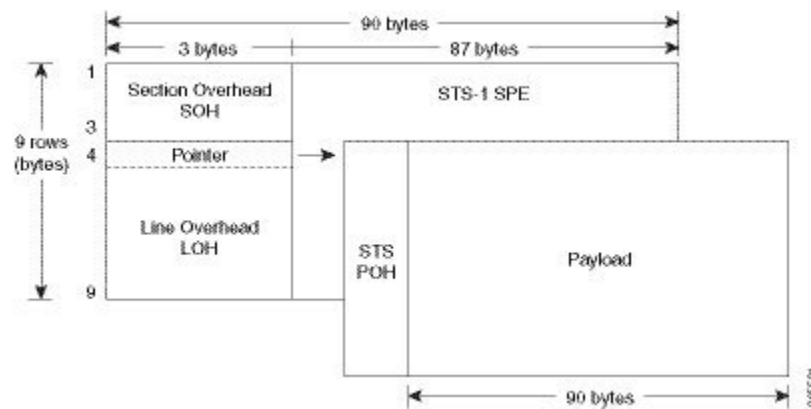




## STS-1 Electricals

A standard STS-1 frame is nine rows by 90 bytes. The first three bytes of each row represent the Section and Line overhead. These overhead bits comprise framing bits and pointers to different parts of the STS-1 frame.

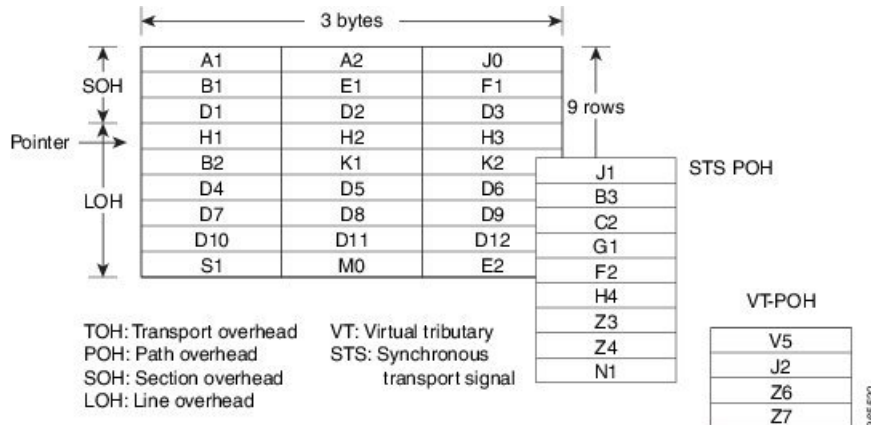
**Figure 1: STS-1 Frame Structure**



There is one column of bytes in the payload that represents the STS path overhead. This column frequently "floats" throughout the frame. Its location in the frame is determined by a pointer in the Section and Line overhead.

The combination of the Section and Line overhead comprises the transport overhead, and the remainder is the SPE.

Figure 2: STS-1 Overhead



For STS-1, a single frame is transmitted in 125 microseconds, or 8000 frames per second.  $8000 \text{ fps} * 810 \text{ B/frame} = 51.84 \text{ Mbps}$ , of which the payload is roughly 49.5 Mbps, enough to encapsulate 28 DS-1s, a full DS-3, or 21 CEPT-1s.

STS-1electrical ports are also supported. 4 Telcordia-compliant, GR-253 STS-1 electrical ports are supported per card. Each port operates at 51.840 Mbps over a single 75-ohm, 728A or equivalent coaxial span. Ports range from 12 to 15 are supported.

- [Restrictions for STS-1e, on page 2](#)
- [Prerequisites for Configuring STS-1e, on page 3](#)
- [Configuring MediaType Controller, on page 3](#)
- [Configuring STS-1e Modes, on page 3](#)
- [Configuring Line and Section Overhead, on page 5](#)
- [Configuring Line Loopback, on page 5](#)
- [Configuring AIS Shut, on page 5](#)
- [Configuring Shut, on page 5](#)
- [Configuring Clock, on page 6](#)
- [Verification of STS-1e Configuration, on page 6](#)
- [controller sts-1e, on page 16](#)
- [mode sts-1e, on page 16](#)

## Restrictions for STS-1e

- Only 16 BERT Patterns can be configured at a time.
- PMON fields are not supported for VT1.5 VT and DS3 or T3.
- PMON Far-end parameters are not supported.
- APS and card-protection are not supported for STS-1e port.
- In unframed mode, ACR and DCR are not supported.
- CESoPSN is not supported.
- Framed SAToP is not supported.

