# M32 Error Message

High-Level Data Link Control (HDLC) controller error message

**Error Message**

```
%M32-1-NOMEMORY: msgtxt_nomemory
```

**Explanation** An error has occurred caused by a lack of main memory, a lack of I/O memory, or a hardware failure.

**Recommended Action** Use the **show memory** command to confirm that enough memory is available. If there is not enough memory, you need to upgrade your router. If the router has enough memory, then there is probably a hardware problem. Copy the error message exactly as it appears, and report it to your technical support representative.

# MAILBOX Error Messages

ChipCom mailbox error messages

**Note** All MAILBOX-class messages are generated in response to various conditions arising from the use of a *mailbox* implemented on a partner port of the Cisco 2500. The mailbox is used to pass administrative information between the router and the main management module of the partner's platform.

**Error Message**

```
%MAILBOX-3-BADCHKSUM: Checksum failed. Expected = [hex], calculated
= [hex]. Ignoring PDU.
```

**Explanation** A hardware or software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**

```
%MAILBOX-3-BADDATA: Bad data in mailbox test, got
[hex], expected [hex]

%MAILBOX-3-FLAGSTAT: Timeout while waiting for
FLAGSTAT, status=[hex]

%MAILBOX-3-INITPC2: Timeout waiting for PC2 during
initialization, status=[hex]

%MAILBOX-3-INTERR: Bad mailbox interrupt = [hex]

%MAILBOX-3-MAIL020: Timeout while waiting for MAIL020,
status=[hex]

%MAILBOX-3-MAILFAIL: Mailbox failed to initialize

%MAILBOX-3-PC2: Timeout while waiting for PC2,
status=[hex]

%MAILBOX-3-SPURINT: Spurious mailbox interrupt
= [hex], MAIL020 not asserted
```

**Explanation** A hardware problem was detected in a ChipCom interface board.

**Recommended Action** If any of these messages recur, call your technical support representative for assistance.

**Error Message**

```
%MAILBOX-3-BADECHO: Echo-response did not match echo-request!
```

**Explanation** The data received from an ECHO_RESPONSE protocol data unit (PDU) did not match the original data provided in the ECHO_REQUEST. Usually, this message is seen during initialization, and indicates a catastrophic failure of the mailbox interface. See MAILBOX-3-INITFAIL for more information.

**Recommended Action** Confirm the router module installation. Make sure the software revision on the management module and the router module carrier card is up-to-date. If the error persists, call your technical support representative for assistance.

**Error Message**
`%MAILBOX-3-BADPDU: PDU of type [chars] received. Invalid or unsupported. Ignoring.`

**Explanation** The protocol data unit (PDU) received was valid, but the type is not supported in the current software implementation. It will be ignored.

**Recommended Action** Informational message only. No action required.

**Error Message**
`%MAILBOX-3-INITFAIL: Mailbox initialization failure. [Incoming|Outgoing] mailbox offline.`

**Explanation** A catastrophic failure involving the initialization of the administrative mailbox occurred. The mailbox will be taken offline and remain in that state until a router module reset, or a system reload, occurs. At that time, initialization will again be attempted. Note that the functionality of the router, that is, its ability to receive and forward packets, is not affected by this error.

**Recommended Action** Confirm the router module installation. Make sure the software revision on the management module and the router module carrier card is up-to-date. If the error persists, call your technical support representative for assistance.

**Error Message**
`%MAILBOX-6-INITOK: Mailbox initialization successful.`

**Explanation** This message is generated after a router reload to indicate the mailbox was successfully initialized.

**Recommended Action** Informational message only. No action required.

**Error Message**
`%MAILBOX-7-MBOXDEBUG: [chars]`

**Explanation** This message header is paired with general debugging messages used to provide information about the functionality of the mailbox. To enable mailbox debugging, issue the command **debug mailbox**.

**Recommended Action** Advisory message only. No action required.

**Error Message**
`%MAILBOX-3-NOECHO: Echo-request timed out. No response received. Mailbox offline.`

**Explanation** An ECHO_RESPONSE was not received in the appropriate time after the generation of an ECHO_REQUEST. This failure only occurs during mailbox initialization, and indicates a problem between the communication path of the router module and its carrier card.

**Recommended Action** Confirm the router module installation. Make sure the software revision on the management module and the router module carrier card is up-to-date. If the error persists, call your technical support representative for assistance.

**Error Message**
`%MAILBOX-3-OFFLINE: [Incoming|Outgoing] mailbox is offline. Interrupt ignored.`

**Explanation** This message is generated when an attempt is made by the management module to communicate with an offline mailbox. When it appears, it indicates a problem exists between the perceived state of the mailbox from the router's side versus the management module's side.

**Recommended Action** Issue a system-wide reset on the management module. If the error persists, call your technical support representative for assistance.

**Error Message**
`%MAILBOX-7-ONLINE: [Incoming|Outgoing] mailbox coming online.`

**Explanation** This message is generated only when mailbox debugging is enabled. It provides information about the state of each incoming or outgoing mailbox.

**Recommended Action** Advisory message only. No action required.

**Error Message**
`%MAILBOX-7-READ: Reading [hex] from carrier.`

**Explanation** This message is generated only when mailbox debugging is enabled. It provides very low-level information about the incoming mailbox data stream.

**Recommended Action** Advisory message only. No action required.

**Error Message**
`%MAILBOX-3-TIMEOUT: Intra-PDU timeout occurred on [incoming|outgoing] mailbox data.`

**Explanation** A timeout occurred while sending or receiving the characters of a protocol data unit (PDU). The entire PDU will be ignored.

**Recommended Action** Informational message only. No action required

**Error Message**
`%MAILBOX-7-WRITE: Writing [hex] to carrier.`

**Explanation** This message is generated only when mailbox debugging is enabled. It provides very low-level information about the outgoing mailbox data stream.

**Recommended Action** Advisory message only. No action required.

# MCI Error Messages

Multiport Communications Interface error messages

**Error Message**
`%MCI-5-INPUTERR: Interface [chars] excessive input error rate`

**Explanation** The input error rate was so high that the interface was temporarily disabled. The interface will be automatically reenabled in 30 seconds.

**Recommended Action** If this message recurs, check the communication lines.

**Error Message**
```
%MCI-4-NOCOOKIE: MCI controller[dec] missing
configuration data - disabled
```

**Explanation** The configuration PAL is missing.

**Recommended Action** If this message recurs, call your technical support representative for assistance.

**Error Message**
```
%MCI-4-NOKEEPALIVE: Interface [chars] keepalive not sent
```

**Explanation** The requested operation could not be accomplished because of a low memory condition.

**Recommended Action** Reduce other system activity to ease memory demands. If conditions warrant, upgrade to a larger memory configuration.

