/Block (LINK_STS_NONE(0), LINK_STS_ACTIVE(1), LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3)) |
| byte | connect_type | | End-User's own ID connected to Link (see Appendix Connection ID) |
| byte | fabric_no | | Switch Fabric No.( Index(0~8) of all APCs) (0:ASCA APC0, 1:ASIA0 APC0, 2:ASIA0 APC1, 3:ASIA1 APC0, 4:ASIA1 APC1, 5:ASIA2 APC0, 6: ASIA2 APC1, 7:ASIA3 APC0, 8 : ASIA3 APC1) |
| byte | reserved[7] | | |

### 7.5.3.2. St_re_pcf_node.dg

Table 7.5-11 St_re_pcf_node

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | pcf_id | key | full equip (MAX_PCF_BLK:6) |

| | | | |
|---|---|---|---|
| byte | link_id | key | full equip (MAX_SUB_LINK:32) |
| byte | equip | Number of pcf | Equip as below<br>LINK_NOT_EQUIP(0), LINK_EQUIP(1) |
| byte | link_type | 1 | ATM Link Type STM-1,STM-4,Cell Bus<br>LINK_TYPE_NONE(0), LINK_TYPE_STM1(1), LINK_TYPE_STM12(2),<br>LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5) |
| byte | link_status | 1 | ATM Link Acktivity Init/Active/Block<br>LINK_STS_NONE(0), LINK_STS_ACTIVE(1),<br>LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3) |
| byte | connect_type | Default 1 below. | Node Connection ID: End-User's own ID connected to Link |
| byte | fabric_no | 0 | Switch Fabric No. Index(0~8) of all APCs<br>0 : BCRA APC0 |
| byte | reserved[7] | | |

### 7.5.3.3. St_re_cand_addr.dg

Table 7.5-12 St_re_cand_addr

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | shelf_id | key | full equip (MAX_CAN_SHELF: 4) |
| byte | slot_id | key | full equip (MAX_CAN_SLOT: 22) |
| byte | equip | '0' | |
| byte | bd_type | | Processor/Device Board Type<br>PBA's own number (not yet set) |
| byte | no_sub | | Sub Processor Number In case of Sub processor had IP<br>Nu,ber of processors mounted |
| byte | reserved | | |
| word32 | addr[MAX_SUB] | | MAX_SUB: 8 |

### 7.5.3.4. St_re_cand_pvc.dg

Table 7.5-13 St_re_cand_pvc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, number of defined PVC information (~4096) |
| word16 | reserved | | |
| byte | equipage[4096] | cand_pvc.inf | |
| byte | node_a[4096] | | Peer1 connection ID |
| byte | sub_a[4096] | | Peer1 Logical Info |
| byte | node_b[4096] | | Peer2 Connection ID |
| byte | sub_b[4096] | | Peer2 Logical info |
| byte | no_vc[4096] | | Number of VX to be used between Allocated VC Number Peers |
| byte | link_type[4096] | | Link Usage AAL1/2/5, Test (LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2)) |
| word16 | link_bw[4096] | 0x100 | VC Link Bandwidth (Cell Bandwidth(~0x40) to be assigned to Link) |
| word32 | vpci_a[4096] | | Peer1 VPI/VCI(Ingress VPCI) |
| word32 | vpci_b[4096] | | Peer2 VPI/VCI(Egress VPCI) |

### 7.5.3.5. St_re_pcf_pvc.dg

Table 7.5-14 St_re_pcf_pvc

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, number of defined PVC information (~4096) |
| word16 | reserved | | |
| byte | equipage[512] | pcf_pvc.inf | |
| byte | node_a[512] | | Peer1 connection ID |
| byte | sub_a[512] | | Peer1 Logical Info |

| | | | |
|---|---|---|---|
| byte | node_b[512] | | Peer2 Connection ID |
| byte | sub_b[512] | | Peer2 Logical info |
| byte | no_vc[512] | | Number of VCs to be used between Allocated VC Number Peers |
| byte | link_type[512] | | Link Usage AAL1/2/5, Test LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2) |
| word16 | link_bw[512] | 0x100 | Cell Bandwidth(~0x40) to be assigned to VC Link Bandwidth-Link |
| word32 | vpci_a[512] | | Peer1 VPI/VCI(Ingress VPCI) |
| word32 | vpci_b[512] | | Peer2 VPI/VCI(Egress VPCI) |

### 7.5.3.6. St_re_cand_svc.dg

Table 7.5-15 St_re_cand_svc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, number of defined PVC info (~4096) |
| byte | no_hdr | | Header Address Length Upper ATM Address length |
| byte | reserved | | |
| byte | addr_hdr[20] | | Higher ATM address |
| byte | equipage[512] | | |
| byte | a_mask1[512][10] | | First address mask to be connected |
| byte | addr1[512][10] | | First address to be connected |
| byte | a_mask2[512][10] | | Second address mask to be connected |
| byte | addr2[512][10] | | Second address to be connected |
| byte | no_vc[512] | | Number of VCs to be used between peers |
| word32 | atm_id1[512] | | vc id of first node (VPI:VCI) |
| word32 | atm_id2[512] | | vc id of second node (VPI:VCI) |
| byte | link_type[512] | | Link Usage(AAL1/2/5,Test) ( LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2)) |
| word16 | link_bw[512] | | VC Link BandWidth (Cell Bandwidth(~0x40) to be assigned to |

| | | | |
|---|---|---|---|
| | | | Link) |

### 7.5.3.7. St_re_cand_net_cfg.dg

Table 7.5-16 St_re_cand_net_cfg

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | can_net_shelf_id | key | full equip (MAX_CAN_NET_SHELF: 2) |
| byte | can_net_slot_id | key | full equip (MAX_CAN_SLOT: 22) |
| byte | equip | '0' | |
| byte | bd_type | | Network Board Type |
| byte | no_sub | | # of Sub Device |
| byte | no_link | | # of Physical Link |
| byte | hw_ctrl | | HW Reset : 0(Init), 1, 2, 3 added |
| byte | link_type[MAX_LINK] | 1 | Physical Link Type : STM1, E1,...(MAX_LINK: 64)<br>LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2),<br>LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5) |
| byte | sub_type[MAX_SUB] | | Sub Device Type (MAX_SUB : 16)<br>SBTYPE_NONE(0), SBTYPE_APC(1), SBTYPE_APPD(2) |
| byte | sub_id[MAX_SUB] | | Sub Device ID (MAX_SUB : 16) |

### 7.5.3.8. St_re_cand_net_data.dg

Table 7.5-17 St_re_cand_net_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| byte | msc_id | msc_no:0 | MSC ID |
| byte | reserved | | |
| byte | pcf_equip[6] | Number of pcf equip | PCF Equipage |
| byte | rnc_equip[MAX_RNC] | Number of | RNC equipage Header |

| | | | |
|---|---|---|---|
| | | rnc equip | |
| byte | pcf_conn_type[6][2] | | PCF Connectino ID |
| byte | rnc_conn_type[MAX_RNC] | | RNC Connection ID |
| word32 | pcp_addr[6] | | |
| word32 | ncp_addr[MAX_RNC] | | RNC NCP Network Address |
| word32 | camdu_addr[16] | | CAMD Device Network Addr. (0 : ASCA_A, 1 : ASCA_B, 2 : ASIA0_A, 3 : ASIA0_B, 4 : ASIA1_A, 5 : ASIA1_B 6 : ASIA2_A, 7 : ASIA2_B, 8 : ASIA3_A, 9 : ASIA3_B, 10 : AOTA0, 11 : AOTA1, 12 : AOTA2, 13 : AOTA3, 14 : ATSA0, 15 : ATSA1) |

### 7.5.3.9. St_re_cand_data5_con.dg

Table 7.5-18 St_re_cand_data5_con

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word32 | start_aal5_vc_id[MAX_RNC] | [10/32] = 0xA0020 | AAL5 Start VC Id. |
| word16 | no_aal5_vc | 8192 | # of AAL5 VCs |
| word16 | reserved | | |

### 7.5.3.10. St_re_cand_pif5_con.dg

Table 7.5-19 St_re_cand_pif5_con

| Type | N a m e | default | Remakrs |
|---|---|---|---|
| byte | Dummy | key | |
| word32 | start_aal5_vc_id[11][2] | | AAL5 Start VC Id. (22 VPs) |
| word16 | no_aal5_vc | 512 | # of AAL5 VCs |
| word16 | Reserved | | |

## 7.5.4. PCP ONLY

### 7.5.4.1. St_pdsn_addr_data_type

Table 7.5-20 St_pdsn_addr_data_type

| Type | Name | default | Remarks |
|---|---|---|---|
| byte | dummy | | |
| byte | no_of_pdsn | 1 | Number of equipped PDSN. Of MAX_PDSN_NO, the number of correct PDSN should be checked. |
| word32 | pdsn_ip[MAX_PDSN_NO] | PDSN IP | MAX_PDSN_NO = 2 (temporal)<br>IP used by PDSN for Public Networkinterface.<br>Home Agent IP. As several PDSNs can be interfaced, extendibility is considered.<br>If this value is "0", regard each RPP IP as PDSN IP. |
| byte | no_of_pdsn_node[MAX_PDSN_NO] | RPP number mounted in PDSN | STP configurqation includes 16 RPPs in PDSN. It must include the number of correct RPP in PDSN. |
| word32 | pdsn_node_ip[MAX_PDSN_NO][MAX_NODE_NO] | RPP IPs | MAX_NODE_NO = 20<br>PDSN RPP IP.<br>Insert IP of mounted RPP in order, and insert the rest with 0. |
| byte | ssk_value[MAX_PDSN_NO][MAX_NODE_NO][16] | 0 | ssk value of PDSN_NODE that interfaces with PCF.<br>Should be set per PDSN_NODE. |
| byte | ssk_len[MAX_PDSN_NO][MAX_NODE_NO]; | 0 ssk_val length | ssk_value[] length<br>As value required for data call, upon ssk_vale change, the length should be calculated. |
| byte | reserved[32] | 0 | |

### 7.5.4.2. St_PCF_timer_type

Table 7.5-21 St_PCF_timer_type

| Type | Name | default | Remarks |
|---|---|---|---|
| byte | dummy | | |
| word16 | Trp_lifetime | 1800 | PCF timer.<br>Range : 0 ~ 65,535<br>unit : 60sec<br>0x0000 = Release<br>0xFFFF = Infinite |
| word16 | Tbsreq9 | 5000 | PCF timer.<br>Range : 0 ~ 5000<br>Unit : 1msec |
| word16 | Tdiscon9 | 5000 | PCF timer.<br>Range : 0 ~ 5000<br>unit : 1msec |
| word16 | Twaitho9 | 10000 | PCF timer.<br>Range : 0 ~ 10000<br>Unit : 1msec |
| word16 | Tregreq | 5000 | PCF timer.<br>Range : 0 ~ 5000<br>Unit : 1msec |
| word16 | regreq_retry_cnt | 2 | Registration Request message retransfer count that PCF sends to PDSN.<br>Range : 0 ~ 20<br>Unit : frequency.<br>If no response from PDSN, a maximum of this value should be resent. |
| byte | reserved[32] | | |

### 7.5.4.3. St_PCF_info_data_type

Table 7.5-22 St_PCF_info_data_type

| TYPE | Name | default | Remarks |
|---|---|---|---|
| byte | dummy | | |
| byte | identification_type | 0 | Upon A11 Signaling, identification field type is determined.<br>0 : Time Stamp |

| | | | |
|---|---|---|---|
| | | | 1 : Nonce |
| word32 | pcp_ip[MAX_PCF_SHELF][MAX_PCP_NO] | PCP IP,<br>PMP IP | MAX_PCF_SHELF = 2<br>MAX_PCP_NO = 2<br>PCP/PMP IP executing F/E interface.<br>[0][0] : PCP (Active)<br>[0][1] : PCP (Standby)<br>[1][0] : PMP (Active)<br>[1][1] : PMP (Standby) |
| word32 | pip_ip[MAX_PCF_SHELF][MAX_PIP_NO] | PIP IPs | MAX_PCF_SHELF = 2<br>MAX_PIP_NO = 11<br>PIP IP executing F/E interface. |
| word32 | net_mask[MAX_PCF_SHELF][MAX_PIP_NO] | 0 | To be judged.<br>PLD add. |
| word32 | default_gw[MAX_PCF_SHELF][MAX_PIP_NO] | 0 | Default Gateway.<br>To be determined. PLD added. |
| byte | aaa_server_type | 0 | AAA server type |
| word16 | sid | | System ID. |
| word16 | nid | | Network ID. |
| Int32 | ltm_off | 18 | Offset of local time from System time. Thatis, local time offset from UTC.<br>Current local time = SYS_TIME - LP_SEC + ltm_off<br>ltm_off = 18 ( 30 minutes per unit, that is, 9 hour difference)<br>* LP_SEC : Number of Leap seconds that occurred since the start of System Time. |
| boolean | day_lt | 0 | Daylight saving time flag (Summer time)<br>1 : day lighting saving time<br>0 : standard time |
| byte | gre_seq_flag | 0 | 1 : Used SEQ<br>0 : Not Used SEQ |
| word16 | seq_cntl_timer | 0 | Upon PCF Sequence Control, timer that waitsspecific seq_num ( buffering time ) unit ( msec ) |

| | | | |
|---|---|---|---|
| byte | pkt_zone_id | | 0 |
| byte | UDR_MSID_TYPE | 0 | MSID Type in UDR that PDSN sends to AAA Server<br>1 : IMSI<br>0 : MIN |
| byte | reserved[32] | 0 | |

### 7.5.4.4. St_pifu_HW_Reset_data_type

Table 7.5-23 St_pifu_HW_Reset_data_type

| Type | Name | default | Remarks |
|---|---|---|---|
| byte | shelf_id | 0~1 | key |
| byte | pcp_isolation[11] | 0 | 0: not isolation 1:isolation |
| byte | bcra_isolation[2] | 0 | 0: not isolation 1:isolation |
| byte | fera_isolation[2] | 0,1 | 0: not isolation..... |
| byte | feta_isolation | 0 | 0: not isolation 1:isolation |
| byte | reserved[32] | 0 | |

## 7.5.5. CCP ONLY

### 7.5.5.1. St_fwdpwr_data_type.dg

Table 7.5-24 St_fwdpwr_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | full equip |
| byte | fer_id | 0 ~ 1 | Always Full equip |
| word16 | slow_down_time | 1600 (msec) | Gain down time. Applied during slow down mode. (0 ~ 20000) |
| word16 | fast_down_time | 1600 (msec) | Gain down time. Applied during fast down mode. (0 ~ 20000) |
| byte | steps_till_fast | 0 | Number of slow down before switching to fast down mode. (0 ~ 100) |
| byte | slow_down_delta | 1 | Gain down delta. Applied during slow down |

| | | | |
|---|---|---|---|
| | | | mode. (0 ~ 100) |
| byte | fast_down_delta | 1 | Gain down delta. Applied during gast down mode. (0 ~ 100) |
| byte | nominal_gain | 50 | Nominal tx gain of primary/secondary traffic. (0 ~ 127) |
| byte | max_tx_gain | 80 | Max.tx gain of primary/secondary traffic |
| byte | min_tx_gain | 40 | Min.tx gain of primary/secondary traffic. |
| byte | fer_threshold | 6 % | Frame Error Rate threshold determines the gain increase amount.(0 ~ 20) |
| byte | big_up_delta | 10 | Gain increase delta. Applied when the forward frame error rate contained in a PMRM exceeds 'fer_threshold'.(0 ~ 100) |
| byte | small_up_delta | 5 | Gain increase delta. Applied when the forward frame error rate contained in a PMRM is less than 'fer_threshold'(0 ~ 100) |
| byte | signal_delta_gain | 96 | Gain scaling factor of signaling traffic. ( 0 ~ 200 ) |
| byte | pcsc_delta_gain1 | 64 | Gain scaling factor of PCSC bit.(1-cell) |
| byte | pcsc_delta_gain2 | 96 | Gain scaling factor of PCSC bit.(2-cell) |
| byte | pcsc_delta_gain3 | 112 | Gain scaling factor of PCSC bit.(3-cell) |
| byte | reserved_byte[33] | 0 | |

