

## SENSe:DATA:TELEcom:MEASure Subsystem

This section describes the commands and queries that access error, alarm, failure, and pointer measurements for current and previous tests. Figures 2 28 through 2 32 show the hierarchy trees for this CTS 850 subsystem.

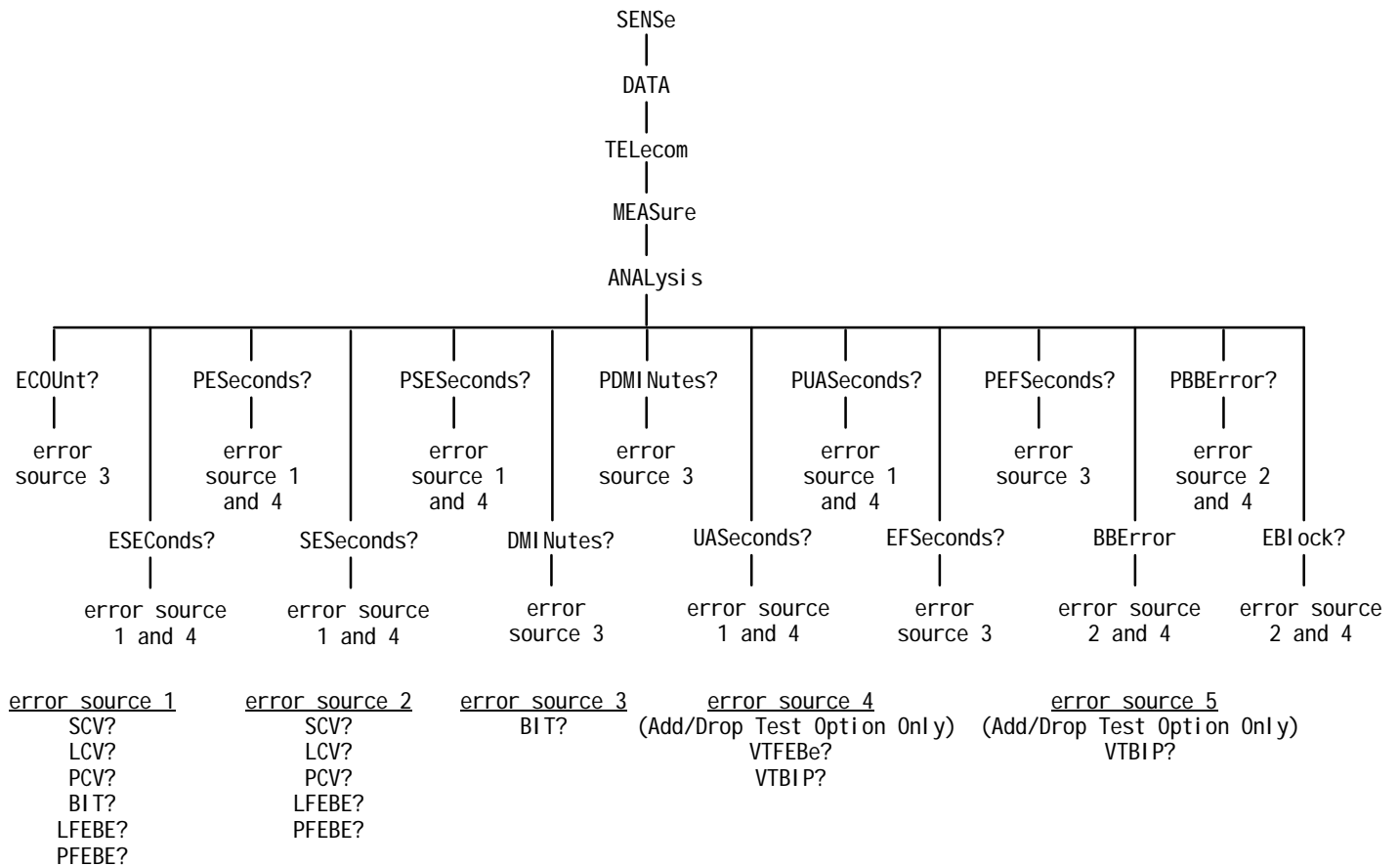


Figure 2 28: SENSe:DATA:TELEcom:MEASure:ANALysi s subsystem (SDH)