**Error Message**
```
%MCI-5-OBSOLETE: Obsolete MCI firmware: can't route
[chars] and bridge simultaneously
```

**Explanation** The firmware on your MCI controller card is out of date.

**Recommended Action** Upgrade your MCI firmware.

**Error Message**
```
%MCI-4-RSETFAIL: Interface [chars] failed to reset
properly in[chars], code [hex]
```

**Explanation** A hardware device did not respond appropriately to a request. This generally indicates a hardware problem.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%MCI-3-RXINDEX: Unit [dec], invalid RX index [dec]`

**Explanation** The MCI did not answer a Multibus request. This generally indicates a hardware problem.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%MCI-3-SETUPERR: Unit [dec], Error ([hex]) on setup, index [hex],restarting controller – mci_interrupt()`

**Explanation** A hardware device did not respond appropriately to a request. This generally indicates a hardware problem.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%MCI-4-TESTFAIL: Unit [dec] failed [chars] test, skipping`

**Explanation** A hardware component failed an internal diagnostic test.

**Recommended Action** You need to replace the malfunctioning component. Copy the error message exactly as it appears, and report it to your technical support representative.

# MK5 Error Messages

MK5025 serial controller error messages

**Error Message**

```
%MK5-3-BADENCAP: Unit [dec], bad encapsulation
in idb->enctype = [hex]
```

```
%MK5-1-BADRING: Bad [chars] ring size
```

```
%MK5-3-BADUNIT: Bad unit number [dec]
```

**Explanation** An internal software error occurred.

**Recommended Action** If either of these messages recur, call your technical support representative for assistance.

**Error Message**

```
%MK5-1-INITFAIL: Unit [dec], initialization timeout
failure,csr[dec]=[hex]
```

```
%MK5-1-INITNOPPRIM: Unit [dec], initialization
failure - No CSR1_PPRIM_INIT_CONF, csr1 = [hex]
```

```
%MK5-1-INITUERR: Unit [dec], initialization CSR1_UERR
failure,csr1=[hex]
```

**Explanation** The hardware failed to initialize correctly.

**Recommended Action** Repair or replace the controller.

**Error Message**

```
%MK5-5-LINEFLAP: Unit [dec] excessive modem control changes
```

**Explanation** Too many modem control interrupts have been received. The port was disabled to prevent excessive use of the CPU.

**Recommended Action** Check the cable on the serial port.

**Error Message**
`%MK5-1-MEMERR: Unit [dec], memory error, csr0 = [hex]`

**Explanation** A network serial interface detected a hardware problem.

**Recommended Action** Repair or replace the controller.

**Error Message**
`%MK5-1-NOMEMORY: Unit [dec], no memory for [chars]`

**Explanation** The requested operation could not be accomplished because of a low memory condition.

**Recommended Action** Reduce other system activity to ease memory demands. If conditions warrant, upgrade to a larger memory configuration.

**Error Message**
`%MK5-3-ODDSTART: Interface [chars], Odd datagram start = [hex], pak =[hex]`

`%MK5-3-OUTENCAP: Unit [dec], bad output packet encapsulation: [hex]`

**Explanation** An internal software error occurred.

**Recommended Action** If either of these messages recur, call your technical support representative for assistance.

**Error Message**
`%MK5-3-OWNERR: Unit [dec], buffer ownership error`

**Explanation** An Ethernet interface is malfunctioning, or an internal software error occurred.

**Recommended Action** Repair or replace the controller.

**Error Message**
```
%MK5-3-PLOSTERR: Unit [dec], provider
primitive lost,csr0=[hex], csr1=[hex]

%MK5-3-PPRIMERR: Unit [dec], unexpected provider
primitive, csr0=[hex], csr1=[hex]

%MK5-3-SPURPPRIMERR: Unit [dec], spurious provider
primitive, csr0=[hex], csr1=[hex]

%MK5-3-UPRIMERR: Unit [dec], user primitive error,
csr0=[hex], csr1=[hex]
```

**Explanation** A network serial interface detected a hardware problem.

**Recommended Action** Repair or replace the controller.

# MROUTE Error Messages

Multicast route error messages

**Error Message**
```
%MROUTE-4-RADIXDELETE: Error trying to delete multicast route entry
[int]/[dec] for [int]  (expected [hex], got [hex])
```

**Explanation** An error in the multicast routing table occurred. A route could not be deleted from the routing table.

**Recommended Action** Execute a **clear ip mroute** command. Determine whether the router is low on memory. If the problem persists, copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
```
%MROUTE-2-RADIXINIT: Error initializing IP multicast radix for [int]
```

**Explanation** Insufficient memory is available to initialize the IP multicast routing table.

**Recommended Action** Record the output from the following commands: **show process memory** (repeated twice), **show memory**, **show buffers**, **show version**, and **show running config**. Provide this information to your technical support representative.

**Error Message**
`%MROUTE-4-RADIXINSERT: Error trying to add multicast route entry [int]/[dec] for [int]  (expected [hex], got [hex])`

**Explanation** An error in the multicast routing table occurred. A route could not be inserted into the routing table.

**Recommended Action** Execute a **clear ip mroute** command. Determine whether the router is low on memory. If the problem persists, copy the error message exactly as it appears, and report it to your technical support representative.

# NETMGT Error Message

Network Management error message

**Error Message**
`%NETMGT-6-ALERT: [chars] SNA LLC : [chars]\n [chars]\n [chars]\n [chars]`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

# NHRP Error Message

Next Hop Resolution Protocol error message

**Error Message**
`%NHRP-3-NOBUFFER: No buffer available for sending packet`

**Explanation** The NHRP software could not allocate a packet buffer. The system may be out of memory.

**Recommended Action** Record the output from the following commands: **show proc mem** (repeated twice), **show mem**, **show buffers**, **show version**, **write terminal**. Provide this information to your technical support representative.

# NIM Error Messages

Network interface module error messages

**Error Message**

```
%NIM-2-BADSLOT: Illegal reference to non-existent slot [dec]
```

```
%NIM-2-BADSUBUNIT: Illegal reference to non-existent subunit [dec]
in slot [dec]
```

```
%NIM-2-DEADICHAINQ: Attempted to manipulate uninitialized ichainQ in
[chars]
```

```
%NIM-2-LOSTICHAINQ: Couldn't find idb [hex] in ichainQ in [chars]
```

```
%NIM-2-NOHWADDRESS: All hardware addresses have been allocated —
maximum of [dec]
```

**Explanation** An internal software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**

```
%NIM-2-BADNIMREV: Unsupported version of [chars] NIM in slot [dec]|>
Version [hex]
```

**Explanation** The indicated network interface module (NIM) is not supported because it is not of the correct revision. Certain platforms (Cisco 4500 or Cisco 4700, for example) require some NIMs to be of a minimum rev level.

**Recommended Action** Upgrade the NIM to the proper level.

**Error Message**

```
%NIM-2-DEADICHAINQ: Attempted to manipulate uninitialized ichainQ in
[chars]\n
```

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%NIM-2-LOSTICHAINQ: Couldn't find idb [hex] in ichainQ in [chars]\n`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%NIM-2-UNSUPNIM: Unsupported [chars] NIM in slot [dec]`

**Explanation** The indicated NIM is not supported on this platform.

**Recommended Action** Remove the NIM.

# OIR Error Messages

Online insertion and removal error messages

**Error Message**
`%OIR-6-INSCARD: Card inserted in slot [dec], interfaces administratively shut down`

**Explanation** The OIR facility detected a newly inserted processor in slot `dec`. The inserted interface will be shut down until it is configured by the user or, if an interface of that type was previously configured, it will be restored to its previous state.