### Restrictions for Clock Source Configuration

- Only 4 ports can be configured in STS-1e line for clock source configuration per chassis.
- You should configure the clock source line and network-clock sync together to receive the clock from a remote port that is connected to the STS-1e port.

## Prerequisites for Configuring STS-1e

You must select the MediaType controller to configure and enter the controller configuration mode.

You must configure the controller as a STS-1e port.

## Configuring MediaType Controller

To configure MediaType Controller, use the following commands:

```
enable
configure terminal
controller MediaType 0/0/16
mode STS-1e
end
```

## Configuring STS-1e Modes

To configure STS-1e modes, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
sts-1 1
mode vt-15
end
```



---

**Note** There is no default mode. The following modes are supported:

- mode vt-15
- mode ct3
- mode t3
- mode unframed



---

**Note** To restore the system to its default condition, use the **no** form of the command.

---

## Configuring VT-15 Mode of STS-1e

```
enable
configure terminal
controller STS1E 0/3/14
no ais-shut
alarm-report all
clock source internal
!
sts-1 1
clock source internal
mode vt-15
vtg 1 t1 1 framing unframed
vtg 1 t1 1 cem-group 0 unframed
```

## Configuring DS1/T1 CT3 mode of STS-1e

To configure DS1/T1 CT3 mode of STS-1, you can configure the T1 link using the following steps:

```
enable
configure terminal
controller sts-1e 0/0/16
sts-1 1
mode ct3
t1 1 clock source internal
t1 1 framing unframed
end
```




---

**Note** To restore the system to its default condition, use the **no** form of the command.

---

## Configuring T3 mode of STS-1e

```
controller STS1E 0/3/14
no ais-shut
alarm-report all
clock source internal
!
sts-1 1
clock source internal
mode t3
cem-group 0 unframed
t3 clock source internal
```

## Configuring Unframed Mode of STS-1e

```
controller STS1E 0/3/14
no ais-shut
alarm-report all
clock source internal
!
sts-1 1
clock source internal
mode unframed
cem-group 0 cep
```

## Configuring Line and Section Overhead

To configure line and section overhead, use the following commands:

```
enable
configure terminal
controller MediaType 0/0/16
mode sts-1e
controller sts-1e 0/0/16
overhead s1s0 2
overhead j0 tx length 1-byte
end
```



---

**Note** To restore the system to its default condition, use the **no** form of the command.

---

## Configuring Line Loopback

To configure loopback, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
loopback local
end
```



---

**Note** To restore the system to its default condition, use the **no** form of the command.

---

## Configuring AIS Shut

To configure AIS-Shut, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
ais-shut
end
```



---

**Note** The **no ais-shut** command will not send AIS.

---

## Configuring Shut

To configure Shut, use the following commands:

```
enable
configure terminal
controller sts-1e 0/0/16
shutdown
end
```




---

**Note** Use the **no shutdown** command to disable the interface.

---

## Configuring Clock

To configure clock, use the following commands:

```
enable
configure terminal
controller MediaType 0/0/16
mode sts-1e
controller sts-1e 0/0/16
clock source line
end
```




---

**Note** The default mode is internal.

---




---

**Note** ACR and DCR clock recovery are also supported. Refer to [Clock Recovery System for SAToP](#) for more information.

---




---

**Note** To restore the system to its default condition, use the **no** form of the command.

---

### Configuring Network-Clock STS-1e

To configure network-clock STS-1e, use the following commands:

```
enable
configure terminal
network-clock input-source 1 controller STS-1e 0/0/16
end
```

## Verification of STS-1e Configuration

The following sample output shows the verification of STS-1e configuration in unframed mode:

```
router#show controllers sts1e 0/3/14
STS1E 0/3/14 is up.                               =====> this is the controller/port status.

Hardware is A900-IMA3G-IMSG
```

```

Port configured rate: OC1
configured on it.
Applique type is Channelized STS1E
Clock Source is Internal
Medium info:
Type: STS1E, Line Coding: NRZ,
Alarm Throttling: OFF
SECTION:
LOS = 0          LOF = 0          BIP(B1) = 0
alarm counter (from last clear counters)
=====> this is the rate the port is
====> the clocking config
=====> the section level
    
```

```

STS1E Section Tables
INTERVAL    CV    ES    SES    SEFS
05:26-05:28  0    49    49    49
    
```

```

LINE:
AIS = 0          RDI = 0          REI = 0          BIP(B2) = 0
level alarm counter (from last clear counters)
Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
alarms on the port.
Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA
BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6
Rx: S1S0 = 00
J0 = 00

RX S1 = 00

Tx: S1S0 = 00
J0 = 04
    
```

```

Tx J0 Length : 64
Tx J0 Trace :

52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20  RSP2
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00  ..
    