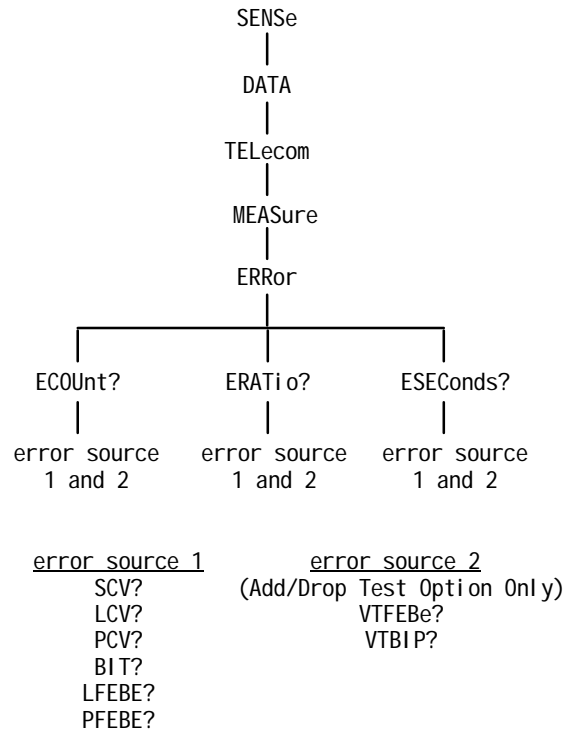


Figure 2 29: SENSE:DATA:TELEcom:MEASure:ERRor subsystem

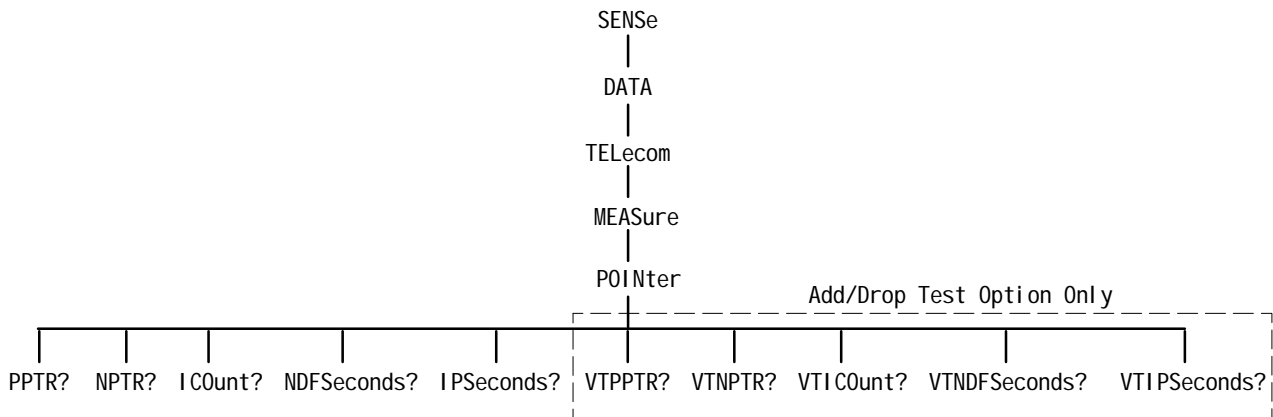


Figure 2 30: SENSE:DATA:TELEcom:MEASure:POINter subsystem

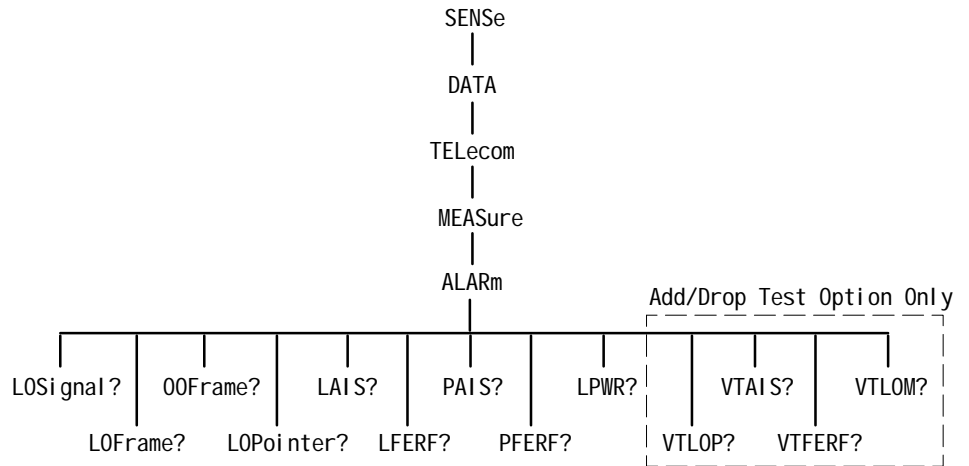


Figure 2 31: SENSE:DATA:TELEcom:MEASure:ALARm subsystem

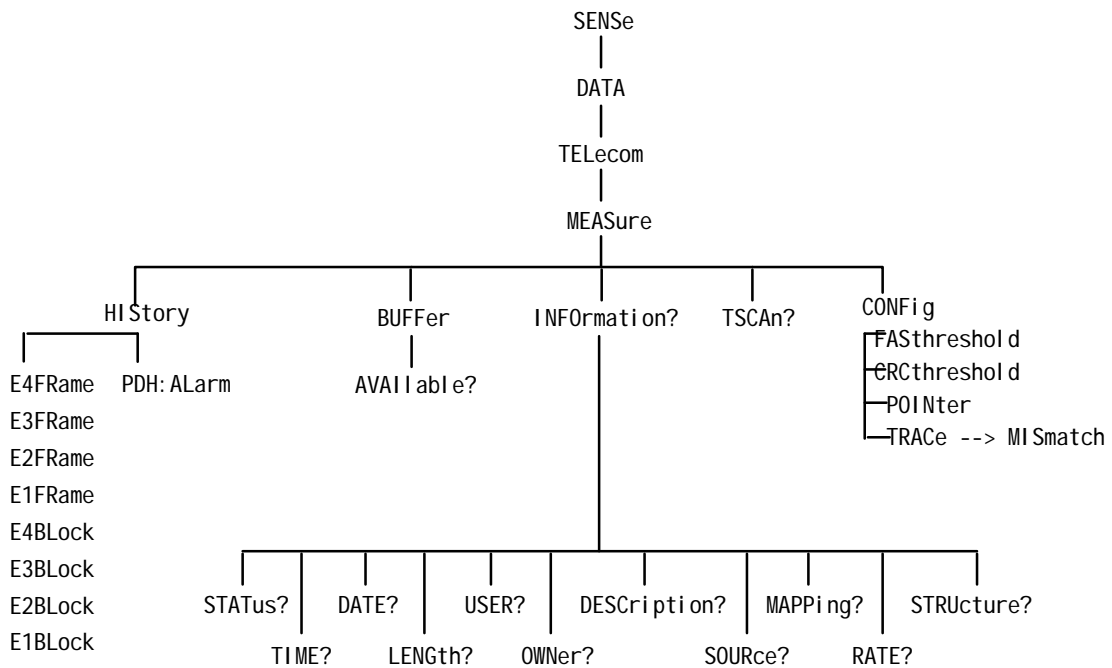


Figure 2 32: SENSE:DATA:TELEcom:MEASure:BUFFer and INFOrmation? subsystems

A variety of error, alarm, failure, and pointer measurements are reported through this subsystem. Table 2 7 shows how error, alarm, and failure measurements are

calculated. Tables 2 8 and 2 9 show how the analysis measurements are calculated. These calculations are based on CCITT G.821 specifications.

