

# Index

Check other sources for finding information within this CTS850 SDH/PDH Test Set user manual: Navigation of Manual table on page 1 4; Menu Maps beginning on page A 1; and, Table of Contents located in the front of the manual.

2 Mb/s, (RX) 3 147; (TX) 3 107

2 Mb/s 2 MHz connection, 3 77,  
G 7

34 Mb/s, (RX) 3 147; (TX) 3 107

45 Mb/s map/demap, 2 33

64k

RX settings, 3 148

TX settings, 3 108

140 Mb/s, (RX) 3 147; (TX) 3 107

## A

accessories

optional, 1 3

standard, 1 2

accessory pouch, installing, 1 4

Active Channel Selection, 3 128

Added Tx Clock, Overhead Add/

Drop Port, G 4

Added Tx Data, Overhead Add/

Drop Port, G 4

adding a PDH signal, 3 87

adjusting pointers, 3 195

Alarm, Fail If condition, 3 48

Alarms

definition, 2 29

PDH Defect & Anomalies,

Inserting, 3 192

setting, 3 190

Alternate, Pointer Direction, 3 195

Analysis Configuration (Rx),

3 133

Anomaly, definition, 2 29

Asynchronous, 2 27

AU Under Test, specifying

TX Settings, 3 79

RX Settings, 3 123

Automatic Protection Switching

(APS), 3 217

APS Mode, 3 217

K1 Byte, 3 218

K2 Byte 3 222

AUTOSCAN, 2 16, 3 66

## B

Basic Test, 3 1

Fault Tolerance Checking, 3 9

Jitter Testing, 3 23

Network Continuity Checking,

3 2

Performance Monitoring, 3 19

Transmission Signal Quality

Testing, 3 3

Video Timing Quality Testing,

3 31

Baud Rate

REMOTE CONTROL, 3 268

Beeper, MISC SETTINGS, 3 263

buttons

AUTOSCAN, 3 66

CLEAR HISTORY, 2 4, 3 67

HELP, 2 14

INSERT ERROR, 2 2

menu, 2 12

ON/STBY, 1 13, 1 14

- POINTER ACTION, 3 195
  - PRINT, 3 265
  - START/STOP, 2 2, 3 37
- ## C
- CAS and Voice, RX, 3 156
  - CLEAR HISTORY button, 2 5
  - Cleaning instructions, K 1
  - CMI, Transmit Line Code, 3 112
  - connecting signals, 2 10
  - connectors
    - connecting electrical signals, 2 16
    - connecting optical signals, 2 16
    - front panel, 2 2
    - rear panel, 2 4
  - Continuous, Test Duration, 3 33
  - controls
    - front panel, 2 2
    - rear panel 2 4, G 1
  - cooling requirements, D 32
  - Coupled, Tx/Rx Settings
    - RX, 3 129
    - TX, 3 87
- ## D
- Data Communication Channel (DCC) 3 99
    - DCC, G 4
      - adding, 3 99
      - dropping, 3 142
    - External Add, 3 114
    - D1 D3 data bytes, 3 100
    - D4 D12 data bytes, 3 100
    - F1 data bytes, 3 100
    - F2 data bytes 3 101
  - date, setting, 3 264
  - Day, Test Duration, 3 35
  - Decrement, Pointer Direction, 3 195
  - default settings, C 1
  - Defects & Anomalies, 3 185
  - Defect, definition, 2 29
  - disk drive, 2 25
  - disk file names, reading, 2 26
  - disk file types, 2 25
  - Display Brightness, MISC SETTINGS, 3 262
  - displaying results, 3 229
- ## E
- EDIT BYTE
    - K1 Full Byte, 3 218
    - K2 Full Byte, 3 222
  - editing
    - binary numbers, 2 21
    - bytes, 2 21
    - decimal numbers, 2 19
    - text, 2 22
  - electrical connections, 2 2, 2 4
  - entering text, 2 22
  - Error Analysis, 3 229
    - G.821 Results, 3 229
    - G.826 Results, 3 229
    - M.2100 Results, 3 229
    - M.2101.1 Results, 3 229
  - Error Count, Fail If condition, 3 48
  - Errors, Inserting, 3 185
  - error messages, B 3
  - error rate, 3 188
    - maximum, 3 188
  - Error Ratio, Fail If condition, 3 48
  - Error type set to, ERRORS & ALARMS, 3 185