```

```

Expected J0 Length : 64
Expected J0 Trace :

52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20  RSP2
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00  ..
    
```

```

Rx J0 Length : 16
Rx J0 Trace :
CRC-7: 0xD8 ERROR

BC 4B 69 CC 79 24 1B 01 E8 EB 9C 36 FC 29 A9 00  .Ki.y$.....6.)..
    
```

```

STS1E Line Tables
INTERVAL    CV    ES    SES    UAS    CVFE    ESFE    SESFE    UASFE
05:26-05:28  0    0    0    50    0    0    0    0
    
```

```

High Order Path:

PATH 1:
Clock Source is internal
    
```

```

AIS = 0          RDI = 0          REI = 0          BIP(B3) = 0
LOP = 0          PSE = 0          NSE = 0          NEWPTR = 0
LOM = 0          PLM = 0          UNEQ = 0
    
```

```

Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA
    
```

```

TCA threshold: B3 = 10e-6
Rx: C2 = 04
Tx: C2 = 01
    
```

```

Tx J1 Length : 64
Tx J1 Trace
    
```

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00      RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

```

Expected J1 Length : 64
Expected J1 Trace
    
```

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00      RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

PATH TRACE BUFFER : UNSTABLE

```

Rx J1 Length : 64
Rx J1 Trace
    
```

```

00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

SONET Path Tables

INTERVAL	CV	ES	SES	UAS	CVFE	ESFE	SESFE	UASFE
05:26-05:28	0	0	0	48	0	0	0	0

```

STS1E 0/3/14.1 PATH mode UNFRAMED is up
cep is configured: TRUE cem_id :0
clock source internal
    
```

The following sample output shows the verification of STS-1e configuration in VT-15 mode:

```

router#show controllers sts1e 0/3/14
STS1E 0/3/14 is up.
Hardware is A900-IMA3G-IMSG

Port configured rate: OC1
Applique type is Channelized STS1E
Clock Source is Internal
Medium info:
Type: STS1E, Line Coding: NRZ,
Alarm Throttling: OFF
SECTION:
LOS = 0          LOF = 0          BIP(B1) = 0

STS1E Section Tables
    
```



INTERVAL	CV	ES	SES	SEFS
05:33-05:33	0	0	0	0

LINE:

AIS = 0	RDI = 0	REI = 0	BIP(B2) = 0
---------	---------	---------	-------------

Active Defects: None

Detected Alarms: None

Asserted/Active Alarms: None

Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA

BER thresholds: SF = 10e-3 SD = 10e-6

TCA thresholds: B1 = 10e-6 B2 = 10e-6

Rx: S1S0 = 00

J0 = 00

RX S1 = 00

Tx: S1S0 = 00

J0 = 04

Tx J0 Length : 64

Tx J0 Trace :

52	53	50	32	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	RSP2
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	..
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	..
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	00	00	00	00	..

Expected J0 Length : 64

Expected J0 Trace :

52	53	50	32	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	RSP2
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	..
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	..
20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	00	00	00	00	..

Rx J0 Length : 16

Rx J0 Trace :

CRC-7: 0xD8 ERROR

BC	4B	69	CC	79	24	1B	01	E8	EB	9C	36	FC	29	A9	00	.Ki.y\$......6.)..
----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	--------------------

STS1E Line Tables

INTERVAL	CV	ES	SES	UAS	CVFE	ESFE	SESFE	UASFE
05:33-05:33	0	0	0	0	0	0	0	0

High Order Path:

PATH 1:

Clock Source is internal

AIS = 0	RDI = 0	REI = 0	BIP(B3) = 0
LOP = 0	PSE = 0	NSE = 0	NEWPTR = 0
LOM = 0	PLM = 0	UNEQ = 0	

Active Defects: None

Detected Alarms: None

Asserted/Active Alarms: None

Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA

TCA threshold: B3 = 10e-6

Rx: C2 = 02

Tx: C2 = 02

Verification of STS-1e Configuration

Tx J1 Length : 64  
Tx J1 Trace

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00      RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