**Table 2 7: How error, alarm, and pointer measurements are calculated**

Type of Measurement	Method of Calculation
Error count	Number of bit errors that were errored in the signal
Bit Error Ratio (BER)	Ratio of error count to the total number of received bits
Errored seconds	Number of seconds that had any error counts or failures such as Loss of Signal (LOS) or Severely Errored Frame (SEF)
Pointer measurements	Number of events that occur in the H1 and H2 pointer bytes
New Data Flag Seconds	Number of one-second intervals that contain new data flags
Illegal Pointer Seconds	Number of one-second intervals that contain illegal pointers
Positive Pointer Justifications	Number of times the pointer value is incremented
Negative Pointer Justifications	Number of times the pointer value is decremented
Alarms	Number of one-second intervals that contained a specific alarm such as Loss of Signal (LOS), Loss of Pointer (LOP), and Path Alarm Indication Signal (PAIS)

**Table 2 8: How analysis measurements are calculated**

Type of Measurement	Method of Calculation
Error count	Number of bit errors not occurring during periods of unavailability (see Unavailable seconds)
Errored seconds	Total number of severely errored seconds not occurring during a period of unavailability (see Unavailable seconds)
Severely errored seconds	Number of seconds with more than N errors (see Table 2 9)
Severely errored framing seconds	Number of seconds where the incoming signal could not be framed (applies only to the Section layer)
Unavailable seconds	Number of seconds that the signal had too many errors to be available for use; unavailability starts at the onset of ten contiguous severely errored seconds
Error free seconds	Number of seconds that contained zero errors

**Table 2 9: Value of N for analysis measurements**

Rate	N (Section B1 Errors)	N (Line B2 Errors)
STM-1	2500	2500
STM-4	8800	10000

Some of the queries in this section have their information presented in a way that is different from queries in the rest of the manual. The syntax and examples are in table format. Figure 2 33 shows you how to read the Syntax Tables in this section. Follow the step numbers to create any query. Table 2 10 explains the acronyms used in the SENSE:DATA:TELEcom:MEASure Syntax Tables.

- 1 Start with the syntax statement listed under Syntax.
- 3 Add a question mark or one of these items (remember to keep the colon in front of this item).

- 2 Add one of these items to the end of the syntax statement.

**Table X X: Syntax Table for SENSE:DATA:TELEcom:MEASure:ERRor Queries**

Select a measurement from the left column	Then select an error source from the top row						
	?	:SCV?	:LCV?	:PCV?	:BIT?	:LFEBE?	:PFEBE?
ECOUNt	error count	error count	error count	error count	error count	error count	error count
ERATio	bit error ratio	bit error ratio	bit error ratio	bit error ratio	bit error ratio	bit error ratio	bit error ratio
ESEconds	errored seconds	errored seconds	errored seconds	errored seconds	errored seconds	errored seconds	errored seconds

All error counts and errored seconds return NR1-numeric responses.  
All bit error ratios return NR3-numeric responses.

- 4 The response type is listed in the footnote.
- 5 The response description for each combination of items is listed in each cell of the table. If no query exists for a particular combination of items, "no query" is listed in the cell.

**Figure 2 33: How to read the syntax tables in the SENSE:DATA:TELEcom:MEASure subsystem section**

**Table 2 10: Acronyms used in the SENSE:DATA:TELEcom:MEASure queries**

Acronym	Meaning
SCV	Section/RS Code Violation
LCV	Line/MS Code Violation
PCV	Path Code Violation
BIT error (not an acronym)	Pattern bit error
LFEBE	Line/MS Far End Block Error
PFEBE	Path Far End Block Error
VTBIP	TU BIP (Add/Drop Test Option Only)
VTFEBE	TU FEBE (Add/Drop Test Option Only)

Figure 2 34 shows you how to read the Example Tables in this section.

**Table X X: Example Table for SENSE:DATA:TELEcom:MEASure:ERRor Queries**

Query	Response
SENSE: DATA: TELECOM: MEASURE: ERROR: ECOUNT: SCV?	60904
SENSE: DATA: TELECOM: MEASURE: ERROR: ERATIO: PCV?	9.23E-6
SENSE: DATA: TELECOM: MEASURE: ERROR: ESECONDS: PFEBE?	6

Selected examples of queries are shown in the left column

A typical response is shown in the right column for each example

**Figure 2 34: How to read the example tables in the SENSE:DATA:TELEcom:MEASure subsystem section**

## SENSe:DATA:TELEcom:MEASure:ERRor Queries

These queries return error measurements. When you use the high-level queries (for example, SENSE:DATA:TELEcom:MEASure:ERRor? or SENSE:DATA:TELEcom:MEASure:ERRor:ECOUNT?), it is helpful to turn the headers on (SYSTem:HEADers ON) so you can identify each response value in the response string.