Errored Seconds, Fail If condition,  
3 48

example disk contents, F 1

external clock input (2 Mb or 2  
MHz), G 7

external monitor connector, G 1

## F

Fail If conditions, Pass/Fail Test,  
3 48

Failure, definition, 2 29

Failure, Fail If condition, 3 49

Failures,

TX, 3 191

FAS Error Threshold, 3 133

files, disk, 2 23

Firmware Revision, INSTR CON-  
FIG, 3 261

Flow Control, PRINTER SETUP,  
3 265

Frequency Offset

Pointer/Timing Mode, 3 195

POINTERS & TIMING, 3 195

front panel controls, 2 2

fuse, 1 12

## G

GPIO connector, G 3

GPIO parameters, 3 269

GPIO Primary Address, REMOTE  
CONTROL, 3 259

GPIO programming. *See* Program-  
mer Manual

## H

Handset Interface, G 8

Hardware Revision, INSTR CON-  
FIG, 3 261

HELP button, 2 14

Help dialog box, 2 14

History graphs

display, 3 248

panning, 3 251

zooming, 2 250

History Resolution, 3 36, 3 248

high (1 second), 3 36, 3 248

normal (1 min.), 3 36, 3 248

low (15 min.), 3 36, 3 248

Hour, Test Duration, 3 33

## I

icons, 2 8

autoscan, meaning, 3 66

display, meaning, 2 8

Illegal (Max +1), Pointer Value Set  
to, 3 195

Illegal: Max +1, Pointer Value Set  
to, 3 195

Increment, Pointer Direction,  
3 195

Independent, Tx/Rx Settings

RX, 3 121

TX, 3 73

Initialization Time, POINTERS &  
TIMING, 3 195

installation, 1 7

instrument setups

creating, 3 41

recalling, 3 42  
Interface Module, INSTR CONFIG, 3 261  
ITU T standards, Glossary section

## J

J1 path trace byte, 3 97  
jitter  
  calibration, 3 183  
  example of results, 3 169  
  exporting results, 3 169  
  generation, turn on, 3 170  
  frequency & amplitude, 3 173  
  high pass filters, 3 178  
  hit threshold, 3 180  
  input filter, select, 3 177  
  inputs & outputs, G 9  
  input source, select, 3 176  
  masks, 3 162  
  mode, select 3 176  
  output, selecting, 3 172  
  pointer hit threshold, 3 180  
  printing results, 3 169  
  work with test setups, 3 159  
jitter testing, 3 23  
  output, 3 164  
  pointer, 3 164  
  tolerance, 3 23  
  transfer, 3 28  
  video timing, 3 31

## K

K1 Full Byte, APS, 3 218  
K2 Full Byte, APS, 3 222

## M

maximum error rates  
  PDH signals, 3 188  
  SDH signals, 3 188  
  TU mappings, 3 188  
menu pages, 2 9  
menus  
  maps, A 1  
  RECEIVE, 2 11  
  RESULTS, 2 11  
  selecting, 2 12  
  TEST SETUPS, 2 11  
  TRANSMIT, 2 11  
  UTILITY, 2 11  
Model, INSTR CONFIG, 3 261  
monitoring performance, 3 18  
multiplexing  
  asynch, J 6  
  SDH, definition, 2 29

## N

Nx64, 3 107, 3 147  
Navigation of manual, 1 4

## O

Offset Mode, POINTERS & TIMING, 3 195  
1+1, APS COMMANDS, 3 217  
1:N, APS COMMANDS, 3 217  
optical connections, 2 15  
optical port connections, changing,  
  H 1  
Optical power received, 3 132  
Options, INSTR CONFIG, 3 261

overhead bytes  
 editing, 3 91  
 viewing, 3 139  
 overhead PRBS test, 3 105

## P

packaging for shipment, I 1  
 pages, selecting, 2 13  
 parameters  
 changing, 2 17  
 Parity  
 PRINTER SETUP, 3 265  
 REMOTE CONTROL, 3 268  
 Pass/Fail test 3 52  
 Payload, 3 84  
 drop, 3 128  
 framing (PDH),  
 setting, 3 152  
 specifying, 3 114  
 mapping/demapping  
 RX PDH, 3 138  
 TX PDH, 3 87  
 specifying,  
 RX, 3 126  
 TX, 3 84  
 PDH, definition, 2 28  
 drop, 3 138  
 Mapping signal, 3 87  
 Demapping signal, 3 135  
 inserting, defect & anomaly,  
 3 192  
 path analysis, 3 133  
 payload frequency  
 (Signal Status RX), 3 130  
 RX parameters, 3 147  
 TX parameters, 3 107  
 Dropping signal, 3 138