Expected J1 Length : 64  
Expected J1 Trace

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00      RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

PATH TRACE BUFFER : UNSTABLE

Rx J1 Length : 64  
Rx J1 Trace

```

00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

SONET Path Tables

INTERVAL	CV	ES	SES	UAS	CVFE	ESFE	SESFE	UASFE
05:33-05:33	0	0	0	0	0	0	0	0

STS1E 0/3/14.1 PATH is up.  
Hardware is A900-IMA3G-IMSG

Applique type is VT1.5

STS-1 1, VTG 1, VT 1 (STS1E 0/3/14.1/1/1 VT) is up  
No VT alarms detected.

cep is configured: FALSE cem\_id (0)  
fwd\_alarm\_ais :0 fwd\_alarm\_rai :0  
Framing is unframed, Clock Source is Internal  
BIP2-tca:6, BIP2-sf:3, BIP2-sd:6

Tx V5:1

Rx V5:2

Tx J2 Length=64

TX J2 Trace Buffer:

```

00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

Expected J2 Length=64

Expected J2 Trace Buffer:

```

00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00      .....
    
```

Rx J2 Length=16

RX J2 Trace Buffer:

CRC-7: 0x80 OK

```

4A 44 53 55 00 00 00 00 00 00 00 00 00 00 00 00      JDSU.....
    
```

```
Data in current interval (1 seconds elapsed)
Near End
 0 CodeViolations, 0 ErrorSecs, 0 Severly Err Secs, 0 Unavailable Secs
Far End
 0 CodeViolations, 0 ErrorSecs, 0 Severly Err Secs, 0 Unavailable Secs

STS-1 1, VTG 1, T1 1 (STS1E 0/3/14.1/1/1 T1) is up
No alarms detected.
Framing is unframed, Clock Source is Internal
Data in current interval (0 seconds elapsed):
Near End
 0 Line Code Violations, 0 Path Code Violations
 0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
 0 Errored Secs, 0 Bursty Err Secs, 0 Severly Err Secs
 0 Unavail Secs, 0 Stuffed Secs
Far End
 0 Line Code Violations, 0 Path Code Violations
 0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins
 0 Errored Secs, 0 Bursty Err Secs, 0 Severly Err Secs
 0 Unavail Secs
```

The following sample output shows the verification of STS-1e configuration in T3 mode:

```
router#show controllers sts1e 0/3/14
STS1E 0/3/14 is up.
  Hardware is A900-IMA3G-IMSG

  Port configured rate: OC1
  Applique type is Channelized STS1E
  Clock Source is Internal
Medium info:
  Type: STS1E, Line Coding: NRZ,
  Alarm Throttling: OFF
SECTION:
  LOS = 0                LOF = 0                BIP(B1) = 0

STS1E Section Tables
INTERVAL    CV     ES    SES  SEFS
05:35-05:35  0      0      0      0

LINE:
  AIS = 0                RDI = 0                REI = 0                BIP(B2) = 0
Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA
BER thresholds: SF = 10e-3 SD = 10e-6
TCA thresholds: B1 = 10e-6 B2 = 10e-6
Rx: S1S0 = 00
      J0 = 00

      RX S1 = 00

Tx: S1S0 = 00
      J0 = 04

Tx J0 Length : 64
Tx J0 Trace :

 52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20 RSP2
 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
 20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00 ..

Expected J0 Length : 64
```

Expected J0 Trace :

```

52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20  RSP2
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00          ..
    
```

Rx J0 Length : 16

Rx J0 Trace :

```

CRC-7: 0xD8 ERROR

BC 4B 69 CC 79 24 1B 01 E8 EB 9C 36 FC 29 A9 00    .Ki.y$.6.)..
    
```

STS1E Line Tables

INTERVAL	CV	ES	SES	UAS	CVFE	ESFE	SESFE	UASFE
05:35-05:35	0	0	0	73	0	0	0	0

High Order Path:

PATH 1:

Clock Source is internal

AIS = 0	RDI = 0	REI = 0	BIP(B3) = 0
LOP = 0	PSE = 0	NSE = 0	NEWPTR = 0
LOM = 0	PLM = 0	UNEQ = 0	

Active Defects: None

Detected Alarms: None

Asserted/Active Alarms: None

Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA

TCA threshold: B3 = 10e-6

Rx: C2 = 04

Tx: C2 = 04

Tx J1 Length : 64

Tx J1 Trace

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00  RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
    
