



## Index: Cisco IOS Dial Technologies Command Reference, Release 12.2 T

### A

AAA (authentication, authorization, and accounting)

virtual profiles, configuring **DR-1027**

aaa authorization configuration default command **DR-2**

aaa route download command **DR-3**

AAA server

static route configuration, downloading **DR-2**

accept dialin command **DR-5**

accept dialout command **DR-7**

access lists

DDR

dialing control **DR-159**

types and numbers supported (table) **DR-159**

ACCM (Asynchronous Control Character Map)

specifying **DR-498**

address pooling mechanism

enabling **DR-265**

addresses

dynamic, assigning **DR-11**

AO/DI (Always On/Dynamic ISDN)

BAP number

formats **DR-508**

prefix **DR-509**

clients, enabling **DR-1077**

mapping **DR-1078**

multilink PPP bundle, receive-only mode **DR-542**

ARA (AppleTalk Remote Access)

sessions, automatic startup **DR-21**

arap callback command **DR-9**

ASCII

start character **DR-1007**

stop character **DR-1010**

async default routing command **DR-10**

async dynamic address command **DR-11**

async dynamic routing command **DR-12**

async mode dedicated command **DR-14**

async mode interactive command **DR-15**

asynchronous interfaces

AUX port configured as **DR-10**

group member **DR-406**

group ranges **DR-247**

routing, configuring manually **DR-12**

authen before-forward command **DR-16**

autodetect encapsulation command **DR-18**

autohangup command **DR-20**

automatic protocol startup

ARA **DR-21**

PPP **DR-21**

SLIP **DR-21**

autoselect command **DR-21**

AUX port, asynchronous interface **DR-10**

### B

backup command **DR-23**

backup delay command **DR-25**

backup interface command **DR-26**

backup interface dialer command **DR-27**

backup load command **DR-29**

BACP (Bandwidth Allocation Control Protocol),  
enabling **DR-531**

bandwidth on demand, DDR **DR-161**

BAP (Bandwidth Allocation Protocol), as subset of  
BACP **DR-531**

bundles, multilink, naming **DR-473**

busyout command **DR-30**

busyout (port) command **DR-32**

busyout (spe) command **DR-33**

## C

call progress tone country command **DR-34**

call progress tone, monitoring **DR-651**

call switching module

- modem response time **DR-456**
- monitoring **DR-665, DR-669**

callback

- ARA **DR-9**
- ARA protocol chat scripts **DR-613**
- dialer interface, non-DTR **DR-517**
- enabling **DR-131**
- EXEC chat scripts **DR-615**
- forced wait period, configuring **DR-36**
- PPP client **DR-517, DR-518**
- PPP server **DR-517**
- router acceptance, enabling **DR-122**
- secure, configuring **DR-129**

callback forced-wait command **DR-36**

called-number (modem pool) command **DR-37**

caller ID screening **DR-293**

calling party number, selecting **DR-297**

calls

- caller ID screening **DR-134**
- configuring **DR-293**
- platform support **DR-293**

CLID group, rejecting with **DR-110**

disconnect ISDN **DR-301**

incoming CAS, configuring **DR-47**

incoming reject count **DR-896**

ISDN three-way conference **DR-299**

limit overflow **DR-392**

monitoring total on E1 **DR-663**

monitoring total on T1 **DR-667**

NSF on ISDN PRI, configuring outgoing voice **DR-317**

outgoing information transfer capability,  
configuring **DR-318**

reject type, configuring **DR-46**

voice and data call priority, configuring **DR-358**

calltracker call-record command **DR-39**

calltracker enable command **DR-42**

calltracker history max-size command **DR-44**

calltracker history retain-mins command **DR-45**

call-type cas command **DR-47**

call-type command **DR-46**

carrier wait time, DDR

- interface, disabling **DR-198**
- map class **DR-199**

CAS (channel-associated signaling)