### 7.5.5.2. St_13_fwdpwr_data_type.dg

Table 7.5-25 St_13_fwdpwr_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | Full equip |
| byte | fer_id | 0 ~ 1 | Always Full equip |
| word16 | init_down_time | 1000 | Initial gain down time.(0 ~ 20000) |
| word16 | max_down_time | 4000 | Maximum gain down time.(0 ~ 20000) |
| word16 | min_down_time | 200 | Minimum gain down time.(0 ~ 20000) |
| word16 | time_down_delta | 200 | Gain down time down delta. Applied in good run state.(0 ~ 20000) |
| word16 | time_up_delta | 400 | Gain down time up delta. Applied in erasure run state.(0 ~ 20000) |

| | | | |
|---|---|---|---|
| word16 | state_chg_thresh | 250 | Number of consecutive good frames brings about good run state.(0 ~ 10000) |
| word16 | erase_meas_frames | 250 | Cumulative erasure measuring period.(0 ~ 65535) |
| byte | cont_erase_eftv | 2 | Number of consecutive erasures brings about tx gain increase. If 0, burst erasures have no effect.(0 ~ 127) |
| byte | cumul_erase_eftv | 4 | Number of cumulative erasures brings about tx gain increase. If 0, non-burst erasures have no effect.(0 ~ 127) |
| byte | nominal_gain | 50 | Nominal tx gain of primary/secondary traffic.(0 ~ 127) |
| byte | max_tx_gain | 100 | Max.tx gain of primary/secondary traffic. (0 ~ 127) |
| byte | min_tx_gain | 40 | Min.tx gain of primary/secondary traffic. (0 ~ 127) |
| byte | gain_down_delta | 1 | Gain decrease delta (0 ~ 127) |
| byte | big_up_delta | 10 | Gain increase delta. Applied when a gain-up condition is encountered during ERASURE-STATE. (0 ~ 100) |
| byte | small_up_delta | 5 | Gain increase delta. Applied when a gain-up condition is encountered during GOOD-STATE. (0 ~ 100) |
| byte | signal_delta_gain | 96 | Gain scaling factor of signaling traffic. (0 ~ 200) |
| byte | pcsc_delta_gain1 | 64 | Gain scaling factor of PCSC bit.(1-cell) (0 ~ 200) |
| byte | pcsc_delta_gain2 | 96 | Gain scaling factor of PCSC bit.(2-cell) (0 ~ 200) |
| byte | pcsc_delta_gain3 | 112 | Gain scaling factor of PCSC bit.(3-cell) (0 ~ 200) |
| byte | reserved_byte[32] | 0 | |

### 7.5.5.3. St_revpwr_data_type.dg

Table 7.5-26 St_revpwr_data_type

| Type | N a m e | defaul t | Remarks |
|---|---|---|---|
| byte | bts_id | full | |
| byte | fer_id | 0 ~ 1 | Always Full equip |
| word16 | pnom (pwrctl_nominal) | 19416 | initial Eb/No(dB) |
| word16 | pmax (pwrctl_max ) | 23408 | Maximum Eb/No(dB) |
| word16 | pmin (pwrctl_min)) | 8288 | Minimum Eb/No(dB) |
| word16 | pupf (pwrctl_up_full) | 3072 | Up for erase in full mode(dB) |
| short | pfrr (pwrctl_full_run_reset) | -2 | Fulls until full mode(count value) |
| word16 | pupe (pwrctl_up_erasure) | 248 | Up for erase in erase run(dB) |
| word16 | pupel(pwrctl_up_erasure_little) | 50 | Up for erase(dB) |
| word16 | pd (pwrctl_down) | 48 | Down for full(dB) |
| word16 | pvd (pwrctl_var_down) | 4 | Down for variable(dB) |
| word16 | pfw (pwrctl_full_wait) | 2 | Pause between up fulls(count value) |
| short | perl (pwrctl_erasure_run_lim) | 5 | Erase until erase run(count value) |
| byte | reserved_byte[32] | 0 | |

### 7.5.5.4. St_13_revpwr_data_type

Table 7.5-27 St_13_revpwr_data_type

| Type | N a m e | default | Remarks (As of 2000-3-6, on;y 1% used) fer_id : 0 |
|---|---|---|---|
| byte | bts_id | full | |
| byte | fer_id | 0 ~ 1 | Always Full equip |
| word16 | pnom (pwrctl_nominal) | 19416 | Initial pwrctl threshold value. (up to 109048 at word32) |
| word16 | pmax (pwrctl_max) | 34304 | Maximum pwrctl threshold value. (up to 109048 at word32) |
| word16 | pmin (pwrctl_min) | 8288 | Minimum pwrctl threshold value. (up to 109048 at word32) |
| word16 | rpc_big_up_delta | 4608 | Pwrctl threshold up delta. Applied when a pwrctl-threshold-up condition is encountered during ERASURE-STATE. |

| | | | |
|---|---|---|---|
| word16 | rpc_small_up_delta | 2304 | Pwrctl threshold up delta. Applied when a pwrctl-threshold-up condition is encountered during GOOD-STATE. |
| byte | rpc_non_erase_wait | 2 | Non-erasure rate waiting frame count after increasing pwrctl threshold. During the period, erasure rate frame has no effect. |
| byte | rpc_max_down_delta | 48 | Maximum pwrctl threshold down delta. |
| byte | rpc_min_down-delta | 2 | Minimum pwrctl threshold down delta. |
| byte | rpc_down_delta_inc_step | 1 | Increment step size of pwrctl threshold down delta up. |
| byte | rpc_cont_erase_eftv | 2 | Number of consecutive erasures brings about pwrctl-threshold-up. If 0, burst erasures have no effect. |
| byte | rpc_cumul_erase_eftv | 3 | Number of cumulative erasures during rpc_erase_meas_frames brings about pwrctl-threshold-up. If 0, non-burst erasures have no effect. |
| word16 | rpc_erase_meas_frames | 450 | Cumulative erasure measuring period. |
| word16 | rpc_state_chg_thresh | 250 | Number of consecutive good frames brings about GOOD-STATE. |
| byte | reserved_byte[34] | 0 | |

### 7.5.5.5. St_SlpSts_data_type

Table 7.5-28 St_SlpSts_data_type

| Type | Name | Default | Remarks |
|---|---|---|---|
| BYTE | SMP_ID | full 0 ~ 4 | SMP IDENTIFICATION |
| BYTE | SLP_ID | full 0 ~ 17 | SLP IDENTIFICATION |
| BYTE | SLP_STS | 0 | 0: UNBLOCK 8: BLOCK |
| BYTE | SLAVE_STS[4] | 0 | 0: UNBLOCK 8: BLOCK |
| byte | Rserved_byte[33] | 0 | |

### 7.5.5.6. St_VcpSts_data_type

Table 7.5-29 St_VcpSts_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | VMP_ID | full 0 ~ 7 | VMP IDENTIFICATION |
| BYTE | VCP_ID | full 0 ~ 15 | VCP IDENTIFICATION |
| BYTE | SHELF_TYPE | 0 | 0: PHASE1 1: PHASE2 |
| BYTE | VCP_STS | 0 | 0: UNBLOCK 8: BLOCK |
| BYTE | VCP_SLAVE_STS[2] | 0 | 0: UNBLOCK 8: BLOCK |
| BYTE | VCE_STS[8] | 0 | 0: UNBLOCK 8: BLOCK |
| byte | reserved_byte[34] | 0 | |

### 7.5.5.7. St_Trunk_data_type

Table 7.5-30 St_Trunk_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | VMP_ID | full 0 ~ 7 | VMP IDENTIFICATION |
| BYTE | VLIA_ID | full 0 ~ 1 | VLIA IDENTIFICATION |
| BYTE | VLIA_STS | 0 | 0: UNBLOCK 8: BLOCK |
| BYTE | LINK_STS[16] | 0 | 0: UNBLOCK 8: BLOCK |
| byte | ts_sts[16][32] | 0 | 0: UNBLOCK 8: BLOCK |
| byte | ts_type[16][32] | | 0: Vocoder 1: N07(ts being 16) |
| byte | reserved_byte[33] | 0 | |

### 7.5.5.8. St_T1_Trunk_data_type

Table 7.5-31 St_T1_Trunk_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | btia_id | 0 ~ 15 | BTIA board identification (board to connect T1 link) |
| byte | T1_id | 0 ~ 4 | T1 link identification ( one BTIA holds 5 T1 links.) |
| byte | ts_id | 0 ~ 23 | Time slot identification ( 1 T1 link holds 24 Time slots.) |
| byte | type | 0 ~ 1 | 0: used for vocoder assignment<br>1: current time slot is connected to STF(Signaling Terminal Function) for No.7 |

| | | | |
|---|---|---|---|
| byte | sbp_no | 0 ~ 14 | sbp number of vocoder channel that is matched to each time slot |
| byte | svc_no | 0 ~ 15 | svc number of vocoder channel matched to each time slot |
| byte | vce_no | 0 ~ 7 | vocoder channel number matched to each time slot |
| word | cic | | Number matched to all time slots, that is, each time slot's own number. |
| byte | dummy | | |
| byte | reserved_byte[34] | 0 | |

### 7.5.5.9. St_Bsc_data_type

Table 7.5-32 St_Bsc_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy_key | | |
| byte | bsc_id | 0 ~ 11 | bsc identification |
| byte | trunk_type | | 0 : E1 (LGT)<br>1 : T1 (NW) |
| word16 | inactive_timer | 30 | MS inactive status judgement level |
| word16 | dormant_timer | 10 | MS dormant status judgement level |
| byte | bad_frame_time | | |
| byte | pkt_zone | | Current default: 0 |
| byte | pcp_id | | Current default: 0 connected PCP ID |
| byte | band_class | 0(DCN)<br>1(1900Mgz)<br>4(1800Mhz) | band class of candidate frequency<br>800Mhz: 0<br>1800Mhz : 4 = domestic<br>1900Mhz: 1 = overseas |
| byte | reserved_byte[31] | 0 | |

### 7.5.5.10. St_target_fer_service_type

Table 7.5-33 St_target_fer_service_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | Dummy | 0 | |
| byte | voice_8k | 1 | Basic Variable Rate (8K Voice) |
| byte | loopback_8k | 1 | 8K Loopback : IS-126 |
| byte | evrc | 1 | Enhanced Variable Rate Code |
| byte | async | 1 | Asycronous Data(9.6 Kbps) : Provides Dial Up Modem function and AT command, and subscriber uses this for end-to-end communication or accesses public data network. |
| byte | g3fax | 1 | Group 3 Facsimile(9.6Kbps) : It added the function of processing extension AT command for FAX to Dial Up Modem so that subscriber with FAX can exchange data with FAX accommodated in PSTN. |
| byte | sms | 1 | Short Message(Rate Set 1) : Exchanges SMS between external device and PCS network or between MS and Network. |
| byte | ppp_pkt | 1 | Paket Data(Internet/ISO Protocol Stack)<br>PPP protocol stack is mounted on MS and Network Layer.<br>Point-to-Point Packet Data Service |
| byte | cdpp_pkt | 1 | Packet Data(CDPP Protocol Stack)<br>PPP protocol stack is mounted on MS and Network Layer. Multiple Packet Service |
| byte | loopback_13k | 1 | 13K Loopback |
| byte | stu_iii_tr | 1 | |
| byte | stu_iii_ntr | 1 | |
| byte | async_13k | 1 | Asycronous Data (14.4Kbps) |
| byte | g3fax_13k | 1 | Group 3 Facsimile (14.4Kbps) |
| byte | sms_13k | 1 | Short Message (Rate Set 2) |
| byte | voice_13k | 1 | Basic Variable Rate (8K Voice) |
| byte | is96_voice | 1 | |
| byte | markov_8k | 1 | Markov Call ( 8Kbps) |
| byte | data | 1 | |
| byte | is96a_no | 1 | 96A no quarter rate |
| byte | markov_13k | 1 | Markov Call (14.4Kbps) |

| | | | |
|---|---|---|---|
| byte | wll_offhook | 1 | |
| byte | rs1_markov | 1 | rate set 1 Markov Call |
| byte | rs2_markov | 1 | rate set 2 Markov Call |
| byte | fch_fer | 1 | RC3 data service (0~31) |
| byte | sch_fer | 1 | RC3 data service (0~31) |
| byte | dcch_fer | 1 | RC3 data service (0~31) |
| byte | Sch_loopback | 0 | |
| byte | Sch_loopback2 | 0 | |
| byte | Reserved_byte[31] | 0 | |

### 7.5.5.11. St_MAHHO_data_type

Table 7.5-34 St_MAHHO_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | |
| byte | sector_id | full | |
| byte | border_flag | | 0: Off, 1: On |
| byte | band_class | 0(DCN)<br>1(1900Mgz)<br>4(1800Mhz) | band class of candidate frequency<br>800Mhz: 0<br>1800Mhz : 4 = domestic<br>1900Mhz: 1 = overseas |
| byte | Num_cdma_freq | | Number of candidate frequency |
| word16 | cdma_freq[MAX_CDMA_CH] | | Candidate frequency (cdmach_num) |
| byte | sf_total_ec_thresh | 11111(bin) | As threshold of total Ec value regarding Serving Frequency, this determines whether to search candidate frequency. |
| byte | sf_total_ec_io_thresh | 26 | As threshold of total Ec/Io value regarding Serving Frequency, this determines whether to search candidate frequency. |

| | | | |
|---|---|---|---|
| | | | If total Ec/Io value is lower than total threshold regarding serving frequency, it does not search the pilot of Candidate Frequency. |
| byte | diff_rx_pwr_thresh | 0 | As power difference threshold between received serving frequency and candidate frequency, this determines whether to search candidate frequency. |
| byte | min_total_pilot_ec_io | 0 | Ec/Io threshold of active set of candidate frequency |
| byte | cf_t_add | 26 | Threshod to add pilot to acticve set of candidate frequency.<br>If of pilots that belondg to neighbor set of Candidate Frequency, there is a pilot that has better Ec/Io than cf_t_add, it is reported to BS through Candidate Frequency Search Report. |
| byte | tf_wait_time | 30 | After transition to target frequency, waiting time to receive good frame( 80ms unit)<br>30 → 2.4 second |
| byte | cf_srch_win_n | 9 | Basic Search Window for candidate frequency neighbor set ( it uses teg same value as that of search window to existing system parameter message) |
| byte | cf_srch_win_r | 10 | Basic search window for candidate frequency Remaining Set |
| byte | reserved_byte[35] | 0 | |

### 7.5.5.12. St_location_para_type

Table 7.5-35 St_location_para_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | |
| byte | sector_id | full | |
| byte | action_time_frame | | After set Action time, frame unit duration until first PUF probe. Before PUF pulse transfer, duration sent with nominal power |
| byte | puf_setup_size | | power control group unit. |
| byte | puf_pulse_size | | Duration that MS sends PUF pulse. Power control group unit. |
| word16 | puf_interval | | Interval between PUF Probes. frame unit |
| byte | puf_init_pwr | | Initial PUF Probe power. in units of dB |
| byte | puf_pwr_step | | PUF pulse power increase. in units of dB |
| byte | total_puf_probes | | Total PUF prove number |
| byte | max_pwr_puf | | Max. PUF Probe number that can be transmitted with max. Tx power |
| byte | reserved_byte[33] | 0 | |