**Syntax** SENSE: DATA: TELEcom: MEASure: ERRor?

SENSe: DATA: TELEcom: MEASure: ERRor: [measurement]: [error source]  
(see Tables 2 11 and 2 12 to complete the query)

Table 2 11: Syntax table for SENSE:DATA:TELEcom:MEASure:ERRor queries

Select a measurement from the left column	Then select an error source from the top row						
	?	:SCV?	:LCV?	:PCV?	:BIT?	:LFEBE?	:PFEBE?
ECOUNt	all error counts	error count	error count	error count	error count	error count	error count
ERATio	all bit error ratios	bit error ratio	bit error ratio	bit error ratio	bit error ratio	bit error ratio	bit error ratio
ESEConds	all errored seconds	errored seconds	errored seconds	errored seconds	errored seconds	errored seconds	errored seconds

All error counts and errored seconds return NR1-numeric responses.

All bit error ratios return NR1-numeric responses.

Table 2 12: Syntax table for SENSE:DATA:TELEcom:MEASure:ERRor queries (Add/Drop Test Option Only)

Select a measurement from the left column	Then select an error source from the top row	
	:VTFEBE?	:VTBIP?
ECOUNt:	error count	error count
ERATio	bit error ratio	bit error ratio
ESEConds	errored seconds	errored seconds

All error counts and errored seconds return NR1-numeric responses.

All bit error ratios return NR1-numeric responses.

**Response** See Tables 2 11 and 2 12.

**Dependencies** These measurement queries can be sent at any time. But, if a test is currently running, the responses to the queries might not represent the final error measurements. After a test has been stopped or the test duration has expired, you can send these measurement queries again to get the final error measurements.

**Errors and Events** None

**Examples** See Table 2 13.

**Table 2 13: Example table for SENSE:DATA:TELEcom:MEASure:ERRor queries**

Query	Response
SENSE: DATA: TELECOM: MEASURE: ERROR: ECount: SCV?	60904
SENSE: DATA: TELECOM: MEASURE: ERROR: ERATIO: PCV?	9.23E-6
SENSE: DATA: TELECOM: MEASURE: ERROR: ESECONDS: PFEBE?	6

**Related Commands** SENSE:DATA:TELEcom:TEST:START  
SENSE:DATA:TELEcom:TEST:STOP

## SENSE:DATA:TELEcom:MEASure:ANALysis Queries

These queries return an analysis of section, line, path, and payload errors. When you use the high-level queries (for example, SENSE:DATA:TELEcom:MEASure:ANALysis? or SENSE:DATA:TELEcom:MEASure:ANALysis:ECOUNT?), it is helpful to turn the headers on (SYSTEM:HEADers ON) so you can identify each response value in the response string.

**Syntax** SENSE: DATA: TELEcom: MEASure: ANALysi s?

SENSE: DATA: TELEcom: MEASure: ANALysi s: [measurement]: [error source]  
(see Tables 2 14 and 2 15 to complete the query)

**Table 2 14: Syntax table for SENSE:DATA:TELEcom:MEASure:ANALysis queries**

Select a measurement from the left column	Then select an error source from the top row						
	?	:SCV?	:LCV?	:PCV?	:BIT?	:LFEBE?	:PFEBE?
<b>ECount</b>	all error counts	no query	no query	no query	all error counts	no query	no query
<b>ESECONDS</b>	all errored seconds	errored seconds	errored seconds	errored seconds	errored seconds	errored seconds	errored seconds
<b>PESeconds</b>	all ratio errored seconds	ratio errored seconds	ratio errored seconds	ratio errored seconds	percent errored seconds	ratio errored seconds	ratio errored seconds
<b>SESeconds</b>	all severely errored seconds	severely errored seconds	severely errored seconds	severely errored seconds	severely errored seconds	severely errored seconds	severely errored seconds
<b>PSESeconds</b>	all ratio severely errored seconds	ratio severely errored seconds	ratio severely errored seconds	ratio severely errored seconds	percent severely errored seconds	ratio severely errored seconds	ratio severely errored seconds



Table 2 14: Syntax table for SENSE:DATA:TELEcom:MEASure:ANALysis queries (Cont.)

Select a measurement from the left column	Then select an error source from the top row						
	?	:SCV?	:LCV?	:PCV?	:BIT?	:LFEBE?	:PFEBE?
UASeconds	all unavailable seconds	unavailable seconds	unavailable seconds	unavailable seconds	unavailable seconds	unavailable seconds	unavailable seconds
PUASeconds	all ratio unavailable seconds	ratio unavailable seconds	ratio unavailable seconds	ratio unavailable seconds	percent unavailable seconds	ratio unavailable seconds	ratio unavailable seconds
EFSeconds	all error free seconds	no query	no query	no query	error free seconds	no query	no query
PEFSeconds	all percent error free seconds	no query	no query	no query	percent error free seconds	no query	no query
DMINutes	all degraded minutes	no query	no query	no query	degraded minutes	no query	no query
PDMINutes	all percent degraded minutes	no query	no query	no query	percent degraded minutes	no query	no query
EBLock	all block errors	block errors	block errors	block errors	no query	block errors	block errors
BBError	all background block errors	background block errors	background block errors	background block errors	no query	background block errors	background block errors
PBBError	all ratio background block errors	ratio background block errors	ratio background block errors	ratio background block errors	no query	ratio background block errors	ratio background block errors
PTHUaseconds	path unavailable seconds	no query	path unavailable seconds	path unavailable seconds	path unavailable seconds	path unavailable seconds	path unavailable seconds
PPTHUaseconds	path unavailable seconds ratio	no query	path unavailable seconds ratio	path unavailable seconds ratio	path unavailable seconds ratio	path unavailable seconds ratio	path unavailable seconds ratio

All percent measurements return NR1-numeric responses.

All other measurements return NR1-numeric responses.

