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

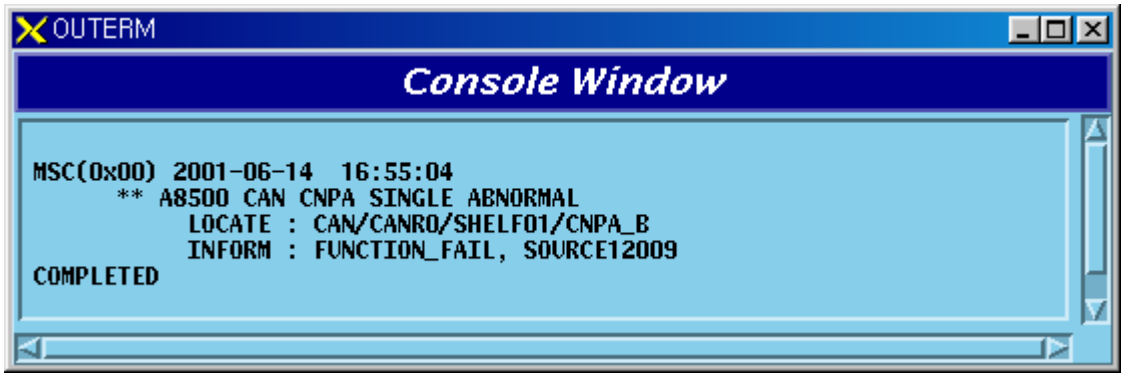


Fig. 5.1-1 CNP Single Function Fail

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

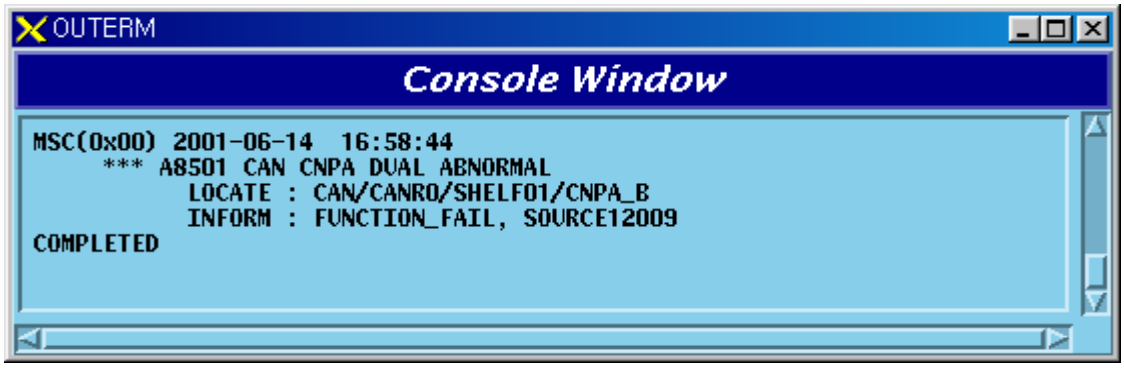


Fig. 5.1-2 CNP Dual Function Fail

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

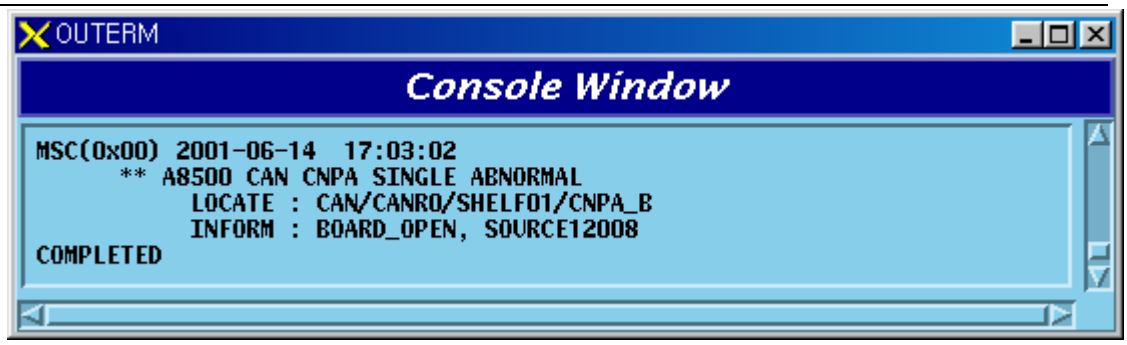


Fig. 5.1-3 CNP Single Board Open Fail

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

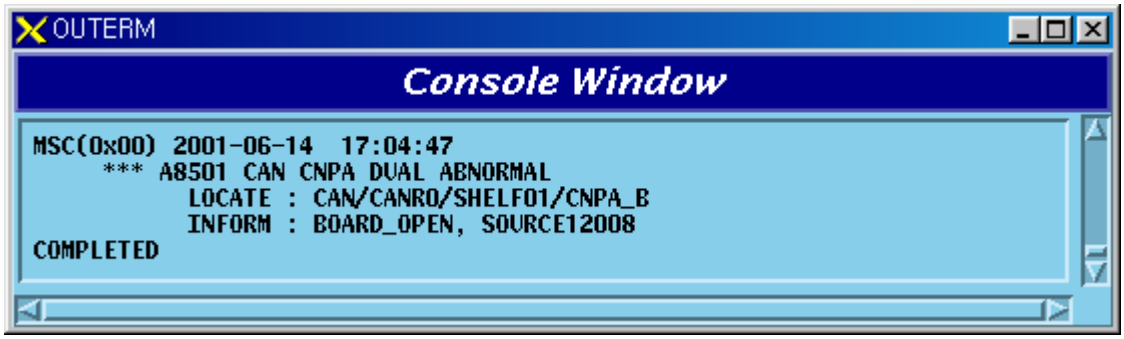


Fig. 5.1-4 CNP Dual Board Open Fail

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

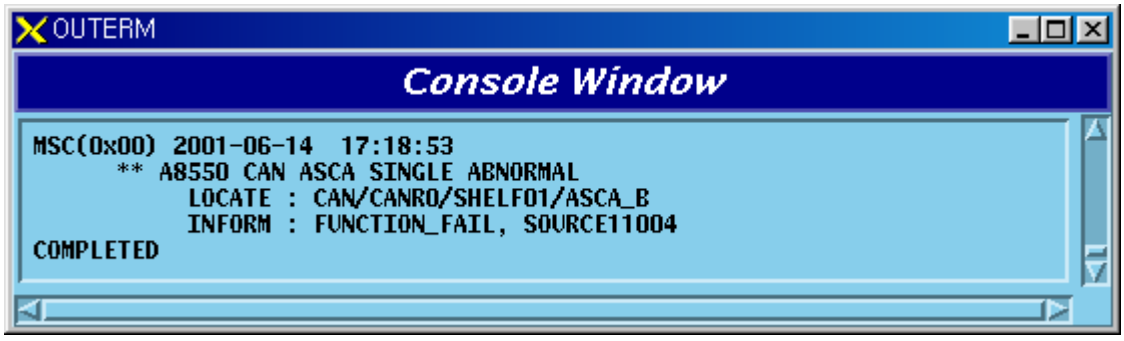


Fig. 5.1-5 CAN ASCA Single Function Fail

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

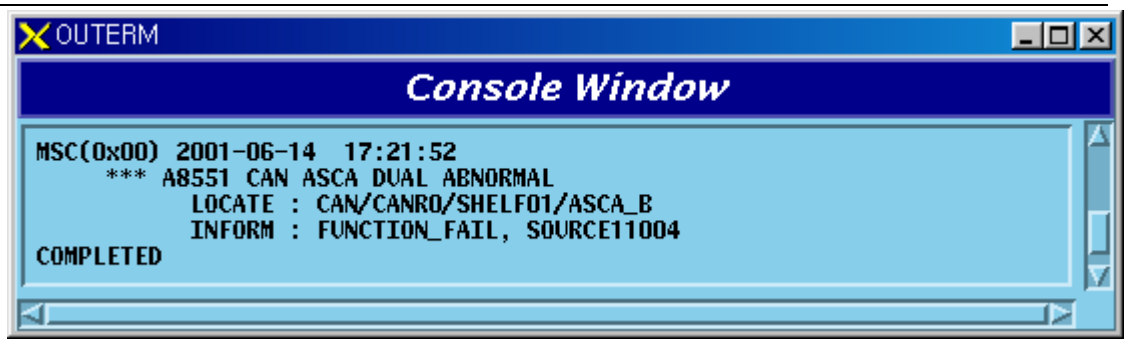


Fig. 5.1-6 CAN ASCA Dual Function Fail

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

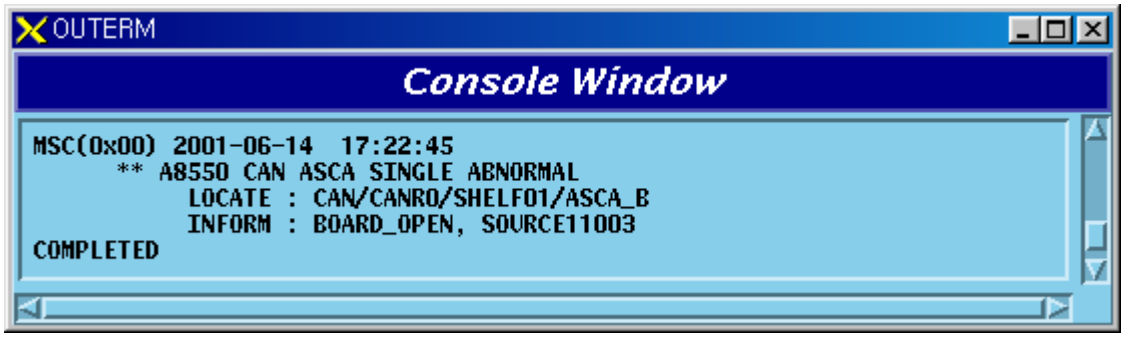


Fig. 5.1-7 CAN ASCA Single Board Open Fail

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

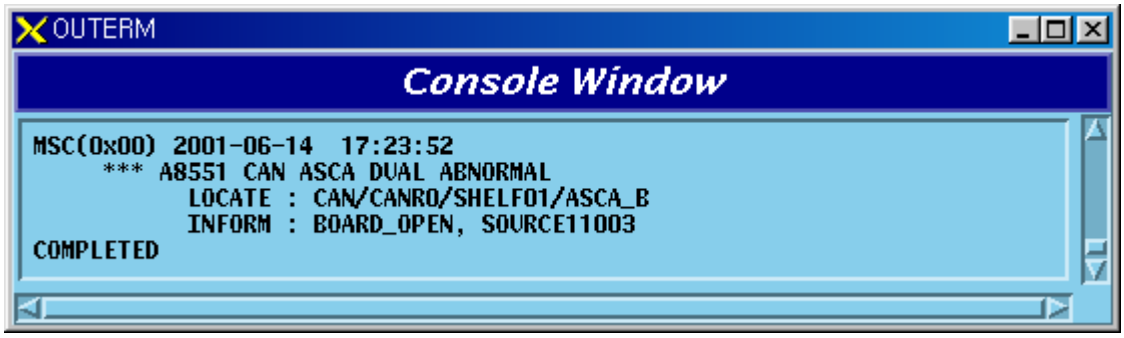


Fig. 5.1-8 CAN ASCA Dual Open Fail

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

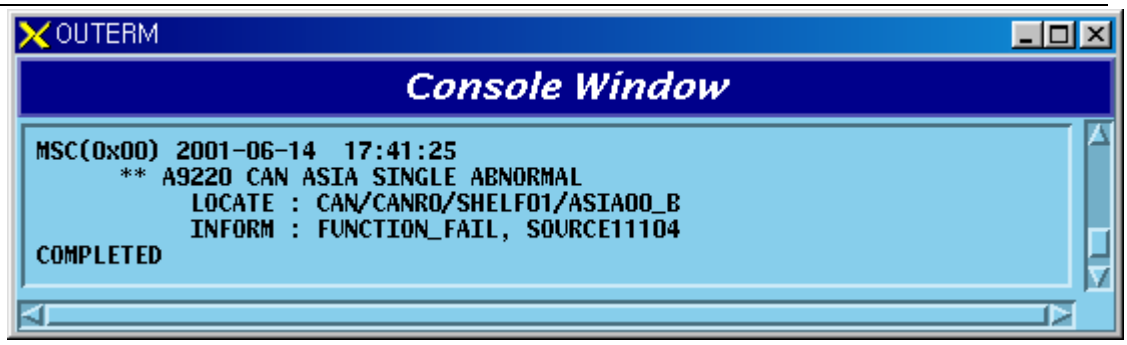


Fig. 5.1-9 CAN ASIA Single Function Fail

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

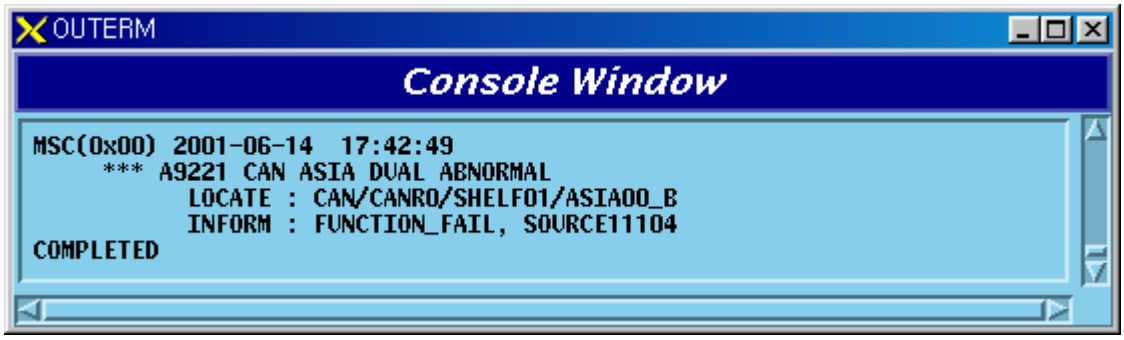


Fig. 5.1-10 CAN ASIA Dual Function Fail

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

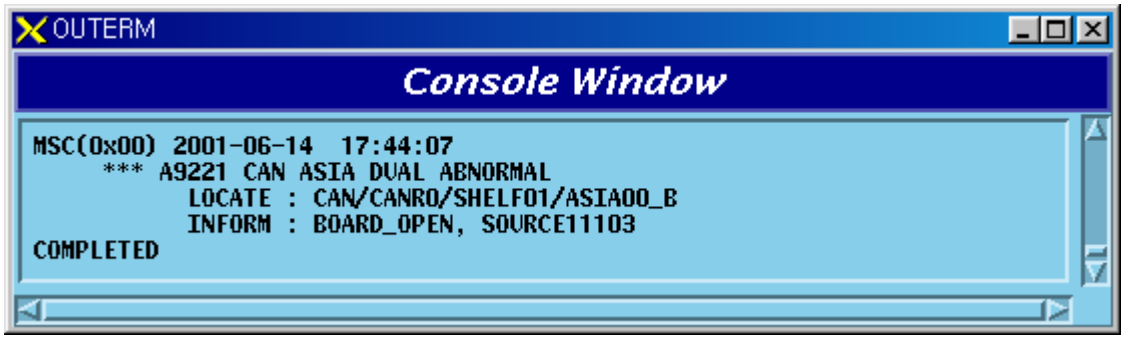


Fig. 5.1-11 CAN ASIA Single Board Open Fail

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

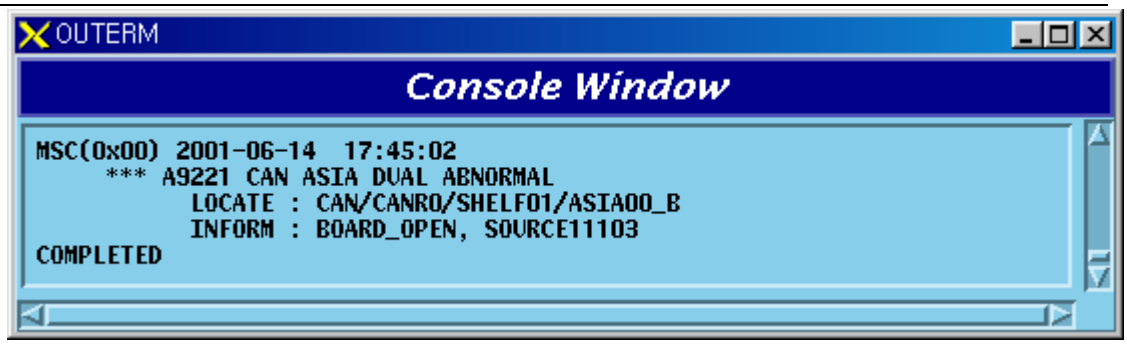


Fig. 5.1-12 CAN ASIA Single Board Open Fail

5.1.1.1.1.4. AOTA Board

1) When functional faults occur on AOTA board

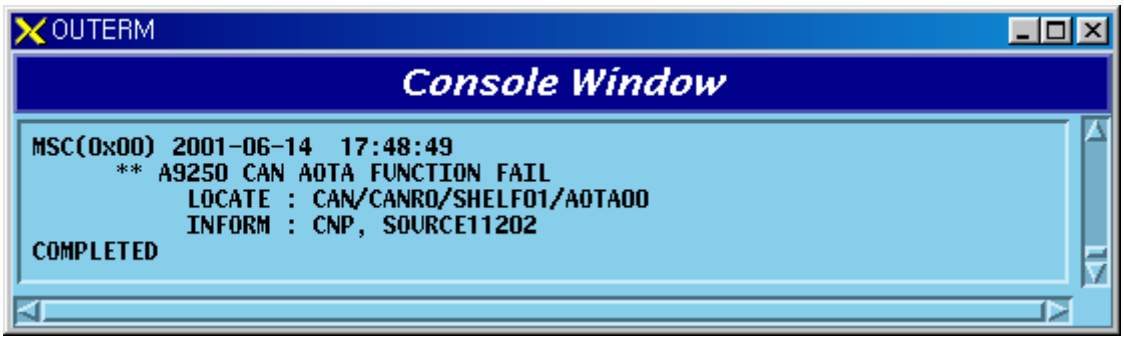


Fig. 5.1-13 CAN AOTA Function Fail

2) When AOTA board is removed

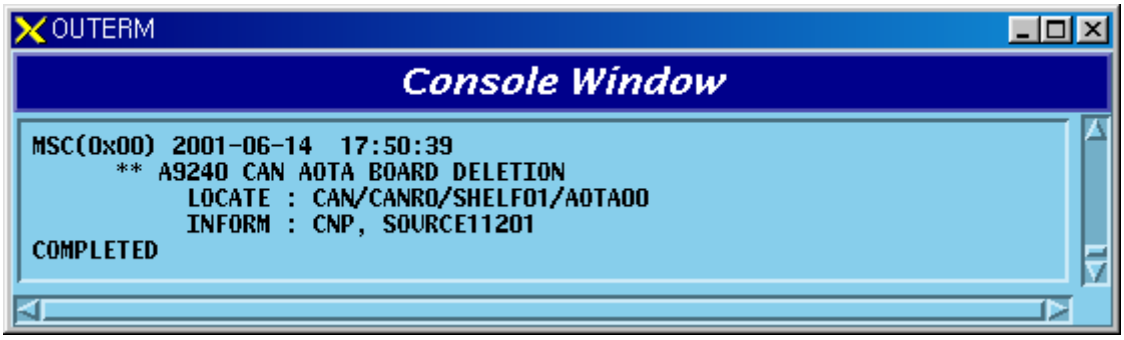


Fig. 5.1-14 CAN AOTA Board Open Fail

5.1.1.1.1.5. ATSA Board

1) When functional faults occur on ATSA board

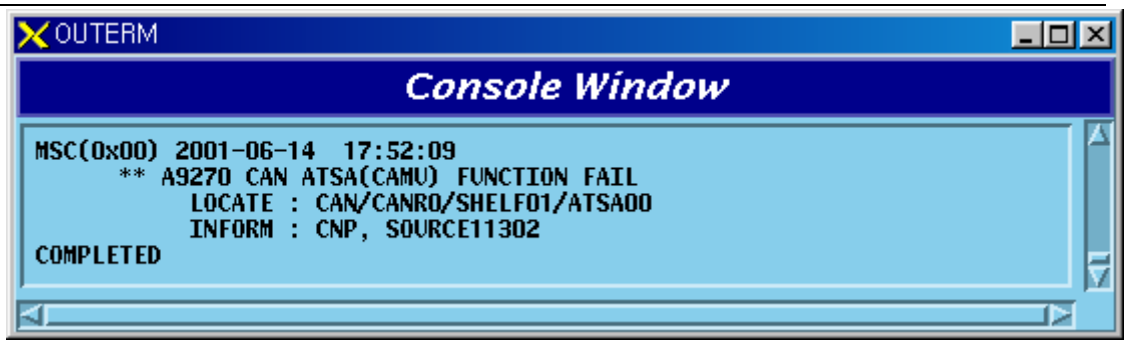


Fig. 5.1-15 CAN ATSA Function Fail

2) When ATSA board is removed

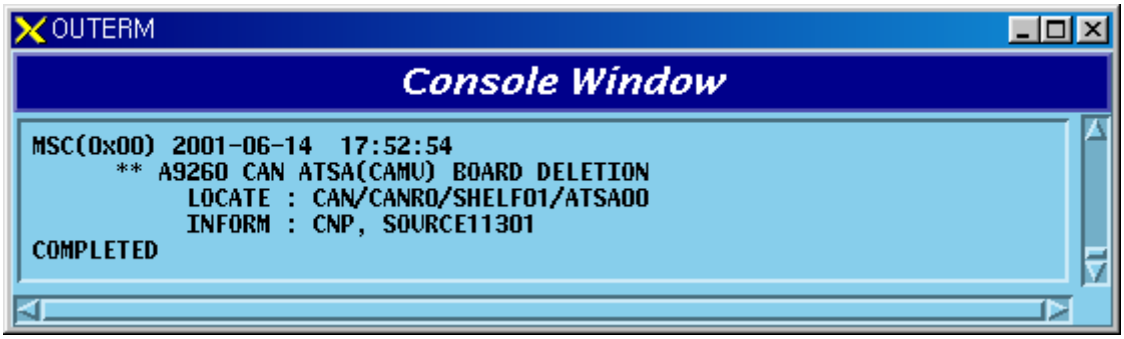


Fig. 5.1-16 CAN ATSA Board Open Fail

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

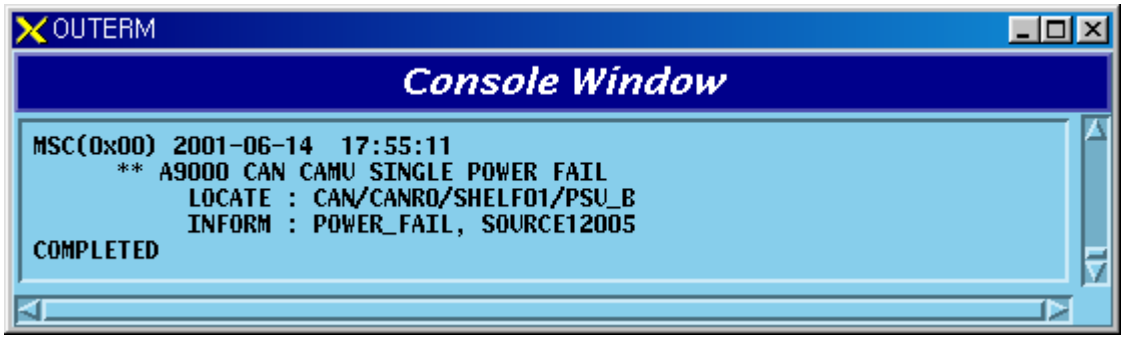


Fig. 5.1-17 CAMB PRI Single Power Fail

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

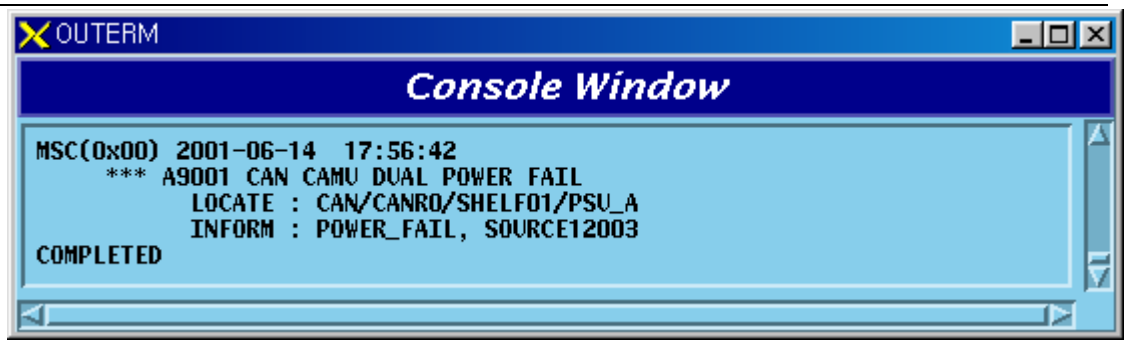


Fig. 5.1-18 CAMB PRI Dual Power Fail

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

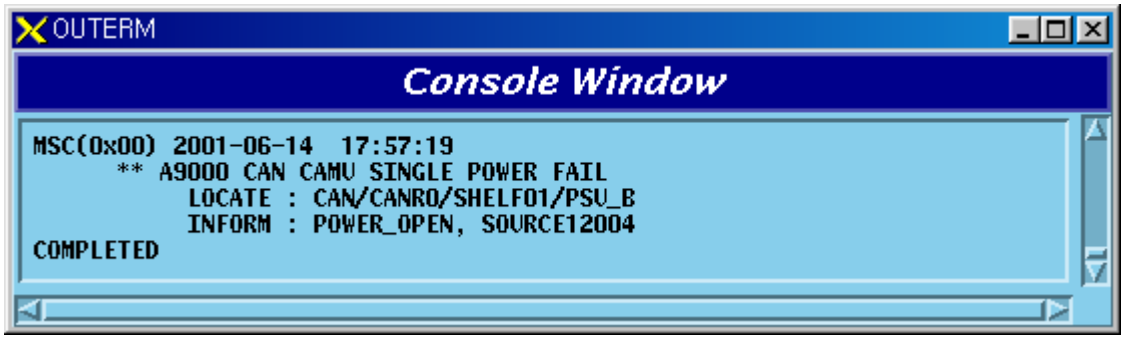


Fig. 5.1-19 CAMB PRI Single Power Open Fail

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

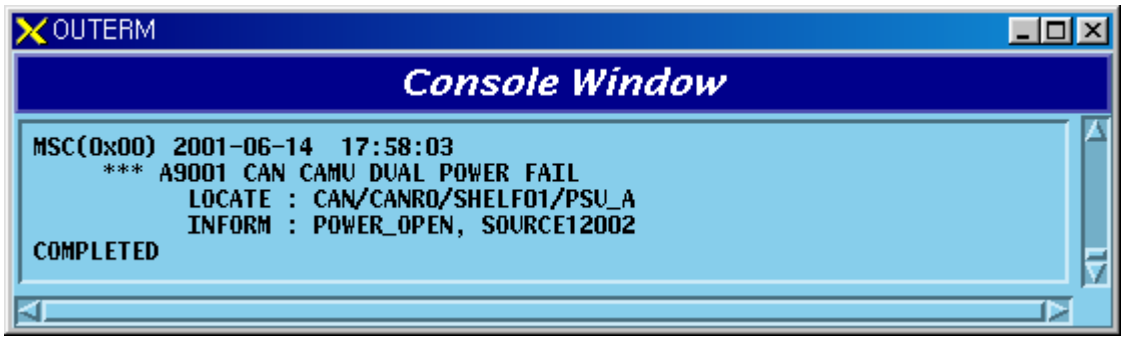


Fig. 5.1-20 CAMB PRI Dual Power Open Fail

5.1.1.1.1.7. Others

1) When CAMB Alarm Cable is removed

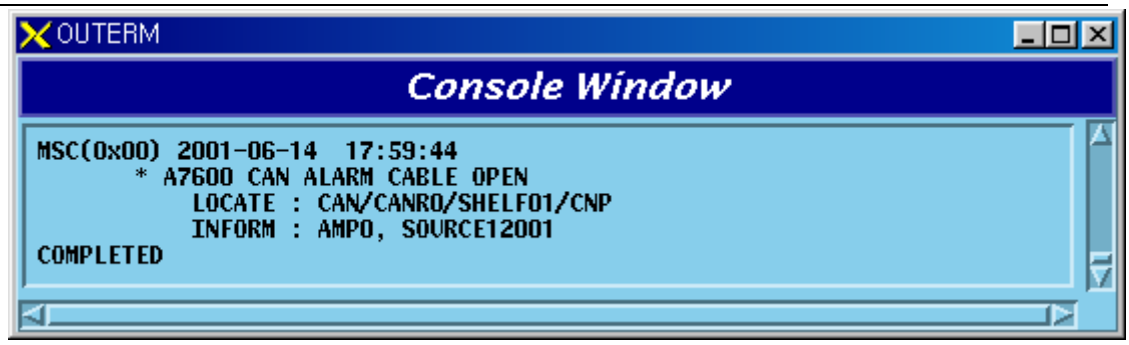


Fig. 5.1-21 CAN Alarm Cable Open

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

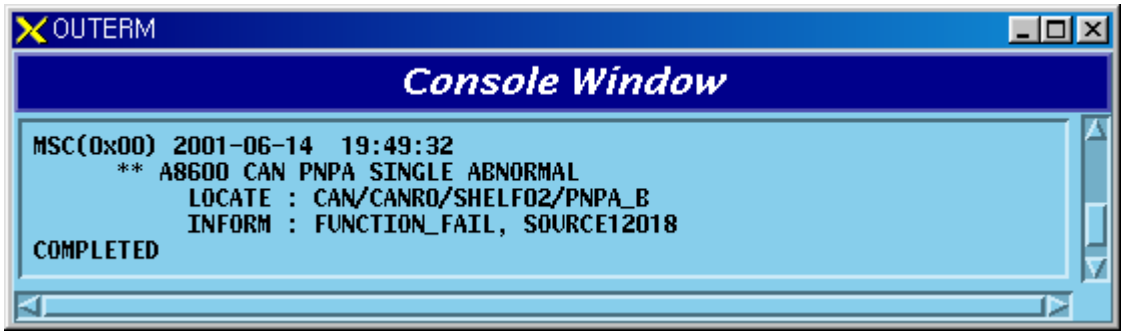


Fig. 5.1-22 CAN PNP Single Function Fail

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

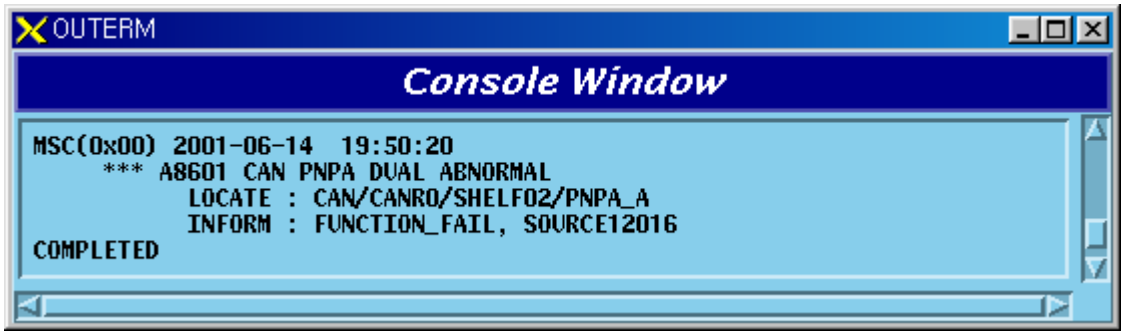


Fig. 5.1-23 CAN PNP Dual Function Fail

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

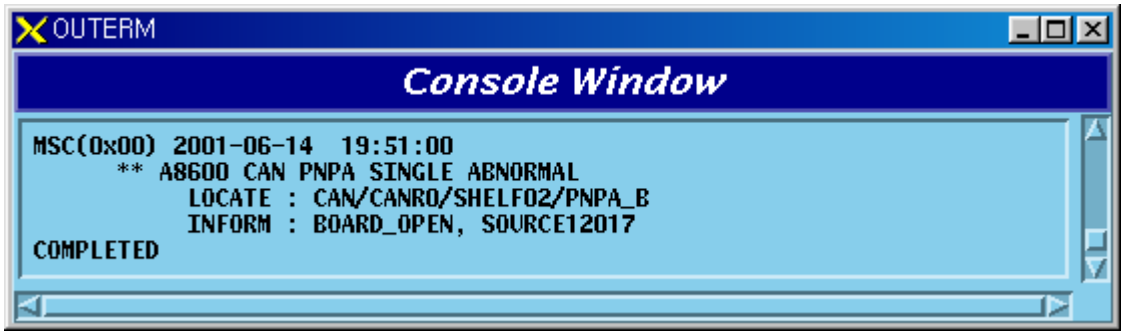


Fig. 5.1-24 CAN PNP Single Board Open Fail

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

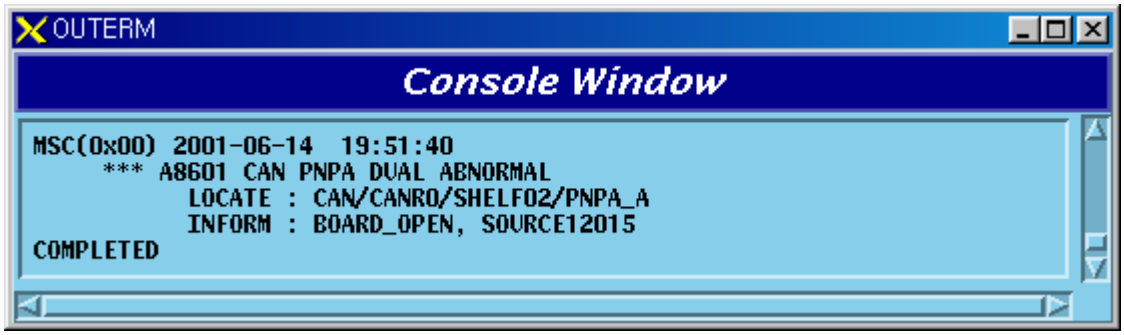


Fig. 5.1-25 CAN PNP Dual Board Open Fail

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

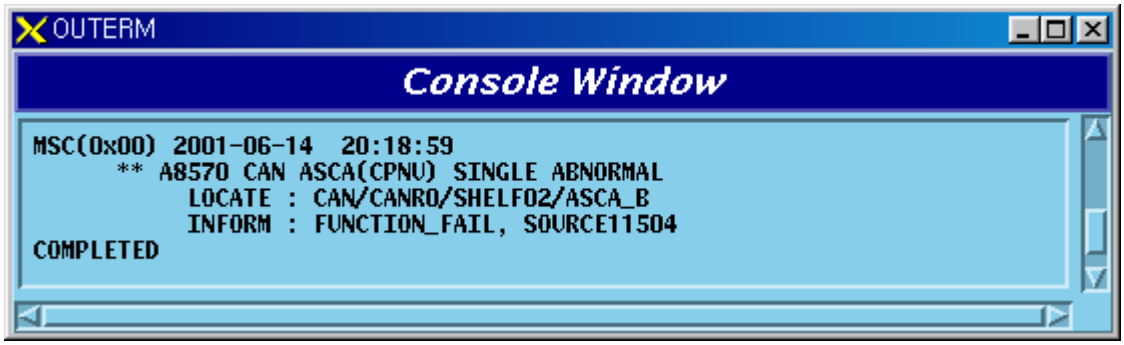


Fig. 5.1-26 CPNB ASCA Single Function Fail

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

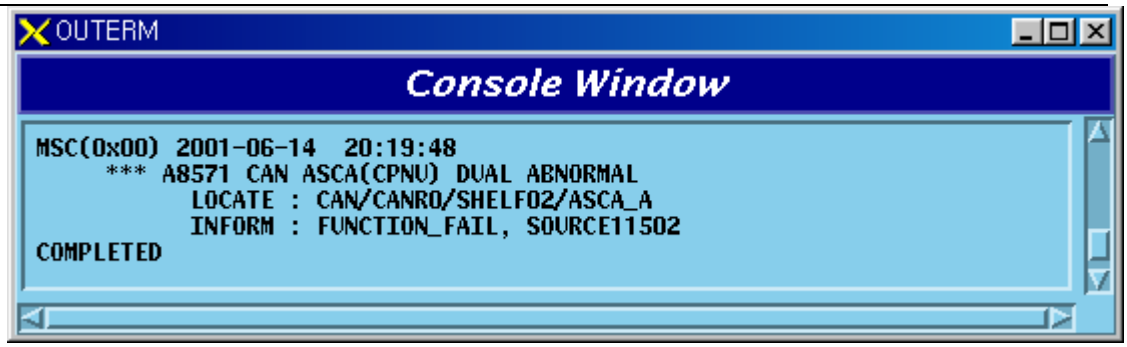


Fig. 5.1-27 CPNB ASCA Dual Function Fail

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

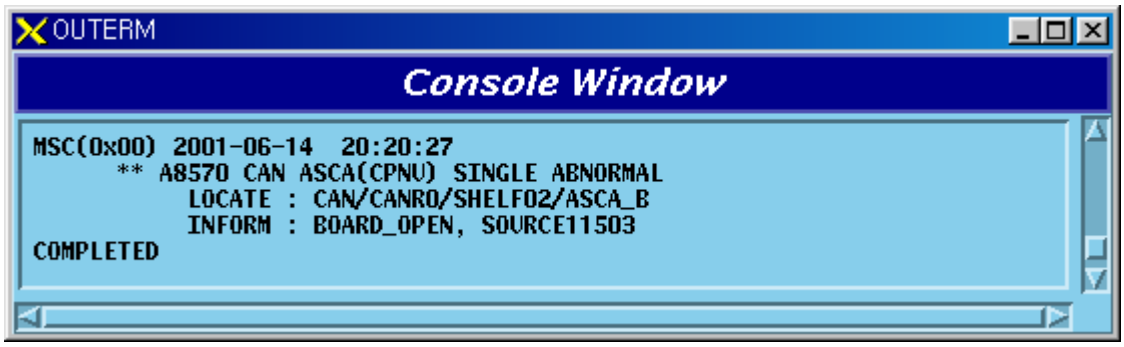


Fig. 5.1-28 CPNB ASCA Single Board Open Fail

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

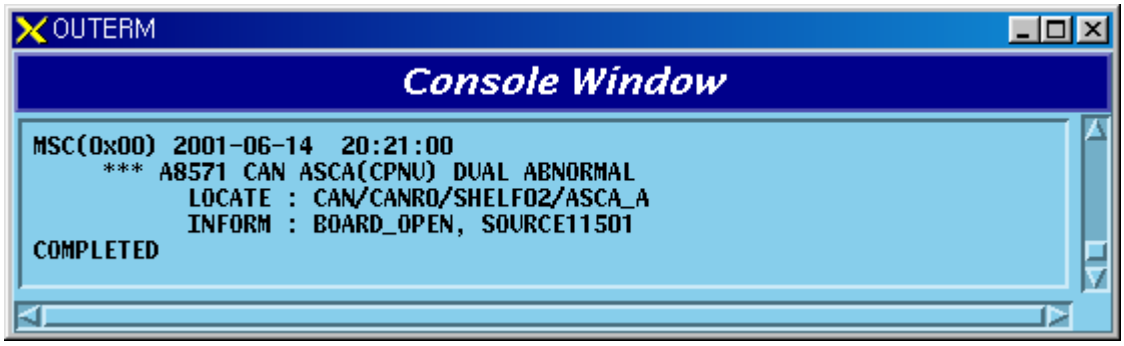


Fig. 5.1-29 CPNB ASCA Dual Board Open Fail

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

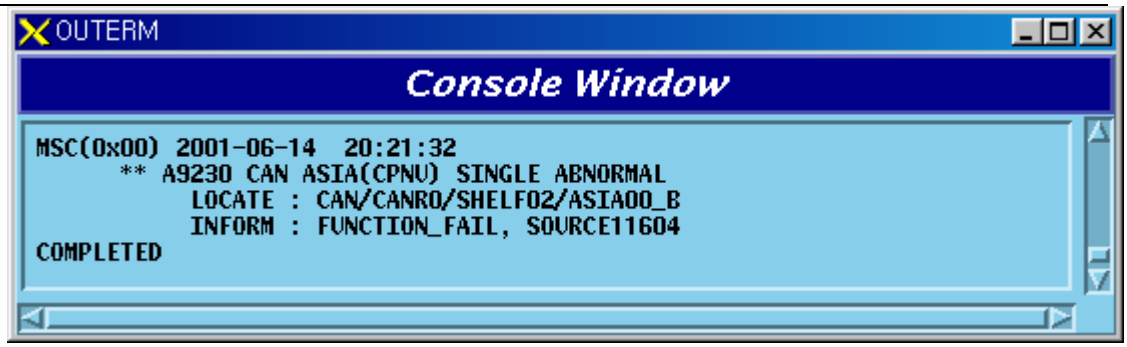


Fig. 5.1-30 CPNB ASIA Single Function Fail

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

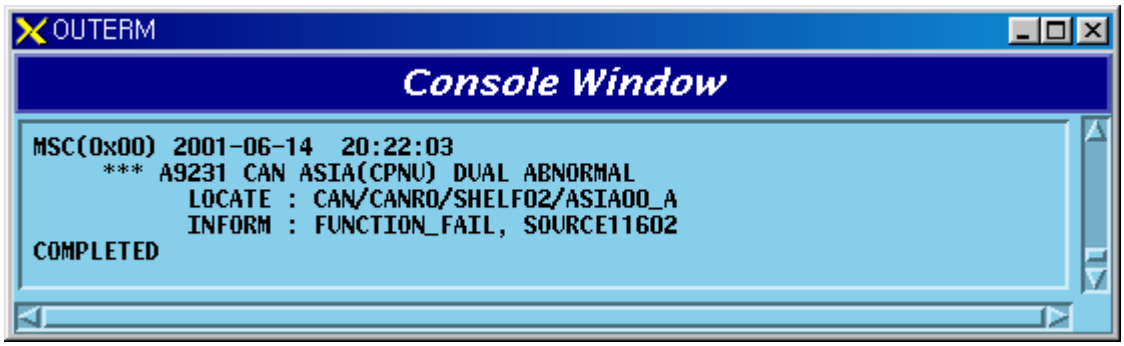


Fig. 5.1-31 CPNB ASIA Dual Function Fail

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

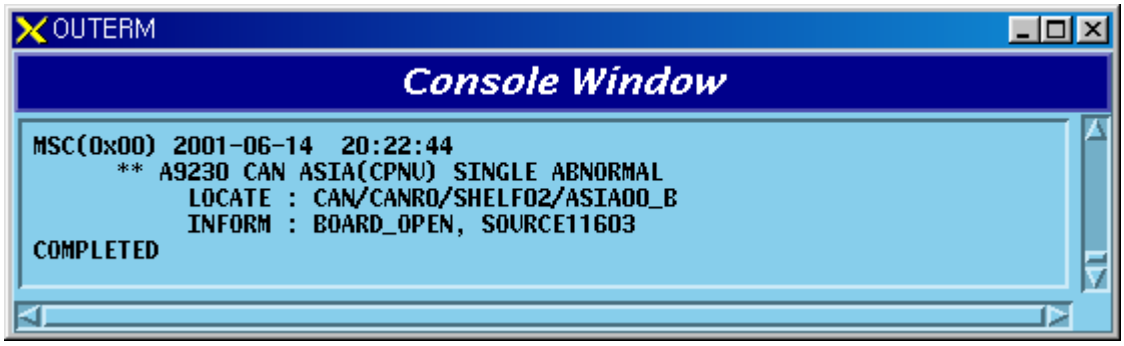


Fig. 5.1-32 CPNB ASIA Single Board Open Fail

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

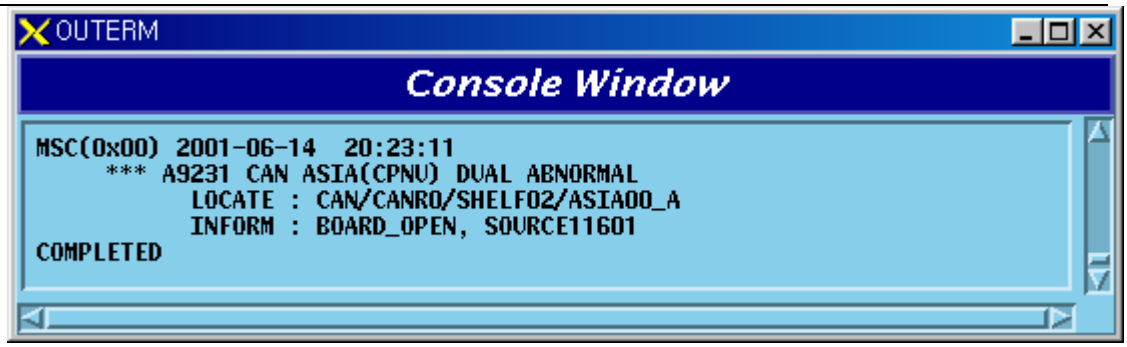


Fig. 5.1-33 CPNB ASIA Dual Board Open Fail

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

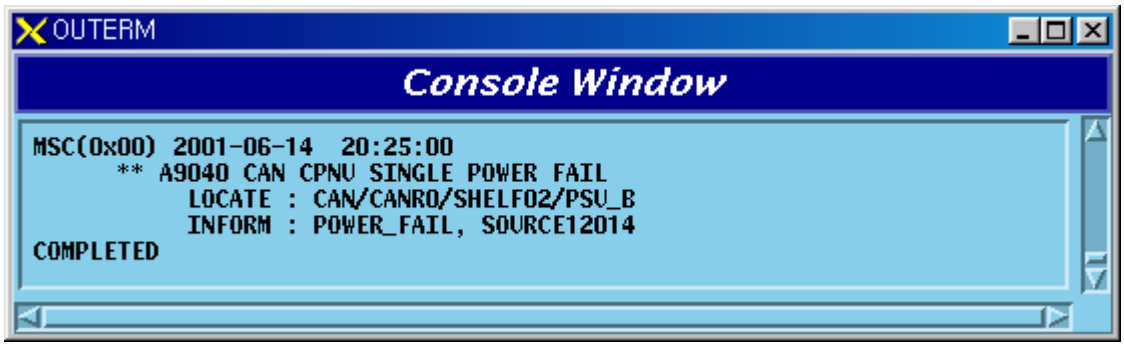


Fig. 5.1-34 CPNB PRI Single Power Fail

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

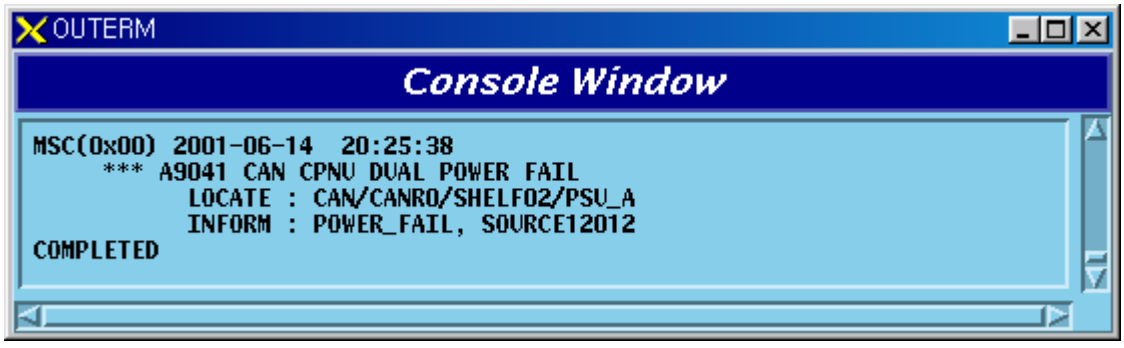


Fig. 5.1-35 CPNB PRI Dual Power Fail

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

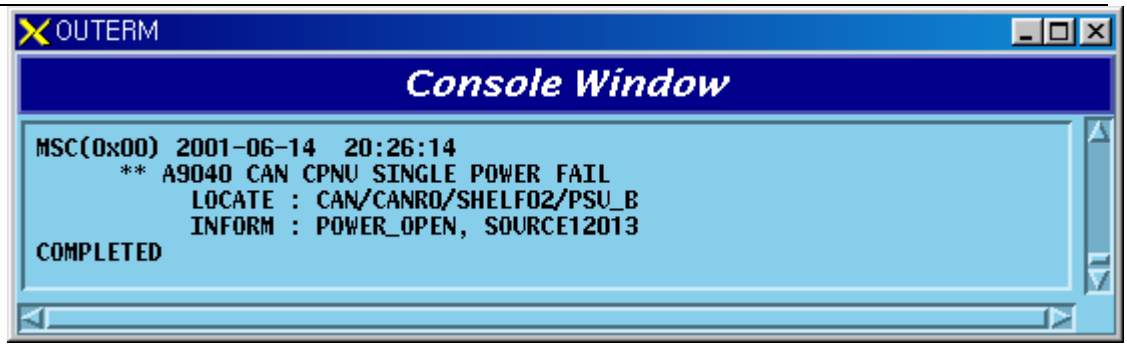


Fig. 5.1-36 CPNB PRI Single Power Open Fail

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

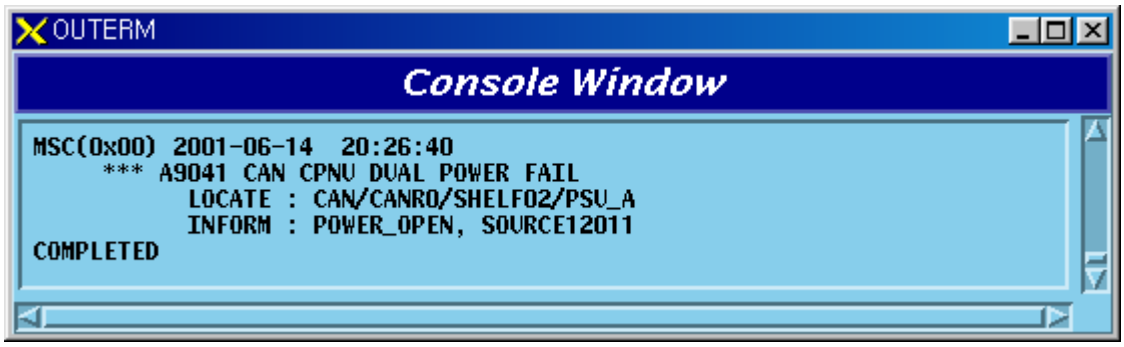


Fig. 5.1-37 CPNB PRI Dual Power Open Fail

5.1.1.1.2.5. Others

1) CPNB Alarm Cable is removed

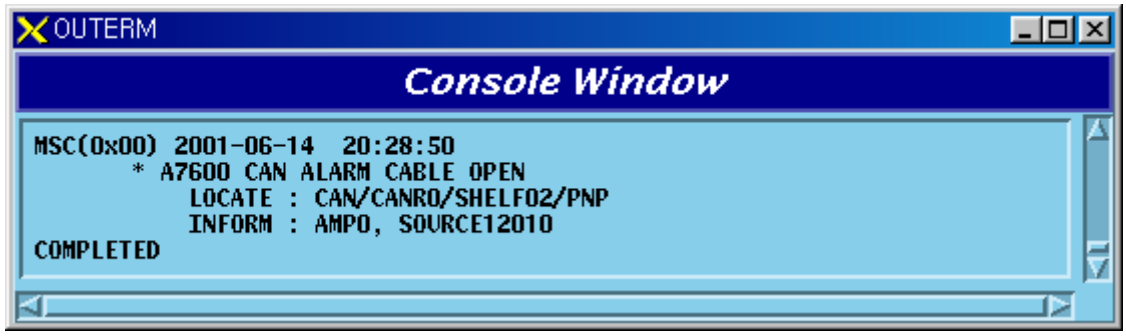


Fig. 5.1-38 CPNB Alarm Cable Open

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

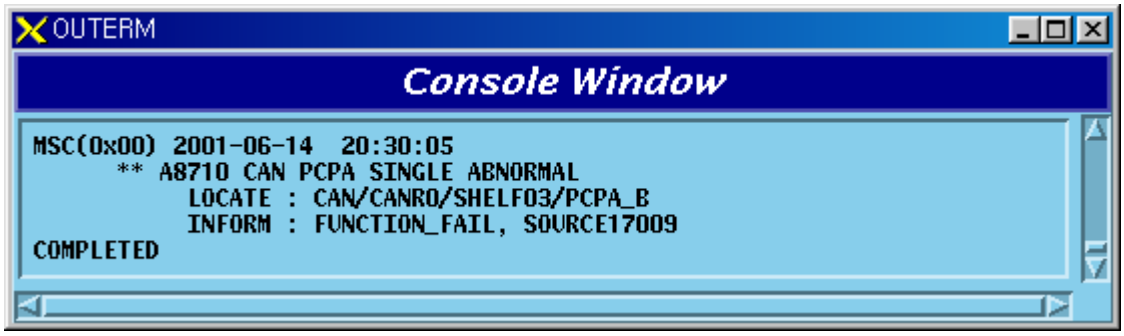


Fig. 5.1-39 PCFB PCP Single Function Fail

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

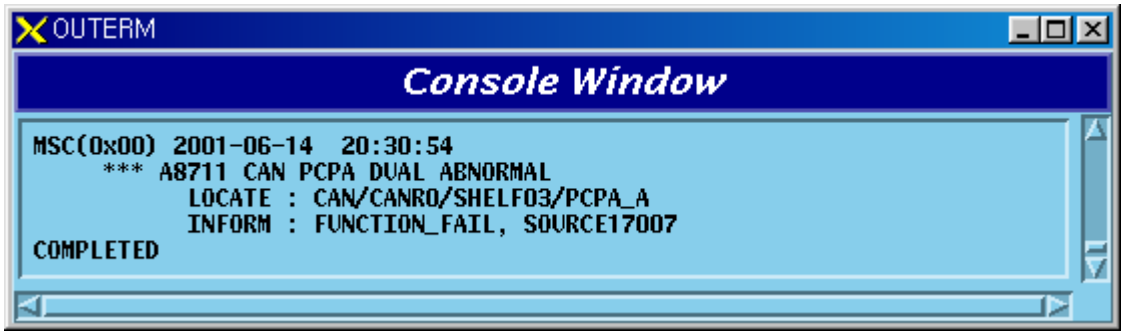


Fig. 5.1-40 PCFB PCP Dual Function Fail

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

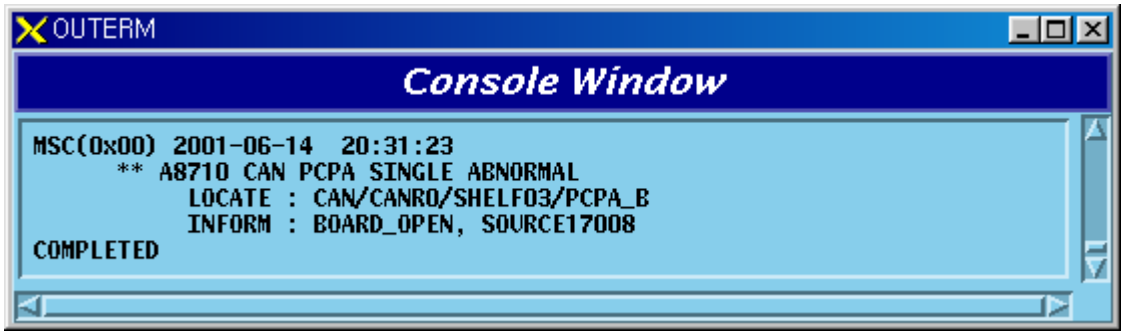


Fig. 5.1-41 PCFB PCP Single Board Open Fail

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

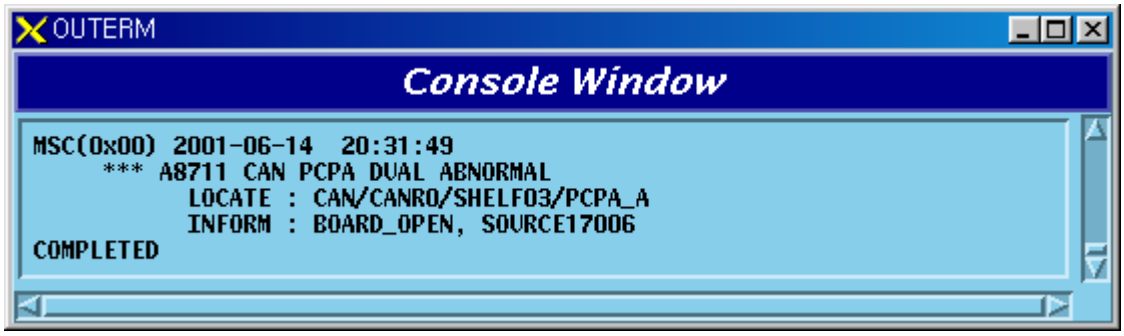


Fig. 5.1-42 PCFB PCP Dual Board Open Fail

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

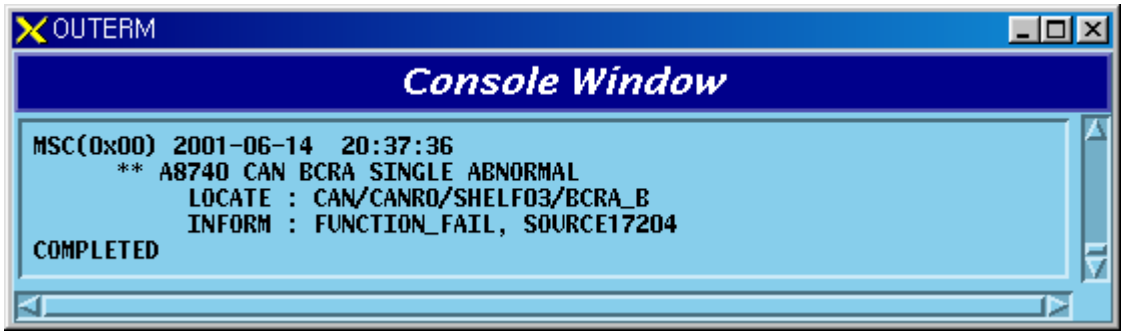


Fig. 5.1-43 CPNB(PCP) BCRA Single Function Fail

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

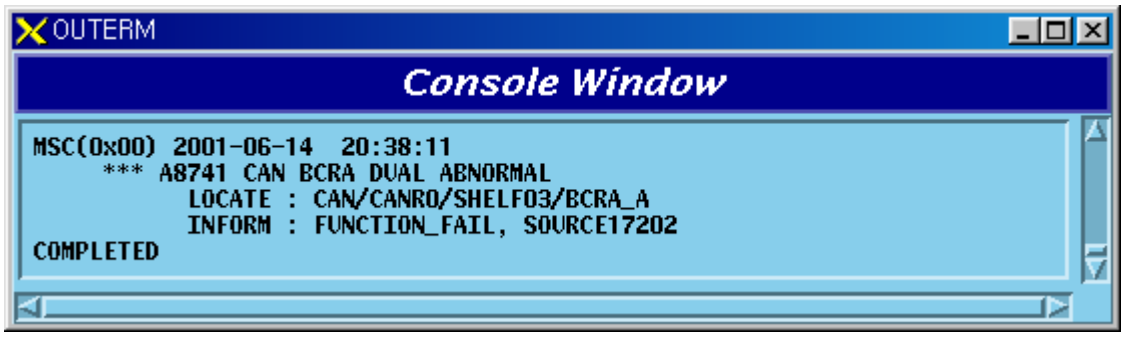


Fig. 5.1-44 CPNB(PCP) BCRA Dual Function Fail

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

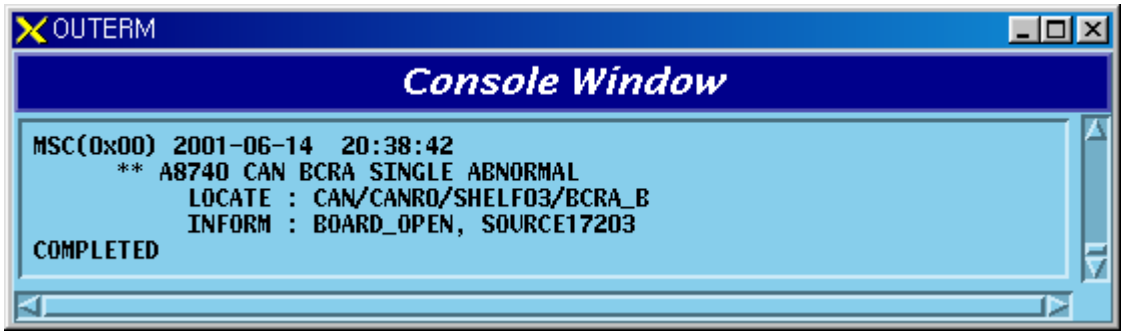


Fig. 5.1-45 CPNB(PCP) BCRA Single Board Open Fail

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

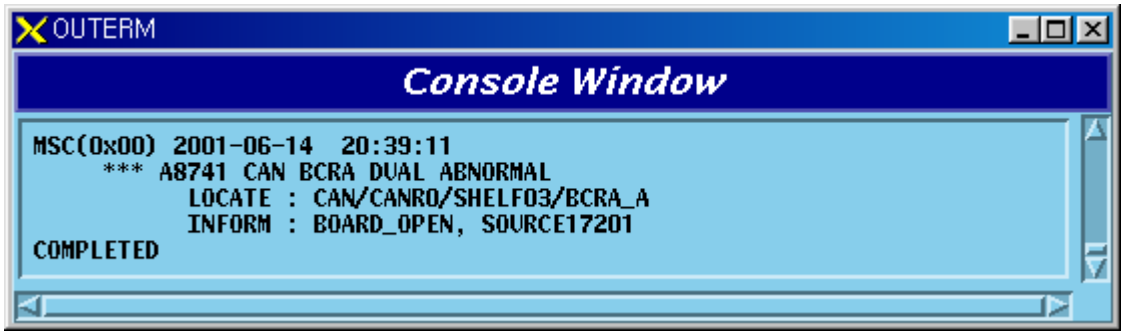


Fig. 5.1-46 CPNB(PCP) BCRA Dual Board Open Fail

5.1.1.1.3.3. UCPA(PIP) Board

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

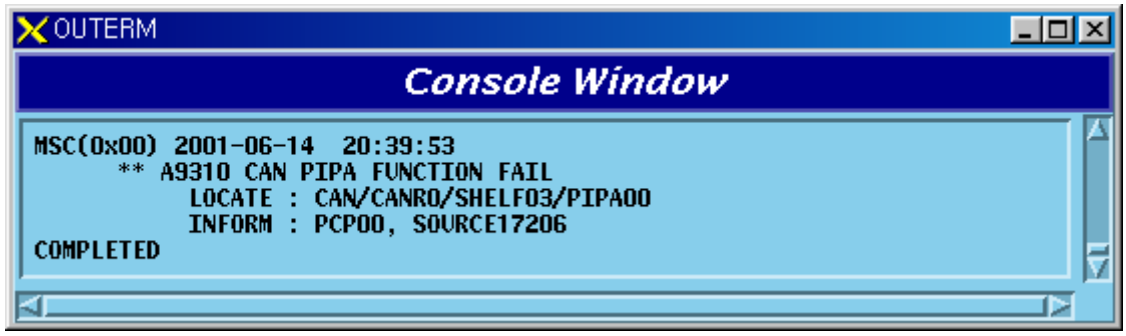


Fig. 5.1-47 CPNB(PCP) PIP Function Fail

2) When UPCA(PIP) board is removed

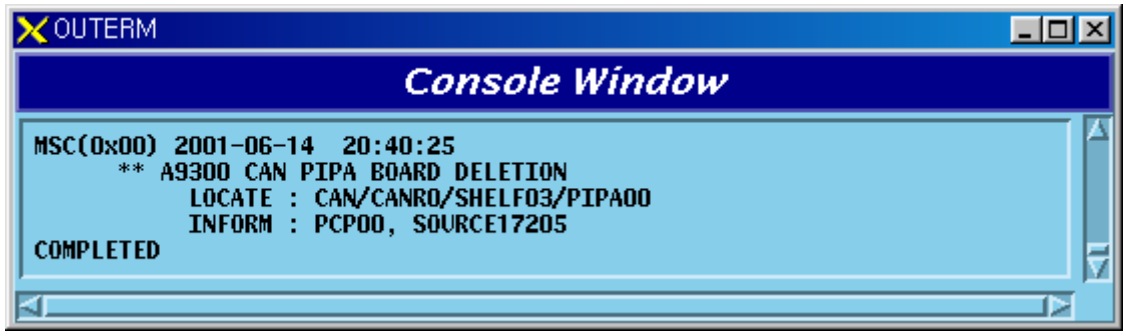


Fig. 5.1-48 CPNB(PCP) PIP Board Open Fail

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

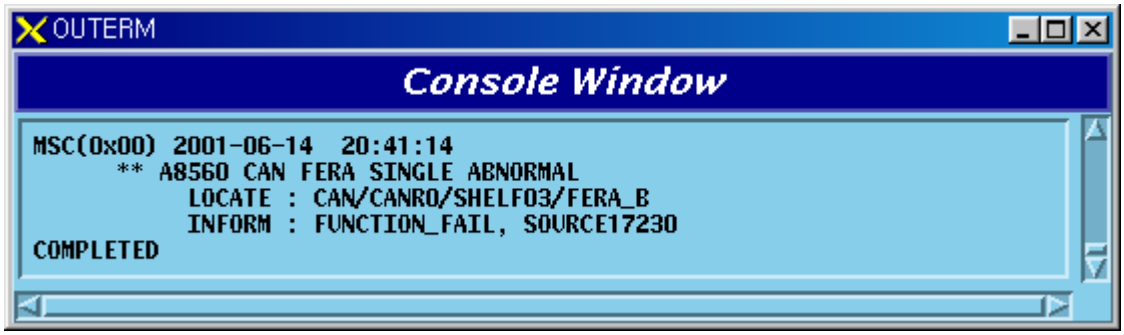


Fig. 5.1-49 CPNB(PCP) FERA Single Function Fail

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

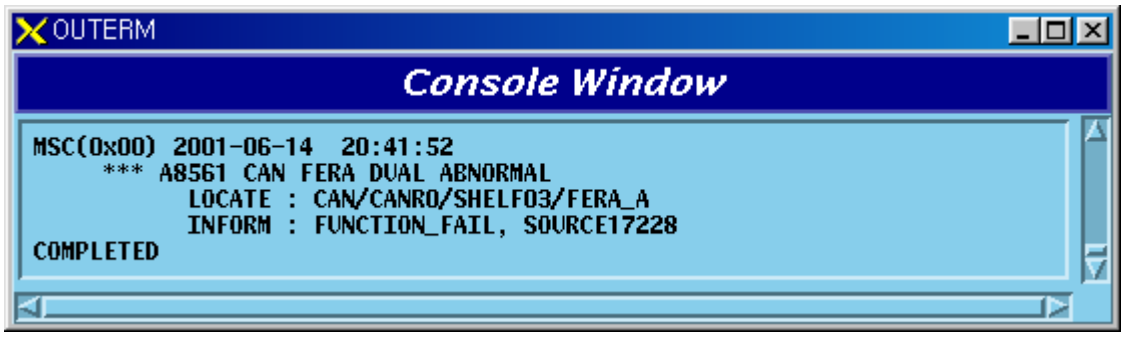


Fig. 5.1-50 CPNB(PCP) FERA Dual Function Fail

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

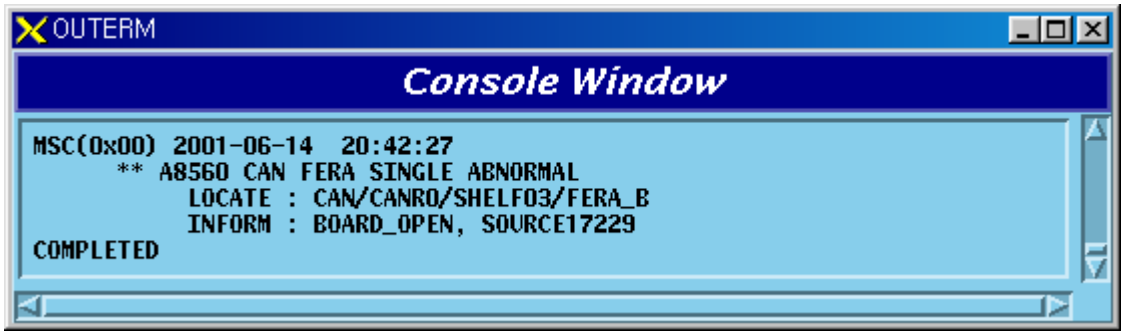


Fig. 5.1-51 CPNB(PCP) FERA Single Board Open Fail

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

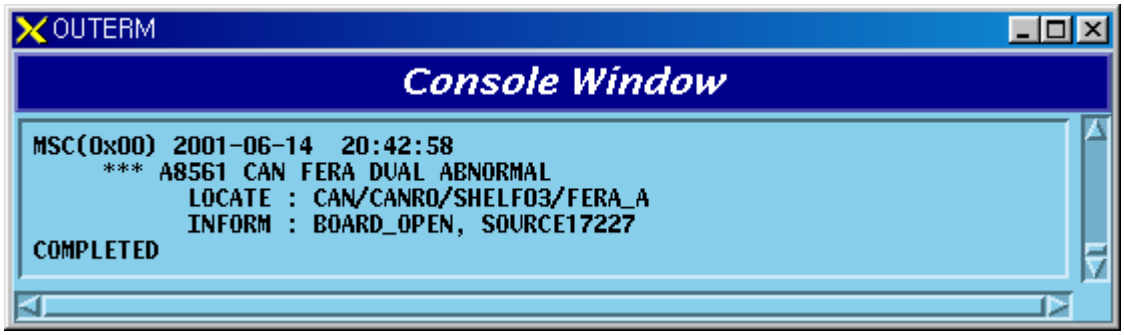


Fig. 5.1-52 CPNB(PCP) FERA Dual Board Open Fail

5.1.1.1.3.5. FETA Board

1) When functional faults occur on FETA board

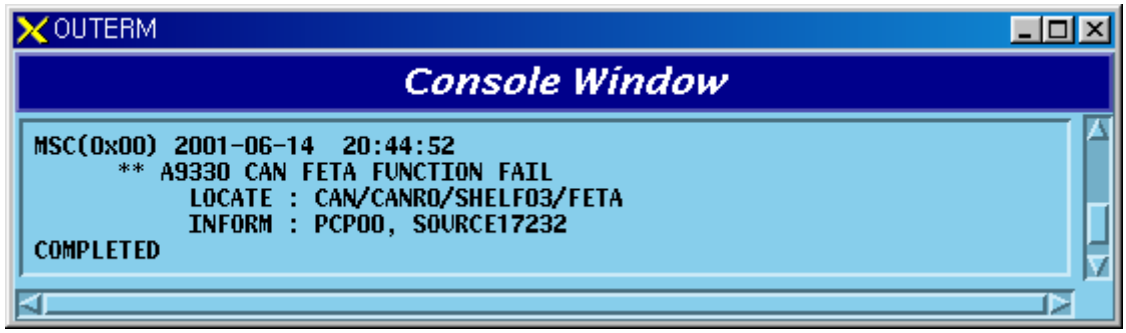


Fig. 5.1-53 CPNB(PCP) FETA Function Fail

2) When FETA board is removed

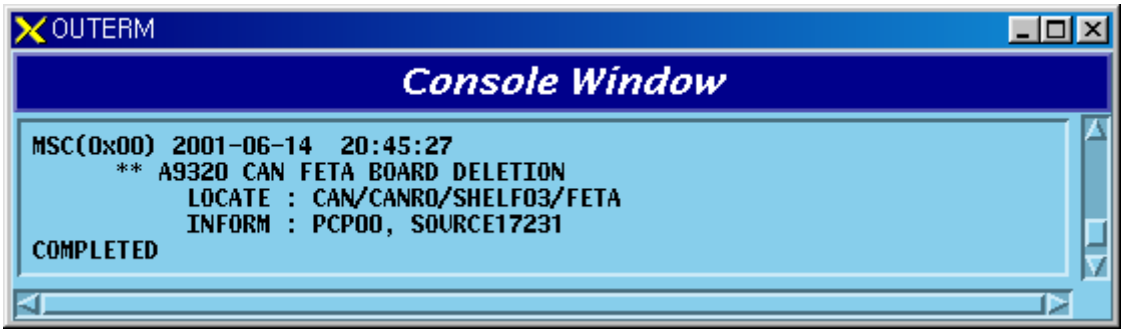


Fig. 5.1-54 CPNB(PCP) FETA Board Open Fail

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

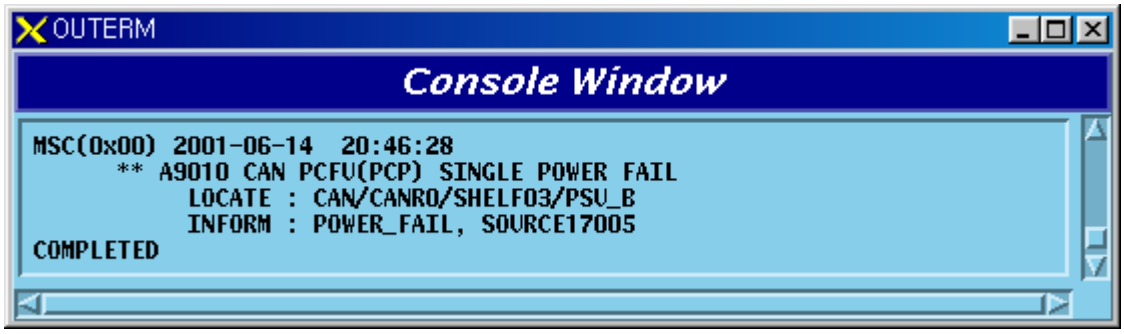


Fig. 5.1-55 CPNB(PCP) PRI Single Power Fail

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

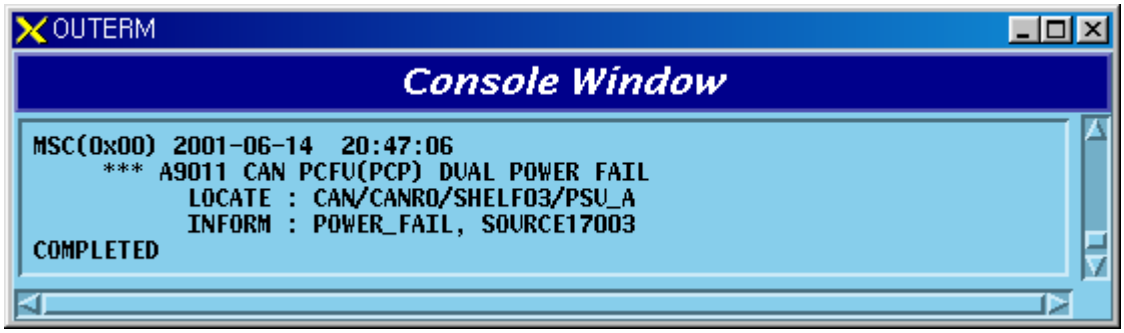


Fig. 5.1-56 CPNB(PCP) PRI Dual Power Fail

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

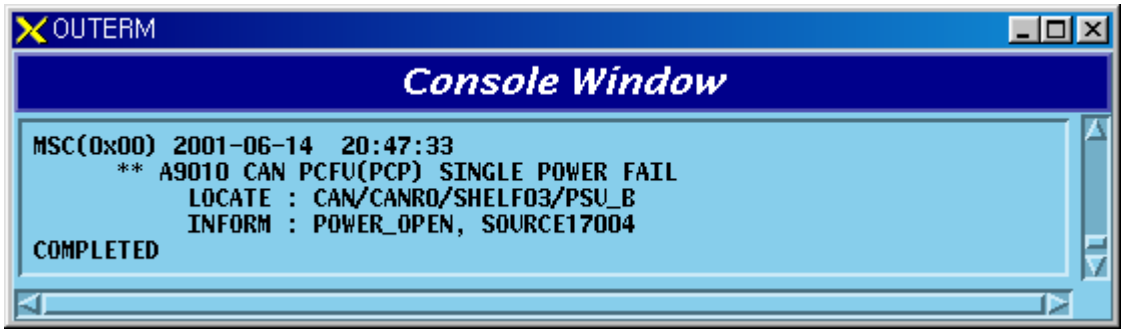


Fig. 5.1-57 CPNB(PCP) PRI Single Power Open Fail

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

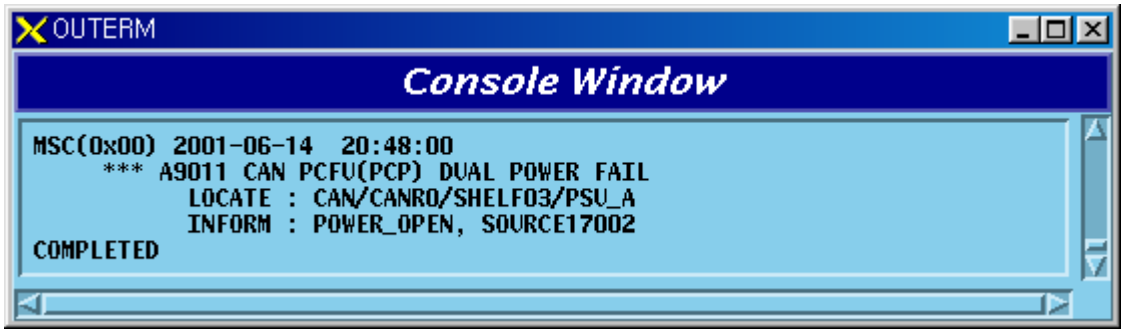


Fig. 5.1-58 CPNB(PCP) PRI Dual Power Open Fail

5.1.1.1.3.7. Others

1) When PCFU(PCP) Alarm Cable is removed

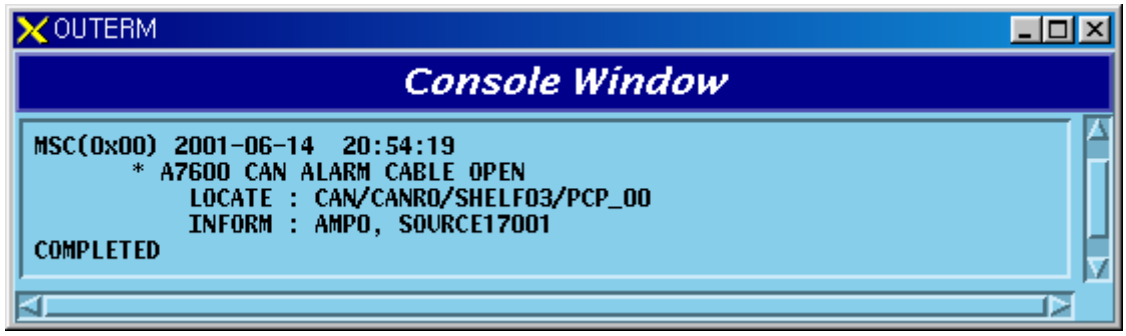


Fig. 5.1-59 CPNB(PCP) Alarm Cable Open

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)

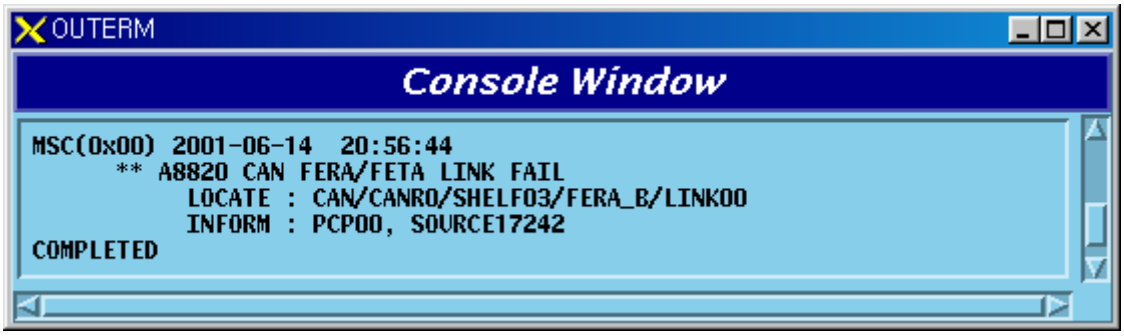


Fig. 5.1-60 LINK Fail between CPNB(PCP) FERA and FETA

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)