**Recommended Action** Informational message only. No action required.

**Error Message**
`%OIR-3-LONGSTALL: Long bus stall ([dec] ms), check for improperly seated cards`

**Explanation** Something is preventing the CxBus or CyBus from operating. The usual reason is an improperly seated interface processor.

**Recommended Action** Make sure all interface processor cards are firmly seated. If the problem reoccurs, it may indicate a hardware failure. Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%OIR-6-NOEOIR: [chars] hardware version 1.0 not capable of EOIR`

**Explanation** An attempt was made to remove or insert a card in a system containing at least one card that does not support enhanced online inseration and removal (EOIR).

**Recommended Action** Upgrade to a card that supports EOIR features. If this does not solve the problem, contact your technical support representative for assistance.

**Error Message**
`%OIR-6-REMCARD: Card removed from slot [dec], interfaces disabled`

**Explanation** The OIR facility detected the removal of a processor from slot [n]. The interfaces on that processor will be administratively shut down and marked as removed. The routing table will be flushed of any routes through the removed interfaces.

**Recommended Action** Informational message only. No action required.

# OSPF Error Messages

Open Shortest Path First error messages

**Error Message**
`%OSPF-4-BADLENGTH: Invalid length [dec] in OSPF packet from [inet] (ID [inet]], [chars]`

**Explanation** The system received an OSPF packet with a length field of less than normal header size or inconsistent with the size of the IP packet in which it arrived. This indicates an error in the sender of the packet.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%OSPF-4-BADLSATYPE: LOG_WARNING: Invalid lsa type [dec] in LSA [dec], [dec] from [dec], OSPF_COMPLAIN-IVL`

**Explanation** The router received an LSA with invalid LSA Type. The cause is either memory corruption or unexpected behavior on a router.

**Recommended Action** From neighbor address, locate the problem router and reboot it. To determine what is causing this problem, call your technical support representative for assistance.

**Error Message**
`%OSPF-4-CONFLICTING_LSAID: Found lsa type [dec] in LSA [inet], [inet] from [inet], [chars]`

**Explanation** An internal software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%OSPF-4-ERRRCV: Received invalid packet: [chars] from [inet], [chars]`

**Explanation** An invalid OSPF packet was received. Details are included in the error message. The cause might be a misconfigured OSPF or an internal error in the sender.

**Recommended Action** Check the OSPF configuration of the receiver and the sender for inconsistency.

**Error Message**
`%OSPF-3-INTERNALERR: Internal error: [chars], OSPF_COMPLAIN_IVL`

**Explanation** An internal software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%OSPF-3-NOBACKBONE: Flagged as being an ABR without a backbone`

**Explanation** The router was flagged as an Area Border Router (ABR) without backbone area in the router.

**Recommended Action** Restart the OSPF process.

**Error Message**
`%OSPF-3-NOCONNDB: No database entry for connected address [int]`

**Explanation** While calculating OSPF routes, the router could not find the link-state advertisement that represents the connected route in the router.

**Recommended Action** Clear the IP routes in the routing table by entering the command **clear ip ro**.

**Error Message**
`%OSPF-3-NOLSA: Failed to find this router LSA in [chars]`

**Explanation** The router is not able to find its own router link-state advertisement. This can occur occasionally and self-correct. However, if this message recurs, restart the OSPF process.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%OSPF-3-NOMEMORY: No memory for [chars]`

**Explanation** The requested operation could not be accomplished because of a low memory condition.

**Recommended Action** Reduce other system activity to ease memory demands. If conditions warrant, upgrade to a larger memory configuration.

**Error Message**
`%OSPF-4-NONEIGHBOR: Received [chars] from unknown neighbor [inet]`

**Explanation** OSPF hello, database description, or database request packet was received, but the router could not identify the sender.

**Recommended Action** This situation should correct itself. If the message recurs, call your technical support representative for assistance.

**Error Message**
`%OSPF-4-NORTRID: Could not allocate router ID`

**Explanation** OSPF failed while attempting to allocate a router ID from the IP address of one of its interfaces.

**Recommended Action** Make sure that there is at lease one interface that is up and has a valid IP address. If there are multiple OSPF processes running on the router, each process needs its own unique router ID. You must have enough “up” interfaces so that each of them can obtain a router ID.

**Error Message**
`%OSPF-6-NOSRCPDB: ex_route_callback(): Can't find the src protocol to redistribute net [inet] [inet]`

**Explanation** OSPF attempted to redistribute a route but could not fine a valid source protocol.

**Recommended Action** No action is required.

**Error Message**
`%OSPF-6-NOTREDIST1: ex_route_callback(): do not redistribute net [inet] [inet], [chars]`

**Explanation** For information only.

**Recommended Action** No action is required.

**Error Message**
`%OSPF-6-NOTREDIST3: build_ex_route(): don't redistribute net [inet] [inet], [inet] advertises it already`

**Explanation** For information only.

**Recommended Action** No action is required.

**Error Message**
`%OSPF-4-NOTREDIST4: Database scanner: external LSA [inet] [inet] is lost, reinstalls`

**Explanation** The software detected an unexpected condition. The router will take corrective action and continue.

**Recommended Action** Record the entire error message and note any OSPF problem you experience. Report the error message to your technical support representative.

**Error Message**
`%OSPF-4-NOTREDIST5: db_free: external LSA [inet] [inet],`

**Explanation** An internal software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%OSPF-4-OSPFINTDOWN: Interface [chars] is up but OSPF state is down. Clean up, OSPF_COMPLAIN_IVL`

**Explanation** An inconsistency in an internal state was found and corrected.

**Recommended Action** Informational message only. No action required.

**Error Message**
`%OSPF-3-UNKNOWNSTATE: Reached unknown state in neighbor state machine`

**Explanation** An internal software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%OSPF-4-VIRTUAL_IN_NON_BACKBONE: Virtual link information found in non-backbone area: [chars], OSPF_COMPLAIN_IVL`

**Explanation** An internal error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

# PA Error Messages

Port adapter error messages

**Error Message**
`%PA-2-BADIDB: PA interface idb incorrect, [hex]`

**Explanation** The port adapter system control block (PASCB) data structure indicates a zero interface descriptor block (IDB).

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%PA-2-BADINTERFACE: msg_badsubunit`

**Explanation** The software specified an out-of-range port adapter interface.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%PA-2-BADPABAY: msg_badbay`

**Explanation** The software specified an out-of-range port adapter bay.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%PA-2-BADPASCB: PA interface pascb incorrect, [hex]`

**Explanation** The port adapter system control block (PASCB) data structure was incorrectly set in the command data structure.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%PA-2-UNDEFPA: msg_undefpa`

**Explanation** The software already has a driver for that port adapter type in the specified bay.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%PA-2-UNDEFPABRIDGE: msg_undefpabridge`

**Explanation** The software does not have a driver for that port adapter protocol control information bridge in the specified bay.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

# PAD Error Messages

X.25 packet assembler/disassembler error messages

**Error Message**
`%PAD-3-GETLINE: Tty[t-line], bad return code [dec] fromx3_getline()`

`%PAD-2-INTR: [chars] called at interrupt level [hex]`

`%PAD-2-PUTSETUP: Tty[t-line], buffer already setup`

**Explanation** An internal software error occurred.

**Recommended Action** If any of these messages recur, copy the error message exactly as it appears and report it to your technical support representative.