- channel state details, displaying **DR-673**

cas-custom command **DR-48**

cas-group (e1 controller) command **DR-54**

cas-group (t1 controller) command **DR-58**

CCL (Common Command Language) scripts

- modified and unmodified together **DR-22**

channel-group command **DR-63**

channelized E1

- ISDN PRI details, displaying **DR-673**
- loopback local interface **DR-401**
- serial interface **DR-261**

channelized T1

- ISDN PRI details, displaying **DR-673**
- loopback

  - local interface **DR-401**
  - local on entire line **DR-400**
  - serial interface **DR-261**

channels

- switched 56K data, monitoring **DR-665, DR-669**

- chat scripts
  - ARA protocol-callback **DR-613**
  - DDR **DR-619**
  - escape sequences (table) **DR-68**
  - EXEC callback **DR-615**
  - expect-send pair samples (table) **DR-69**
  - naming conventions **DR-67, DR-619**
  - physical terminal lines **DR-611, DR-613, DR-615**
  - starting
    - because of incoming connections **DR-617**
    - from the EXEC **DR-1008**
    - manually for a line **DR-1008**
    - on line activation **DR-611**
    - on line reset **DR-621**
    - on system startup **DR-623**
  - writing **DR-67**
- chat-script command **DR-67**
- CIPX (compressed Internet Packet Exchange)
  - IPX compression on PPP links **DR-283**
- Cisco Easy IP, address negotiation **DR-264**
- class (controller) command **DR-70**
- clear cot summary command **DR-71**
- clear counters (async) command **DR-72**
- clear counters line command **DR-74**
- clear dialer command **DR-76**
- clear dialer dnis command **DR-77**
- clear dialer sessions command **DR-79**
- clear dsip tracing command **DR-80**
- clear interface virtual-access command **DR-81**
- clear ip route download command **DR-82**
- clear line async-queue command **DR-84**
- clear line command **DR-83**
- clear modem command **DR-85**
- clear modem counters command **DR-87**
- clear modem log command **DR-89**
- clear modempool-counters command **DR-91**
- clear port command **DR-93**
- clear port log command **DR-95**
- clear resource-pool command **DR-97**
- clear snapshot quiet-time command **DR-98**
- clear spe command **DR-99**
- clear spe counters command **DR-101**
- clear spe log command **DR-103**
- clear vpdn counters command **DR-105**
- clear vpdn history failure command **DR-107**
- clear vpdn redirect command **DR-108**
- clear vpdn tunnel command **DR-109**
- clid group command **DR-110**
- clock source line command **DR-111**
- commands
  - alphabetical list run by show tech-support modem **DR-959**
- connections
  - mobile remote node **DR-1026**
  - NetBEUI **DR-847**
    - enabling **DR-478**
  - PPP **DR-497**
    - reverse **DR-427, DR-439**
    - simultaneous, limiting **DR-391**
    - status of open **DR-903**
    - transparent global **DR-281**
- console port
  - configuration (example) **DR-394**
- control sequences
  - escape characters for ACCM, specifying PPP **DR-498**
- controllers
  - dial shelf, stopping and restarting **DR-250**
- E1
  - analog R2 signalling, configuring **DR-56**
  - call signals, configuring **DR-56**
  - calls, monitoring **DR-663**
  - channel-associated signalling, configuring **DR-54**
  - clock source, configuring **DR-111**
  - loopback, configuring **DR-399**
- T1
  - calls, monitoring **DR-667**
  - channelized time slots, configuring **DR-58**

- R1 channel-associated signalling, configuring **DR-58**
  - robbed-bit signalling, configuring **DR-58**
  - copy modem command **DR-113**
  - corlist incoming command **DR-116**
  - corlist outgoing command **DR-118**
  - COT (Continuity Test), monitoring **DR-675, DR-679**
  - cpp authentication command **DR-120**
  - cpp callback accept command **DR-122**
  - CPP (Combinet Proprietary Protocol)
    - authentication negotiation **DR-120**
    - callback acceptance **DR-122**
    - encapsulations **DR-231**
    - half-bridging **DR-231**
    - PPP support **DR-120**
- D**
- DDR (dial-on-demand routing)
    - bandwidth on demand **DR-161**
    - carrier wait time
      - interface **DR-198**
      - map class, configuring **DR-199**
    - chat scripts **DR-619**
      - configuring **DR-67**
      - sample expect-send pairs (table) **DR-69**
    - dialer hold queue
      - dialers supported **DR-149**
      - rotary groups **DR-149**
    - dialer interface statistics, clearing **DR-76**
    - dialer list, configuring **DR-158**
    - dialer load threshold, configuring **DR-161**
    - dialer pool ISDN B channels
      - maximum number **DR-178**
      - minimum number **DR-178**
    - dialer profile
      - CHAP or PAP username **DR-185**
      - configuring **DR-185**
      - dialer interface data display **DR-683, DR-690**
      - dialer pool and dialer pool-member (example) **DR-176**
      - dialer pool members **DR-178**
      - dialer pool, configuring **DR-176**
      - link to physical interface **DR-178**
      - links, maximum number **DR-172**
      - dialer profile dial string **DR-192**
      - dialer rotary groups
        - interface priority, configuring **DR-181**
      - dialing pool dialer profile **DR-176**
      - DTR dialing
        - not for rotary group (hunt group) leaders **DR-141**
        - outgoing calls only **DR-141**
        - receive calls **DR-141**
        - remote interface passive **DR-141**
        - remote interface to terminate calls **DR-141**
        - show dialer display **DR-686**
      - interface diagnostics display **DR-683, DR-690**
      - interface timeout, configuring **DR-142**
      - legacy
        - dial string **DR-193**
        - dial string telephone number **DR-190**
        - enabling **DR-154**
        - ISDN Advice of Charge, BRI (example) **DR-168**
        - single site dial string **DR-190, DR-193**
        - single telephone number **DR-193**
        - snapshot routing **DR-170**
      - outbound call best line **DR-189**
      - single DDR telephone number **DR-190, DR-199**
      - supported access list types and numbers (table) **DR-159**
      - telephone number, configuring single **DR-193**
    - default (VPDN) command **DR-124**
    - delta, telephone number dialed digits **DR-509**
    - description (interface) command **DR-126**
    - description (VPDN group) command **DR-127**
    - DHCP (Dynamic Host Configuration Protocol)
      - client message control **DR-267**
      - Inform and Discover messages **DR-267**
      - server, configuring **DR-269**
      - settings **DR-681**