### 7.5.5.13. St_pwr_cntl_para_type

Table 7.5-36 St_pwr_cntl_para_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | |
| byte | fer_id | 0 ~ 30 | |
| byte | pwr_cntl_step | | step size of forward link closed loop power control |
| byte | fpc_mode | 0 | operation mode of forward link closed loop power control<br>It should be the same as fpc_punc_mode of St_Chip_pwr_cntl_para_data. |
| byte | fpc_fch_init_setpt | | initial Value of Forward Fundamental Channel Outer Loop Eb/Nt setpoint (hereinafter |

| | | | |
|---|---|---|---|
| | | | FFCOLS). 0.125dB unit |
| byte | fpc_fch_min_setpt | | Minimum value of FFCOLS. 0.125dB unit |
| byte | fpc_fch_max_setpt | | FFCOLS's Maximum value. 0.125dB unit |
| byte | fpc_dcch_init_setpt | | Forward Dedicated Control Channel Outer Loop Eb/Nt setpoint (hereinafter FDCCOLS) initial value. 0.125dB |
| byte | fpc_dcch_min_setpt | | FDCCOLS's Minimum value. 0.125dB |
| byte | fpc_dcch_max_setpt | | FDCCOLS's Maximum value. 0.125dB |
| byte | fpc_sch_init_setpt | | Forward Supplemental Channel Outer Loop Eb/Nt setpoint(FSCOLS) initial value. 0.125dB |
| byte | fpc_sch_min_setpt | | FSCOLS's Minimum value. 0.125dB |
| byte | fpc_sch_max_setpt | | FSCOLS's Maximum value. 0.125dB |
| byte | fpc_setpt_thresh | | Forward link Power control Setpoint Threshold Value. 0.125dB |
| byte | fpc_setpt_thresh_sch | | Forward Supplemental Channel Power control Setpoint Threshold Value. 0.125dB |
| byte | fch_chan_adj_gain | | Channel Gain adjustment value for Reverse Fundamental Channel. Complement of 2 in 0.125dB unit. |
| byte | dcch_chan_adj_gain | | Channel Gain adjustment value for Reverse Dedicated Control Channel. Complement of 2 in 0.125dB unit. |
| byte | sch0_chan_adj_gain | | Channel Gain adjustment value for Reverse Supplemental Channel 0. Complement of 2 in 0.125dB unit. |
| byte | sch1_chan_adj_gain | | Channel Gain adjustment value for Reverse Supplemental Channel 1. Complement of 2 in 0.125dB unit. |
| byte | rl_att_adj_gain_1500[2] | | index 0: not using Reverse Pilot<br>index 1: using Reverse Pilot<br>20ms frame, 1500bps Reverse Link |

| | | | |
|---|---|---|---|
| | | | Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_2700[2] | | 20ms frame, 2700bps Reverse Link Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_4800[2] | | 20ms frame, 4800bps Reverse Link Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_9600[2] | | 20ms frame, 9600bps Reverse Link Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_1800[2] | | 20ms frame, 1800bps Reverse Link Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_3600[2] | | 20ms frame, 3600bps Reverse Link Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_7200[2] | | 20ms frame, 7200bps Reverse Link Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_14400[2] | | 20ms frame, 14400bps Reverse Link Attribute Adjustment gain value. |
| byte | norm_att_gain_9600_5ms[2] | | 5ms frame, 9600bps Reverse Link Attribute Adjustment gain value. |
| byte | rl_att_adj_gain_19200[2][2] | | 2nd index 0:<br>2dn index 1: Turbo Encoding<br>20ms frame, 19200bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_38400[2][2] | | 20ms frame, 38400bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_76800[2][2] | | 20ms frame, 76800bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_153600[2][2] | | 20ms frame, 153600bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_307200[2][2] | | 20ms frame, 307200bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_614400[2][2] | | 20ms frame, 614400bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_28800[2][2] | | 20ms frame, 28800bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_576600[2][2] | | 20ms frame, 576600bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_115200[2][2] | | 20ms frame, 115200bps Reverse Link |

| | | | |
|---|---|---|---|
| | | | Attribute Adjustment gain |
| byte | rl_att_adj_gain_230400[2][2] | | 20ms frame, 230400bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_460800[2][2] | | 20ms frame, 460800bps Reverse Link Attribute Adjustment gain |
| byte | rl_att_adj_gain_1036800[2][2] | | 20ms frame, 1036800bps Reverse Link Attribute Adjustment gain |
| byte | fpc_subchan_gain | | |
| byte | rl_gain_adj | | |
| byte | rlgain_traffic_pilot | | |
| byte | rlgain_sch_pilot | | |
| byte | reserved_byte[33] | 0 | |

### 7.5.5.14. St_sch_param_data

Table 7.5-37 St_sch_param_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte<br>byte | bts_id<br>sector_id | full<br>full | |
| byte | sch_t_add | 22 | Regarding MDR handoff, t_add that is only appied as to Supplemental Code Channel |
| byte | sch_t_drop | 26 | Regarding MDR handoff, t_drop that is only applied as to Supplemental Code Channel |
| byte | t_mulchan | | threshold offset of Nghbr Pilot strength. 0.5dB step from 0.5dB to 4.0dB |
| byte<br><br><br>byte<br><br><br>byte | begin_preamble<br><br><br>resume_preamble<br><br><br>ps_min_delta | | Preamble Frame number sent at the beginning of Reverse Supplemental (Code) Channel transfer<br>Preamble Frame number sent upon retransfer of Reverse Supplemental (Code) Channel<br>Parameter necessary when operating in such mode as MS sending Pilot Strength Measurement Mini Message(PSMMM) whenever |

| | | | |
|---|---|---|---|
| | | | Active Set order changes. As threshold necessary so that MS judges PSMMM transfer, this is necessary upon such mode as MS sending PSMMM whenever the order of active set changes. |
| byte | order_interval | | Interval to report the difference between two pilot strengths through PSMMM. in units of 20ms |
| byte | num_pilots | | Parameter necessary for MS to send PSMMM. Pilot number reported through PSMMM |
| byte | periodic_interval | | Interval that MS sends PSMMM. in units of 20ms |
| byte | ps_floor_high | | Based on threshold, high water mark value set as to lower bound. |
| byte | ps_floor_low | | Based on threshold, low water mark valueset as to lower bound |
| byte | ps_ceiling_high | | Based on threshold, high water mark value set as to upper bound |
| byte | ps_ceiling_low | | Based on threshold, low water mark value set as to upper bound. |
| byte | threshold_interval | | Based on threshold, PSMMM transfer interval. in units of 20ms |
| byte | t_slotted | | Parameter included in In Traffic System Parameters Message |
| byte | reserved_byte[35] | | |

### 7.5.5.15. St_IOS_para_data

Table 7.5-38 St_IOS_para_data

| Type | Name | default | Remarks |
|---|---|---|---|
| byte | dummy | | key |
| byte | T1 | 55 | (0~255) Facilities Management(sec) |
| byte | T2 | 60 | (0~255) Facilities Management(sec) |
| byte | T4 | 60 | (0~255) Facilities Management(sec) |

| | | | |
|---|---|---|---|
| byte | T5 | 60 | (0~255) Facilities Management(sec) |
| byte | T6 | 75 | (0~255) Facilities Management(sec) |
| byte | T7 | 10 | (0~255) Handoff(sec) |
| byte | T9 | 10 | (0~255) Handoff(sec) |
| byte | T10 | 5 | (0~99) Handoff(sec) |
| byte | T12 | 60 | (0~255) Facilities Management(sec) |
| byte | T13 | 55 | (0~255) Facilities Management(sec) |
| byte | T16 | 60 | (0~255) Facilities Management(sec) |
| byte | T20 | 5 | (0~99) Call Processing(sec) |
| byte | T30 | 5 | (0~99) Call Processing(sec) |
| byte | T40 | 5 | (0~99) Call Processing(sec) |
| byte | T50 | 60 | (0~255) Handoff(sec) |
| byte | T52 | 90 | (0~255) Handoff(sec) |
| byte | T60 | 5 | (0~99) Supplementary Services(sec) |
| byte | T61 | 5 | (0~99) Supplementary Services(sec) |
| byte | T62 | 5 | (0~99) Supplementary Services(sec) |
| byte | T63 | 5 | (0~99) Supplementary Services(sec) |
| word32 | T300 | 1500 | (0~990) Call Processing (msec) |
| byte | T301 | 30 | (0~60) CallProcessing(sec) |
| byte | T302 | 5 | (0~99) Call Processing(sec) |
| byte | T303 | 6 | (0~99) Call Processing(sec) |
| byte | T306 | 5 | (0~99) Call Processing(sec) |
| byte | T307 | 6 | (0~99) Call Processing(sec) |
| byte | T308 | 5 | (0~99) Call Processing(sec) |
| byte | T309 | 5 | (0~90) Facilities Management (sec) |
| word16 | T311 | 1000 | (0~50) Call Processing (msec) |
| byte | T312 | 5 | (0~99) Call Processing(sec) |
| byte | T313 | 2 | (0~99) Call Processing(sec) |
| byte | T315 | 5 | (0~99) Call Processing(sec) |
| byte | T316 | 5 | (0~99) Call Processing(sec) |
| byte | T325 | 5 | (0~99) Call Processing(sec) |
| byte | T326 | 5 | (0~99) Call Processing(sec) |
| byte | T777 | 90 | (0~255) Handoff (sec) |
| byte | T778 | 15 | (0~255) Handoff (sec) |
| byte | T787 | 90 | (0~255) Handoff (sec) |
| byte | T789 | 10 | (0~60) Handoff (sec) |

| | | | |
|---|---|---|---|
| byte | T790 | 10 | (0~60) Handoff (sec) |
| byte | T3113 | 5 | (0~99) Call Processing (sec) |
| byte | T3210 | 30 | (0~99) Mobility Management (sec) |
| byte | T3220 | 10 | (0~99) Mobility Management (sec) |
| byte | T3230 | 5 | (0~99) Call Processing (sec) |
| byte | T3240 | 5 | (0~99) Mobility Management (sec) |
| byte | T3260 | 30 | (0~99) Mobility Management (sec) |
| byte | T3270 | 5 | (0~99) Mobility Management (sec) |
| byte | T3271 | 15 | (0~99) Mobility Management (sec) |
| byte | T3272 | 5 | (0~99) Mobility Management (sec) |
| byte | T3280 | 15 | (0~99) Call Processing (sec) |
| byte | TA8_Setup | 4 | (0~99) A8,A9 Interfaces (sec) |
| word16 | Tacm | 500 | (0~1000) A3,A7 Interfaces (msec) |
| word16 | Talc9 | 500 | (0~1000) A8,A9 Interfaces (msec) |
| word16 | Tald9 | 500 | (0~1000) A8,A9 Interfaces (msec) |
| word16 | Tbstact | 600 | (0~1000) A3,A7 Interfaces (msec) |
| word16 | Tbstcom | 100 | (0~1000) A3,A7 Interfaces (msec) |
| word16 | Tchanstat | 500 | (0~1000) A3,A7 Interfaces (msec) |
| word16 | Tconn3 | 500 | (1~1000) A3,A7 Interfaces (msec) |
| word16 | Tdiscon3 | 500 | (1~1000) A3,A7 Interfaces (msec) |
| byte | Tdrptgt | 5 | (1~10) A3,A7 Interfaces (sec) |
| byte | Ttgtrmv | 5 | (1~10) A3,A7 Interfaces (sec) |
| word16 | Thoreq | 1000 | (0~50) A3,A7 Interfaces (msec) |
| byte | Tpaca1 | 5 | (0~99) Call Processing (sec) |
| byte | Tpaca2 | 5 | (0~99) Call Processing (sec) |
| word16 | Tpcm | 1000 | (0~20) A3,A7 Interfaces (msec) |
| byte | Tphysical | 1 | (0~10) A3,A7 Interface (sec) |
| word16 | Trel9 | 1000 | (0~50) A8,A9 Interface (msec) |
| byte | reserved_byte[35] | | |

### 7.5.5.16. St_Vcbu_HW_Reset_data_type

Table 7.5-39 St_Vcbu_HW_Reset_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| Byte | VMP_ID | 0 ~ 7 | VMP IDENTIFICATION |

| | | | |
|---|---|---|---|
| Byte | EquipPage | According to Equip status | 0: Not Equip 1: Equip |
| Byte | VMP_Isolation | 0 | 0: not_isolation 1: isolation |
| Byte | VCP_Isolation[16] | 0 | 0: not_isolation 1: isolation |
| Byte | VLIA_Isolation[2] | 0 | 0: not_isolation 1: isolation |
| Byte | reserved_byte[34] | 0 | |

### 7.5.5.17. St_SIbu_HW_Reset_data_type

Table 7.5-40 St_SIbu_HW_Reset_data_type

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| Byte | SMP_ID | 0 ~ 4 | SMP IDENTIFICATION |
| Byte | EquipPage | According to Equip status | 0: Not Equip 1: Equip |
| Byte | SMP_Isolation | 0 | 0: not_isolation 1: isolation |
| Byte | SLP_Isolation[20] | 0 | 0: not_isolation 1: isolation |
| Byte | rserved_byte[33] | 0 | |

## 7.5.6. NCP ONLY

### 7.5.6.1. St_re_atm_node.dg

Table 7.5-41 St_re_atm_node

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | card_id | key | full equip (MAX_ATM_CARD:5) |
| byte | link_id | key | full equip (MAX_ATM_LINK:32) |
| byte | equip | | As many as Node Config below Equip 1: Equip, 0:Not-Equip |
| byte | link_type | 1 | STM-1, STM-4, Cell Bus (LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2), LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | link_status | 1 | Link status LINK_STS_NONE(0), LINK_STS_ACTIVE(1), |

| | | | |
|---|---|---|---|
| | | | LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3) |
| byte | connect_type | | End-User's own ID connected to Link(see Appendix Connection ID) |
| byte | fabric_no | | Fabric is a serial number of APC.<br>Index(0~8) of total APCs<br>0 : ASCA APC0, 1 : ASIA0 APC0, 2 : ASIA0 APC1, 3 : ASIA1 APC0, 4 : ASIA1 APC1, 5 : ASIA2 APC0, 6 : ASIA2 APC1, 7 : ASIA3 APC0, 8 : ASIA3 APC1 |
| byte | reserved[7] | | |

### 7.5.6.2. St_re_slb_node.dg

Table 7.5-42 St_re_slb_node

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | smp_id | key | full equip MAX_SLB:5 |
| byte | link_id | key | full equip (MAX_SUB_LINK:32) |
| byte | equip | smp number | As many as Node Config below, Equip 1: Equip, 0:Not-Equip |
| byte | link_type | 1 | STM-1, STM-4, Cell Bus<br>(LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2),<br>LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | link_status | 1 | Link status<br>LINK_STS_NONE(0), LINK_STS_ACTIVE(1),<br>LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3) |
| byte | connect_type | | End-User's own ID connected to Link (see Appendix Connection ID) |
| byte | fabric_no | 0 | Index(0~8) of total APCs<br>0 : SLMA APC0 |
| byte | reserved[7] | | |

### 7.5.6.3. St_re_vcb_node.dg

Table 7.5-43 St_re_vcb_node

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | vmp_id | Key | full equip MAX_VCB:8 |
| byte | link_id | key | full equip (MAX_SUB_LINK:32) |
| byte | equip | Vmp number | As many as Node Config below, Equip 1: Equip, 0:Not-Equip |
| byte | link_type | 1 | STM-1, STM-4, Cell Bus (LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2), LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | link_status | 1 | Link status LINK_STS_NONE(0), LINK_STS_ACTIVE(1), LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3) |
| byte | connect_type | | End-User's own ID connected to Link (see Appendix Connection ID) |
| byte | fabric_no | 0 | Index(0~8) of total APCs 0 : VCMA APC0 |
| byte | reserved[7] | | |

### 7.5.6.4. St_re_alb_node.dg

Table 7.5-44 St_re_alb_node

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | alma_id | key | full equip (MAX_ALMA:2) |
| byte | link_id | key | full equip (MAX_ALS_LINK:16) |
| byte | equip | | As many as Node Config below, Equip 1: Equip, 0:Not-Equip |
| byte | link_type | 1 | STM-1, STM-4, Cell Bus (LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2), LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | link_status | 1 | Link status LINK_STS_NONE(0), LINK_STS_ACTIVE(1), LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3) |

| | | | |
|---|---|---|---|
| byte | connect_type | | End-User's own ID connected to Link<br>(see Appendix Connection ID) |
| byte | fabric_no | 0 | Index(0~8) of total APCs<br>0 : ALMA APC0 |
| byte | reserved[7] | | |

### 7.5.6.5. St_re_bs_atm_node.dg

Table 7.5-45 St_re_bs_atm_node

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | Bs_id | key | full equip MAX_BS:48 |
| byte | link_id | key | full equip (MAX_SUB_LINK:32) |
| byte | equip | bs number | As many as Node Config below, Equip 1: Equip, 0:Not-Equip |
| byte | link_type | 1 | STM-1, STM-4, Cell Bus<br>(LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2),<br>LINK_TYPE_STM14(3), LINK_TYPE_E1(4),<br>LINK_TYPE_T1(5)) |
| byte | link_status | 1 | Init/Active/Block<br>LINK_STS_NONE(0), LINK_STS_ACTIVE(1),<br>LINK_STS_ONL_BLOCK(2),<br>LINK_STS_MMC_BLOCK(3)) |
| byte | connect_type | | End-User's own ID connected to Link<br>(see Appendix Connection ID) |
| byte | Fabric_no | 0 | index(0~8) of total APCs<br>0 : BCRA APC0 |
| byte | reserved[7] | | |