# PARSER Error Messages

Parser error messages

### Error Message

```
%PARSER-4-BADCFG: Unexpected end of configuration file.
```

**Explanation** This message occurs when a configuration is read from the Trivial File Transfer Protocol (TFTP) server or nonvolatile RAM (NVRAM) and the end of the file is encountered before the **end** statement. The configuration may be corrupted or incomplete. What was read is in effect.

**Recommended Action** Make sure the configuration is good then execute either a **copy running-config startup-config** command to write the good configuration to NVRAM, or a **copy running-config tftp** command to write to a network TFTP server.

### Error Message

```
%PARSER-4-BADRANGE: Bad range <[dec]-[dec]> for command '[chars]'
```

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**

```
%PARSER-3-BADSUBCMD: Unrecognized subcommand in
Function: [chars]
Command: `[chars]
Switch value: [dec]
```

```
%PARSER-3-CREATEINT: Can't create any more subinterfaces
```

```
%PARSER-4-INVLDLINE: Invalid line in NV generation: [chars]
```

```
%PARSER-4-LINKPOINT: Parser reached link_point
```

```
%PARSER-4-MULFUNCS: Unknown test in test_multiple_funcs [char]
```

```
%PARSER-4-MULTIPLEIFS: interface_action: multiple ifs present when
unit_only set
```

```
%PARSER-3-NOLINK: no link_point [dec] in the [chars] [chars] command
chain
```

```
%PARSER-4-NUMHELP: general_number_short_help: Invalid [chars]
number flag
```

```
%PARSER-4-NVGEN: nvgen_token called but csb->nvgen not set
```

```
%PARSER-4-PROTOADDR: protoaddr_action: Unknown link_type [dec]
```

**Explanation** The parser failed an internal software check.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**

```
%PARSER-2-INTDISABLE: Interrupts disabled in mode [chars] by command
'[chars]'
```

**Explanation** A hardware or software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%PARSER-4-INVLDNVGEN: Invalid function called in NVGEN of '[chars]'`

**Explanation** An error occurred.

**Recommended Action** Copy the error message exactly as it appears. Execute a **show version** command, and copy the displayed information. Contact your technical support representative.

**Error Message**
`%PARSER-3-NOMEMORY: [chars]: no memory for [chars]`

**Explanation** A memory allocation failed, possibly because the router is out of memory, or because the parser is using more memory than it should.

**Recommended Action** If the router is running out of memory, reduce other system activity to ease memory demands. If the router has sufficient memory but the parser is low on memory, call your technical support representative for assistance.

# PCBUS Error Messages

PCbus (PC ISA-to-AccessPro router interface) error messages

**Error Message**
`%PCBUS-3-BADENCAP: msgtxt_badencap`

**Explanation** A nonHDLC encapsulation packet was received. The packet will be treated as an HDLC packet and subsequently be dumped.

**Recommended Action** An informational message only. No action required

**Error Message**
`%PCBUS-1-NOMEMORY: msgtxt_nomemory`

**Explanation** This message is logged (via the global **logging** command) when an attempt to get packet memory or data memory fails. The router will crash right after the error is logged.

**Recommended Action** An informational message only. No action required.

# PIM Error Messages

Protocol-independent multicast error messages.

**Error Message**
`%PIM-1-INVALID_RP_JOIN: Received (*, [int]) Join from [int] for invalid RP [int].`

**Explanation** A downstream PIM router sent a join message for the shared tree, which this router does not want to accept. This behavior indicates that this router will let only downstream routers join to a specific rendezvous point.

**Recommended Action** Configure all downstream leaf routers to join to the RP that is allowed by upstream routers toward the validated rendezvous point.

**Error Message**
`%PIM-1-INVALID_RP_REG: Received Register from [int] for [int], not willing to be RP.`

**Explanation** A PIM router received a register message from another PIM router that identifies itself as the rendezvous point. If the router is not configured for another rendezvous point, it will not accept the register message.

**Recommended Action** Configure all leaf routers (first-hop routers to multicast sources) with the IP address of the valid rendezvous point.

# PPP Error Messages

Point-to-Point Protocol error messages

**Error Message**
`%PPP-4-CONFNAK: fsm_rconfnak([hex]) - possible CONFNAK loop`

**Explanation** The remote and local PPP cannot agree on a set of options that both can perform.

**Recommended Action** If this message recurs, copy the error message exactly as it appears and report it to your technical support representative.

**Error Message**
`%PPP-4-IPXNET: mismatched IPX network numbers. Ours = [hex], theirs = [hex]`

**Explanation** The two ends of a serial link have different IPX network numbers.

**Recommended Action** Confirm the configuration of both devices.

**Error Message**
`%PPP-6-LOOPED: The line appears to be looped back`

**Explanation** The communications line appears to be echoing the characters that are sent to it.

**Recommended Action** Check your data communications equipment to make sure it is configured correctly.

**Error Message**
`%PPP-4-NOEXTTACACS: PPP TACACS is configured but extended TACACS is not.`

**Explanation** PPP was configured to use the Terminal Access Controller Access Control System (TACACS), but extended TACACS was not configured or was disabled.

**Recommended Action** Either issue the **no ppp use-tacacs** command to stop PPP from using TACACS, or issue the **tacacs-server extended** command to enable extended TACACS.

# QA Error Message

Queue and accumulator error message

**Error Message**
`%QA-3-ALLOC: [chars]`

**Explanation** This is a software error.

**Recommended Action** Copy the error message exactly as it appears. Also copy the output of **show version** and **show cont cbus**. Contact your technical support representative.

# QLLC Error Messages

Qualified Logical Link Control error messages

**Error Message**
`%QLLC-3-BADOPCODE: Opcode [chars] is invalid`

**Explanation** Either remote source-route bridging or local acknowledgment is configured incorrectly.

**Recommended Action** Verify that remote source-route bridging and local acknowledgment are configured correctly.

**Error Message**
`%QLLC-3-BADQLLCSTATE: Bad QLLC state - [chars]`

**Explanation** An invalid QLLC primitive was detected.

**Recommended Action** Verify that the partner QLLC device is configured correctly.

**Error Message**
`%QLLC-3-BADRSRBOPCODE: Bad opcode [hex] from [enet] to [enet]`

**Explanation** Either remote source-route bridging is incorrectly configured, or the other RSRB device is down.

**Recommended Action** Verify that remote source-route bridging is configured correctly with the right version of the IOS software.

**Error Message**
`%QLLC-3-BADSTATE: Bad QLLC state - [chars] - [enet]`

**Explanation** An invalid LLC primitive was detected.

**Recommended Action** Verify that the Token Ring ports and any participating LAN devices are configured correctly.

**Error Message**
`%QLLC-3-BADSTATEEVENT: Bad QLLC state - [chars] event - [chars] macaddr - [enet]`

**Explanation** The LLC primitive specified placed the router in an invalid state.

**Recommended Action** Verify that the Token Ring ports and any participating LAN devices are configured correctly.

**Error Message**
`%QLLC-3-BAD_SUBADDRESS: [chars] is not a subaddress of [chars]`

**Explanation** A remote X.25 device is calling the router for QLLC service using an X.121 address that is not a proper subaddress of the router's X.121 address.