```

Expected J1 Length : 64

Expected J1 Trace

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00  RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
    
```

PATH TRACE BUFFER : UNSTABLE

Rx J1 Length : 64

Rx J1 Trace

```

00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00  .....
    
```

SONET Path Tables

INTERVAL	CV	ES	SES	UAS	CVFE	ESFE	SESFE	UASFE

```
05:26-05:36      0      0      0      12      0      0      0      0
```

```
STS1E 0/3/14.1 T3 is up.
  Hardware is A900-IMA3G-IMSG

  Applique type is T3
  No alarms detected.
  Framing is Unframed, Cablelength is 224
  BER thresholds:  SF = 10e-3  SD = 10e-6
  Clock Source is internal
  Equipment customer loopback
  Data in current interval (560 seconds elapsed):
    Near End
      0 Line Code Violations, 0 P-bit Coding Violation
      0 C-bit Coding Violation, 0 P-bit Err Secs
      0 P-bit Severely Err Secs, 0 Severely Err Framing Secs
      275 Unavailable Secs, 0 Line Errored Secs
      0 C-bit Errored Secs, 0 C-bit Severely Errored Secs
      0 Severely Errored Line Secs, 3 Path Failures
      0 AIS Defect Secs, 0 LOS Defect Secs
    Far End
      0 Errored Secs, 0 Severely Errored Secs
      0 C-bit Unavailable Secs, 0 Path Failures
      0 Code Violations, 0 Service Affecting Secs
```

The following sample output shows the verification of STS-1e configuration in CT3 mode:

```
router#show controllers stslE 0/3/14
STS1E 0/3/14 is up.
  Hardware is A900-IMA3G-IMSG

  Port configured rate: OC1
  Applique type is Channelized STS1E
  Clock Source is Internal
Medium info:
  Type: STS1E, Line Coding: NRZ,
  Alarm Throttling: OFF
SECTION:
  LOS = 0             LOF = 0             BIP(B1) = 0

STS1E Section Tables
INTERVAL   CV    ES    SES  SEFS
05:41-05:42   0    10    10    10

LINE:
  AIS = 0             RDI = 0             REI = 0             BIP(B2) = 0
Active Defects: None
Detected Alarms: None
Asserted/Active Alarms: None
Alarm reporting enabled for: SLOS SLOF LAIS SF SD LRDI B1-TCA B2-TCA
BER thresholds:  SF = 10e-3  SD = 10e-6
TCA thresholds:  B1 = 10e-6  B2 = 10e-6
Rx: S1S0 = 00
      J0 = 00

      RX S1 = 00

Tx: S1S0 = 00
      J0 = 04

Tx J0 Length : 64
Tx J0 Trace :

52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20 20 20  RSP2
```

Verification of STS-1e Configuration

```

20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00 ..

```

Expected J0 Length : 64  
 Expected J0 Trace :

```

52 53 50 32 20 20 20 20 20 20 20 20 20 20 20 20 RSP2
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 20 20
20 20 20 20 20 20 20 20 20 20 20 20 20 20 00 00 ..

```

Rx J0 Length : 16  
 Rx J0 Trace :

```

CRC-7: 0xD8 ERROR

BC 4B 69 CC 79 24 1B 01 E8 EB 9C 36 FC 29 A9 00 .Ki.y$.....6.)..

```

STS1E Line Tables

INTERVAL	CV	ES	SES	UAS	CVFE	ESFE	SESFE	UASF
05:41-05:42	0	0	0	10	0	0	0	0

High Order Path:

PATH 1:  
 Clock Source is internal

```

AIS = 0          RDI = 0          REI = 0          BIP(B3) = 0
LOP = 0          PSE = 0          NSE = 0          NEWPTR = 0
LOM = 0          PLM = 0          UNEQ = 0

```

Active Defects: None  
 Detected Alarms: None  
 Asserted/Active Alarms: None  
 Alarm reporting enabled for: PAIS PRDI PUNEQ PLOP PPLM LOM B3-TCA

TCA threshold: B3 = 10e-6  
 Rx: C2 = 04  
 Tx: C2 = 04

Tx J1 Length : 64  
 Tx J1 Trace

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00 RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

```

Expected J1 Length : 64  
 Expected J1 Trace

```

52 53 50 32 20 30 2F 33 2F 31 34 2E 31 00 00 00 RSP2 0/3/14.1...
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

```

PATH TRACE BUFFER : UNSTABLE

Rx J1 Length : 64  
 Rx J1 Trace