### 7.5.6.6. St_re_rnc_bs_trunk.dg

Table 7.5-46 St_re_rnc_bs_trunk

| Data Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | alma_id | key | full equip MAX_ALMA: 2 |

| | | | |
|---|---|---|---|
| byte | alpa_id | key | full equip MAX_ALPA: 5 |
| byte | link_id | key | full equip MAX_ALS_LINK: 16 |
| byte | equip | BS dependent | LINK_NOT_EQUIP(0), LINK_EQUIP(1) |
| byte | link_type | 1 | E1, T1, STM-1 (LINK_TYPE_NONE(0),LINK_TYPE_STM1(1),LINK_TYPE_STM12(2), LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | link_status | 1 | LINK_STS_NONE(0), LINK_STS_ACTIVE(1), LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3) |
| byte | bs_id | | Link Peer BS/BTS ID |
| byte | alloc_type | 1 | PVC Active/PVC Standby/SVC - ALLOC_NONE(0),ALLOC_PVC_ACT(1), ALLOC_PVC_STB(2), ALLOC_SVC(3)) |
| byte | peer_lica_no | | BS Lica Index (0, 1, 2) |
| byte | peer_lica_link_no | | BS Lica Link Index (0~15) |
| byte | peer_status | | Init/Active/Block LINK_STS_NONE(0), LINK_STS_ACTIVE(1), LINK_STS_ONL_BLOCK(2), LINK_STS_MMC_BLOCK(3)) |
| word32 | aal2_vpci | | AAL2 VPI/VCI |
| word32 | reserved | | |

### 7.5.6.7. St_re_rnc_addr.dg

St_re_rnc_addr

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | shelf_id | key | full equip (MAX_RNC_SHELF: 20) |
| byte | slot_id | key | full equip (MAX_RNC_SLOT: 22) |
| byte | equip | '0' | Equit/Not Equip |
| byte | Bd_type | | Processor/Device Board Type(TBD) |
| byte | No_sub | | Number of processors to be mounted |
| byte | reserved | | Not Used |

| | | | |
|---|---|---|---|
| word32 | addr[8] | | Each Processor IP Address |

### 7.5.6.8. St_re_bs_addr.dg

St_re_bs_addr

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bs_id | key | full equip MAX_BS: 48 |
| byte | shelf_id | key | full equip (MAX_BS_SHELF: 12) |
| byte | slot_id | key | full equip (MAX_BS_SLOT: 22) |
| byte | equip | '0' | Equit/Not Equip |
| byte | bd_type | | Processor/Device Board Type(TBD) |
| byte | no_sub | | Number of processors mounted |
| byte | reserved | | Not Used |
| word32 | addr[8] | | Each Processor IP Address |

### 7.5.6.9. St_re_atm_pvc.dg

Table 7.5-47 St_re_atm_pvc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, defined PVC information number (~4096) |
| word16 | reserved | | |
| byte | equipage[4096] | | Equip Flag |
| byte | node_a[4096] | | Peer1 connection ID (Ingress Node Conn. ID) |
| byte | sub_a[4096] | | Peer1 Logical Info |
| byte | node_b[4096] | | Peer2 Connection ID (Egress Node Conn. ID) |
| byte | sub_b[4096] | | Peer2 Logical info |
| byte | no_vc[4096] | | Number of VC to be used between Allocated VC Number Peers |
| byte | link_type[4096] | | Link<br>LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2) |
| word16 | link_bw[4096] | 0x100 | VC Link Bandwidth |

| | | | |
|---|---|---|---|
| | | | (Cell Bandwidth(~0x40) to be assigned to Link) |
| word32 | vpci_a[4096] | | Peer1 VPI/VCI (Ingress VPCI) |
| word32 | vpci_b[4096] | | Peer2 VPI/VCI (Egress VPCI) |

### 7.5.6.10. St_re_slb_pvc.dg

Table 7.5-48 St_re_slb_pvc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, defined PVC information number (~512) |
| word16 | reserved | | |
| byte | equipage[512] | | |
| byte | node_a[512] | | Peer1 connection ID (Ingress Node Conn. ID) |
| byte | sub_a[512] | | Peer1 Logical Info |
| byte | node_b[512] | | Peer2 Connection ID (Egress Node Conn. ID) |
| byte | sub_b[512] | | Peer2 Logical info |
| byte | no_vc[512] | | Number of VC to be used between Allocated VC Number Peers |
| byte | link_type[512] | | Link<br>LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2) |
| word16 | link_bw[512] | 0x100 | VC Link Bandwidth<br>(Cell Bandwidth(~0x40) to be assigned to Link) |
| word32 | vpci_a[512] | | Peer1 VPI/VCI (Ingress VPCI) |
| word32 | vpci_b[512] | | Peer2 VPI/VCI (Egress VPCI) |

### 7.5.6.11. St_re_vcb_pvc.dg

Table 7.5-49 St_re_vcb_pvc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, defined PVC information number (~512) |

| | | | |
|---|---|---|---|
| word16 | reserved | | |
| byte | equipage[512] | | |
| byte | node_a[512] | | Peer1 connection ID (Ingress Node Conn. ID) |
| byte | sub_a[512] | | Peer1 Logical Info (measns final peer connection) |
| byte | node_b[512] | | Peer2 Connection ID (Egress Node Conn. ID) |
| byte | sub_b[512] | | Peer2 Logical info |
| byte | no_vc[512] | | Number of VC to be used between Allocated VC Number Peers |
| byte | link_type[512] | | Link<br>LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2) |
| word16 | link_bw[512] | 0x100 | VC Link Bandwidth<br>(Cell Bandwidth(~0x40) to be assigned to Link) |
| word32 | vpci_a[512] | | Peer1 VPI/VCI (Ingress VPCI) |
| word32 | vpci_b[512] | | Peer2 VPI/VCI (Egress VPCI) |

### 7.5.6.12. St_re_alb_pvc.dg

Table 7.5-50 St_re_alb_pvc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, defined PVC information number (~512) |
| word16 | reserved | | |
| byte | equipage[512] | | |
| byte | Node_a[512] | | Peer1 connection ID (Ingress Node Conn. ID) |
| byte | sub_a[512] | | Peer1 Logical Info |
| byte | Node_b[512] | | Peer2 Connection ID (Egress Node Conn. ID) |
| byte | sub_b[512] | | Peer2 Logical info |
| byte | no_vc[512] | | Number of VC to be ysed between Allocated VC Number Peers |
| byte | Link_type[512] | | Link<br>LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2) |
| word16 | Link_bw[512] | 0x100 | VC Link Bandwidth |

| | | | |
|---|---|---|---|
| word32 | vpci_a[512] | | Peer1 VPI/VCI (Ingress VPCI) |
| word32 | vpci_b[512] | | Peer2 VPI/VCI (Egress VPCI) |

### 7.5.6.13. St_re_loc_bs_pvc.dg

Table 7.5-51 St_re_loc_bs_pvc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word16 | no_entry | | # of Valid Entries, defined PVC information number (~512) |
| word16 | reserved | | |
| byte | equipage[512] | | |
| byte | node_a[512] | | Peer1 connection ID (Ingress Node Conn. ID) |
| byte | sub_a[512] | | Peer1 Logical Info |
| byte | node_b[512] | | Peer2 Connection ID (Egress Node Conn. ID) |
| byte | sub_b[512] | | Peer2 Logical info |
| byte | no_vc[512] | | Number of VC to be used between Allocated VC Number Peers |
| byte | link_type[512] | | Link<br>LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2) |
| word16 | link_bw[512] | 0x100 | VC Link Bandwidth |
| word32 | vpci_a[512] | | Peer1 VPI/VCI (Ingress VPCI) |
| word32 | vpci_b[512] | | Peer2 VPI/VCI (Egress VPCI) |

### 7.5.6.14. St_re_out_bs_pvc.dg

Table 7.5-52 St_re_out_bs_pvc

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bs_id | key | full equip MAX_BS : 48 |
| word16 | no_entry | | # of Valid Entries (~512) |
| word16 | reserved | | |
| byte | equipage[512] | | According to bs equip, out_bs_pvc.inf |

| | | | |
|---|---|---|---|
| byte | node_a[512] | | Peer1 connection ID (Ingress Node Conn. ID) |
| byte | sub_a[512] | | Peer1 Logical Info |
| byte | node_b[512] | | Peer2 Connection ID (Egress Node Conn. ID) |
| byte | sub_b[512] | | Peer2 Logical info |
| byte | no_vc[512] | | Number of VC to be used between Allocated VC Number Peers |
| byte | link_type[512] | | Link<br>LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2) |
| word16 | link_bw[512] | 0x100 | VC Link Bandwidth |
| word32 | vpci_a[512] | | Peer1 VPI/VCI (Ingress VPCI) |
| word32 | vpci_b[512] | | Peer2 VPI/VCI (Egress VPCI) |

### 7.5.6.15. St_re_atm_svc.dg

Table 7.5-53 St_re_atm_svc

| Type | N a m e | defau lt | Remarks |
|---|---|---|---|
| byte | Dummy | key | |
| word16 | no_entry | | # of Valid Entries (~4096) |
| byte | no_hdr | | Header Address Length (Upper ATM Address Length) |
| byte | reserved | | |
| byte | addr_hdr[20] | | ATM Upper Address Id |
| byte | equipage[512] | | Equip Flag |
| byte | a_mask1[512][10] | | Peer1 Address Mask |
| byte | addr1[512][10] | | Peer1 Address |
| byte | a_mask2[512][10] | | Peer2 Address Mask |
| byte | addr2[512][10] | | Peer2 Address |
| byte | no_vc[512] | | Allocated VC Number |
| word32 | atm_id1[512] | | Peer1 VC Ids' List |
| word32 | atm_id2[512] | | Peer2 VC Ids' List |
| byte | link_type[512] | | Link Usage<br>(LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2)) |
| word16 | link_bw[512] | | Cell Bandwidth(~0x40) to be assigned to VC |

| | | | |
|---|---|---|---|
| | | | Link BandWidth(TBD,Link) |

### 7.5.6.16. St_re_rnc_net_cfg.dg

Table 7.5-54 St_re_rnc_net_cfg

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | rnc_net_shelf_id | key | full equip (MAX_RNC_NET_SHELF: 2) |
| byte | rnc_net_slot_id | key | full equip (MAX_RNC_SLOT: 22) |
| byte | Equip | '0' | |
| byte | bd_type | | Network Board Type |
| byte | no_sub | | # of Sub Device |
| byte | no_link | | # of Physical Link |
| byte | hw_ctrl | | HW Reset : 0(Init), 1, 2, 3 added |
| byte | link_type[MAX_LINK] | 1 | Physical Link Type : STM1, E1,...(MAX_LINK: 64) (LINK_TYPE_NONE(0),LINK_TYPE_STM1(1), LINK_TYPE_STM12(2),LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | sub_type[MAX_SUB] | | Sub Device Type (MAX_SUB : 16) (SBTYPE_NONE(0), SBTYPE_APC(1), SBTYPE_APPD(2)) |
| byte | sub_id[MAX_SUB] | | Sub Device ID:Device Serial Number (MAX_SUB : 16) |

### 7.5.6.17. St_re_bs_net_cfg.dg

Table 7.5-55 St_re_bs_net_cfg

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bs_id | key | full equip MAX_BS: 48 |
| byte | bs_net_slot_id | key | full equip (MAX_BS_SLOT: 22) |
| byte | Equip | '0' | Equip Flag |
| byte | bd_type | | Network Board Type |
| byte | no_sub | | # of Sub Device |
| byte | no_link | | # of Physical Link |

| | | | |
|---|---|---|---|
| byte | link_type[MAX_LINK] | 1 | Physical Link Type : STM1, E1,...(MAX_LINK: 64)<br>(LINK_TYPE_NONE(0),LINK_TYPE_STM1(1), LINK_TYPE_STM12(2),LINK_TYPE_STM14(3), LINK_TYPE_E1(4), LINK_TYPE_T1(5)) |
| byte | sub_type[MAX_SUB] | | Sub Device Type (MAX_SUB : 16)<br>(SBTYPE_NONE(0), SBTYPE_APC(1), SBTYPE_APPD(2)) |
| byte | sub_id[MAX_SUB] | | Sub Device ID:Device Serial Number (MAX_SUB : 16) |

### 7.5.6.18. St_re_rnc_net_data.dg

Table 7.5-56 St_re_rnc_net_data

| Type | N a m e | Default | Remarks |
|---|---|---|---|
| byte | dummy | Key | |
| byte | msc_id | msc_no | Core Network ID |
| byte | rnc_id | bsc_no | My RNC ID |
| byte | can_equip | can_eqp | CAN Equipage |
| byte | no_addr_hdr | | ATM Address Header Len |
| byte | rnc_equip[MAX_RNC] | rnc_eqp | RNC Equipage (MAX_RNC : 12) |
| byte | bs_equip[MAX_BS] | bs_eqp | BS Equipage (MAX_BS : 48) |
| byte | smp_equip[MAX_SLBU] | smp_eqp | SLBU Equipage (MAX_SLBU : 5) |
| byte | reserved[3] | | |
| word32 | bs_svc_id[MAX_BS] | | BS SSCF-UNI Signalling VC ID (MAX_BS : 48) |
| byte | atm_addr_hdr[20] | | ATM Address Header |
| byte | cn_conn_type[2] | 11 12 | CN Connection ID |
| byte | can_conn_type[2] | 9 10 | CAN Connection ID<br>In IS-2000 0 : CAN, 1 : CAN-D<br>In IMT-2000 0 : CAN0, 1 : CAN1 |
| byte | slb_conn_type[MAX_SLBU] | 16~20 | SLBU Connection ID (MAX_SLBU : 5) |
| byte | vcb_conn_type[MAX_V | 21~28 | VCBU Connection ID |

| | | | |
|---|---|---|---|
| | CBU] | | |
| byte | als_conn_type[4] | 5~8 | ALSU Connection ID |
| byte | pip_conn_type[8] | 29~36 | PIP Connection ID |
| byte | cmp_conn_type | 15 | CMP connection ID |
| byte | reseved[6] | | |
| word32 | ccp_addr | | CCP IP Address |
| word32 | alp_addr | | ALP IP Address |
| word32 | cnp_addr[2] | | CNP/CNP-D IP Address<br>0 : CNP Address, 1 : PNP Address |
| word32 | smp_addr[MAX_SLBU] | | SMP IP address (MAX_SLBU : 5) |
| word32 | asmu_addr[16] | 2 ~ 17 | ASMU Device Network Addr (for HDLC)<br>0: ASCA_A, 1: ASCA_B, 2: ASIA0_A, 3: ASIA0_B,<br>4: ASIA1_A, 5: ASIA1_B, 6: ASIA2_A, 7: ASIA2_B,<br>8: ASIA3_A, 9: ASIA3_B, 10: AOTA0, 11: AOTA1,<br>12: AOTA2, 13: AOTA3, 14: ATSA0, 15: ATSA1 |

### 7.5.6.19. St_re_rnc_iur_con.dg

Table 7.5-57 St_re_rnc_iur_con

| ‘Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | Dummy | key | |
| word32 | start_aal2_vc_id[MAX_RNC] | *1 below | AAL2 Start VC Id (MAX_RNC : 12) |
| word16 | no_aal2_vc | 32 | Number of AAL2 VCs |
| word16 | Reserved | | |

‘

### 7.5.6.20. St_re_rnc_iub_con.dg

Table 7.5-58 St_re_rnc_iub_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bs_id | key | MAX_BS : 48 |

| | | | |
|---|---|---|---|
| word32 | aal2_vc_id [MAX_LICA][MAX_LICA_LINK] | | AAL2 Start VC Id.<br><br>MAX_LICA : 3, MAX_LICA_LINK : 16 |

### 7.5.6.21. St_re_rnc_slb_con.dg

Table 7.5-59 St_re_rnc_slb_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | Dummy | key | Applied to all SMPs in the same way |
| word32 | start_aal5_vc_id[20] | | AAL5 Start VC Id 20VPs |
| word16 | no_aal5_vc | 1024 | Number of AAL5 VCs 20VPs |
| word16 | Reserved | | |

### 7.5.6.22. St_re_rnc_vcb_con.dg

Table 7.5-60 St_re_rnc_vcb_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | Dummy | key | Applied to all VMPs in the same way |
| word32 | start_aal5_vc_id[20] | | AAL5 Start VC Id 20VPs |
| word16 | no_aal5_vc | 128 | Number of AAL5 VCs 20VPs |
| word16 | reserved | | |