**Recommended Action** Enable subaddressing on the router, and make sure that the remote X.25 device uses the correct subaddress for the QLLC service it will use.

**Error Message**
`%QLLC-3-DIFFPRTR: [enet] - Different partner - originally [enet] - now [enet]`

**Explanation** The partner for this QLLC virtual MAC address does not match the MAC address that was defined with the **qllc partner** command.

**Recommended Action** Verify that the **qllc partner** statement in the configuration file is correct.

**Error Message**
`%QLLC-3-GENERRMSG: [chars]`

**Explanation** The text string provided with this error message describes the specific QLLC problem.

**Recommended Action** Follow the instructions that appear with the error message. Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QLLC-3-IFRAME: [chars]`

**Explanation** An I-Frame was discarded due to network congestion.

**Recommended Action** Verify that the LAN is not beaconing and that it is not in a congested state. Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QLLC-3-INCALL_CFG: Incoming call: No QLLC Service Access Point Configured for x.25 subaddress [chars]`

**Explanation** A remote X.25 device is calling the router for QLLC service using a subaddress that was not configured by the X.25 routing facility. The subaddress was not configured for QLLC service.

**Recommended Action** Correct the QLLC configuration. Configure only the subaddress on the QLLC service, not the complete X.121 address that the remote X.25 device uses.

**Error Message**
`%QLLC-3-LNXNOTFOUND: lnx_remove_macaddr_hash did not find target lnx`

**Explanation** The **qllc srb** command was not defined for this interface.

**Recommended Action** Add a valid **qllc srb** statement for this serial interface.

**Error Message**
`%QLLC-3-NOLLC2: Unable to open an llc2 session`

**Explanation** An LLC2 session could not be established with the destination MAC address.

**Recommended Action** Verify that the **qllc partner** statement in the configuration file is correct, and that the partner is on the desired LAN.

**Error Message**
`%QLLC-3-NOMACADDR: No lnx entry for macaddr [enet]`

**Explanation** No virtual MAC address was defined for this interface.

**Recommended Action** Define the virtual MAC address, using either the **x25 map qllc** or the **x25 pvc qllc** command.

**Error Message**
`%QLLC-3-NOMEM: Not enough memory available`

**Explanation** There is not enough memory in the system to complete this request.

**Recommended Action** Add more memory to the router. Otherwise, reduce the configuration or the load on the router.

**Error Message**
`%QLLC-3-NONULLXID: Couldn't make null xid - [enet] -[enet]`

**Explanation** An attempt to create an IEEE XID failed.

**Recommended Action** Verify that the **qllc partner** statement in the configuration file is correct, and that the partner is on the desired LAN.

**Error Message**
`%QLLC-3-NOPAKENQ: Pak enqueue failed`

**Explanation** A packet was not sent to the LAN.

**Recommended Action** Verify that the LAN partner is configured correctly, and that the partner is on the desired LAN.

**Error Message**
`%QLLC-4-NOQLLC: Unable to open qllc session; current statue is [chars]`

**Explanation** A QLLC session could not be established.

**Recommended Action** Verify that the **qllc partner** and the **qllc xid** commands are correct.

**Error Message**
`%QLLC-3-NO_QLLCBUFFER: M bit Reassembly failed - couldn't allocate a packet`

**Explanation** The router ran out of memory to allocate buffers.

**Recommended Action** Make sure that the router configuration is adequate for the service expected of it. You might want to tune the buffer pools, or upgrade to a larger router. At the very least, you will need more memory.

**Error Message**
`%QLLC-3-NO_QSR: No QLLC Service Access Points defined, (10 * ONESEC)`

**Explanation** No QLLC services have been configured, even though the router will accept incoming calls for QLLC.

**Recommended Action** Configure the QLLC service required.

**Error Message**
`%QLLC-3-NO_RESOURCE: Incoming Call: Insufficient resources available, (10 * ONESEC)`

**Explanation** This message is reporting insufficient system memory.

**Recommended Action** Upgrade the memory.

**Error Message**
`%QLLC-3-NOXID2: Couldn't make xid - [enet] -[enet]`

**Explanation** The QLLC XID could not be forwarded to the LAN.

**Recommended Action** Verify that the **qllc partner** and the **qllc xid** commands are correct.

**Error Message**
`%QLLC-3-NULLPTR: [chars] ptr is null`

**Explanation** The specified structure was not configured.

**Recommended Action** Confirm the configuration commands for the structure.

**Error Message**
`%QLLC-3-QLLCMAP_ERR: Incoming call: QLLC map entry not found, (10 * > ONESEC)`

**Explanation** A software error in the router code occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

# QUICC Error Messages

MC68360 Quad Integrated Communications Controller error messages

**Error Message**
`%QUICC-3-BADUNIT: msgtxt_badunit`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC-5-COLL: Unit [dec], excessive collisions. Retry limit [dec] exceeded`

**Explanation** An Ethernet cable is broken or unterminated.

**Recommended Action** Check cables for proper connections, termination, and so on.

**Error Message**
`%QUICC_ETHER-5-COLL: Unit [dec], excessive collisions. Retry limit [dec] exceeded`

**Explanation** A hardware or software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC_ETHER-5-HBEAT: Unit [dec], heartbeat check failure`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC_ETHER-1-INITFAIL: msgtxt_initfail`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC_ETHER-5-LATECOLL: Unit [dec], late collision error`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC_ETHER-1-LOSTCARR: Unit [dec], lost carrier. Transceiver problem?`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC_ETHER-3-UNDERFLO: Unit [dec], underflow error`

**Explanation** While transmitting a frame, the Ethernet controller chip's local buffer received insufficient data because data could not be transferred to the chip fast enough to keep pace with its output rate. Normally, such a problem is temporary, depending on transient peak loads within the system.

**Recommended Action** The system should recover. No action is required.

If the problem recurs, it indicates a hardware error that might be related to data traffic patterns. Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC-5-HBEAT: Unit [dec], heartbeat check failure`

**Explanation** The Ethernet transceiver is malfunctioning.

**Recommended Action** Replace the hardware.

**Error Message**
`%QUICC-5-LATECOLL: Unit [dec], late collision error`

**Explanation** The Ethernet cable might be too long, or there could be too many repeaters such that the delay from one end to the other is too long. The Ethernet cable might be overloaded with too many users.

**Recommended Action** Verify that your Ethernet cable is the correct length and that you do not have too many repeaters in use. If these are not the problem, try removing hosts from the Ethernet segment to reduce the load.

**Error Message**
`%QUICC-5-LOSTCARR: Unit [dec], lost carrier. Transceiver problem?`

**Explanation** The Ethernet 10BaseT cable is unplugged.

**Recommended Action** Connect the 10BaseT Ethernet cable.

**Error Message**
`%QUICC-1-NOMEMORY: msgtxt_nomemory`

**Explanation** The MC68360/QUICC CPU was unable to access the memory it needs to carry out its functions. Here are some possible causes.