- dial backup
  - line delay, configuring **DR-25**
  - secondary line, configuring **DR-26, DR-27**
  - traffic load threshold, configuring **DR-29**
- dial peers
  - class of restrictions list **DR-407**
- dial shelf controllers, stopping and restarting **DR-250**
- dial shelves
  - configuring **DR-212, DR-214**
  - removing **DR-215**
- dial string telephone number
  - configuring **DR-190, DR-192**
  - ordering **DR-173**
- dialer callback-secure command **DR-129**
- dialer callback-server command **DR-131**
- dialer called command **DR-133**
- dialer caller command **DR-134**
- dialer clid group command **DR-136**
- dialer command **DR-128**
- dialer congestion threshold command **DR-137**
- dialer dnis group command **DR-138**
- dialer dns command **DR-140**
- dialer dtr command **DR-141**
- dialer enable-timeout command **DR-142**
- dialer fast-idle (interface) command **DR-143**
- dialer fast-idle (map-class) command **DR-145**
- dialer groups, interface assignment **DR-146, DR-147**
- dialer hold queue
  - dialers supported **DR-149**
  - rotary groups **DR-149**
- dialer hold-queue command **DR-149**
- dialer idle timeout period, setting **DR-152**
- dialer idle-timeout (interface) command **DR-150**
- dialer idle-timeout (template) command **DR-152**
- dialer in-band command **DR-154**
- dialer isdn command **DR-155**
- dialer isdn short-hold command **DR-156**
- dialer load-threshold command **DR-161, DR-531**
- dialer map class
  - configuration parameters **DR-403**
- dialer map command **DR-163**
- dialer map snapshot command **DR-170**
- dialer maps
  - asynchronous interface **DR-163, DR-166**
    - (example) **DR-167**
  - bridging **DR-164**
  - DTR dialing **DR-141**
  - German SPC **DR-163**
    - (example) **DR-168**
  - ISDN interface **DR-167**
  - MPLS VPN **DR-164, DR-167**
    - (example) **DR-169**
  - synchronous interface **DR-166**
- dialer max-link command **DR-172**
- dialer order command **DR-173**
- dialer outgoing command **DR-175**
- dialer pool command **DR-176**
- dialer pool-member command **DR-178**
- dialer priority command **DR-181**
- dialer redial command **DR-183**
- dialer remote-name command **DR-185**
- dialer reserved-links command **DR-186**
- dialer rotary groups
  - configuring **DR-259**
  - interface priority, configuring **DR-181**
  - interfaces, configuring **DR-187**
- dialer rotary-group command **DR-187**
- dialer rotor command **DR-189**
- dialer string command **DR-190**
- dialer string (dialer profiles) command **DR-192**
- dialer string (legacy DDR) command **DR-193**
- dialer voice-call command **DR-195**
- dialer vpdn command **DR-196**
- dialer wait-for-carrier-time (interface) command **DR-198**
- dialer wait-for-carrier-time (map-class) command **DR-199**
- dialer wait-for-line-protocol command **DR-200**