### 7.5.6.23. St_re_rnc_alsu5_con.dg

Table 7.5-61 St_re_rnc_alsu5_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | Dummy | key | |
| word32 | start_aal5_vc_id[MAX_ALMA][MAX_ALPA][2] | | AAL5 Start VC Id 20VPs<br>(MAX_ALMA : 2,MAX_ALPA : 5) |
| word16 | no_aal5_vc | 2048 | Number of AAL5 VCs 20VPs |
| word16 | Reserved | | |

### 7.5.6.24. St_re_bs_net_data.dg

Table 7.5-62 St_re_bs_net_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bs_id | key | full equip MAX_BS : 48 |
| byte | msc_id | msc_no | Core Network ID |
| byte | rnc_id | rnc_no | My RNC ID |
| byte | bs_id | bs_no | My BS ID |
| byte | no_addr_hdr | | ATM Address Header Len |
| byte | atm_addr_hdr[20] | | ATM Address Header |
| byte | lica_conn_type[3] | 146 147 148 | LICA Connection ID |
| byte | reserved | | |
| word32 | svc_id | [4/37] = 0x40025 | BS SSCF-UNI Signalling VC |
| word32 | crp_addr | | CRP IP Address |
| word32 | banu_addr[5] | | BANU Device Network Addr |

### 7.5.6.25. St_re_bs_iub_con.dg

Table 7.5-63 St_re_bs_iub_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bs_id | key | MAX_BS: 48 |
| word32 | aal2_vc_id [MAX_LICA][MAX_LICA_LINK] | | AAL2 VC Id MAX_LICA: 3 MAX_LICA_LINK:16 |

### 7.5.6.26. St_re_bs_rcu5_con.dg

Table 7.5-64 St_re_bs_rcu5_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bs_id | key | full equip MAX_BS: 48 |
| word32 | start_aal5_vc_id[MAX_RCU_NODE][MAX_LICA] | | AAL5 Start VC ID (MAX_RCU_NODE : 10, MAX_LICA:3) |
| word16 | no_aal5_vc[MAX_LICA] | 512 | Number of AAL5 VCs |
| word16 | reserved | | |

### 7.5.6.27. St_re_rnc_als_net_data.dg

Table 7.5-65 St_re_rnc_als_net_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| byte | msc_id | msc_no | MSC ID |
| byte | rnc_id | rnc_no | RNC/BSC ID |
| byte | reserved | | |
| word32 | ncp_addr | | NCP Network Address |
| word32 | alsu_addr[16] | | ALS Device Network Addr |

### 7.5.6.28. St_re_rnc_cmp5_con.dg

Table 7.5-66 St_re_rnc_cmp5_con

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | key | |
| word32 | start_aal5_vc_id | [10/32] = 0xA0020 | AAL5 Start VC Id. |
| word16 | no_aal5_vc | 1024 | #of AAL5 VCs |
| word16 | reserved | | |

## 7.5.7. SCP ONLY

### 7.5.7.1. St_Lnit_dataSL.dg

Table 7.5-67 St_Lnit_dataSL

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | | |
| word16 | act_cspu | | 1: CSPU_P(Primary) 2: CSPU_S(Secondary) |
| int | own_pc | 3(bsc00) | Local signaling point code |
| int | adj_pc | 0x050f : PCS<br>0x040f : DCN | Remote signaling point code |
| word16 | tot_slk | 4 | Total number of Available Signal link |
| word16 | link_st[16] | 0~3 : 1<br>rest: 0 | Signaling link status (0: unavailable 1:available) |
| word16 | slc_no[16] | 0 : slc_no[0] | Signaling link code |

| | | | |
|---|---|---|---|
| | | 1 : slc_no[1]<br>2 : slc_no[2]<br>3 : slc_no[3]<br>255 : rest | |
| word16 | vmp_no[16] | 0 : vmp_no[0]<br>0 : vmp_no[1]<br>0 : vmp_no[2]<br>0 : vmp_no[3]<br>255 : rest | |
| word16 | trk_no[16] | 16:trk_no[0]<br>48: trk_no[1]<br>80: trk_no[2]<br>112: trk_no[3]<br>0xffff: rest | Signal data link code |
| byte | reserved_byte[35] | 0 | |

### 7.5.7.2. St_Lnit_dataST.dg

Table 7.5-68 St_Lnit_dataST

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | | |
| word16 | tot_st | 4 | Total number of signal terminal |
| word16 | st_st[16] | 1: st_st[0~3]<br>2: st_st[4~15] | Signal terminal state ( 0: unavailable 1: available 2: Not Equip ) |
| word16 | sl_no[16] | 0 : sl_no[0]<br>1 : sl_no[1]<br>2 : sl_no[2]<br>3 : sl_no[3]<br>255 : rest | Signal link number linked to signal terminal |
| byte | reserved_byte[34] | 0 | |

### 7.5.7.3. St_MLtwo_timer.dg

Table 7.5-69 St_MLtwo_timer

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | 0 | key |
| word16 | T1 | 45000(msec) | Timer "alignment ready"(40~50sec) |
| word32 | T2 | 0xffff(msec) | Timer "not aligned"(5~150sec) |
| word16 | T3 | 1250(msec) | Timer "aligned"(1-2sec) |
| word16 | T4n | 8000(msec) | Normal proving period at 64 kbit/s(7.5~9.5sec) |
| word16 | T4e | 500(msec) | Emergency proving period at 64kbit/s(400~600 msec) |
| word16 | T5 | 100(msec) | Timer "sendig SIB"(80~120 msec) |
| word16 | T6 | 4500(msec) | Timer "remote congestion"(3~5sec) |
| word16 | T7 | 1250(msec) | Timer "excessive delay of an acknowledgement"(0.5~2sec) |
| byte | reserved[20] | 0 | |

### 7.5.7.4. St_MLthree_timer.dg

Table 7.5-70 St_MLthree_timer

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | 0 | key |
| word16 | T1 | 1000(msec) | Delay time of 500-1200 msec to prevent message mis-sequencing upon changeover |
| word16 | T2 | 2000(msec) | 700-2000 msec that waits changeover ack |
| word16 | T3 | 1000(msec) | 1. Although implemented in code, it is not used.<br>2. delay time of 500-1200 msec to prevent message mis-sequencing upon changeback by MTP restart (Time controlled diversion procedures) |
| word16 | T4 | 1000(msec) | Time of 500-1200 msec to wait changeback ack |
| word16 | T5 | 1000(msec) | 500-1200 msec to wait changeback ack |
| word16 | T12 | 1000(msec) | 800-1500 msec that waits uninhibit ack |
| word16 | T13 | 1000(msec) | 800-1500 msec that waits force uninhibit |
| word16 | T14 | 2000(msec) | 2000-3000 msec that waits inhibition ack |
| word16 | T17 | 5000(msec) | 800-5000 msec from Initial alignment failure |

| | | | |
|---|---|---|---|
| | | | to next initial alignment command |
| word16 | T22 | 240(sec) | Local inhibit test timer3-6 minutes |
| word16 | T23 | 240(sec) | Remote inhibit test timer3-6 minutes |
| word16 | SLTackT | 5(sec) | Time to wait for signal link test answer, with range of 4sec~12sec |
| byte | reserved[20] | 0 | |

### 7.5.7.5. St_SCCP_timer.dg

Table 7.5-71 St_SCCP_timer

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy | 0 | key |
| word16 | T_conne_est | 20(sec) | 1-2 minutes to wait connection confirm |
| word16 | T_ias | 300(sec) | Delay time of 5-10 minutes used to conduct inactivity test on connection section |
| word16 | T_iar | 660(sec) | Waiting time of 11-21 minutes to receive message on connection section |
| byte | T_rel | 10(sec) | Waiting time of 10-20 sec to receive release complete message |
| word16 | T_int | 10(sec) | 1. although implemented in source, it is not used.<br>2. upon connection release, it is the time to freeze corresponding LRN for a certain time to prevent the use of the same LRN<br>Extending to 1 minutes |
| word16 | T_stat_info | 30(sec) | Interval that requests Subsystem status information<br>Increasing value, 5-10 sec ~ 10-20 min |
| byte | reserve[20] | 0 | |

## 7.5.8. CCP/BSP COMMON

### 7.5.8.1. St_bts_data_type.dg

Table 7.5-72 St_bts_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | |
| byte | EquipPage | Equip dependent | 0 : Not Equip 1 : Equip |
| word16 | Sid | 0x08ae | As System Identification Number, 0 ~ 32767(215 -1) |
| word16 | Nid | 15 | As Netword Identification Number, Network is system subset. |
| word16 | base_id | 0 | Base Station Identification Number(BTS's own number) |
| byte | bts_class (base_class) | 0(DCN)<br>1(PCS) | Base Station Class<br>Upon '0000', Public Micorcelluar System(800Mhz)<br>Upon '0001', Public PCS System(1900Mhz or 1800Mhz) |
| byte | sys_type | | 0 : LGT PCS 1 : NW PCS<br>2 : JT PCS 3 : GIGA PCS<br>4 : CHINA PCS 5 : BRAZIL PCS<br>6 : WLL PCS 7 : RUSSIA PCS |
| byte | bts_type | 1 ~ 9 | bts type identification (STANDARD: 1) |
| byte | Sector_range | 6 | MAX Sector number of current system |
| word16 | reg_zone | 0 | As Registration zone (SID+NID+ZONE_ID), Network Subset. |
| byte | pkt_zone | 0 | Zone ID for PCF Data call |
| Int32 | ltm_off | 18 | Offset of local time from System time.<br>Offset of local time from UTC<br>current local time = SYS_TIME - LP_SEC + ltm_off<br>ltm_off = 18 ( 30 minutes per unit, i.e., 9 hour difference)<br>* LP_SEC : Number of Leap seconds that occurred since the start of System Time. |
| boolean | day_lt | 0 | Daylight saving time flag (Summer time)<br>1 : day lighting saving time<br>0 : standard time |
| word16 | CDMA_FREQ | 425 | Primary CDMA Channel Number. – Sync Msg |

| | | | |
|---|---|---|---|
| word16 | EXT_CDMA_FREQ | 525 | Upon use of RC3 or more or QPCH, see this field. |
| byte | Prat | 0 | paging channel data rate |
| byte | no_ccp | 0 | equipage information of CCP<br>0 = equip , 1 = Not equip |
| int32 | base_lat | 0 | BS latitude |
| int32 | base_long | 0 | BS longitude |
| byte | pilot_inc | | Pilot_PN_Offset value increases |
| byte | turbo_encode_flag | 0 | 0 : Turbo Encoding not used<br>1 : Turbo Encoding used |
| byte | reverse_pwr_flag | 1 | 0 : Reverse Link Power Control not used<br>1 : Rerverse Link Power Contorl used |
| byte | reserved_byte | 0 | |

### 7.5.8.2. St_sector_data_type.dg

Table 7.5-73 St_sector_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | BTS Identification |
| byte | sector_id | full | Sector Identification |
| byte | EquipPage | | 0 : Not Equip 1 : Equip |
| byte | num_of_cdma_ch | | CDMA channel insertion number ( 1 ~ 8 ) |
| word16 | pilot_pn_offset | | offset of Pilot Pn from zero shifted PN |
| byte | sector_cai_rev | 6 | CAI (Common Air Interface)<br>revision supported by base station<br>current BS S/W Version<br>1: IS95(Cellular),J-STD-008(PCS)<br>2: IS95A(Cellular)<br>3: TSB74(Cellular)<br>4,5: IS95B(Cellular,PCS)<br>6: IS-2000(Cellular,PCS) |
| byte | sector_cai_min_rev | 1 | CAI Minumum revision supported by base station<br>minimum version that BS can support to MS |
| byte | call_control_para | 0 | Upon call congestion, by changing CAI |

| | | | |
|---|---|---|---|
| | | | revision, it can increase the number of calls that can be provided. Enable/disable flag of corresponding function. |
| byte | reserved_byte[32] | 0 | |

### 7.5.8.3. St_cdmach_data_type.dg

Table 7.5-74 St_cdmach_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | BTS Identification |
| byte | cdmach_id | full | CDMA Channel Identification |
| byte | EquipPage | | 0 : Not Equip 1 : Equip |
| word16 | freq_band | 1800 | Frequency Bandwidth |
| word16 | cdmach_num | | number of cdmach channel |
| byte | tce_reserved_4ho | 20 | Handoff preparatory traffic channel ratio ( %) |
| byte | MAX_SCH_ALLOC_RATE | 50 | Parameter to determine the upper limit of supplemental channel |
| byte | reserve[2] | | |
| byte | reserved_byte[34] | 0 | |

### 7.5.8.4. St_sys_param_msg_data_type.dg

Table 7.5-75 St_sys_param_msg_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | BTS Identification |
| byte | sector_id | full | Sector Identification |
| byte | cdmach_id | full | CDMA Channel Identification |
| byte | total_zones | 2 | Number of Registration Zones<br>As the number of location registration to be held for use in Zone_based Registration, it can be saved up to 7EA, and if components more than it reside in ZONE_ LIST, MS removes the oldest component. |
| byte | zone_timer | 2 | When executing Zone-Based Registration, it |

| | | | |
|---|---|---|---|
| | | | holds ZONE_LIST, and it is a field to determine duration that an entry in ZONE_LIST is removed from list.<br>That is, the loggest entry from ZONE_LIST is the priority.<br>000(1 min),001(2 min),010(5 min),011(10 min),100(20 min),101(30 min),110(45 min),111(60 min) |
| boolean | home_reg | 1 | As Home registration ID, to enable auto location registration, set this field to '1', and to disable that, set that to '0'. |
| Boolean | mult_sids | 0 | multiple SID save indicator<br>If several elements that hold different SID in SID_NID_LIST are saved, set that to '1', and in other case, set that to '0'. A maximum of 4EA can be saved. |
| Boolean | mult_nids | 0 | multiple NID save indicator<br>If several elements that hold different NID in SID_NID_LIST are saved, set that to '1', and in other case, set that to '0'. |
| byte | max_sci | 3 | maximum slot cycle index<br>BS sets the length of allowed maximum slot cycle to SLOT_CYCLE_INDEX.<br>The length of the slot cycle(T) = 2i<br>where i is the slot cycle index.<br>Slot mode operation : method to monitor only 1slot or 2slot assigned to corresponding MS for one slot_cycle |
| boolean | for_nid_reg | 1 | NID roamer location registration indicator |
| boolean | for_sid_reg | 1 | SID roamer location registration indicator |
| boolean | power_up_reg | 1 | Upon personal station registration, if it is registered right before power ON, set that to '1', and if not, set that to '0'. |
| boolean | power_down_reg | 1 | Upon personal station registration, if it is registered right before power OFF, set that to '1', and if not, set that to '0'. |

| | | | |
|---|---|---|---|
| boolean | parameter_reg | 1 | Parameter-change registration indicator |
| byte | reg_prd | 64 | This is used for the calculation of MAX value counted to execute Timer based registration, and Timer based registration is executed when counter reaches REG_COUNT_MAX, and REG_COUNT_MAX is calculated as follows: REG_COUNT_MAX = [ 2reg_prd/4 ] |
| word16 | reg_dist | 0 | registration distance<br>0 : Personal Stations are not to perform distance based registration.<br>Other than 0: Personal Stations are to perform distance based registration.<br>ref : means 7.8m per unit. |
| byte | srch_win_a | 7 | search window size for the active set |
| byte | srch_win_n | 9 | search window size for the nghbr set |
| byte | srch_win_r | 10 | search window size for the Remaining set |
| byte | nghbr_max_age | 1 | Maximum age for retention of Neighbor set member |
| byte | pwr_rep_thresh | 4 | power control reporting threshold<br>As power control report threshold, set thi snumber before MS measures TOT_FRAMES and BAD_FRAMES and reports corresponding message to BTS to transmit this value to BTS. |
| byte | pwr_rep_frames | 7(frames) | power control reporting frame count.<br>Num fwd tc frames for Total count<br>pwr_rep_frames = 2**(pwr_rep_frames/2) *5 |
| boolean | pwr_thresh_enable | 0 | Threshold report mode indicator<br>if (1) then pwr_rep_thresh = 00000<br>If MS frame error rate reaches to threshold, it reports statistics.<br>if (0) then it prevents that from its transmitting to MS. |
| Boolean | pwr_period_enable | 0 | Periodic report mode indicator<br>if (0) then it prevents that from its sending periodic power measuremtn msg to to MS.<br>if (1) then MS reports frame error rate at |

| | | | |
|---|---|---|---|
| | | | certain intervals. |
| byte | pwr_rep_delay | 5 | power report mode delay(min time between power requests)<br>time from MS report to reattempt. |
| boolean | rescan | 0 | After receiving this system parameter, for reinitialization or system reobtaining, set this fiel to '1', and if not, set that to '0'. |
| byte | t_add | 26 | As pilot detection threshold, this is used to determine whether to transmit Pilot Strength Measurement Messag. BTS sets this field as pilot detection threshold. |
| byte | t_drop | 30 | As pilot release threshold, this is used to run Handoff release timer. BS sets this field as pilot release threshold. |
| byte | t_comp | 5 | As a comparative threshold, MS, if candidate group pilot strength is lager than pilot strength of active group by more than this field, transmits Pilot Strength Measurement Message. |
| byte | t_tdrop | 2 | As release timer value, if pilot strength falls below T_DROP, this is timer value until certain activation. This is managed by MS and managed regarding each pilot of active group and candidate group. |
| byte | ext_sys_parameter | 1 | Is there another sys_parameter? |
| byte | ext_nghbr_list | DCN: 0<br>PCS:1 | BS sets this filed to '1' to indicate transmission of Extended Neighbor List Message. |
| byte | GEN_NGHBR_LIST | 1 | Field to check if BS uses General NGHBR_LIST Msg through Paging Channel Message |
| byte | global_redirect | 0 | Global Service Redirection Message indicator<br>BS, to transmit Global Redirection Message, sets this field to 1, and if not, set that to 0.<br>At areas where both Amps and CDMA are used, |

| | | | |
|---|---|---|---|
| | | | only one side should be used<br>( 0 : not changed<br>1 : change subject to message ) |
| byte | PRI_NGHBR_LIST | | Field for BS to check the status of Private NGHBR_LIST Msg through Paging Channel Message |
| byte | USER_ZONE_ID | | Field to check the status of User_zone_id Msg through Paging Channel Message |
| byte | EXT_GLOBAL_REDIRECT | | Field to check the status of Ext_global_redirection Msg through Paging Channel Message |
| byte | EXT_CHAN_LIST | 1 | Field to check the status of Ext_channel_list Msg through Paging Channel Message |
| byte | reserved_byte[32] | 0 | |