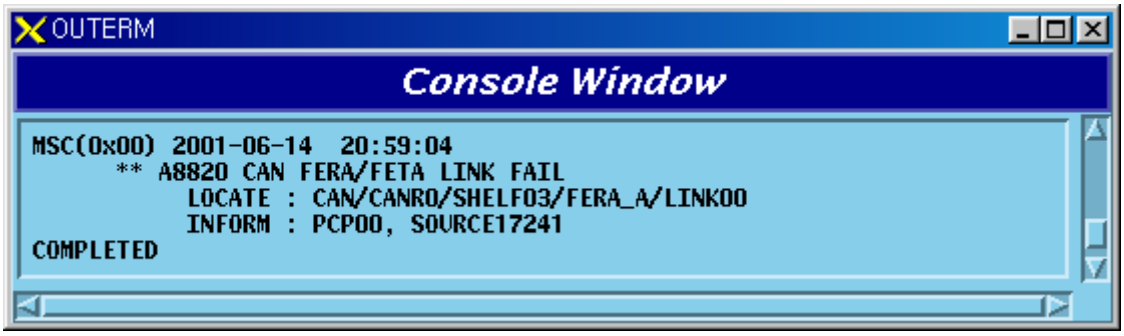


Fig. 5.1-61 LINK Fail between CPNB(PCP) FERA and FETA

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

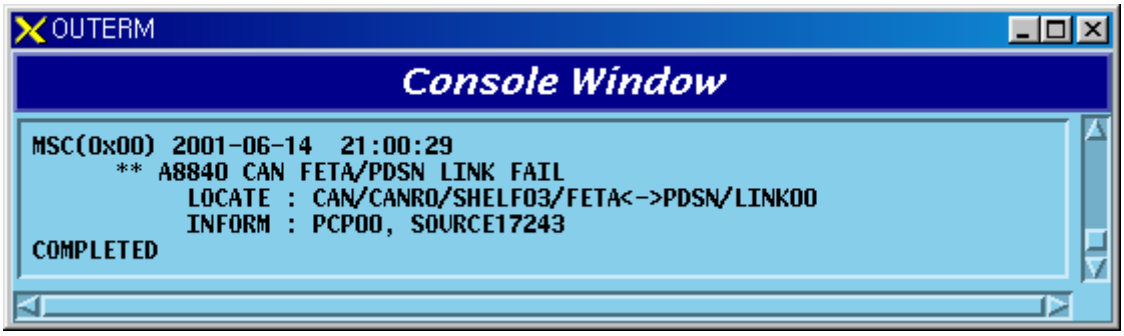


Fig. 5.1-62 LINK Fail between CPNB(PCP) FETA and PDSN

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

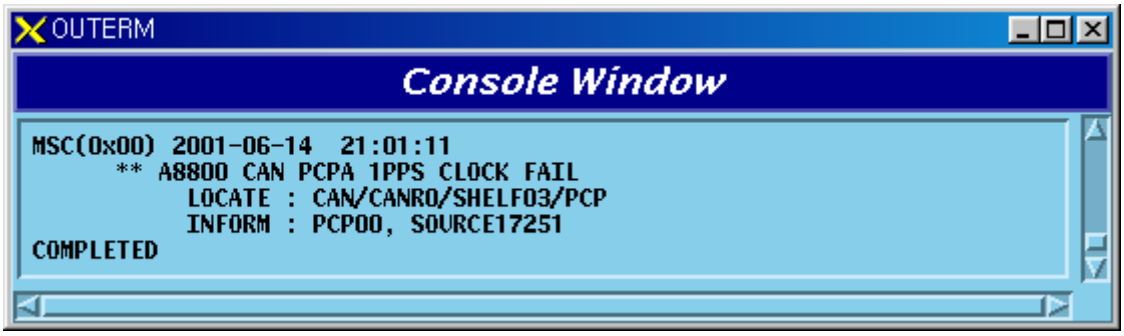


Fig. 5.1-63 PCFB PCP 1pps Clock Fail

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

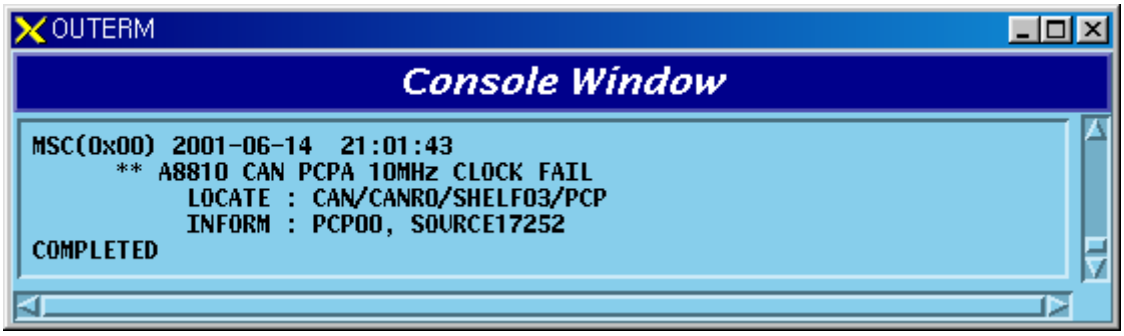


Fig. 5.1-64 PCFB PCP 10MHz Clock Fail

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

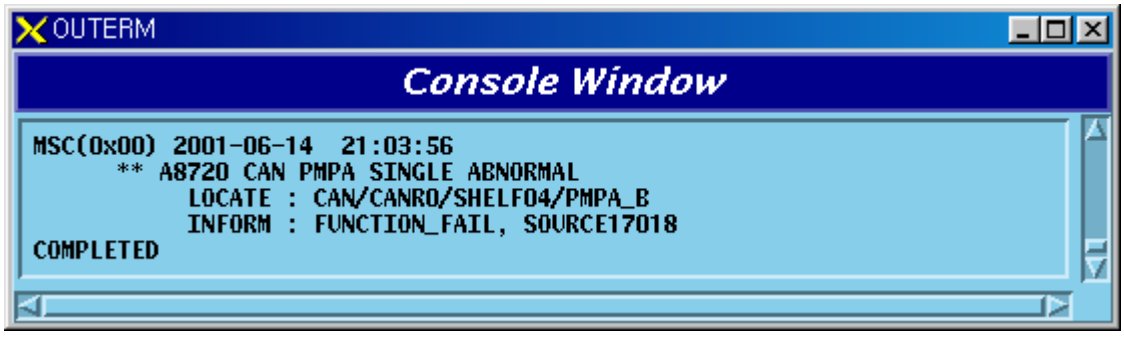


Fig. 5.1-65 PCFB(PMP) PMP Single Function Fail

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

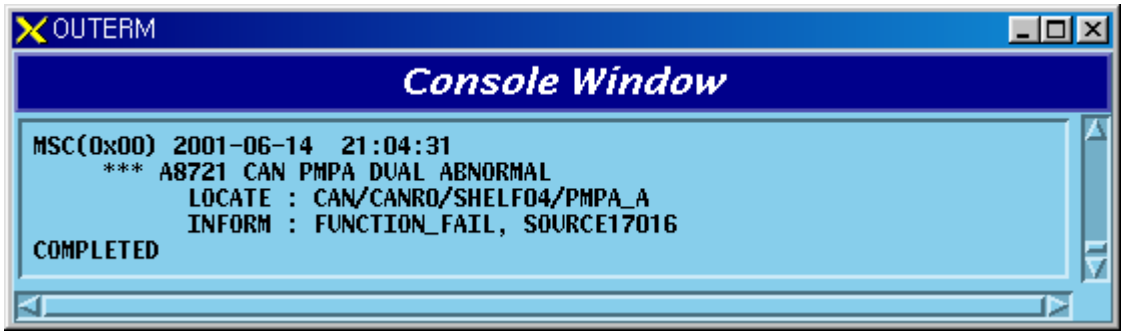


Fig. 5.1-66 PCFB(PMP) PMP Dual Function Fail

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

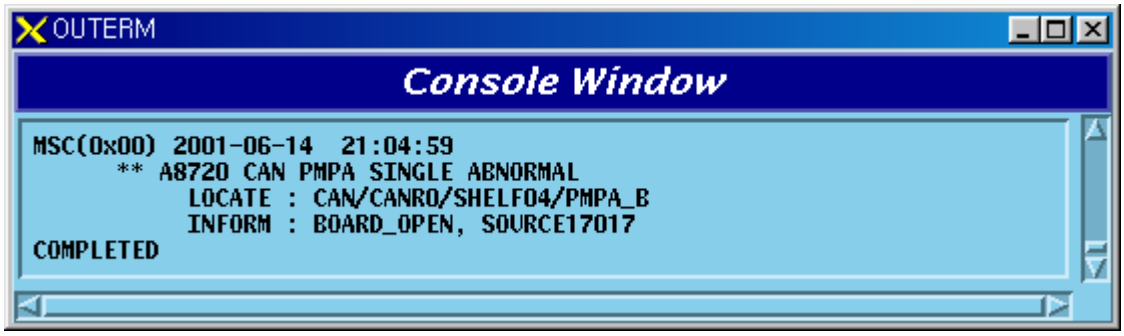


Fig. 5.1-67 PCFB(PMP) PMP Single Board Open Fail

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

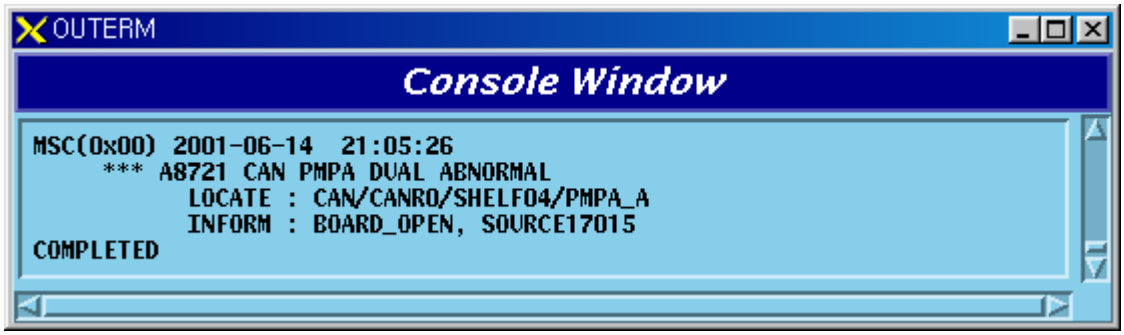


Fig. 5.1-68 PCFB(PMP) PMP Dual Board Open Fail

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

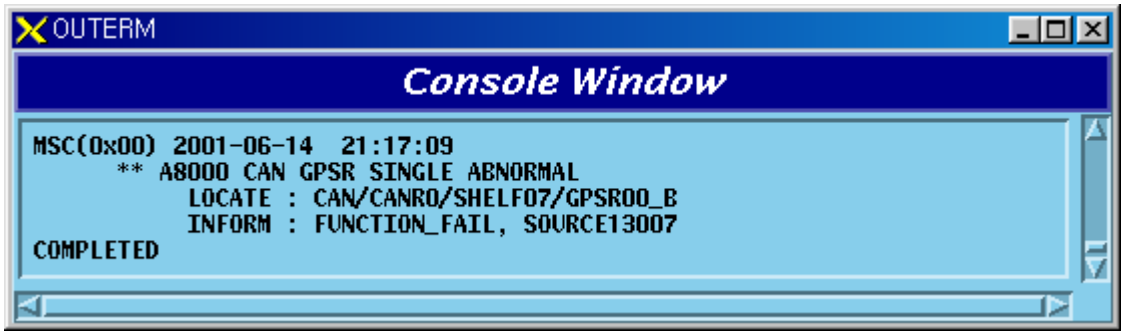


Fig. 5.1-69 TGDB GPSR Single Function Fail

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

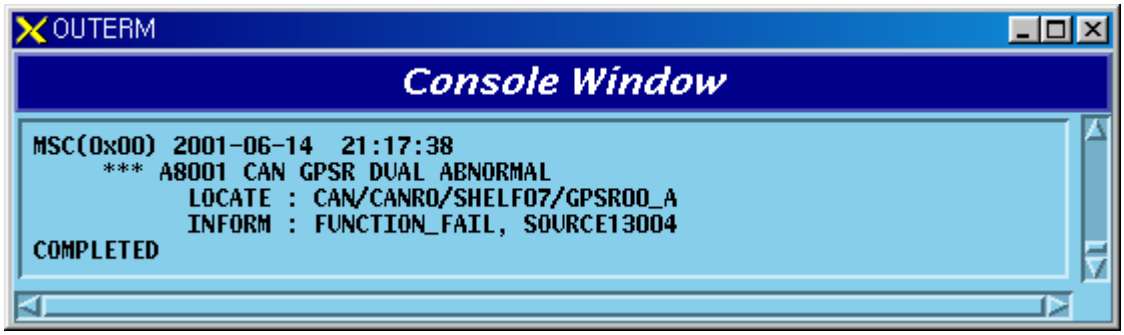


Fig. 5.1-70 TGDB GPSR Dual Function Fail

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

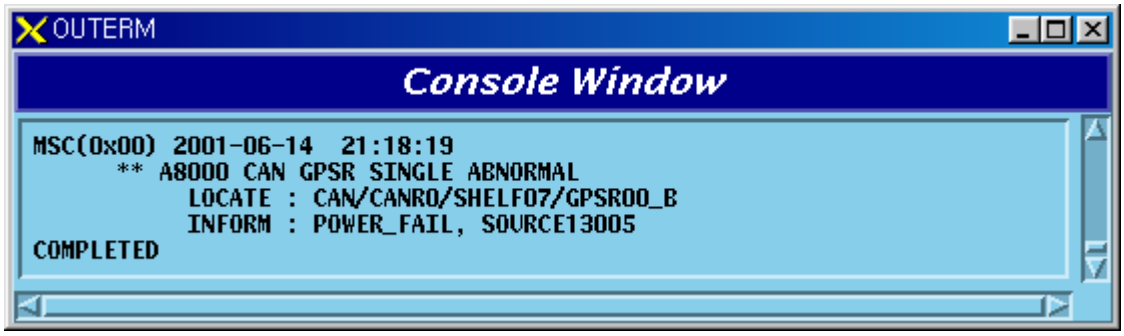


Fig. 5.1-71 TGDB GPSR Single Power Fail

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

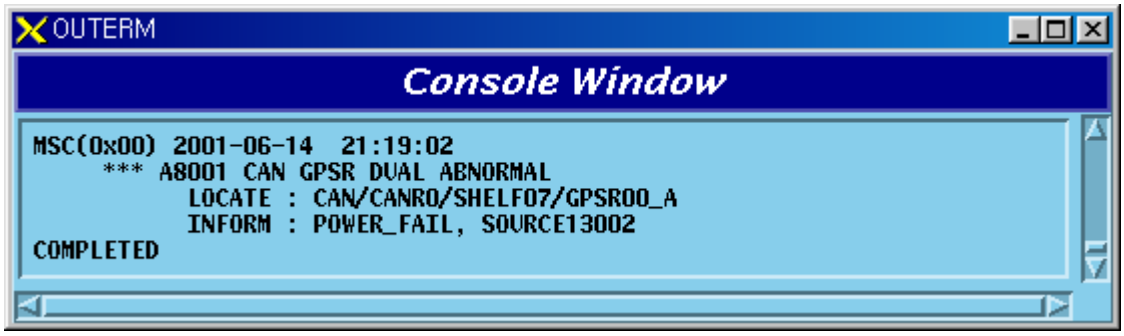


Fig. 5.1-72 TGDB GPSR Dual Power Fail

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

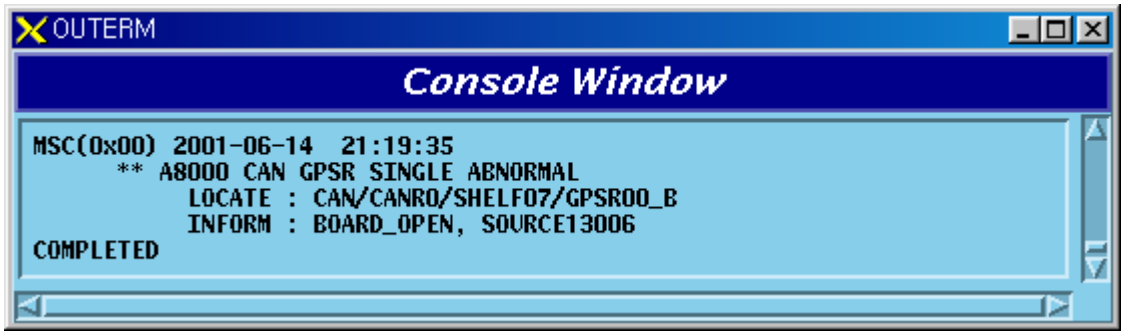


Fig. 5.1-73 TGDB GPSR Single Board Open Fail

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

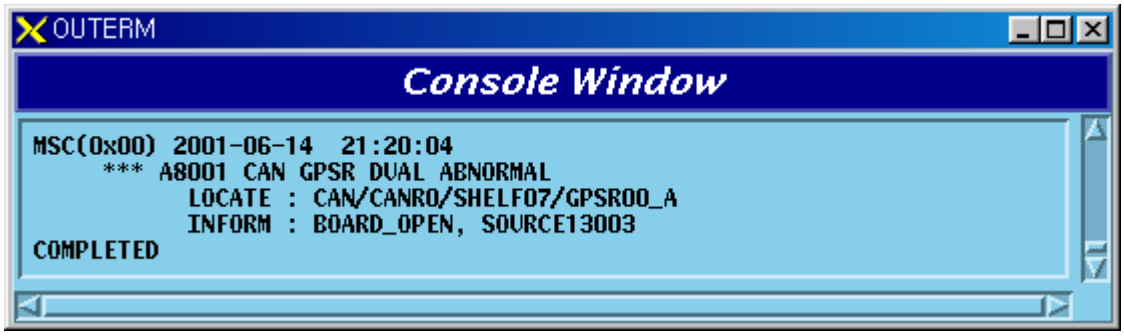


Fig. 5.1-74 TGDB GPSR Dual Board Open Fail

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

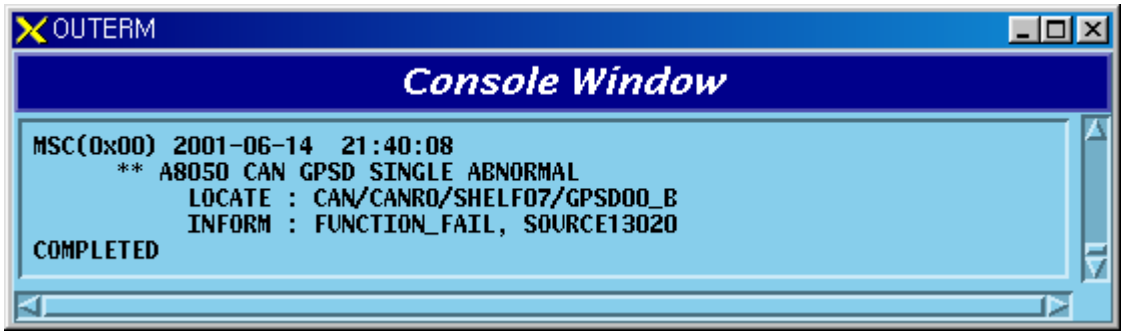


Fig. 5.1-75 TGDB GPSD Single Function Fail

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

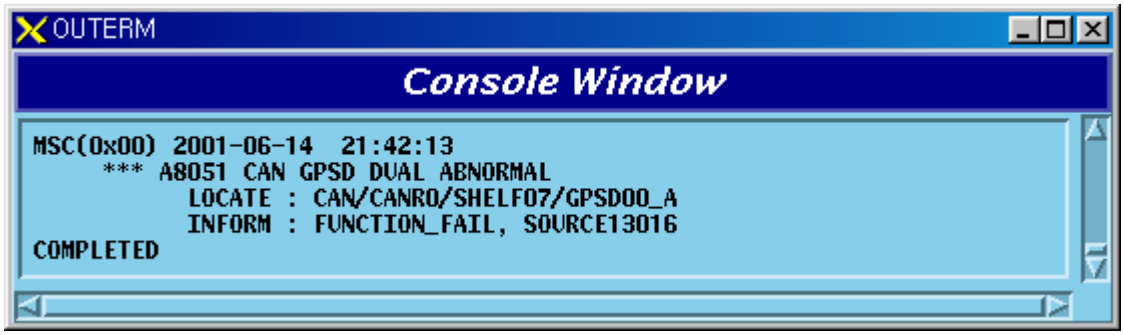


Fig. 5.1-76 TGDB GPSD Dual Function Fail

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

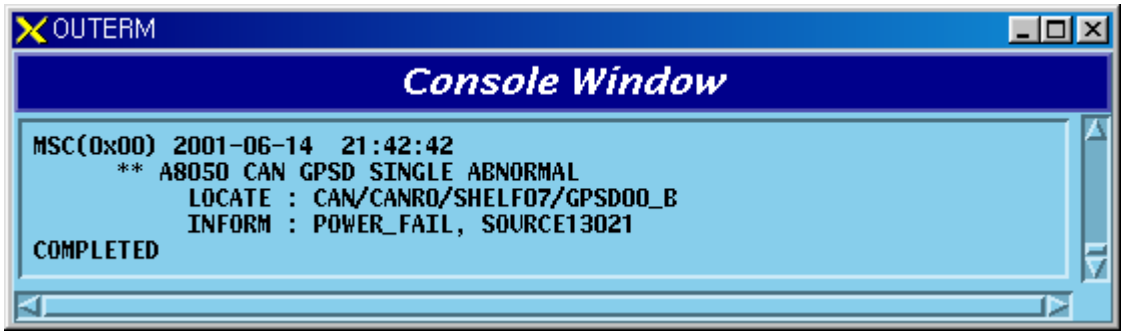


Fig. 5.1-77 TGDB GPSD Single Power Fail

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

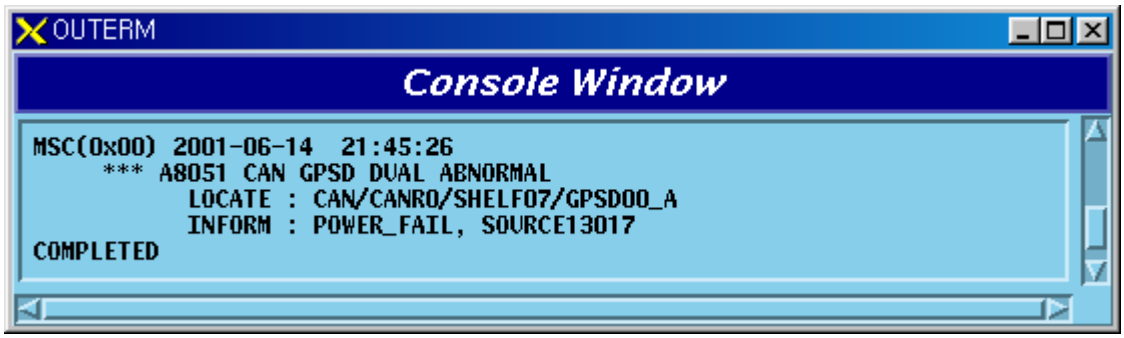


Fig. 5.1-78 TGDB GPSD Dual Power Fail

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

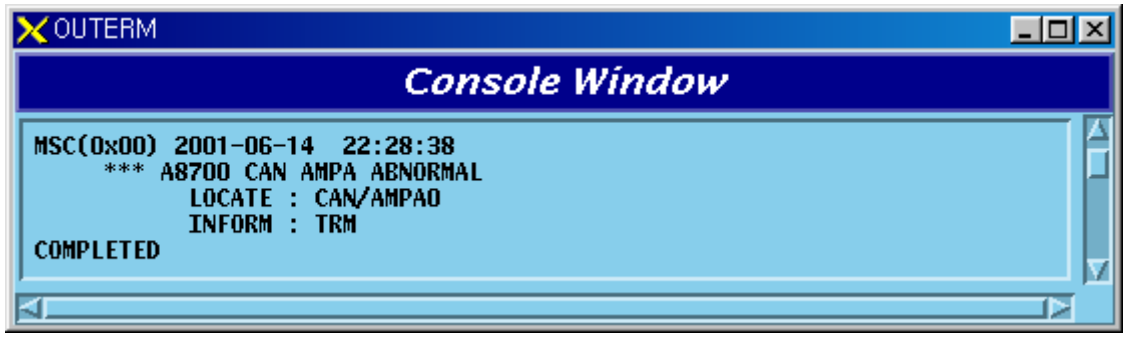


Fig. 5.1-79 TGDB AMP Abnormal

5.1.1.1.5.4. Others

1) When a problem occurs in GPSR Alarm Cable

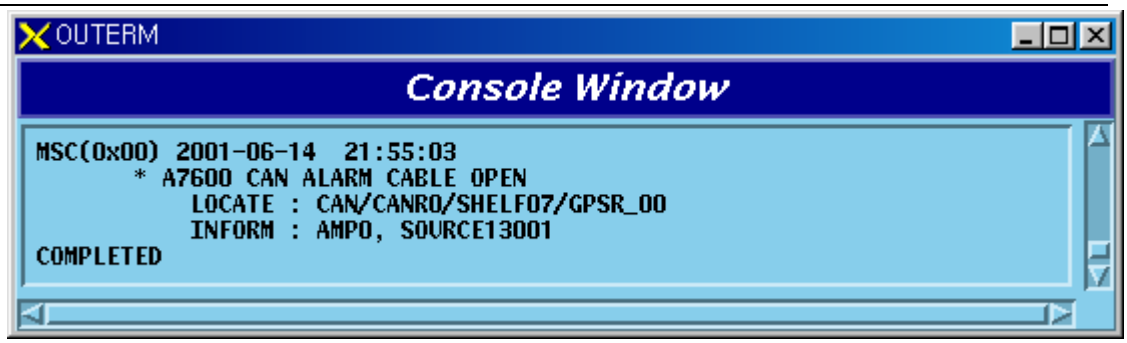


Fig. 5.1-80 TGDB GPSR Alarm Cable Open

2) When a problem occurs in GPSD Alarm Cable

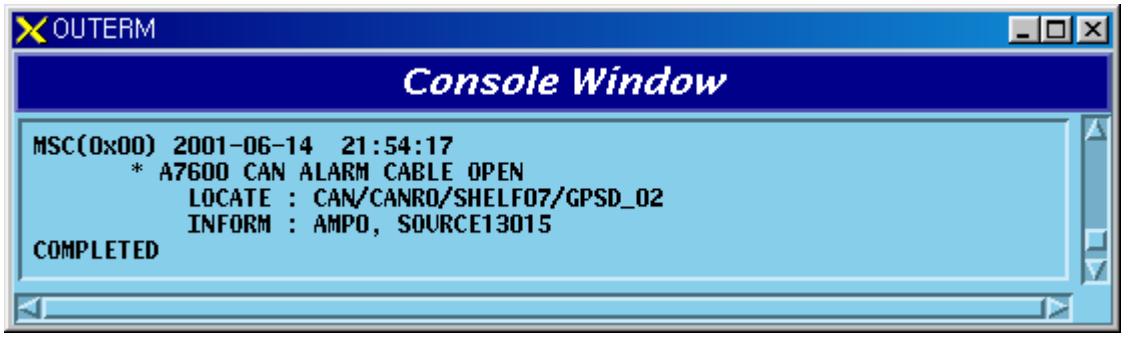


Fig. 5.1-81 TGDB GPSD Alarm Cable Open

3) When a problem occurs in GPSR Control Cable

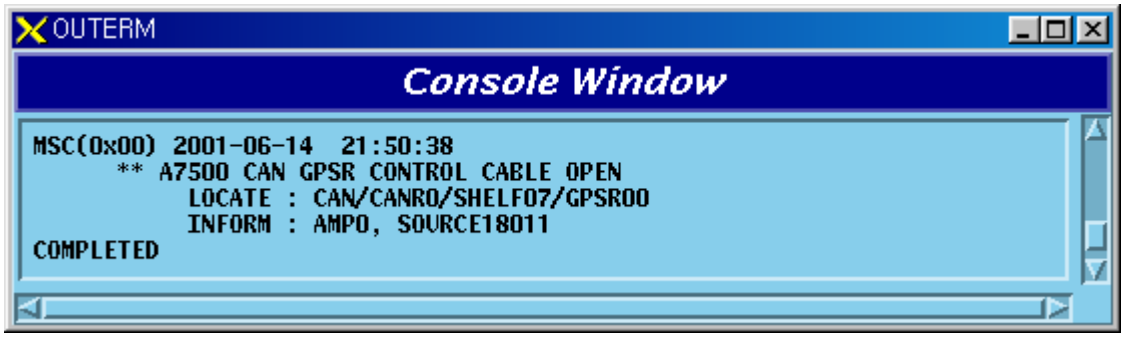


Fig. 5.1-82 TGDB GPSR Control Cable Open

5.1.1.1.6. FAN and Others

1) When a problem occurs in CAN FAN

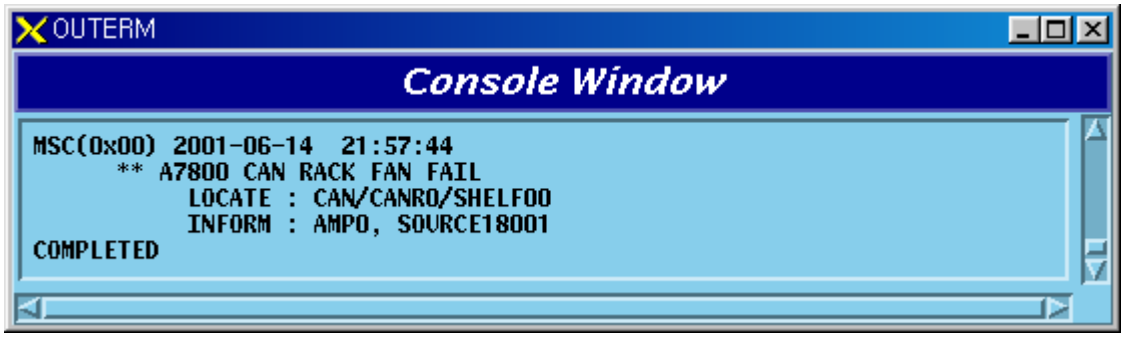


Fig. 5.1-83 CAN Rack FAN Fail

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

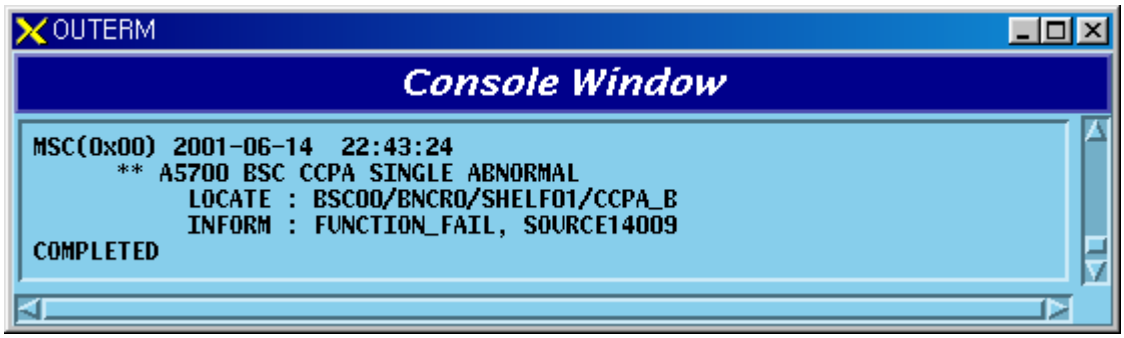


Fig. 5.1-84 CCSB CCP Single Function Fail

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

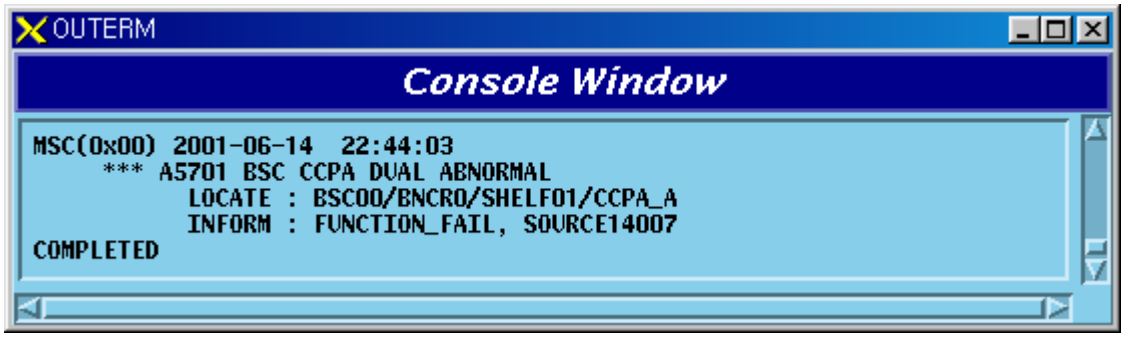


Fig. 5.1-85 CCSB CCP Dual Function Fail

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

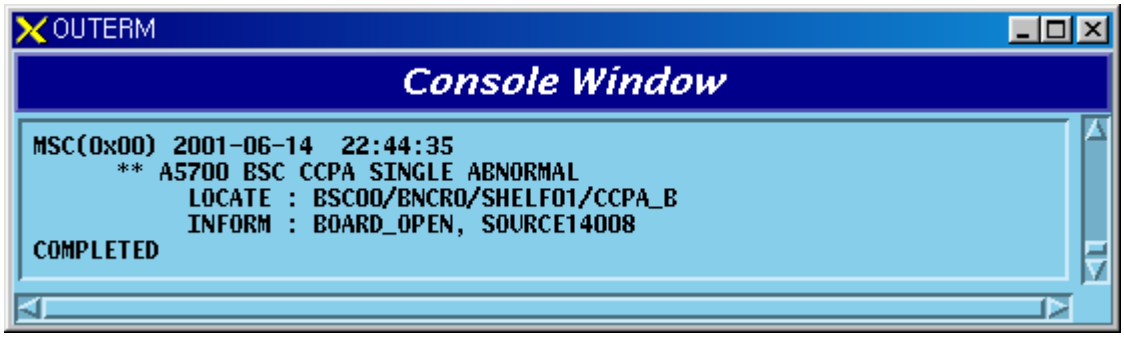


Fig. 5.1-86 CCSB CCP Single Board Open Fail

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

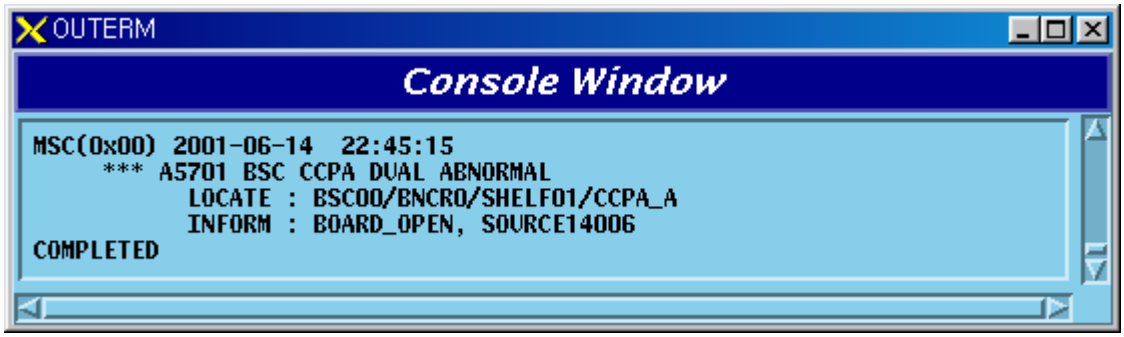


Fig. 5.1-87 CCSB CCP Dual Board Open Fail

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

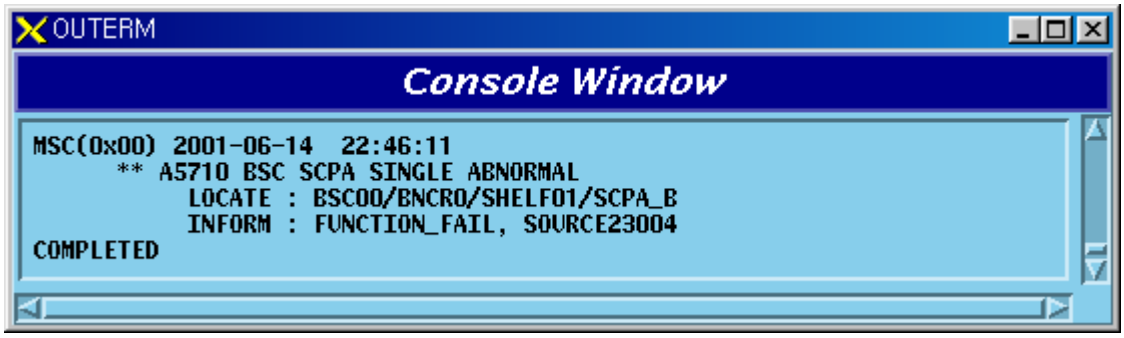


Fig. 5.1-88 CCSB SCP Single Function Fail

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

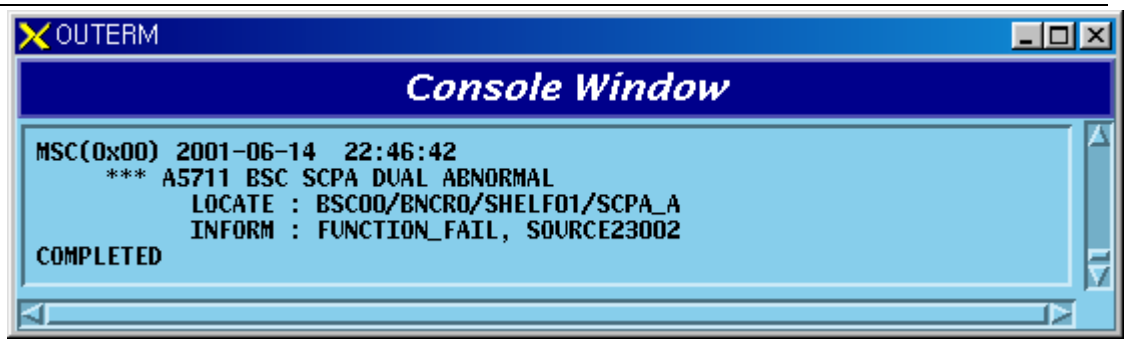


Fig. 5.1-89 CCSB SCP Dual Function Fail

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

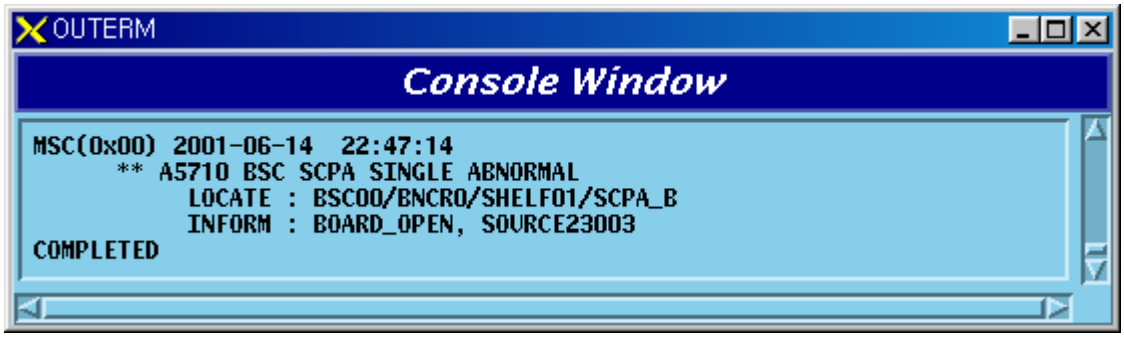


Fig. 5.1-90 CCSB SCP Single Board Open Fail

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

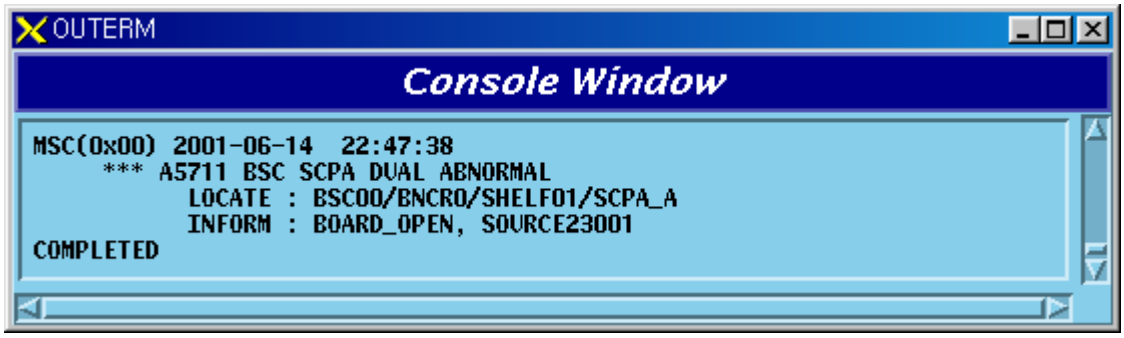


Fig. 5.1-91 CCSB SCP Dual Board Open Fail

5.1.1.2.1.3. STIA Board

1) When functional faults occur on STIA board

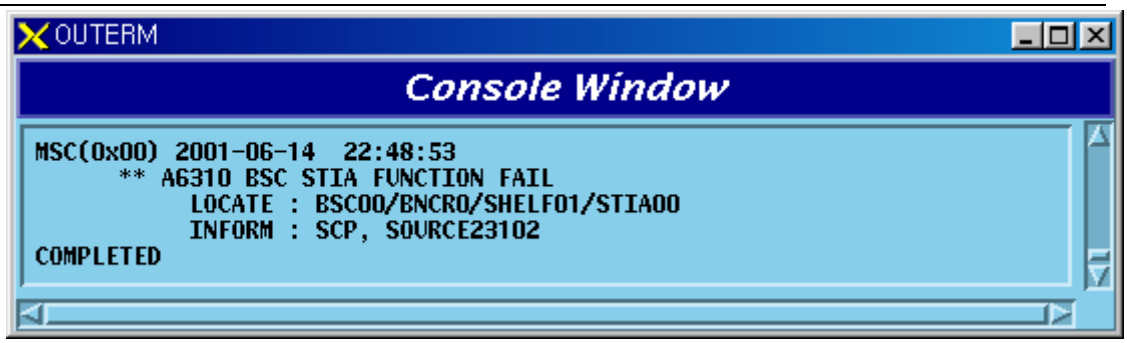


Fig. 5.1-92 CCSB STIA Function Fail

2) When STIA board is removed

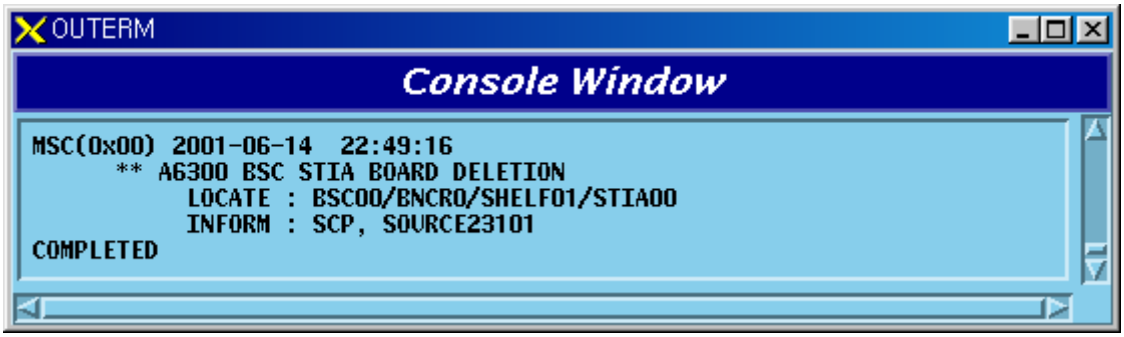


Fig. 5.1-93 CCSB STIA Board Open Fail

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

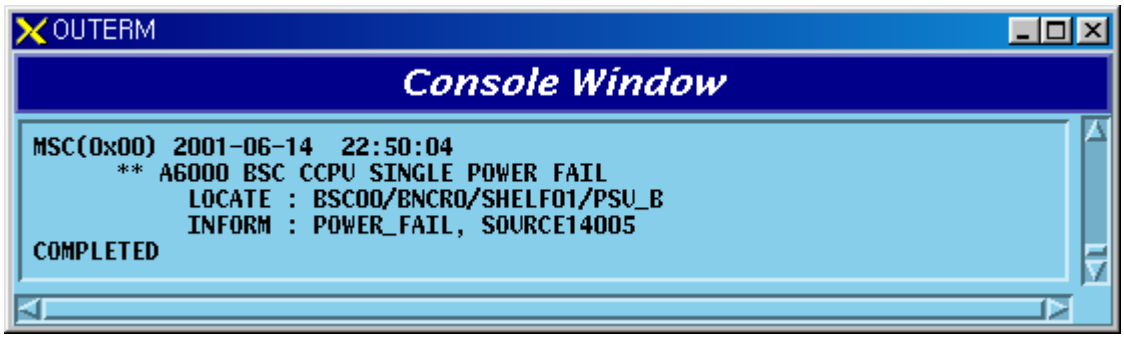


Fig. 5.1-94 CCSB PRI Single Power Fail

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

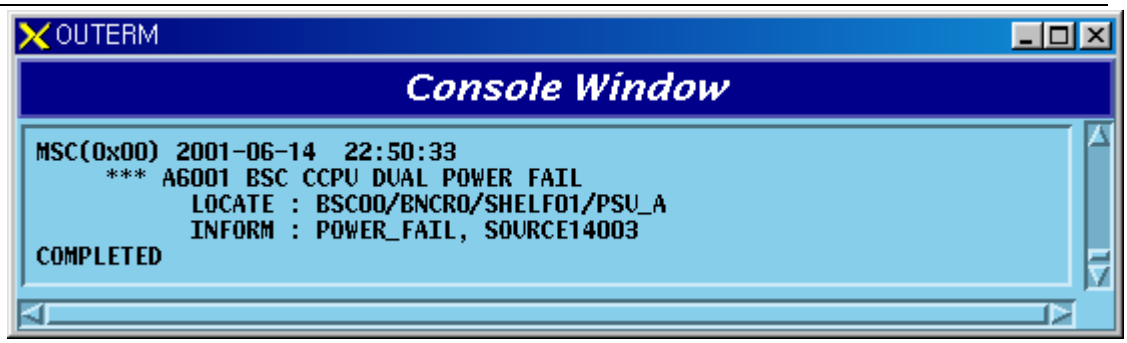


Fig. 5.1-95 CCSB PRI Dual Power Fail

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

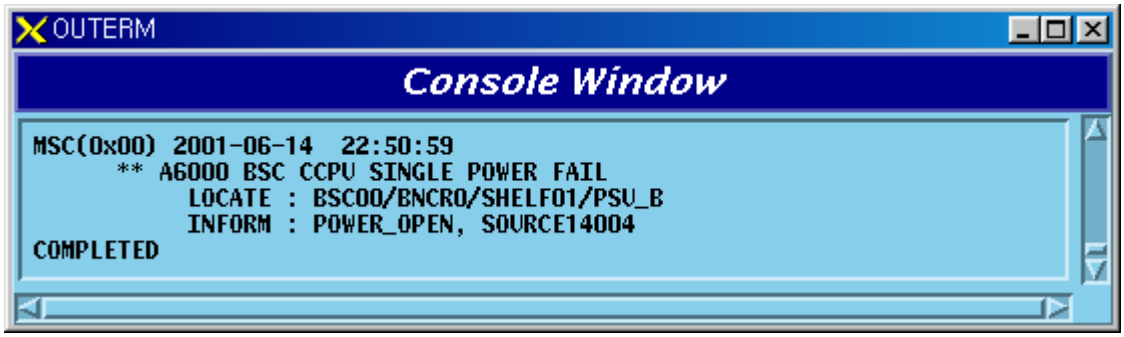


Fig. 5.1-96 CCSB PRI Single Power Open Fail

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

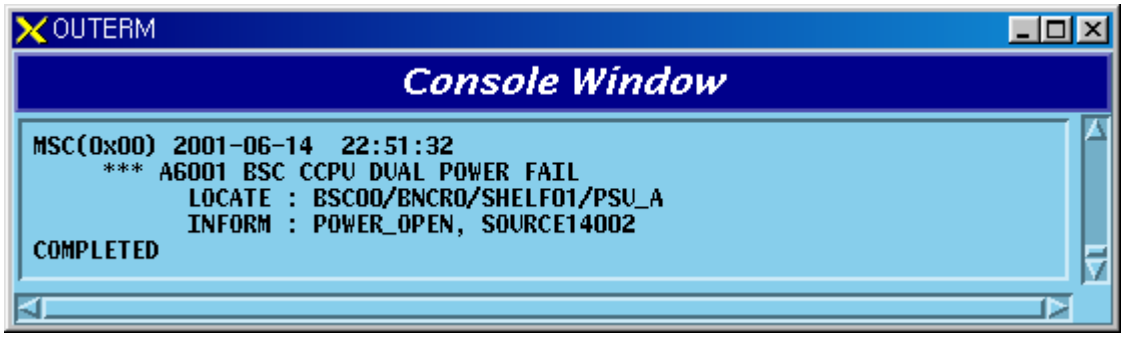


Fig. 5.1-97 CCSB PRI Dual Power Open Fail

5.1.1.2.1.5. Others

1) When ABID board is removed

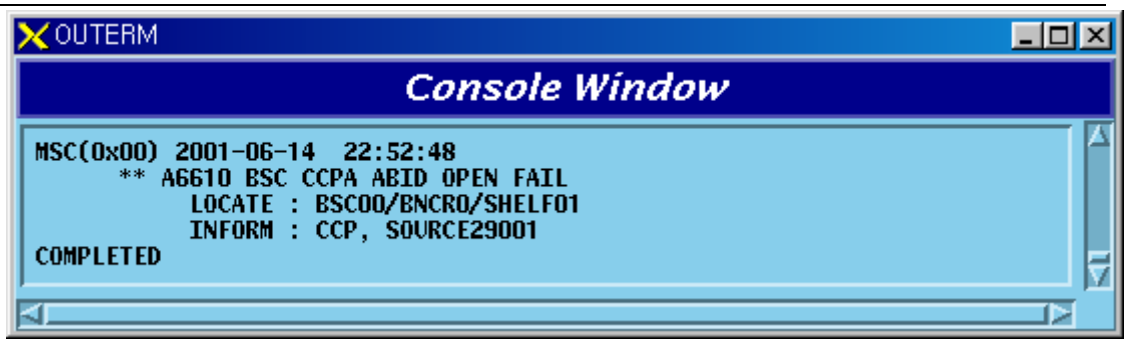


Fig. 5.1-98 CCSB ABID Board Open

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

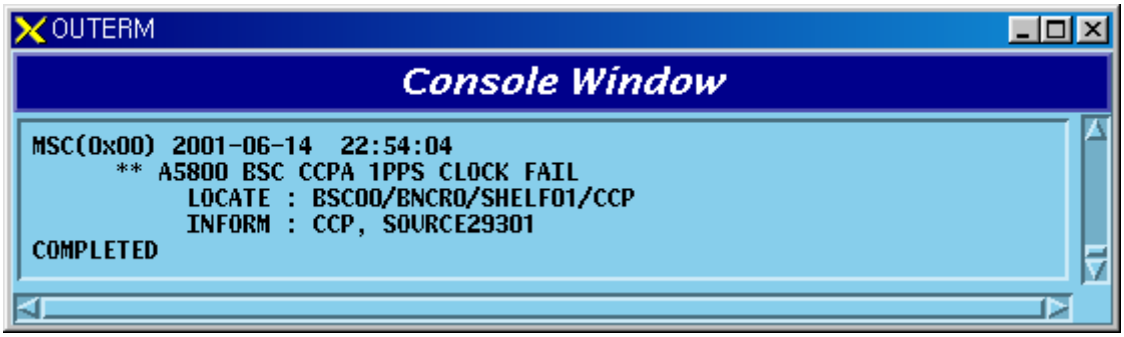


Fig. 5.1-99 CCSB 1PPS Clock Fail

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

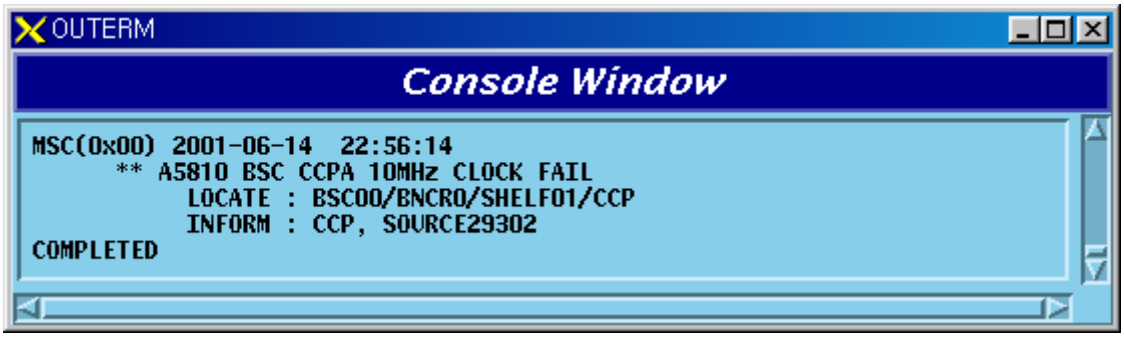


Fig. 5.1-100 CCSB 10MHz Clock Fail

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

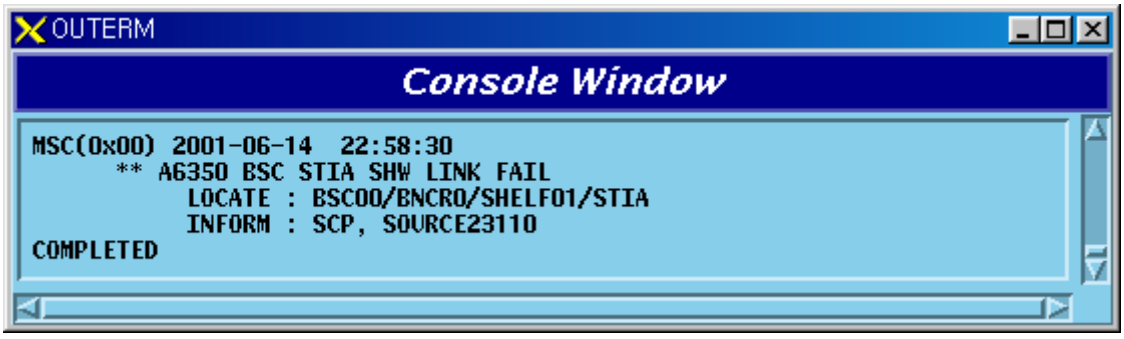


Fig. 5.1-101 CCSB STIA SHW Link Fail

5) When faults occur in CCBU Alarm Cable

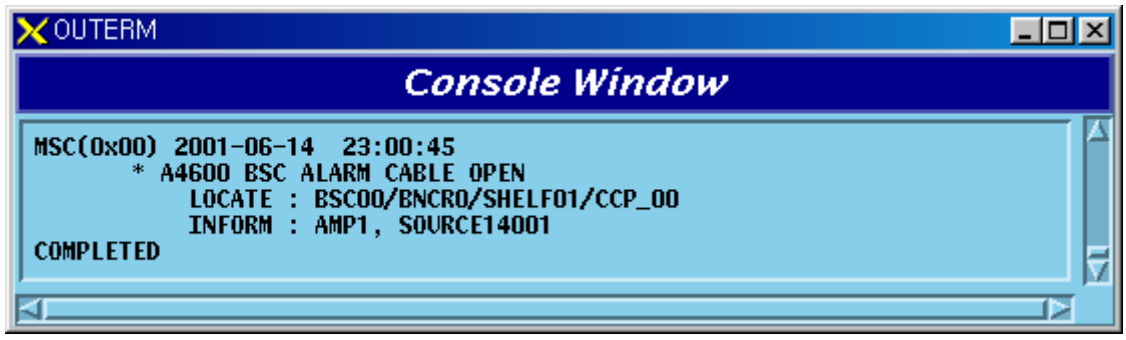


Fig. 5.1-102 CCSB Alarm Cable Open

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

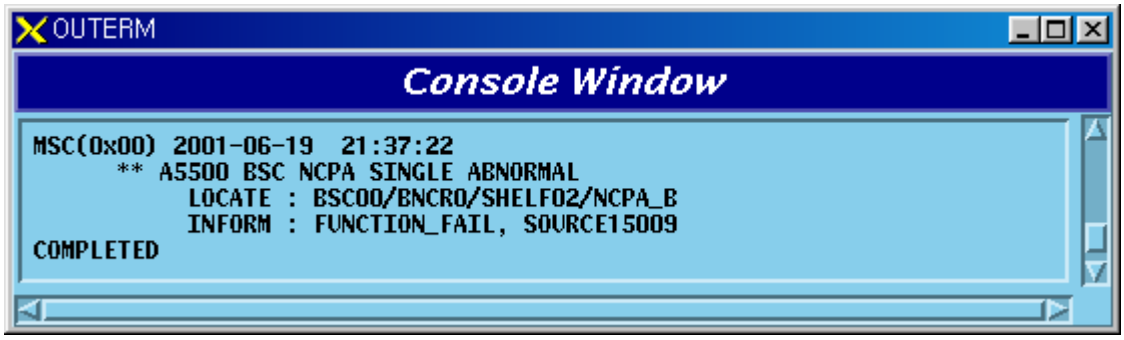


Fig. 5.1-103 ASMB NCP Single Function Fail

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

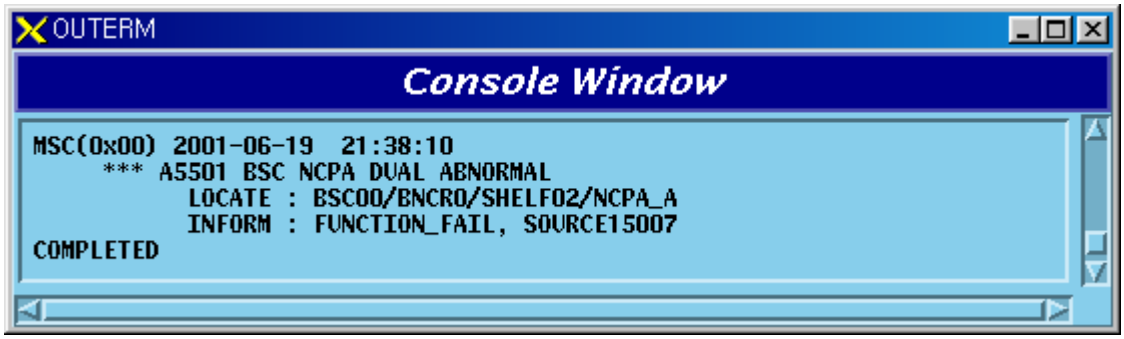


Fig. 5.1-104 ASMB NCP Dual Function Fail

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

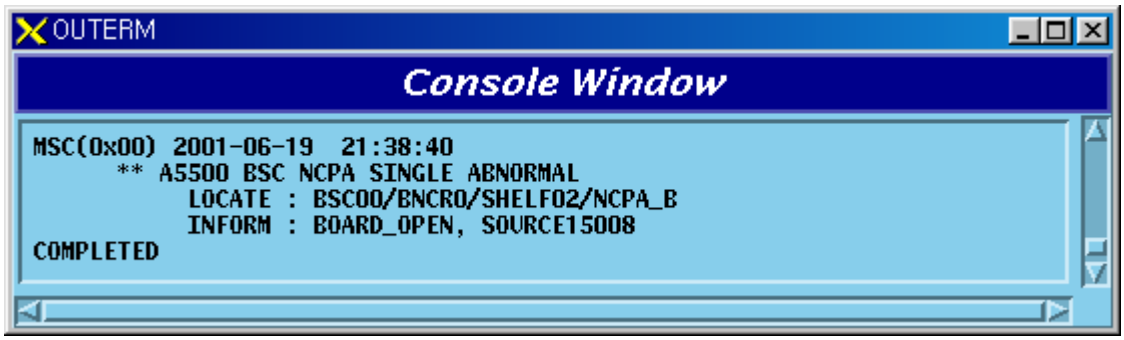


Fig. 5.1-105 ASMB NCP Single Board Open Fail

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

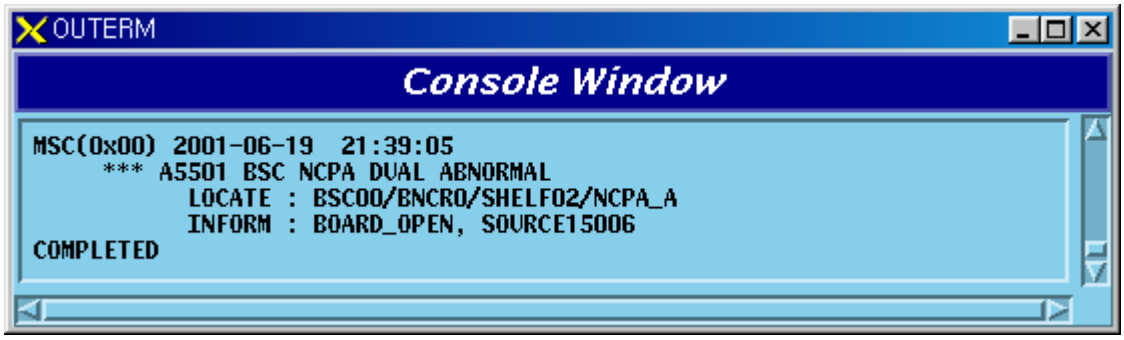


Fig. 5.1-106 ASMB NCP Dual Board Open Fail

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

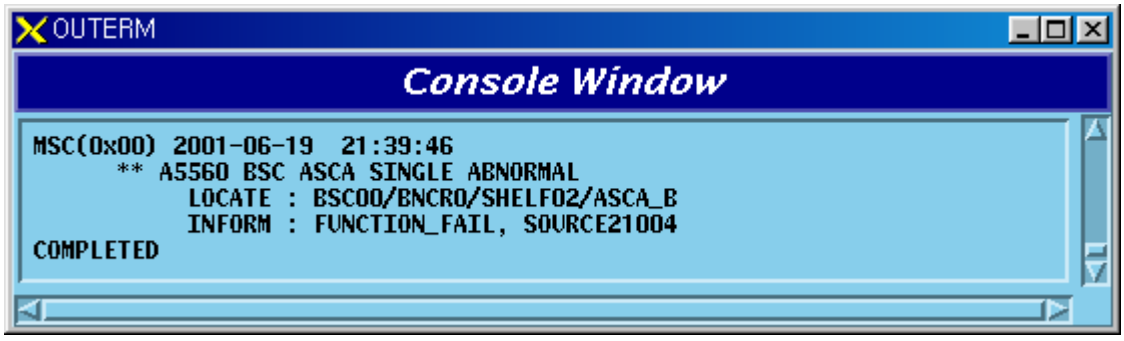


Fig. 5.1-107 ASMB ASCA Single Function Fail

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

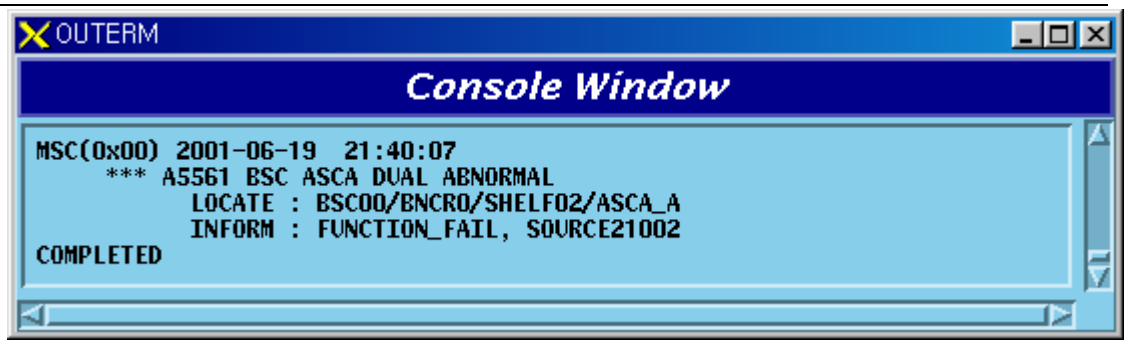


Fig. 5.1-108 ASMB ASCA Dual Function Fail