Table 2 15: Syntax table for SENSE:DATA:TELEcom:MEASure:ANALysis queries (SDH and Add/Drop Test Option Only)

Select a measurement from the left column	Then select an error source from the top row	
	:VTFEBE?	:VTBIP?
ESECONDS	errored seconds	errored seconds
PESECONDS	ratio errored seconds	ratio errored seconds
EBLOCK	block errors	block errors

**Table 2 15: Syntax table for SENSE:DATA:TELEcom:MEASure:ANALysis queries (SDH and Add/Drop Test Option Only) (Cont.)**

Select a measurement from the left column	Then select an error source from the top row	
	:VTFEBE?	:VTBIP?
BBError	background block errors	background block errors
PBBError	ratio background block errors	ratio background block errors
SESeconds	severely errored seconds	severely errored seconds
PSESeconds	ratio severely errored seconds	ratio severely errored seconds
UASeconds	unavailable seconds	unavailable seconds
PUASeconds	ratio unavailable seconds	ratio unavailable seconds

All bit error ratios and percent measurements return NR1-numeric responses.  
 All other measurements return NR1-numeric responses.

**Response** See Tables 2 14 and 2 15.

**Dependencies** These measurement queries can be sent at any time. However, if a test is currently running, the responses to the queries might not represent the final error measurements. After a test has been stopped or the test duration has expired, you can send these measurement queries again to get the final error measurements.

**Errors and Events** None

**Examples** See Table 2 16.

**Table 2 16: Example table for SENSE:DATA:TELEcom:MEASure:ANALysis queries (SDH)**

Query	Response
SENSE:DATA:TELECOM:MEASURE:ANALYSIS:SECONDS:LCV?	23
SENSE:DATA:TELECOM:MEASURE:ANALYSIS:BBERROR:SCV?	103
SENSE:DATA:TELECOM:MEASURE:ANALYSIS:PUASECONDS:LFEBE?	1.2E-1

**Related Commands** SENSE:DATA:TELEcom:TEST:START  
 SENSE:DATA:TELEcom:TEST:STOP

**Table 2 17: Syntax table for SENSE:DATA:TELEcom:MEASure:ANALysis:2101 queries**

Select a measurement from the left column	Then select an error source	
	:B1,	:B1, :B2, :B3, :TUBIP, :MSREI, :HPREI, or :LPREI
ECOUNt	error block count	error block count
ESEConds	error second count	error second count
PESeconds	ratio errored seconds	ratio errored seconds
BBError	background block error	background block error
PBBError	background block error ratio	background block error ratio
SESeconds	severely errored seconds count	severely errored seconds count
PSESeconds	ratio severely errored seconds count	ratio severely errored seconds count
CSES	consecutively severely errored seconds period count	consecutively severely errored seconds period count
UASeconds	unavailable seconds count	unavailable seconds count
PUASeconds	unavailable seconds ratio	unavailable seconds ratio
PTHUaseconds	does not apply for B1	path unavailable seconds
PPTHUasecond	does not apply for B1	path unavailable seconds ratio
VERDict	pass or fail verdict	pass or fail verdict

## SENSe:DATA:TELEcom:MEASure:ALARm Queries

These queries return alarm measurements. When you use the SENSE:DATA:TELEcom:MEASure:ALARm? query, it is helpful to turn the headers on (SYSTem:HEADers ON) so you can identify each response value in the response string.

**Syntax** All valid queries are listed in the Syntax column of Tables 2 18 and 2 19.

**Table 2 18: Syntax table for SENSE:DATA:TELEcom:MEASure:ALARm queries**

Syntax	Response
SENSe: DATA: TELEcom: MEASure: ALARm?	All alarm measurements
SENSe: DATA: TELEcom: MEASure: ALARm: LOSi gnal ?	Number of seconds of Loss of Signal
SENSe: DATA: TELEcom: MEASure: ALARm: LOFrame?	Number of seconds of Loss of Frame
SENSe: DATA: TELEcom: MEASure: ALARm: OOFrame?	Number of seconds of Out of Frame

**Table 2 18: Syntax table for SENSE:DATA:TELEcom:MEASure:ALARm queries (Cont.)**

Syntax	Response
SENSe: DATA: TELEcom: MEASure: ALARm: LOPoi nter?	Number of seconds of Loss of Pointer
SENSe: DATA: TELEcom: MEASure: ALARm: LAI S?	Number of seconds of MS AIS
SENSe: DATA: TELEcom: MEASure: ALARm: LFERF?	Number of seconds of MS FERF
SENSe: DATA: TELEcom: MEASure: ALARm: PFERF?	Number of seconds of Path FERF
SENSe: DATA: TELEcom: MEASure: ALARm: PAI S?	Number of seconds of Path AIS
SENSe: DATA: TELEcom: MEASure: ALARm: LPWR?	Number of seconds of instrument power loss during a test
SENSe: DATA: TELEcom: MEASure: ALARm: LPRFI ?	Number of seconds of low order path remote failure indication
SENSe: DATA: TELEcom: MEASure: ALARm: HPUNEQui pped?	Number of seconds of high order path unequipped
SENSe: DATA: TELEcom: MEASure: ALARm: LPUNEQui pped?	Number of seconds of low order path unequipped
SENSe: DATA: TELEcom: MEASure: ALARm: HPPLM?	Number of seconds of high order payload mismatch
SENSe: DATA: TELEcom: MEASure: ALARm: LPPLM?	Number of seconds of low order payload mismatch

All responses are in NR1-numeric format.