### 7.5.8.5. St_ext_sys_param_msg_data_type.dg

Table 7.5-76 St_ext_sys_param_msg_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | BTS Identification |
| byte | sector_id | full | Sector Identification |
| byte | cdmach_id | full | CDMA Channel Identification |
| byte | pref_msid_type | 3 | Preferred Access Channel Personal Station Identifier Type<br>010 : IMSI<br>011 : IMSI and ESN<br>110 : TMSI(valid TMSI is assigned)<br>IMSI(TMSI not assigned)<br>111 : TMSI(valid TMSI is assigned)<br>IMSI and ESN(TMSI not assigned)<br>Other value is reserved. |
| word16 | mcc | 349 | Mobile Country Code |
| byte | imsi_11_12 | 99 | imsi : International Mobile Station Identity<br>imsi_11_12 is 11th, 12nd digits of imsi. |
| byte | tmsi_zone_len | 4 | TMSI(Temporary Mobile Station Identity)<br>As temporary personal station identifier, it |

| | | | |
|---|---|---|---|
| | | | consists of tmsi_zone and tmsi_code. BS sets this field as the number of octet included in tmsi_zone. |
| Byte | tmsi_zone[8] | 0 | Length : 8*tmsi_zone_len |
| byte | bcast_index | 6 | To enable periodic broadcast paging, BS sets this field to '1~7', and if not, set that to '0'. |
| byte | IMSI_T_SUPPORTED | | |
| byte | P_REV<br>(8bit) | 6 | Protocol revision level<br>BS sets this filed to '00000110'.<br>0 : 95<br>1 : JSTD-008 (PCS)<br>2 : 95A<br>3 : TSB74<br>4,5: 95B(based on completion ratio) – DCN, PCS |
| byte | MIN_P_REV<br>(8bit) | 1 | Minimum protocol revision level.<br>Sets protocol revision level that BS can offer to the minimum.<br>Band Class0 : 2 , Band Class1 : 1 |
| byte | SOFT_SLOPE<br>(6bit) | | Included in the formaula used upon Add/Drop of pilot to Active Set.<br>BS sets this filed as unsigned. |
| byte | ADD_INTERCEPT<br>(6) | | The intercept in the inequality criterion for adding a pilot to the Active Set<br>BS sets this filed as complement of 3 in dB unit. |
| byte | DROP_INTERCEPT<br>(6) | | The intercept in the inequality criterion for dropping a pilot to the Active Set<br>BS sets this filed as complement of 3 in dB unit. |
| byte | MAX_NUM_ALT_SO<br>(3) | | Maximum number of alternative service options.<br>BS makes MS set the number that includes Origination Message or Page Response Message to this field. |
| byte | RESELECT_INCLUDED | | System reselection parameters included.<br>If BS includes system reselection parameters, |

| | | | |
|---|---|---|---|
| | (1) | | set this field to '1', and if not, set this field to '0'. |
| byte | EC_THRESH<br>(0 or 5) | | Pilot power threshold.<br>If RESELECT_INCLUDED is set to '1', BS includes this field and sets that as follows:<br>(pilot_power_threshold + 115)<br>pilot_power_threshold measns pilot power(Ec), and MS performs system reselection if the output of corresponding pilot is below this filed. |
| byte | EC_IO_THRESH<br>(0 or 5) | | Pilot Ec/Ic threshold.<br>If RESELECT_INCLUDED is set to '1', BS includes this filed and sets that as follows:<br>⌈-20 * log10(pilot threshold)⌉<br>pilot threshold means pilot Ec/Io. MS, if Ec/Io is below this field, executes system reselection. |
| byte | PILOT_REPORT<br>(1) | | Pilot reporting indicator.<br>If this field is set to '1', MS reports corresponding pilot information.<br>If it is set to '0', it only reports that to Originationmessage and Page Responsemesage. |
| byte | NGHBR_SET_ENTRY_INFO (1) | | Neighbor Set access entry handoff information included indicator.<br>If BS includes Neighbor Set access entry handoff information, set this field to '1', and if not, set that to '0'. |
| byte | ACC_ENT_HO_ORDER<br>(0 or 1) | | Access entry handoff permitted indicator.<br>If NGHBR_SET_ENTRY_INFO field is '0', omit this field, and if '1', it allows MS access entry handoff while MS, In idle state, executes Mobile Station Order and Message Processing Operation. |
| byte | NGHBR_SET_ACCESS_INFO (1) | | Neighbor Set access handoff included indicator.<br>If BS includes Neighbor Set access handoff or access probe handoffinfo, set this field to '1', |

| | | | |
|---|---|---|---|
| | | | and if not, set this field to '0'. |
| byte | ACCESS_HO<br>(0 or 1) | | Access handoff permitted indicator.<br>If NGHBR_SET_ACCESS_INFO is '0', omit this field, and if '1', it allows MS access handoff. It sets this filed to '1', and if not, it sets that to '0'. |
| byte | ACCESS_HO_MSG_RSP<br>(0 or 1) | | Access handoff permitted for message response indicator. If ACCESS_HO is '0', omit this field, and if '1', it sets this field to 1 and if not it sets this field to 0. |
| byte | ACC_PROBE_HO<br>(0 or 1) | | Access probe handoff permitted indicator.<br>If NGHBR_SET_ACCESS_INFO is '0', omit this field, and if '1' and it allows MS access probe handoff, it sets this field to '1', and if not, set that to '0'. |
| byte | ACC_HO_LIST_UPD<br>(0 or 1) | | Access handoff list update permitted indicator.<br>If ACCESS_PROBE_HO is '0', omit this field, and if '1', and it allows update of access handoff list, it sets this field to '1', and if not, it sets that to '0'. |
| byte | ACC_PROBE_HO_OTHER_MSG (0 or 1) | | Access probe handoff permitted for messages other than the Origination Message and the Page Response Message.<br>If ACCESS_PROBE_HO is '0', it omits this field, and if '1', and it allows access probe handoff, it sets this field to '1', and if it allows that only to Origination Message and Page Response Message, set this field to '0'. |
| byte | MAX_NUM_PROBE_HO<br>(0 or 3) | | Maximum number of times that the mobile station is permitted to perform an access probe handoff.<br>If ACCESS_PROBE_HO is '0', omit this field, and if '1', set the maximum number so that MS executes access probe handoff. |
| byte | BROADCAST_GPS_ASST<br>(1) | | Broadcast GPS Assist Indicator.<br>If BS supports Broadcast GPS Assist, set this field to '1', or not, set that to '0'. |

| | | | |
|---|---|---|---|
| byte | QPCH_SUPPORTED (1) | 1 | Quick Paging Channel Supported Indication.<br>If BS supports Quick Paging Channel operation, set this field to '1', or not, set that to '0'. |
| byte | NUM_QPCH (0 or 2) | 1 | Number of Quick Paging Channels.<br>If QPCH_SUPPORTED is '0', omit this field, and if '1', BS sets this field as many as the number of Quick Paging Channel over CDMA Channel. BS will not set this field to '0'. |
| byte | qpch_rate | 0 | data rate over radio section<br>Range : 0~1(0:9600bps, 1:4800bsp)<br>Same as data_rate of qpch_data |
| byte | QPCH_POWER_LEVEL_PAGE (0 or 3) | | Quick Paging Channel paging indicator transmit power level.<br>If QPCH_SUPPORTED is '0', it omits this field, and if '1', BS sets this field in accordance with Table 3.7.2.3..2.13-3. |
| byte | QPCH_CCI_SUPPORTED (0 or 1) | | Quick Paging Channel configuration change indicator supported<br>If QPCH_SUPPORTED is '0', omit this field, and if '1', and BS supports configuration change indicators, it sets this field to '1', or not it sets this field to '0'. |
| byte | QPCH_POWER_LEVEL_CONFIG (0 or 3) | | Quick Paging Channel configuration Change indicator trasmit power level.<br>If QPCH_CCI_SUPPORTED is '0', it omits this field, and if '1', it sets this field in accordance with Table 3.7.2.3.2.13-3. |
| byte | SDB_SUPPORTED (1) | | Short Data Burst supported indicator.<br>If MS can send Short Data Burst, BS sets this field to '1', or not sets that to '0'. |
| byte | MAC_CF_SUPPORTED (1) | | MAC (Medium Access Control) control function supported indicator.<br>If BS supports MAC control functions, BS sets this field to '1', or not, it sets that to '0'. |
| byte | RLGAIN_TRAFFIC_PILOT | | Gain adjustment of the Reverse Traffic Channel relative to the Reverse Pilot Channel for Radio |

| | | | |
|---|---|---|---|
| | (6) | | Configurations greater than 2.<br>BS sets this field with reverse traffic channel power value. |
| byte | reserved_byte[33] | 0 | |

### 7.5.8.6. St_nghbr_list_msg_data_type.dg

Table 7.5-77 St_nghbr_list_msg_data_type

| Type | Name | Default | Remarks |
|---|---|---|---|
| byte | bts_id | full | BTS Identification |
| byte | sector_id | full | Sector Identification |
| byte | nghbrs_in_msg | | nghbr_list number held by one sector |
| byte | nghbr_srch_mode | | Parameter included in GNLM |
| byte | use_timing | | If Nghbr Base station transmits pilot in DTX mode, it indicates the use of timming information. |
| byte | global_timing_incl | | When use_timing is set to '1', this indicates whether all neighbors use the same timing information. |
| byte | global_tx_duration | | As Pilot Transmission duration of Neighbor Base Station, it is valid only if all neighbors use the same value. |
| byte | global_tx_period | | Valid only if all neighbors use the same value with DTX cycle of Pilot Transmission of Neighbor Base Station. |
| byte | srch_offset_incl | | |
| byte | nghbr_config[ ] | | When the value of this field is as follows:<br>000 : upon handoff The personal station shall begin monitering the Paging Channel of the new base station, using the same Code Channel.<br>001 : The personal station shall begin monitergin the primary paging channel of the new base station.<br>010 : The nghbr base station has a different number of frequencies having Paging Channels as |

| | | | |
|---|---|---|---|
| | | | the current station. |
| word16 | nghbr_pn[ ] | | pilot_pn_offset pf sector |
| word16 | nghbr_sid[ ] | | system identification value of BS to which a sector belongs |
| word16 | nghbr_nid[ ] | | Network identification value of BS to which corresponding sector belongs |
| word16 | nghbr_base_id[ ] | | base_id value of neighbor BS |
| byte | nghbr_msc_id[] | | msc_id value |
| byte | nghbr_bsc_id[] | | bsc_id value |
| byte | nghbr_bts_id[ ] | | bts_id value |
| Byte | nghbr_sect_id[ ] | | Sector id value |
| byte | nghbr_msc_type[] | 0 | 0 : local MSC<br>1 : remote MSC<br>Necessary to determine Soft, Hard H/O upon H/O. For local MSC, Soft H/O is possible, and for remote MSC, Hard H/O is attempted. |
| byte | nghbr_bsc_type[] | 0 | 0 : local BSC<br>1 : remote BSC<br>Necessary to determine Soft, Hard H/O upon H/O. For local MSC, Soft H/O is possible, and for remote MSC, Hard H/O is attempted. |
| byte | nghbr_beacon_pn[] | 0 | indicator |
| byte | search_priority[] | | the search priority for the Pilot Channel corresponding to NGHBR_PN.<br>Value Search Priority Value Search Priority<br>00 Low 01 Medium<br>02 High 11 Very high |
| byte | freq_incl[] | | Frequence included indicator. That is, if this field is 1, upon handiff, it uses channels on nghbr_band and nghbr_freq and if 0 , it uses current channel as is. |
| byte | nghbr_band[] | | If freq_incl field is set to '1'<br>band class of candidate frequency<br>800Mhz: 0<br>1800Mhz : 4 = domestic<br>1900Mhz: 1 = overseas |

| | | | |
|---|---|---|---|
| word16 | nghbr_freq[] | | If freq_incl field is set to '1' this field to the CDMA channel Number freq_incl field is set to '0' disregarded |
| byte | timing_incl[] | | B : MS moves at 2FA -> 5FA B is the value on 3,4,5FA. It is held by 5FA BS. If each Nghbr Sector transmits pilot in DTX mode, it indicates timing information. |
| byte | nghbr_tx_offset[] | | Transmission start offset value of each nghbr sector |
| byte | nghbr_tx_duration[] | | Pilot Transmission time value of each Nghbr Sector |
| byte | nghbr_tx_period[] | | Pilot DTX cycle value of each Nghbr Sector. |
| byte | srch_set[] | | To indicate the status of each Nghbr Pilot. |
| byte | add_pilot_rec_incl [] | | Indicates the status of additinal record regarding each Nghbr Pilot. |
| byte | nghbr_pilot_rec_type [] | | Additional Record Type(Information Type) Identification of each Nghbr Pilot |
| byte | td_pilot_otd_pwr[] | | OTD Transmit Power Level of each Nghbr Pilot |
| byte | srch_offset_nghbr[] | | Search Window offset value regarding each Neighbor Pilot |
| byte | access_entry_ho[] | | Should be repeated as many as NGHBR_SET_SIZE. Access entry handoff permitted when entering the System Access State. If before MS receives message through Paging Channel in idle state, and for response, it transits to System Access State, BS sets this field to 1 or not it sets that to 0 if access entry handoff is allowed. The order of ACCESS_ENTRY_HO is the same as that of Neighbor List Message, Extended Neighbor List Message or General Neighbor List Message. |
| byte | access_ho_allowed[] | | Should be repeated as many as NGHBR_SET_SIZE. Access handoff and access probe handoff |

| | | | |
|---|---|---|---|
| | | | permitted for the corresponding pilot while in the System Access State.<br>If MS is in System Access State, BS sets this field to 1 or not it sets that to 0 if MS access handoff or access probe handoff is allowed.<br>The order of ACCESS_HO_ALLOWED is the same as that of Neighbor List Message, Extended Neighbor List Message or General Neighbor List Message. |
| byte | reserved_byte[34] | 0 | |

### 7.5.8.7. St_Qos_param_data

Table 7.5-78 St_Qos_param_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | bts_id | full | |
| byte | max_sch_rate | | |
| byte | reserved_byte[106] | | 72 + 34 |