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

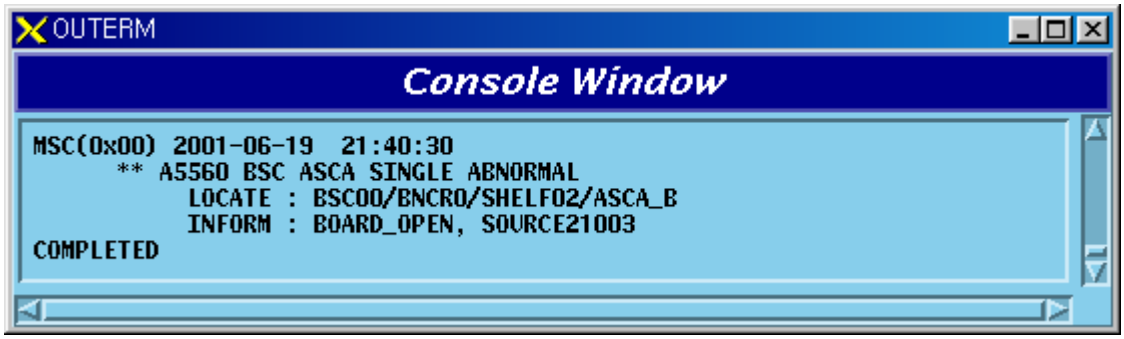


Fig. 5.1-109 ASMB ASCA Single Board Open Fail

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

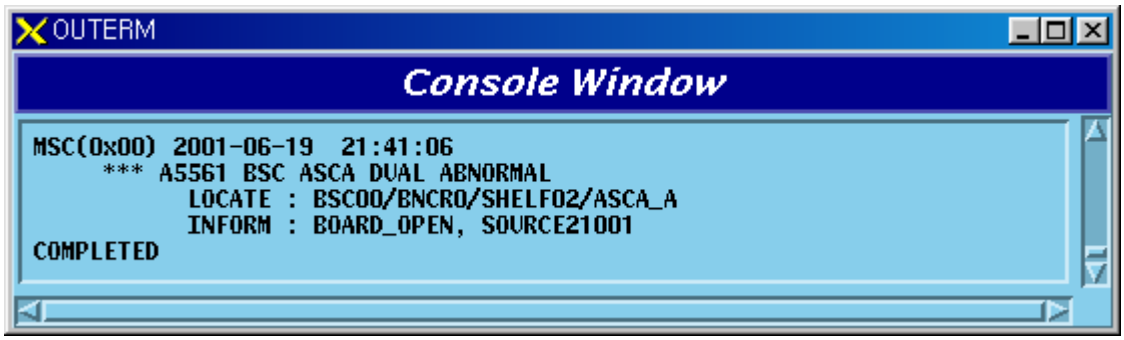


Fig. 5.1-110 ASMB ASCA Dual Board Open Fail

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

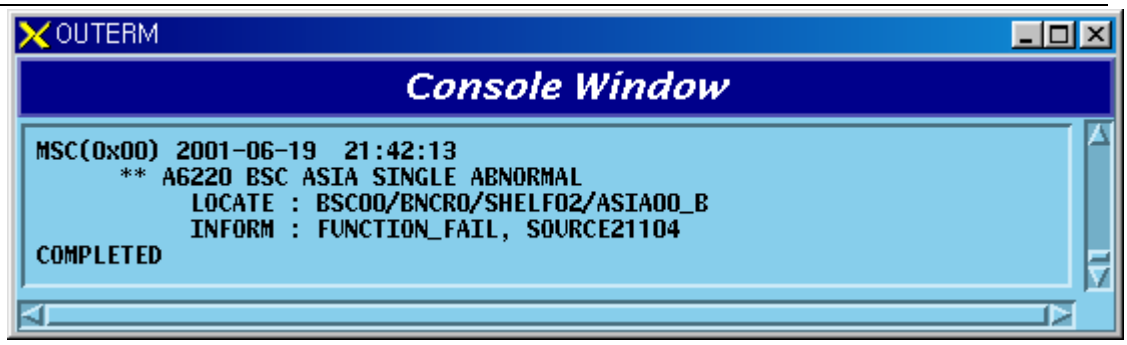


Fig. 5.1-111 ASMB ASIA Single Function Fail

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

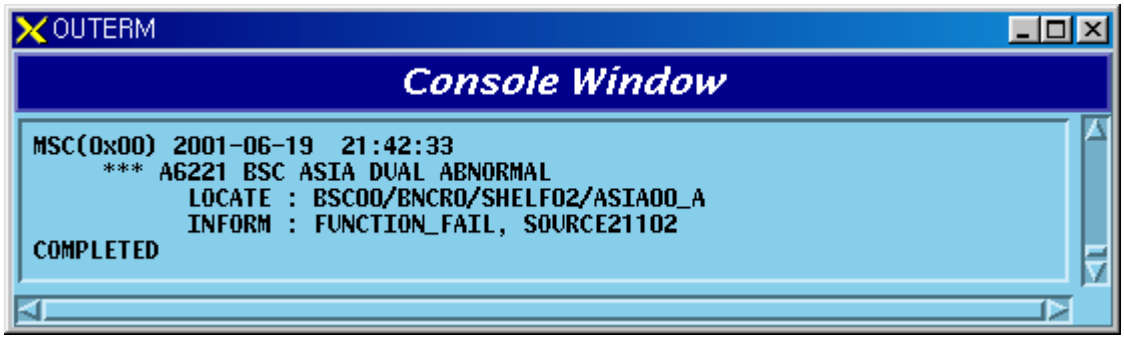


Fig. 5.1-112 ASMB ASIA Dual Function Fail

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

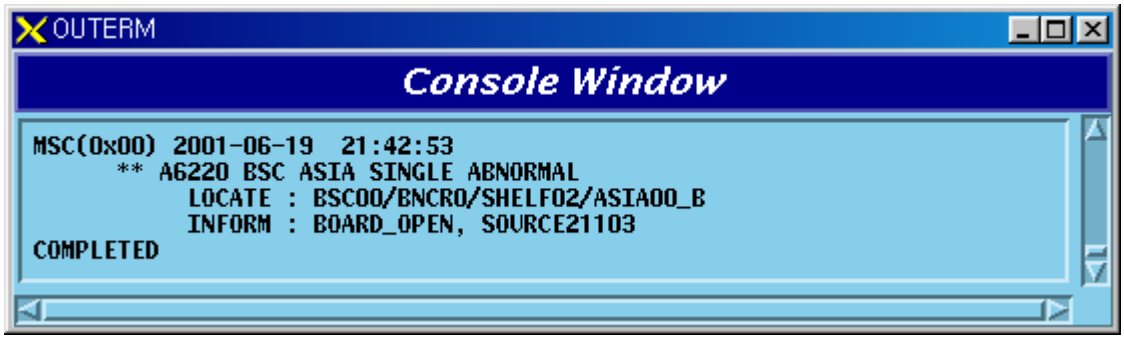


Fig. 5.1-113 ASMB ASIA Single Board Fail

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

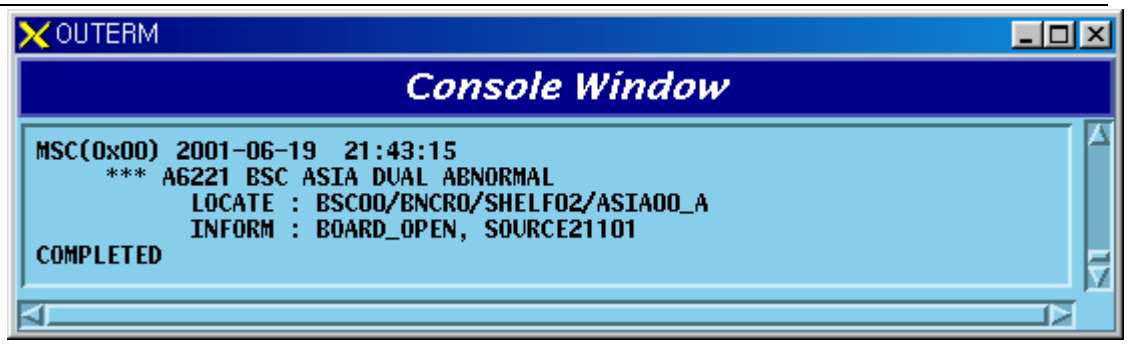


Fig. 5.1-114 ASMB ASIA Dual Board Open Fail

5.1.1.2.2.4. ATSA Board

6) When functional problems occur on ATSA board

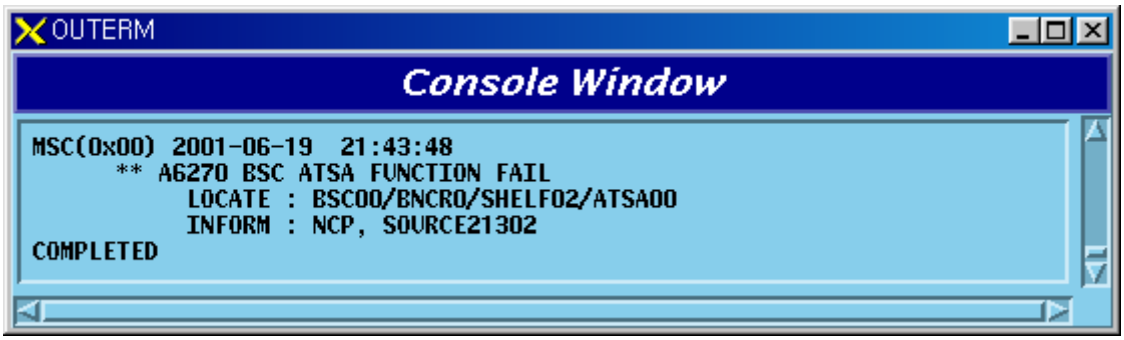


Fig. 5.1-115 ASMB ATSA Function Fail

7) When ATSA board is removed

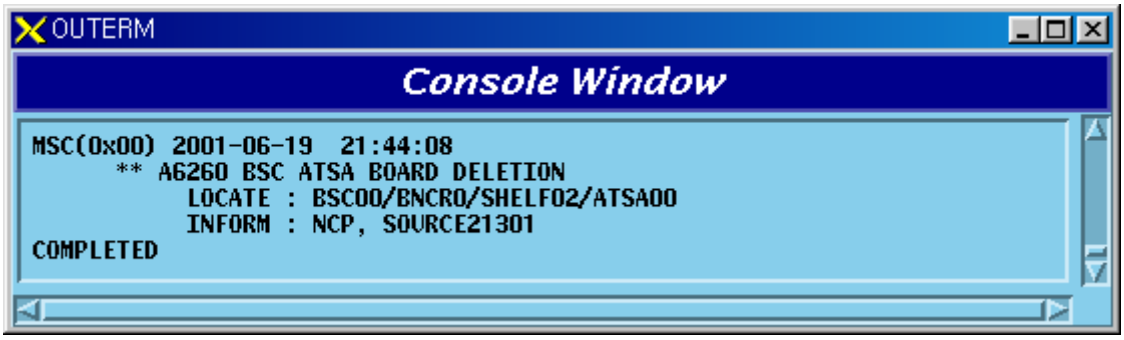


Fig. 5.1-116 ASMB ATSA Board Open Fail

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

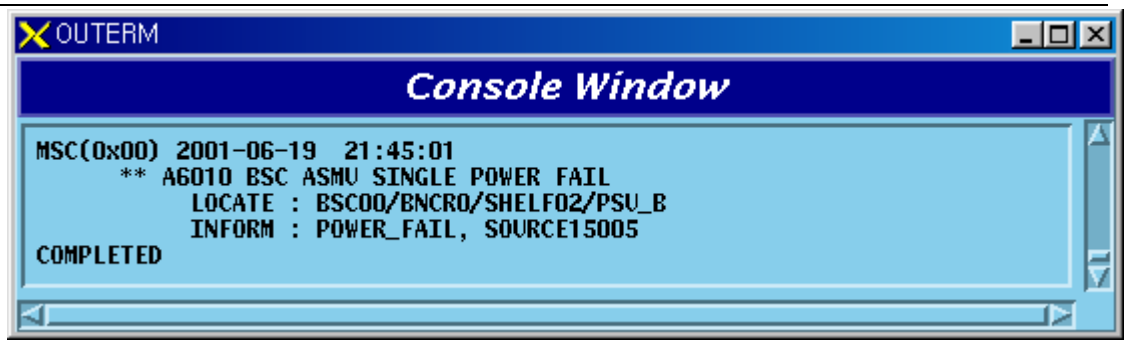


Fig. 5.1-117 ASMB PRI Single Power Fail

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

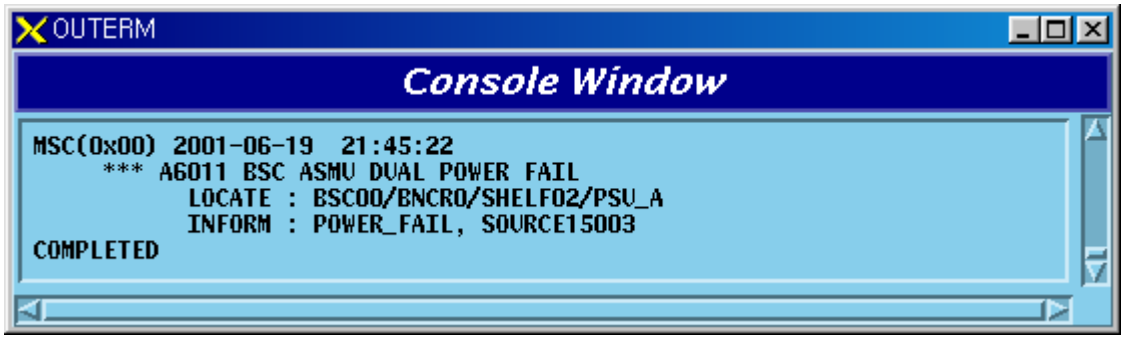


Fig. 5.1-118 ASMB PRI Dual Power Fail

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

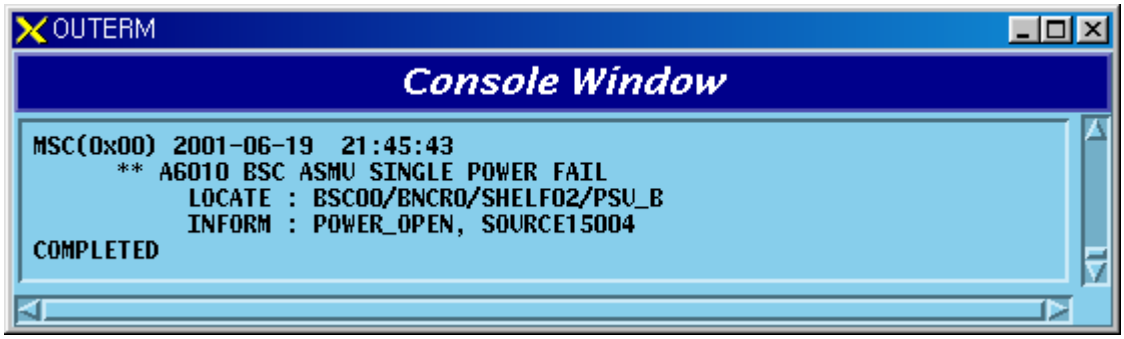


Fig. 5.1-119 ASMB PRI Single Power Open Fail

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

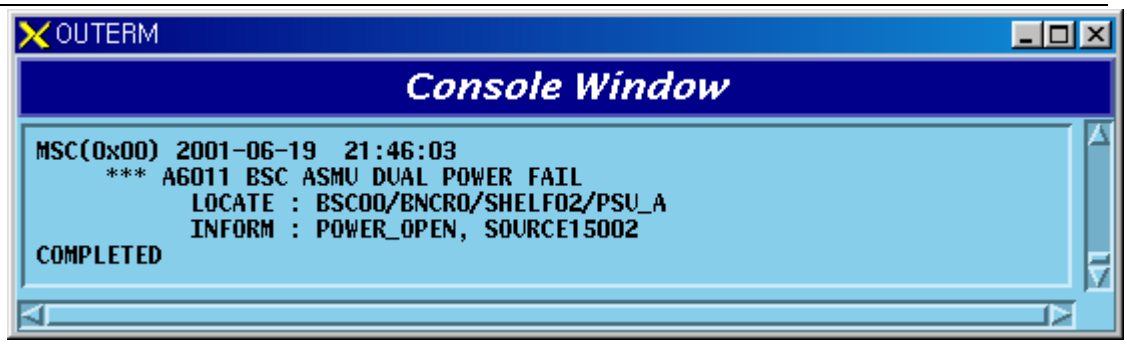


Fig. 5.1-120 ASMB PRI Dual Power Open Fail

5.1.1.2.2.6. Others

1) When ASMB Alarm Cable opens

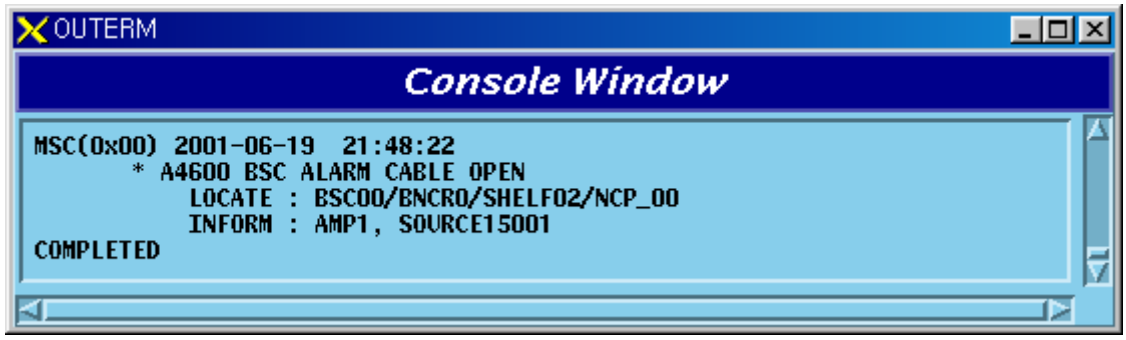


Fig. 5.1-121 ASMB Alarm Cable Open

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

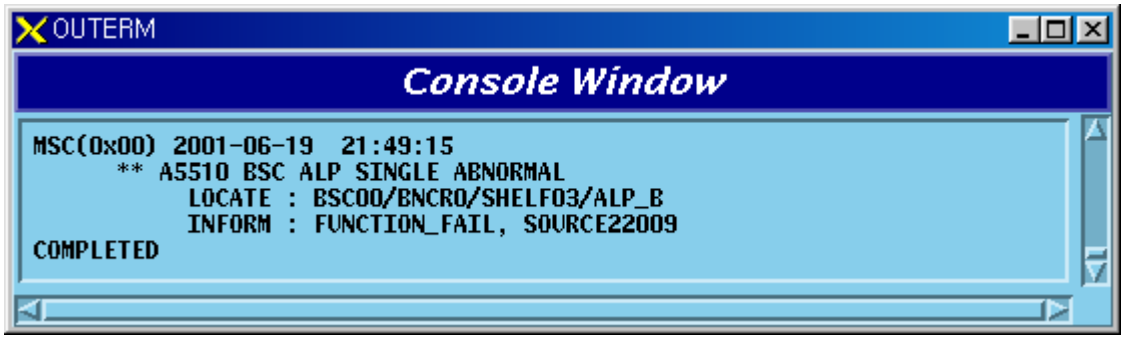


Fig. 5.1-122 ASLB ALP Single Function Fail

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

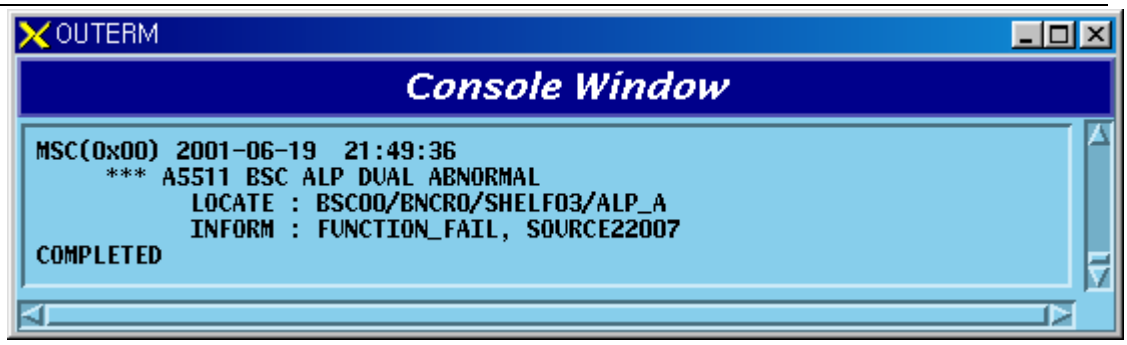


Fig. 5.1-123 ASLB ALP Dual Function Fail

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

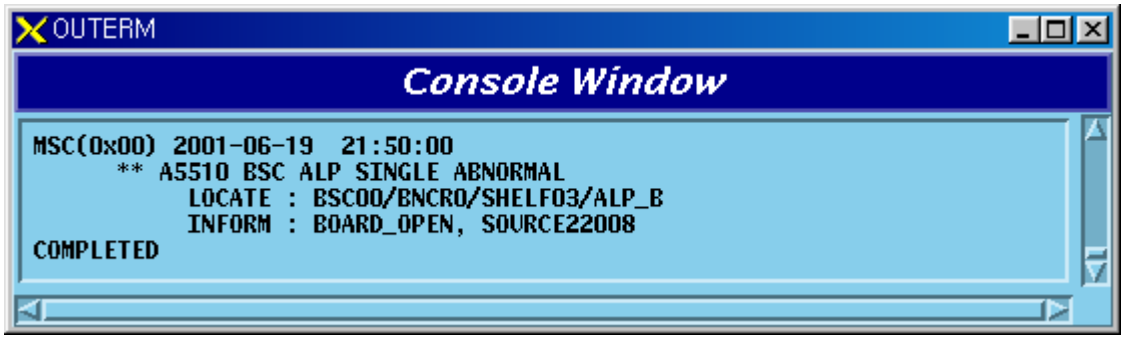


Fig. 5.1-124 ASLB ALP Single Board Open Fail

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

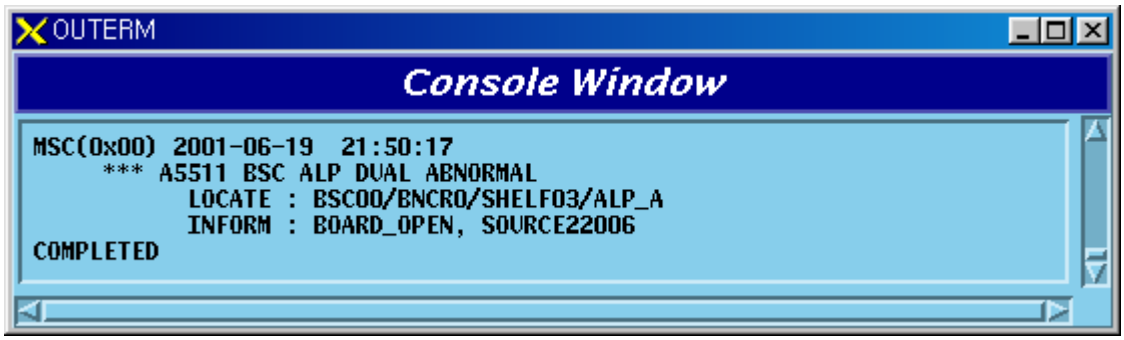


Fig. 5.1-125 ASLB ALP Dual Board Open Fail

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

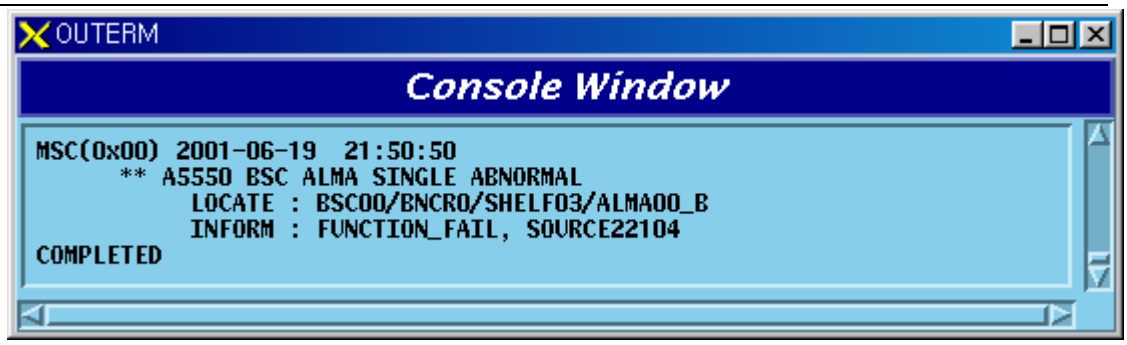


Fig. 5.1-126 ASLB ALMA Single Function Fail

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

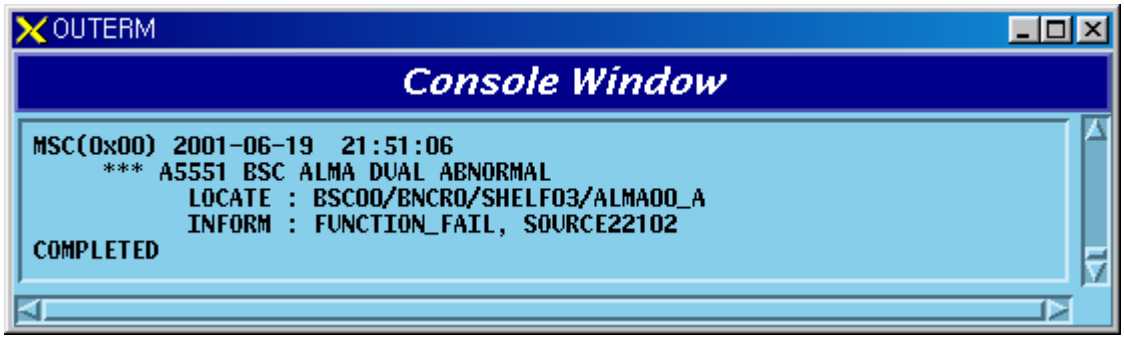


Fig. 5.1-127 ASLB ALP Dual Function Fail

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

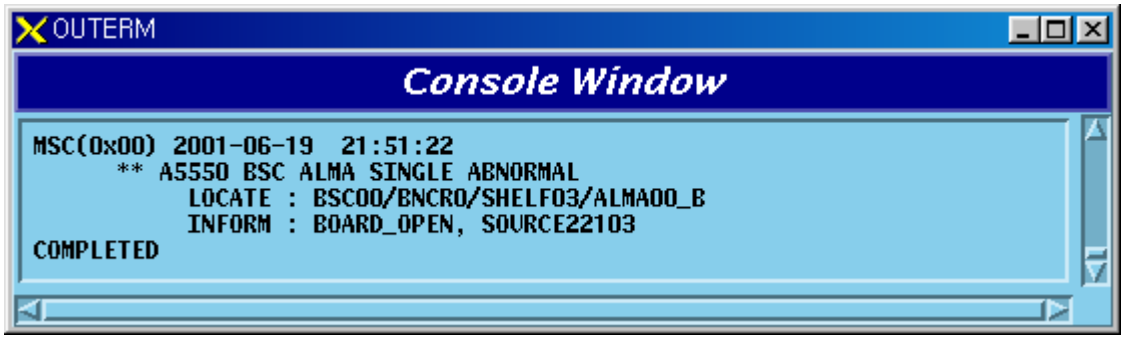


Fig. 5.1-128 ASLB ALP Single Board Open Fail

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

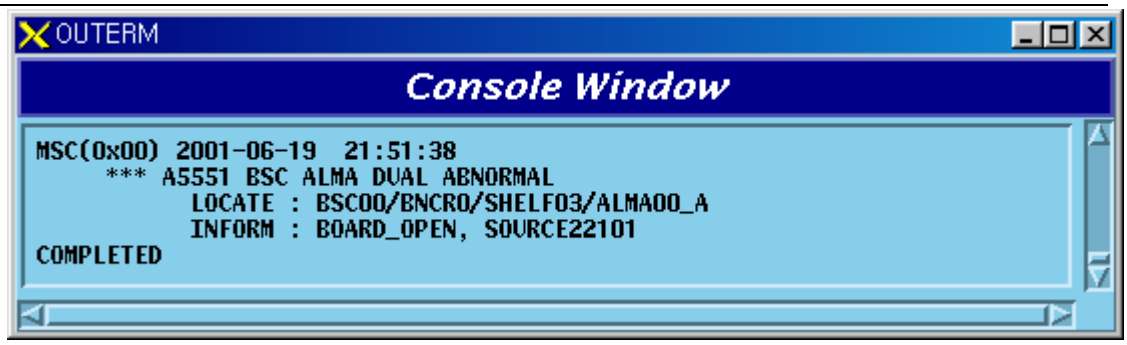


Fig. 5.1-129 ASLB ALP Dual Board Open Fail

5.1.1.2.3.3. ALPA Board

1) When functional faults occur on ALPA board

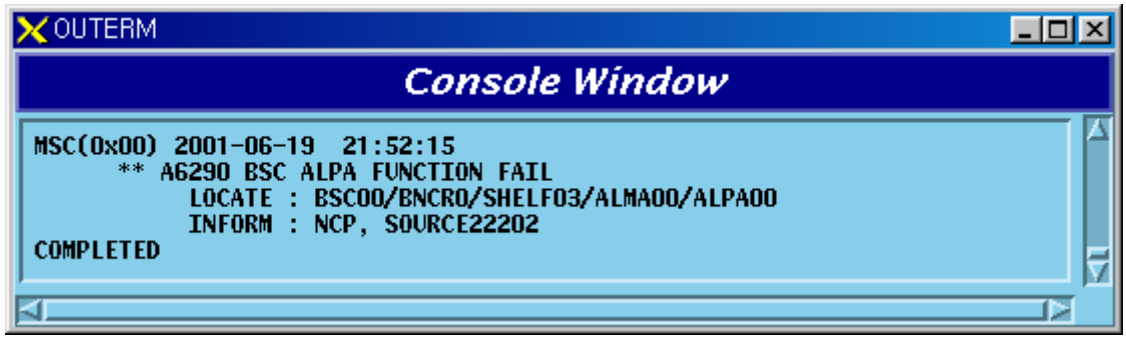


Fig. 5.1-130 ASLB ALPA Function Fail

2) When ALPA board is removed

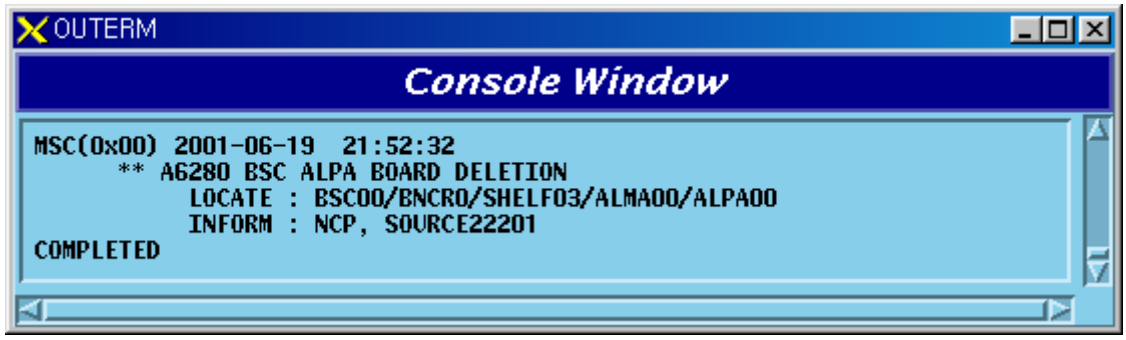


Fig. 5.1-131 ASLB ALPA Board Open Fail

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

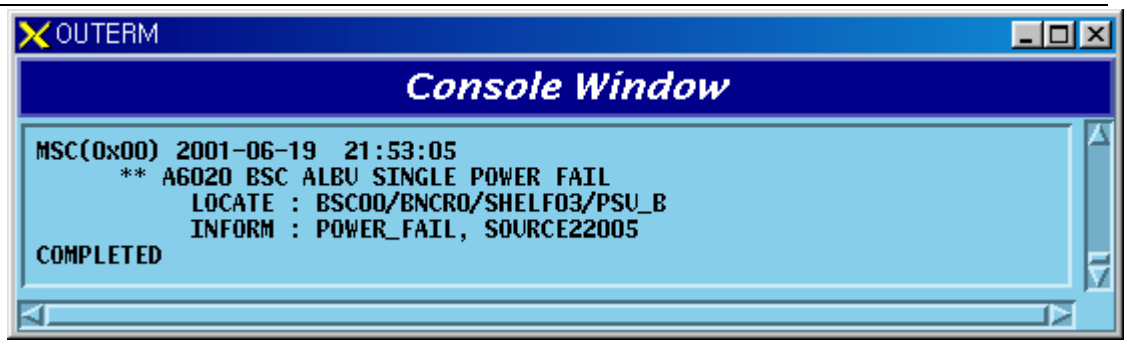


Fig. 5.1-132 ASLB PRI Single Power Fail

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

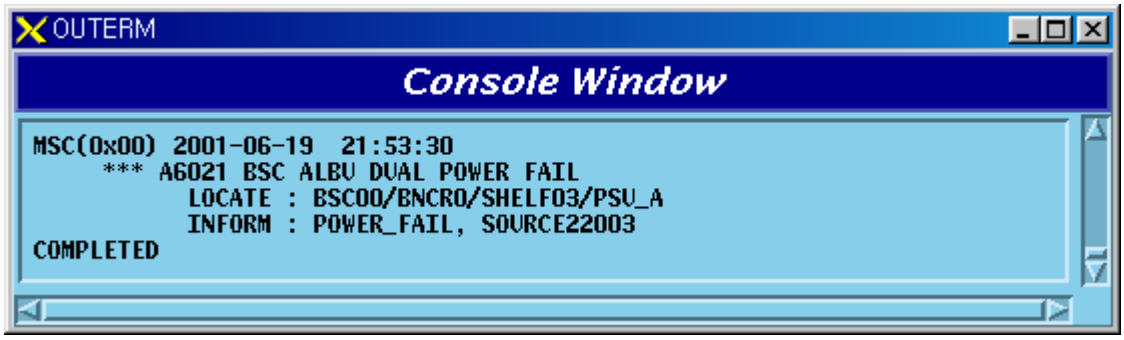


Fig. 5.1-133 ASLB PRI Dual Power Fail

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

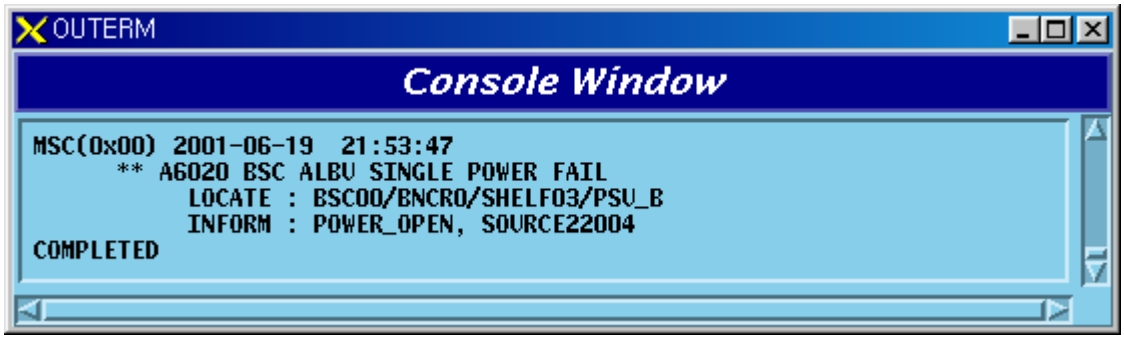


Fig. 5.1-134 ASLB PRI Single Power Open Fail

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

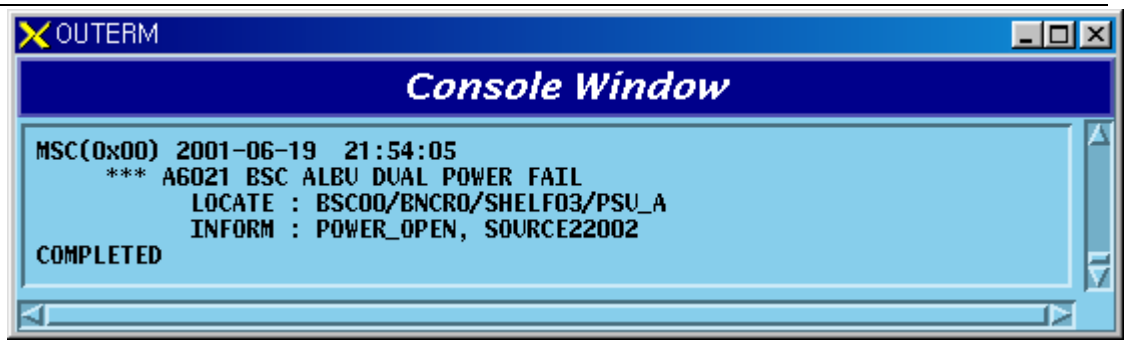


Fig. 5.1-135 ASLB PRI Dual Power Open Fail

5.1.1.2.3.5. Others

1) When ALSB Shelf Alarm Cable is removed

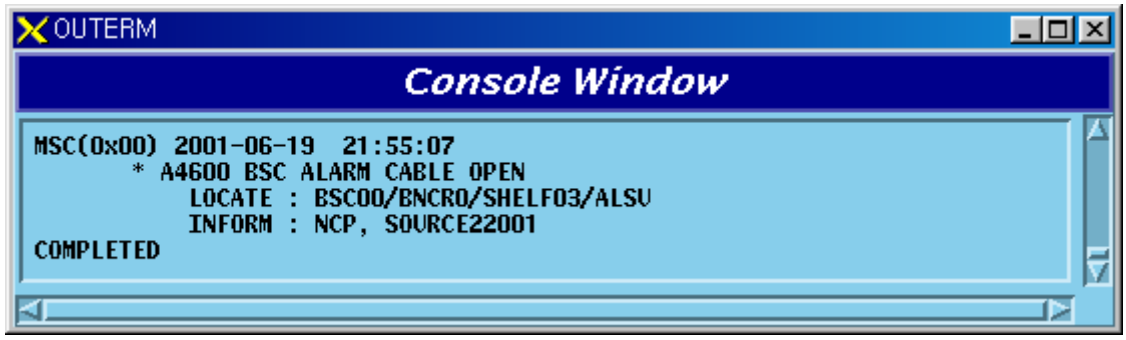


Fig. 5.1-136 ASLB Alarm Cable Open

2) When Loss Of Signal Error occurs in ALPA link

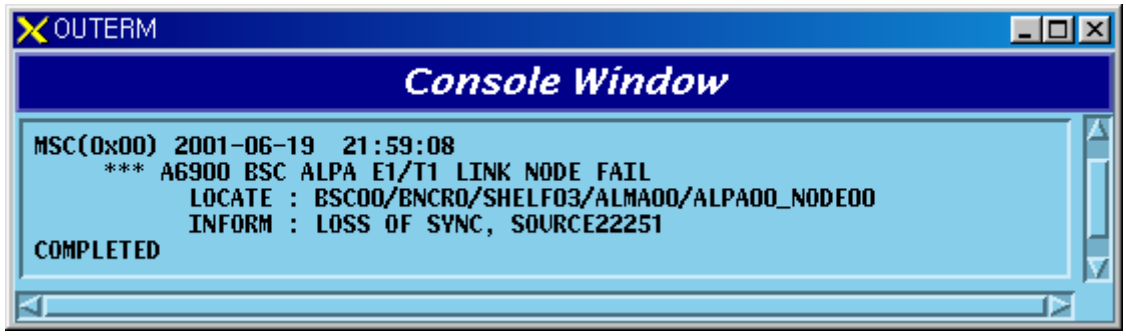


Fig. 5.1-137 ASLB ALPA Link Fail((LOS)

3) When Out Of Frame Error occurs in ALPA link

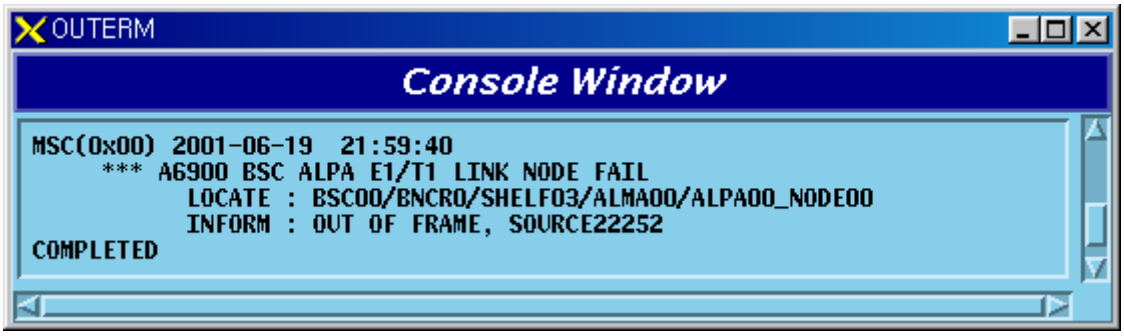


Fig. 5.1-138 ASLB ALPA Link Fail((OOF)

4) When Alarm Indication Signal Error occurs in ALPA link

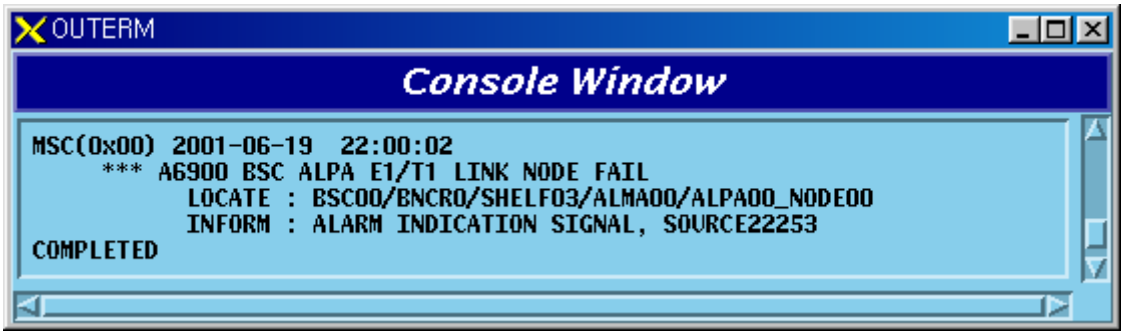


Fig. 5.1-139 ASLB ALPA Link Fail((AIS)

5) When Remote Alarm Indication Error occurs in ALPA link

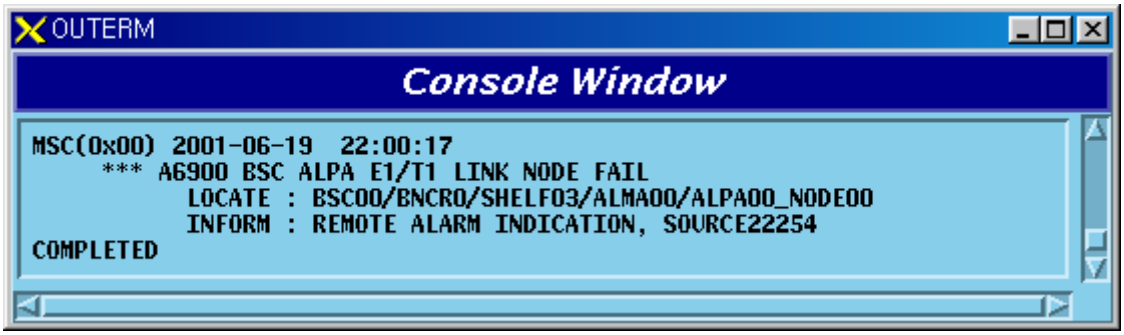


Fig. 5.1-140 ASLB ALPA Link Fail((RAI)

5.1.1.2.4. SLB

5.1.1.2.4.1. SMP(SLMA) Processor

1) When functional faults occur on SLMA board

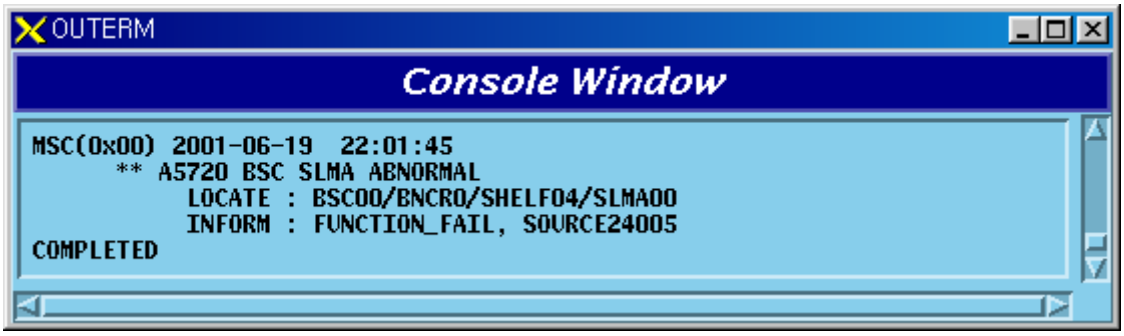


Fig. 5.1-141 SLB SMP Function Fail

2) When SLMA board is removed

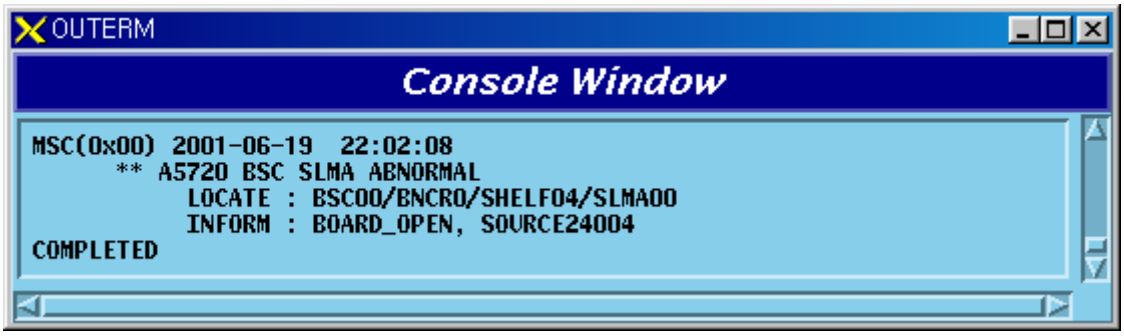


Fig. 5.1-142 SLB SMP Board Open Fail

5.1.1.2.4.2. SLPA Board

1) When functional faults occur on SLPA board

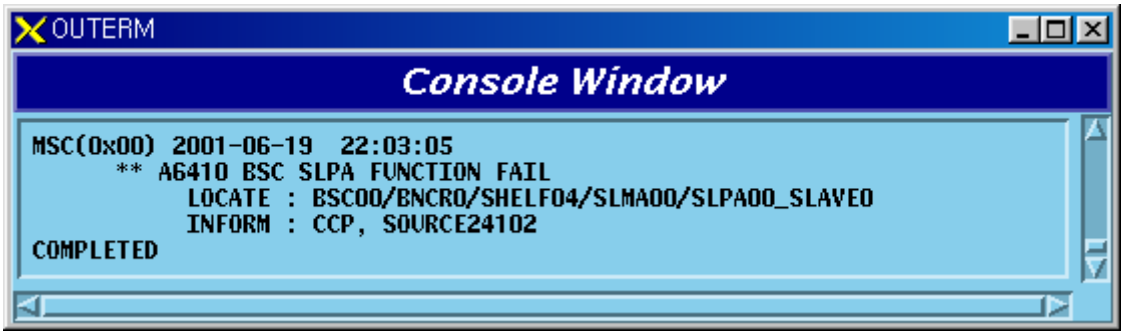


Fig. 5.1-143 SLB SLPA Function Fail

2) When SLPA board is removed

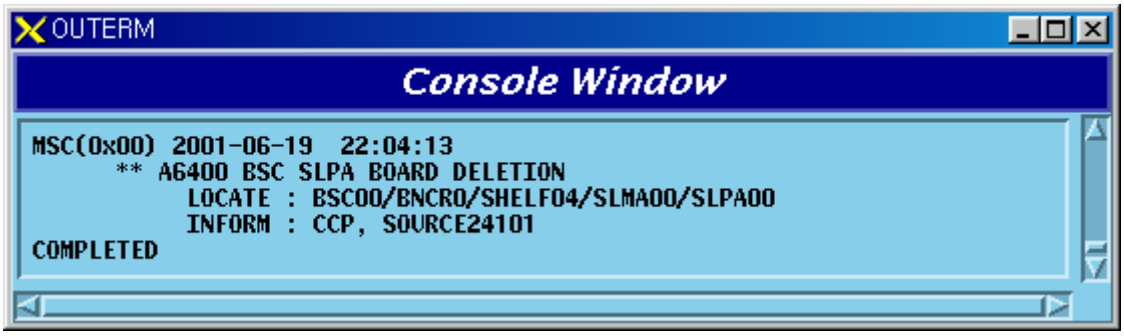


Fig. 5.1-144 SLB SLPA Board Open Fail

5.1.1.2.4.3. PRI

1) When functional faults occur on PRI board

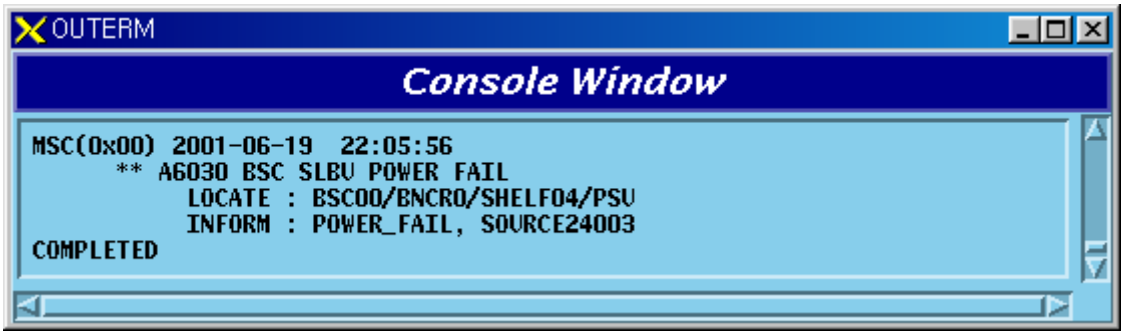


Fig. 5.1-145 SLB PRI Power Fail

2) When PRI board is removed

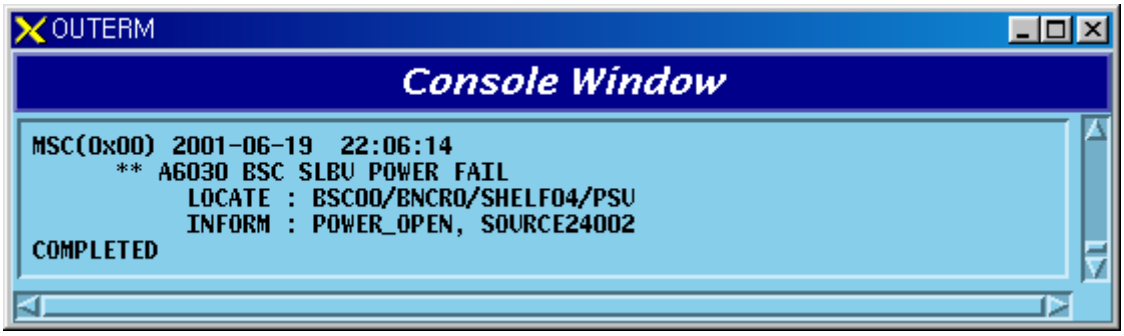


Fig. 5.1-146 SLB PRI Power Open Fail

5.1.1.2.4.4. Others

1) When SLB Shelf Alarm Cable is removed

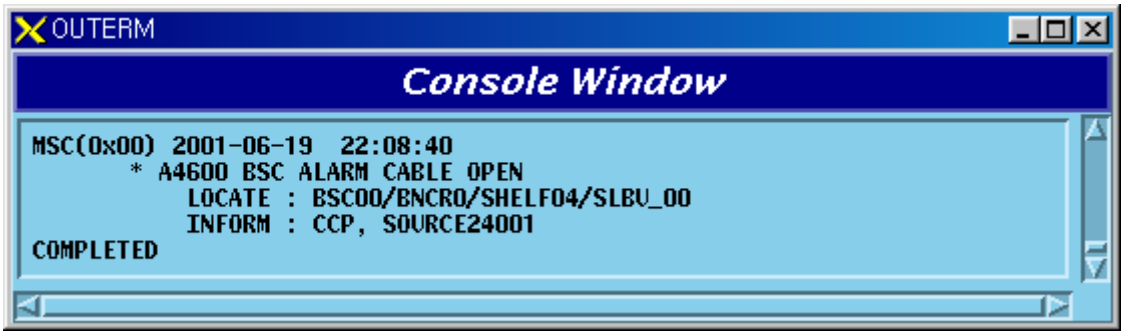


Fig. 5.1-147 SLB Alarm Cable Open

2) When Clock Cable is removed from CCP

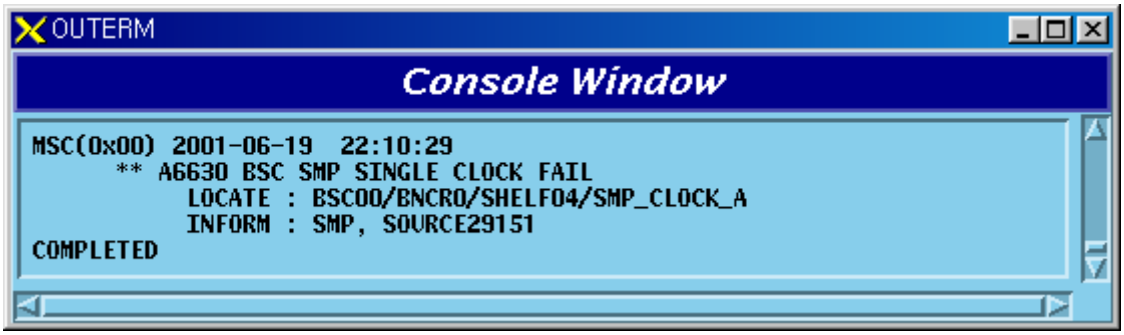


Fig. 5.1-148 SLB SMP Clock Fail

3) When SAID board is removed

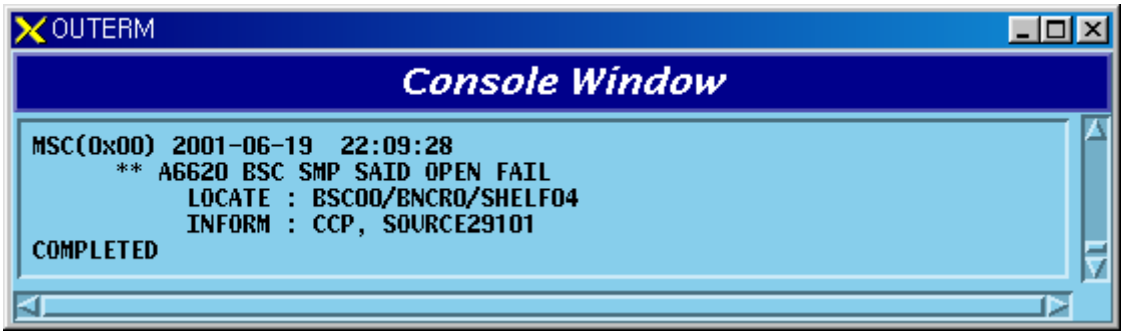


Fig. 5.1-149 SLB SMP SAID Open Fail

5.1.1.2.5. VCB

5.1.1.2.5.1. VMP(VCMA) Processor

1) When functional problems occur on VCMA board

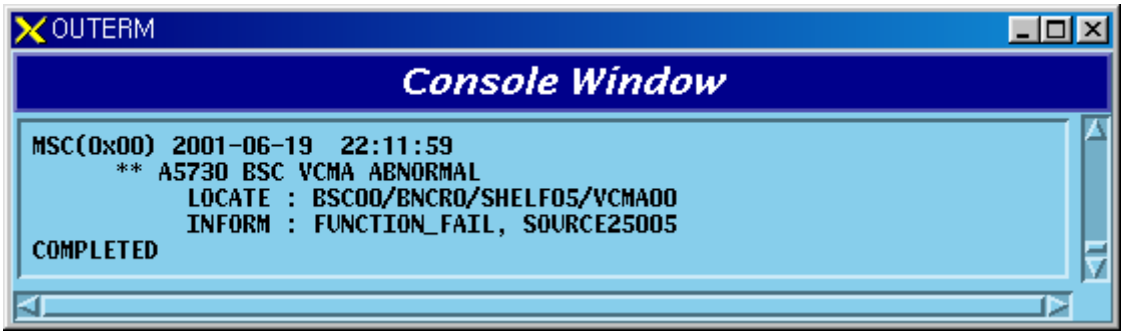


Fig. 5.1-150 VCB VMP Function Fail

2) When VCMA board is removed

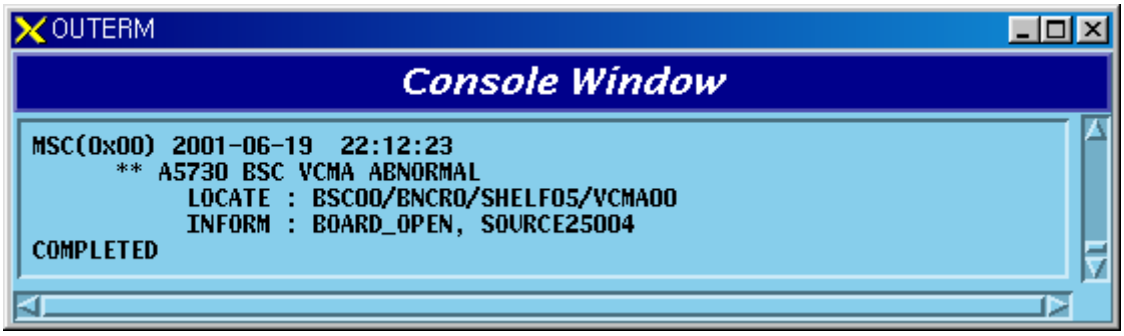


Fig. 5.1-151 VCB VMP Board Open Fail

5.1.1.2.5.2. VCPA Board

1) When functional faults occur on VCPA board

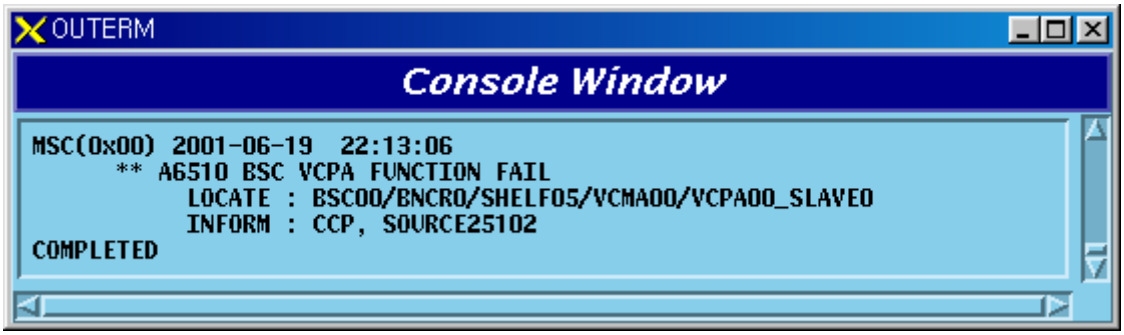


Fig. 5.1-152 VCB VCPA Function Fail

2) When VCPA board is removed

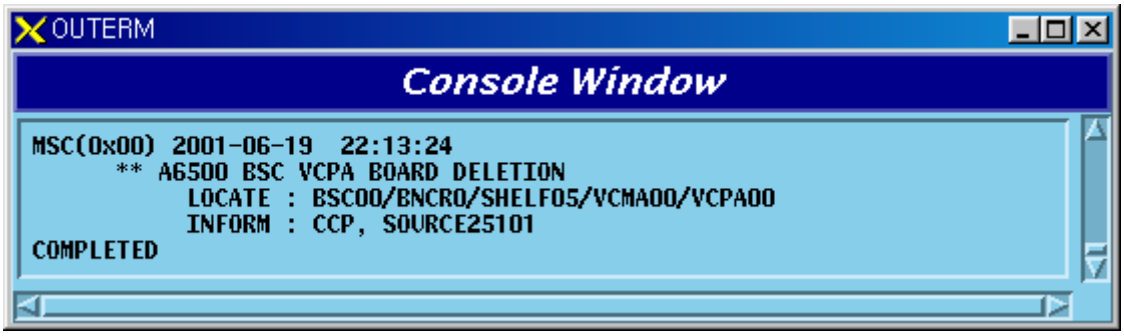


Fig. 5.1-153 VCB VCPA Board Open Fail

5.1.1.2.5.3. VLIA Board

1) When a functional board occurs on VLIA board

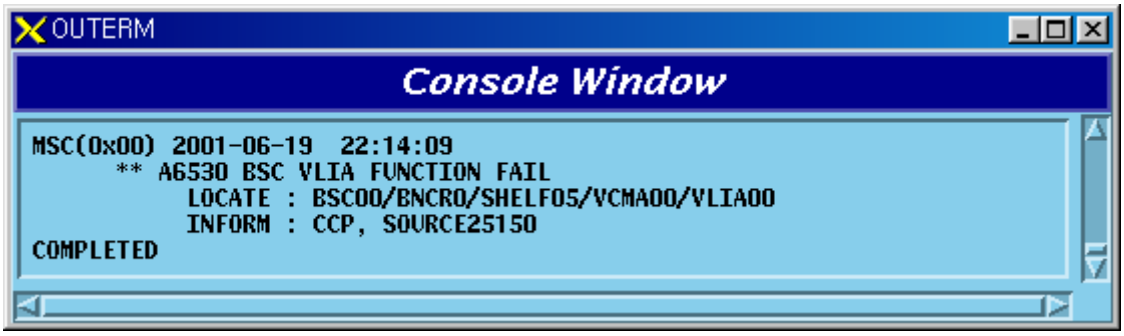


Fig. 5.1-154 VCB VLIA Function Fail

2) When VLIA board is removed

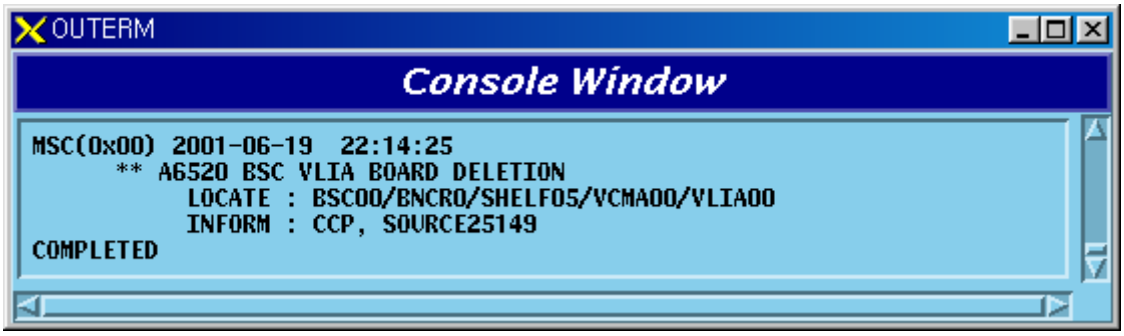


Fig. 5.1-155 VCB VLIA Board Open Fail

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

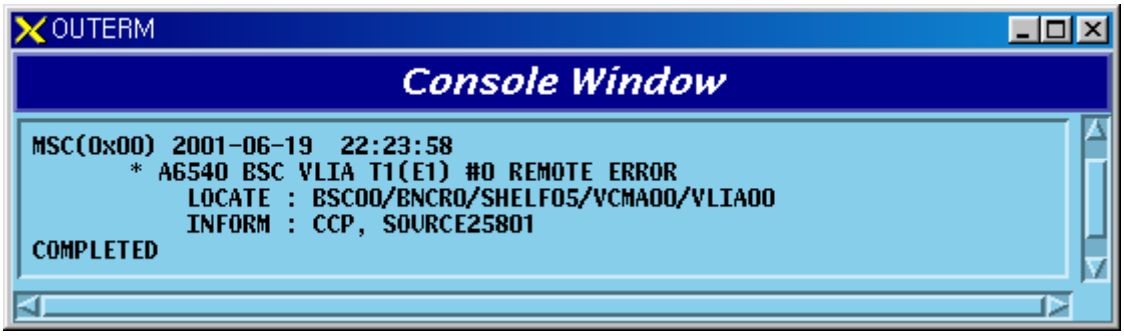


Fig. 5.1-156 VCB VLIA Link Fail(Remote Error)