## Dialer Watch

- delaying secondary link **DR-206**
- dialer watch-disable command **DR-202**
- dialer watch-group command **DR-203**
- dialer watch-list command **DR-204**
- dialer watch-list delay command **DR-206**
- dialer-group command **DR-146**
- dialer-group (template) command **DR-147**
- dialer-list protocol (Dial) command **DR-158**
- dialing attempts
  - maximum **DR-200**
  - redial after failed **DR-183**
- dialing delay, configuring **DR-302**
- dial-peer cor custom command **DR-208**
- dial-peer cor list command **DR-209**
- dial-shelf split backplane-ds0 command **DR-210**
- dial-shelf split slots command **DR-212**
- dial-shelf split slots none command **DR-214**
- dial-shelf split slots remove command **DR-215**
- dial-tdm-clock command **DR-216**
- disconnect command **DR-218**
- DNIS (Dialed Number Identification Service)
  - groups
    - counter statistics, clearing **DR-77**
    - dialer, configuring **DR-138**
- dnis group command **DR-221**
- dnis (VPDN) command **DR-219**
- DNS (Domain Name Server)
  - addresses, configuring IPCP negotiation **DR-521**
- domain command **DR-222**
- domain names
  - VPDN groups, support for additional **DR-222**
- ds0 busyout (channel) command **DR-224**
- ds0 busyout-threshold command **DR-226**
- ds0-group (controller e1) command **DR-228**
- DTR (data terminal ready) dialing
  - dialer map and dialer string command effect on **DR-141**
  - not for rotary group (hunt group) leaders **DR-141**
  - outgoing calls only **DR-141**

- remote interface configured to terminate calls **DR-141**
- remote interface passive only **DR-141**

**E**

- E1 R2
  - country support **DR-49**
  - parameters, configuring **DR-49**
- EIA/TIA-232
  - handshake **DR-606**
- encapsulation cpp command **DR-231**
- encapsulations
  - ISDN interface, automatic detection **DR-18**
- encryption mppe command **DR-233**
- escape characters
  - modem chat strings **DR-68**

**F**

- failover group-number command **DR-234**
- fast idle timer
  - interface, configuring **DR-143**
  - map class, configuring **DR-145**
- firmware location command **DR-236**
- firmware upgrade command **DR-240**
- firmware, copy modem **DR-113**
- flow control
  - line configuration **DR-243**
  - start character **DR-1007**
  - stop character **DR-1010**
- flowcontrol command **DR-243**
- force-local-chap command **DR-245**

**G**

- group range command **DR-247**
- group session-limit command **DR-248**

**H**

half-bridging  
 AppleTalk **DR-513**  
 Combinet devices not supporting PPP **DR-231**  
 Ethernet subnetwork **DR-513, DR-514, DR-515**  
 IP **DR-514**  
 IPX **DR-515**  
 hardware flow control, line configuration **DR-243**  
 header compression statistics **DR-743**  
 hw-module slot command **DR-250**

**I**

idle timer, multilink PPP and dialer-load  
 threshold **DR-161, DR-531**  
 initiate-to command **DR-253**  
 interface bri command **DR-256**  
 interface dialer command **DR-259**  
 interface multilink command **DR-260**  
 interface serial command **DR-261**  
 interface virtual-template command **DR-263, DR-1029**  
 interfaces  
 backup, configuring **DR-26, DR-27**  
 descriptions in configuration **DR-126**  
 dialer diagnostic display **DR-683**  
 dialer statistics, clearing **DR-76**  
 ISDN  
 half-bridge, configuring **DR-513, DR-514, DR-515**  
 multilink bundle, configuring **DR-476**  
 point-to-point authentication retries **DR-530**  
 PRI channel service state **DR-329**  
 serial  
 half-bridge, configuring **DR-513, DR-514, DR-515**  
 virtual template, configuring **DR-263**  
 IP  
 backup endpoint addresses, configuring VPDN **DR-23**  
 pool names, matching **DR-486**  
 ip address negotiated command **DR-264**