**Table 2 19: Syntax table for SENSE:DATA:TELEcom:MEASure:ALARm queries**

Syntax	Response
SENSe: DATA: TELEcom: MEASure: ALARm: VTLOP?	Number of seconds of tributary Loss of Pointer
SENSe: DATA: TELEcom: MEASure: ALARm: VTAI S?	Number of seconds of tributary AIS
SENSe: DATA: TELEcom: MEASure: ALARm: VTFERF?	Number of seconds of tributary FERF
SENSe: DATA: TELEcom: MEASure: ALARm: VTLOM?	Number of seconds of tributary Loss of Multiframe

All responses are in NR1-numeric format.

**Response** See the Response column of Tables 2 18 and 2 19.

**Dependencies** These measurement queries can be sent at any time. However, if a test is currently running, the responses to the queries might not represent the final error measurements. After a test has been stopped or the test duration has expired, you can send these measurement queries again to get the final error measurements.

**Errors and Events** None

**Examples** See Table 2 20.

**Table 2 20: Example table for SENSE:DATA:TELEcom:MEASure:ALARm queries**

Query	Response
SENSE: DATA: TELECOM: MEASURE: ALARM: LOPOINTER?	20
SENSE: DATA: TELECOM: MEASURE: ALARM: OOFAME?	13

**Related Commands** SENSE:DATA:TELEcom:TEST:START  
SENSE:DATA:TELEcom:TEST:STOP

## SENSe:DATA:TELEcom:MEASure:POINter Queries

These queries return pointer-related measurements. When you use the SENSE:DATA:TELEcom:MEASure:POINter? query, it is helpful to turn the headers on (SYSTem:HEADers ON) so you can identify each response value in the response string.

**Syntax** All valid queries are listed in the Syntax column of Tables 2 21 and 2 22.

**Table 2 21: Syntax table for SENSE:DATA:TELEcom:MEASure:POINter queries**

Syntax	Response
SENSE: DATA: TELECOM: MEASURE: POINter?	All pointer measurements
SENSE: DATA: TELECOM: MEASURE: POINter: NDFSeconds?	Number of seconds in which one or more NDFs (new data flags) occurred
SENSE: DATA: TELECOM: MEASURE: POINter: IPSeconds?	Number of seconds in which one or more illegal pointer adjustments occurred
SENSE: DATA: TELECOM: MEASURE: POINter: PPTR?	Number of positive pointer justifications
SENSE: DATA: TELECOM: MEASURE: POINter: NPTR?	Number of negative pointer justifications
SENSE: DATA: TELECOM: MEASURE: POINter: ICount?	Number of invalid pointers

All responses are in NR1-numeric format.

**Table 2 22: Syntax table for SENSE:DATA:TELEcom:MEASure:POINter queries (Add/Drop Test Option Only)**

Syntax	Response
SENSE: DATA: TELECOM: MEASURE: POINter: VTPPTR?	Number of tributary positive pointer justifications
SENSE: DATA: TELECOM: MEASURE: POINter: VTNPTR?	Number of tributary negative pointer justifications

**Table 2 22: Syntax table for SENSE:DATA:TELEcom:MEASure:POINter queries (Add/Drop Test Option Only) (Cont.)**

Syntax	Response
SENSe: DATA: TELEcom: MEASure: POINter: VTICount?	Number of tributary invalid pointers
SENSe: DATA: TELEcom: MEASure: POINter: VTNDSeconds?	Number of seconds in which one or more tributary NDFs (new data flags) occurred
SENSe: DATA: TELEcom: MEASure: POINter: VTIPSec?	Number of seconds in which one or more illegal tributary pointer adjustments occurred

All responses are in NR1-numeric format.

**Response** See the Response column of Tables 2 21 and 2 22.

**Dependencies** These measurement queries can be sent at any time. However, if a test is currently running, the responses to the queries might not represent the final error measurements. After a test has been stopped or the test duration has expired, you can send these measurement queries again to get the final error measurements.

**Errors and Events** None

**Examples** See Table 2 23.

**Table 2 23: Example table for SENSE:DATA:TELEcom:MEASure:POINter queries**

Query	Response
SENSe: DATA: TELECOM: MEASURE: POINter: PPTR?	12
SENSe: DATA: TELECOM: MEASURE: POINter: ICOUNT?	0

**Related Commands** SENSE:DATA:TELEcom:TEST:START  
SENSe:DATA:TELEcom:TEST:STOP

## SENSe:DATA:TELEcom:MEASure:BUFFer

This command sets or queries the buffer that is read with the measurement queries. The following buffers are available for use: buffer number 1 contains results from the most recent test, and buffer number 2 contains results from the previous test. The current test results might overflow into the previous test results buffer (buffer number 2). In that case, only buffer number 1 is available for use. Use the SENSE:DATA:TELEcom:MEASure:BUFFer:AVAILable? query to determine the oldest available buffer.

Buffer number 1 contains results that have been accessed from disk. After you give the MMEMory:LOAD:RESUlts command, the buffer number is set to 1.

**Syntax** SENSE:DATA:TELEcom:MEASure:BUFFer <results buffer>  
SENSE:DATA:TELEcom:MEASure:BUFFer?

Parameters	<results buffer> (NR1-numeric)	description
	1 or 2	Buffer number read with the measurement queries (default = 1)
	1	Information from the MMEMory:LOAD:RESUlts command is stored in this buffer

**Dependencies** None

**Errors and Events** 200, "Execution error; Temporary buffer is empty"

**Examples**  
Set: SENSE:DATA:TELECOM:MEASURE:BUFFER 2  
Query: SENSE:DATA:TELECOM:MEASURE:BUFFER?  
Response: 2

**Related Commands**  
SENSE:DATA:TELEcom:MEASure:INFOrmation?  
SENSE:DATA:TELEcom:MEASure:BUFFer:AVAIlable  
MMEMory:LOAD:RESUlts

## SENSE:DATA:TELEcom:MEASure:BUFFer:AVAIlable?

This query returns the oldest buffer accessible with the measurement and history queries. The value returned by this query is the maximum value you can use in the SENSE:DATA:TELEcom:MEASure:BUFFer command.