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

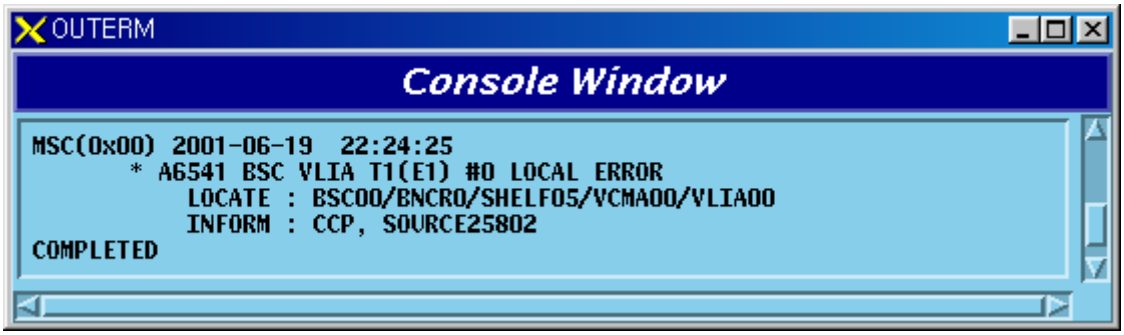


Fig. 5.1-157 VCB VLIA Link Fail(Local Error)

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

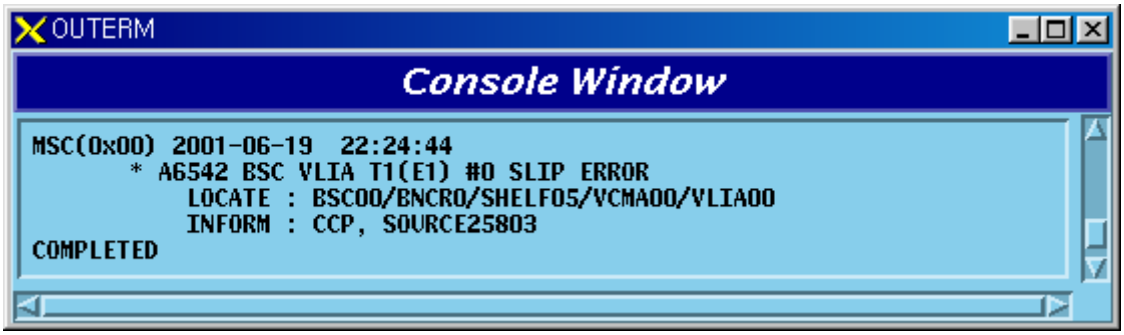


Fig. 5.1-158 VCB VLIA Link Fail(SLIP Error)

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

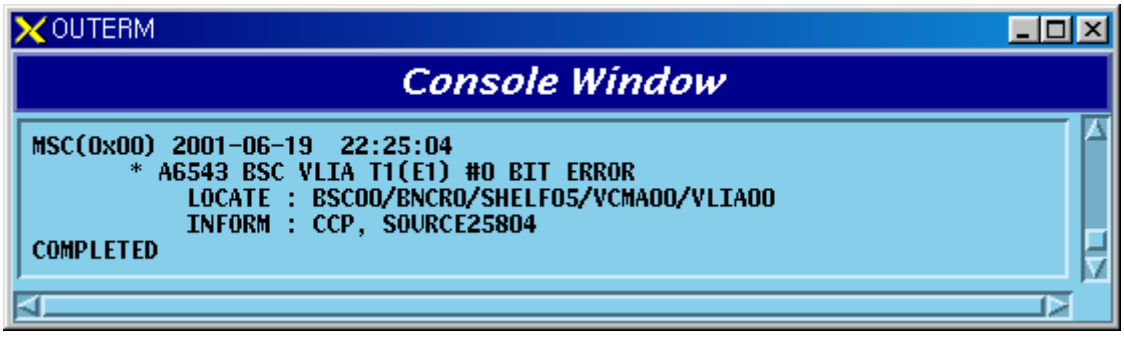


Fig. 5.1-159 VCB VLIA Link Fail(BIT Error)

5.1.1.2.5.4. PRI

1) When functional faults occur on PRI board

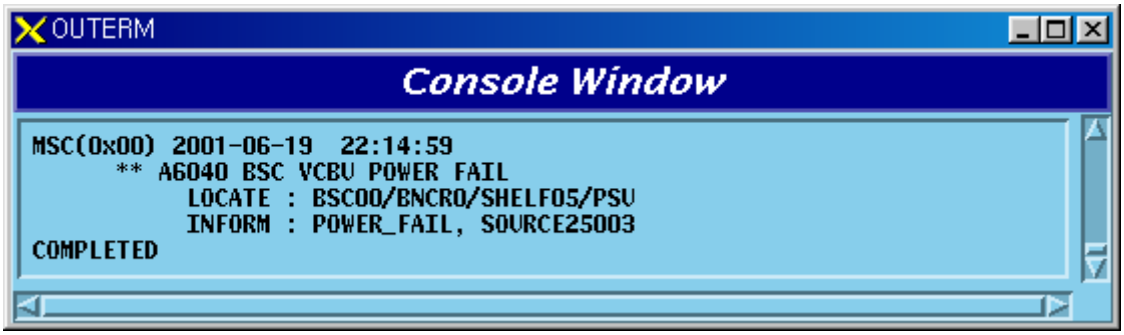


Fig. 5.1-160 VCB PRI Power Fail

2) When PRI board is removed

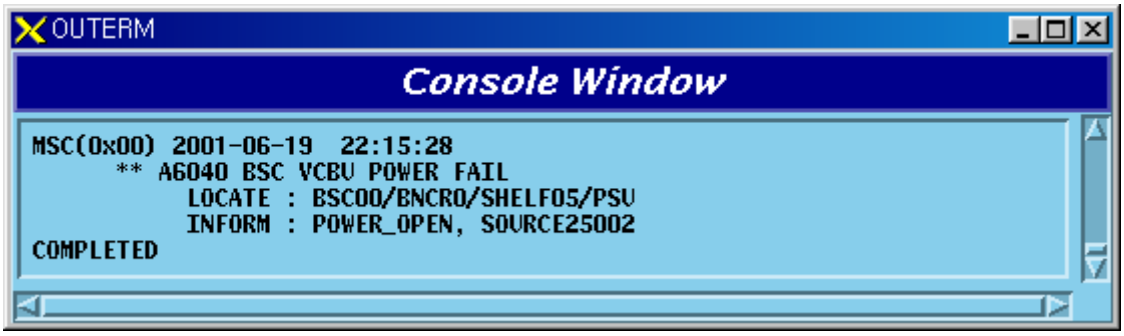


Fig. 5.1-161 VCB PRI Power Open Fail

5.1.1.2.5.5. Others

1) When VCB Shelf Alarm Cable is removed

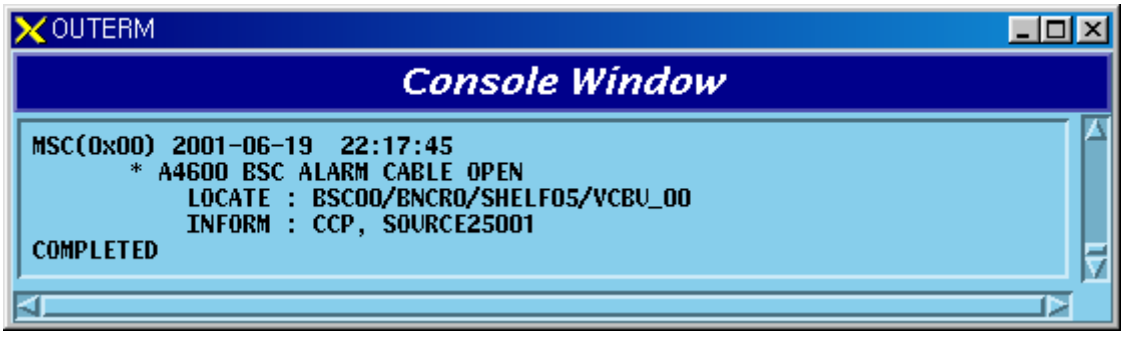


Fig. 5.1-162 VCB Alarm Cable Open

2) When Clock Cable is removed from CCP

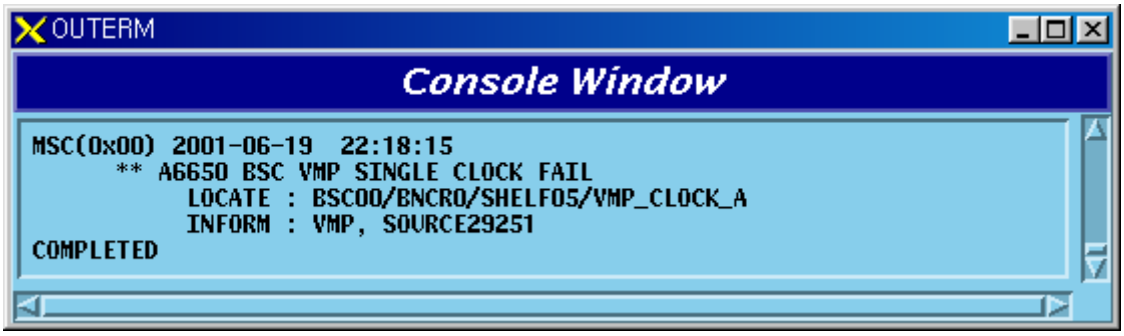


Fig. 5.1-163 VCB VMP Clock Cable Open Fail

3) When SAID board is removed

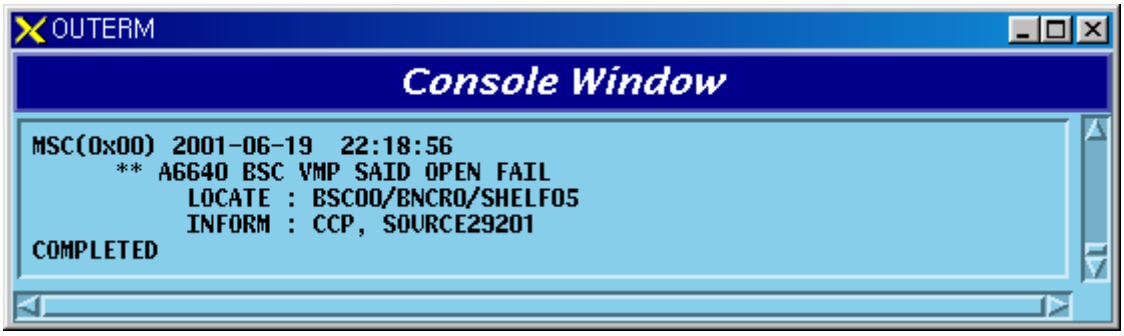


Fig. 5.1-164 VCB SAID Board Open

5.1.1.2.6. FAN and Others

1) When a problem occurs in BSC FAN

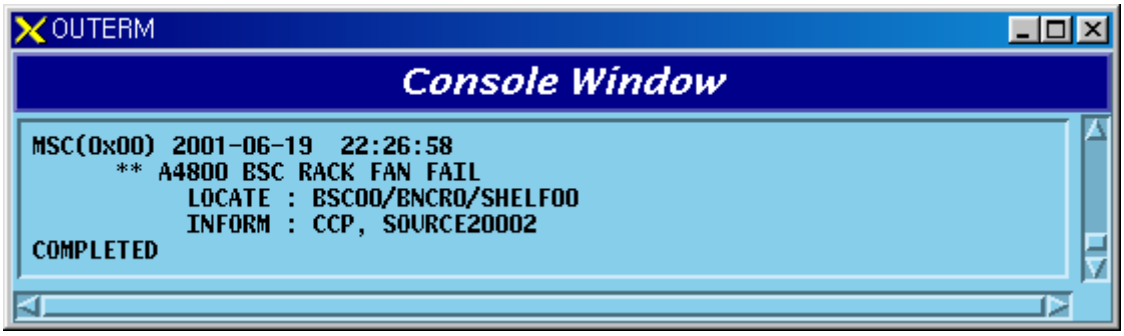


Fig. 5.1-165 VCB Rack FAN Fail

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

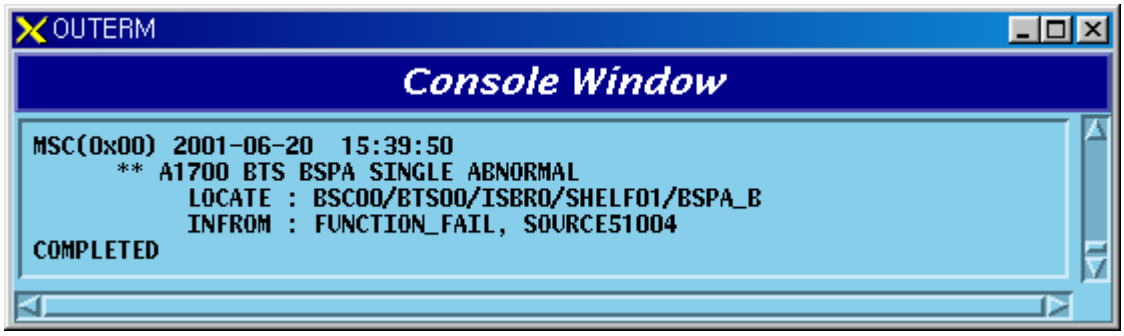


Fig. 5.1-166 BSPB BSP Single Function Fail

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

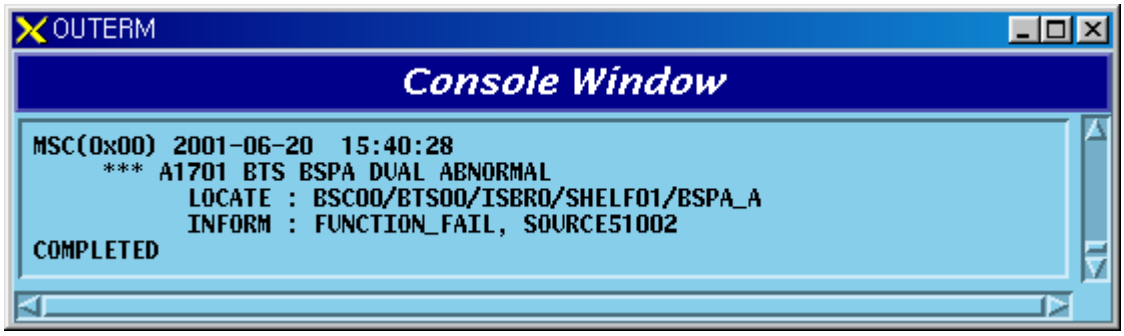


Fig. 5.1-167 BSPB BSP Dual Function Fail

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

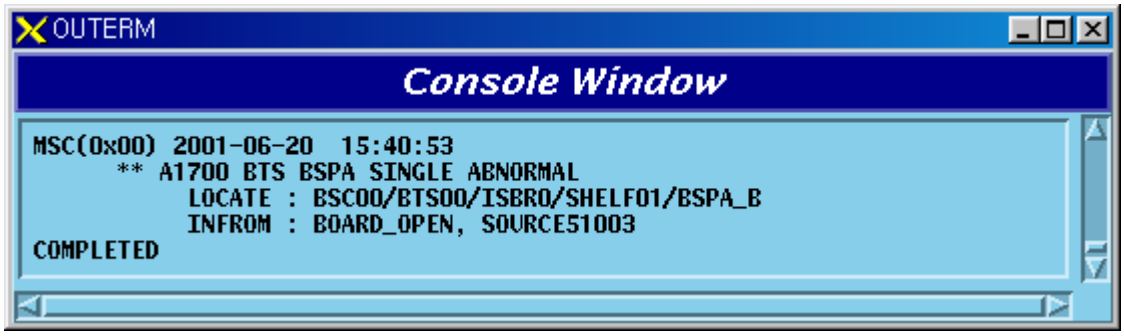


Fig. 5.1-168 BSPB BSP Single Board Open Fail

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

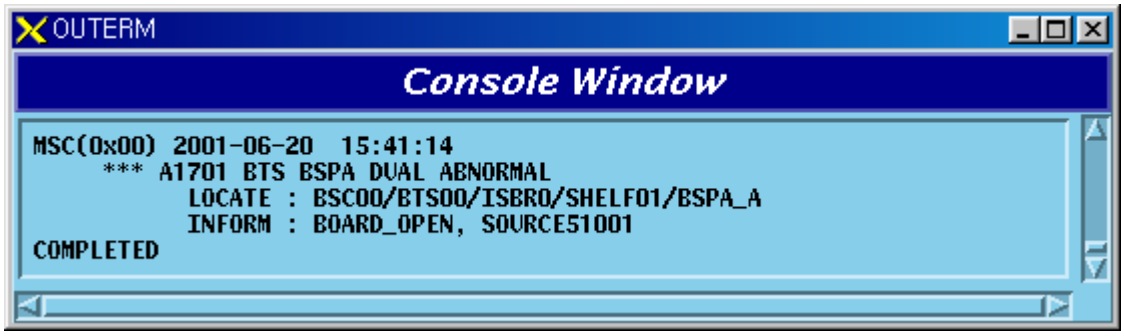


Fig. 5.1-169 BSPB BSP Dual Board Open Fail

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

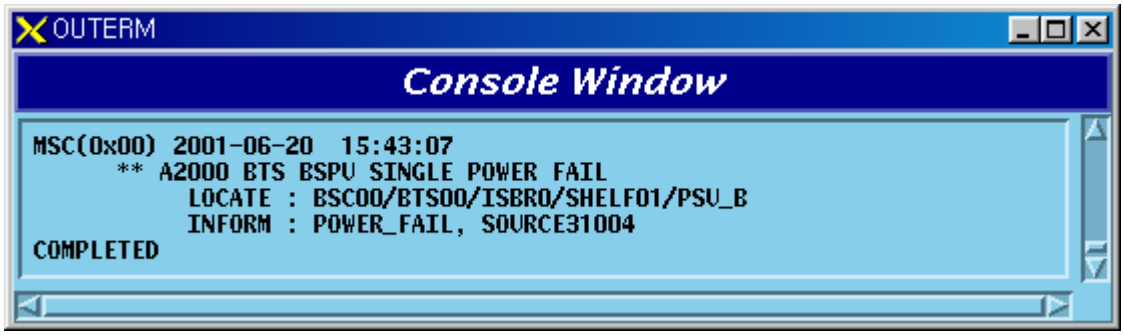


Fig. 5.1-170 BSPB PRI Single Power Fail

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

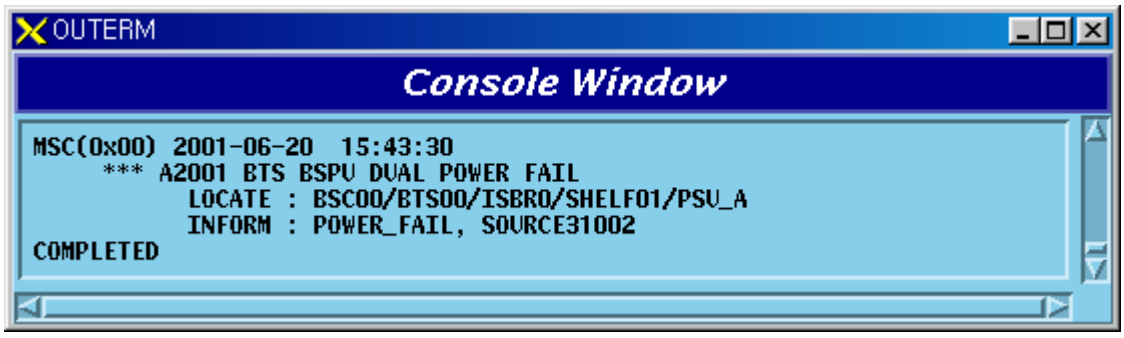


Fig. 5.1-171 BSPB PRI Dual Power Fail

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

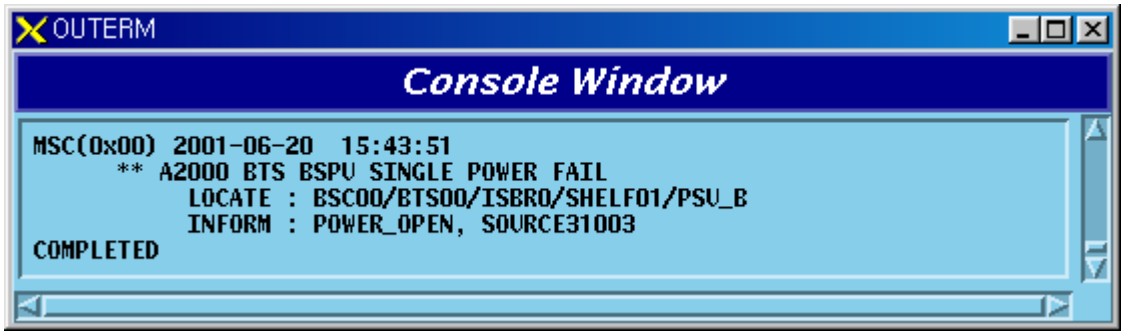


Fig. 5.1-172 BSPB PRI Single Power Open Fail

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

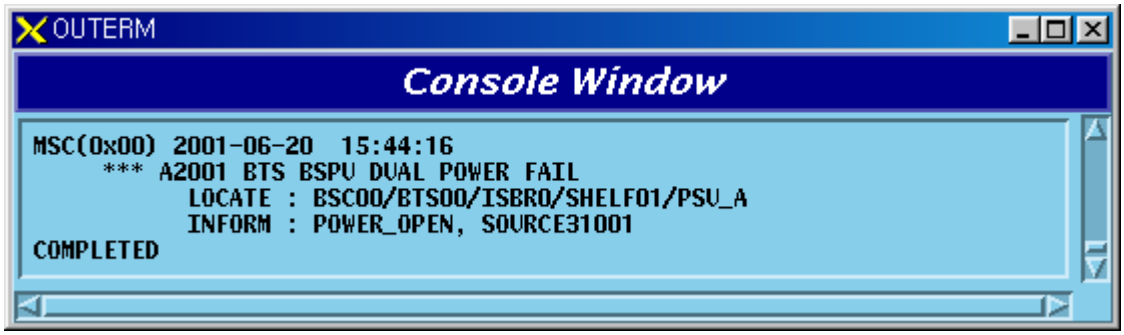


Fig. 5.1-173 BSPB PRI Dual Power Open Fail

5.1.1.3.1.3. Others

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

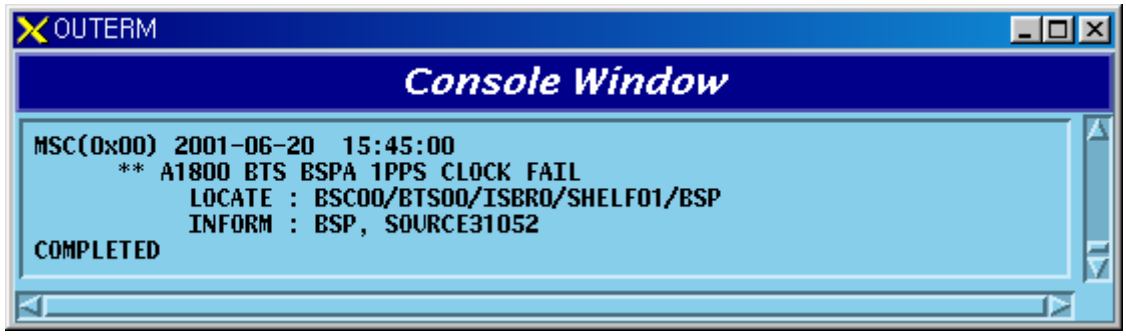


Fig. 5.1-174 BSPB BSP 1PPS Clock Fail

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

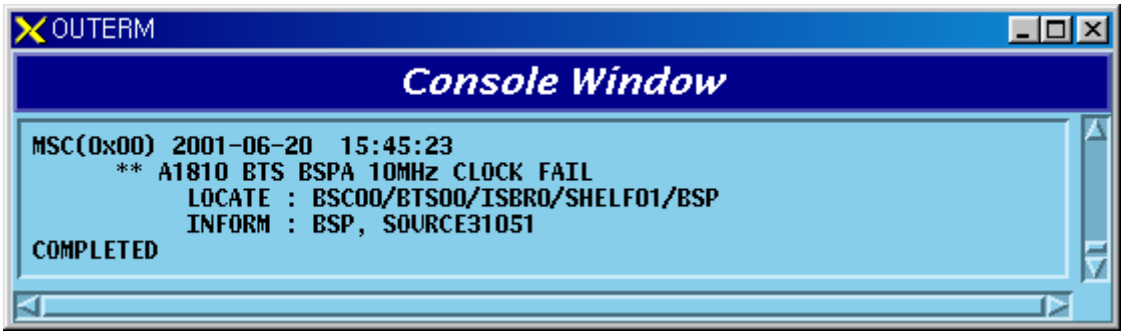
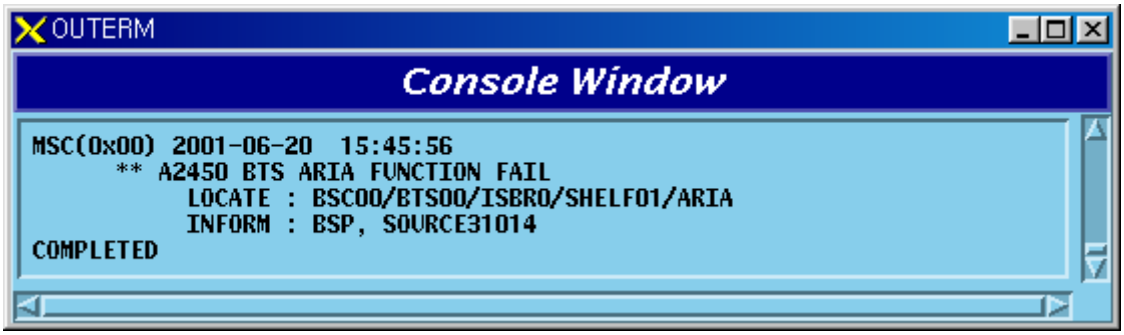