## 7.5.9. BSP Layer

### 7.5.9.1. St_pwr_mgt_param_type.dg

Table 7.5-79 St_pwr_mgt_param_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | sector_id | full | Sector Identification (0 ~ 2) |
| byte | cdmach_id | full | CDMA Channel Identification(0 ~ 7) |
| byte | T_rx_filter | 0 | Received total power filter update rate.<br>Ms units, 1/2 step, 20/2 ~ 255 range |
| byte | G_rx_filter | 0 | Received total power filter delay contant.<br>1/256 step. 0/256 ~ 255/256 range |
| byte | G_tx_filter | 0 | Transmit power filter delay constant<br>1/256 step. 0/256 ~ 255/256 range |

| | | | |
|---|---|---|---|
| byte | Gh_tx_filter | 0 | Pilot Channel gain |
| int16 | R_tx_pilot | 0 | Minimum trasmit pilot power to transmit total power ratio for sector j.<br>1/16 step, -255/16 ~ 0/16 |
| byte | flnk_call_blk_thresh | 0 | call blocking threshold. Nuit : % |
| byte | flnk_handoff_blk_thresh | 0 | Handoff blocking threshold. Unit : % |
| byte | flnk_gain_scaling_thresh | 0 | traffic gain scaling threshold |
| byte | rlnk_call_blk_thresh | 0 | call blocking threshold |
| byte | rlnk_handoff_blk_thresh | 0 | handoff blocking threshold |
| byte | A_tx_max | 0 | Maximum transmit gain |
| byte | delta_A_tx | 0 | Maximum transmit gain rate of chagne<br>1/16 step. 1/16 ~ 255/16 range |
| byte | K_level | 0 | Breathing equation level |
| byte | K_slope | 0 | Breathing equation level<br>1/128 step, 1/128 ~ 128/128 range |
| byte | K_delta | 0 | Breathing equation level<br>1/16 step, 0/16 ~ 255/16 range |
| byte | delta_T | 0 | General update rate, ms unit |
| byte | P_tx_max | 0 | Maximum transmit total power. DBmW unit |
| byte | initial_calib | 1 | 0: Overhead_ch Calibration Enabled<br>1: Blossoming Enabled |
| byte | periodic_calb | 1 | 0: Overhead_ch Calibration Enabled<br>1: TPTL Calibration Enabled |
| byte | breathing_flag | 0 | 0: Breathing Disable<br>1: Breathing Enable |
| byte | pwr_est_flag | 0 | 0: Forward/Reverse Link Power estimation Enabled<br>1: Forward/Reverse Link Power estimation Disabled |
| byte | overpwr_limit | 1 | 0: HPA Over Power Limitation Disabled<br>1: HPA Over Power Limitation Enabled |
| byte | flnk_cap_limit | 0 | 0: Forward Link Excess Capacity Limitation Disabled<br>1: Forward Link Excess Capacity Limitation |

| | | | |
|---|---|---|---|
| | | | Enabled |
| byte | rlnk_cap_limit | 0 | 0: Reverse Link Excess Capacity Limitation Enabled<br>1: Reverse Link Excess Capacity Limitation Disabled |
| byte | reserved_byte[33] | 0 | |

### 7.5.9.2. St_txms_param_data.dg

Table 7.5-80 St_txms_param_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | sector_id | full | Sector Identification |
| byte | cdmach_id | full | CDMA Channel Identification |
| word16 | ovhdch_erp | 170(1.7W) | Overhead Channel Effectiver Radiation Power and 170 means 1.7W(32dBm). |
| word16 | delta_erp | No-use | ERP calibration value |
| word16 | delta_sign | No-use | Calibration value symbol (0: PLUS, 1:MINUS) |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.3. St_tic_data_type.dg

Table 7.5-81 St_tic_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | sector_id | full | Sector Identification |
| byte | cdmach_id | full | CDMA Channel Identification |
| byte | primary_function | 1 | |
| word16 | tx_gain | 0x900(2304) | Overall sector transmit gain setting |
| byte | rx_a_atten | No-use 255 | Noise attenuator setting for the receiver A paths in 0.5 dB steps(0~63.5dB) |
| byte | rx_b_atten | No-use 255 | Noise attenuator setting for the receiver B paths in 0.5dB steps(0~63.5dB) |

| | | | |
|---|---|---|---|
| byte | tx_atten | No-use 255 | Noise attenuator setting for the transmit paths in 0.5 dB steps(0~63.5dB) |
| boolean | breathing | No-use 0 | Whether cell power "breathing" enabled. |
| byte | expected_db | No-use 16 | Cell breathing threshold in db. |
| word16 | power_upper_bound | No-use 20 | TICrecerse power threshold upper bound |
| word16 | power_lower_bound | No-use 15 | TICrecerse power threshold upper bound |
| byte | reserved_byte[33] | 0 | |

### 7.5.9.4. St_acc_param_data_type.dg

Table 7.5-82 St_acc_param_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | sector_id | full | Sector Identification(0 ~ 2) |
| byte | cdmach_id | full | CDMA Channel Identification(0 ~ 7) |
| byte | pc_id | full | Paging Channel Identification(0 ~ 7) |
| byte | nom_pwr | 0 | Power control value for Open loop Power Control |
| byte | init_pwr | 0 | Initial power offset for access<br>Power control value for Open Loop Power Control for MS Access Channelinitial transmission |
| byte | pwr_step | 3 | Power increment<br>Power amount value increased by MS between continuous probes at Access Probe Sequence |
| byte | num_step | 6 | Number of access probe<br>As the number of Access Probe, this is the value that is smaller by 1 than maximum access probe number transmitted from one Access Probe Sequence. |
| byte | max_cap_sz | 3 | Max Access Channel message capsule size<br>As value that indicates maximum access channel message capsule size, BS sets this field to value that is smaller by 3 than access channel frame number. |
| byte | pam_sz | 3 | Access Channel preamble length<br>As the length of access channel preamble, BS sets value that is smaller by 1 than access |

| | | | |
|---|---|---|---|
| | | | channel frame number transmitted from access 채 channel preamble. |
| byte | psist_0_9 | 0 | As value on access overload grade(0~9), if access pverload grade allows 0~9 MS to transmit request to access channel, BS sets that as continuous value to use this field and if not, it sets that to '111111'. |
| byte | psist_10 | 0 | If test MS with access overlaod grade of 10 is allowed to transmit requests to access channel, BTS sets that as continuous value to use this field, and if not, it sets that to '111'. |
| byte | psist_11 | 0 | If emergency MS with access overlaod grade of 11 is allowed to transmit requests to access channel, BTS sets that as continuous value to use this field, and if not, it sets that to '111'. |
| byte | psist_12 | 0 | If MS with access overlaod grade of 12 is allowed to transmit requests to access channel, BTS sets that as continuous value to use this field, and if not, it sets that to '111'. |
| byte | psist_13 | 0 | If MS with access overlaod grade of 13 is allowed to transmit requests to access channel, BTS sets that as continuous value to use this field, and if not, it sets that to '111'. |
| byte | psist_14 | 0 | If MS with access overlaod grade of 14 is allowed to transmit requests to access channel, BTS sets that as continuous value to use this field, and if not, it sets that to '111'. |
| byte | psist_15 | 0 | If MS with access overlaod grade of 15 is allowed to transmit requests to access channel, BTS sets that as continuous value to use this field, and if not, it sets that to '111'. |
| byte | msg_psist | 0 | As continuous transformer used to attempt accesschannel for message transfer, MS multiples [2-MSG_PSIST] to transmission probability. |

| | | | |
|---|---|---|---|
| byte | reg_psist | 0 | MS multiplies [2-MSG_PSIST] to transmission probability. |
| byte | probe_pn_ran | 0 | As a field related to time random for access channel probe, BS sets value of 0~9 so that the range of time random value is 2PROBE_PN_RAN-1 chip. |
| byte | acc_tmo | 6 | Answer time excessive value. |
| byte | probe_bkoff | 0 | Backoffrange of accesws channel probe |
| byte | bkoff | 1 | As access channel probe sequence backoff range, BS sets this field with the value that is lower by 1 than the number of slots that are delayed owing to backoff. |
| byte | max_req_seq | 2 | BS should set that with value greater than 0. |
| byte | max_rsp_seq | 2 | BS should set that with value greater than 0. |
| byte | auth | 0 | If MS includes standard authentication data inaccess channel nmessage, BTS sets this field to '01', and if not it sets that to '00'. |
| word32 | rand | 0 | If auth field value is '01', BTS sets this field to random attempt value to be used upon authentication and if different value, it is omitted. |
| byte | nom_pwr_ext | 0(DCN)<br>1(PCS) | extended nominal transmit power open loop power stimate: -24dB ~ -9dB if this field is '1', -8dB ~ 7dB if this field is '0' |
| byte | reserved_byte[35] | 0 | |

### 7.5.9.5. St_pc_global_redirect_msg_type.dg

Table 7.5-83 St_pc_global_redirect_msg_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | sector_id | full | Sector Identification |
| word16 | redirect_accolc | 65535 | redirect ACCess OverLoad Class indicator |
| byte | return_if_fail | 1 | 1: If personal system fails to redirect to other system, it allows entry to original |

| | | | |
|---|---|---|---|
| | | | system.<br>0 : No return |
| byte | delete_tmsi | 0 | Delete TMSI Indicator |
| byte | EXCL_P_REV_MS | | Indicator to apply Global Service redirection Message(GSRM) to MOB_P_REV 6 or above. |
| byte | REDIRECT_P_REV_INCL | | Indicator to divide the application scope of EGSRM according to MOB_P_REV value. |
| byte | EXCL_P_REV_INCL | | Indicator to exclude the application of GSRM regarding MS that has corresponding MOB_P_REV. |
| byte | REDIRECT_P_MIN | 6 | MOB_P_REV Minimum value of MS that will apply and exclude GSRM |
| byte | REDIRECT_P_MAX | 6 | MOB_P_REV Maximum value of MS that will apply and exclude GSRM |
| byte | record_type | 2 | 00000001: Redirection to an analogue system as defined in IS95<br>00000010: Redirection to an CDMA system as defined in IS95 |
| byte | record_len | 3 | The base station shall set this field to the number of octets in the type-specific fields of this redirection record. |
| Word16 | expected_a_sid | 0 | If Base station has personal station redirected to specific system, insert sid# of specific system.<br>0 : no use of specific system |
| byte | ignore_cdma | 1 | 1: when personal station is redirected to analog system, CDMA Capability Msg is disregarded.<br>0: if personal station receives CDMA Capability Msg, it may not receive service from redirected system. |
| Byte | sys_ordering | 3 | Determines where to redirect (see STD-008 p 3-175) |
| byte | band_class | 0(DCN)<br>1(1900Mg | If record_type is '00000010' for redirection, Band class of redirected |

| | | | |
|---|---|---|---|
| | | z)<br>4(1800Mhz) | system should be filled.<br>800Mhz: 0<br>1800Mhz : 4 = domestic<br>1900Mhz: 1 = overseas |
| Word16 | expected_sid | 0 | If Base station has personal system redirected to other system, this sets this field to SID of redirected system. |
| Word16 | expected_nid | 0 | If Base station has personal system redirected to other system, this sets this field to NID of redirected system. |
| Byte | num_chans | 0 | The number of occurence of cdma_chan FIELD |
| word16 | cdma_chan[10] | 0 | For each CDMA Channel on which the personal station is to attempt to acquire a CDMA system, the base station shall include one occurrence of this field specifying the associated CDMA Channel number. |
| byte | reserved_byte[34] | 0 | |

### 7.5.9.6. St_bts_cfg_type

Table 7.5-84 St_bts_cfg_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | dummy_key | full | |
| BYTE | OVHD_MODE | 0 | 0: Dynamic 1: Fix |
| byte | pa_type | 2 | RF type<br>0: PA_NEQ 1: HPA<br>2: LPA(MPD) 3:LPA(MILCOM) |
| byte | ant_type | 0 ~ 3 | 0 : Standard 1 : OTA<br>2 : DAI 3 : DAI_OAI |
| BYTE | TX_DIVERSITY | 0 ~ 1 | 0: Not Tx Diversity 1: Tx Diversity |
| byte | rx_duplex | 0 ~ 1 | 0: Simplex_antenna 1: Duplex_antenna |
| byte | rx_diversity | 0 ~ 1<br>current '1' | 0: Non_Diversity 1: Diversity<br>rx_diversity:0, St_chip_config_data diversity_scale_2000:0 |
| byte | lna_type | | 0 : Not_Equip 1 : Equip |

| | | | |
|---|---|---|---|
| | | | When MIC C, D are used for subway, this file is set to '0'. |
| byte | ttrf_type[12] | 0 | 0 : Not_Equip, 1 : Equip,<br>2 : Equip and Blocked.<br>4EA per sector among 12EA. |
| byte | fa_use | | 0: 1FA-6Sec 1; 2FA-3Sec |
| byte<br>byte | risa_eqp<br>reserved_byte[34] | 1<br>0 | 0: not equip, 1: equip<br>Reserved Field |

### 7.5.9.7. St_dru_chc_data_type

Table 7.5-85 St_dru_chc_data_type

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | proc_id | full 0~9 | Processor Identification |
| byte | EquipPage | | 0:Not Equip 1:Equip |
| BYTE | CHC_STATE[MAX_CHC] | | Not_equip/Block/Unblock |
| BYTE | CHIP_STATE[MAX_CHC][MAX_CHIP] | 0 | Chip status per channel card<br>Not_equip/Block/Unblock |
| byte | reserved_byte[33] | 0 | |

### 7.5.9.8. St_chip_config_data

Table 7.5-86 St_chip_config_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | DUMMY | full 0 | |
| byte | num_chip_per_chc | 2 | |
| word16 | sector_gain[MAX_SECTORS] | 208 | sector gain(Normal Path)<br>Range : 0~4095 |
| word16 | tx_div_sector_gain[MAX_SECTORS] | 0 | sector gain(Tx Diversity Path)<br>Range : 0~4095 |
| word16 | sector_timing_adv[MAX_SECTORS] | 320 | Timing advance (Normal Path)<br>Max : 1264 |

| | | | |
|---|---|---|---|
| word16 | tx_div_timing_adv[MAX_SECTORS] | 0 | Timing advance (Tx Diversity Path)<br>Max : 1264 |
| byte | sector_tx_io_format | 0 (6 path or below)<br>2 (3 path or below) | 0:tx_output_chipx1, 1: tx_output_chipx1_fir<br>2: tx_output_chipx2_fir |
| word16 | cell_radius | 511 | in units of PN chip |
| byte | rev_input_format | 1 (6 path or below)<br>0 (3 path or below) | 0:chipx8_rate_input, 1: chipx2_rate_input |
| byte | ant_enable[MAX_ANTENNAS] | | MAX_ANTENNAS = 12 |
| byte | ant_source[MAX_ANTENNAS] | | ? |
| byte | rev_cell_mode | | ? |
| byte | max_rach_fraction | 10 | MAX=32 |
| word32 | max_rach_separation | 80 | MAX=512 |
| byte | max_reach_fraction | 10 | MAX=32 |
| word32 | Max_reach_separation | 80 | MAX=512 |
| byte | enable_srch_win_adj | 1 | |
| byte | max_finger_per_chan95 | 6 | MAX=6 |
| byte | max_finger_per_chan2000 | 8 | MAX=8 |
| byte | usefully_rate_likely | No-use 1 | |
| byte | finger_thresh_adj_enable | No-use | ? |
| byte | channel_finger_limit | No-use | ? |
| byte | csm_mode | 1 | 0:non_backward_compatible,<br>1: backward_compatible |
| byte | diversity_scale_2000 | 3 | Range : 0~3 |
| int | min_search_energy_rach | No-use 150 | |
| int | min_search_energy_rc1 | No-use 200 | |
| int | min_search_energy_rc2 | No-use 200 | |
| int | min_search_energy_rc3 | No-use 40 | |
| int | min_search_energy_rc4 | No-use 40 | |
| int | min_search_energy_rc5 | No-use | |
| int | min_search_energy_rc6 | No-use | |
| int | override_search_energy_rach | No-use | |

| | | | |
|---|---|---|---|
| int | override_search_energy_rc1 | No-use | |
| int | override_search_energy_rc2 | No-use | |
| int | override_search_energy_rc3 | No-use | |
| int | override_search_energy_rc4 | No-use | |
| int | override_search_energy_rc5 | No-use | |
| int | override_search_energy_rc6 | No-use | |
| word16 | turbo_dtx_threshold | No-use 240 | |
| word16 | conv_dtx_threshold | No-use 392 | |
| byte | bin_size | No-use | |
| byte | integration_period | No-use | |
| word16 | srch_win_len[MAX_SECTORS] | 1(traffic) | Range : 1~32 |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.9. St_hpbch_data