- The network is large, requiring a lot of memory for routing tables, and so on.
- The router configuration has many features enabled, each of which require a certain amount of memory.
- A software error (memory leak) exists.

**Recommended Action** Reduce system activity to ease the memory demand, or upgrade to a larger memory configuration.

**Error Message**
`%QUICC-3-OWNERR: msgtxt_ownerror`

**Explanation** An internal software error occurred.

**Recommended Action** Call your technical support representative to obtain a software upgrade.

**Error Message**
`%QUICC_SERIAL-3-CTSLOST: Unit [dec], Clear to Send Lost`

**Explanation** The Clear To Send (CTS) input signal on a data terminal equipment (DTE) serial interface became inactive while transmitting a frame. This problem stems from a communication line failure or cable disconnection.

**Recommended Action** Check the serial interface cable and or communication equipment such as the channel service unit/data service unit (CSU/DSU).

**Error Message**
`%QUICC_SERIAL-1-INITFAIL: msgtxt_initfail`

**Explanation** The serial interface controller of the QUICC chip could not be initialized or started for operation. There is probably a hardware problem.

**Recommended Action** Power cycle the system. If the error recurs, replace the unit.

**Error Message**
`%QUICC_SERIAL-5-LINEFLAP: Unit [dec], excessive modem control changes`

**Explanation** The system received too many modem control signal interrupts. Modem control signals are hardware handshake signals between data terminal equipment (DTE) and data communications equipment (DCE). The signals include either a data carrier detect (DCD) or a data set ready (DSR), or both a DCD and a DSR.

**Recommended Action** Check the serial interface cable. The error can occur if the cable is disconnected or has come loose and is picking up noise. If the cable appears to be connected correctly, check the equipment connected to the cable.

**Error Message**
`%QUICC_SERIAL-3-UNDERFLO: Unit [dec]`

**Explanation** While transmitting a frame, the serial controller chip's local buffer received insufficient data because data could not be transferred to the chip fast enough to keep pace with its output rate. Normally, such a problem is temporary, depending on transient peak loads within the system.

**Recommended Action** The system should recover. No action is required.

If the problem recurs, it indicates a hardware error that might be related to data traffic patterns. Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%QUICC-3-UNDERFLO: Unit [dec], underflow error`

**Explanation** The Ethernet hardware is requesting data faster than the system can supply it. This should never happen unless a serious malfunction has occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

# RADIX Error Messages

RADIX Error Messages

**Error Message**
`%RADIX-3-ADDMASK: Error adding mask entry, [chars], ONESEC`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RADIX-3-BADTREE: Invalid pointer to head of tree, [hex], ONESEC`

**Explanation** A software programming error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RADIX-3-DELETE: Error deleting trie entry, [chars], ONESEC`

**Explanation** A software programming error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RADIX-2-INIT: No memory for radix initialization: [chars]`

**Explanation** The system ran out of memory during initialization.This should only occur if an image is too large for the existing dynamic memory.

**Recommended Action** Use a smaller subset image or upgrade hardware.

**Error Message**
`%RADIX-2-NOMAXKEYLEN: Programmer error - maximum radix key length not set`

**Explanation** A software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RADIX-3-NOMEMORY: No memory available [chars]`

**Explanation** The system is out of memory.

**Recommended Action** Try one of these actions to correct the problem:

- Reduce the number of routes accepted by this router.
- Upgrade hardware.
- Use a smaller subset image on run-from-RAM platforms.

**Error Message**
`%RADIX-4-ORPHAN: Orphaned mask [hex], refcount=[dec] at [hex], next=[hex], 5*ONESEC`

**Explanation** A software error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

# RCMD Error Messages

Remote command error messages

**Error Message**
`%RCMD-4-INVALIDHOST: Invalid host address`

**Explanation** The IP address of the incoming connection was not valid.

**Recommended Action** Add an entry to the rhost database or determine which client IP address is valid by examining the rhost database.

**Error Message**
`%RCMD-4-NOMEMORY: No memory available for Rcmd`

**Explanation** There was not enough memory for RCP or RSH to allocate memory.

**Recommended Action** Wait for memory to become available, or add more memory.

**Error Message**
`%RCMD-4-NORSHPROC: Rsh Process Fork failed`

**Explanation** Creation of the rsh daemon failed. This is usually caused by a lack of resources such as memory or vty.

**Recommended Action** Wait for resources to become available.

**Error Message**
`%RCMD-4-RCMDDNSFAIL: DNS hostname/ip address mismatch`

**Explanation** The IP address for an incoming rcmd request is not registered with DNS.

**Recommended Action** Add the IP address to DNS.

**Error Message**
`%RCMD-4-RCPATTEMPTED: Remote copy denied`

**Explanation** An attempt was made to connect to a router through RCP, but the router was not configured as an RCP server.

**Recommended Action** Configure an RCP server.

**Error Message**
`%RCMD-4-RSHATTEMPTED: Remote shell denied`

**Explanation** An attempt was made to connect to a router through rsh, but the router was not configured as an rsh server.

**Recommended Action** Configure an rsh server.

**Error Message**
`%RCMD-4-RSHPORTATTEMPT: Attempted to connect to RSHELL port`

**Explanation** An attempt was made to connect to a router through the rshell port (514), but the router was not configured as an RSH or RCP server.

**Recommended Action** Configure an RSH or RCP server.

# REGEXP Error Message

Regular expression parser error messages

**Error Message**
`%REGEXP-2-BADLIST: Regular expression access check with bad list [dec]`

**Explanation** An internal software error occurred.

**Recommended Action** If this message recurs, call your technical support representative for assistance.

# RIP Error Message

IP Routing Information Protocol error message

**Error Message**
`%RIP-3-NOSOCKET: Unable to open socket`

**Explanation** The requested operation could not be accomplished because of a low memory condition.

**Recommended Action** Reduce other system activity to ease memory demands. If conditions warrant, upgrade to a larger memory configuration.

# RSP Error Messages

Route Switch Processor error messages

**Error Message**
`%RSP-3-AIPPANIC: Panic: [chars] [hex] [hex] [hex] [hex]`

**Explanation** This message occurs when an ATM Interface Processor (AIP) crashes and can send out a message indicating where and why it crashed.

**Recommended Action** Record the information and call your technical support representative for assistance. Reload the microcode into the AIP.

**Error Message**
`%RSP-3-BADHWREV: [chars] (slot [dec]) has wrong hardware revision [dec].[dec]`

**Explanation** The hardware in the indicated slot needs to upgraded for operation with the RSP.

**Recommended Action** Upgrade the board.

**Error Message**
`%RSP-4-COOKIE: Corrupt or missing MAC address cookie\n using random base [enet]`

**Explanation** This message indicates the part containing the MAC addresses allocated to this chassis could not be accessed or was found to be corrupt, either due to a hardware problem or manufacturing problem.

**Recommended Action** Report this error to your technical support representative.

**Error Message**
`%RSP-3-ERROR`

**Explanation** This message can take many forms. It provides information about a software error.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RSP-3-FLASH: [chars] [chars] error [dec]`

**Explanation** The Flash memory Management Information Base (MIB) software detected an error.

**Recommended Action** Copy the error message exactly as it appears, along with the output from **show version** command and the circumstances under which the error message was sent. Report this information to your technical support representative.