Fig. 5.1-175 BSPB BSP 10MHz Clock Fail

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

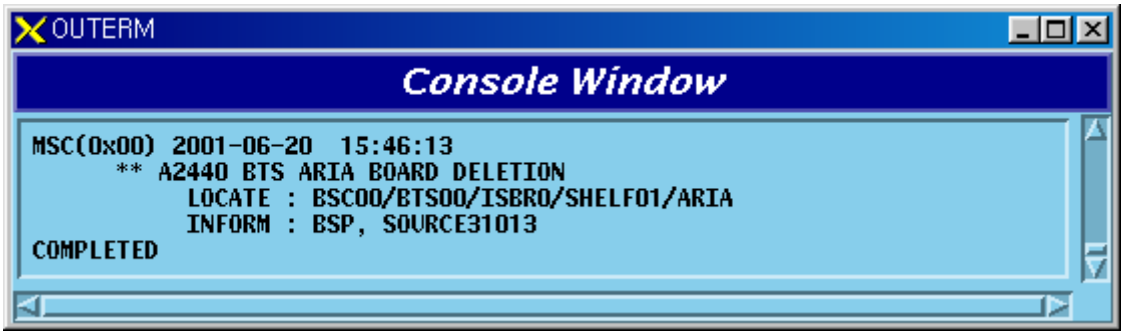


Fig. 5.1-177 BANB ARIA Board Open Fail

5.1.1.3.2.2. BPPA Board

1) When functional faults occur on BPPA board

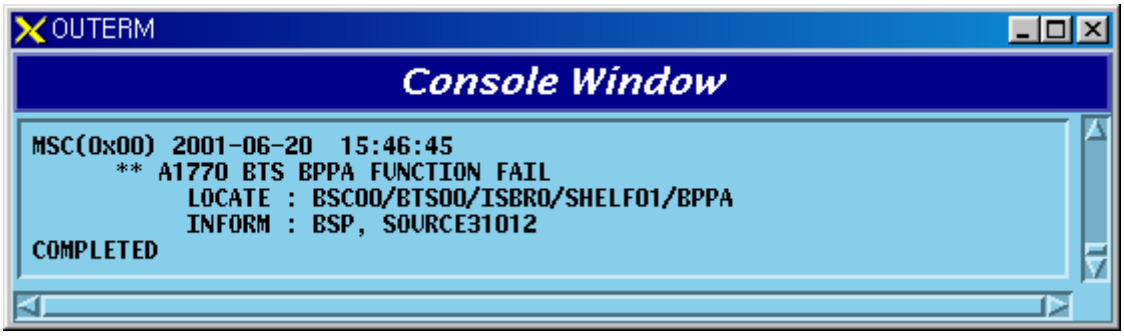


Fig. 5.1-178 BANB BPPA Function Fail

2) When BPPA board is removed

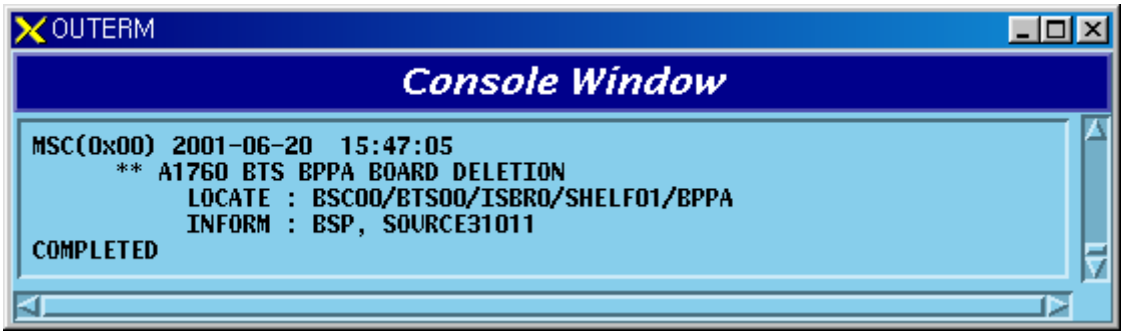


Fig. 5.1-179 BANB BPPA Board Open Fail

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

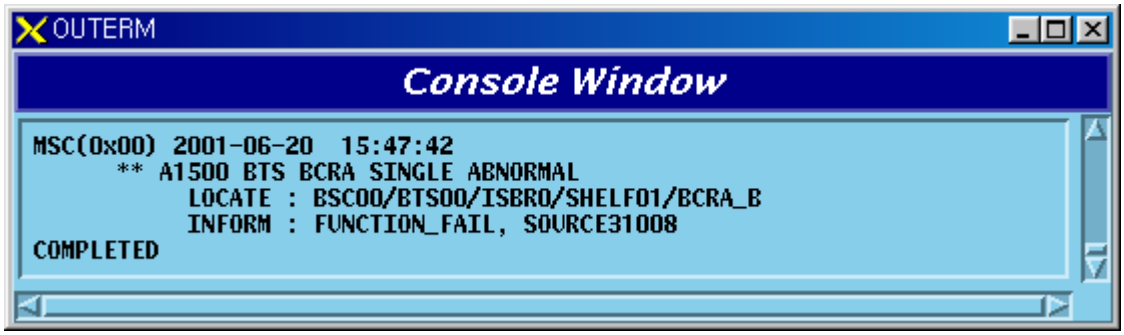


Fig. 5.1-180 BANB BCRA Single Function Fail

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

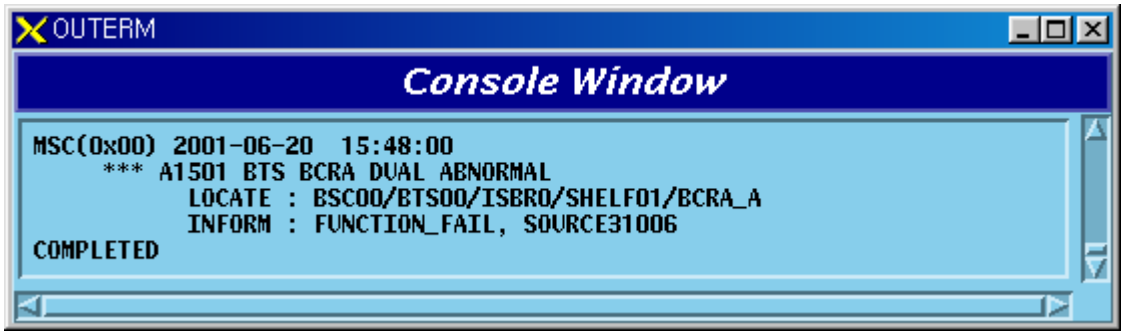


Fig. 5.1-181 BANB BCRA Dual Function Fail

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

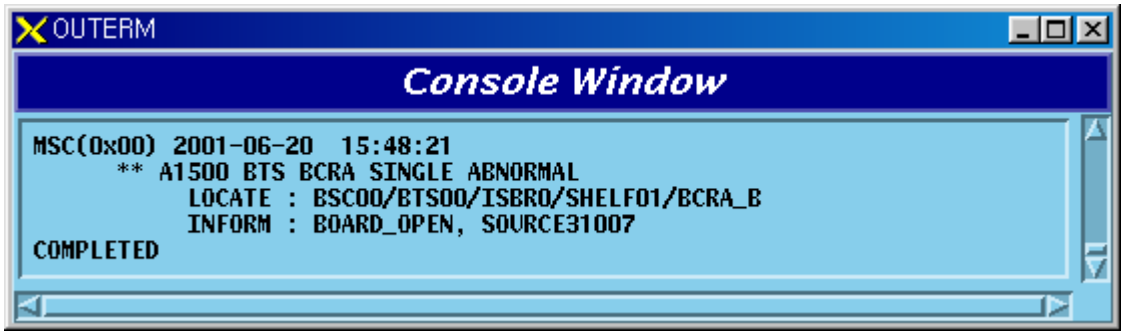


Fig. 5.1-182 BANB BCRA Single Board Open Fail

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

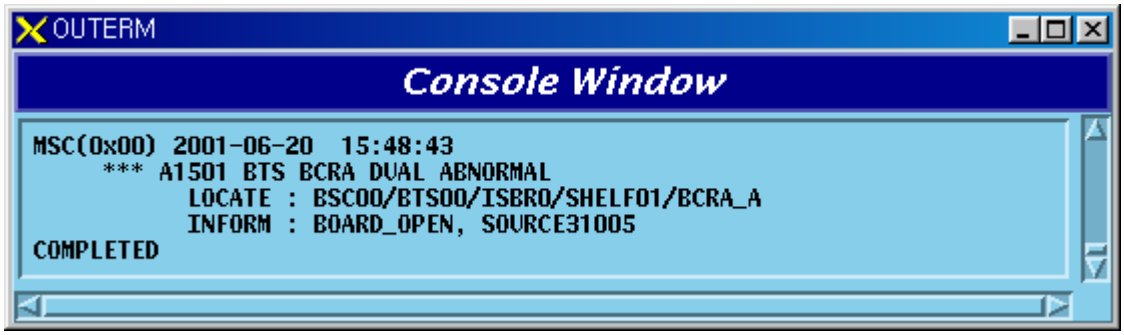


Fig. 5.1-183 BANB BCRA Dual Board Open Fail

5.1.1.3.2.4. LICA Board

1) When functional faults occur on LICA board

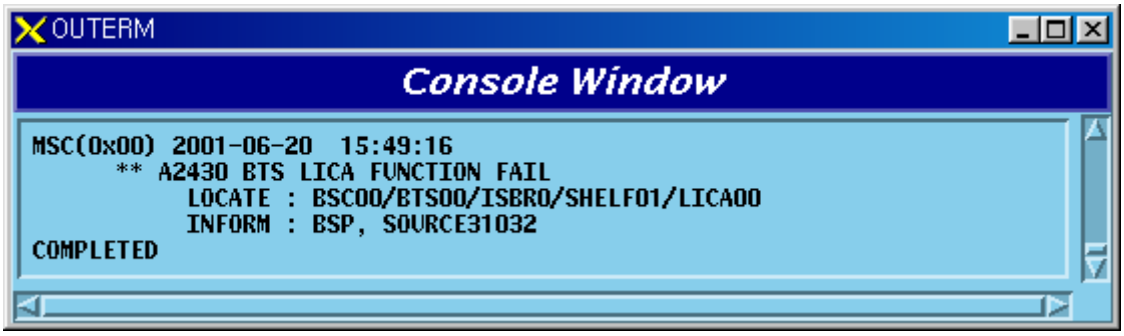


Fig. 5.1-184 BANB LICA Function Fail

2) When LICA board is removed

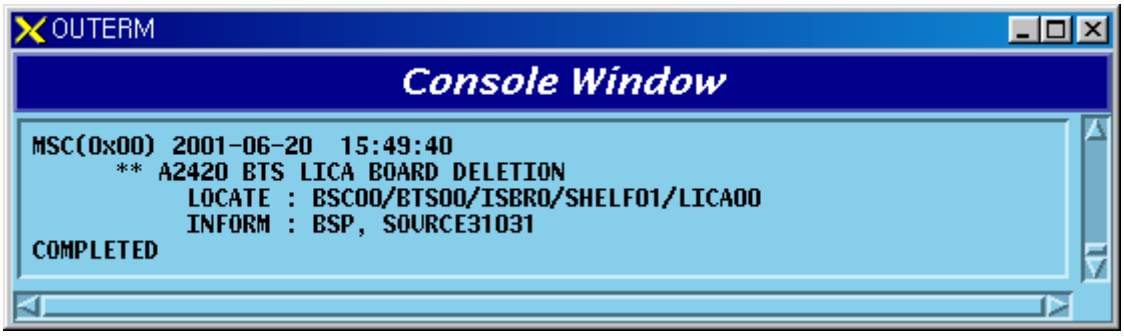


Fig. 5.1-185 BANB LICA Board Fail

5.1.1.3.3. BSTB

5.1.1.3.3.1. BADA Board

1) When BADA Board Alarm Cable is removed

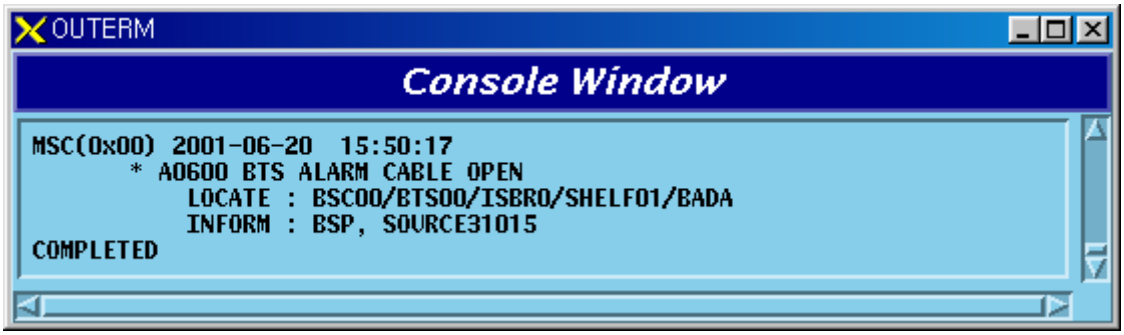


Fig. 5.1-186 BSTB BADA Alarm Cable Open

2) When a problem occurs in BADA Board power

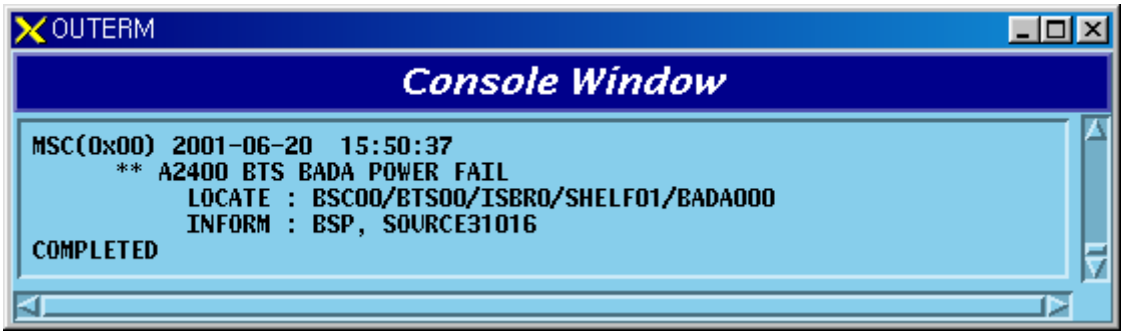


Fig. 5.1-187 BSTB BADA Power Fail

3) When functional faults occur on BADA board

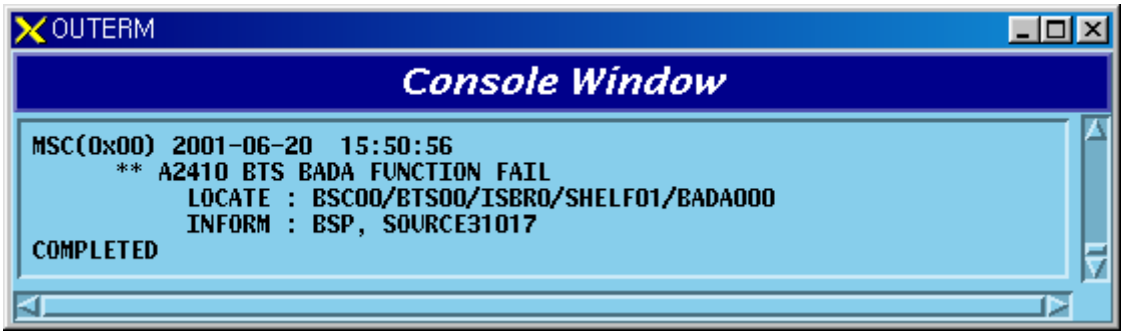


Fig. 5.1-188 BSTB BADA Function Fail

5.1.1.3.4. RISB

5.1.1.3.4.1. RISA Board

1) When RISA Board Alarm Cable is removed

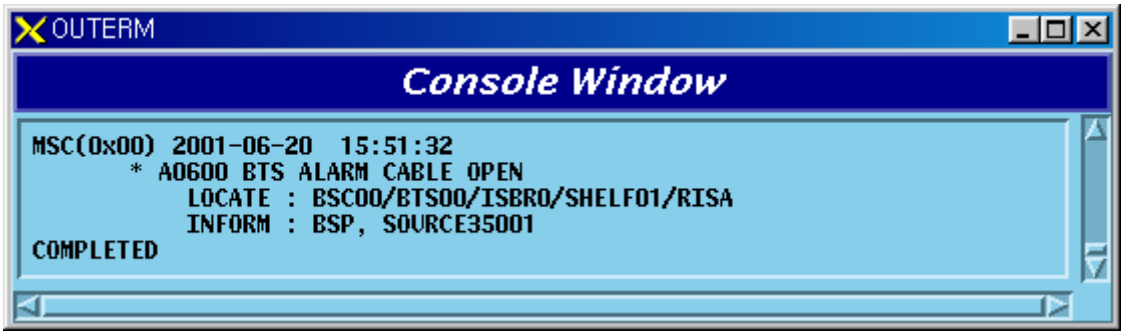


Fig. 5.1-189 RISB RISA Alarm Cable Open

2) When a problem occurs in RISA board power

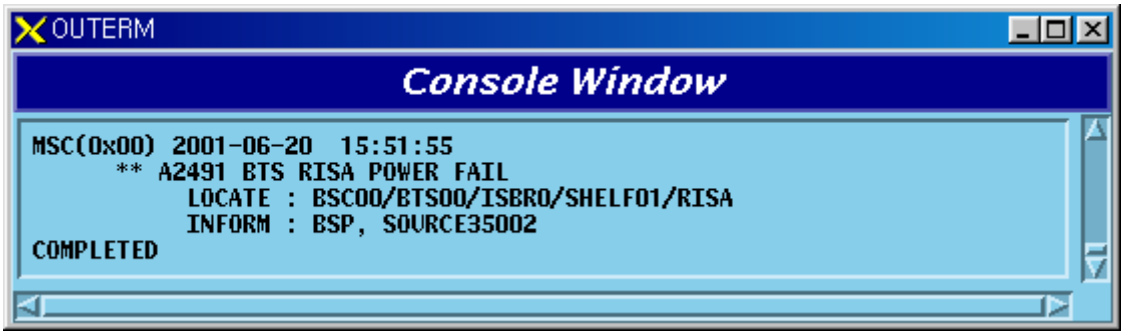


Fig. 5.1-190 RISB RISA Power Fail

3) When functional faults occur on RISA board

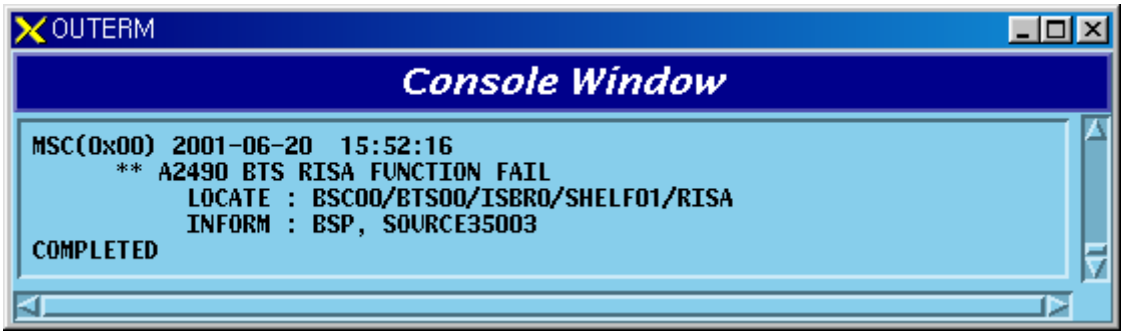


Fig. 5.1-191 RISB RISA Function Fail

5.1.1.3.5. BOTB

5.1.1.3.5.1. BOTA Board

1) When BOTA Board Alarm Cable is removed

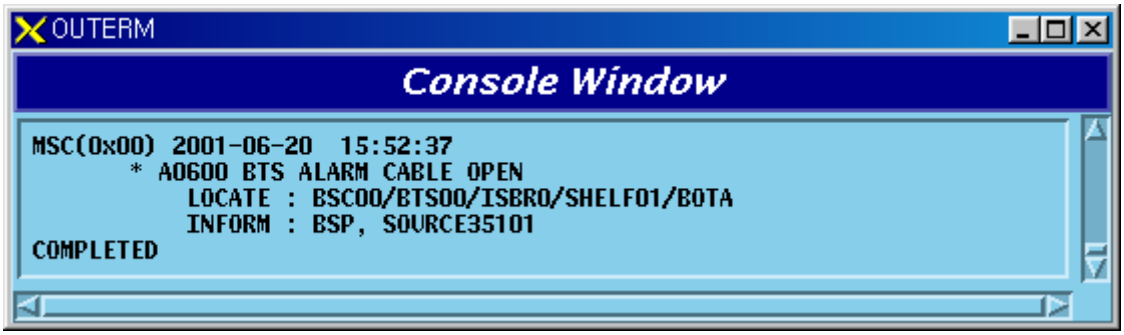


Fig. 5.1-192 BOTB BOTA Alarm Cable Open

2) When a problem occurs in BOTA board power

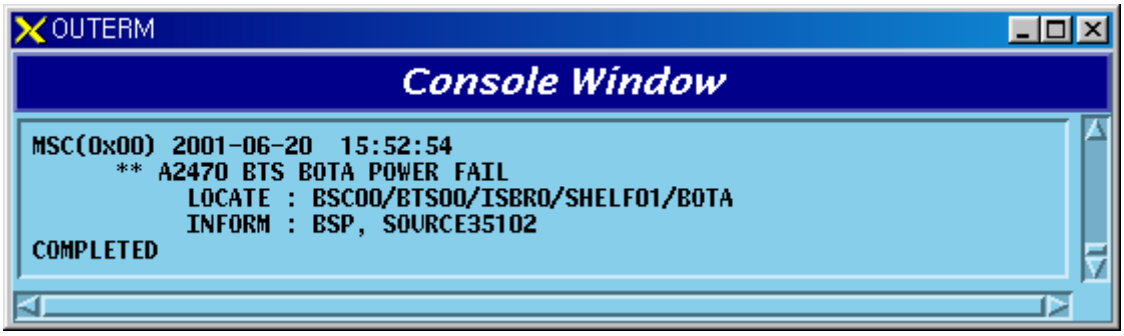


Fig. 5.1-193 BOTB BOTA Power Fail

3) When functional faults occur on BOTA board

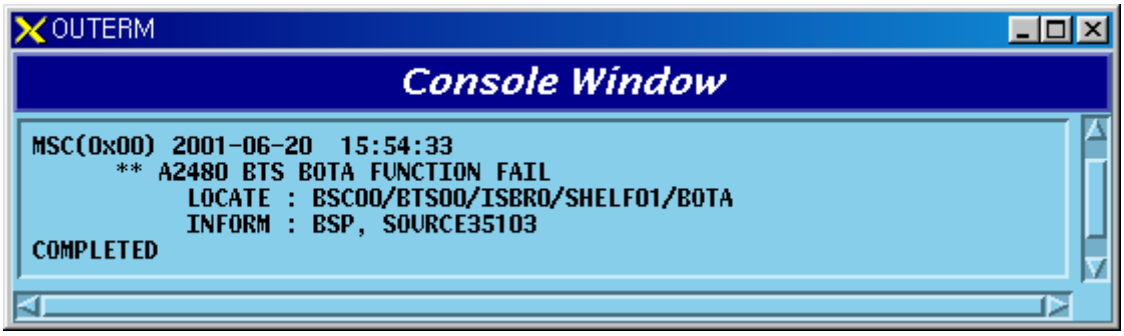


Fig. 5.1-194 BOTB BOTA Board Open Fail

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

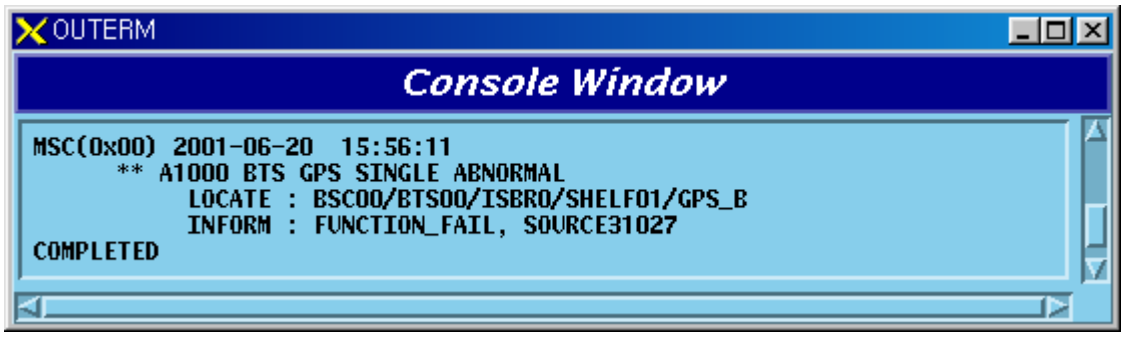


Fig. 5.1-195 BTGB GPS Single Function Fail

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

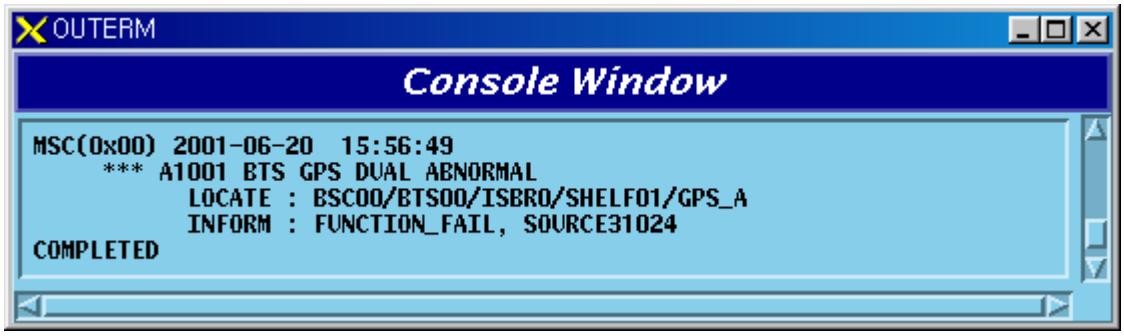


Fig. 5.1-196 BTGB GPS Dual Function Fail

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

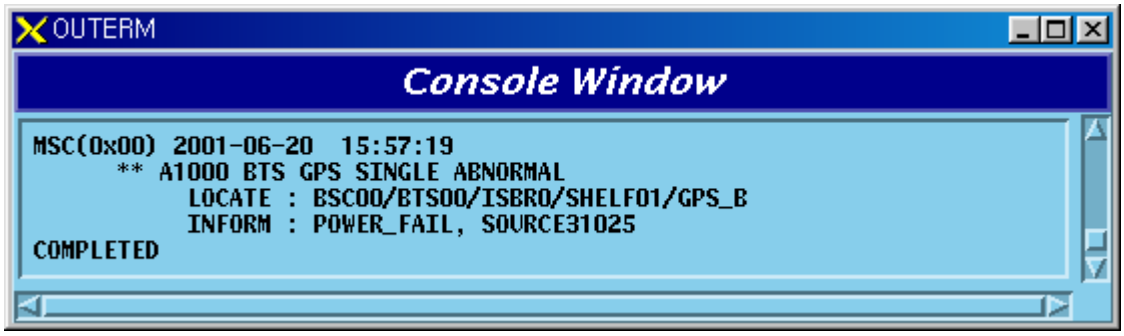


Fig. 5.1-197 BTGB GPS Single Power Fail

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

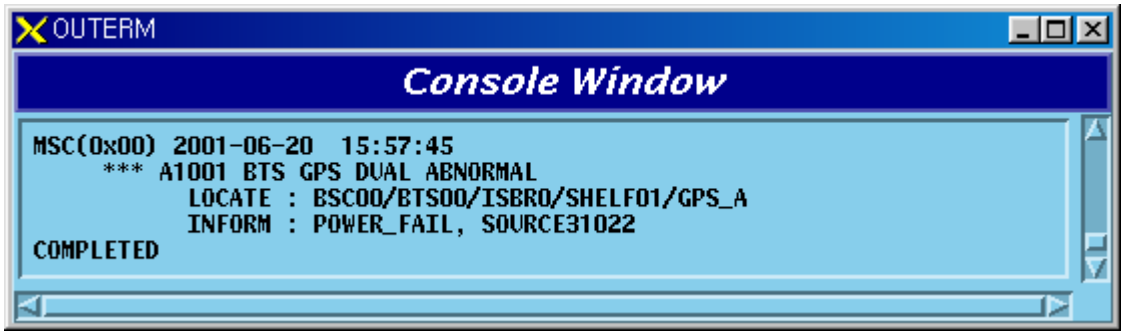


Fig. 5.1-198 BTGB GPS Dual Power Fail

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

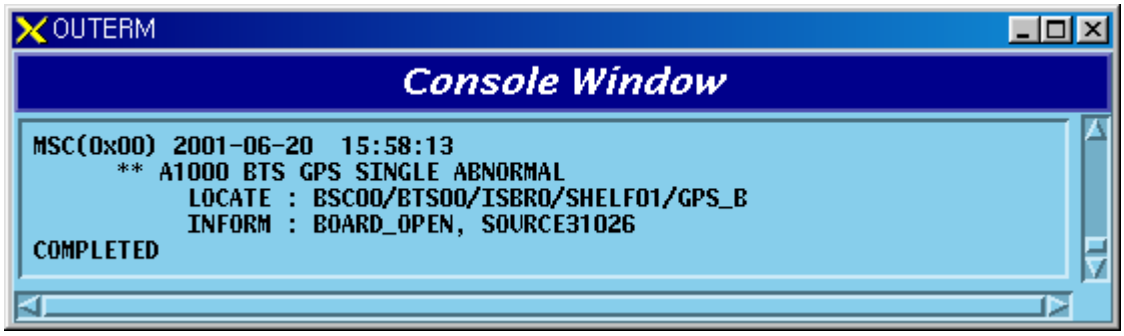


Fig. 5.1-199 BTGB GPS Single Board Open Fail

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

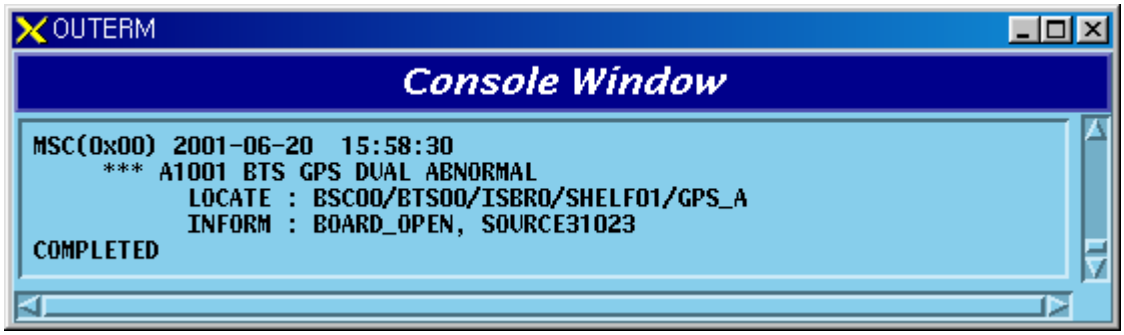


Fig. 5.1-200 BTGB GPS Dual Board Open Fail

7) When GPSR Control Cable is removed

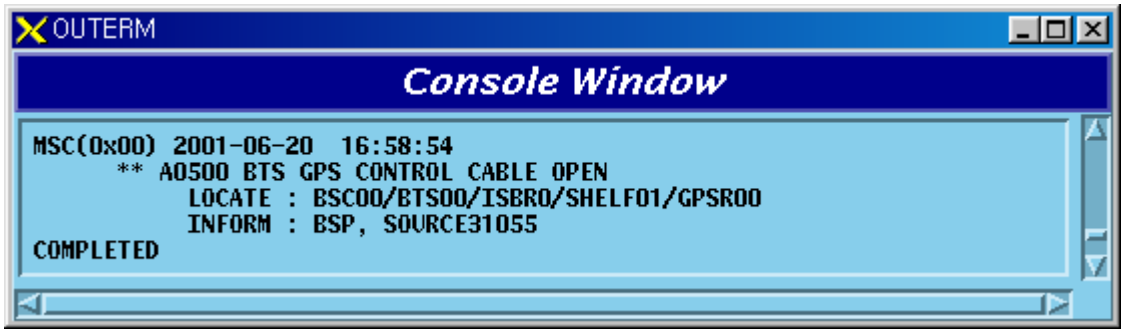


Fig. 5.1-201 BTGB GPS Control Cable Open

8) When GPSR Alarm Cable is removed

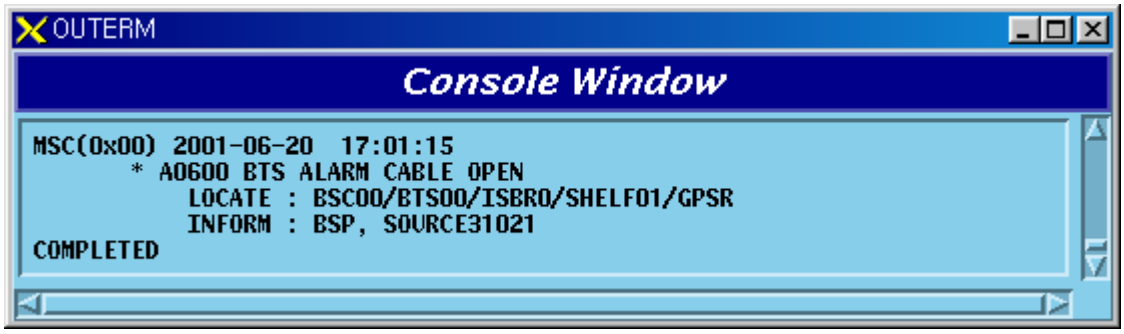


Fig. 5.1-202 BTGB GPS Alarm Cable Open

5.1.1.3.7. DBPB

5.1.1.3.7.1. DBPA Board

1) When functional faults occur on DBPA board

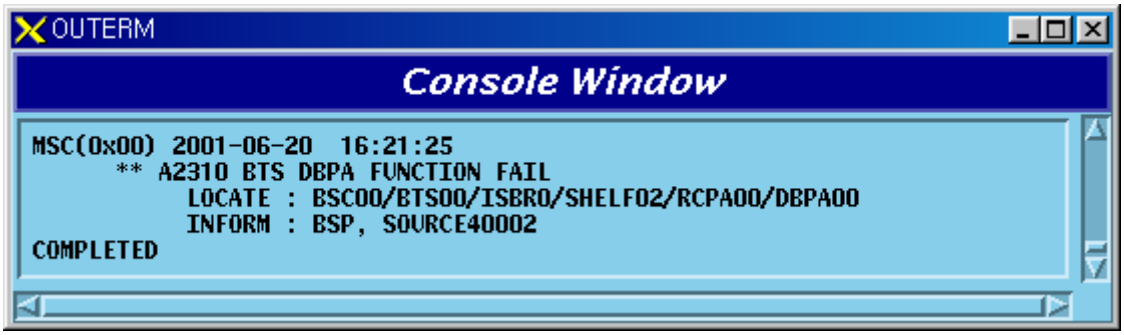


Fig. 5.1-203 DBPB DBPA Function Fail

2) When DBPA board is removed

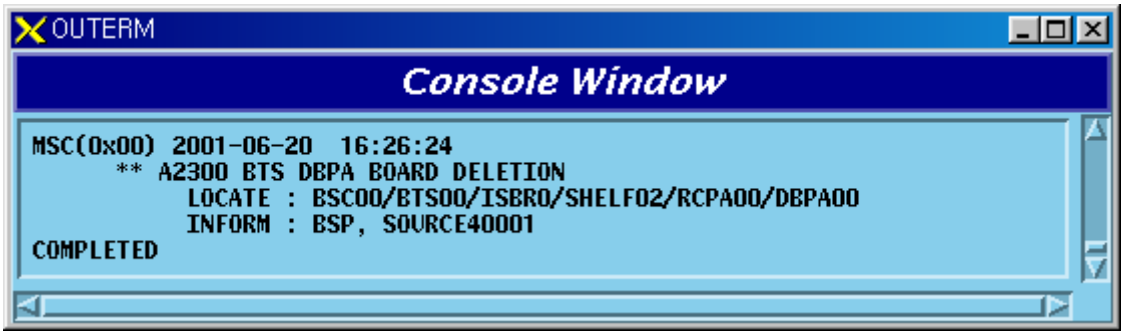


Fig. 5.1-204 DBPB DBPA Board Open Fail

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

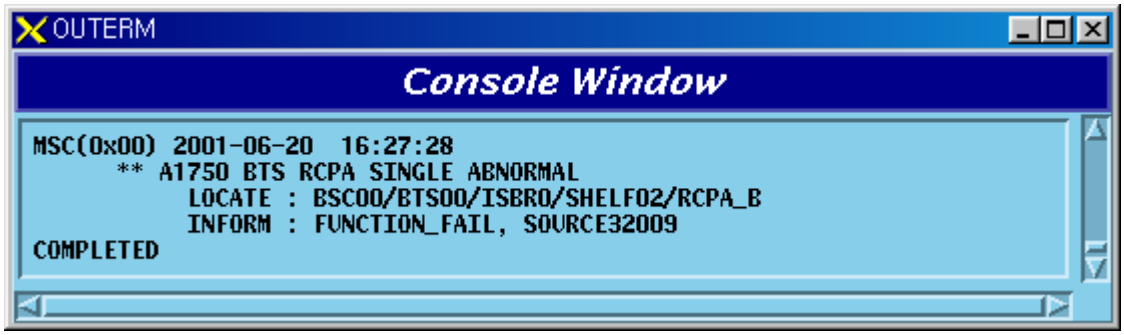


Fig. 5.1-205 RCCB RCP Single Function Fail

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

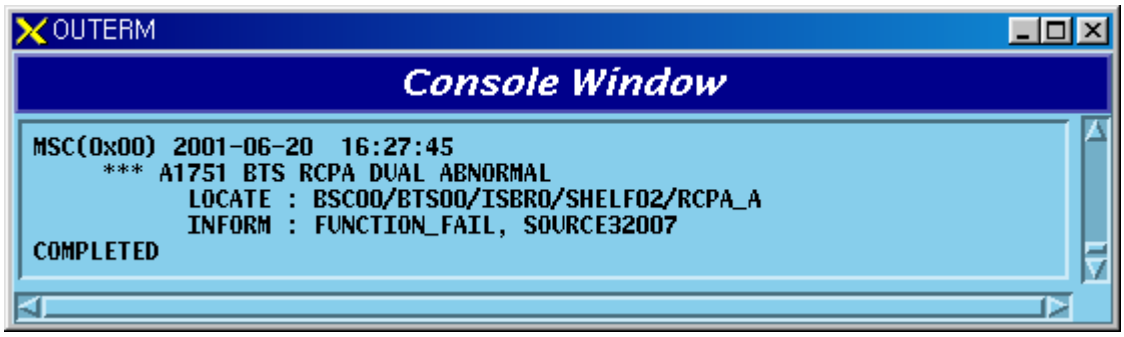


Fig. 5.1-206 RCCB RCP Dual Function Fail

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

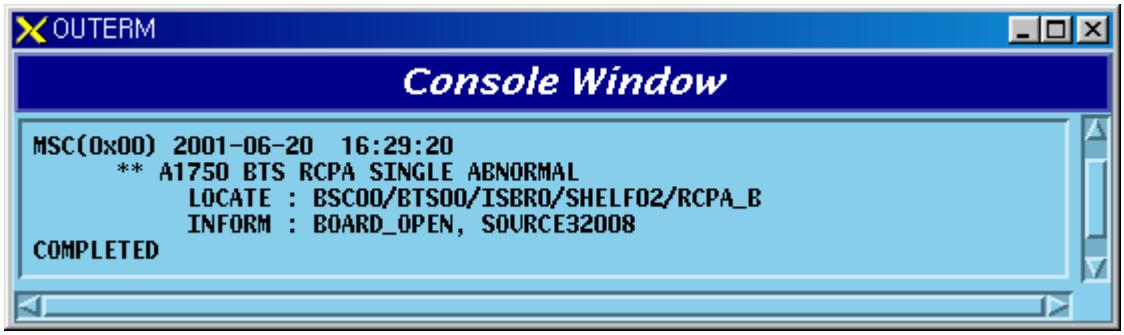


Fig. 5.1-207 RCCB RCP Single Board Open Fail

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

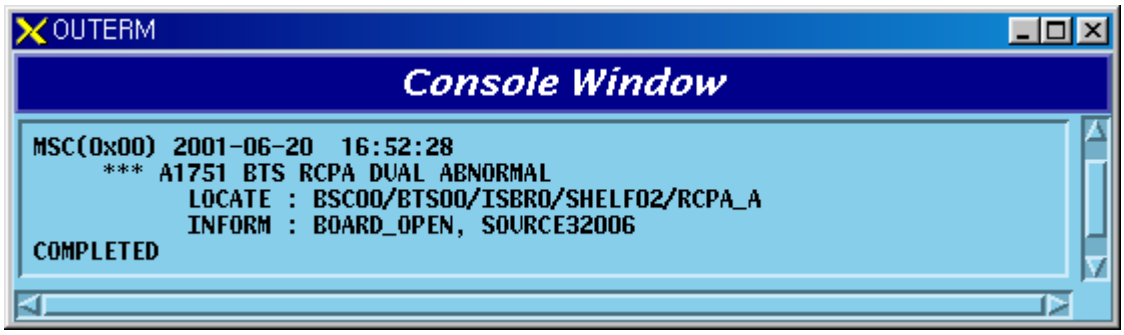


Fig. 5.1-208 RCCB RCP Dual Board Open Fail

5.1.1.3.8.2. BUDA Board

1) When functional faults occur on BUDA board

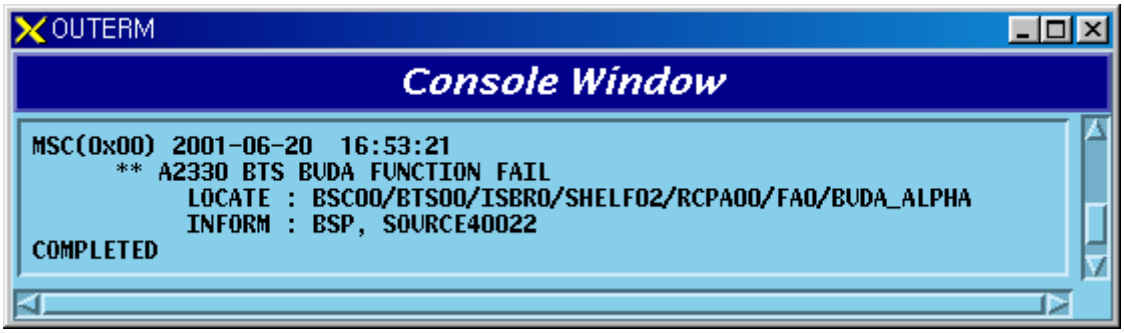


Fig. 5.1-209 RCCB BUDA Function Fail

2) When BUDA board is removed

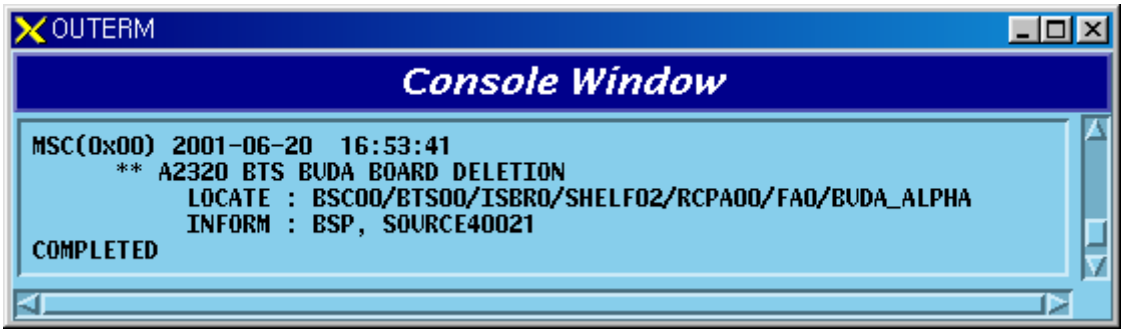


Fig. 5.1-210 RCCB BUDA Board Open Fail

5.1.1.3.8.3. PACA Board

1) When functional faults occur on PACA board

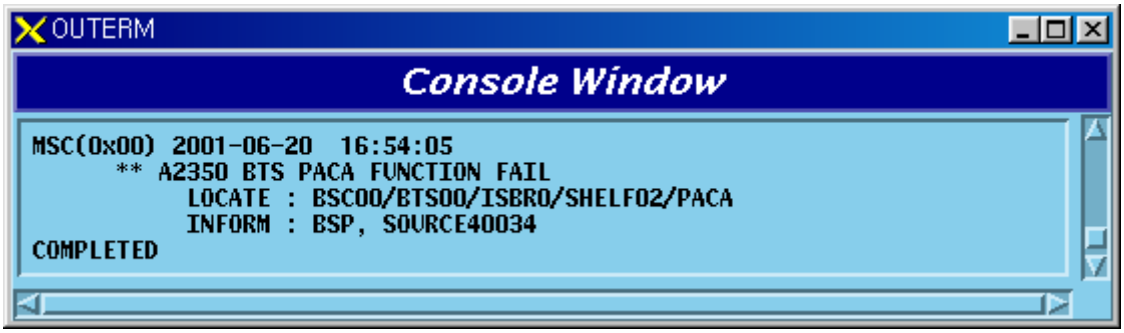


Fig. 5.1-211 RCCB PACA Function Fail

2) When PACA board is removed

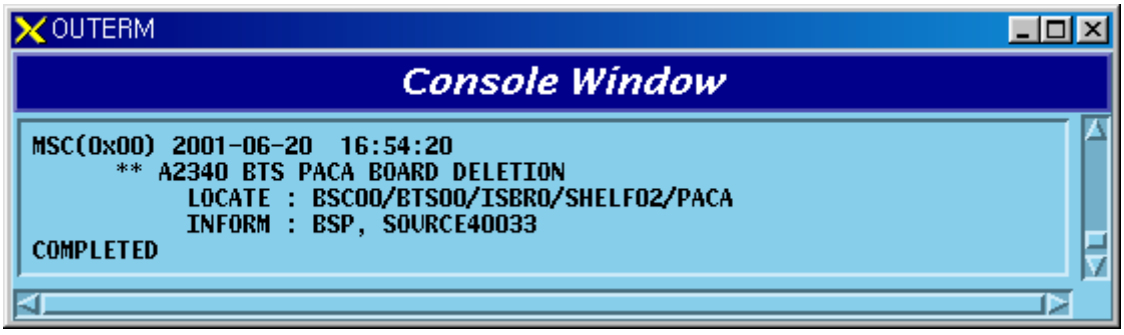


Fig. 5.1-212 RCCB PACA Board Open Fail

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

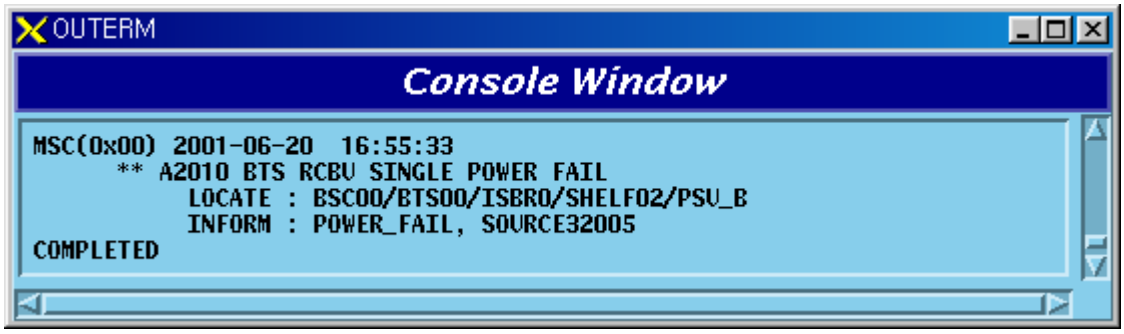


Fig. 5.1-213 DBPB/RCCB PRI Single Power Fail

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

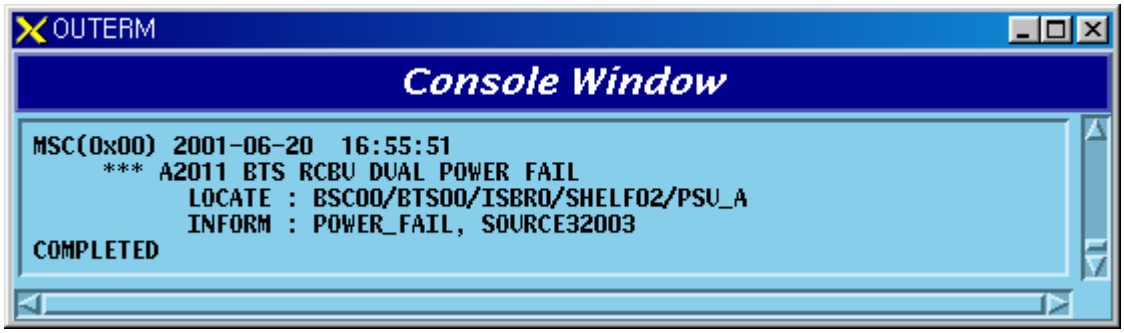


Fig. 5.1-214 DBPB/RCCB PRI Dual Power Fail

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

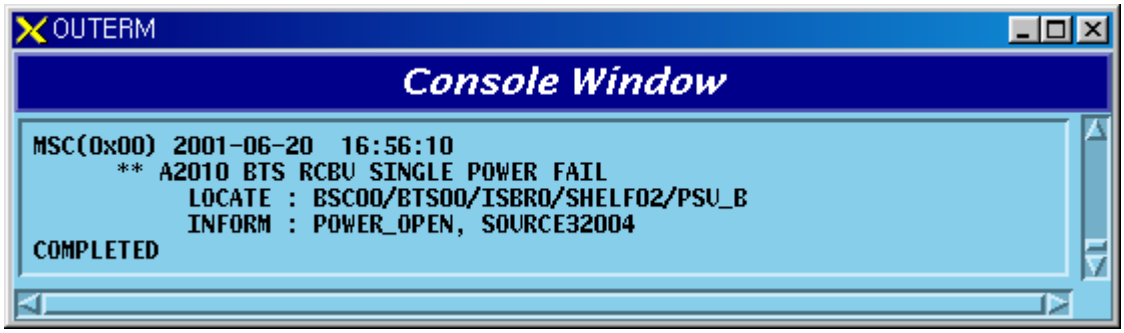


Fig. 5.1-215 DBPB/RCCB PRI Single Power Open Fail

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

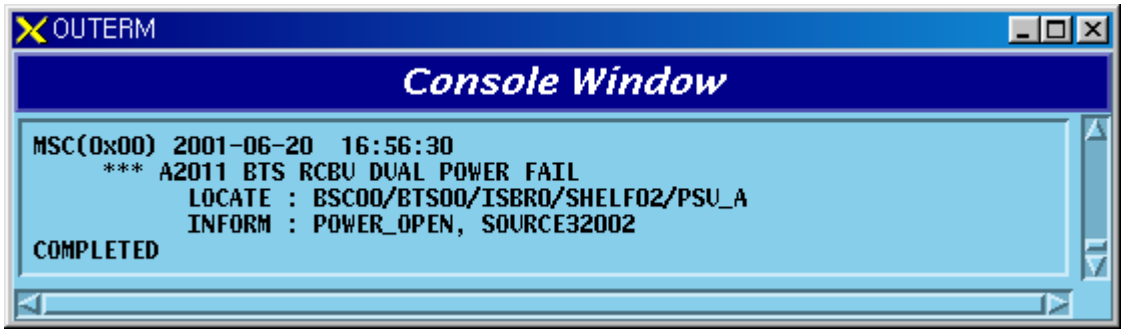


Fig. 5.1-216 DBPB/RCCB PRI Dual Power Open Fail

5.1.1.3.8.5. Others

1) When DBPB/RCCB UNIT Alarm Cable is removed

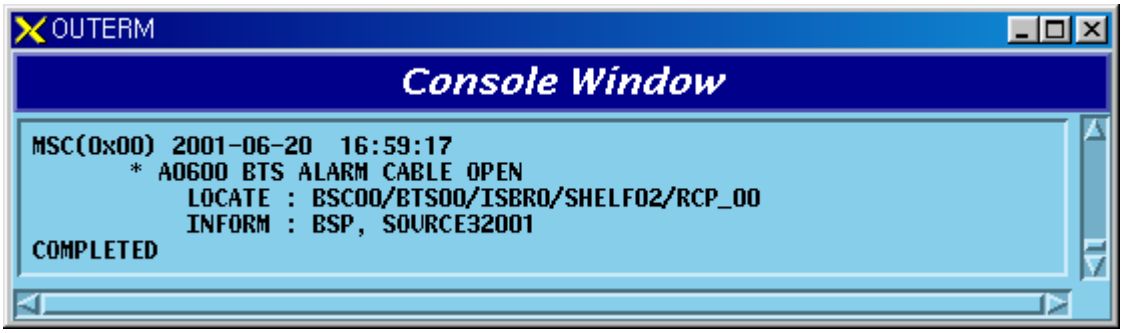


Fig. 5.1-217 DBPB/RCCB Alarm Cable Open

5.1.1.3.9. LPAB

5.1.1.3.9.1. LPAU Board

1) When LPAB Alarm Cable is removed

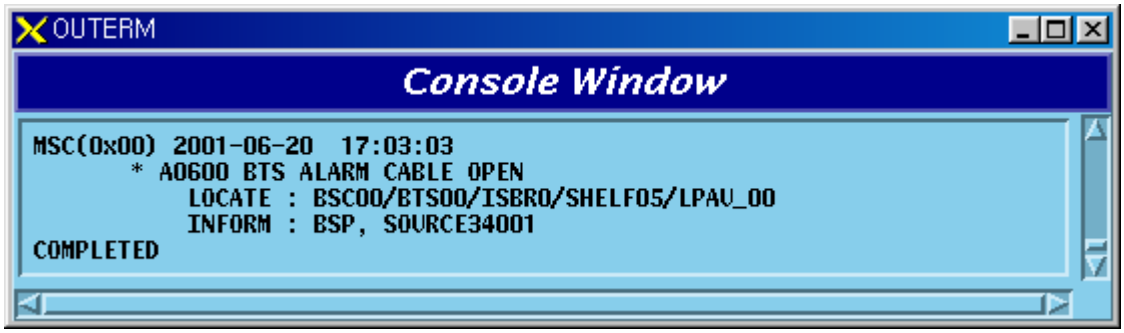


Fig. 5.1-218 LPAB Alarm Cable Open

2) When functional faults occur in LPAB Combiner

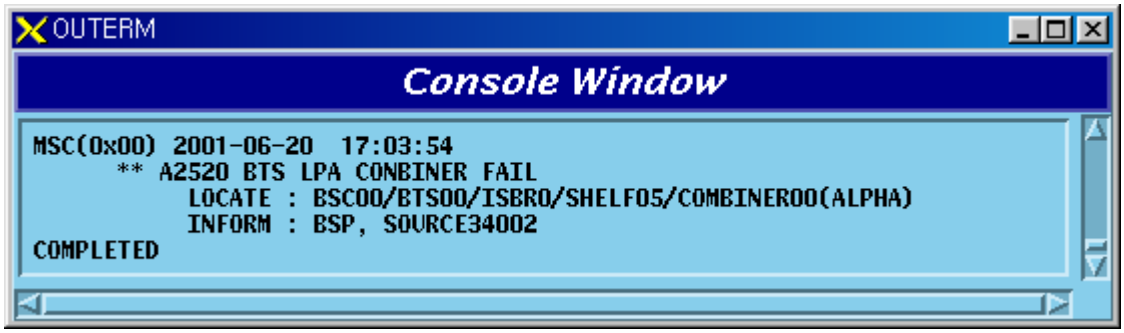


Fig. 5.1-219 LPAB LPA Combiner Fail

3) When faults occur in LPAB Combiner FAN

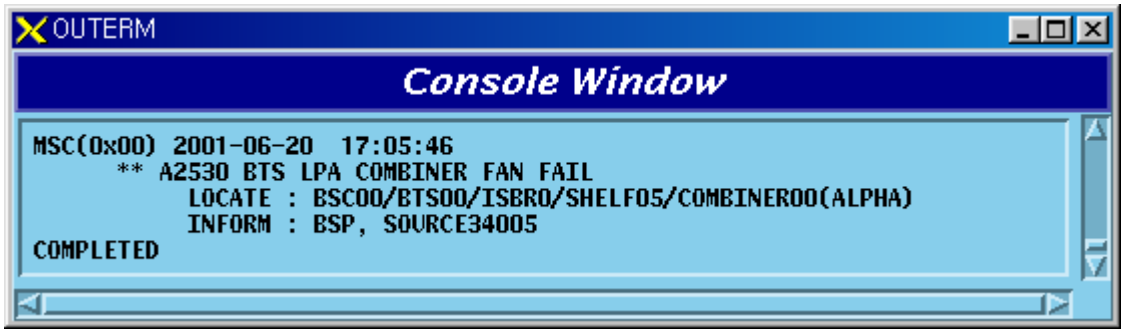


Fig. 5.1-220 LPAB LPA Combiner FAN Fail

4) When LPA board is removed

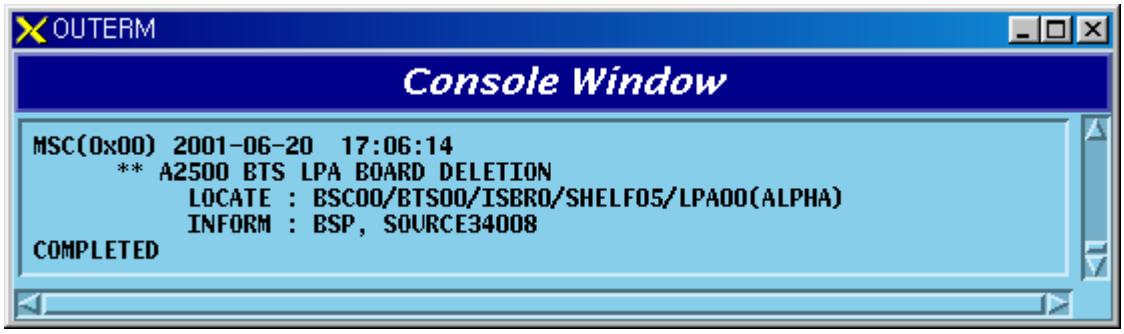


Fig. 5.1-221 LPAB LPA Board Open Fail

5) When functional faults occur on LPA board

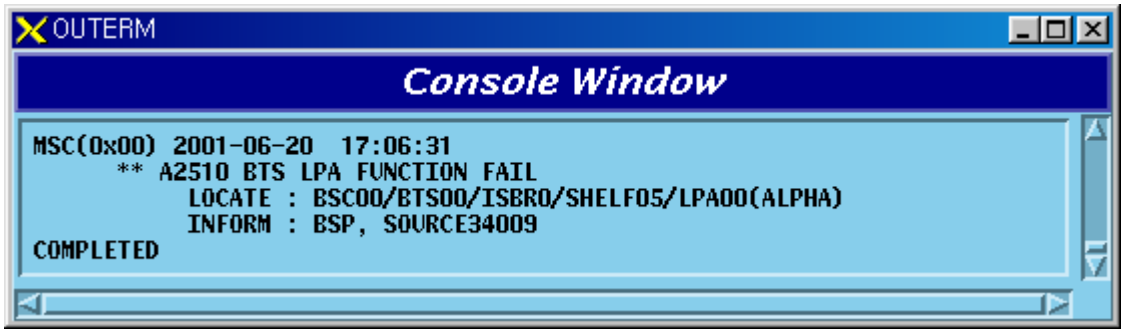


Fig. 5.1-222 LPAB LPA Board Function Fail

6) When DC power of LPA board is unstable

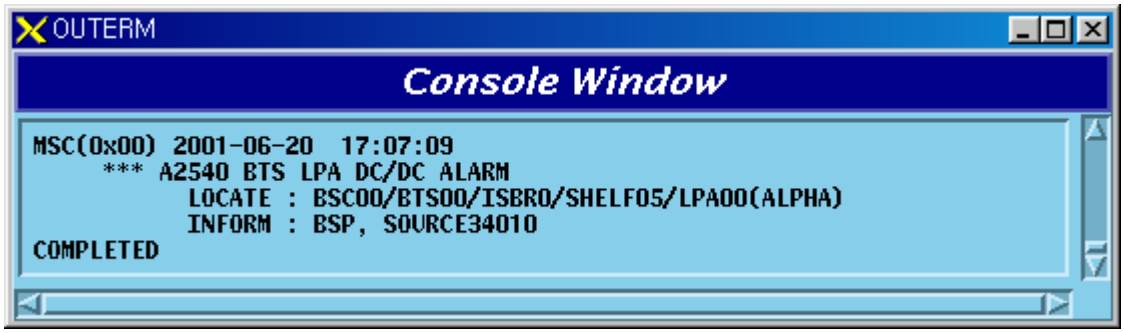


Fig. 5.1-223 LPAB LPA DC/DC Alarm

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

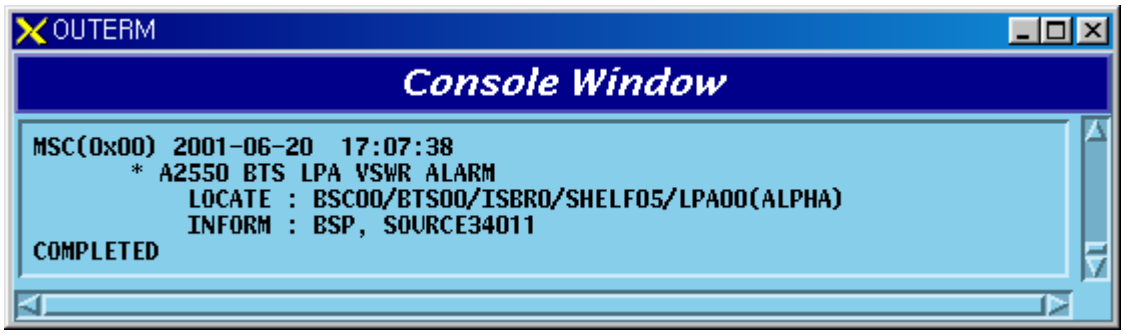


Fig. 5.1-224 LPAB LPA VSWR Alarm

8) When LPA board is disabled

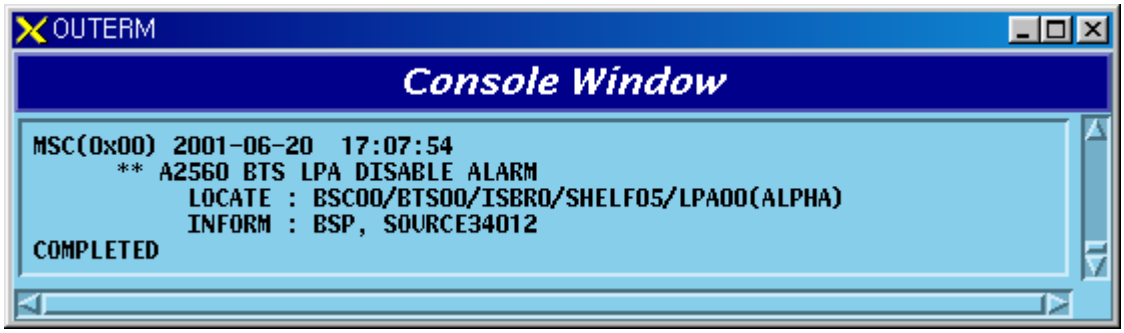


Fig. 5.1-225 LPAB LPA Disable Alarm

9) When input power level of LPA board is high

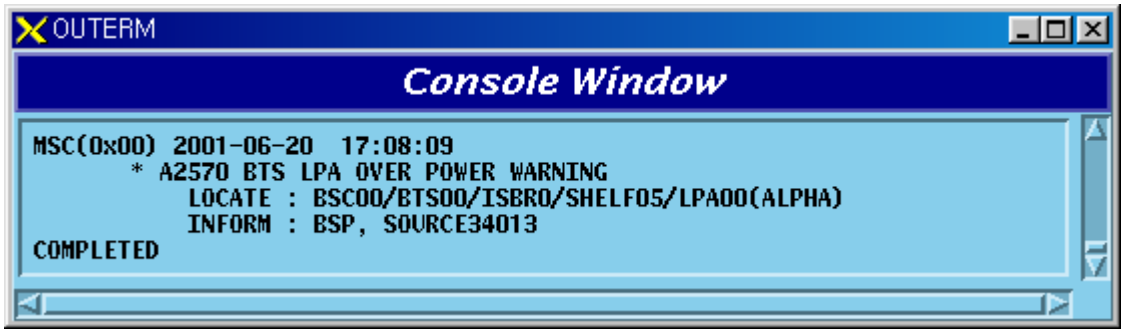


Fig. 5.1-226 LPAB LPA Over Power Warning

10) When LPA board temperature is high

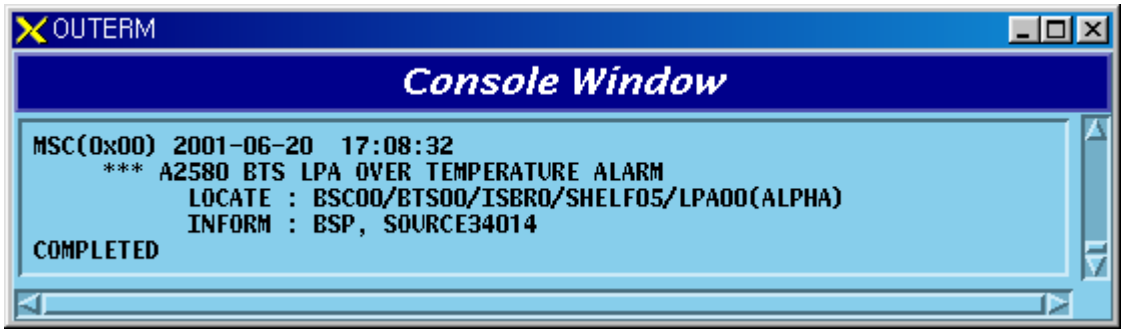


Fig. 5.1-227 LPAB LPA Over Temperature Alarm

11) When input Power level of LPA board is high

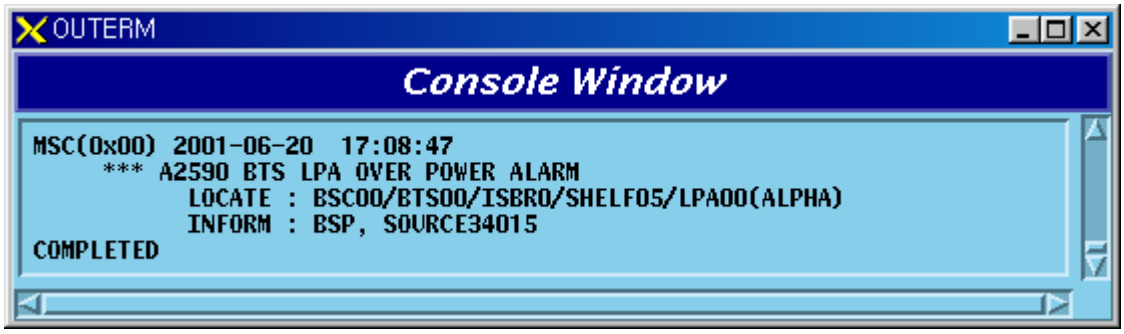


Fig. 5.1-228 LPAB LPA Over Power Alarm

5.1.1.3.10. HPAB

5.1.1.3.10.1. HPA Board

1) When HPAB Alarm Cable is removed

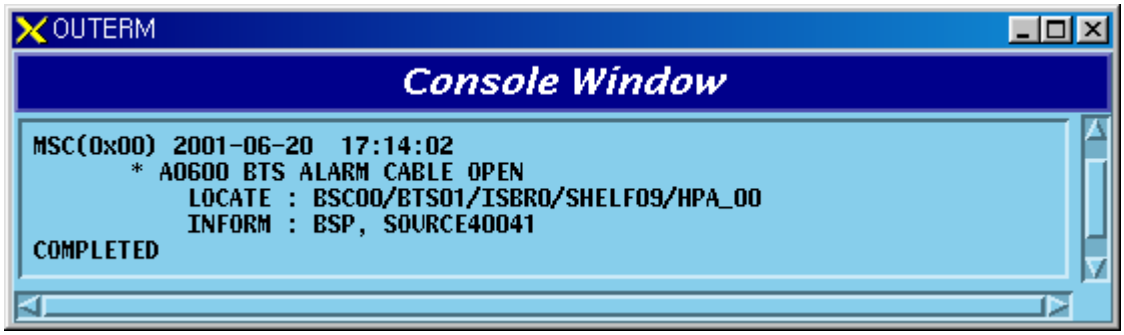


Fig. 5.1-229 HPAB HPA Alarm Cable Open

2) When HPA board is removed

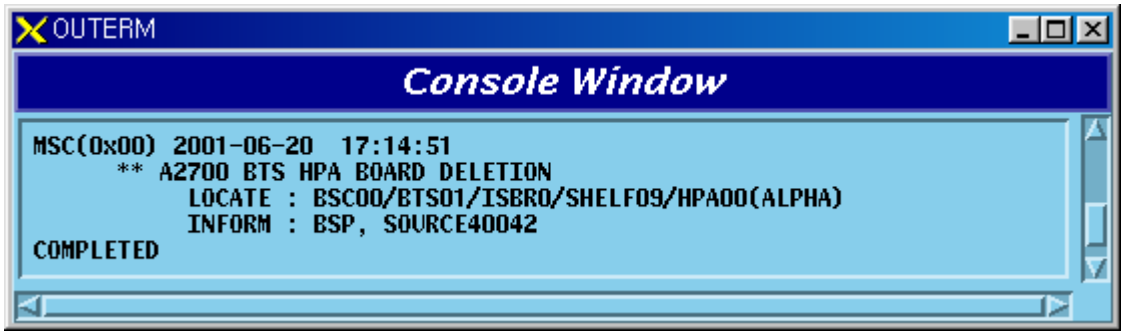


Fig. 5.1-230 HPAB HPA Board Open Fail

3) When functional faults occur on HPA board

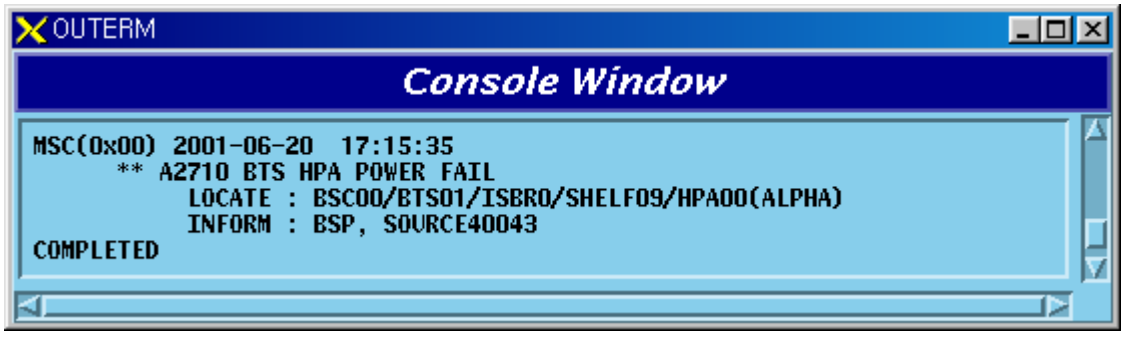


Fig. 5.1-231 HPAB HPA Power Fail

4) When faults occur in HPA Board Power Supply

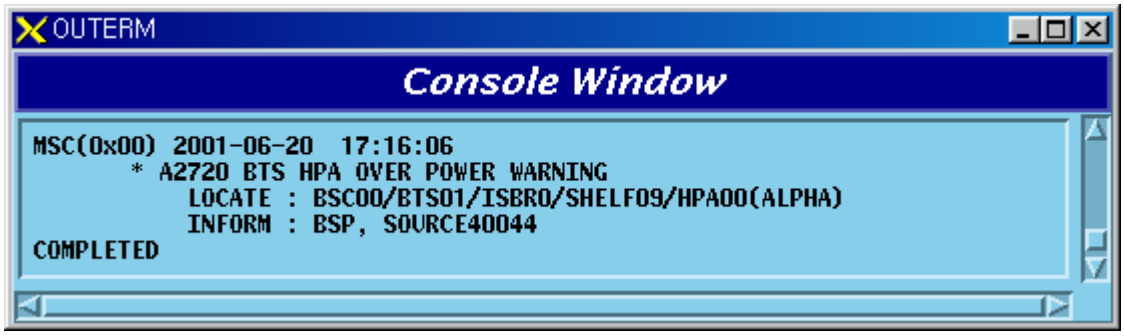


Fig. 5.1-232 HPAB HPA Power Supply Alarm

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

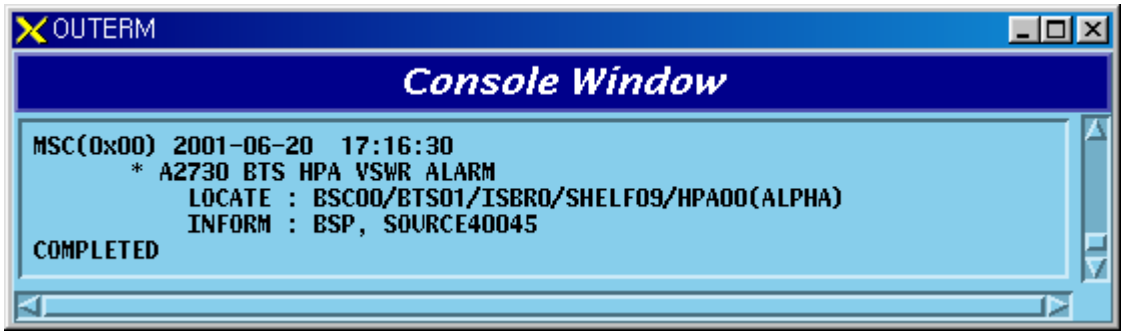


Fig. 5.1-233 HPAB HPA VSWR Alarm

6) When HPA board is disabled

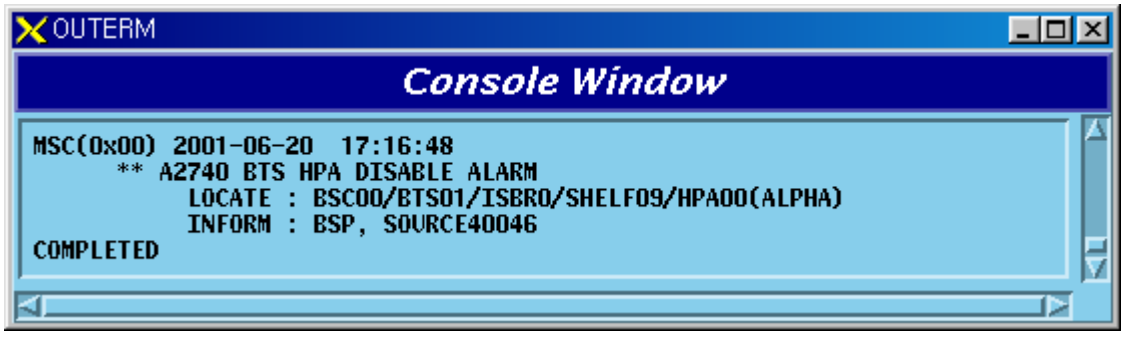


Fig. 5.1-234 HPAB HPA Disable Alarm

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