Buffer number 1 contains results from the most recent test. Buffer number 2 contains results from the previous test. The current results might overflow into the previous test results buffer (buffer number 2). In that case, only buffer number 1 is available for use.

While a test is running, the response to this query is always 1 because only current test results can be displayed at that time.

**Syntax**     SENSE: DATA: TELEcom: MEASure: BUFFer: AVAI l abl e?

Response	<oldest buffer> (NR1-numeric)	description
	1 or 2	Oldest buffer number read with the measurement queries (default = 1)

**Dependencies**     None

**Errors and Events**     None

**Examples**     Query:     SENSE: DATA: TELECOM: MEASURE: BUFFER?  
                   Response: 2

**Related Commands**     SENSE:DATA:TELEcom:MEASure:BUFFer

## SENSe:DATA:TELEcom:MEASure:INFORmation Queries

This query returns information on the buffer accessed with the measurement and history queries. This query returns information about the current test (could be in progress, or could be recalled from memory or disk).

**Syntax**     All valid queries are listed in the Syntax column of Table 2 24.

Table 2 24: Syntax table for SENSE:DATA:TELEcom:MEASure:INFORmation queries

Syntax	Response
SENSe: DATA: TELEcom: MEASure: INFORmation?	[All measurement information]
SENSe: DATA: TELEcom: MEASure: INFORmation: DATE?	year, month, day [the date the test starts]
SENSe: DATA: TELEcom: MEASure: INFORmation: DESCription?	[Description of the test]
SENSe: DATA: TELEcom: MEASure: INFORmation: FRAMi ng?	[Tributary framing]
SENSe: DATA: TELEcom: MEASure: INFORmation: INSTRument?	[Instrument identity]
SENSe: DATA: TELEcom: MEASure: INFORmation: JI Tter: CLOCK: RATE?	[Jitter measurement clock rate]
SENSe: DATA: TELEcom: MEASure: INFORmation: JI Tter: FILTer?	[Jitter measurement band filter setting]
SENSe:DATA:TELEcom:MEASure:INFORmation:JI Tter:FI LTer:FULLband:JPASS	[Jitter fullband Hpass]



Table 2 24: Syntax table for SENSE:DATA:TELEcom:MEASure:INFOrmation queries (Cont.)

Syntax	Response
SENSE:DATA:TELEcom:MEASure:INFOrmation:JITter:MODE?	[Jitter measurement mode]
SENSE:DATA:TELEcom:MEASure:INFOrmation:JITter:RANGE?	[Jitter measurement range]
SENSE:DATA:TELEcom:MEASure:INFOrmation:JITter:SOURce?	[Jitter measurement source]
SENSE:DATA:TELEcom:MEASure:INFOrmation:LAYER?	Returns the active layer
SENSE:DATA:TELEcom:MEASure:INFOrmation:LENGth?	[Length of the test information in "buckets"]
SENSE:DATA:TELEcom:MEASure:INFOrmation:MAPPi ng?	EQUI pped, UNEQUI pped, TUASYNC, TU3, M140
SENSE:DATA:TELEcom:MEASure:INFOrmation:OPTI ons?	[Instrument options]
SENSE:DATA:TELEcom:MEASure:INFOrmation:OWNer?	[Same information as the SYSTem:OWNer? query]
SENSE:DATA:TELEcom:MEASure:INFOrmation:PAYLoad?	Returns the active payload rate for the test
SENSE:DATA:TELEcom:MEASure:INFOrmation:RATE?	STM0, STM1, STM4 M2, M34, M45, M140
SENSE:DATA:TELEcom:MEASure:INFOrmation:RESol uti on?	MIN1, MIN15, SEC1 [Resolution of acquired data]
SENSE:DATA:TELEcom:MEASure:INFOrmation:SOURce?	INPUT1, INPUT2, INPUT3 [SDH or tributary signal]
SENSE:DATA:TELEcom:MEASure:INFOrmation:STATus?	EMPTY, RECORDING, COMPLETE
SENSE:DATA:TELEcom:MEASure:INFOrmation:STRUcture?	AU3, AU4
SENSE:DATA:TELEcom:MEASure:INFOrmation:TIME?	hour, minute [the time the test starts]
SENSE:DATA:TELEcom:MEASure:INFOrmation:USER?	[Same information as the SYSTem:USER? query]
SENSE:DATA:TELEcom:MEASure:INFOrmation:PAYLoad?	Returns the active payload rate for the test
SENSE:DATA:TELEcom:MEASure:INFOrmation:PDHpath?	The PDH analysis linking in effect during the test linked or independent
SENSE:DATA:TELEcom:MEASure:INFOrmation:FASthreshold?	FAS error threshold active during the test
SENSE:DATA:TELEcom:MEASure:INFOrmation:CRCthreshold?	2 MB/s CRC4 error threshold used to classify a severely errored second
SENSE:DATA:TELEcom:MEASure:INFOrmation:DMX2:CHANnel?	Active 2 Mb/s channel demuxed from 8 Mb/s signal
SENSE:DATA:TELEcom:MEASure:INFOrmation:DMX8:CHANnel?	Active 8 Mb/s channel demuxed from 34 Mb/s signal
SENSE:DATA:TELEcom:MEASure:INFOrmation:DMX34:CHANnel?	Active 34 Mb/s channel demuxed from 140 Mb/s signal

**Table 2 24: Syntax table for SENSE:DATA:TELEcom:MEASure:INFORmation queries (Cont.)**

Syntax	Response
SENSe:DATA:TELEcom:MEASure:INFORmation:K64:MULTIplier?	Number of contiguous timeslots in 64k payload
SENSe:DATA:TELEcom:MEASure:INFORmation:K64:TIMEslot?	Starting timeslot in a 1x64k or Nx64k payload

The status, time, date, and length responses are in NR1-numeric format.