Peak voltage, received, 3 132  
 performance monitoring, 3 19  
 pin assignments  
 Overhead Add/Drop Port, G 4  
 RS-232, G 3  
 VGA video output, G 1  
 Plesiochronous, 2 27  
 POINTER ACTION button, 3 195  
 Pointer ss Bit mismatch, 3 133  
 POINTERS, setting, 3 195  
 single pointer movements, 3 195  
 burst pointer movements, 3 195  
 continuous pointer movement,  
 3 195  
 changing timing (alternative to  
 pointer movements), 3 203  
 pointer sequences generating,  
 3 206  
 pointer sequences with tributary  
 offset, 3 216  
 Pointers, MAIN RESULTS, 3 238  
 power requirements, 1 13  
 PRBS, insert in overhead bytes,  
 3 105  
 Print, 3 265  
 PRINT CONTROL dialog box,  
 3 265  
 PRINT button, 3 265  
 Print Main Results, PRINT CON-  
 TROL dialog box, 3 265  
 printer setup, 3 265  
 Printer Type, PRINTER SETUP,  
 3 265  
 printers  
 RS 232 parameters, 3 265  
 supported, 3 265  
 printing results, 3 265

**R**

- Rear panel connectors, 2 4, G 1
  - Calibration Signal Output, G 4
  - External Clock Input (2 Mb/s or 2 MHz), G 7
  - GPIB Port, G 3
  - Handset Interface, G 8
  - Jitter Inputs & Outputs, G 9
  - Overhead Add/Drop Port, G 4
  - RS 232 Port, G 3
  - VGA Video Output, G 2
- RECEIVE button, 2 11
- RECEIVE SETTINGS
  - SDH, 3 119
  - PDH 3 147
- results, displaying, 3 229
- RESULTS, button, 2 11
- Results, viewing, 3 229
  - Jitter & Wander, 3 239
  - Error Analysis, 3 240
  - Performance Analysis, 3 242
- Round Trip Delay Offset (Signal Status RX), 3 130
- RS-232 connector, G 3
- RS-232 parameters, 3 268

**S**

- S1 byte, editing, 3 92
- SDH output, setting, 3 83
- SDH multiplexing hierarchy, 2 29
- Serial Number, INSTR CONFIG, 3 261
- SET DATE, MISC SETTINGS, 3 264
- SET TIME, MISC SETTINGS, 3 264
- Set Value, Pointer Control, 3 195
- Set with New Data Flag, POINTERS & TIMING, 3 195

- settings, default, C 1
- Signal labels, 3 104
- Signal status
  - checking, 3 63
  - RX, 3 130
- Signal structure, viewing, 3 63
- Signal State, viewing, 3 66
- signal status indicators, 2 6
- Specifications, D 1
  - 2, 34, 140 Mb/s, D 13
  - Certifications & Compliances, D 36
  - Environmental, D 32
  - General Specs, D 1
  - Jitter & Wander, D 24
- standard accessories, 1 2
- START/STOP button, 3 37
- Start/Stop a test, 3 37
- status lights, front panel, 2 5, 3 67
  - red & yellow, 2 5, 3 68
- status messages, B 1
- Synchronization Status message (S1 byte), 3 92
- Synchronous, 2 27

**T**

- Technology, telecom, J 1
  - Asynch multiplexing, J 6
  - Basic SDH signal, J 1
  - Error Counts, J 13
  - G.826, M.2101.1, M.2100, G.821
    - Analysis, J 10
  - Jitter & Wander Tutorial, J 16
  - PDH Basics, J 2
  - PDH Multiplexing, J 9
  - Principles & Metrics of Jitter & Wander, J 20
  - SDH Multiplexing, 2 29
- test duration, setting, 3 33

Test Pattern, PRBS  
  PDH, RX, 3 153  
  PDH, TX, 3 116  
  SDH, RX, 3 127  
  SDH, TX, 3 85  
test results, displaying, 3 229

#### TEST SETUPS

  button, 2 11  
  working with, 3 41  
test state indicator, 2 7  
Through Mode, 3 75  
Timing, changing, 3 195  
Trace Settings, 3 102  
Trace mismatch, 3 133

#### TRANSMIT

  button, 2 11  
  level (electrical), 3 78  
  line code (PDH), 3 112

Transmit settings,  
  SDH, 3 71  
  PDH, 3 107  
Tutorial, 2 35

## V

VC4 4c, 3 80, 3 81  
VGA connector, G 1  
video timing quality testing, 3 30  
View Help, Help dialog box, 2 12

## W

wander, 3 159  
  examples, 3 159  
  generate, 3 159  
  measure, 2 MHz clock output  
    from NE, 3 159