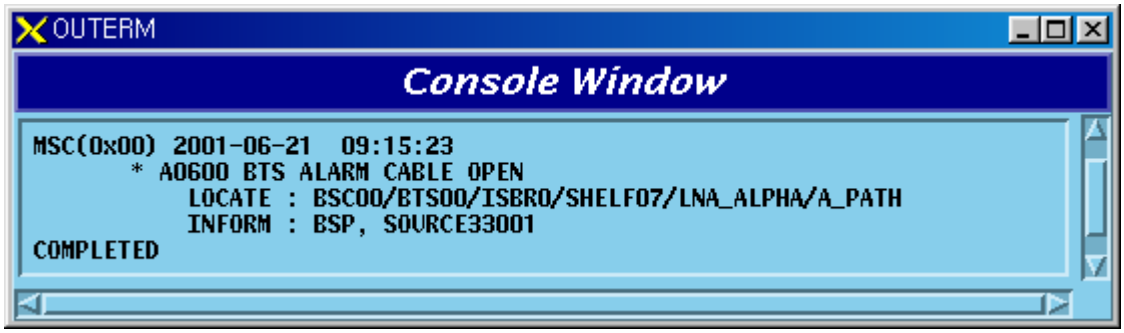


Fig. 5.1-237 CFEB LNA Alarm Cable Open Fail

2) When LNA board is removed

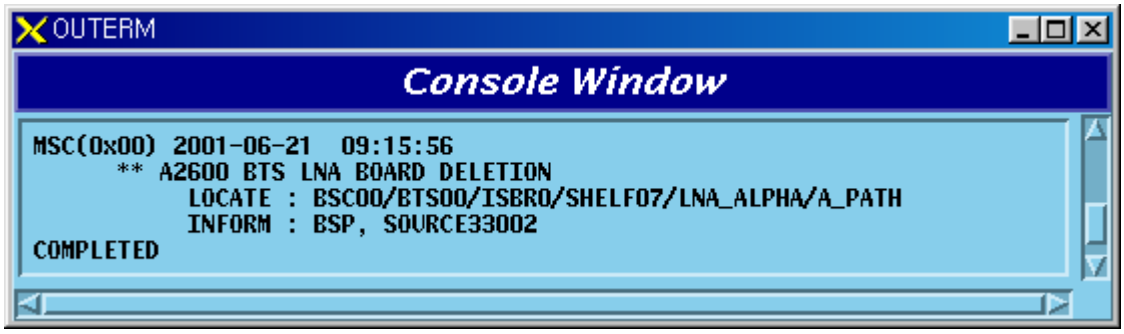


Fig. 5.1-238 CFEB LNA Board Open Fail

3) When functional faults occur on LNA board

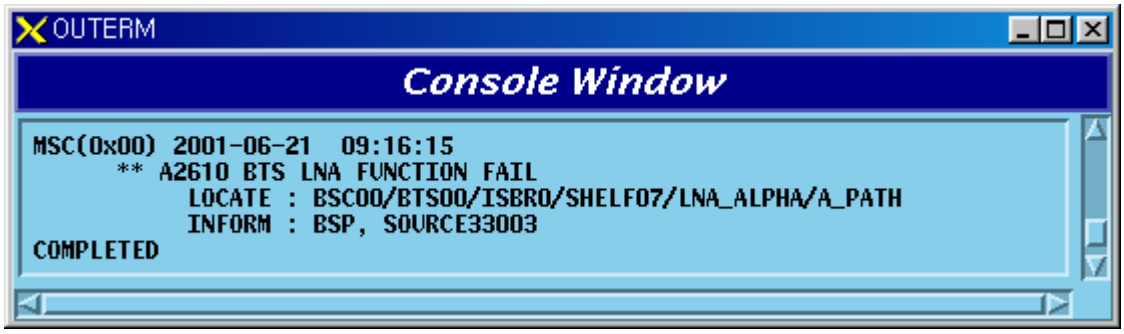


Fig. 5.1-239 CFEB LNA Function Fail

5.1.1.3.12. Environment Alarm

1) When outdoor BTS Environment Alarm Cable is removed

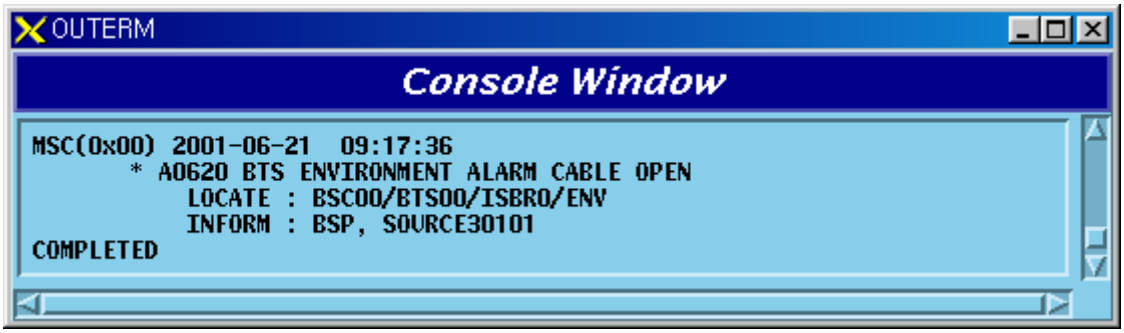


Fig. 5.1-240 Outdoor BTS ENV Alarm Cable Open

2) When outdoor BTS Rectifier Alarm Cable is removed

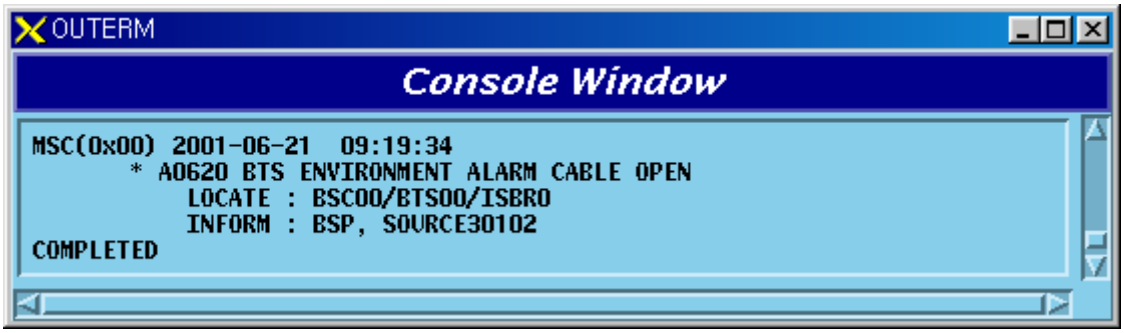


Fig. 5.1-241 Outdoor BTS ENV Rectifier Unit Alarm Cable Open

3) When outdoor BTS Cold Starter fails

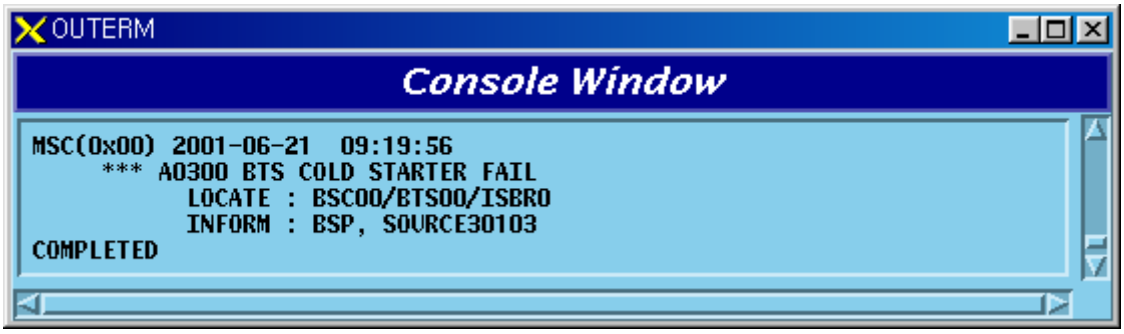


Fig. 5.1-242 Outdoor BTS ENV Cold Starter Fail

4) When outdoor BTS Rectifier Unit fails

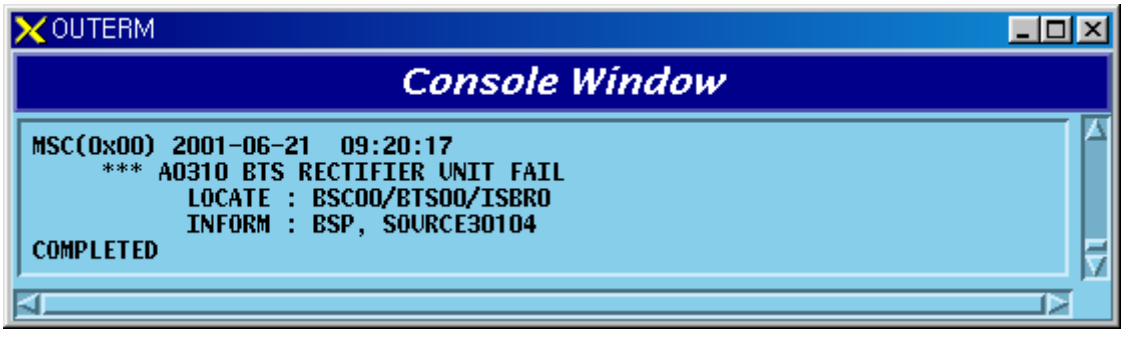


Fig. 5.1-243 Outdoor BTS ENV Rectifier Unit Fail

5) Outdoor BTS Voltage High Alarm

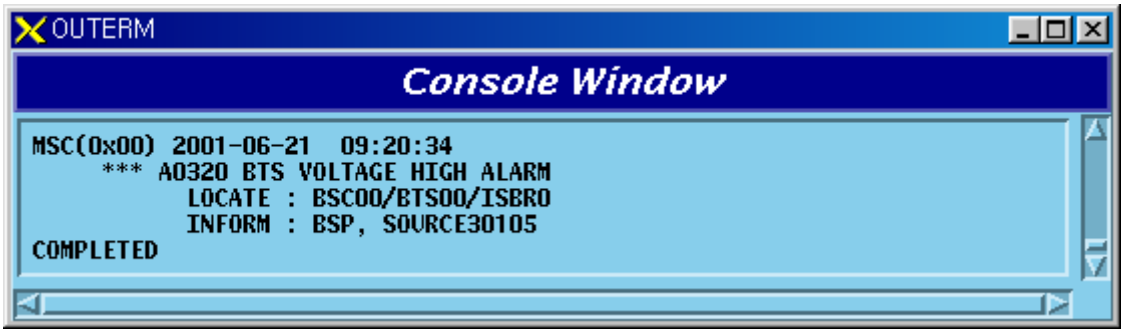


Fig. 5.1-244 Outdoor BTS ENV Voltage High Alarm

6) Outdoor BTS Voltage Low Alarm

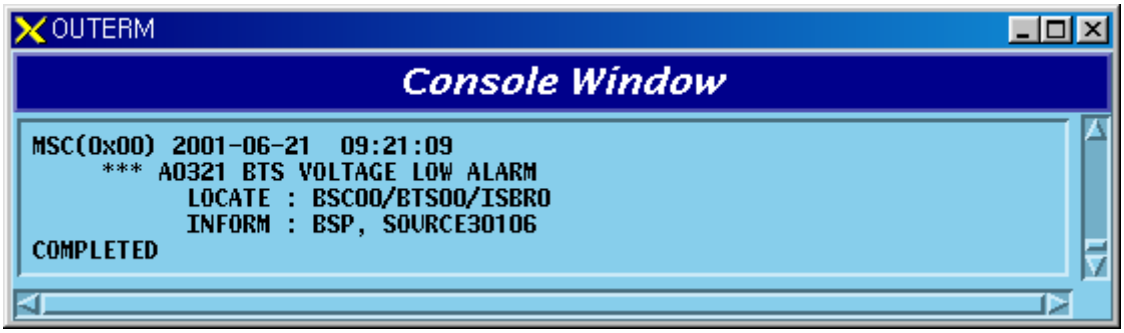


Fig. 5.1-245 Outdoor BTS ENV Voltage Low Alarm

7) When outdoor BTS AC fails

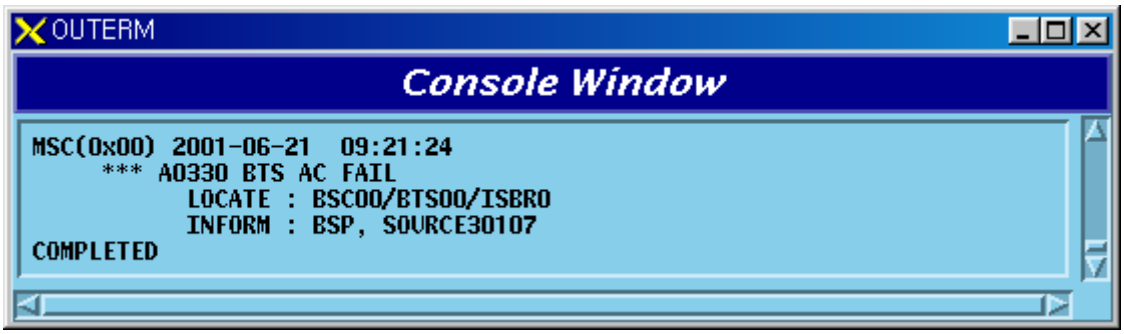


Fig. 5.1-246 Outdoor BTS AC Fail

8) Outdoor BTS Battery Voltage Low Alarm

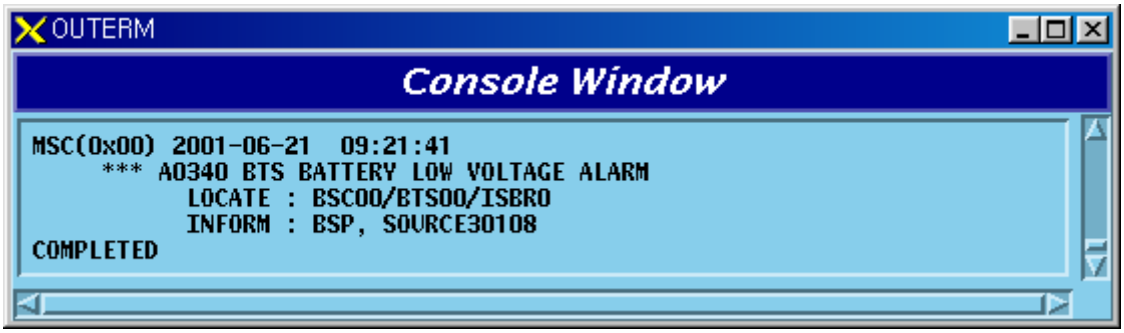


Fig. 5.1-247 Outdoor BTS ENV Battery Low Voltage Alarm

9) Outdoor BTS Fuse/Relay Loss Alarm

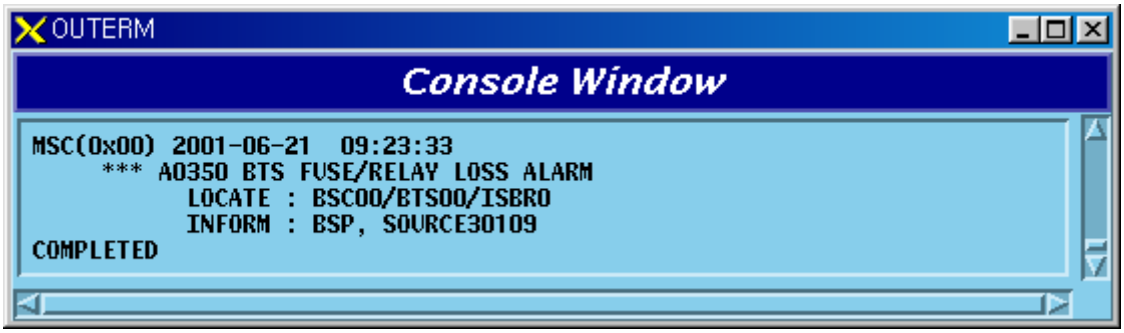


Fig. 5.1-248 Outdoor BTS ENV Fuse/Relay Loss Alarm

10) When outdoor BTS DMC-14 fails

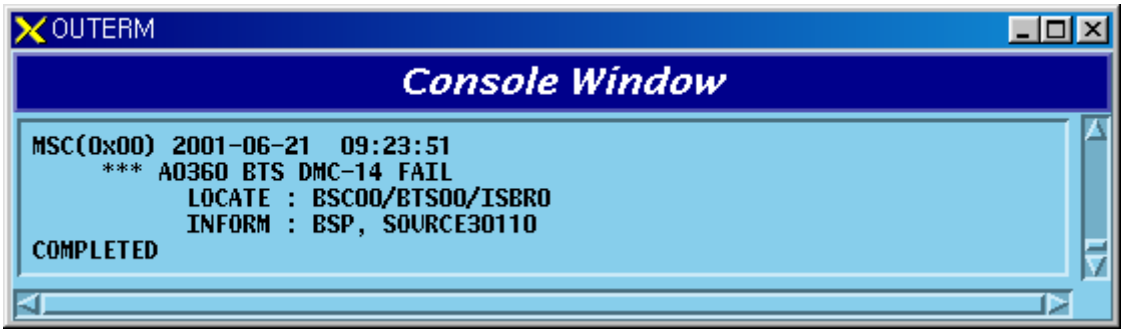


Fig. 5.1-249 Outdoor BTS ENV DMC-14 Fail

11) Outdoor BTS Power Cut Alarm

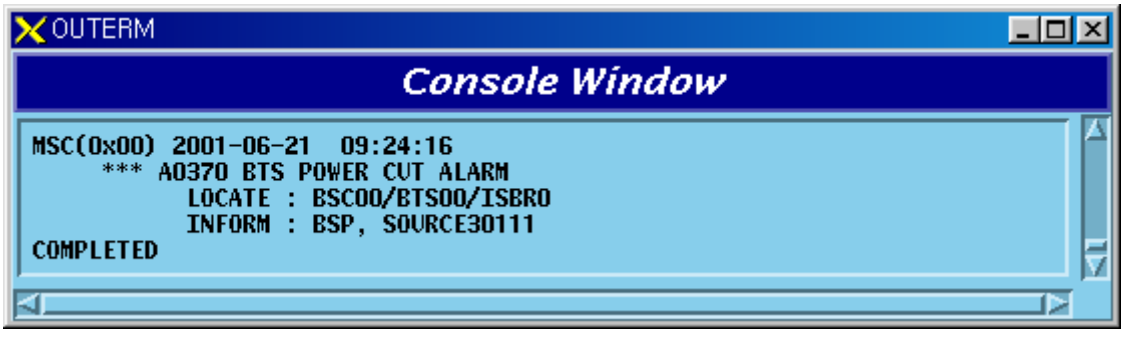


Fig. 5.1-250 Outdoor BTS ENV Power Cut Alarm

12) Outdoor BTS Temperature High Alarm

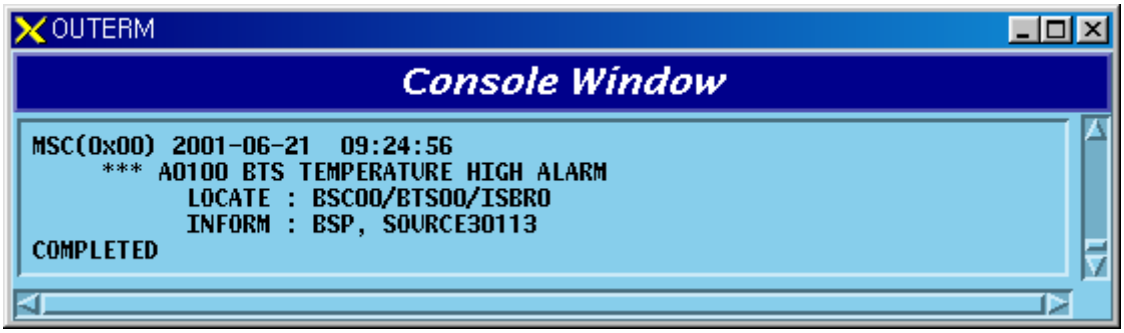


Fig. 5.1-251 Outdoor BTS ENV Temperature High Alarm

13) Outdoor BTS Temperature Low Alarm

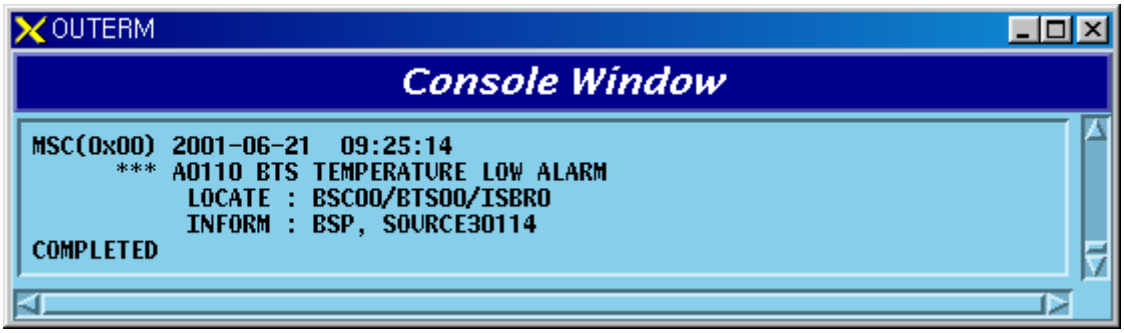


Fig. 5.1-252 Outdoor BTS ENV Temperature Low Alarm

14) Outdoor BTS Water High Alarm

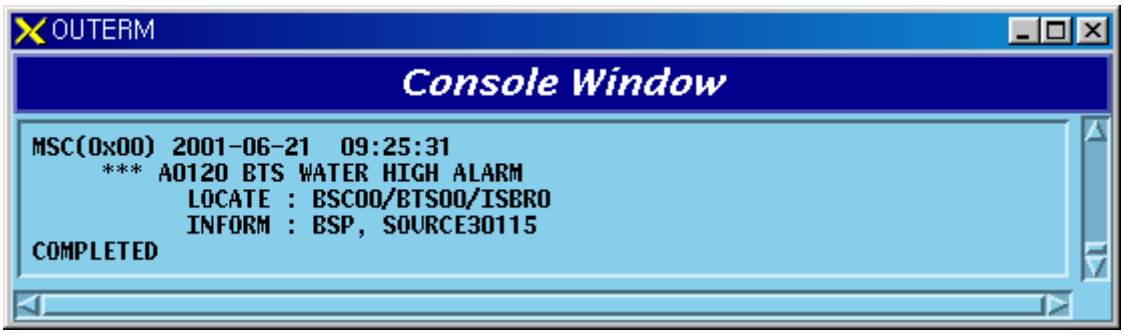


Fig. 5.1-253 Outdoor BTS ENV Water High Alarm

15) Outdoor BTS Water Low Alarm

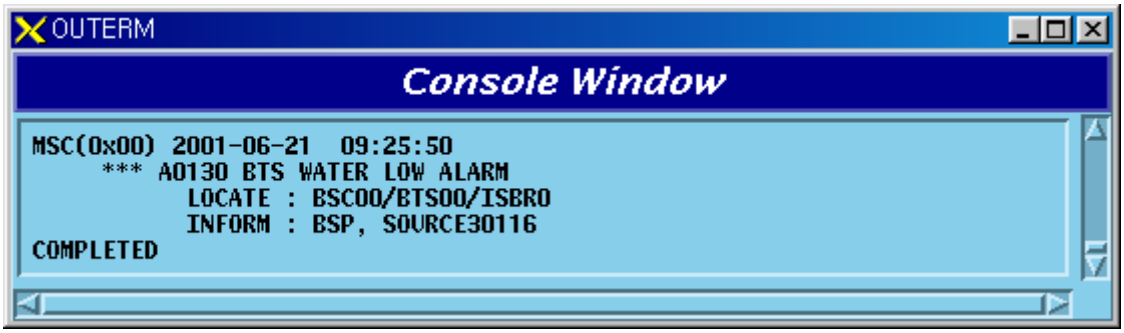


Fig. 5.1-254 Outdoor BTS ENV Water Low Alarm

16) Outdoor BTS Fire Alarm

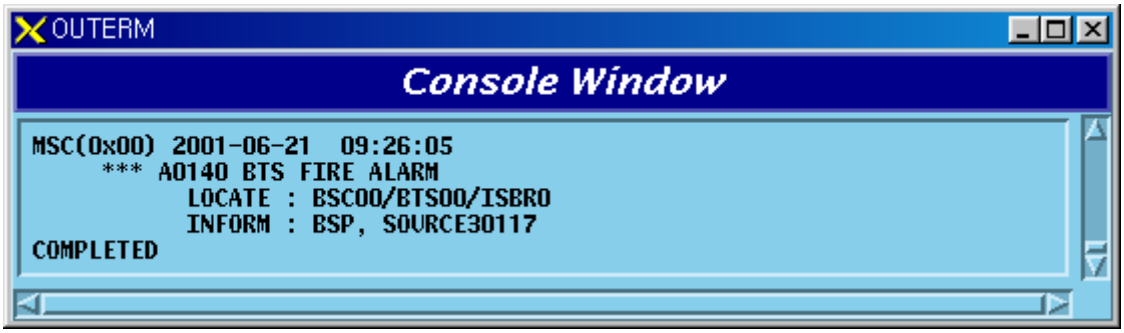


Fig. 5.1-255 Outdoor BTS ENV Fire Alarm

17) Outdoor BTS Humidity High Alarm

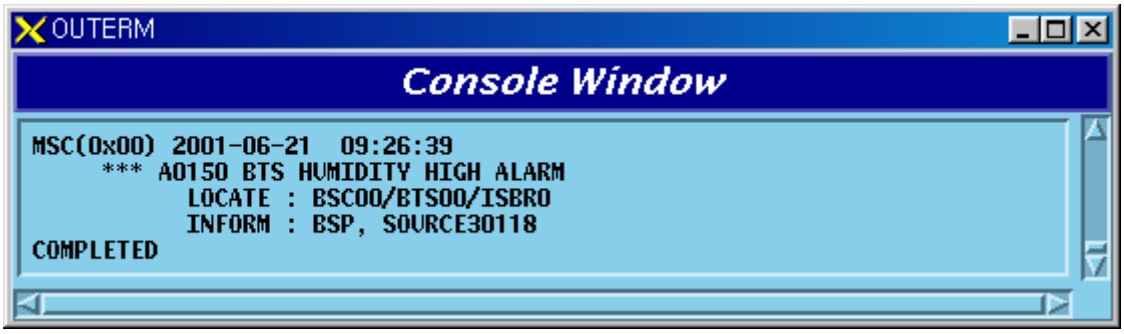


Fig. 5.1-256 Outdoor BTS ENV Humidity High Alarm

18) When outdoor BTS ACU Module fails

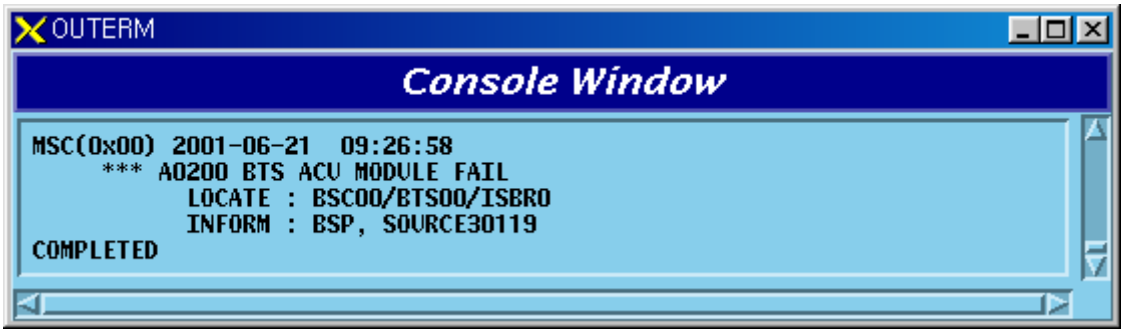


Fig. 5.1-257 Outdoor BTS ENV ACU Module Fail

19) When outdoor BTS Heat Exchanger Power fails

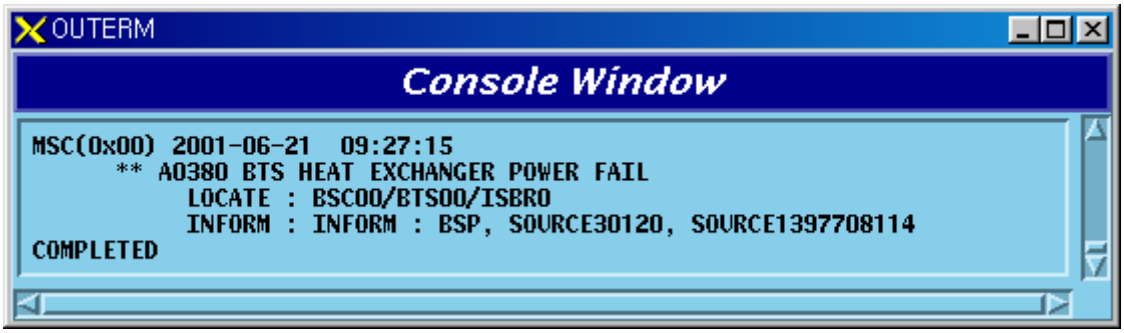


Fig. 5.1-258 Outdoor BTS ENV Heat Exchanger Power Fail

20) When outdoor BTS Heat Exchanger fails

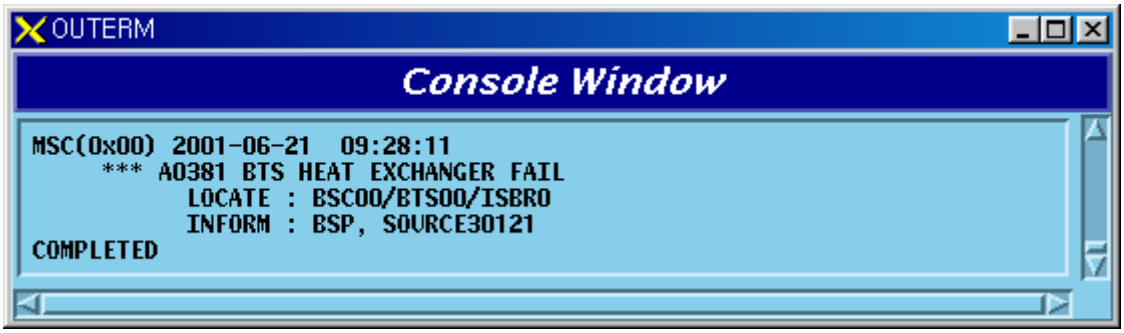


Fig. 5.1-259 Outdoor BTS ENV Heat Exchanger Fail

21) When outdoor BTS LPA FAN fails

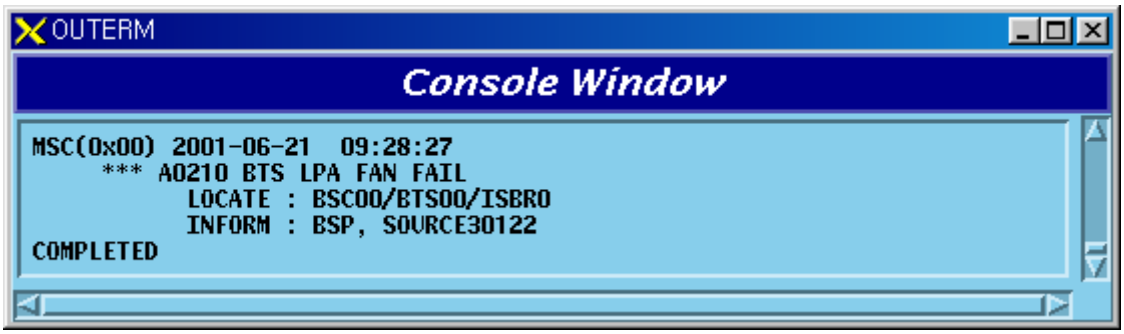


Fig. 5.1-260 Outdoor BTS ENV LPA FAN Fail

22) When outdoor BTS AC Equipment Heater fails

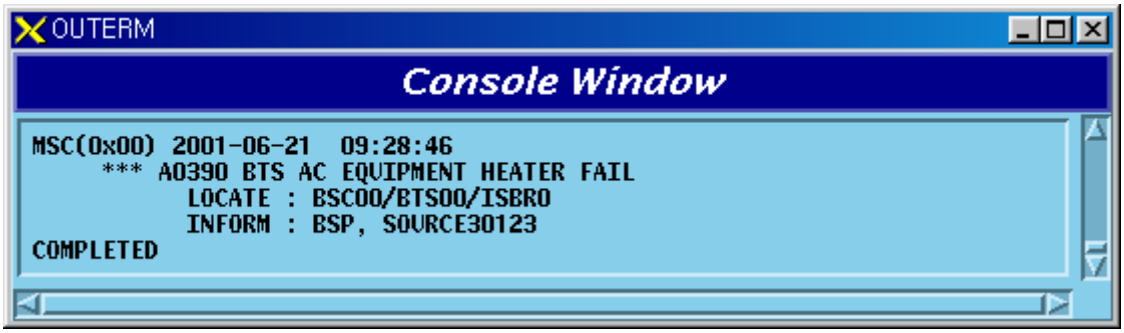


Fig. 5.1-261 Outdoor BTS ENV AC Equipment Heater Fail

23) Outdoor BTS Front/Rear Door Open Alarm

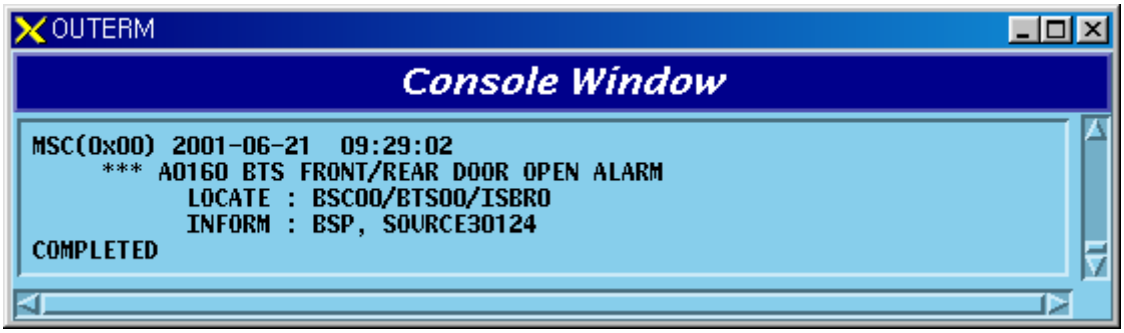


Fig. 5.1-262 Outdoor BTS ENV Front/Rear Door Open Alarm

24) Outdoor BTS Side Door Open Alarm

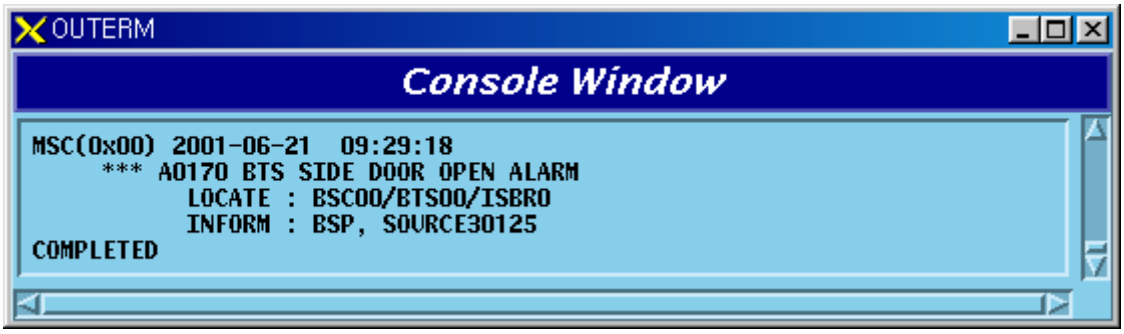


Fig. 5.1-263 Outdoor BTS ENV Side Door Open Alarm

25) When outdoor BTS FAN fails

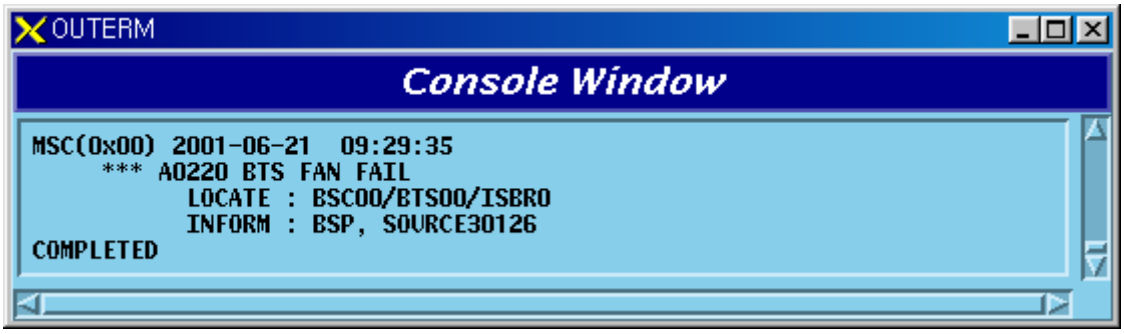


Fig. 5.1-264 Outdoor BTS ENV FAN Fail

26) When outdoor BTS AC Battery Heater fails

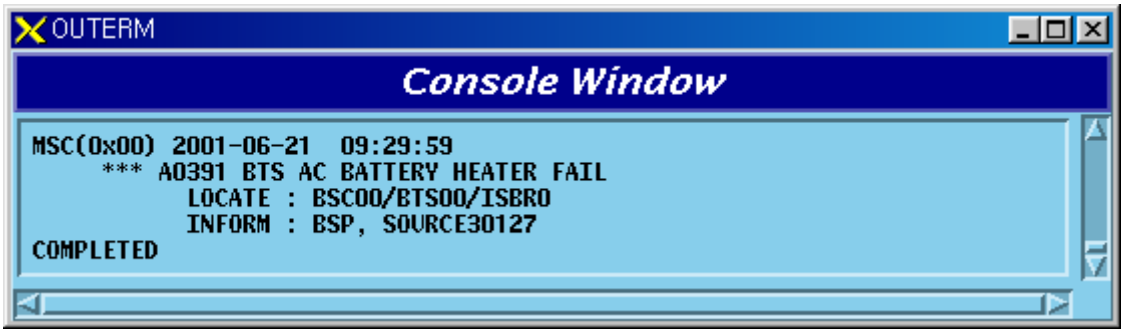


Fig. 5.1-265 Outdoor BTS ENV AC Battery Heater Fail

27) Indoor BTS Temperature High Alarm

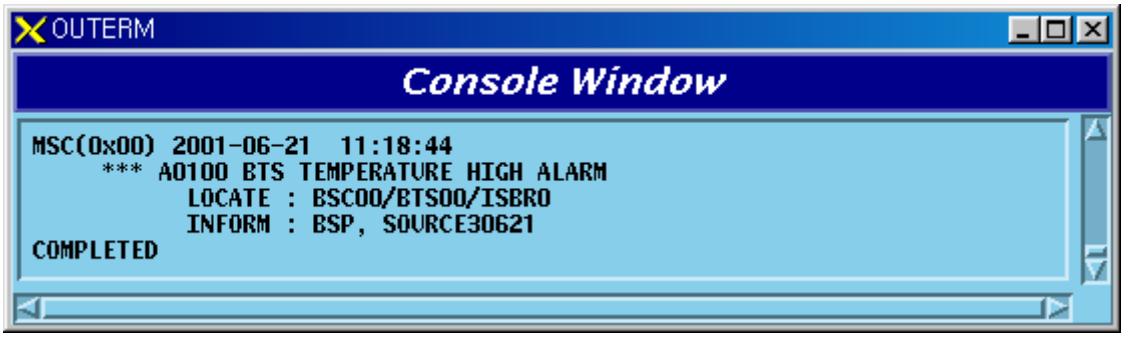


Fig. 5.1-266 Indoor BTS ENV Temperature High Alarm

28) Indoor BTS Temperature Low Alarm

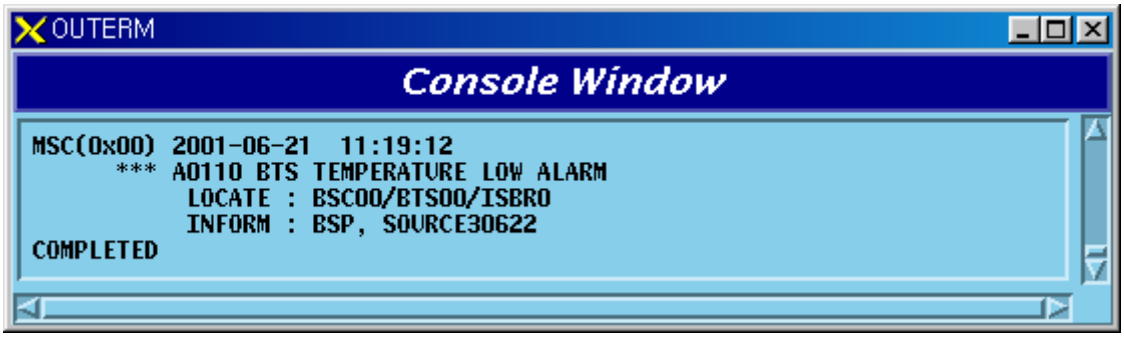


Fig. 5.1-267 Indoor BTS ENV Temperature Low Alarm

30) Indoor BTS Flood Alarm

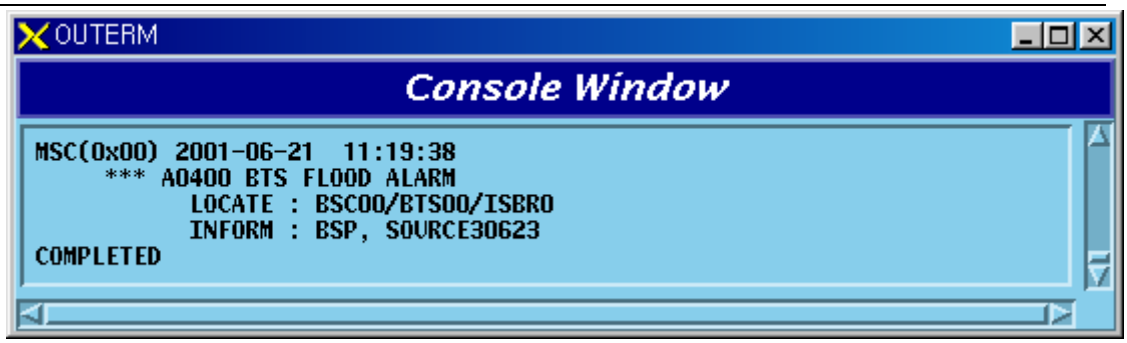


Fig. 5.1-268 Indoor BTS ENV Flood Alarm

31) Indoor BTS Door #1 Open Alarm

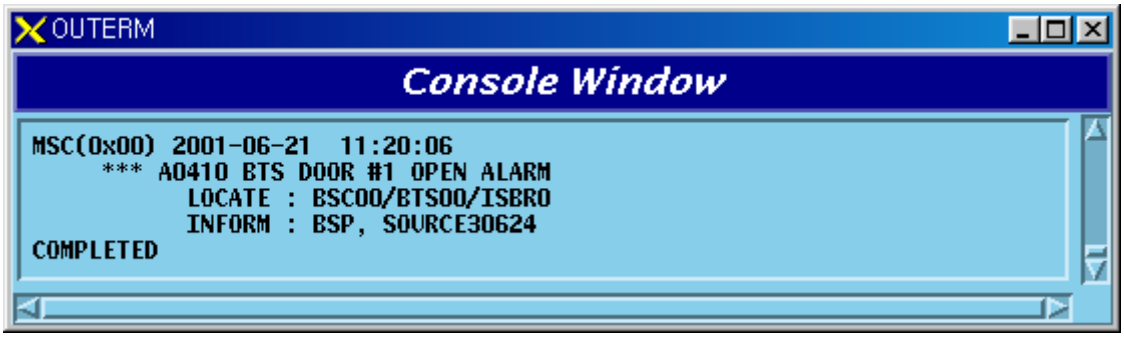


Fig. 5.1-269 Indoor BTS ENV Door #1 Open Alarm

32) Indoor BTS Door #2 Open Alarm

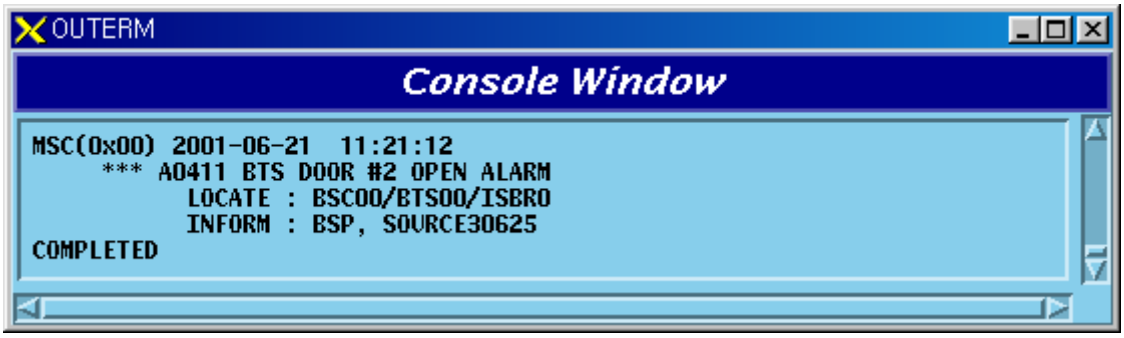


Fig. 5.1-270 Indoor BTS ENV Door #2 Open Alarm

33) Indoor BTS Fire Alarm

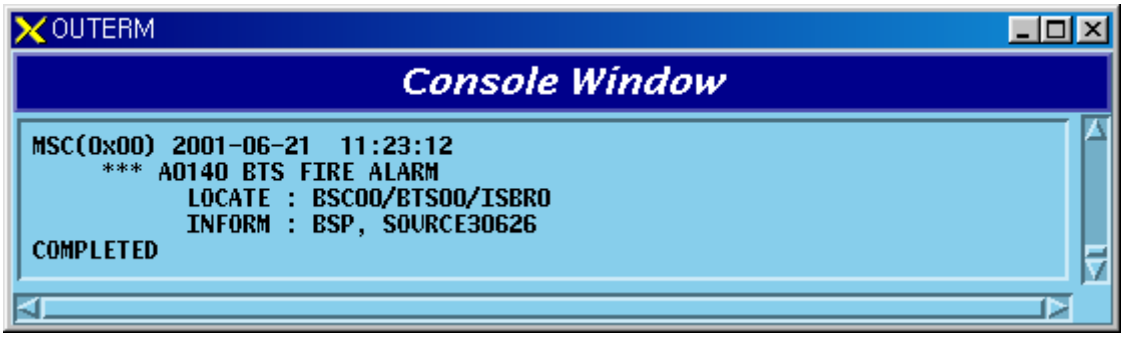


Fig. 5.1-271 Indoor BTS ENV Fire Alarm

34) When indoor BTS Rectifier #1 fails

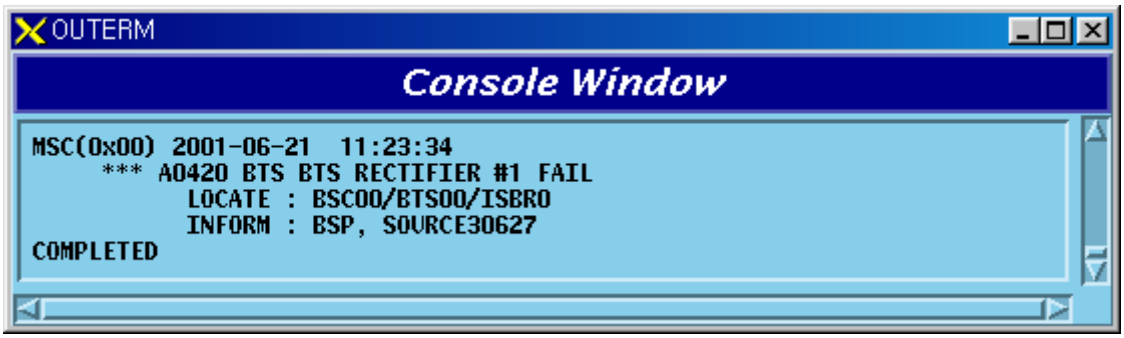


Fig. 5.1-272 Indoor BTS ENV Rectifier #1 fails

35) When indoor BTS Rectifier #2 fails

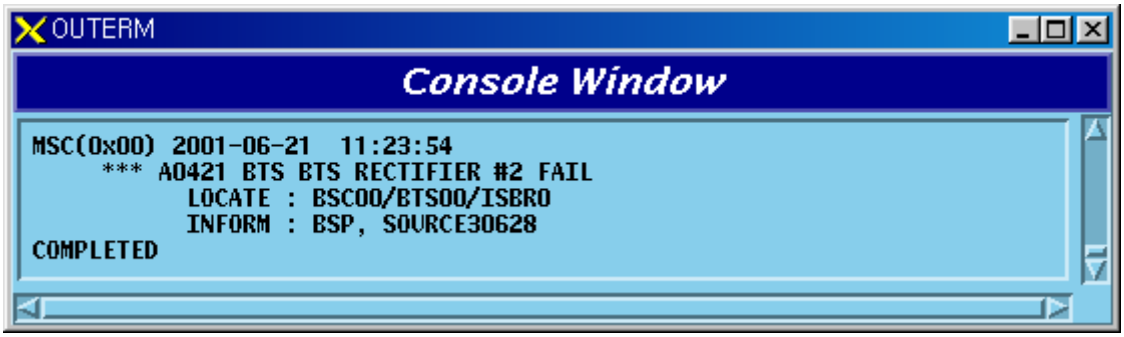


Fig. 5.1-273 Indoor BTS ENV Rectifier #2 Fail

36) When indoor BTS Aircon #1 fails

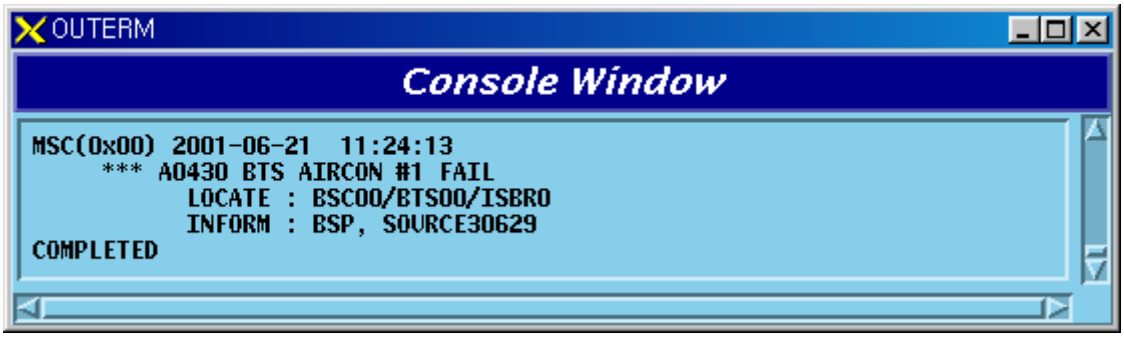


Fig. 5.1-274 Indoor BTS ENV Aircon #1 Fail

37) When indoor BTS Aircon #2 fails

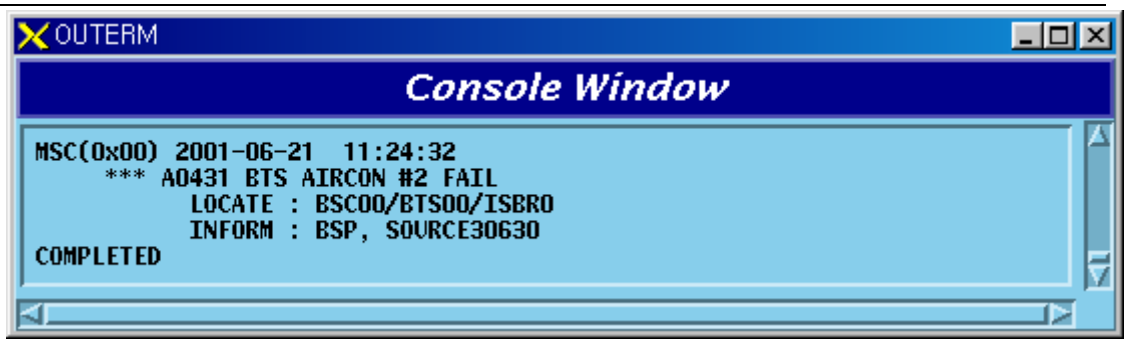


Fig. 5.1-275 Indoor BTS ENV Aircon #2 Fail

38) Indoor BTS Water Leakage Alarm

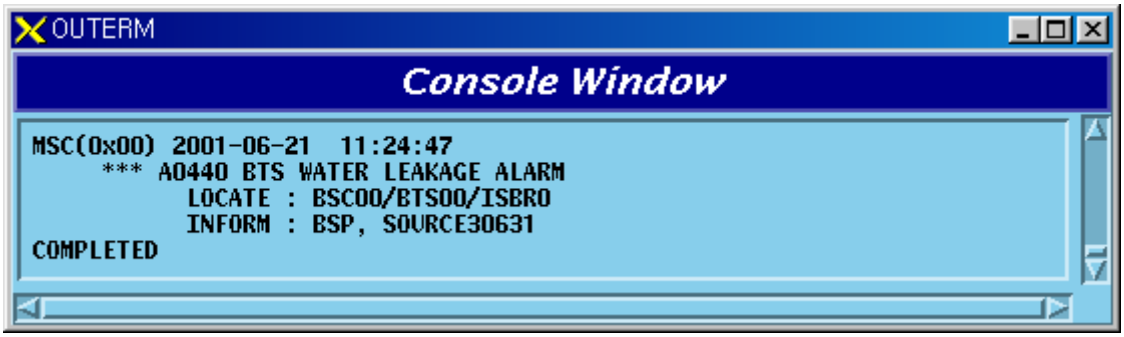


Fig. 5.1-276 Indoor BTS ENV Water Leakage Alarm

5.1.1.3.13. Others

1) If a problem occurs in BTS FAN

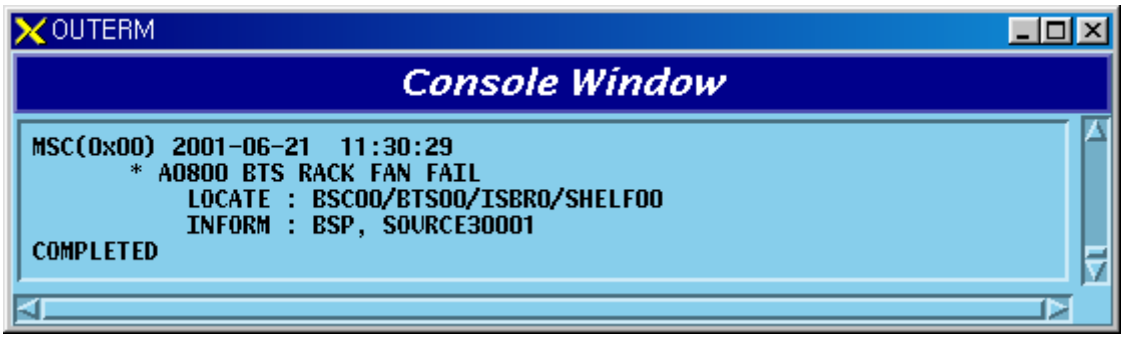


Fig. 5.1-277 BTS Rack FAN Fail

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

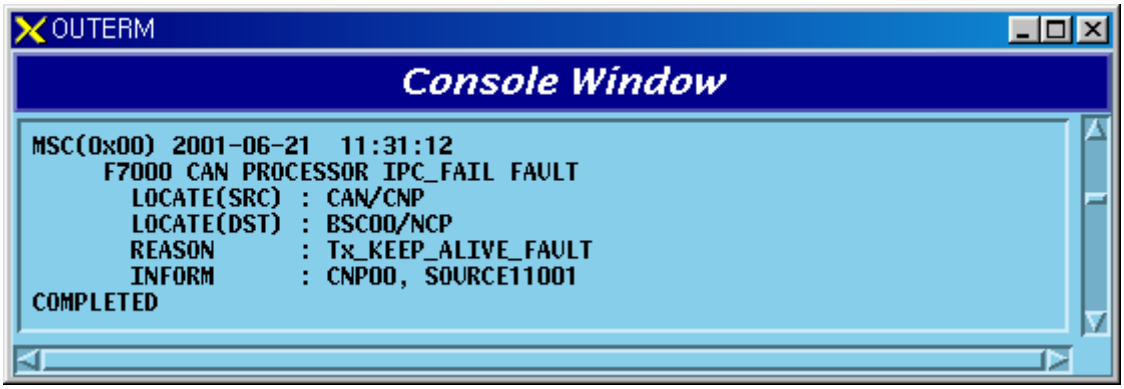


Fig. 5.1-278 Keep-Alive Fault between CNP and NCP

5.1.2.1.1.2. PNP Report

1) PNP ←→ NCP section

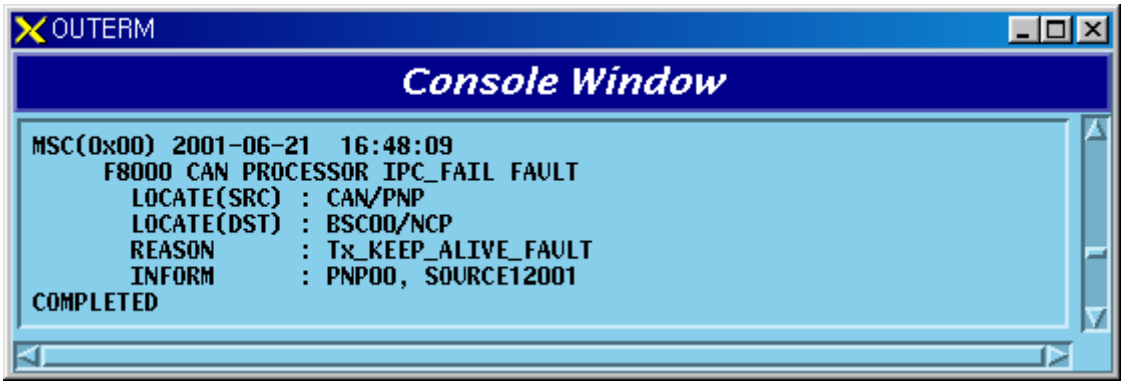


Fig. 5.1-279 Keep-Alive Fault between PNP and NCP

2) PNP ←→ PCP section

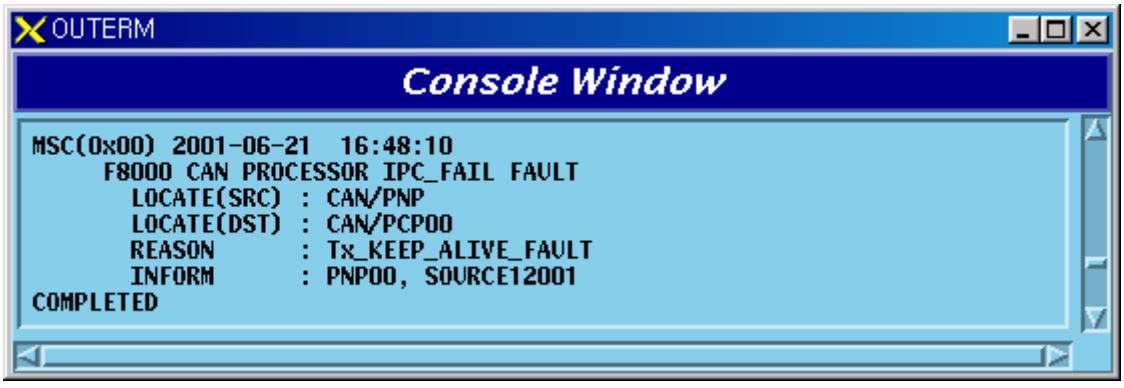


Fig. 5.1-280 Keep-Alive Fault between PNP and PCP

5.1.2.1.1.3. PCP Report

1) PCP ←→ CCP section

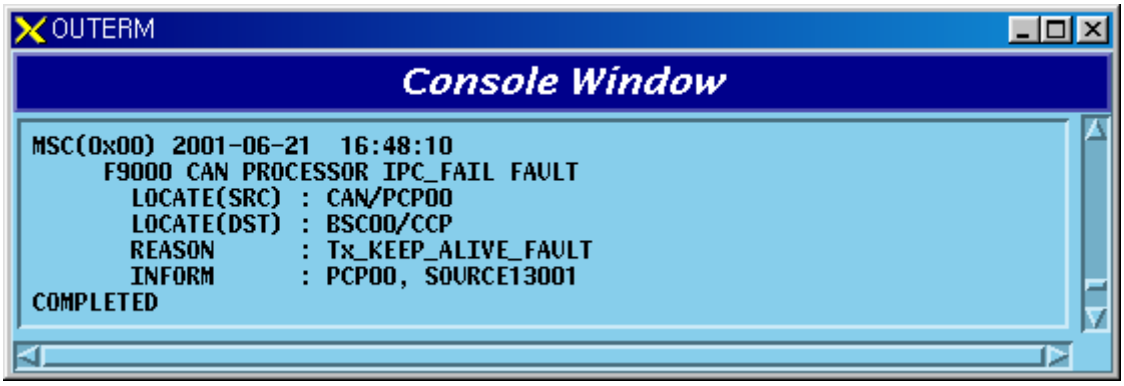


Fig. 5.1-281 Keep-Alive Fault between PCP and CCP

2) PCP ←→ PNP section

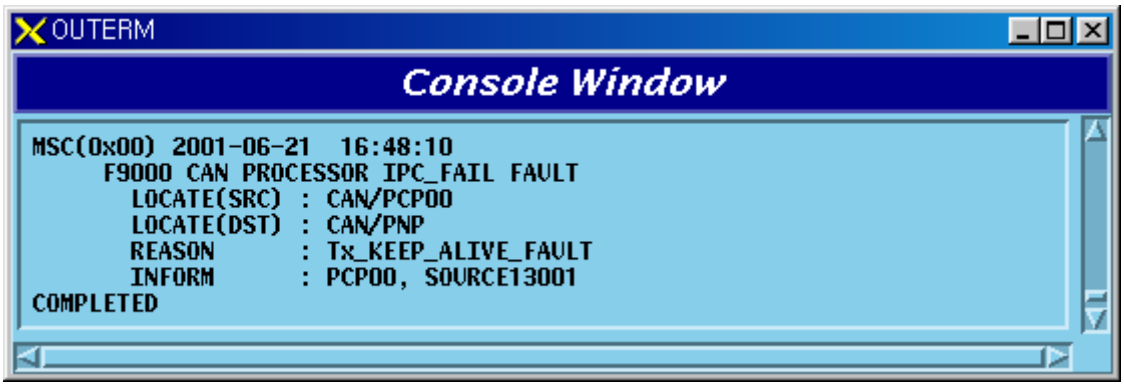


Fig. 5.1-282 Keep-Alive Fault between PCP and PNP

5.1.2.1.1.4. CCP Report

1) CCP ←→ NCP section

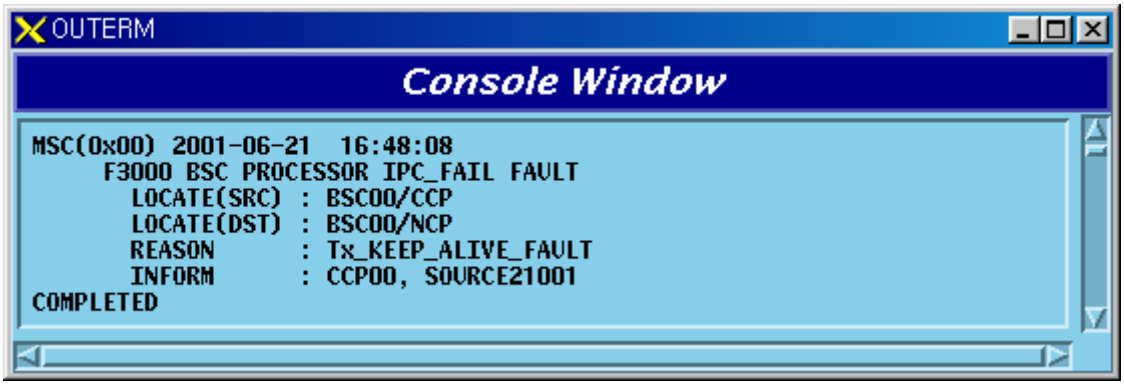


Fig. 5.1-283 Keep-Alive Fault between CCP and NCP

2) CCP ←→ PCP section

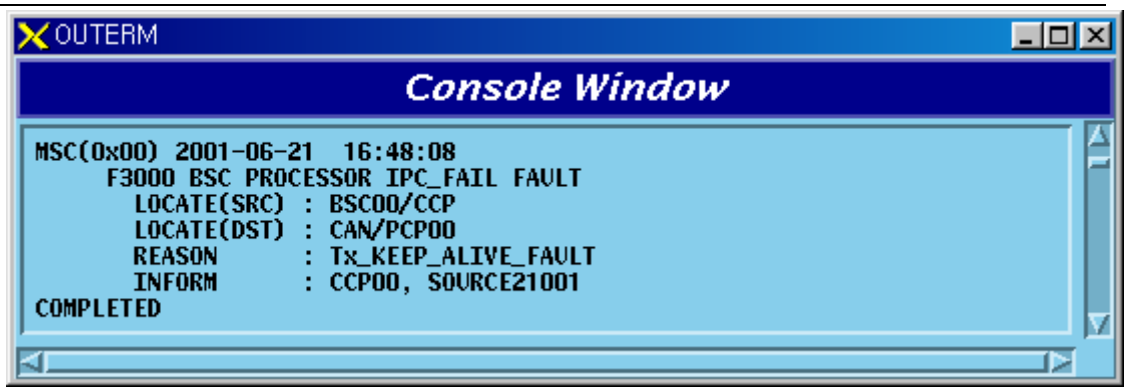


Fig. 5.1-284 Keep-Alive Fault between CCP and PCP

3) CCP ←→ BSP section

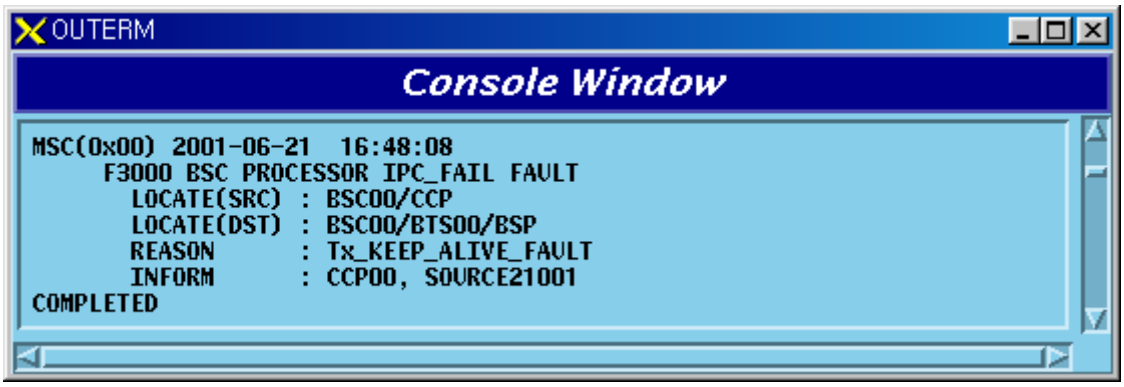


Fig. 5.1-285 Keep-Alive Fault between CCP and BSP

4) CCP ←→ SCP section

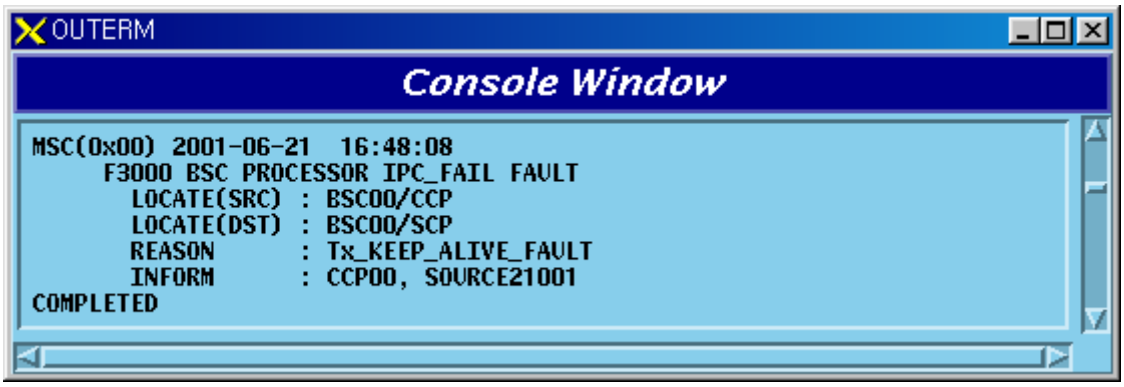


Fig. 5.1-286 Keep-Alive Fault between CCP and SCP

5) CCP ←→ SMP section

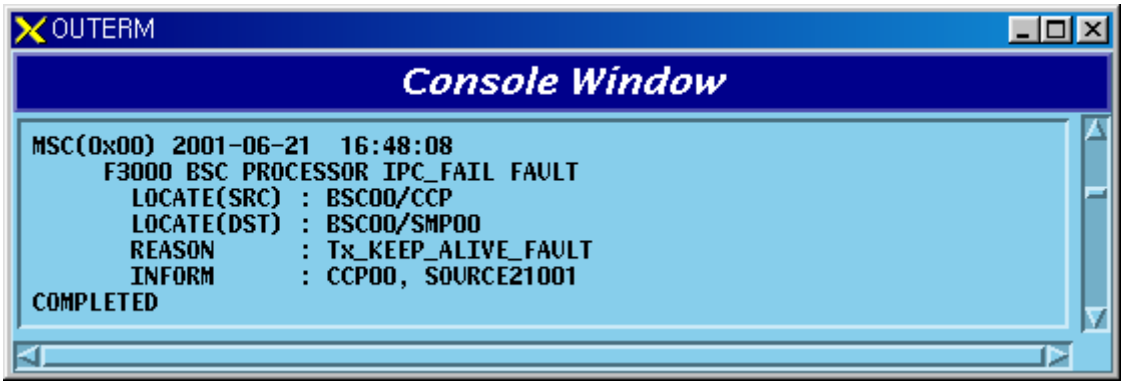


Fig. 5.1-287 Keep-Alive Fault between CCP and SMP

6) CCP ←→ VMP section

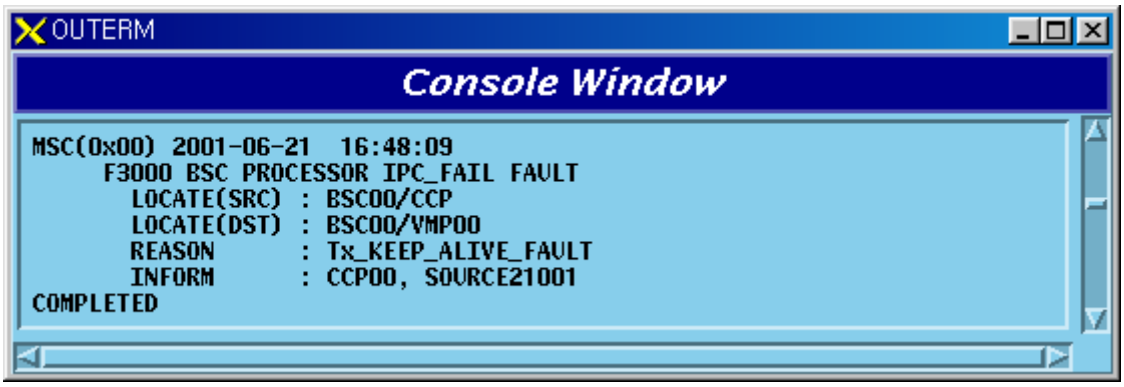


Fig. 5.1-288 Keep-Alive Fault between CCP and VMP

5.1.2.1.1.5. NCP Report

1) NCP ←→ CNP section

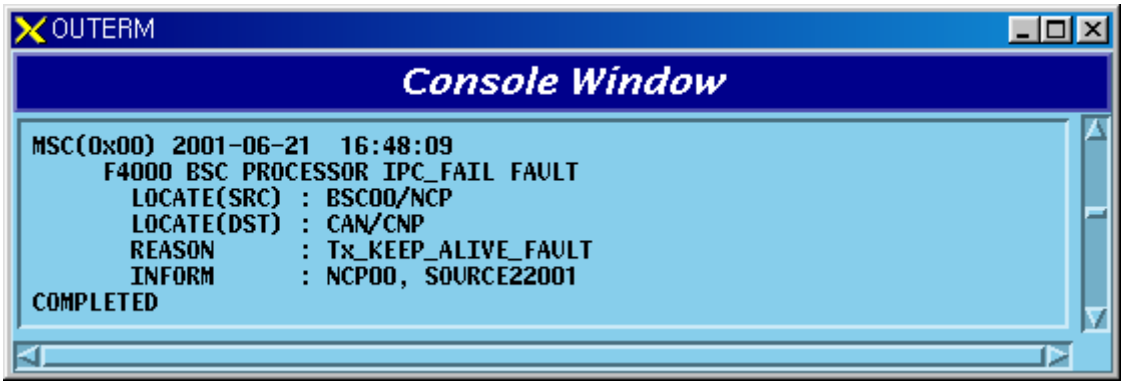


Fig. 5.1-289 Keep-Alive Fault between NCP and CNP

2) NCP ←→ CCP section

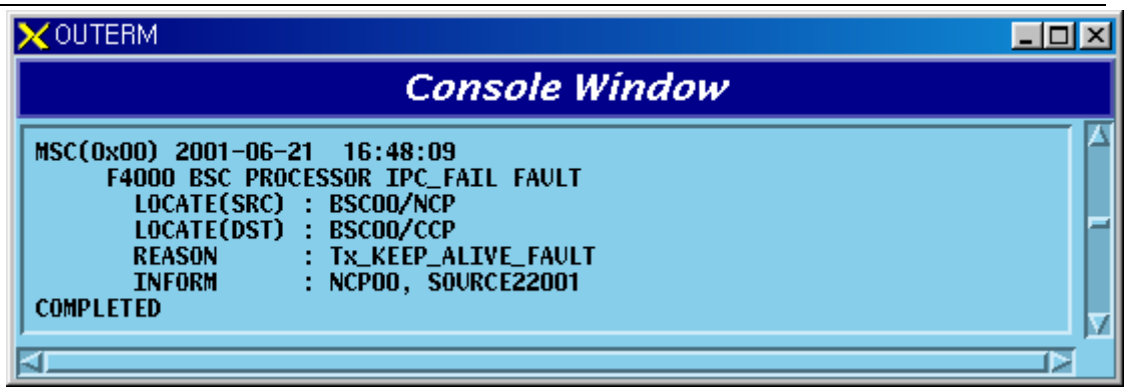


Fig. 5.1-290 Keep-Alive Fault between NCP and CCP

3) NCP ←→ PNP section

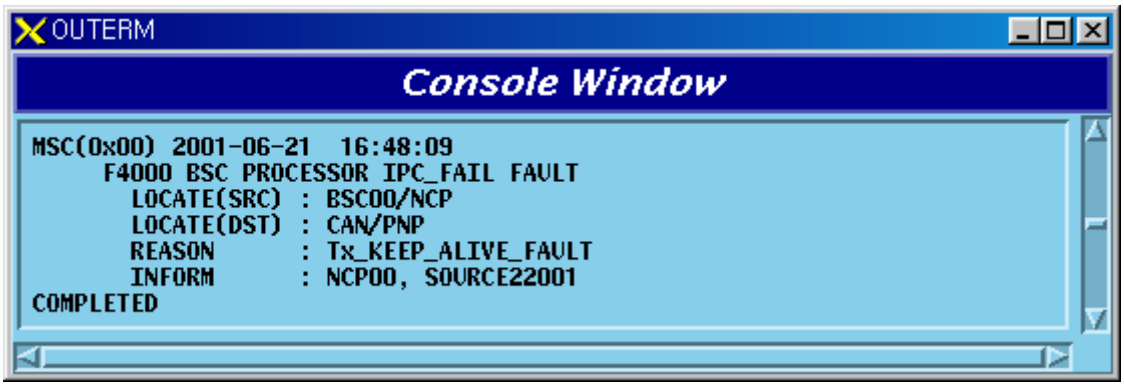


Fig. 5.1-291 Keep-Alive Fault between NCP and PNP

4) NCP ←→ CRP section

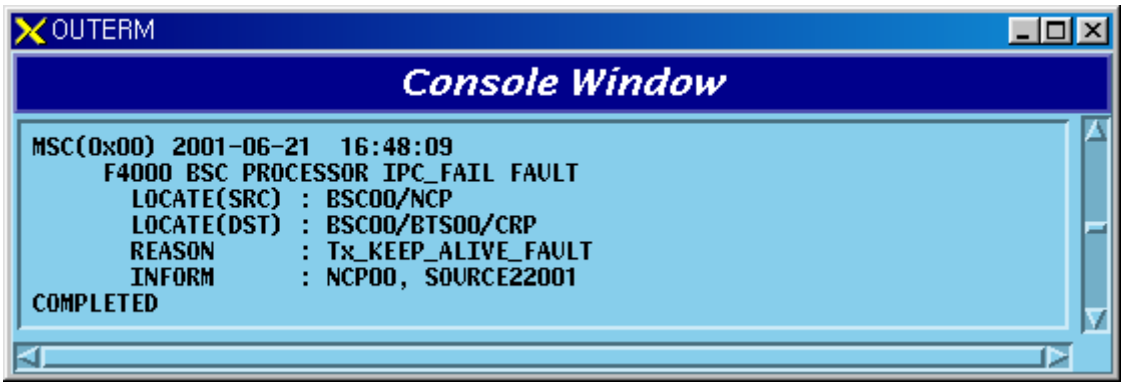


Fig. 5.1-292 Keep-Alive Fault between NCP and CRP

5.1.2.1.1.6. SCP Report

1) SCP ←→ CCP section

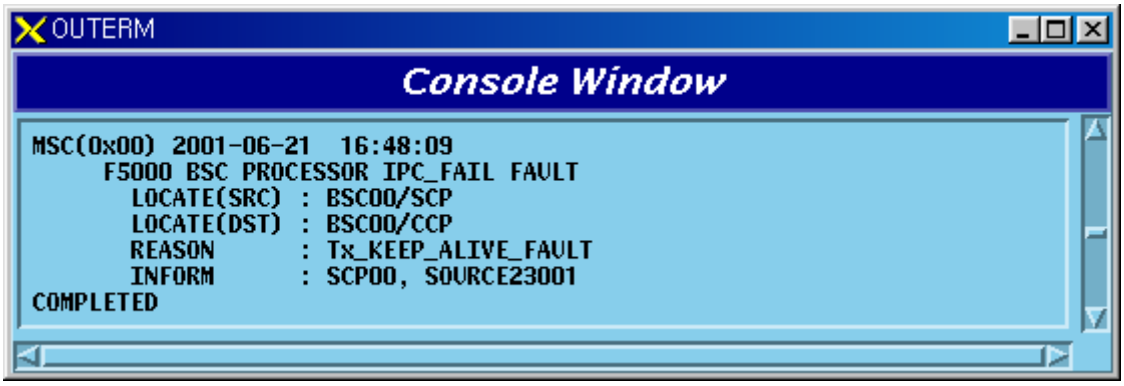


Fig. 5.1-293 Keep-Alive Fault between SCP and CCP

2) SCP ←→ STIA section

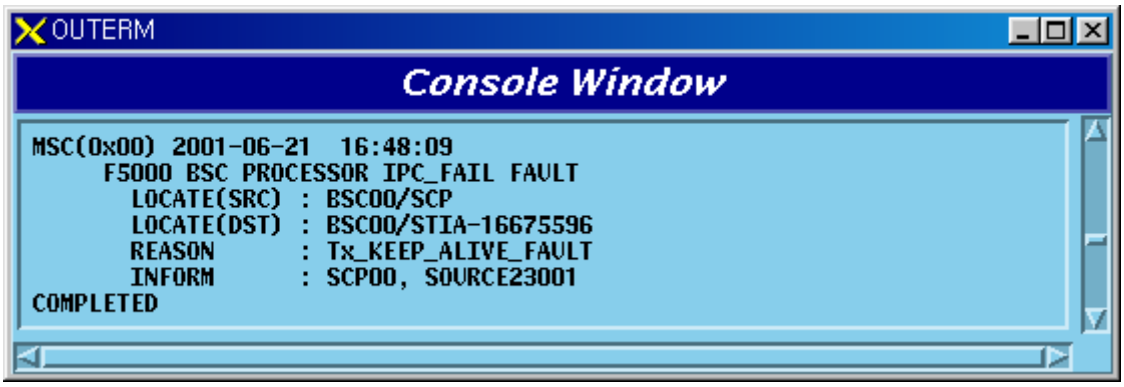


Fig. 5.1-294 Keep-Alive Fault between SCP and STIA

5.1.2.1.1.7. BSP Report

1) BSP ←→ CCP section

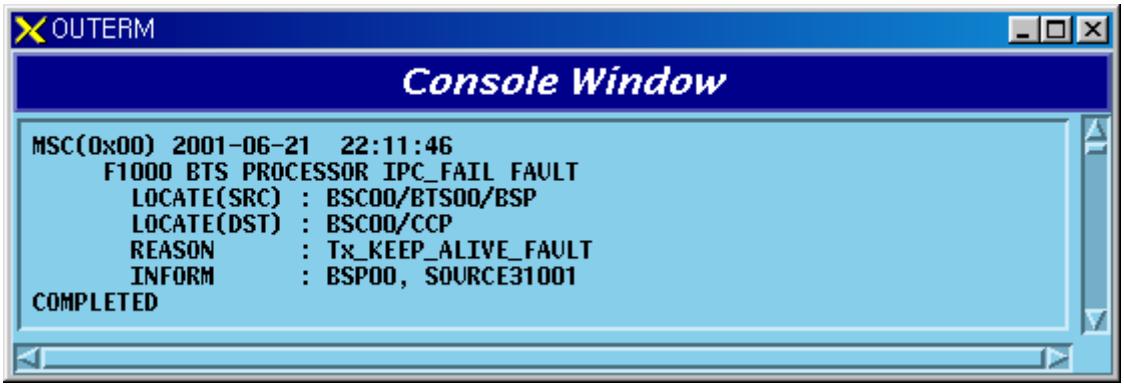


Fig. 5.1-295 Keep-Alive Fault between BSP and CCP

2) BSP ←→ RCP section

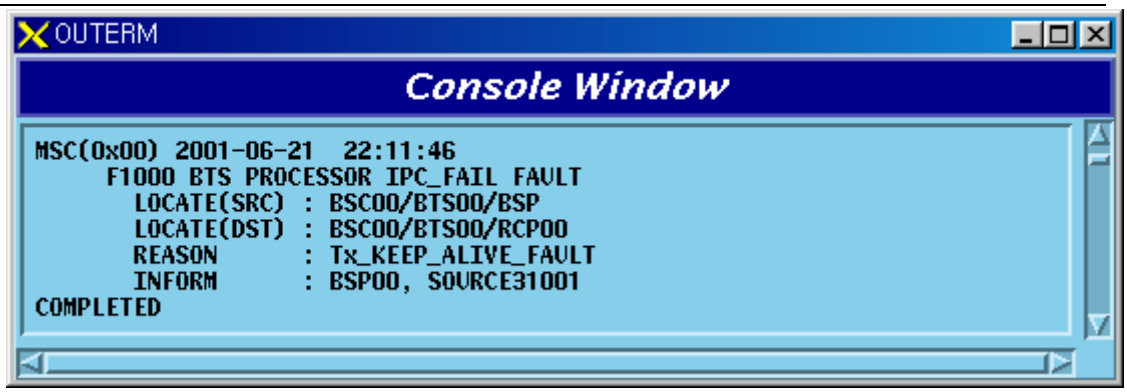


Fig. 5.1-296 Keep-Alive Fault between BSP and RCP

3) BSP ←→ BPP section

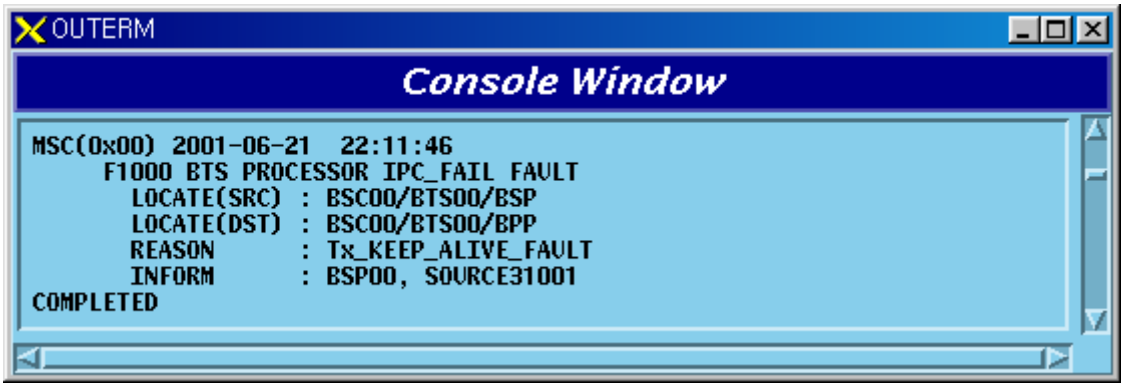


Fig. 5.1-297 Keep-Alive Fault between BSP and BPP

4) RCP ←→ DBPA section

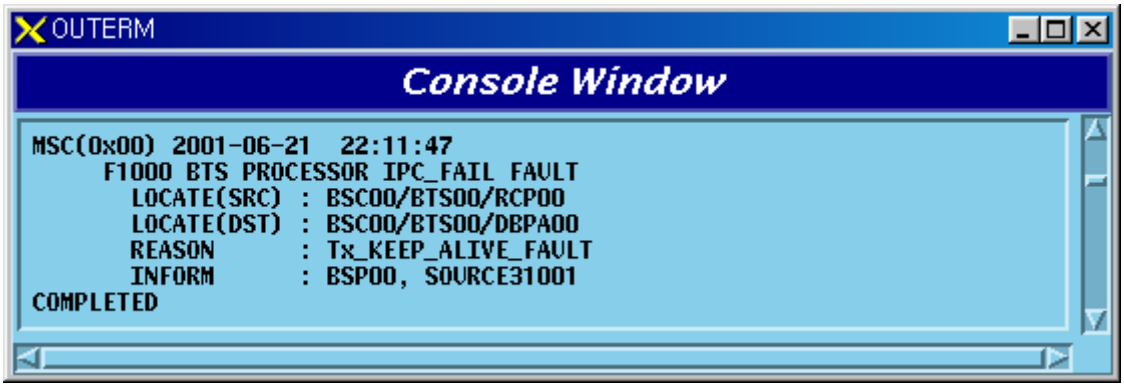


Fig. 5.1-298 Keep-Alive Fault between RCP and DBPA

5.1.2.2. CCP Processing-related Fault

5.1.2.2.1. VCE Qcelp Algorithm Test Fault

