

The results contain the operating modes, interleave delay, parity byte assignment and parity bytes per codeword, symbols per codeword and interleave depth. Information obtained prior to training to steady state transition will not be valid or will be old information. Annex A refers to POTS.

Table 24-1 Lineinfo Command

LABEL	DESCRIPTION
Service Type in Operation	This is the ADSL standard that the port is using: G.dmt (AAM1008-61), G.dmt Annex B (AAM1008-63), ETSI (AAM1008-63), G.lite or ANSI T1.413 issue 2 (AAM1008-61).
Number of Channels	An ADSL port on the network module uses one downstream channel and one upstream channel.
Downstream Framing Structure	<p>This displays the framing mode that the network module uses on the traffic that it sends.</p> <p>"0" is full overhead framing with the synchronization control mechanism enabled (asynchronous bit-to-modem timing)</p> <p>"1" is full overhead framing with the synchronization control mechanism disabled (synchronous bit-to-modem timing).</p> <p>"2" is reduced overhead framing with separate fast and synchronization bytes in the respective fast and interleaved latency buffers. This produces 64 kilobits per second of framing overhead.</p> <p>"3" is reduced overhead framing with a merged fast and synchronization byte, using either the fast or the interleaved latency buffer. This produces 32 Kbps of framing overhead.</p>
Active down/up stream rate option	This is the rate option currently being used for the down/upstream channel.
TRELLIS operation mode	Trellis coding helps to reduce the noise in ADSL transmissions. Trellis may reduce throughput but it makes the connection more stable. ¹
Down/up stream interleaved delay	The numbers of milliseconds of interleave delay for downstream and upstream transmissions are listed.
Downstream parity byte assigned to fast/interleaved	This is the current number of downstream parity bytes (FEC Redundancy) per Reed Solomon codeword that are assigned to the fast or interleaved buffer.
Upstream parity byte assigned to fast/interleaved	This is the current number of upstream parity bytes (FEC Redundancy) per Reed Solomon codeword that are assigned to the fast or interleaved buffer.
Downstream symbols assigned to fast/interleaved	This is the current number of downstream symbols per Reed Solomon codeword value that are assigned to the fast or interleaved buffer. This should always be 1 for fast mode.
Upstream symbols assigned to fast/interleaved	This is the current number of upstream symbols per Reed Solomon codeword value that are assigned to the fast or interleaved buffer. This should always be 1 for fast mode.

¹At the time of writing, the AAM1008 always uses Trellis coding.

Down/up stream Depth value	This is the current downstream or upstream, interleaved codeword depth value. The larger the number, the more interleave blocks data is distributed across and the stronger the protection against errors (and the lower the performance is). The smaller the number, fewer interleave blocks data is distributed across and the higher the performance (and weaker the protection against errors).
Total Transceiver Output Power	The total output power of the transceiver varies with the length and line quality. The farther away the subscriber's ADSL modem or router is or the more interference there is on the line, the higher the power will be.
Current ATUR Information	This section contains data acquired from the ATUR (ADSL Termination Unit - Remote) during negotiation/provisioning message interchanges. This information can help in identifying the subscriber's ADSL modem or router. Information obtained prior to training steady state transition will not be valid or will be old information.
Country Code	The country code is from the Vendor ID (g.994.1).
Provider Code	The provider code includes the Vendor ID and Version Number obtained from Vendor ID fields (g.994.1) or R-MSGS1(T1.413).
Capabilities	The "Capabilities" section displays what kind of DSL connection the subscriber's ADSL modem or router supports.

24.3.8 Lineperf Command

Syntax:

```
192.168.1.1 adsl> lineperf <port number>
```

where

<port number> = A port number, from 1 to 8.

The lineperf command shows the line performance counters of an ADSL port.

An example is shown next.

```
192.168.1.1 adsl> lineperf 7
nfebe-I/nfebe-ni          : 0/0
ncrc-I/ncrc-ni           : 0/0
nfec-I/nfec-ni           : 0/0
nblks-ds/nblks-us        : 120878/120878
nsec-ds/nsec-us          : 2060/2060
n-eb-ds/n-eb-us          : 0/0
n-bbe-ds/n-bbe-us        : 0/0
n-es-ds/n-es-us          : 0/0
n-ses-ds/n-ses-us        : 0/0
non-ses-blks-ds/non-ses-blks-us : 120878/120878
n-uas-ds/n-uas-us        : 0/0
fe_loss_seconds/ne_loss_seconds : 0/0
fe_fec_seconds/ne_fec_seconds  : 0/0
fast_trains               : 0
fast_trains_fail          : 0
```

Figure 24-3 Lineperf Command Example

These counters display line performance data that has been accumulated since the system started. In the list above the definitions of near end/far end will always be relative to the ATU-C (ADSL Termination Unit-Central Office).

Downstream (ds) refers to data from the ATU-C and upstream (us) refers to data from the ATU-R. "I" stands for interleaved and "ni" stands for non-interleaved (fast mode).

A block is a set of consecutive bits associated with the path; each bit belongs to one and only one block. Consecutive bits may not be contiguous in time.

Table 24-2 Line Performance Counters

LABEL	DESCRIPTION
nfebe	The number of far end block errors.
ncrc	Near end cyclic redundancy check errors.
nfecc	The number of far end forward error correction count.
nfec	The number of near end forward error count.
nblks	The number of blocks transmitted.
nsec	The number of seconds the connection has been up.
n-eb-	The number of super frames containing at least one error at the far (ds) or near (us) end.
n-bbe-	The number of background block errors not occurring during a severely errored second at the far (ds) or near (us) end.
n-es	The number of errored seconds. This is how many seconds contained at least one errored block or at least one defect.
n-ses	The number of severely errored seconds. This is how many seconds contained 30% or more errored blocks or at least one defect. This is a subset of n-es.
non-ses-blks	The number of non-Severely Errored Second (SES) blocks at the far (ds) or near (us) end. This is the total number of super frames received during non-SES seconds.
n-uas	The number of unavailable seconds.
fe/ne_loss_s econds	The number of loss seconds accumulated at the far (fe) or near (ne) end.
fe/ne_fec_se conds	The current number of seconds with one or more errors at the far (fe) or near (ne) end.
fast_trains : 0	The current count of the total number of fast retrains in the performance period (15 minutes).
fast_trains_ fail : 0	The current count of the total number of fast retrains that have failed in the performance period (15 minutes).

24.3.9 Linerate Command

Syntax:

```
192.168.1.1 adsl> linerate <port number>
```

where

<port number> = A port number, from 1 to 8.

The `linerate` command shows the line rate parameters of an ADSL port.