**Error Message**
`%RSP-3-FOREVER: cmd [dec] to [chars][dec] took [dec] usecs, done [hex]`

**Explanation** A command from the RSP to an IP took longer than expected.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RSP-3-IDPROM: Bad or missing ID EEPROM, controller type [dec]`

**Explanation** The ID EEPROM on the RSP is missing or bad.

**Recommended Action** This message indicates a manufacturing error. Report this error to your technical support representative.

**Error Message**
`%RSP-3-INVRTN: Invalid return queue bufhdr [hex]: [hex] [hex] [hex] [hex]`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RSP-3-INVRTNBCASTID: Invalid return queue bcast_id=[dec]\n bufhdr [hex]: [hex] [hex] [hex] [hex]`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RSP-3-IPC: [chars] [chars]`

**Explanation** An Interprocess Communication (IPC) error occurred. The details about what was attempted and what went wrong will be printed.

**Recommended Action** Copy the error message exactly as it appears. Copy down the router's configuration along with any other relevant information. Contact your technical support representative for assistance.

**Error Message**
`%RSP-3-LOVEGIANT: Card [chars] wants [dec] byte love letters, but only got [dec] bytes`

**Explanation** An inconsistency between the microcode and the system code was detected.

**Recommended Action** Report this error to your technical support representative.

**Error Message**
`%RSP-3-LOVENOTE: corrupt lovenote [hex]: [hex] [hex] [hex] [hex] [hex] [hex] [hex]`

**Explanation** This message indicates miscommunication between the RSP and an IP.

**Recommended Action** Report this error to your technical support representative.

**Error Message**
`%RSP-3-MSDOG: Master/slave watchdog timed out`

**Explanation** The system software failed to reset the master/slave watchdog timer, causing it to time out. This behavior could indicate a software problem or a hardware problem.

**Recommended Action** Copy the error message exactly as it appears. Copy down the router's configuration along with any other relevant information. Contact your technical support representative for assistance.

### Error Message

```
%RSP-3-MSFIX: Fixing [chars] by setting to default [chars]
```

**Explanation** The characters shown can be either on the slave RSP setting or on the master RSP setting.

The ROM monitor default slave RSP setting is not synchronized with the system configuration file specifications. During bootup, the system image detects the mismatch and modifies the ROM monitor setting to conform with these specifications.

This mismatch most likely occurred because a new RSP was being installed and booted in a high system availability (HSA) environment (dual RSPs) for the first time. Alternatively, in established HSA configurations, this message may result from a previous Interprocess Communication (IPC) error occurring while the HSA environment is reconfigured.

### Recommended Action

1. Using the **show version** or **show boot** command, determine which slot contains the current slave RSP.
2. Using the **show config** command, determine which slot has been specified as the default slave RSP. If there is no **slave default-slot n** command in the configuration file, the value defaults to the highest numbered CPU slot (slot 3 on a Cisco 7507, and slot 7 on a Cisco 7513).

If the slot number obtained in Step 1 is the same as the number obtained in Step 2, then no further action is required. You have configured HSA in simple hardware backup mode, and both RSPs are identical.

However, if the two slot numbers differ, you have configured HSA in software error protection mode, and will have different images running, depending on which RSP is currently the slave RSP. If the slot numbers discovered in Steps 1 and 2 differ, reload your router to ensure that the desired system image is running. After the reload, the actual slave RSP will match the default slave RSP specified in (or inferred from) the system configuration file.

For details of various HSA configuration modes consult the Cisco IOS *Configuration Fundamentals Configuration Guide*. See the “Loading System Images and Configuration Files” chapter (Cisco 7500 series only).

**Error Message**
`%RSP-3-MSVERS: Master has m/s version [dec], slave has m/s version [dec]`

**Explanation** The master and slave are running incompatible software versions with regards to the master/slave exchange process.

**Recommended Action** If the slave image global configuration is used to override the default slave image from the bundle, then the slave image is incompatible. Update either the master or slave image to ensure the two are compatible.

If the slave is running the image from the bundle, execute and record the output of **show version**, **show running-config**, and **show controller cbus** commands. Report this information and the error message to your technical support representative.

**Error Message**
`%RSP-3-NOIDB: bad vc [int] on [chars]`

**Explanation** A channelized interface driver received a packet on an unconfigured channel.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative, along with the output of the **show tech-support** command.

**Error Message**
`%RSP-3-NOLOVE: Corrupt lovenote: [hex] [hex] [hex] [hex]`

**Explanation** This message indicates miscommunication between the RSP and an IP.

**Recommended Action** Report this error to your technical support representative.

**Error Message**
`%RSP-3-NOMAC: Can't allocate MAC address for interface [dec]/[dec]`

**Explanation** No MAC address was available for allocation to the specified interface.

**Recommended Action** Report this error to your technical support representative.

**Error Message**
`%RSP-2-NOMEMORY: No memory available for [chars]`

**Explanation** An attempt at memory allocation failed.

**Recommended Action** Try these actions to remedy the problem:

- Add memory.
- Disable some features.
- Apply filtering to decrease the size of system data structures—the routing table, for example.

In general, reduce other system activities to ease memory demands. If conditions warrant, upgrade to a larger memory configuration.

**Error Message**
`%RSP-3-NORESTART: [chars]: unable to schedule restart for output queue`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RSP-3-NOSTART: No microcode for [chars] card, slot [dec]`

**Explanation** No microcode is defined or available for the specified card.

**Recommended Action** Reconfigure the card to specify an existing microcode file.

**Error Message**
`%RSP-2-QAERROR: [chars] error, [chars] at addr [hex] ([chars])\n log [hex], data [hex] [hex]`

**Explanation** A software error was detected during packet switching.

**Recommended Action** Call your technical support representative for support.

**Error Message**
`%RSP-3-RESTART`

**Explanation** The cBus buffer memory was reset and reallocated.

**Recommended Action** Report this error to your technical support representative, if memory is not reset manually (by changing the MTU on an interface, for example).

**Error Message**
`%RSP-3-RESTARTREQ: [chars]`

**Explanation** Some part of the software requested that cBus buffer memory be reset and reallocated.

**Recommended Action** Report this error to your technical support representative, if memory is not reset manually (by changing the MTU on an interface, for example).

**Error Message**
`%RSP-3-SLAVECHANGE: Slave changed state from [chars] to [chars]`

**Explanation**

The slave RSP has undergone a hardware state change. Both the old state and new state are shown.

Possible states are

- *nonparticipant*
- *slave*
- *master*
- *unplugged*

Possible state changes indicated by the above message are

- *any to unplugged*
- *unplugged to nonparticipant or slave*
- *nonparticipant to slave*
- *slave to nonparticipant*

Any other combination is unexpected.

**Recommended Action**

Causes and recommended solutions:

- The slave RSP has been removed. Consider reinstalling it if continued high system availability (HSA) operation is required. If the slave RSP is present, ensure that it is properly seated in the card cage.
- A slave RSP has been installed. Configure the router for HSA. See the "Loading System Images and Configuration Files," chapter in the*Configuration Fundamentals Configuration Guide* (Cisco 7500 series only) for more details. In particular, use the **slave sync config** command to ensure that the new slave RSP is configured consistently with the current master RSP.