1) Vocoder Clock Fault

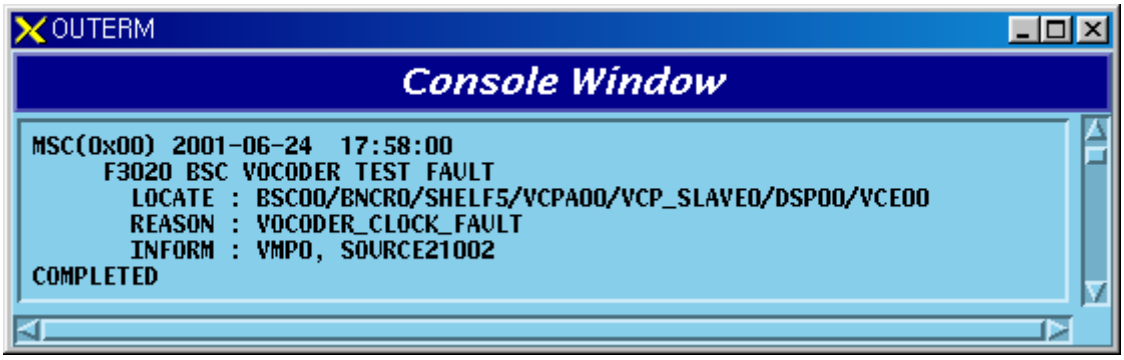


Fig. 5.1-299 Vocoder Clock Fault

2) QCELP0 Algorithm Fault

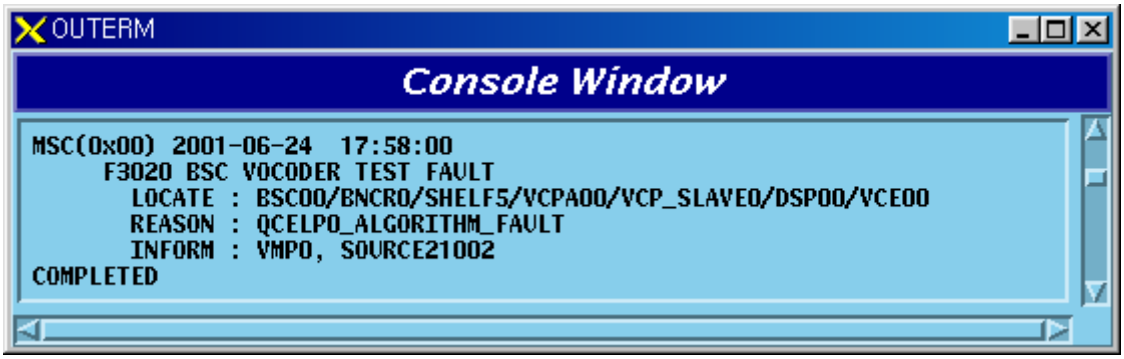


Fig. 5.1-300 QCELP0 Algorithm Fault

3) QCELP1 Algorithm Fault

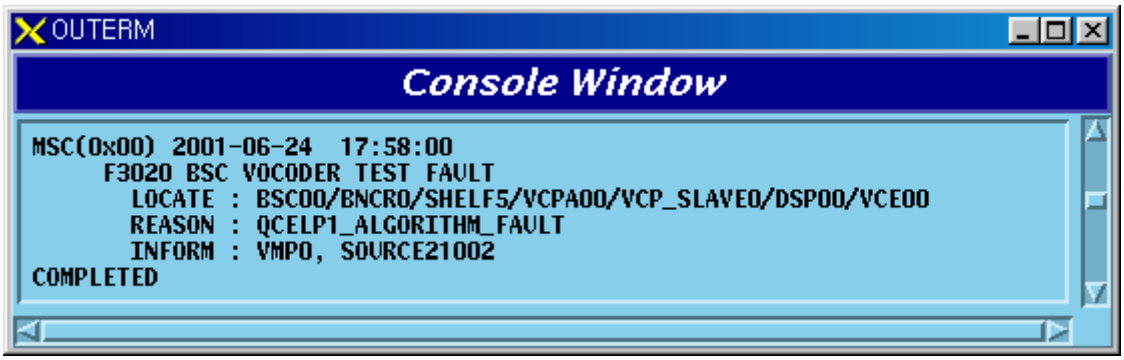


Fig. 5.1-301 QCELP1 Algorithm Fault

4) QCELP2 Algorithm Fault

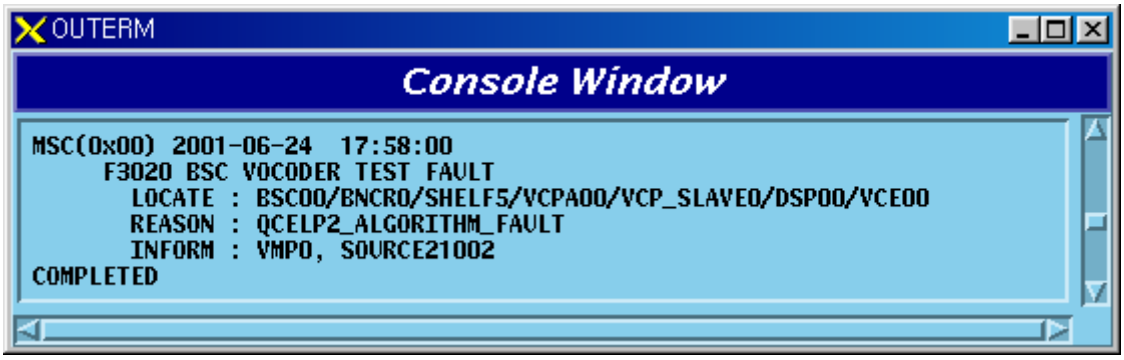


Fig. 5.1-302 QCELP2 Algorithm Fault

5) QCELP3 Algorithm Fault

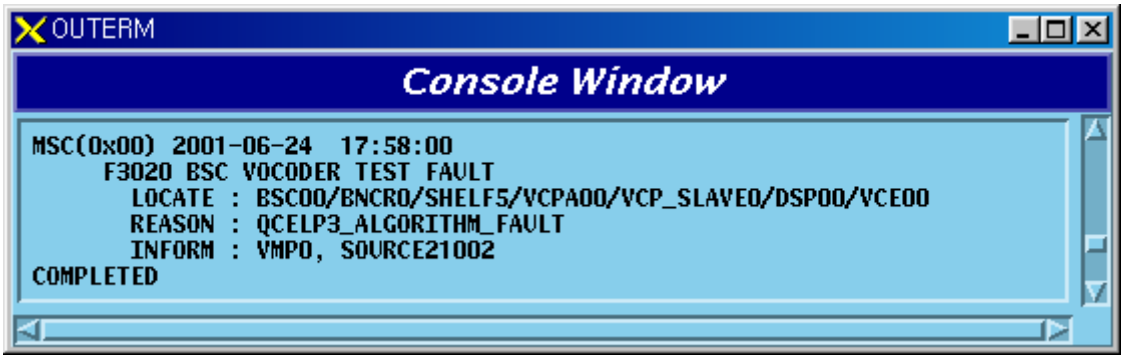


Fig. 5.1-303 QCELP3 Algorithm Fault

6) VCPA LoopBack Test Fault

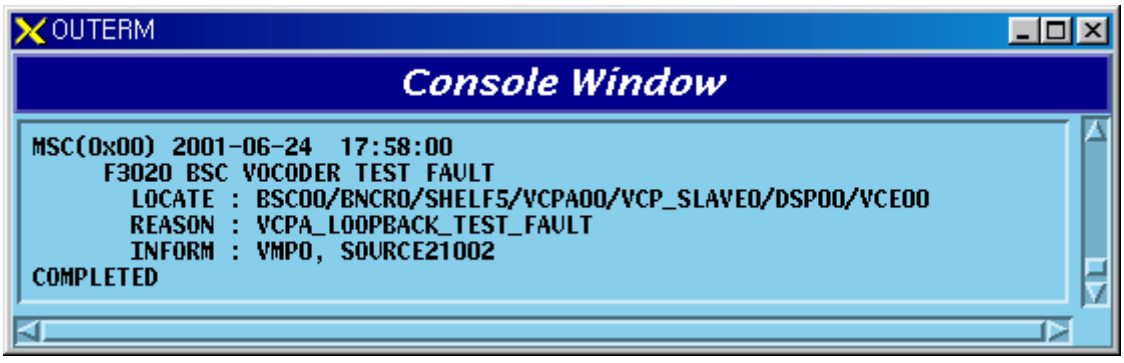


Fig. 5.1-304 VCPA Loop-Back Test Fault

5.1.2.2.2. VCE DSP Test Fault

1) When faults occur upon DSP ROM TEST

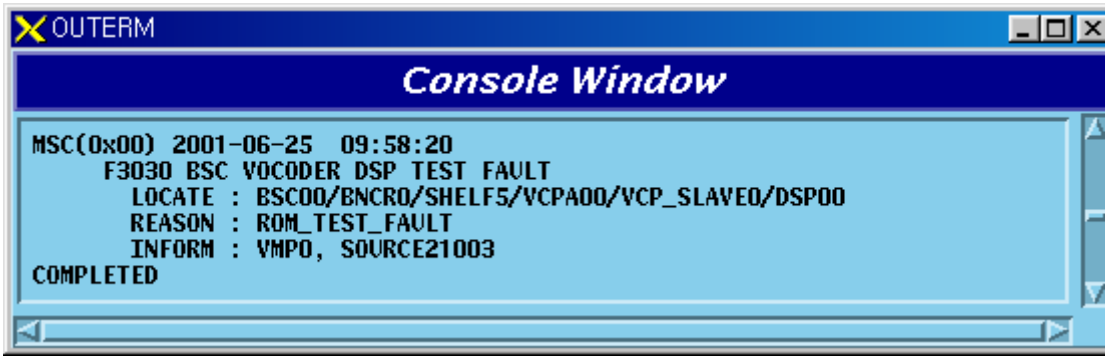


Fig. 5.1-305 Vocoder DSP ROM TEST Fault

2) When faults occur upon DSP RAM TEST

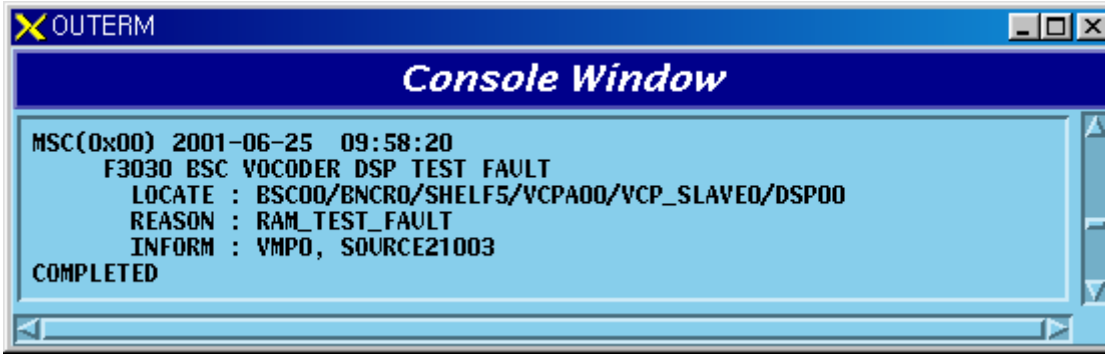


Fig. 5.1-306 Vocoder DSP RAM TEST Fault

3) When faults occur upon DSP ROM/RAM TEST

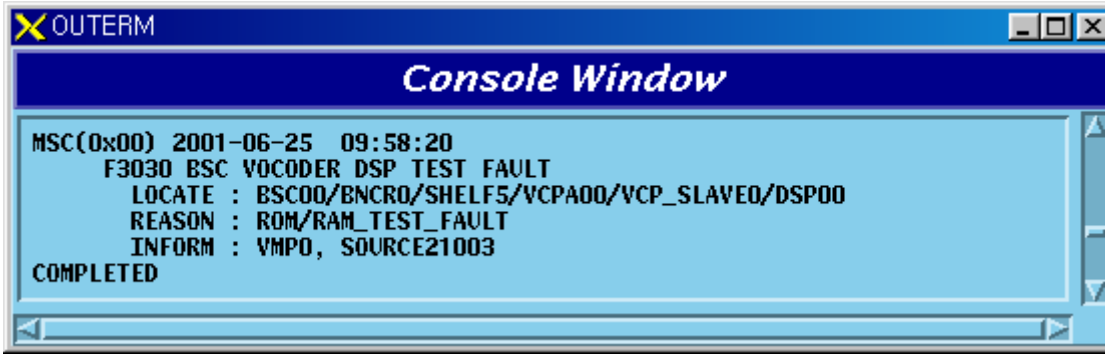


Fig. 5.1-307 Vocoder DSP ROM/RAM TEST Fault

4) When faults occur upon DSP ALU TEST

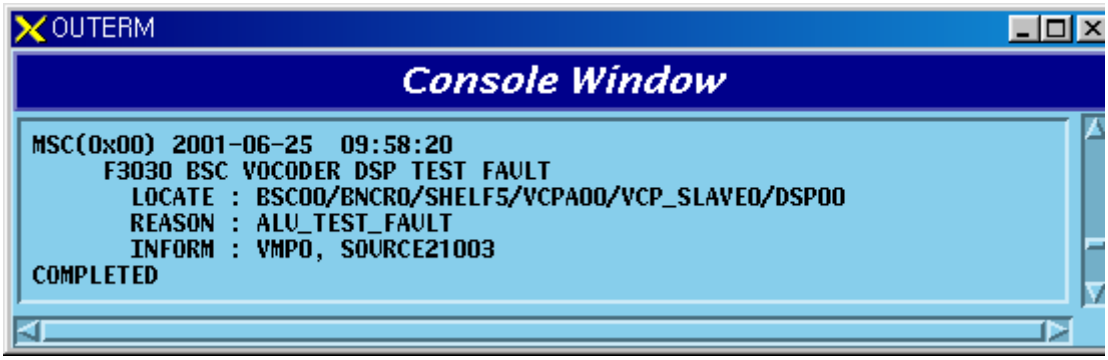


Fig. 5.1-308 Vocoder DSP ALU TEST Fault

5) When faults occur DSP ROM/ALU TEST

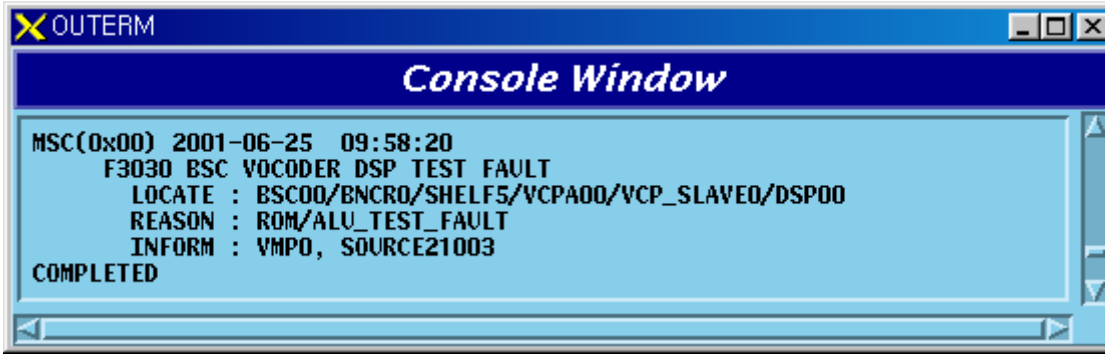


Fig. 5.1-309 Vocoder DSP ROM/ALU TEST Fault

6) When faults occur upon DSP RAM/ALU TEST

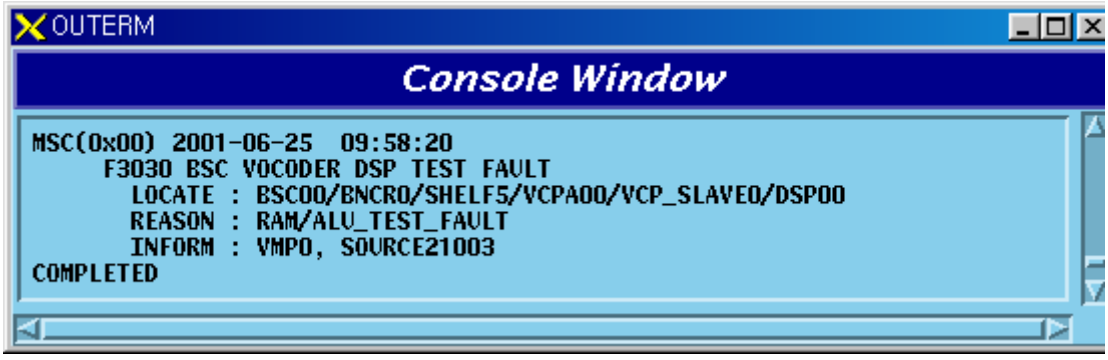


Fig. 5.1-310 Vocoder DSP RAM/ALU TEST Fault

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

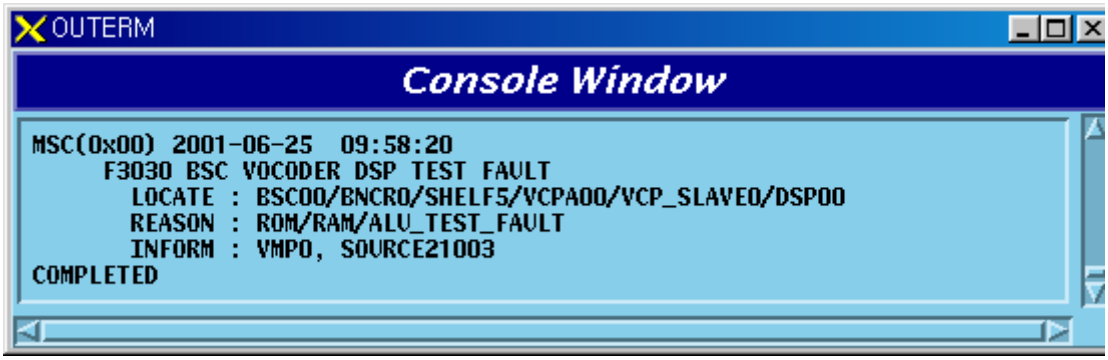


Fig. 5.1-311 Vocoder DSP ROM/RAM/ALU TEST Fault

5.1.2.2.3. VLIA T1/E1 Trunk Time Slot Fault

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

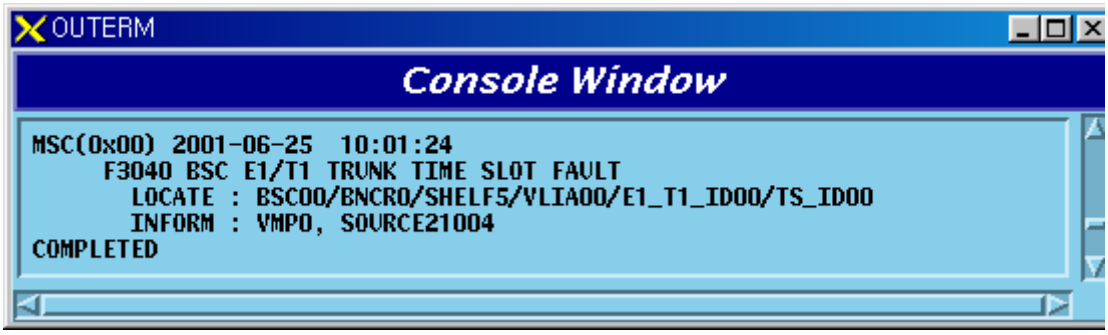


Fig. 5.1-312 VLIA E1/T1 Trunk Time-Slot Test Fault

5.1.2.2.4. Call Fail

1) SCI Fault

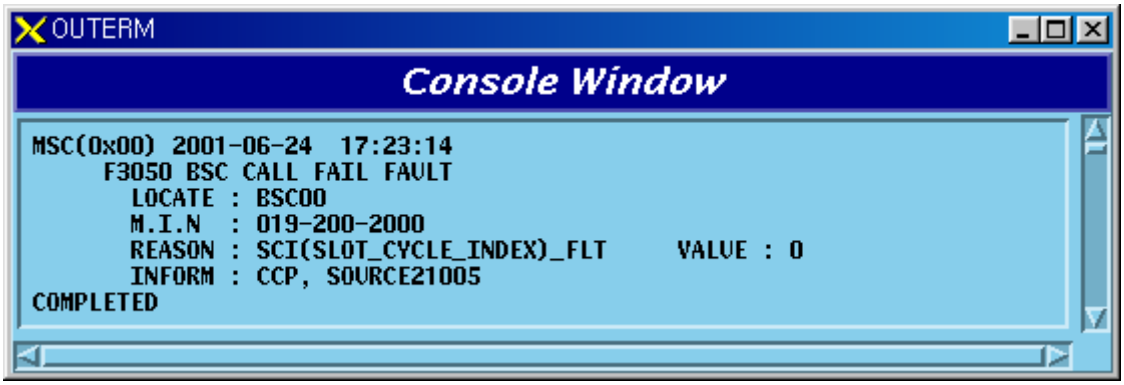


Fig. 5.1-313 SCI Fault

2) BASE ID Fault

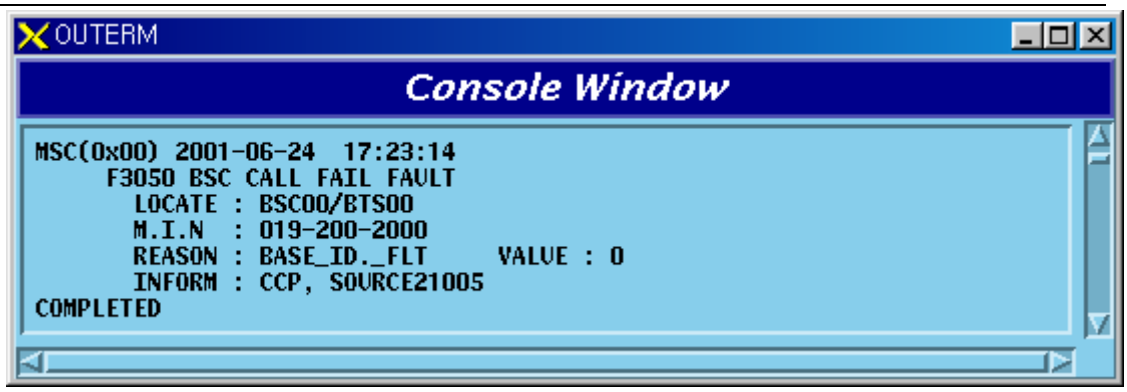


Fig. 5.1-314 Base ID Fault

3) BTS ID Fault

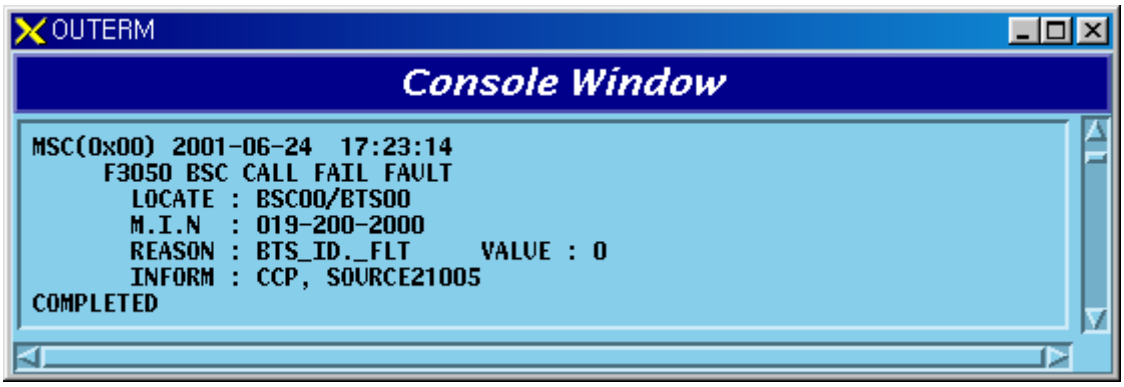


Fig. 5.1-315 BTS ID Fault

4) Sector ID Fault

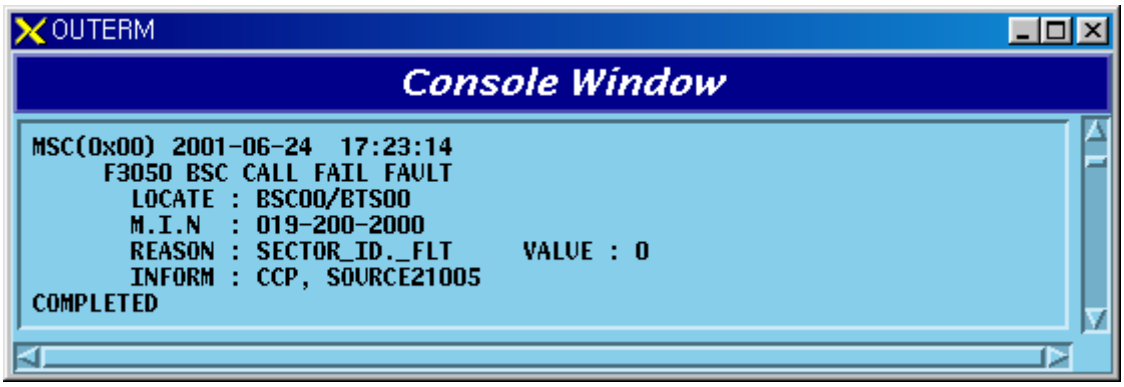


Fig. 5.1-316 Sector ID Fault

5) Neighbor List Fault

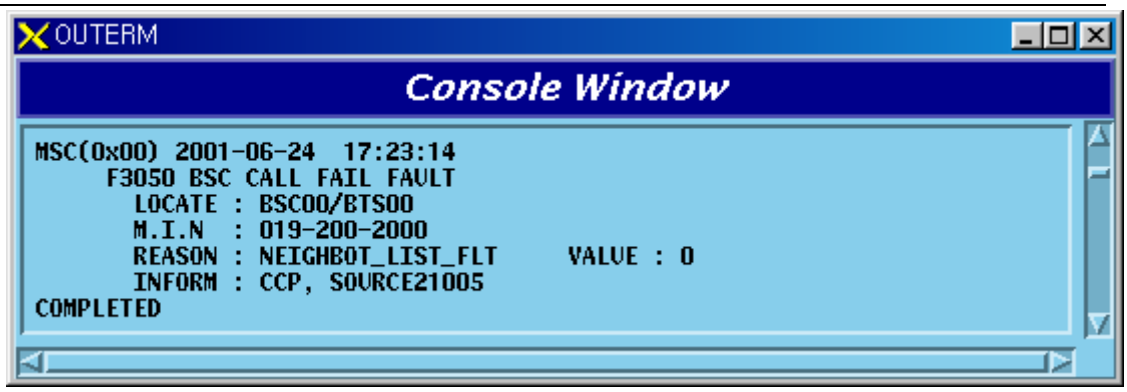


Fig. 5.1-317 Neighbor List Fault

6) MSC Overload Fault

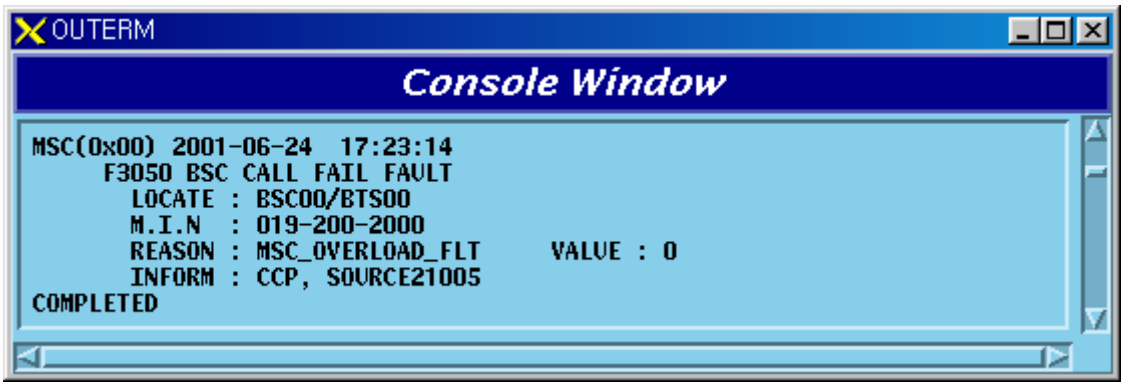


Fig. 5.1-318 MSC Overload Fault

7) CCP Overload Fault

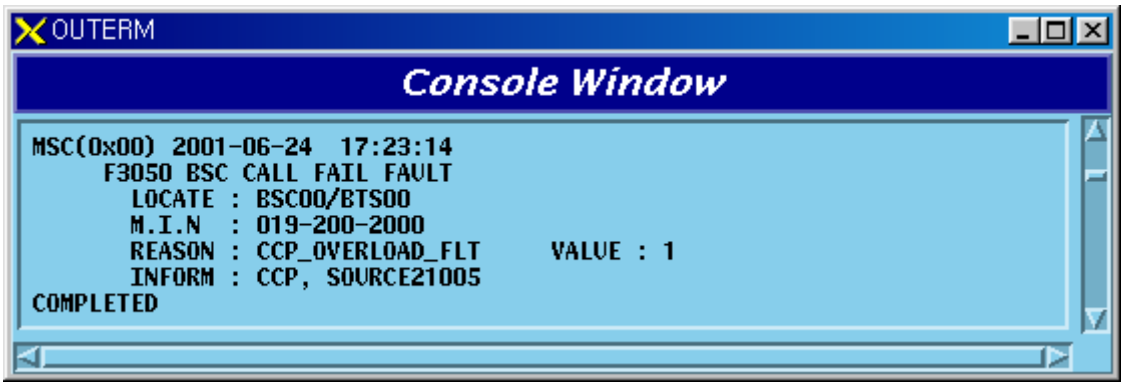


Fig. 5.1-319 CCP Overload Fault

8) BSP Overload Fault

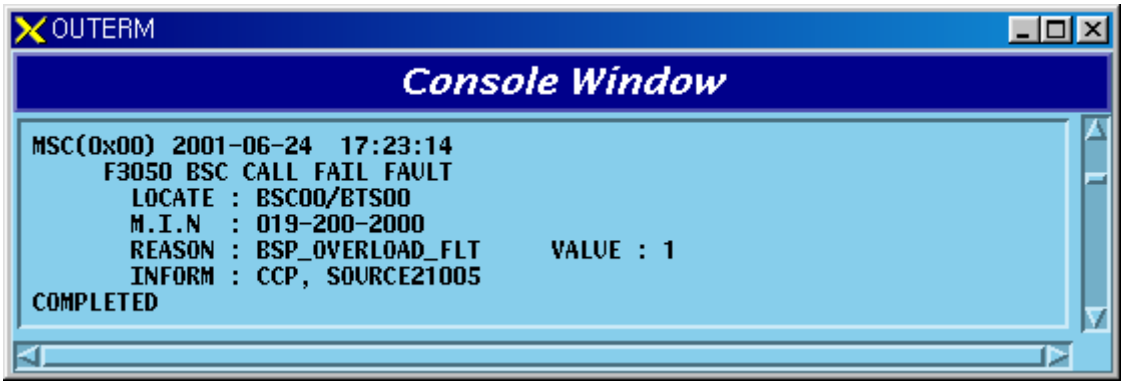


Fig. 5.1-320 BSP Overload Fault

9) Get Task Function Fault

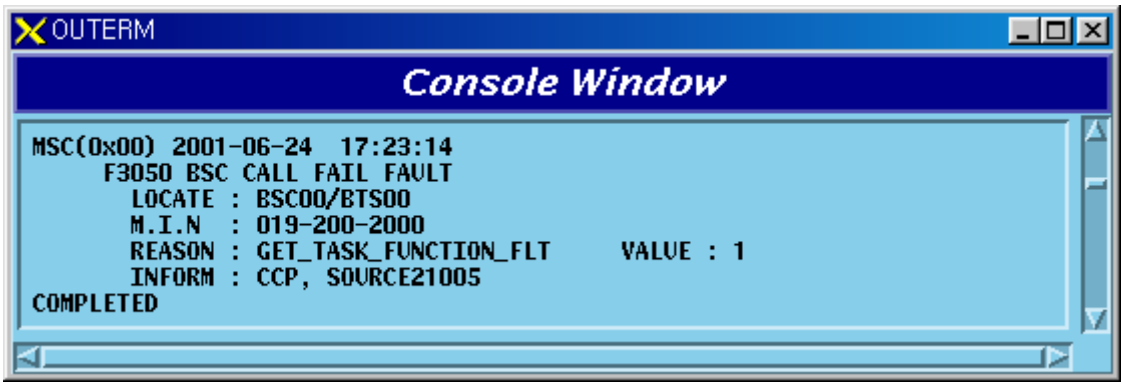


Fig. 5.1-321 Get Task Function Fault

10) Free Task Function Fault

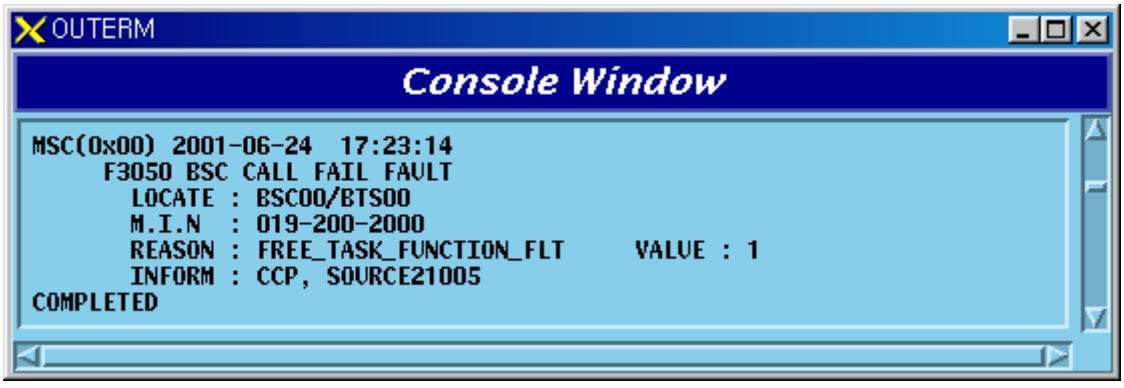


Fig. 5.1-322 Free Task Function Fault

11) Get Buffer Function Fault

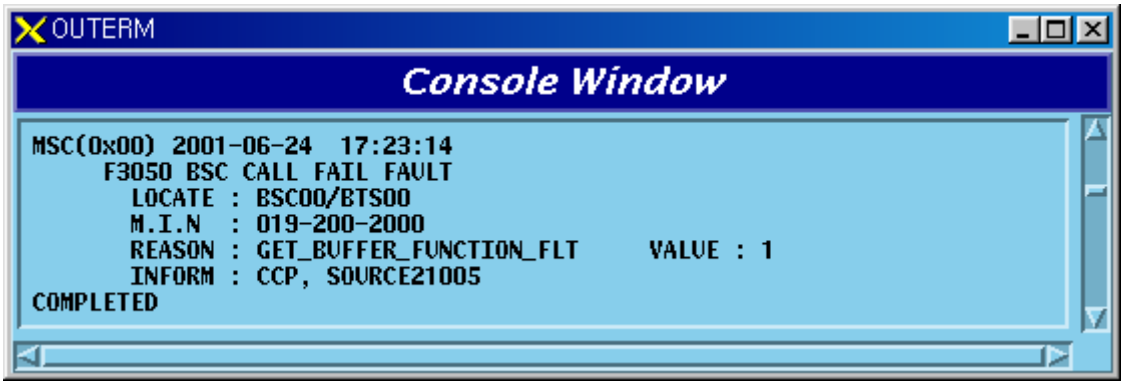


Fig. 5.1-323 Get Buffer Function Fault

12) Authentication Fault

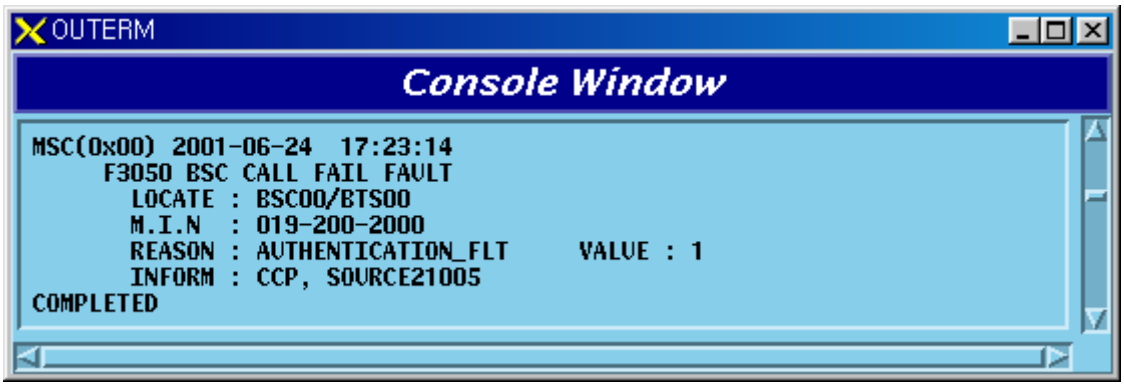


Fig. 5.1-324 Authentication Fault

5.1.2.3. RCP Processing-related Fault

1) When a problem occurs in STM SYSTEM TIME

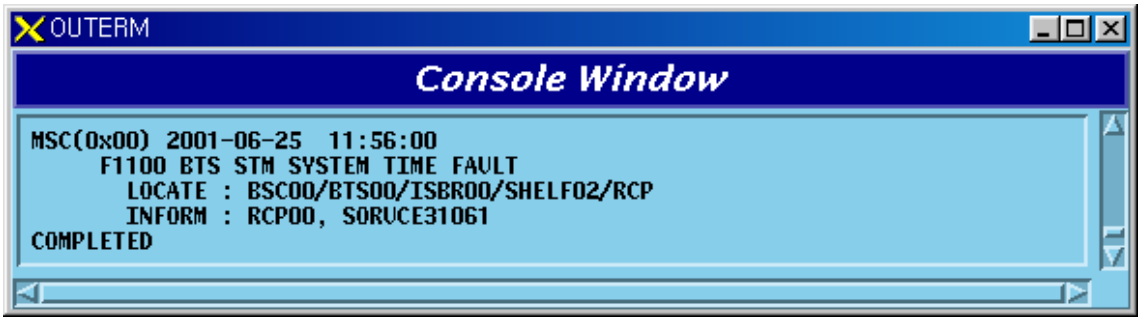


Fig. 5.1-325 STM System Time Fault

2) CDM TX Parity Fault

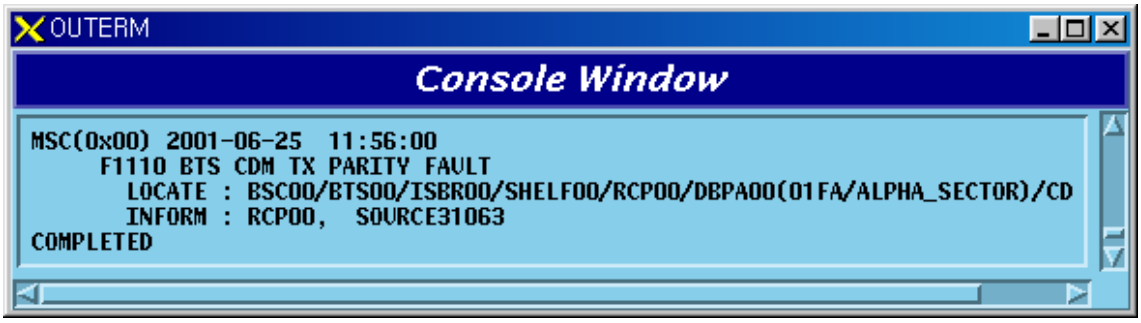


Fig. 5.1-326 CDM TX Parity Fault

3) CDM RX Parity Fault

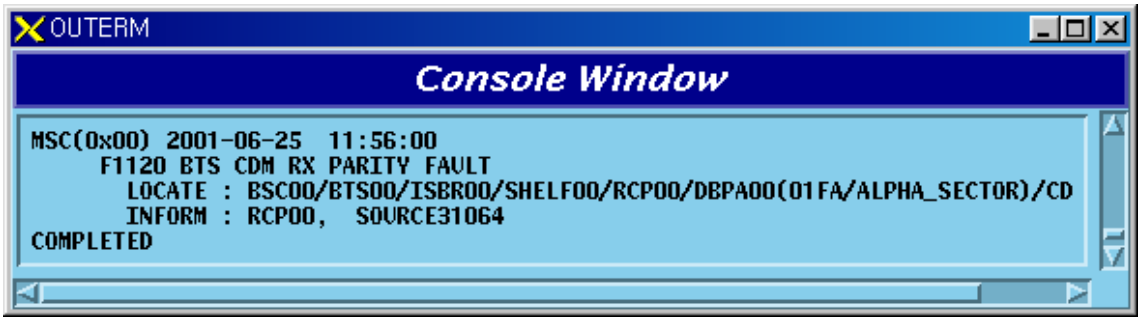


Fig. 5.1-327 CDM RX Parity Fault

4) CDM TX Over-Flow Fault

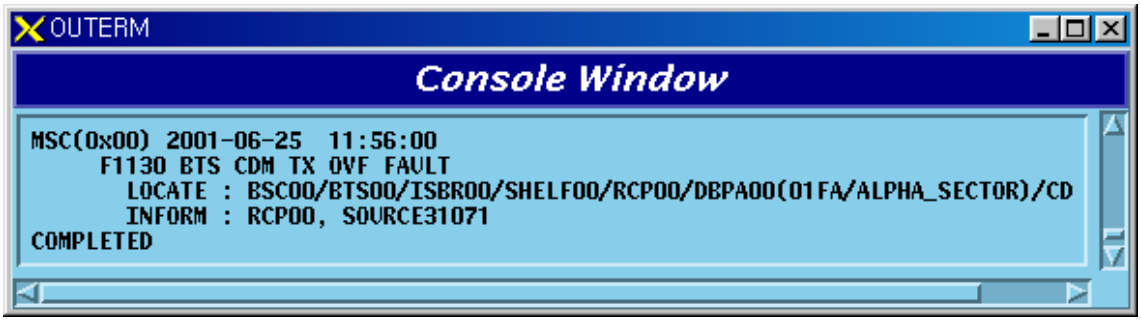


Fig. 5.1-328 CDM TX Over-Flow Fault

5) CDM TX M2R DATA Error

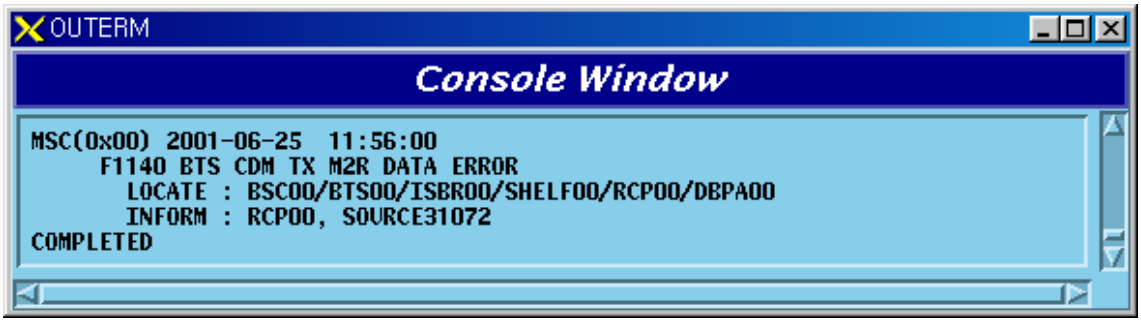


Fig. 5.1-329 CDM TX M2R DATA Error

6) CDM TX R2B DATA Error

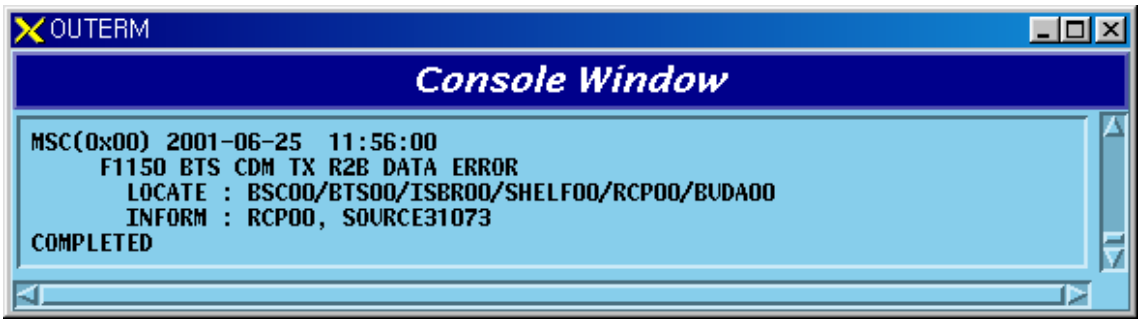


Fig. 5.1-330 CDM TX R2B DATA Error

7) CDM RX B2R DATA Error

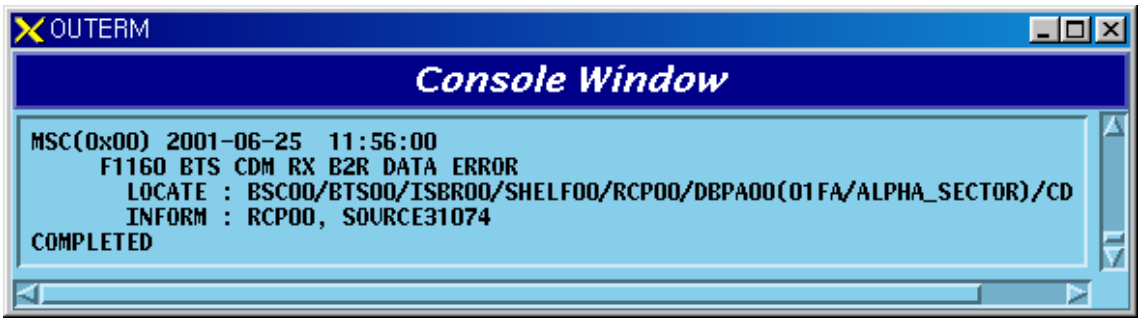


Fig. 5.1-331 CDM RX B2R DATA Error

8) OverHead Channel Config No Received Fault

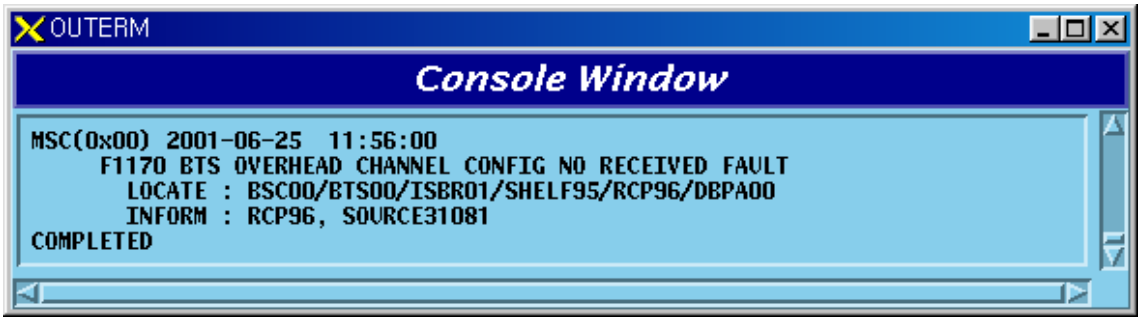


Fig. 5.1-332 OverHead Channel Config No Received Fault

9) OverHead Channel Config Invalid Fault

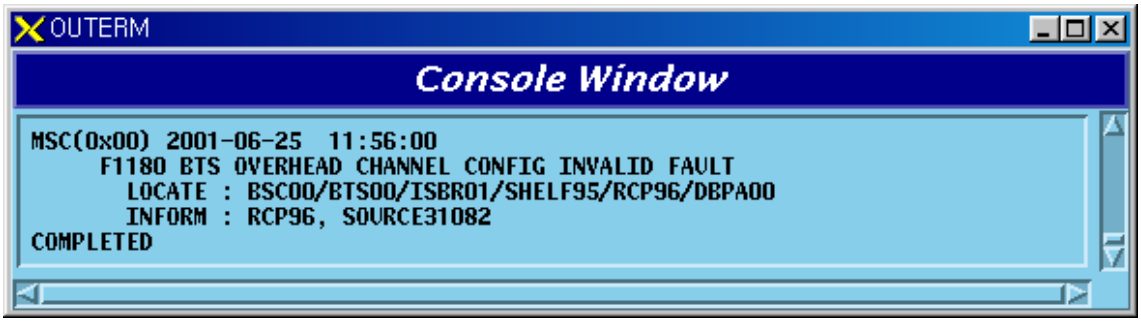


Fig. 5.1-333 OverHead Channel Config Invalid Fault

5.1.2.4. DBPA Processing-related Fault

1) When faults occur in DBPA Internal Even Clock

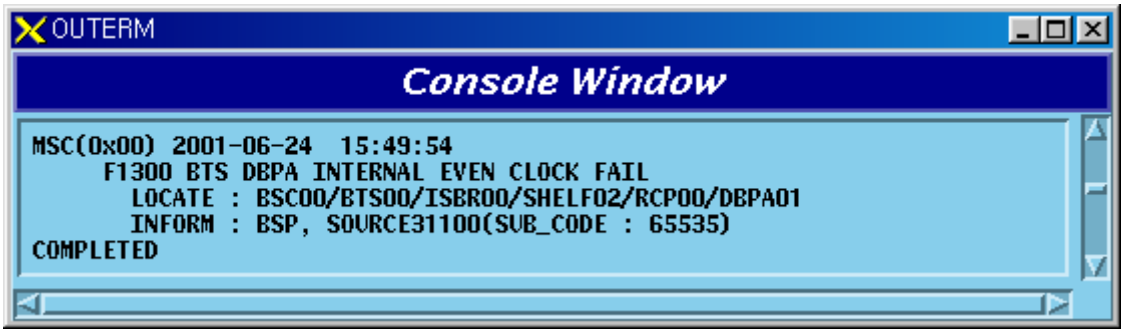


Fig. 5.1-334 DBPA Internal Even Clock Fault

2) When faults occur in DBPA External System Clock

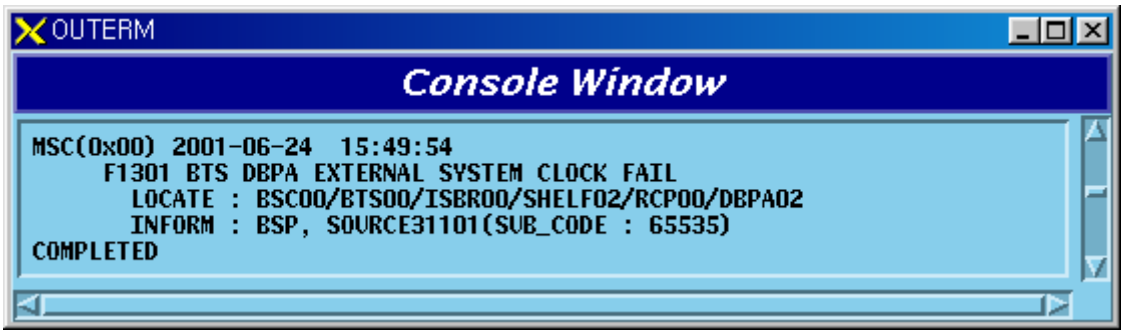


Fig. 5.1-335 DBPA External System Clock Fault

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

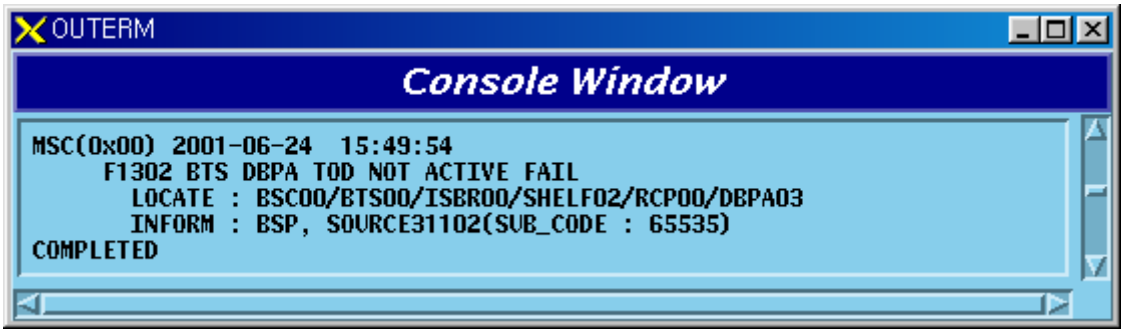


Fig. 5.1-336 DBPA TOD Not Active Fault

4) DBPA Common Channel No Free Queue Fail

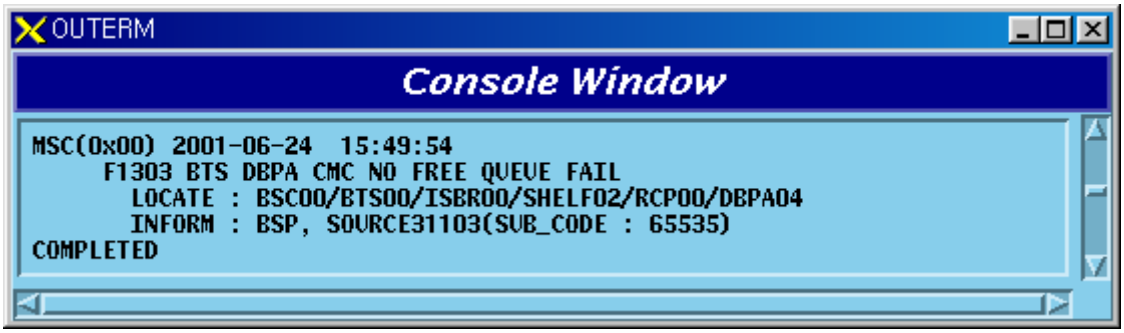


Fig. 5.1-337 DBPA CMC No Free Queue Fault

5) When faults occur in DBPA Internal System Clock

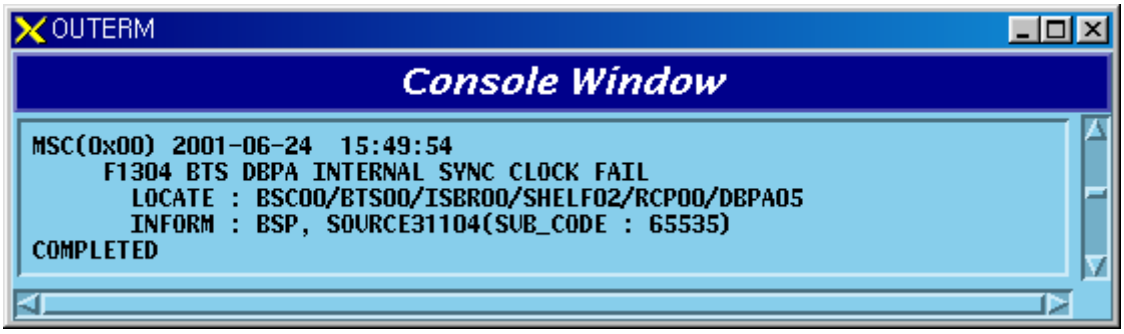


Fig. 5.1-338 DBPA Internal Sync Clock Fault

6) DBPA Core No Free Queue Fail

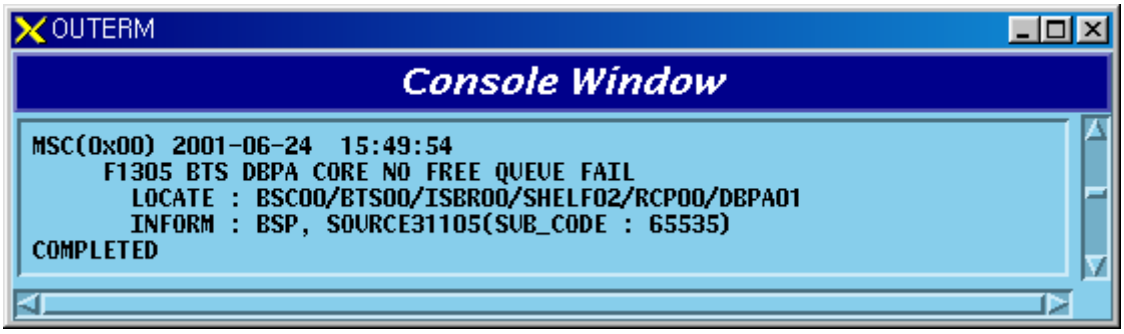


Fig. 5.1-339 DBPA Core No Free Queue Fault

7) DBPA Queue Put Fail

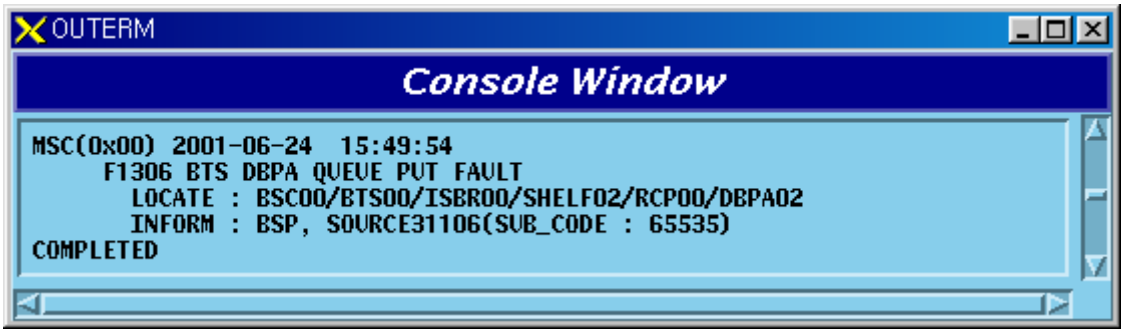


Fig. 5.1-340 DBPA Queue Put Fault

8) DBPA Queue Get Fail

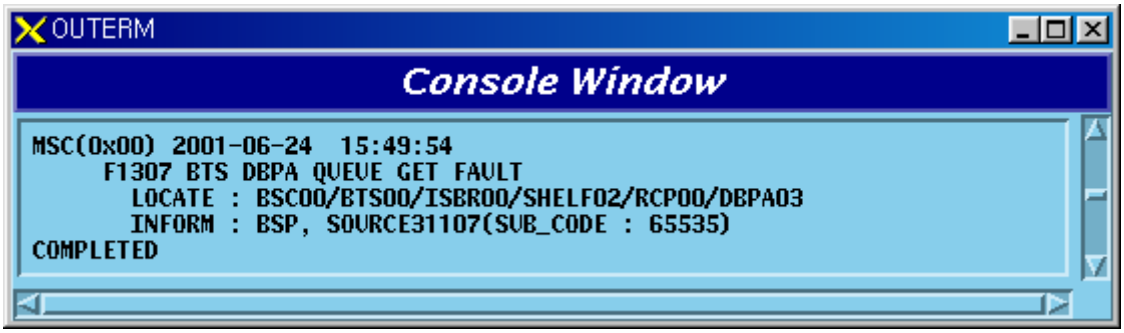


Fig. 5.1-341 DBPA Queue Get Fault

9) DPBA S/W WatchDog TimeOut Fail

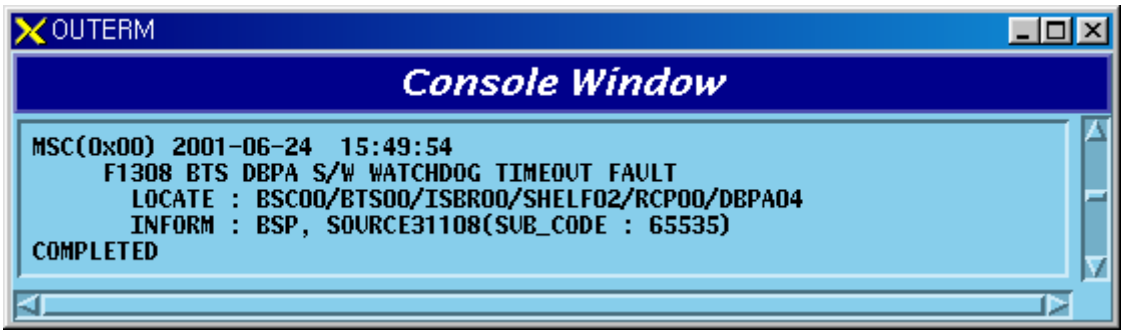


Fig. 5.1-342 DBPA S/W Watchdog Timeout Fault

10) DBPA Fatal Fault

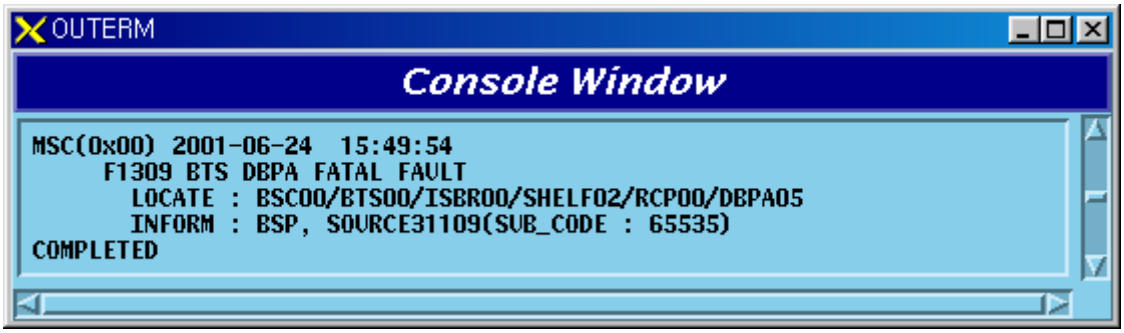


Fig. 5.1-343 DBPA Fatal Fault

11) When DBPA Clock and Modem Control are bad

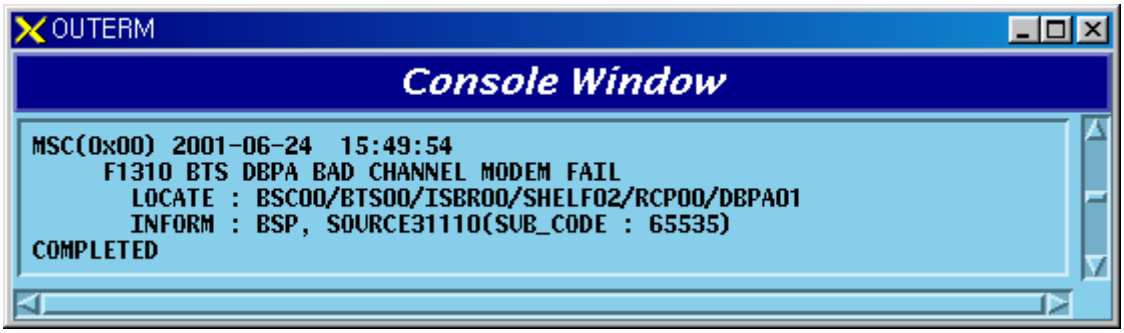


Fig. 5.1-344 DBPA Bad Channel Modem Fault

12) When DBPA has a false TOD information

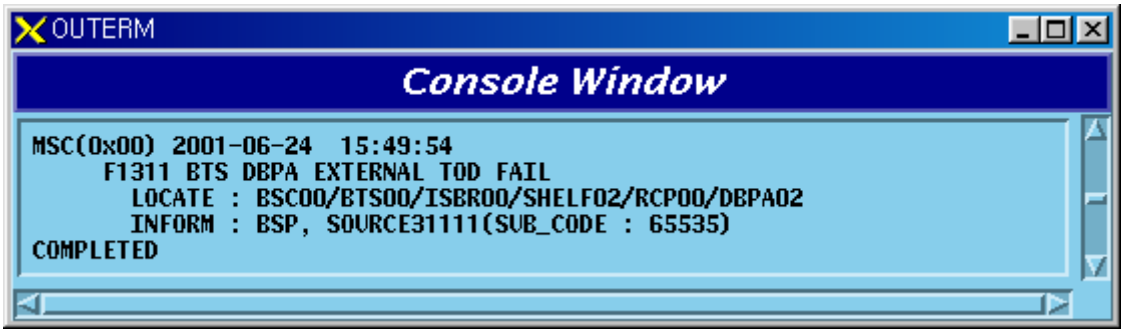


Fig. 5.1-345 DBPA External TOD Fault

13) DBPA Internal OS Clock Fail

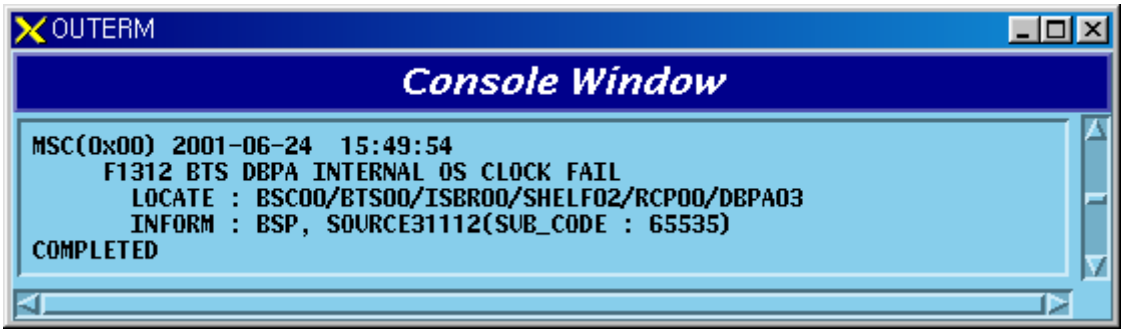


Fig. 5.1-346 DBPA Internal OS Clock Fault

14) DBPA BIT Chip Fail

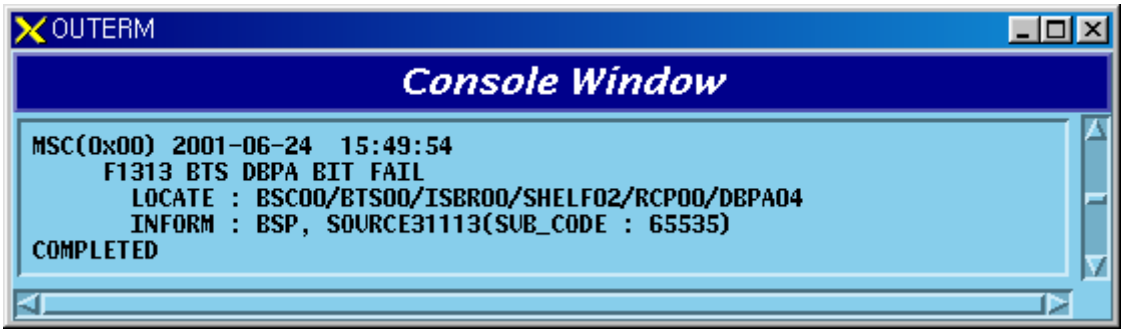


Fig. 5.1-347 DBPA BIT Fail

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

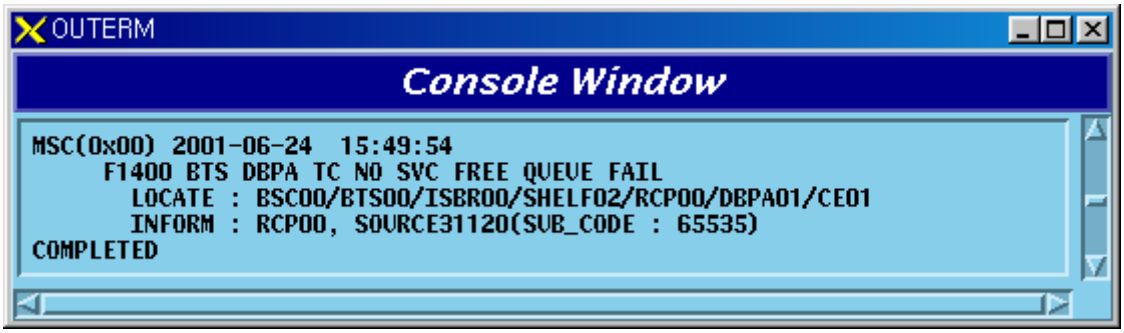


Fig. 5.1-348 DBPA TC No SVC Free Queue Fail

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

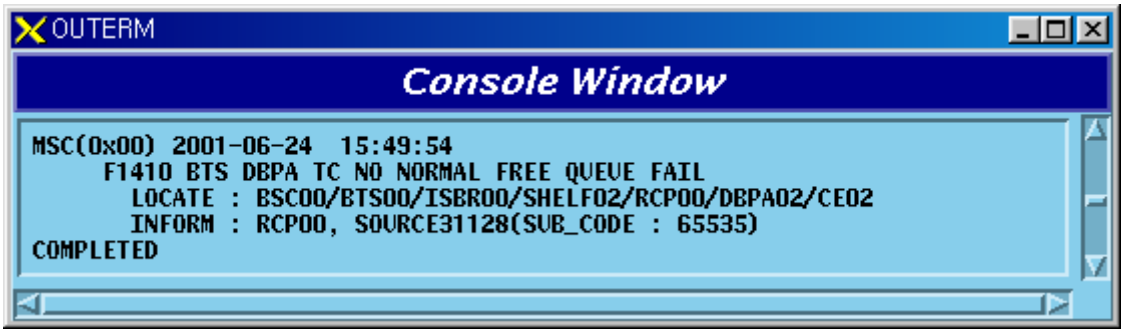


Fig. 5.1-349 DBPA TC No Normal Free Queue Fail

3) When a problem occurs during Built-In Test

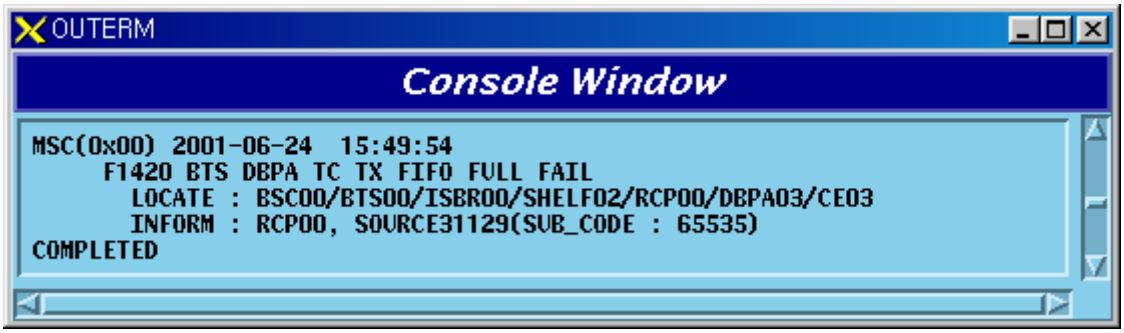


Fig. 5.1-350 DBPA TC Tx FWHENO Full Fail

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

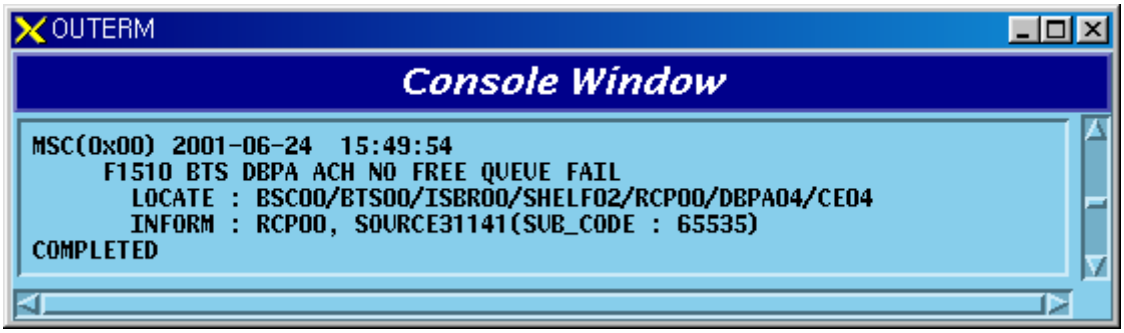


Fig. 5.1-351 DBPA ACH No Free Queue Fail

5) When Encoder Queue resources are used up

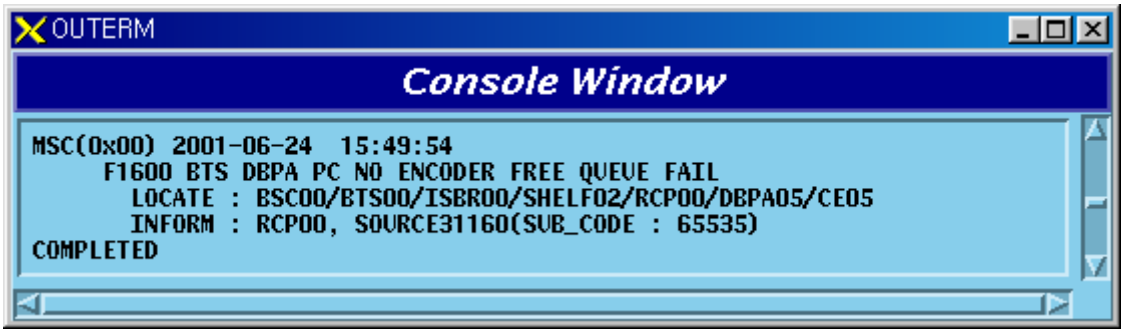


Fig. 5.1-352 DBPA PC No Encoder Free Queue Fail

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

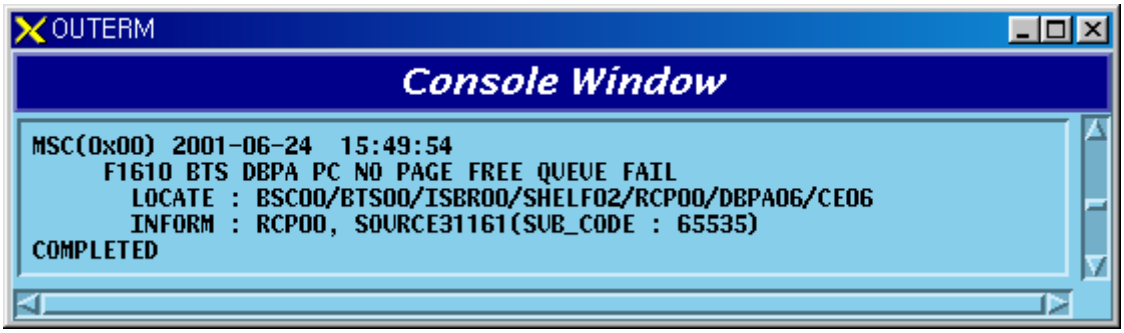


Fig. 5.1-353 DBPA PC No Page Free Queue Fail

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

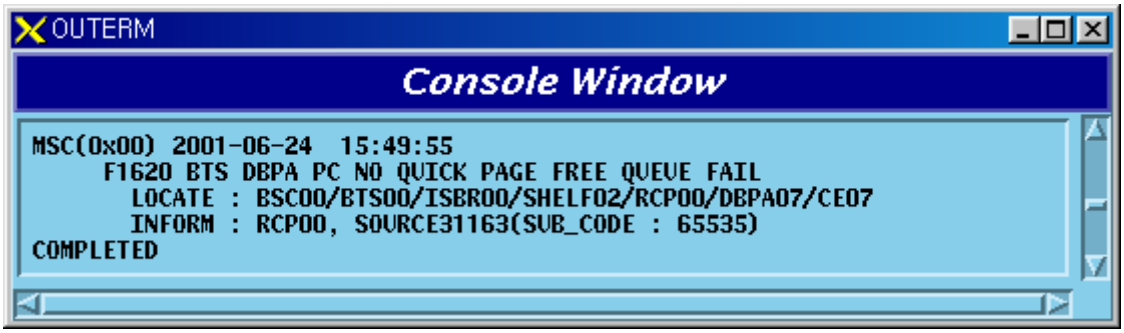


Fig. 5.1-354 DBPA PC No Quick Page Free Queue Fail

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

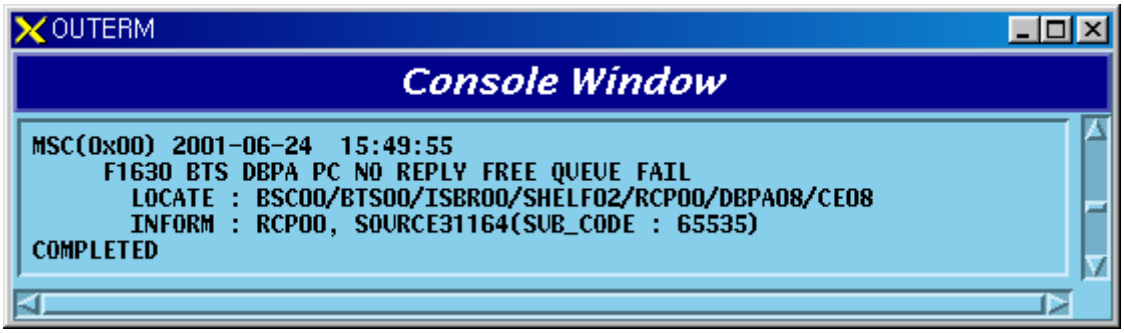


Fig. 5.1-355 DBPA PC No Reply Free Queue Fail

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

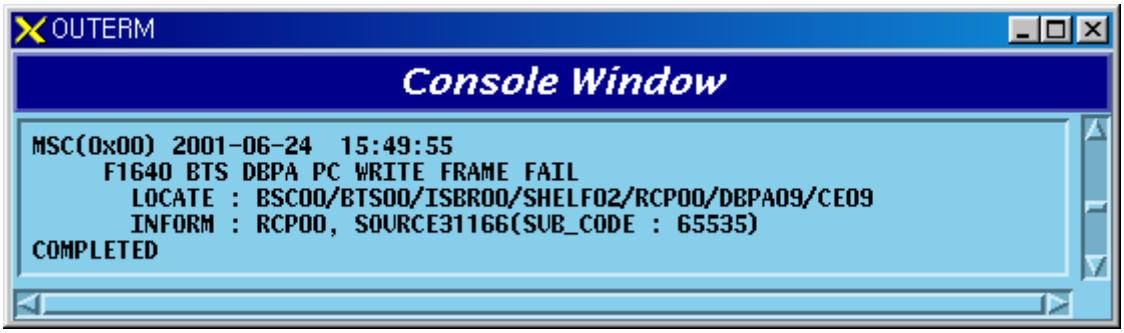


Fig. 5.1-356 DBPA PC Write Frame Fail

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

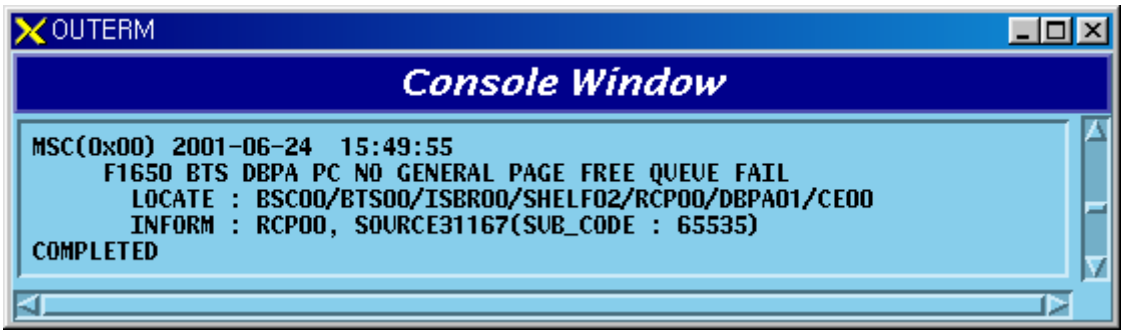


Fig. 5.1-357 DBPA PC No General Page Free Queue Fail

5.1.2.6. BUDA Processing-related Fault

1) BUDA CHIPx16 Fault

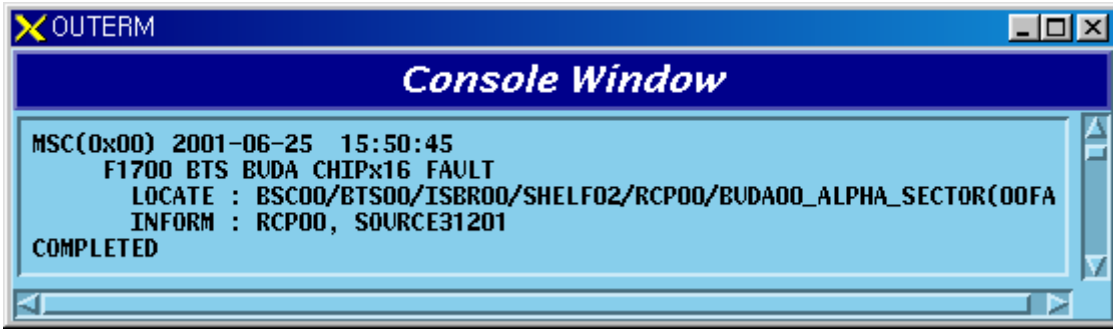


Fig. 5.1-358 BUDA CHIPx16 Fault

2) BUDA Forward Sync Fault

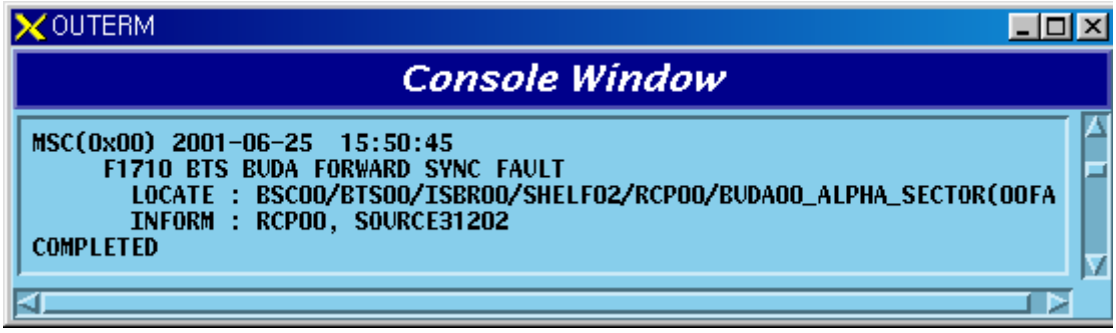


Fig. 5.1-359 BUDA Forward Sync Fault

3) BUDA Tx Saturation Fault

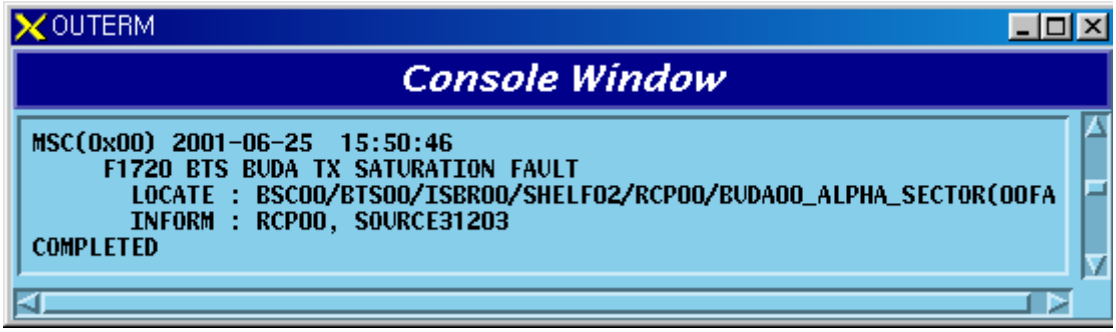


Fig. 5.1-360 BUDA Tx Saturation Fault

4) BUDA Frame Error Fault

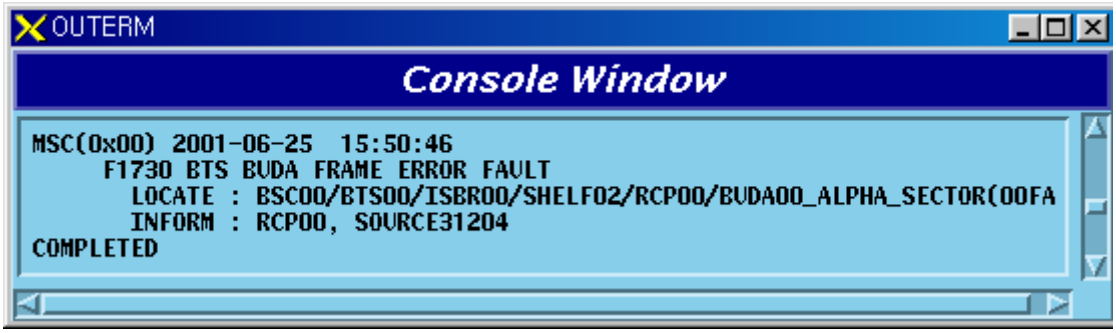


Fig. 5.1-361 BUDA Frame Error Fault

5.1.2.7. BOTA Processing-related Fault

1) BOTA TOD Error Fault

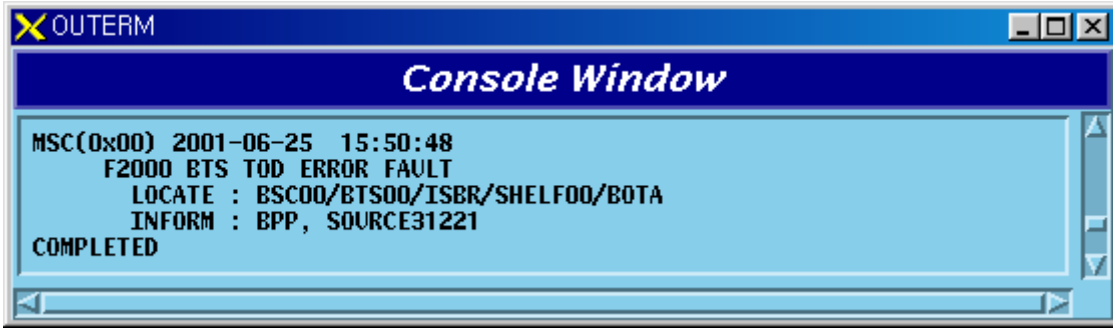


Fig. 5.1-362 BOTA TOD Error Fault

2) BOTA TOD Not Active Fault

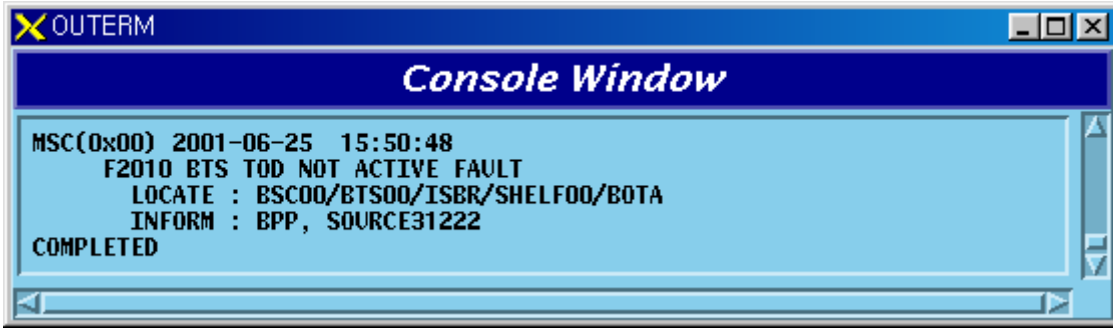


Fig. 5.1-363 BOTA TOD Not Active Fault

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.

