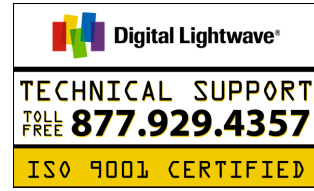


# Application Note

Document Number APL-00017

Updated 04/29/99 Rev-A



## How to measure "Switch to Protect" time

### What is "Switch to Protect" ?

"Protect" is the secondary or back-up circuit typically used in any SONET ring.

"Switching to protect" is the act of redirecting live traffic from the primary to the back-up ring.

#### Measurement:

Switching live data or test data from primary to protect will cause some momentary errors.

The measurement is the length of time it takes to make the transition.

This can be measured in milliseconds (MSEC).

SONET multiplexers and switches have specifications that define the maximum time allowed to make the change from primary to protect. So our customers may need to prove that the "Switch to Protect time" is within the acceptable range.

## Can the ASA-312 do this?

### Error Burst Duration

Yes, but it is a little tricky and we don't use the term "Switch to Protect time".

It's called "Error Burst Duration".

Switch to Protect measurement is not the only thing EBD will do for you, but I don't know any other use for it.

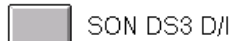
### DS3 Mapping Required

EBD is not available in the SONET results.

It is only in DS3, so to view it you must be in the DS3 processor.

If you want to measure EBD in SONET then DS3 mapping is required.

Use the presets to select SONET with DS3 mapping.



Error Burst Duration can be found under the DS3 processor results.

DS3 - Results \ Error Analysis \ Bit Analysis \ Error Burst Duration

## BIT ANALYSIS screen

Once the SONET and DS3 processors are running with no errors, the switch-over should be initiated. Then the EBD can be read at this screen.

Results Elapsed Time: 000:03:42

**BIT ANALYSIS**

ERROR COUNTS	0	
ERRORED SECONDS	0	0.00 %
ERROR FREE SECONDS	221	100.00 %
AVERAGE ERROR RATE	0.00e+00	
CURRENT ERROR RATE	0.00e+00	
<b>ERROR BURST DURATION (MSEC)</b>	<b>0.0</b>	

BIT ANALYSIS BPV ANALYSIS FRAME ANALYSIS P PAR ANALYSIS C PAR ANALYSIS FEBE ANALYSIS

TROUBLE SCAN MAIN RESULTS ERROR ANALYSIS GRAPHS RECALL GRAPHS SAVE GRAPHS LARGE LEDS