  **CAUTION:** Failure to ensure a consistent configuration on a freshly installed slave RSP might result in undefined behavior if the router reloads.
- A previously crashed slave RSP has been reset, or a newly installed slave RSP is in transition from *unplugged* to *nonparticipant*, and finally to *slave* state. No action is required.
- The slave RSP image has crashed. Log in to the slave RSP console using the **if-console slot** command. You will now be connected to the ROM monitor prompt on the slave RSP. Diagnose the slave RSP failure. For example, capture the output from the **stack** and **context** ROM monitor commands. Provide that information to your technical support representative, along with the router's configuration and any other relevant information, so that the problem can be investigated.

  Log out from the slave RSP console port using **Ctrl-c** or **Ctrl-z**, and enter the **slave reload** global configuration command on the master RSP to bring the slave RSP back online.
- All other state changes indicate a software or hardware error. Provide the router's configuration and any other relevant information to customer support so that the problem can be investigated.

**Error Message**
`%RSP-3-SLAVEMASTER: Slave stole mastership`

**Explanation** The master RSP detected that the slave RSP had taken mastership of the router. The old master RSP will reload and become the slave RSP, letting the new master RSP take over. This behavior indicates a software or hardware error.

**Recommended Action** Copy the error message exactly as it appears. Copy down the router's configuration along with any other relevant information. Contact your technical support representative for assistance.

**Error Message**
`%RSP-3-SLAVEROM: [chars]`

**Explanation** A software or hardware error occurred.

**Recommended Action** Copy the error message exactly as it appears, and report it to your technical support representative.

**Error Message**
`%RSP-5-SLAVEUP: Slave changed to state Running`

**Explanation** This is an informational message to indicate that the slave RSP has started running the slave RSP image. This message after the router boots or after the **slave reload** global configuration command is issued on the master RSP.

**Recommended Action** No action required.

**Error Message**
`%RSP-2-STALL: partially inserted or removed IPs on cyBus[dec]`

**Explanation** Most likely, a board is not fully seated in the chassis. A less likely possibility is a hardware problem with the RSP or backplane.

**Recommended Action** Try reseating the boards. Call your technical support representative for assistance if this message persists.

**Error Message**
`%RSP-3-XBUFHDR: corrupt bufhdr [hex]: [hex] [hex] [hex] [hex]`

**Explanation** Miscommunication occurred between the RSP and an IP.

**Recommended Action** Report this error to your technical support representative.

# RSRB Error Messages

Remote source-route bridging error messages

**Error Message**
`%RSRB-4-BADLEN: Peer [chars], [chars], bad length [dec], trn [dec]`

`%RSRB-4-BADLENIP: Peer [dec]/[inet], [chars], bad length [dec],trn [dec]`

**Explanation** An internal software error occurred.

**Recommended Action** If either message recurs, call your technical support representative for assistance.

**Error Message**
`RSRB-3-BADVERSIONFST: FST in: [chars]: version mismatch, mine [dec], theirs [dec]`

`%RSRB-3-BADVERSIONIF: IF in: [chars]: version mismatch, mine [dec], theirs [dec]`

**Explanation** The remote end of a direct serial peer is running the wrong version of the system software. Either the local end, the remote end, or both are not up to date.

**Recommended Action** Call your technical support representative for an update.

**Error Message**
`%RSRB-3-BADVERSIONTCP: [chars]: [dec]/[inet]: version mismatch, mine [dec], theirs [dec]`

**Explanation** The remote end of a TCP remote peer is running the wrong version of the system software. Either the local end, the remote end, or both are not up to date.

**Recommended Action** Call your technical support representative for an update.

**Error Message**
`%RSRB-4-BADVRE: Bad vre type`

`%RSRB-4-CONIPST: Peer [dec]/[inet], CONN, illegal state [dec]`

`%RSRB-4-CONNILLSTATE: Peer [dec]/[inet], CONN, illegal state [dec]`

`%RSRB-4-CONNSTAT: Peer [dec]/[interface], IFin, bad connection state [dec]`

**Explanation** An internal software error occurred.

**Recommended Action** If any of these messages recur, call your technical support representative for assistance.

**Error Message**
`%RSRB-3-FSTERR: [char]: [char]: [inet], op [hex], len [dec], trn [dec]`

**Explanation** The remote end of a direct serial RSRB connection detected a configuration problem or traffic that is not recognized by the configuration.

**Recommended Action** Examine the configuration on both sides of the serial connection for possible problems. Examine the traffic being offered for propagation with respect to the configuration. The destination target ring is denoted by the value of `trn`.

**Error Message**
`%RSRB-3-HDRNOVRP: Peer [inet], HDR, no vrp`

`%RSRB-4-HDRRECV: Peer [dec]/[inet], HDR, recv state invalid, not empty [dec]`

`%RSRB-3-HDRVRP: Peer [dec]/[inet], HDR, vrp state wrong, [dec]`

**Explanation** An internal software error occurred.

**Recommended Action** If any of these messages recur, call your technical support representative for assistance.

**Error Message**
`%RSRB-3-IFERR: [chars]: [chars]: [chars], op [hex], len [dec], trn [dec]`

**Explanation** The remote end of a direct serial RSRB connection detected a configuration problem or traffic that is not recognized by the configuration.

**Recommended Action** Examine the configuration on both sides of the serial connection for possible problems. Examine the traffic being offered for propagation with respect to the configuration. The destination target ring is denoted by the value of `trn`.

**Error Message**
`%RSRB-4-ILLPEER: Peer [chars] [[hex]], illegal state [dec]`

`%RSRB-4-LOCAL: Unit [dec], local/vring set simultaneously, vrn [dec]`

**Explanation** An internal software error occurred.

**Recommended Action** If either of these messages recur, call your technical support representative for assistance.

**Error Message**
`%RSRB-3-NOMEMORY: Unit [dec], no memory for [chars]`

**Explanation** The requested operation could not be accomplished because of a low memory condition.

**Recommended Action** Reduce other system activity to ease memory demands. If conditions warrant, upgrade to a larger memory configuration.

**Error Message**
`%RSRB-3-NOTREM: Null idb and not remote`

`%RSRB-4-OPTNULL: Remopened and t NULL`

`%RSRB-4-PEERSTAT: Peer [chars], wrong state [dec]`

**Explanation** An internal software error occurred.

**Recommended Action** If any of these messages recur, call your technical support representative for assistance.

**Error Message**
`%RSRB-4-RNGXFAIL: Ring exchange failure, resetting peer: [chars]`

**Explanation** The RSRB peer initiation logic failed due to a memory shortage or congestion condition.

**Recommended Action** The problem should clear and the peers should re-open without operator intervention.

**Error Message**
`%RSRB-3-SENDPUNTFST : [chars]: sent [chars] to [dec]/[chars]`

`%RSRB-3-SENDPUNTIF: [chars]: sent [chars] to [dec]/[chars]`

**Explanation** The local end of a direct serial RSRB connection detected a configuration problem or traffic that is not recognized by the configuration.

**Recommended Action** Examine the configuration on both sides of the serial connection for possible problems. Examine the traffic being offered for propagation with respect to the configuration.