```

00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....

```

```
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 00 .....
```

SONET Path Tables

INTERVAL	CV	ES	SES	UAS	CVFE	ESFE	SESFE	UASF
05:42-05:42	0	0	0	0	0	0	0	0

STS1E 0/3/14.1 T3 is up.  
Hardware is A900-IMA3G-IMSG

Applique type is Channelized T3 to T1  
No alarms detected.  
MDL transmission is disabled

FEAC code received: No code is being received  
Framing is C-BIT Parity, Cablelength is 224  
BER thresholds: SF = 10e-3 SD = 10e-6  
Clock Source is internal  
Equipment customer loopback  
Data in current interval (60 seconds elapsed):  
Near End  
0 Line Code Violations, 0 P-bit Coding Violation  
0 C-bit Coding Violation, 0 P-bit Err Secs  
0 P-bit Severely Err Secs, 0 Severely Err Framing Secs  
25 Unavailable Secs, 0 Line Errored Secs  
0 C-bit Errored Secs, 0 C-bit Severely Errored Secs  
0 Severely Errored Line Secs, 0 Path Failures  
0 AIS Defect Secs, 0 LOS Defect Secs  
Far End  
0 Errored Secs, 0 Severely Errored Secs  
0 C-bit Unavailable Secs, 0 Path Failures  
0 Code Violations, 0 Service Affecting Secs

STS-1 1, T1 1 (STS1E 0/3/14.1/1 T1) is up  
No alarms detected.  
Framing is unframed, Clock Source is Internal  
Data in current interval (60 seconds elapsed):  
Near End  
0 Line Code Violations, 0 Path Code Violations  
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins  
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs  
25 Unavail Secs, 0 Stuffed Secs  
Far End  
0 Line Code Violations, 0 Path Code Violations  
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins  
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs  
0 Unavail Secs

STS-1 1, T1 2 (STS1E 0/3/14.1/2 T1) is up  
timeslots:  
FDL per AT&T 54016 spec.  
No alarms detected.  
Framing is ESF, Clock Source is Internal  
Data in current interval (60 seconds elapsed):  
Near End  
0 Line Code Violations, 0 Path Code Violations  
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins  
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs  
26 Unavail Secs, 0 Stuffed Secs  
Far End  
0 Line Code Violations, 0 Path Code Violations  
0 Slip Secs, 0 Fr Loss Secs, 0 Line Err Secs, 0 Degraded Mins  
0 Errored Secs, 0 Bursty Err Secs, 0 Severely Err Secs  
0 Unavail Secs

# controller sts-1e

To configure a STS-1e controller and enter controller configuration mode, use the **controller sts-1e** command in global configuration mode.

**controller sts-1e** *slot/subslot/port*

<i>slot</i>	Physical slot number. The slot is always 0.
<i>/subslot</i>	Physical sub-slot number. The range for sub-slot is 0-5.
<i>/port</i>	STS-1e port number. The range of port number for 3GMS is 12-15 and for 48 T3E3 CE is 0-47.

**Command Default** *port* : 0

**Command Modes** Global configuration

<b>Command History</b>	<b>Release</b>	<b>Modification</b>
	XE Fuji 16.9.1	This command was integrated into the Cisco ASR 900 Series, Cisco ASR 920 Sesries, and Cisco NCS 4200 Series Routers.

**Usage Guidelines** This command can be enabled only after configuring the **mode sts1e** command under **controller mediatype slot/subslot/port** command, as shown below:

```
Router(config)#controller mediaType 0/3/13
Router(config-controller)#mode
Router(config-controller)#mode sts1e
```

### Example

```
enable
configure terminal
controller sts-1e 0/0/16
sts-1 1
mode sts-1e
t1 1 clock source internal
t1 1 framing unframed
end
```

# mode sts-1e

Use this command to configure the sts-1e mode.

None.

**Command Default** None.

**Command Modes** Controller configuration.



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**Command History****Release**                      **Modification**

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IOS XE Fuji 16.9.1 This command was integrated into the Cisco ASR 900 Series, Cisco ASR 920 Series, and the Cisco NCS 4200 Series.

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**Usage Guidelines**

You can change the mode of a controller only when there are no subinterfaces defined for the controller.

**Example**

```
enable
configure terminal
controller MediaType 0/0/16
mode STS-1e
end
```