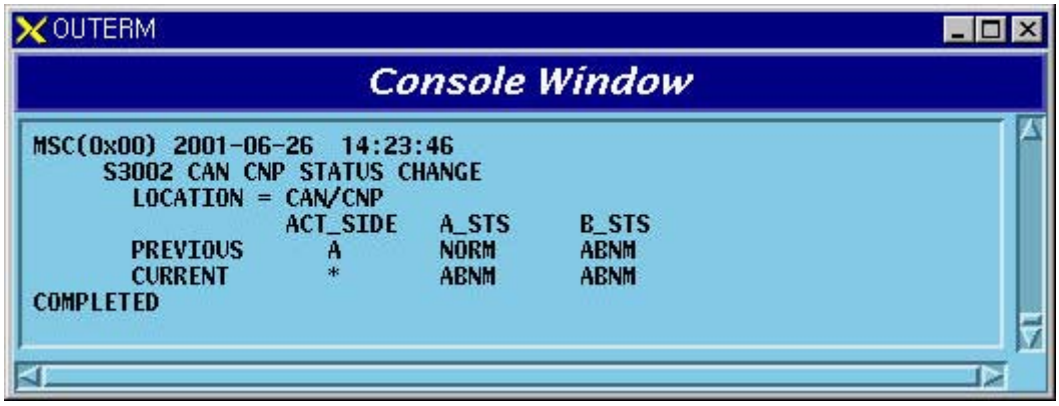


Fig. 5.2-1 CNP Processor Status Change Report

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.

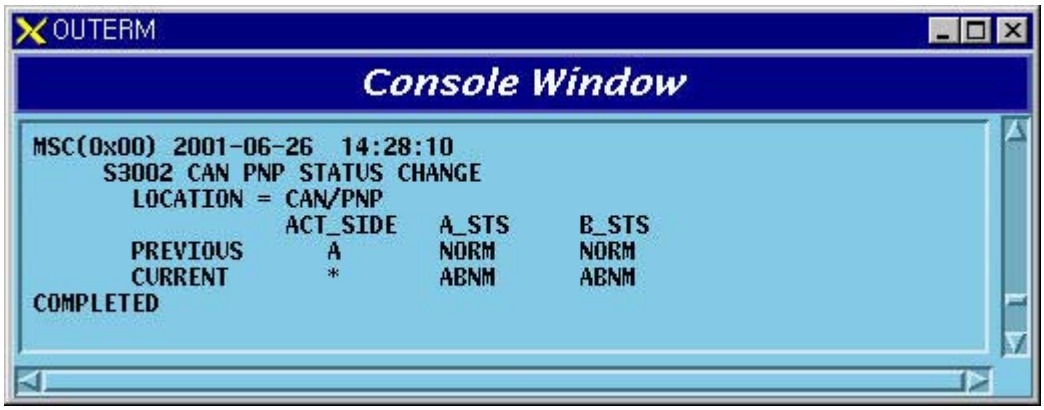


Fig. 5.2-2 PNP Processor Status Change Report

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.

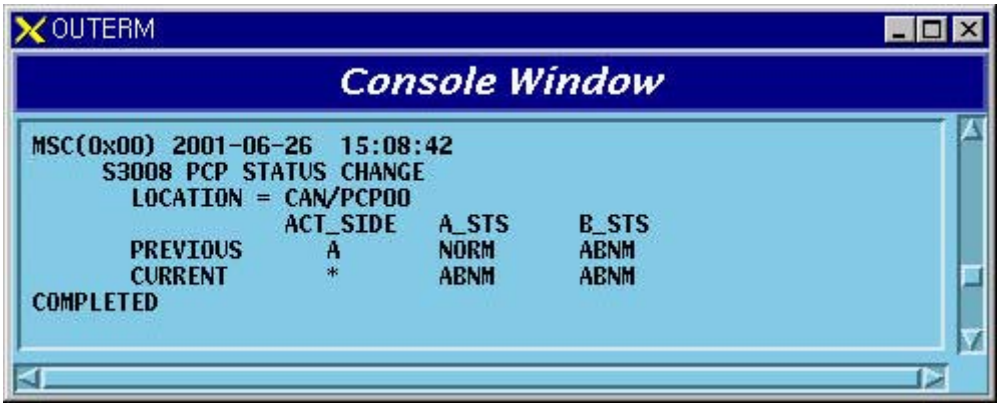


Fig. 5.2-3 PCP Processor Status Change Report

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.

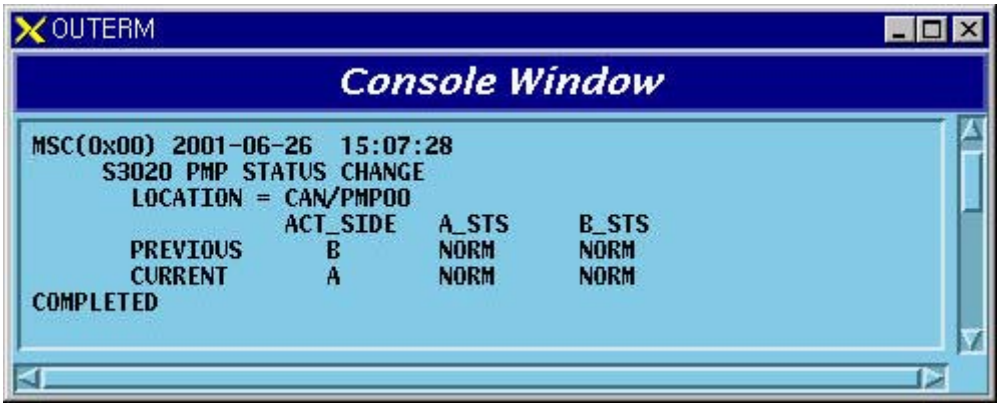


Fig. 5.2-4 PMP Processor Status Change Report

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.

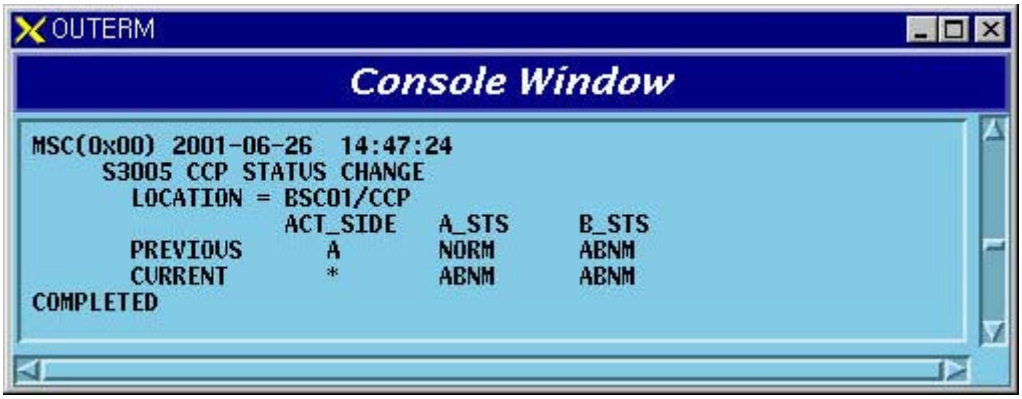


Fig. 5.2-5 CCP Processor Status Change Report

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.

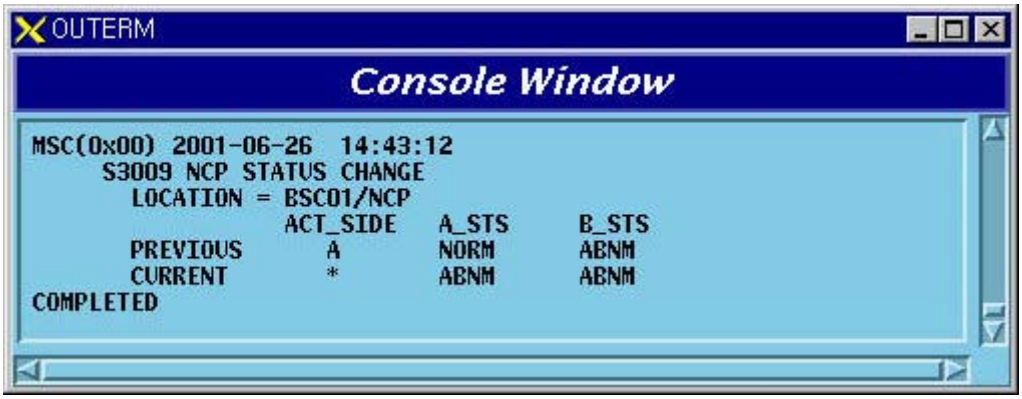


Fig. 5.2-6 NCP Processor Status Change Report

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.

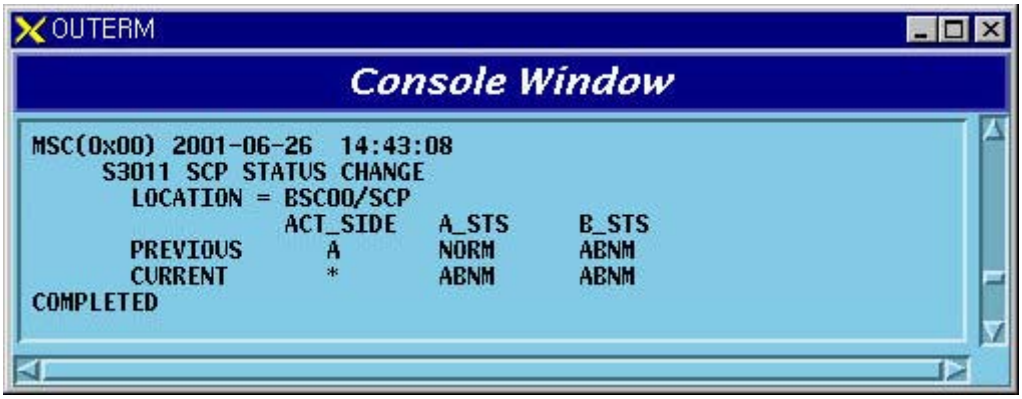


Fig. 5.2-7 SCP Processor Status Change Report

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.

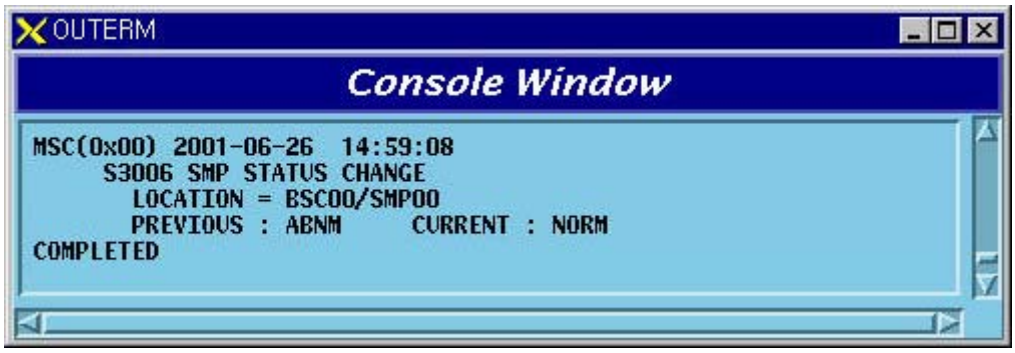


Fig. 5.2-8 SMP Processor Status Change Report

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.

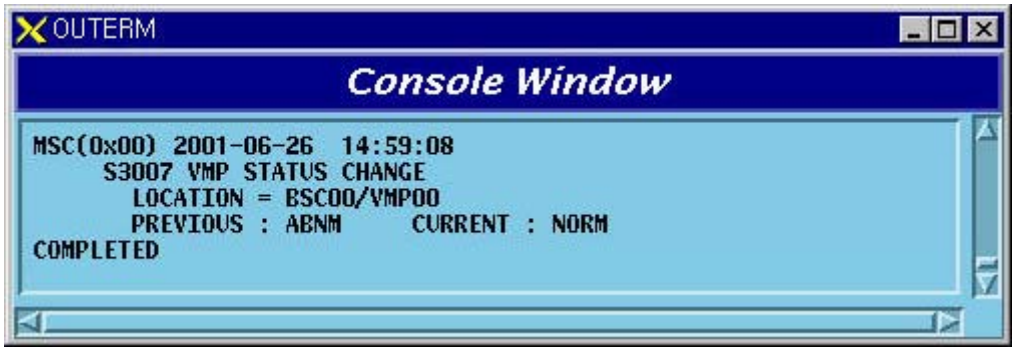


Fig. 5.2-9 VMP Processor Status Change Report

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.

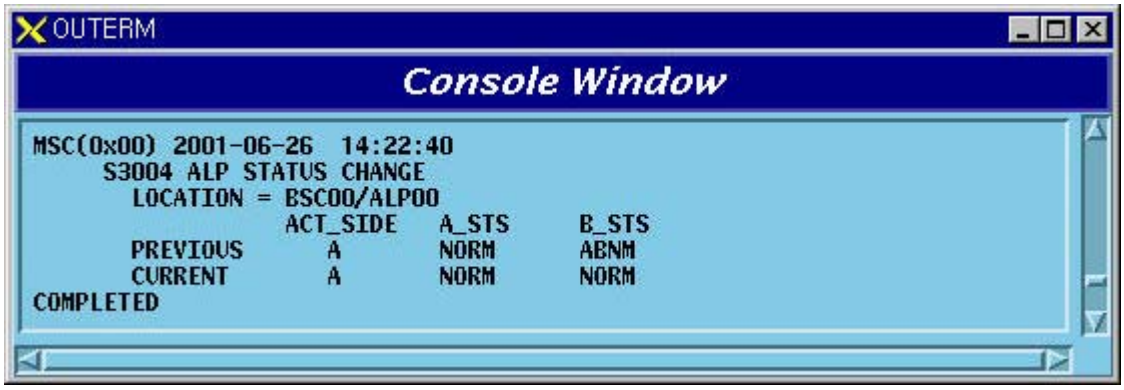


Fig. 5.2-10 ALP Processor Status Change Report

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.

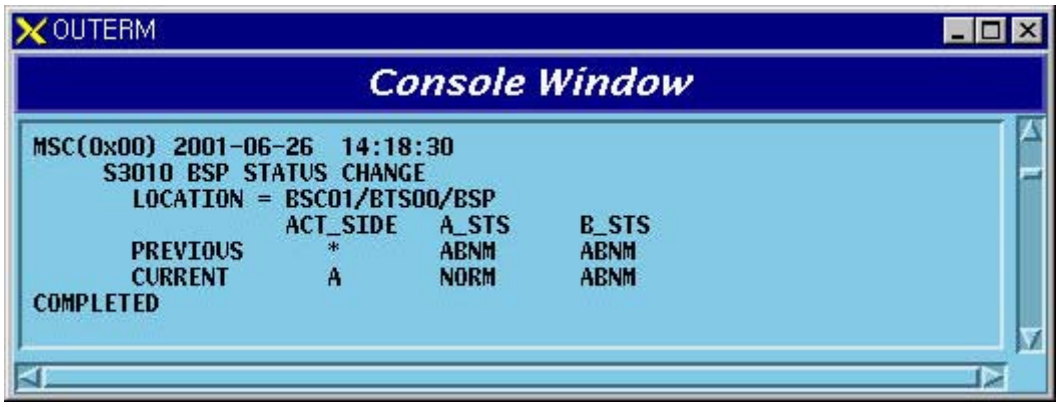


Fig. 5.2-11 BSP Processor Status Change Report

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.

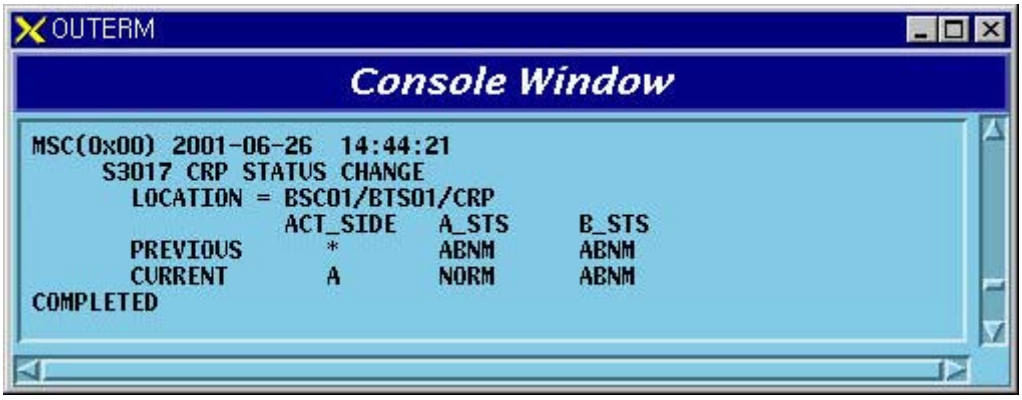


Fig. 5.2-12 CRP Processor Status Change Report

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.

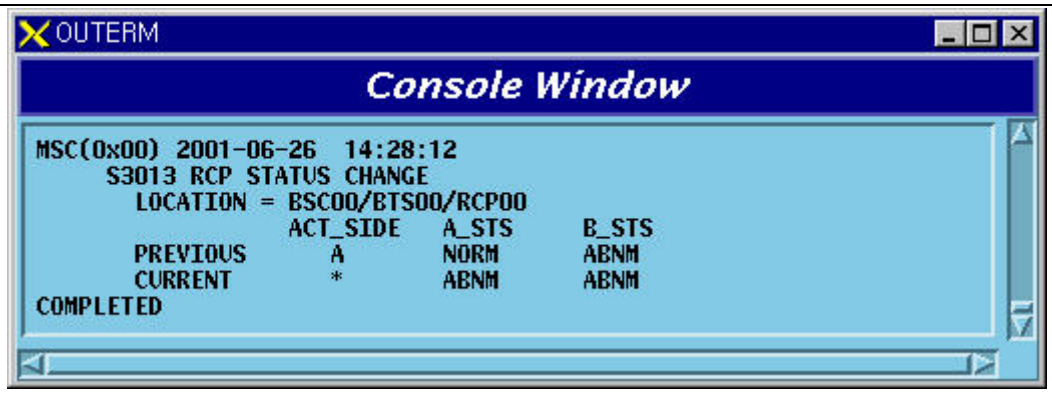


Fig. 5.2-13 RCP Processor Status Change Report

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.

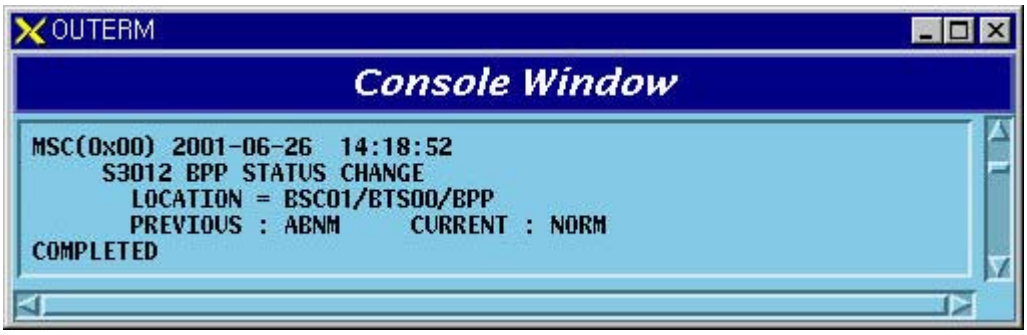


Fig. 5.2-14 BPP Processor Status Change Report

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.

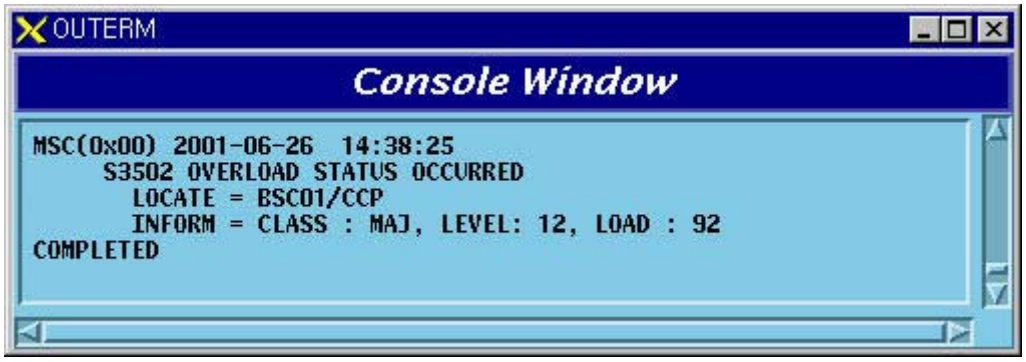


Fig. 5.2-15 Overload Status Occurred Message

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.

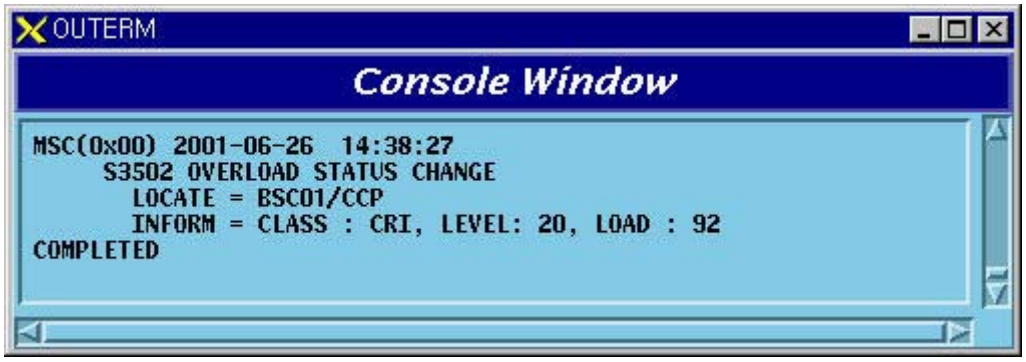


Fig. 5.2-16 Overload Status Change Message

5.2.2.3. Overload Status Released Message

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

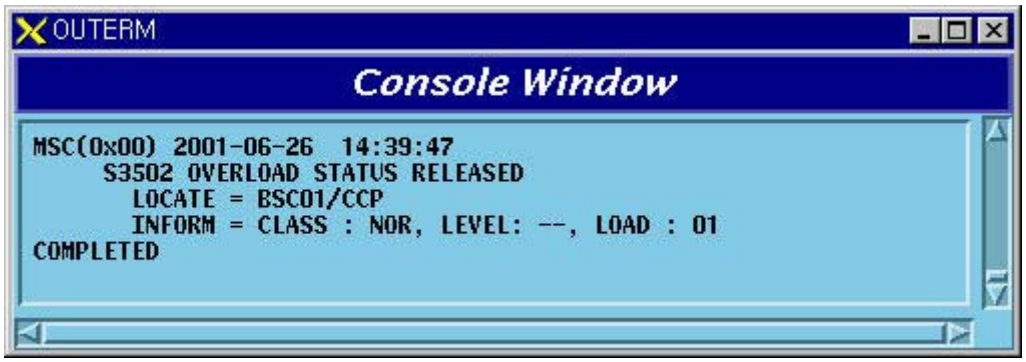


Fig. 5.2-17 Overload Status Released Message

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

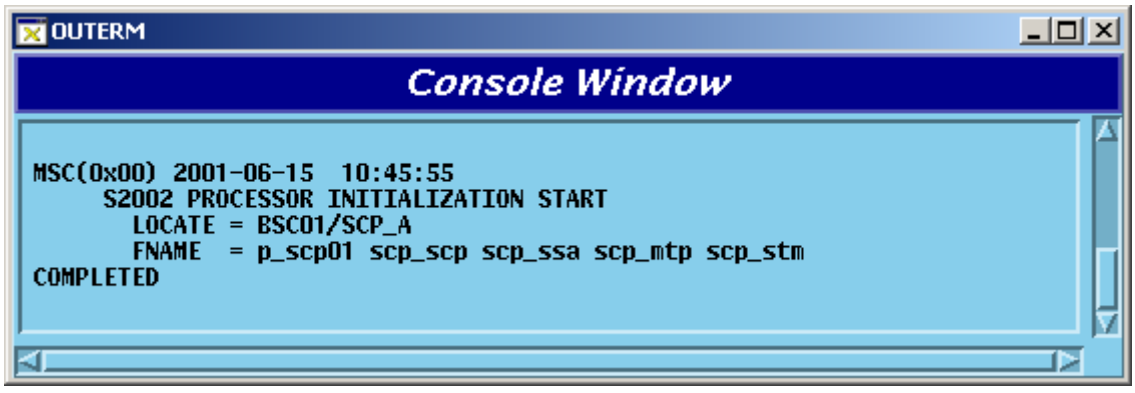


Fig. 5.3-1 Processor Initialization Start Message

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

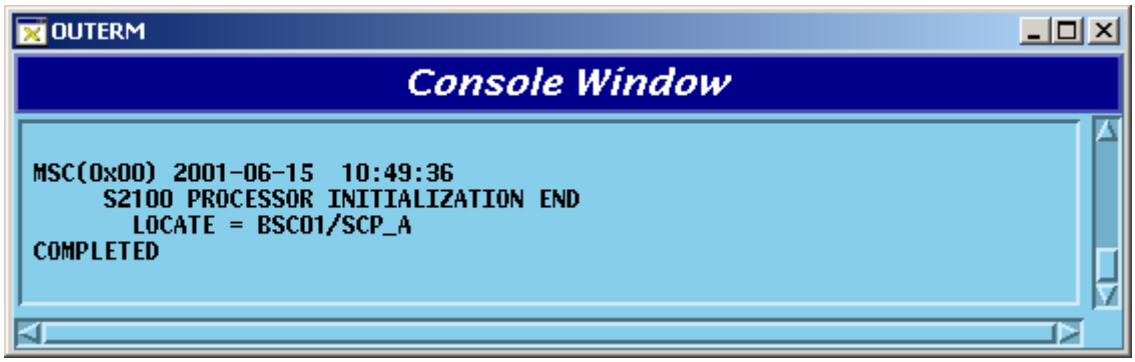


Fig. 5.3-2 Processor Initialization End Message

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

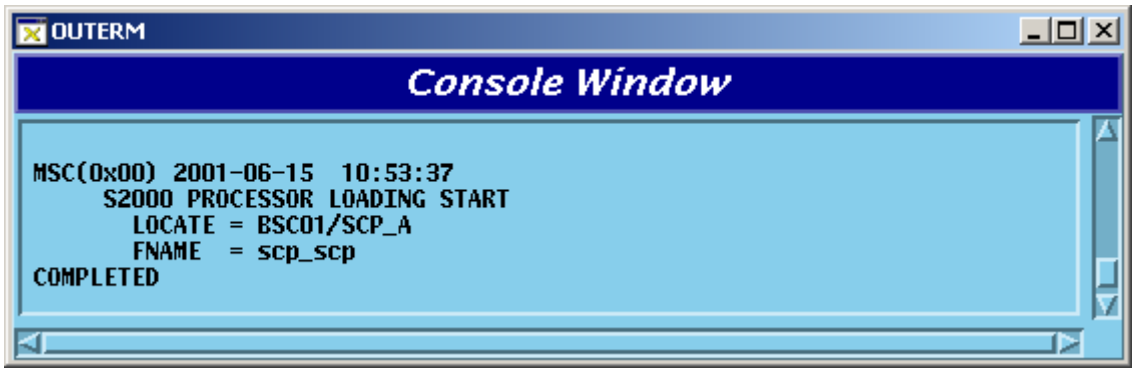


Fig. 5.3-3 Loading Start Message

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

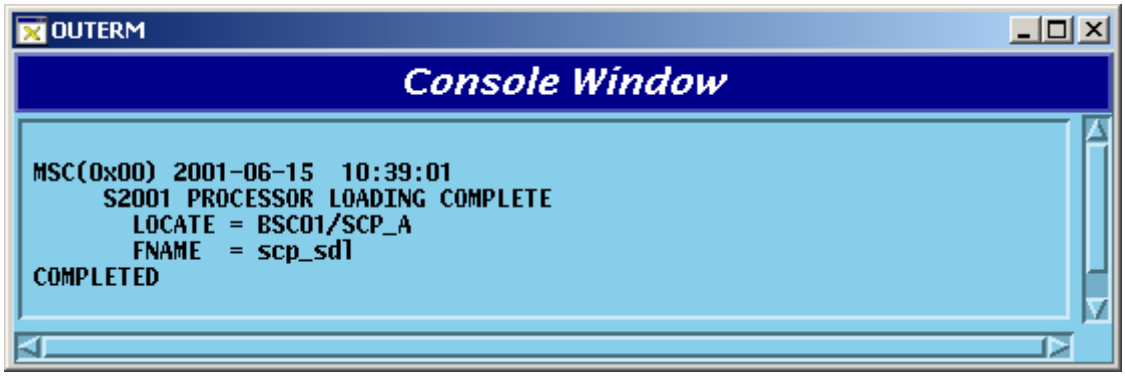


Fig. 5.3-4 Loading Completion Message

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

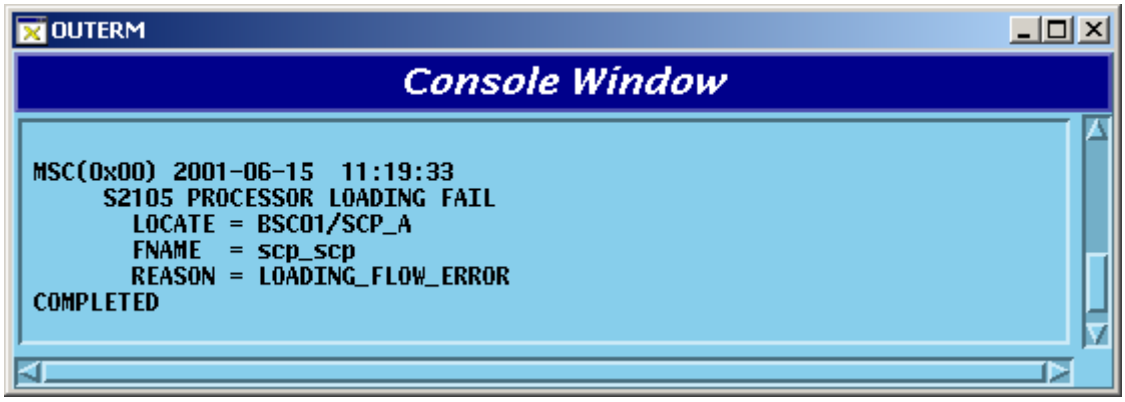


Fig. 5.3-5 Loading Failure Message

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. - SYNT1(RF PLL) : Replace BUDA. - SYNT2(IF PLL) : Replace BUDA. - 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 - H/W, S/W Reset - PLL LOCK Fail (TTL) - GPS 10MHz Reference Signal Fail(TTL)	- H/W, S/W Reset : auto recovery - PLL Lock Fail : Check RCCA status or replace board. - 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. - MAT_OPEN : check BRMD status. - DPDT_OPEN: check DPDT status. - 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. - 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. - 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. - 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. - 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. - 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. - 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. - 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. - 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. - 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 - 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. - 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. - 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. - 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. - 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. - 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. - 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 (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, 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

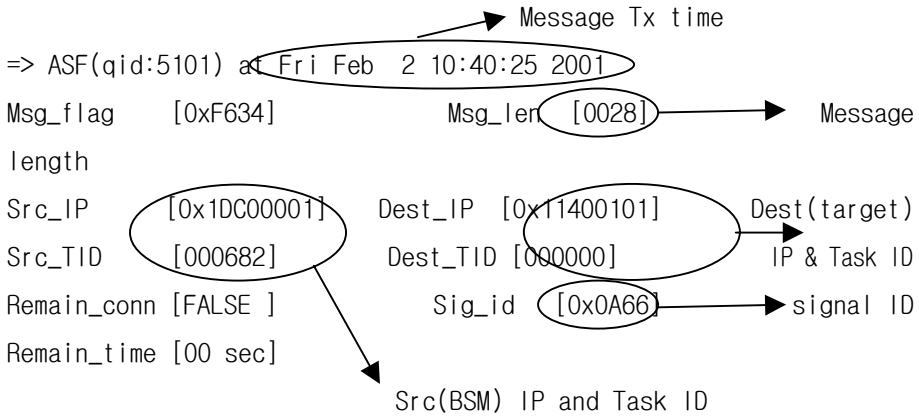
asf [all/off] : If a factor is not set in asf command, or as a factor, all is set, it can trace all messages from BSM. It can stop Tx message trace set to asf off command.

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.



7.3.1.2. arf Command

7.3.1.2.1. Input

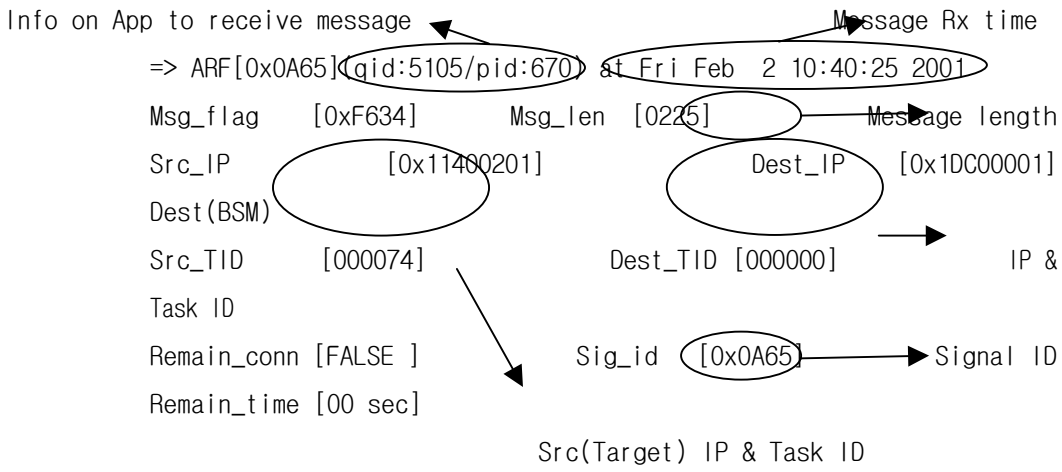
arf [all/off] : This can trace all messages received to BSM if a factor is not set in arf command, or all is set as factor. IT can stop tracing Rx message set as arf off command.

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](gid: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 messssage 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).

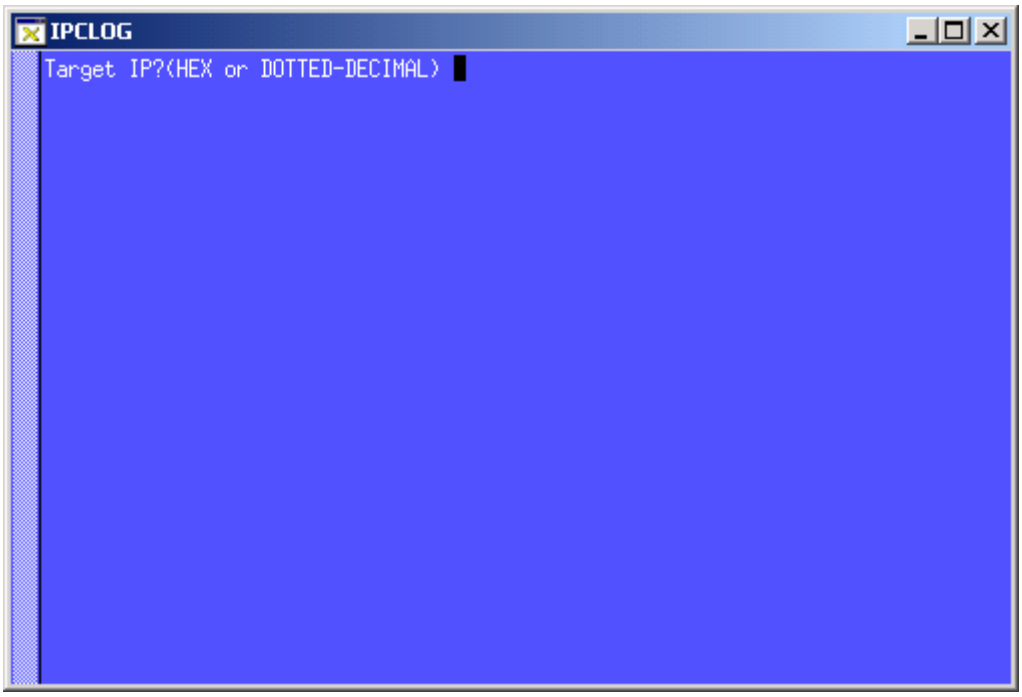


Figure 7.3-1 IP Input Request Window in DCI Window

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

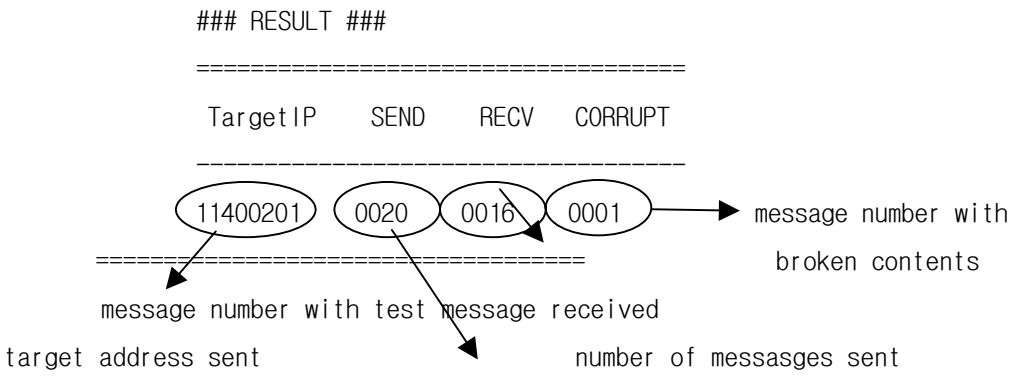
Packet Size?(byte) 512 *test message byte number*

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:



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.

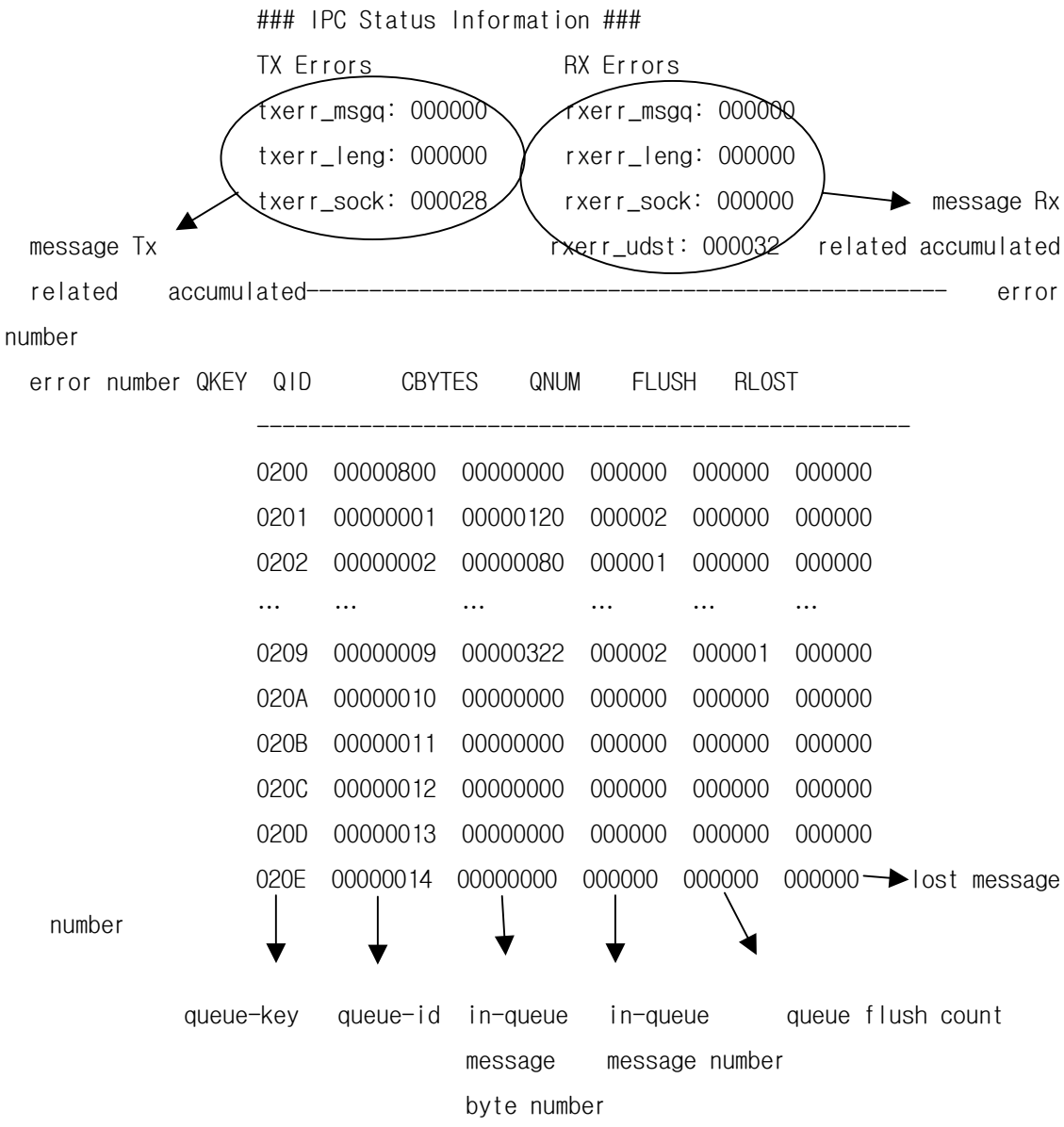
7.3.3.1. ipcs Command

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:



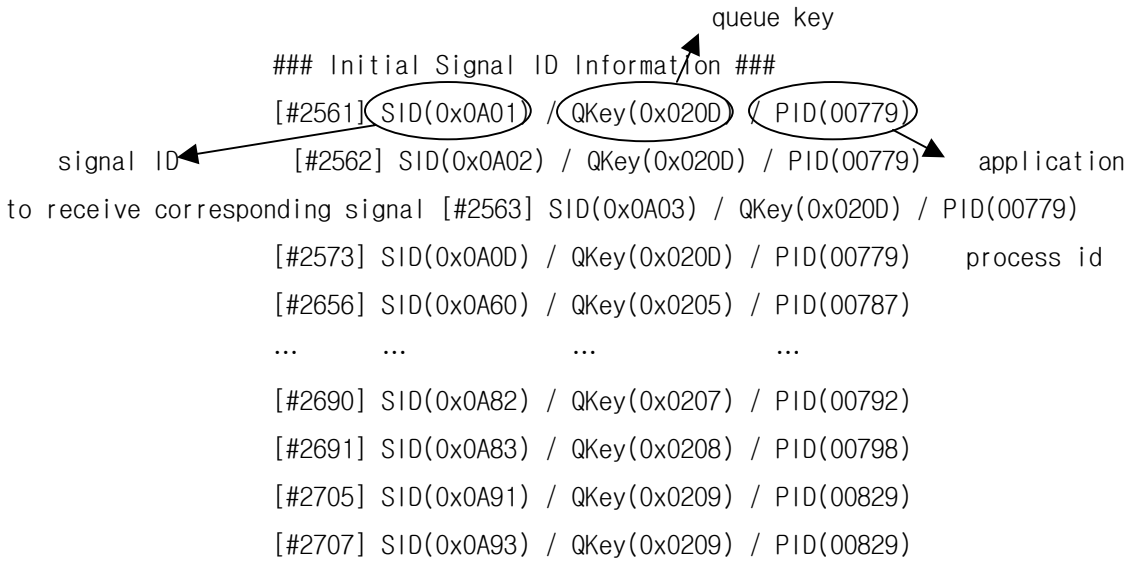
7.3.3.2. isig Command

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:



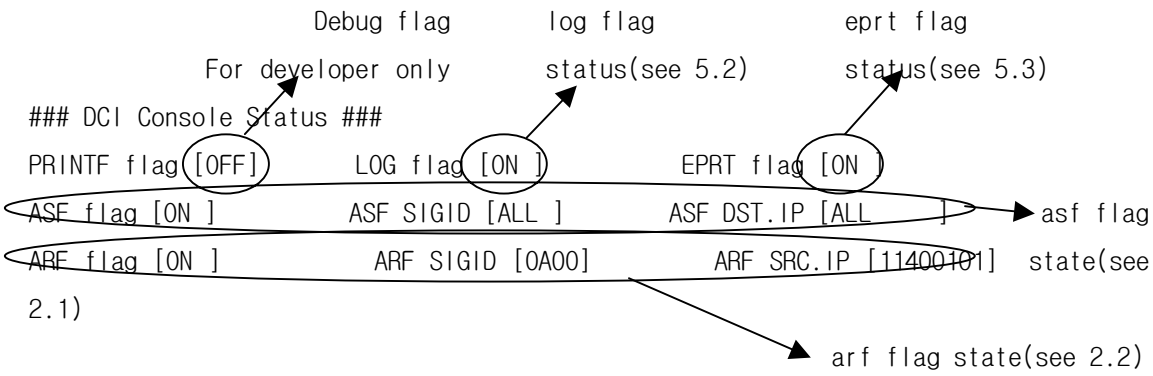
7.3.3.3. status command

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:



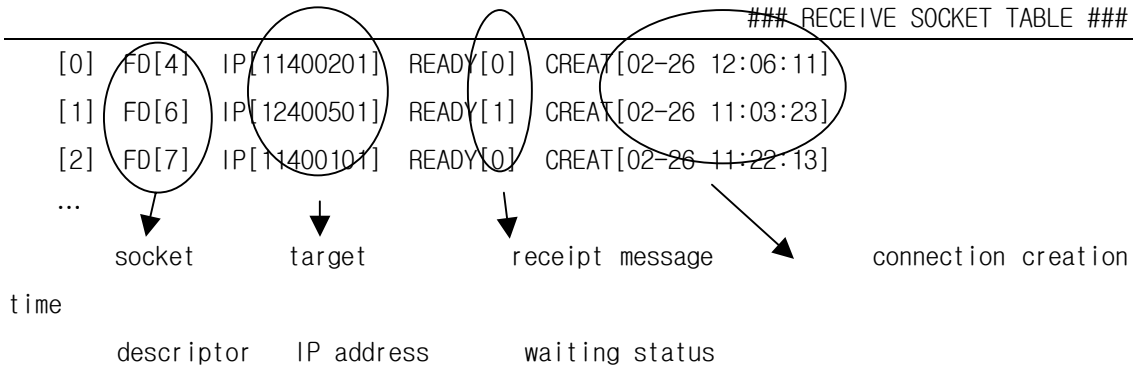
7.3.3.4. rsock command

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.



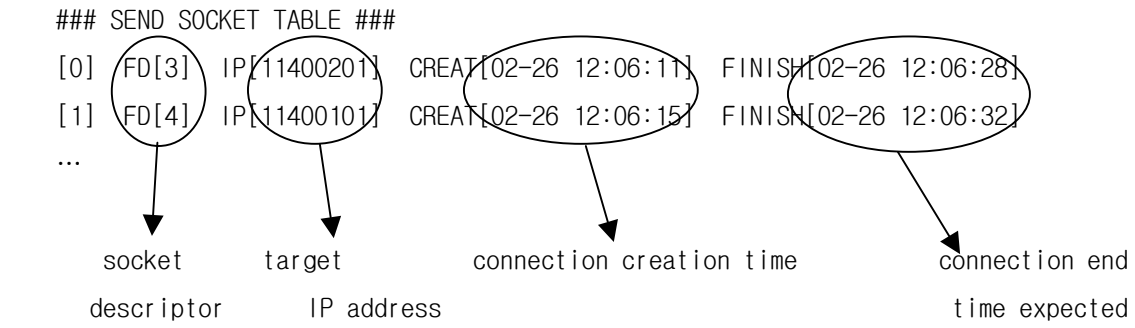
7.3.3.5. ssock command

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:



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 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 TOTAL_SDB_REVERSE_Byte	Total bytes of SDB from MS to PDSN in dormant state
TOTAL_ACT_FORWARD_KByte TOTAL_ACT_FORWARD_Byte	Total bytes of packet from PDSN to SLP in active state
TOTAL_ACT_REVERSE_KByte 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) (average time = Total Duration/ pkt_succ: all successful call's Active + Dormant Duration)
TOTAL_ACT_TIME	Total time in Active state (10msec) (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 (0: Not_equip 1 : Equip)
byte	smp_eqp[MAX_SMP]		Current SMP equip (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 (0:Not_equip 1 : Equip) MAX_PCF : 3 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 (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. (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]		

7.5.2.2. 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 (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) 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 (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. (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)
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 [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 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	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 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 PBA's own number (not yet set)
byte	no_sub		Sub Processor Number In case of Sub processor had IP 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) 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 (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) IP used by PDSN for Public Networkinterface. Home Agent IP. As several PDSNs can be interfaced, extendibility is considered. 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 PDSN RPP IP. 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. Should be set per PDSN_NODE.
byte	ssk_len[MAX_PDSN_NO][MAX_NODE_NO];	0 ssk_val length	ssk_value[] length 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. Range : 0 ~ 65,535 unit : 60sec 0x0000 = Release 0xFFFF = Infinite
word16	Tbsreq9	5000	PCF timer. Range : 0 ~ 5000 Unit : 1msec
word16	Tdiscon9	5000	PCF timer. Range : 0 ~ 5000 unit : 1msec
word16	Twaitho9	10000	PCF timer. Range : 0 ~ 10000 Unit : 1msec
word16	Tregreq	5000	PCF timer. Range : 0 ~ 5000 Unit : 1msec
word16	regreq_retry_cnt	2	Registration Request message retransfer count that PCF sends to PDSN. Range : 0 ~ 20 Unit : frequency. 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. 0 : Time Stamp

			1 : Nonce
word32	pcp_ip[MAX_PCF_SHELF][MAX_PCP_NO]	PCP IP, PMP IP	MAX_PCF_SHELF = 2 MAX_PCP_NO = 2 PCP/PMP IP executing F/E interface. [0][0] : PCP (Active) [0][1] : PCP (Standby) [1][0] : PMP (Active) [1][1] : PMP (Standby)
word32	pip_ip[MAX_PCF_SHELF][MAX_PIP_NO]	PIP IPs	MAX_PCF_SHELF = 2 MAX_PIP_NO = 11 PIP IP executing F/E interface.
word32	net_mask[MAX_PCF_SHELF][MAX_PIP_NO]	0	To be judged. PLD add.
word32	default_gw[MAX_PCF_SHELF][MAX_PIP_NO]	0	Default Gateway. 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. Current local time = SYS_TIME - LP_SEC + ltm_off ltm_off = 18 (30 minutes per unit, that is, 9 hour difference) * LP_SEC : Number of Leap seconds that occurred since the start of System Time.
boolean	day_lt	0	Daylight saving time flag (Summer time) 1 : day lighting saving time 0 : standard time
byte	gre_seq_flag	0	1 : Used SEQ 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 1 : IMSI 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: NO7(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 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) 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) 1(1900Mgz) 4(1800Mhz)	band class of candidate frequency 800Mhz: 0 1800Mhz : 4 = domestic 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) PPP protocol stack is mounted on MS and Network Layer. Point-to-Point Packet Data Service
byte	cdpp_pkt	1	Packet Data(CDPP Protocol Stack) 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) 1(1900Mgz) 4(1800Mhz)	band class of candidate frequency 800Mhz: 0 1800Mhz : 4 = domestic 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. 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) 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 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 index 1: using Reverse Pilot 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: 2dn index 1: Turbo Encoding 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 byte	bts_id sector_id	full 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 byte byte	begin_preamble resume_preamble ps_min_delta		Preamble Frame number sent at the beginning of Reverse Supplemental (Code) Channel transfer Preamble Frame number sent upon retransfer of Reverse Supplemental (Code) Channel 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	N a m e	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. Index(0~8) of total 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]		

7.5.6.2. 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 (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 : 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 (see Appendix Connection ID)
byte	fabric_no	0	Index(0~8) of total APCs 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 (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	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	0	index(0~8) of total APCs 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 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 LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2)
word16	link_bw[512]	0x100	VC Link Bandwidth (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 LINK_AAL2(0), LINK_AAL5(1), LINK_TEST(2)
word16	link_bw[512]	0x100	VC Link Bandwidth (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 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 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 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 (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) (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)

7.5.6.18. 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 In IS-2000 0 : CAN, 1 : CAN-D 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 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) 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

7.5.6.19. 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. 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 (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 0x040f : DCN	Remote signaling point code
word16	tot_slk	4	Total number of Available Signal link
word16	link_st[16]	0~3 : 1 rest: 0	Signaling link status (0: unavailable 1:available)
word16	slc_no[16]	0 : slc_no[0]	Signaling link code

		1 : slc_no[1] 2 : slc_no[2] 3 : slc_no[3] 255 : rest	
word16	vmp_no[16]	0 : vmp_no[0] 0 : vmp_no[1] 0 : vmp_no[2] 0 : vmp_no[3] 255 : rest	
word16	trk_no[16]	16:trk_no[0] 48: trk_no[1] 80: trk_no[2] 112: trk_no[3] 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] 2: st_st[4~15]	Signal terminal state (0: unavailable 1: available 2: Not Equip)
word16	sl_no[16]	0 : sl_no[0] 1 : sl_no[1] 2 : sl_no[2] 3 : sl_no[3] 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. 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. 2. upon connection release, it is the time to freeze corresponding LRN for a certain time to prevent the use of the same LRN Extending to 1 minutes
word16	T_stat_info	30(sec)	Interval that requests Subsystem status information 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) 1(PCS)	Base Station Class Upon '0000', Public Micorcelluar System(800Mhz) Upon '0001', Public PCS System(1900Mhz or 1800Mhz)
byte	sys_type		0 : LGT PCS 1 : NW PCS 2 : JT PCS 3 : GIGA PCS 4 : CHINA PCS 5 : BRAZIL PCS 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. Offset of local time from UTC current local time = SYS_TIME - LP_SEC + ltm_off ltm_off = 18 (30 minutes per unit, i.e., 9 hour difference) * LP_SEC : Number of Leap seconds that occurred since the start of System Time.
boolean	day_lt	0	Daylight saving time flag (Summer time) 1 : day lighting saving time 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 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 1 : Turbo Encoding used
byte	reverse_pwr_flag	1	0 : Reverse Link Power Control not used 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	defaul t	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) revision supported by base station current BS S/W Version 1: IS95(Cellular),J-STD-008(PCS) 2: IS95A(Cellular) 3: TSB74(Cellular) 4,5: IS95B(Cellular,PCS) 6: IS-2000(Cellular,PCS)
byte	sector_cai_min_rev	1	CAI Minumum revision supported by base station 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 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. That is, the loggest entry from ZONE_LIST is the priority. 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 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 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 BS sets the length of allowed maximum slot cycle to SLOT_CYCLE_INDEX. The length of the slot cycle(T) = 2i where i is the slot cycle index. 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 0 : Personal Stations are not to perform distance based registration. Other than 0: Personal Stations are to perform distance based registration. 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 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. Num fwd tc frames for Total count pwr_rep_frames = 2**(pwr_rep_frames/2) *5

boolean	pwr_thresh_enable	0	Threshold report mode indicator
			if (1) then pwr_rep_thresh = 00000
			If MS frame error rate reaches to threshold, it reports statistics.
			if (0) then it prevents that from its transmitting to MS.

Boolean	pwr_period_enable	0	Periodic report mode indicator
			if (0) then it prevents that from its sending periodic power measuremtn msg to to MS.
			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) 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 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 BS, to transmit Global Redirection Message, sets this field to 1, and if not, set that to 0. At areas where both Amps and CDMA are used,

			only one side should be used (0 : not changed 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 010 : IMSI 011 : IMSI and ESN 110 : TMSI(valid TMSI is assigned) IMSI(TMSI not assigned) 111 : TMSI(valid TMSI is assigned) IMSI and ESN(TMSI not assigned) Other value is reserved.
word16	mcc	349	Mobile Country Code
byte	imsi_11_12	99	imsi : International Mobile Station Identity imsi_11_12 is 11th, 12nd digits of imsi.
byte	tmsi_zone_len	4	TMSI(Temporary Mobile Station Identity) 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 (8bit)	6	Protocol revision level BS sets this filed to '00000110'. 0 : 95 1 : JSTD-008 (PCS) 2 : 95A 3 : TSB74 4,5: 95B(based on completion ratio) – DCN, PCS
byte	MIN_P_REV (8bit)	1	Minimum protocol revision level. Sets protocol revision level that BS can offer to the minimum. Band Class0 : 2 , Band Class1 : 1
byte	SOFT_SLOPE (6bit)		Included in the formaula used upon Add/Drop of pilot to Active Set. BS sets this filed as unsigned.
byte	ADD_INTERCEPT (6)		The intercept in the inequality criterion for adding a pilot to the Active Set BS sets this filed as complement of 3 in dB unit.
byte	DROP_INTERCEPT (6)		The intercept in the inequality criterion for dropping a pilot to the Active Set BS sets this filed as complement of 3 in dB unit.
byte	MAX_NUM_ALT_SO (3)		Maximum number of alternative service options. BS makes MS set the number that includes Origination Message or Page Response Message to this field.
byte	RESELECT_INCLUDED		System reselection parameters included. If BS includes system reselection parameters,

	(1)		set this field to '1', and if not, set this field to '0'.
byte	EC_THRESH (0 or 5)		Pilot power threshold. If RESELECT_INCLUDED is set to '1', BS includes this field and sets that as follows: (pilot_power_threshold + 115) 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 (0 or 5)		Pilot Ec/Ic threshold. If RESELECT_INCLUDED is set to '1', BS includes this filed and sets that as follows: ⌈-20 * log10(pilot threshold)⌉ pilot threshold means pilot Ec/Io. MS, if Ec/Io is below this field, executes system reselection.
byte	PILOT_REPORT (1)		Pilot reporting indicator. If this field is set to '1', MS reports corresponding pilot information. 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. 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 (0 or 1)		Access entry handoff permitted indicator. 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. 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 (0 or 1)		Access handoff permitted indicator. 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 (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 (0 or 1)		Access probe handoff permitted indicator. 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 (0 or 1)		Access handoff list update permitted indicator. 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. 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 (0 or 3)		Maximum number of times that the mobile station is permitted to perform an access probe handoff. 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 (1)		Broadcast GPS Assist Indicator. 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. 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. 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 Range : 0~1(0:9600bps, 1:4800bsp) Same as data_rate of qpch_data
byte	QPCH_POWER_LEVEL_PAGE (0 or 3)		Quick Paging Channel paging indicator transmit power level. 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 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. 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. 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. 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. 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: 000 : upon handoff The personal station shall begin monitering the Paging Channel of the new base station, using the same Code Channel. 001 : The personal station shall begin monitergin the primary paging channel of the new base station. 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 1 : remote MSC 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 1 : remote BSC 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. Value Search Priority Value Search Priority 00 Low 01 Medium 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' band class of candidate frequency 800Mhz: 0 1800Mhz : 4 = domestic 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. 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. 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. Ms units, 1/2 step, 20/2 ~ 255 range
byte	G_rx_filter	0	Received total power filter delay contant. 1/256 step. 0/256 ~ 255/256 range
byte	G_tx_filter	0	Transmit power filter delay constant 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. 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 1/16 step. 1/16 ~ 255/16 range
byte	K_level	0	Breathing equation level
byte	K_slope	0	Breathing equation level 1/128 step, 1/128 ~ 128/128 range
byte	K_delta	0	Breathing equation level 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 1: Blossoming Enabled
byte	periodic_calb	1	0: Overhead_ch Calibration Enabled 1: TPTL Calibration Enabled
byte	breathing_flag	0	0: Breathing Disable 1: Breathing Enable
byte	pwr_est_flag	0	0: Forward/Reverse Link Power estimation Enabled 1: Forward/Reverse Link Power estimation Disabled
byte	overpwr_limit	1	0: HPA Over Power Limitation Disabled 1: HPA Over Power Limitation Enabled
byte	flnk_cap_limit	0	0: Forward Link Excess Capacity Limitation Disabled 1: Forward Link Excess Capacity Limitation

			Enabled
byte	rlnk_cap_limit	0	0: Reverse Link Excess Capacity Limitation Enabled 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 Power control value for Open Loop Power Control for MS Access Channelinitial transmission
byte	pwr_step	3	Power increment Power amount value increased by MS between continuous probes at Access Probe Sequence
byte	num_step	6	Number of access probe 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 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 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) 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. 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 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. 0 : no use of specific system
byte	ignore_cdma	1	1: when personal station is redirected to analog system, CDMA Capability Msg is disregarded. 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) 1(1900Mg	If record_type is '00000010' for redirection, Band class of redirected

		z) 4(1800Mhz)	system should be filled. 800Mhz: 0 1800Mhz : 4 = domestic 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 0: PA_NEQ 1: HPA 2: LPA(MPD) 3:LPA(MILCOM)
byte	ant_type	0 ~ 3	0 : Standard 1 : OTA 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 current '1'	0: Non_Diversity 1: Diversity 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, 2 : Equip and Blocked. 4EA per sector among 12EA.
byte	fa_use		0: 1FA-6Sec 1; 2FA-3Sec
byte byte	risa_eqp reserved_byte[34]	1 0	0: not equip, 1: equip 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 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) Range : 0~4095
word16	tx_div_sector_gain[MAX_SECTORS]	0	sector gain(Tx Diversity Path) Range : 0~4095
word16	sector_timing_adv[MAX_SECTORS]	320	Timing advance (Normal Path) Max : 1264

word16	tx_div_timing_adv[MAX_SECTORS]	0	Timing advance (Tx Diversity Path) Max : 1264
byte	sector_tx_io_format	0 (6 path or below) 2 (3 path or below)	0:tx_output_chipx1, 1: tx_output_chipx1_fir 2: tx_output_chipx2_fir
word16	cell_radius	511	in units of PN chip
byte	rev_input_format	1 (6 path or below) 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, 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 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. (5ms/20ms) Range : 0~4 (2:20ms)
byte	data_rate	0	data rate. 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) Gain
byte	frame_duration	2	Packet frame size. (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 Range : 0~4096(Chipx8 units)

WORD16	SRCH_WIN_SIZE	4(access)	Search Window Size. in units of 64PN chip. 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) (B, 1/8, 1/4, 1/2, 1, V)
word16	ocns_so	0x801f	Service Option [Markov(8002, 801f), LB(2,9)]
byte	block_state	0	0: Unblock, 1: Block 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) COU : BCCB0(5), BCCB1(6), BCCB2(7), BCCB3(8) 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