All other responses are in string format.

If structure, mapping, and framing do not apply to the received signal, the response is NONE.

<b>Response</b>	See the Response column of Table 2 24.
<b>Dependencies</b>	Information is valid only when a test is completed. Set SENSE:DATA:TELEcom:MEASure:BUFFer to the buffer for which you want information.
<b>Errors and Events</b>	200, "Execution error; Test is still running"
<b>Examples</b>	See Table 2 25.

**Table 2 25: Example table for SENSE:DATA:TELEcom:MEASure:INFORmation queries**

Query	Response
SENSE:DATA:TELECOM:MEASURE:INFORMATION:TIME?	14, 22, 0
SENSE:DATA:TELECOM:MEASURE:INFORMATION:DESCRIPTION?	"PORTLAND TO SEATTLE NETWORK TEST"
SENSE:DATA:TELECOM:MEASURE:INFORMATION:MAPPING?	EQUIPPED

**Related Commands** SENSE:DATA:TELEcom:MEASure:BUFFer

**Table 2 26: Syntax table for SENSE:DATA:TELEcom:MEASure:HISTory queries**

Syntax	Response
SENSe:DATA:TELEcom:MEASure:HISTory:E4FRame, E3FRame, E2FRame, E1FRame, E4BLock, E3BLock, E2BBlock, E1BBlock	New queries for ECOunt and ESEconds
SENSe:DATA:TELEcom:MEASure:HISTory:PDH:ALArm	Returns bit coded value for PDH alarms in the specified history period

## SENSe:DATA:TELEcom:MEASure:TSCAn?

This query returns Trouble Scan Information to help you determine the severity of errors during a test. The information in the response is for human interpretation only and is highly variable depending upon the signal being tested and whether or not the test is complete.

**Syntax**      SENSE: DATA: TELEcom: MEASure: TSCAn?

### Response

<tscan information> (string)	description
A string, maximum length of 256 bytes	Information about a test currently running or complete

**Dependencies**      None

**Examples**      Query:      SENSE: DATA: TELECOM: MEASURE: TSCAN?

Response:   •NO ALARMS, BER: 1.2E-8"

**Related Commands**      None

## SENSe:DATA:TELEcom:MEASure:CONFig:FASthreshold

The measurement configuration commands (SENSe:DATA:TELEcom:MEASure:CONFig:) set values for the parameters found in the receive config folder.

This command sets the number of consecutive errored frame alignment blocks that are detected before an error is reported. The valid range for this parameter is 1 through 7, which would be set by the operator to match the provisioning of the equipment being tested. The command permits the operator to select different thresholds for different layers in the demux path.

**Syntax**      SENSe: DATA: TELEcom: MEASure: CONFi g: FASthreshol d

<b>Response</b>	<threshold>	<b>setting</b>
	1 through 7	Number of consecutive FAS errors detected before an error is reported

**Dependencies**      Nopne

**Examples**      Set :      SENSE: DATA: TELECOM: MEASURE: CONFi g: FASthreshol d 7  
 Response: 7

**Related Commands**      None

## SENSe:DATA:TELEcom:MEASure:CONFig:CRChreshold

Previous versions of ITU T standard M.2100 required that an SES be declared when 805 CRC4 or E bit errors were detected in 1 second. The latest version of the M.2100 standard sets this threshold at 300 errors. This selection permits backwards compatible measurements.

**Syntax**    SENSE: DATA: TELEcom: MEASure: CONFig: CRChreshol d

Response	<threshold>discrete	description
	300	M.2100 SES declared after detection of 300 CRC errors in one second (This is the default.)
	805	M.2100 SES declared after detection of 805 CRC errors in one second, backwards compatible

**Dependencies**    None

**Examples**    Set:        SENSE: DATA: TELECOM: MEASURE: CONFig: CRChreshol d 300  
 Response: 300

## SENSe:DATA:TELEcom:MEASure:CONFig:POINter:MI Smatch

By definition, the pointer S bits should be 10 binary. This option lets the operator choose to declare a loss of pointer error when the bits are incorrect, or ignore the error altogether.

**Syntax**      SENSE: DATA: TELEcom: MEASure: poi nter: mi smatch <acti on>

Response	<action>discrete	description
	TULOP	If the detected S bits do not match the G.707 specification (10 binary) declare a loss of pointer. This is the default.
	IGNORE	Ignore an error if the S bits do not match the specification.

**Dependencies**      None

**Examples**

Set:            SENSE: DATA: TELECOM: MEASURE: CONFig: POINter: MI Smatch  
                  I GNORE

Response: I GNORE

**Related Commands**      None

## SENSe:DATA:TELEcom:MEASure:CONFig:TRACe:MI Smatch

This command enables or disables the trace mismatch.

**Syntax**    SENSE: DATA: TELEcom: MEASure: CONFig: TRACe: MI Smatch <status>

Response	status	description
	DISABLE	Turns mismatch off
ENABLE	Turns mismatch on	

**Dependencies**    None

**Examples**    Set:        SENSE: DATA: TELECOM: MEASURE: CONFig: TRACe: MI Smatch  
                      ENABLE

**Related Commands**    None