Table 7.5-87 St_hpbch_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | 0 ~ 2 | |
| BYTE | PILOT_GAIN | | pilot channel gain |
| BYTE | NUM_CDMA_CH | | number of cdma channel of hopping beacon |
| WORD16 | CDMA_FREQ[MAX_CDMACH] | | CDMA Channel Number for Hopping Beacon. |
| BYTE | BEACON_TX_OFFSET[MAX_CDMACH] | | Pilot beacon transmit time offset . Reading the value from Neighbor_list_msg_data.dg for setting. |
| BYTE | BEACON_TX_DURATION[MAX_CDMACH] | | Pilot beacon transmit time duration . Reading the value from Neighbor_list_msg_data.dg and setting. |
| BYTE | BEACON_TX_PERIOD[MAX_CDMACH] | | Pilot beacon transmit time . Reading the value from Neighbor_list_msg_data.dg and setting. |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.10. St_pich_data_type (Pilot Channel)

Table 7.5-88 St_pich_data_type (Pilot Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | 0 ~ 2 | |
| BYTE | CDMACH_ID | 0 ~ 7 | |
| BYTE | PROC_ID | | PILOT CHANNEL PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | PILOT CHANNEL SLOT NUMBER |
| BYTE | PILOT_GAIN | 234 | pilot channel gain. in unit of dB |
| BYTE | PILOT_TD_GAIN | | piot tx_diversity channel gain. |
| byte | reserved_byte[34] | 0 | |

### 7.5.9.11. St_synch_data_type (Sync Channel)

Table 7.5-89 St_synch_data_type (Sync Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | PROC_ID | | SYNCH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | SYNCH SLOT NUMBER |
| BYTE | SYNC_GAIN | 159 | sync channel gain. in unit of dB |
| byte | reserved_byte[35] | 0 | |

### 7.5.9.12. St_pch_data_type (Paging Channel)

Table 7.5-90 St_pch_data_type (Paging Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | sector_id | full 0 ~ 2 | |
| byte | cdmach_id | full 0 ~ 7 | |
| byte | pc_id | full 0 ~ 6 | |
| byte | equipage | | Actual pc equip state |
| byte | num_ac | | Access channel number per Paging Channel<br>Access Para AccChan |

| | | | |
|---|---|---|---|
| byte | proc_id | | Paging channel processor number (RCP) |
| byte | slot | | Paging channel slot number |
| BYTE | PC_GAIN | 217 | Paging channel tx gain. in unit of dB |
| byte | frame_duration | 2 | Packet frame size.<br>(5ms/20ms) Range : 0~4 (2:20ms) |
| byte | data_rate | 0 | data rate.<br>Range : 0~1(0:9600bps, 1:4800bsp) |
| byte | encoding_rate | No-use 1 | Convolutional channel coding rate. |
| byte | reserved_byte[34] | 0 | |

### 7.5.9.13. St_qpch_data_type (Quick Paging Channel)

Table 7.5-91 St_qpch_data_type (Quick Paging Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | QPCH_ID | full 0 ~ 2 | |
| byte | equipage | | |
| BYTE | PROC_ID | | QPCH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | QPCH SLOT NUMBER |
| BYTE | INDICATOR_GAIN | | Paging indicator part gain |
| BYTE | CCI_GAIN | | CCI(Configuration Change Indicator)<br>Gain |
| byte | frame_duration | 2 | Packet frame size.<br>(5ms/20ms) |
| byte | data_rate | 0 | data rate. |
| byte | encoding_rate | No-use | Convolutional channel coding rate. |
| byte | reserved_byt[34] | 0 | |

### 7.5.9.14. St_ach_data_type (Access Channel)

Table 7.5-92 St_ach_data_type (Access Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|

| | | | |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | PC_ID | full 0 ~ 6 | |
| BYTE | AC_ID | full 0 ~ 31 | |
| byte | equpage | | |
| BYTE | PROC_ID | | ACCESS CHANNEL PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | ACCESS CHANNEL SLOT NUMBER. |
| byte | pam_int_prd | No-use 2 | As integer between 2~4(Walsh symbols), 8-pam_int_prd(Walsh symbol), when detecting access probe preamble, is dector integration period. |
| word16 | pam_win_len | No-use 1800 | As searching window size when detecting access probe preamble, it is integer between 6~4048(1/8 chip/unit). |
| word16 | pam_pn_offset | No-use 1920 | As preamble searching start pn offset value of access probe, it is integer between 8 ~ (4092 - pam_win_ len)(1/8 PN chip/unit). |
| byte | mul_int_prd | No-use 6 | As integer between 2 ~ 6(Walsh symbols), 8-mul_int_prd(Walsh symbol) is the integration period of detector when searching multipathingredients while modulating access probe data protion signal. |
| byte | mul_win_len | No-use 128 | As searching window size when searching nultipath ingredients while modulating access probe data protion signal, it is integer between 96~4048(1/8 PN chip/unit), which should be lower than pam_win_len. |
| byte | multipath_gain | No-use 1 | factor used to decide whether to move the finger during demod stage based on the result of multipath search |
| word16 | nolock_thresh | No-use 156 | As threshold, it is integer between 0~65535. |
| word16 | lock_thresh | No-use 156 | As threshold, it is integer between 0~65535. |
| word16 | combine_thresh | No-use 156 | Threshold used to enable combining of a finger when it is in LOCK state. |
| WORD16 | SRCH_START_OFFSET | 0 | Search Start Offset. in units of chipx8<br>Range : 0~4096(Chipx8 units) |

| | | | |
|---|---|---|---|
| WORD16 | SRCH_WIN_SIZE | 4(access) | Search Window Size. in units of 64PN chip.<br>Range : 1~32(64 PN Chips units) |
| byte | reserved_byte[35] | 0 | |

### 7.5.9.15. St_apich_data_type (Auxiliary Pilot Channel)

Table 7.5-93 St_apich_data_type (Auxiliary Pilot Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | PROC_ID | | APICH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | APICH SLOT NUMBER |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.16. St_bcch_data_type (Broadcast Channel)

Table 7.5-94 St_bcch_data_type (Broadcast Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | BCCH_ID | full 0 ~ 6 | |
| byte | equipage | | |
| BYTE | PROC_ID | | Broad CHANNEL PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | Broad CHANNEL SLOT NUMBER |
| byte | TX_GAIN | | |
| byte | SPREADING_RATE | | |
| byte | OTD | | |
| byte | SR1_BCN | | |
| byte | SR1_BRAT | | |
| byte | SR1_NON_OTD_INCL | | |
| byte | SR1_CDMA_FREQ_NON_OTD | | |
| byte | SR1_BCCH_RATE_NON_OTD | | |

| | | | |
|---|---|---|---|
| byte | SR1_OTD_INCL | | |
| byte | SR1_CDMA_FREQ_OTD | | |
| byte | SR1_BCCH_RATE_OTD | | |
| byte | SR3_CAP_IND | | |
| byte | SR3_CDMA_FREQ | | |
| byte | SR3_BCN | | |
| byte | SR3_BRAT | | |
| byte | frame_duration | | Packet frame size. (5ms/20ms) |
| byte | data_rate | | data rate. |
| byte | radio_configuration (encoding_rate) | | Convolutional channel coding rate. Radio configuration |
| byte | reserved_byte[34] | 0 | |

### 7.5.9.17. St_cpch_data_type (Common Power Control Channel)

Table 7.5-95 St_cpch_data_type (Common Power Control Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | CPCH_ID | full 0 ~ 6 | |
| byte | equipage | | |
| BYTE | PROC_ID | | CPCH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | CPCH SLOT NUMBER |
| byte | frame_duration | | Packet frame size. (5ms/20ms) |
| byte | data_rate | | data rate. |
| byte | radio_configuration (encoding_rate) | | Convolutional channel coding rate. Radio configuration |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.18. St_cach_data_type (Common Assignment Channel)

Table 7.5-96 St_cach_data_type (Common Assignment Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | CACH_ID | full 0 ~ 6 | |
| byte | equipage | | |
| BYTE | PROC_ID | | CACH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | CACH SLOT NUMBER |
| byte | frame_duration | | Packet frame size. (5ms/20ms) |
| byte | data_rate | | data rate. |
| byte | radio_configuration (encoding_rate) | | Convolutional channel coding rate. Radio configuration |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.19. St_fccch_data_type (Forward Common Control Channel)

Table 7.5-97 St_fccch_data_type (Forward Common Control Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | FCCCH_ID | full 0 ~ 6 | |
| byte | equipage | | |
| BYTE | PROC_ID | | FCCCH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | FCCCH SLOT NUMBER |
| byte | frame_duration | | Packet frame size. (5ms/20ms) |
| byte | data_rate | | Data rate. |
| byte | radio_configuration (encoding_rate) | | Convolutional channel coding rate. Radio configuration |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.20. St_each_data_type (Enhanced Access Channel)

Table 7.5-98 St_each_data_type (Enhanced Access Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | FCCCH_ID or CACH_ID | full 0 ~ 6 | |
| BYTE | EACH_ID | full 0 ~ 31 | |
| byte | equipage | | |
| BYTE | DUPLEX_ID | 0 ~ 1 | Redundancy |
| BYTE | PROC_ID | | EACH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | EACH SLOT NUMBER |
| BYTE | reserved_byte[33] | 0 | |

### 7.5.9.21. St_rccch_data_type (Reverse Common Control Channel)

Table 7.5-99 St_rccch_data_type (Reverse Common Control Channel)

| Type | N a m e | default | Remarks |
|---|---|---|---|
| BYTE | SECTOR_ID | full 0 ~ 2 | |
| BYTE | CDMACH_ID | full 0 ~ 7 | |
| BYTE | FCCCH_ID or CACH_ID | full 0 ~ 6 | |
| BYTE | RCCH_ID | full 0 ~ 31 | |
| byte | equipage | | |
| BYTE | PROC_ID | | EACH PROCESSOR NUMBER (RCP) |
| BYTE | SLOT | | EACH SLOT NUMBER |
| BYTE | reserved_byte[34] | 0 | |

### 7.5.9.22. St_sector_cdmach_data_type

Table 7.5-100 St_sector_cdmach_data_type

| type | Name | default | Remarks |
|---|---|---|---|
| byte | sector_id | full | |

| | | | |
|---|---|---|---|
| byte | cdmach_id | full | |
| byte | ocns_enable | 0 | 0: Ocns Enabled 1: Ocns Disabled |
| byte | num_of_ocns_ch | 0 | Ocns Call Number ( 0 ~ 20 ) |
| byte | ocns_test_data | 5 | Test Data Rate ( 0 ~ 5 )<br>( B, 1/8, 1/4, 1/2, 1, V) |
| word16 | ocns_so | 0x801f | Service Option<br>[ Markov(8002, 801f), LB(2,9) ] |
| byte | block_state | 0 | 0: Unblock, 1: Block<br>If current sector FA is 'block', MS regards no FA residing in channel list. |
| byte | reserved_byte[32] | 0 | |

### 7.5.9.23. St_HW_reset_type

Table 7.5-101 St_HW_reset_type

| type | Name | default | Remarks |
|---|---|---|---|
| byte | dummy_key | 0 | |
| byte | shlf_pwr[20] | | CSD : BSBB(0), RCBB0(1), RCBB1(2), RCBB2(3), RCBB3(4)<br>COU : BCCB0(5), BCCB1(6), BCCB2(7), BCCB3(8)<br>9 ~ 19 : Reseved |
| byte | bspa[4][2] | 0 | |
| byte | lica[4] | 0 | |
| byte | aria[4] | 0 | |
| byte | bada | 0 | |
| byte | risa | 0 | |
| byte | bota | 0 | |
| byte | dran | 0 | |
| byte | rcpa[4][2] | 0 | |
| byte | mcpa[4][10] | 0 | |
| byte | buda[4][6] | 0 | |
| byte | paca[4] | 0 | |
| byte | pa[6][6] | 0 | |
| byte | bcra[2] | 0 | |

| | | | |
|---|---|---|---|
| byte | bppa | | |
| byte | reserved_byte[23] | 0 | |

### 7.5.9.24. St_Chip_pwr_cntl_para_data( 0:FCH , 1:SCH, 2:SCCH, 3:DCCH )

Table 7.5-102 St_Chip_pwr_cntl_para_data

| Type | N a m e | default | Remarks |
|---|---|---|---|
| byte | Dummy | 0 | |
| byte | Channel_pwr[MAX_CH_TYPE(4)] | 224 | Forward Traffic Channel Tx Power 0(-63.5dB) ~ 127(0dB). 0.5dB step |
| byte | Data_gain | No-use | Data Gain to be added to the Channel Power -31.75dB ~ 31.75dB. 0.5dB step |
| byte | Pwr_cntl_gain | No-use | Power Control Sub-channel Gain to be added to the Channel. -31.75dB ~ 31.75dB, 0.5dB step. |
| byte | Min_gain[MAX_CH_TYPE(4)] | 150 | Forward Traffic Channel Power Minimum Value |
| byte | max_gain[MAX_CH_TYPE(4)] | 224 | Forward Traffic Channel Power Maximum Value |
| byte | step_up_size | 4 | Forward Traffic Channel Power Control step up size. 0(0dB) ~ 15(3.75dB), 0.25dB step |
| byte | step_dn_size | 4 | Forward Traffic Channel Power Control step down size. 0(0dB) ~ 15(3.75dB), 0.25dB step |
| byte | fpc_punc_mode | 0 | FPC(Forward Power Control) Puncture Mode. Same as fpc_mode of St_pwr_cntl_para_type |
| byte | rpc_punc_mode | 0 | RPC(Reverse Power Control) Puncture Mode. |
| byte | pwr_cntl_set_point | 219 | RPC Set Point(Threshold) 0(-63.75dB) ~ 255(0dB), 0.25dB step |
| byte | pwr_cntl_pattern | 3 | Power Control Up/Down pattern to be used when no fingers are combining |
| byte | Reserved_byte[32] | | |

# 7.6. Abbreviations

Table 7.6-1 Abbreviations in IS-2000 system

| Abbreviations | Description |
|---|---|
| ABID | Alarm Buffer Inerface Daughter board |
| ACBB | AAL 2 Control Back Board |
| ALP | ATM Low speed subs. Processor |
| AUBB | ATM low speed sUbscriber Back Board |
| AXBB | ATM Switch Back Board |
| BABB | BTS ATM Network BackBoard |
| BADA | Base Station Analyze & Diagnostic Assembly |
| BANU | BTS ATM Network Unit |
| BCRA | BTS Cell Router Board Assembly |
| BMS | Base station Management System |
| BPPA | BTS Peripheral Processor Board Assembly |
| BSC | Base Station Controller |
| BSM | Base Station Manager |
| BSS | CAN Network control Processor |
| BSPU | BTS Signaling Processor Unit |
| BTGU | BTS Timing Generation Unit |
| BTS | Base Station Tranceiver Subsystem |
| BUDA | Base Station Sector conversion&Up/Down Converter Assembly |
| CAN | Central ATM Network |
| CBBB | Control and Protocol Block BackBoard |
| CCP | Call Control Processor |
| CDMB | Configuration & Data Management Block |
| CNP | CAN Network control Processor |
| CRP | Cell Router Control Processsor |
| DBPA | Digital BaseBand Processing Board Assembly |
| DCBU | Digital Channel Bank Unit |
| DCIB | Data Communication Interface Block |
| FER | Fault Error Rate |

| | |
|---|---|
| FERA | Fast Ethernet Routing Board Assembly |
| FETD | Fast Ethernet Termination Board Assembly |
| GPS-D | global Positioning System - Distribution |
| GPS-R | Global Positioning System - Receiver |
| GUI | Graphic User Interface |
| HDLC | High-level Data Link Control |
| LICA | Line Interface Controller Board Assembly |
| LPA | Linear Power Amplifier |
| MAC | Medium Access Control |
| MMI | Man Machine Interface |
| NCP | Network Control Processor |
| OCNS | Orthogonal Channel Noise Simulator |
| PACA | Power Adjustment Control Assembly |
| PCP | Protocol Control Processor |
| RCCA | Radio channel Processing Board Assembly |
| RCMD | Remote Control Module Daughter Board |
| RNS | Radio Network Subsystem |
| SEBB | Selecter bank Back Board |
| SMP | Selector bank Master Processor |
| STMB | Status Management Block |
| TRMB | TRouble Mamagement Block |
| UCPA | Universal Contrl Processor Board Assembly |
| VCBB | VoCoder bank Back Board |
| VMP | Vocoder bank Master Processor |