IP addresses  
 pools  
 defining local **DR-272**  
 settings **DR-740**  
 returned to remote peer **DR-483**  
 ip address-pool command **DR-265**  
 ip dhcp-client network-discovery command **DR-267**  
 ip dhcp-server command **DR-269**  
 ip idle-group command **DR-271**  
 ip local-pool command **DR-272**  
 ip pmtu command **DR-276**  
 ip route (large-scale dial-out) command **DR-277**  
 ip rtp reserve command **DR-279**  
 ip tcp async-mobility server command **DR-280**  
 ip telnet quiet command **DR-281**  
 ipx compression cipx command **DR-283**  
 IPX (Internet Packet Exchange)  
 client connection to asynchronous interface **DR-284**  
 over PPP **DR-284**  
 PPP on vty lines **DR-1070**  
 ipx ppp-client command **DR-284**  
 ISDN  
 active calls, displaying **DR-746**  
 Advice of Charge  
 short-hold timer **DR-156**  
 static idle timer and short-hold timer  
 (example) **DR-156**  
 automatic encapsulation detection **DR-18**  
 B1 channel SPID, configuring **DR-333**  
 B-channel false busy signal **DR-291**  
 call history, displaying **DR-746**  
 call speed origin and delivery mismatch **DR-315**  
 call transferring, configuring **DR-353**  
 called-party number verification **DR-287**  
 calling number identification **DR-295**  
 channel service states **DR-329**  
 data call **DR-292**  
 disconnecting **DR-301**  
 DDR configuration, verifying **DR-292**

- default type and plan **DR-311**
- interface status **DR-746**
- Layer 2 and Layer 3 timers **DR-746**
- leased-line services **DR-309**
- memory pool statistics **DR-746**
- NFAS
  - DDR primary D channel only **DR-573**
  - group members and channels, displaying **DR-577**
  - primary and backup D channels **DR-573**
- outbound call best line **DR-189**
- outgoing calls
  - Alerting information element **DR-326**
  - Sending Complete information element **DR-327**
- Overlap Receiving **DR-319**
- PRI slave or master selection **DR-322**
- semipermanent connections (Germany) **DR-155**
- services status **DR-746**
- subaddresses
  - configuring **DR-190**
  - dialer string **DR-193**
- switch types **DR-338**
  - See also* ISDN PRI, multiple ISDN switch types
- switches
  - random-length delay, configuring **DR-354**
- TEI setting for German Anlagenanschluss **DR-335**
- three-way conference call, configuring **DR-299**
- voice and data call priority **DR-358**
- isdn all-incoming-calls-v120 command **DR-286**
- isdn answer1 command **DR-287**
- isdn answer2 command **DR-287**
- isdn autodetect command **DR-289**
- isdn bchan-number-order command **DR-290**
- ISDN BRI
  - B channel aggregation **DR-309**
  - configuring **DR-256**
  - field descriptions (table) **DR-660**
  - information display **DR-659**
  - interface, monitoring **DR-656**
  - line power **DR-396**
  - subinterfaces
    - BRI multipoint, point-to-point **DR-256**
- isdn busy command **DR-291**
- isdn call interface command **DR-292**
- isdn caller command **DR-293**
- isdn calling-number command **DR-295**
- isdn calling-pty command **DR-297**
- isdn channel-id invert extended-bit command **DR-298**
- isdn conference-code command **DR-299**
- isdn disconnect interface command **DR-301**
- isdn disconnect-cause command **DR-300**
- isdn fast-rollover-delay command **DR-302**
- isdn flip-chan-flag command
  - See* isdn channel-id invert extended-bit command
- isdn guard-timer command **DR-305**
- isdn incoming-voice command **DR-306**
- isdn layer1-emulate command **DR-308**
- isdn leased-line bri command **DR-309**
- isdn map command **DR-311**
- isdn modem-busy-cause command
  - See* isdn disconnect-cause command
- isdn negotiate-bchan command **DR-313**
- isdn not-end-to-end command **DR-315**
- isdn nsf-service command **DR-317**
- isdn number command **DR-316**
- isdn outgoing-voice command **DR-318**
- isdn overlap-receiving command **DR-319**
- isdn piafs-enabled command **DR-320**
- isdn point-to-point-setup command **DR-321**
- ISDN PRI
  - B channel order selection **DR-290**
  - calling number identification **DR-295**
  - channelized E1 controllers
    - channel state details, displaying **DR-673**
  - channelized T1 controllers
    - channel state details, displaying **DR-673**
  - multiple ISDN switch types **DR-340**
- SPIDs
  - automatic detection, configuring **DR-289**

- local directory numbers **DR-333**
- switch types (table) **DR-340**
- isdn protocol-emulate (dial) command **DR-322**
- isdn reject command **DR-324**
- isdn send-alerting command **DR-326**
- isdn sending-complete command **DR-327**
- isdn service command **DR-329**
- isdn snmp busyout b-channel command **DR-332**
- isdn spid1 command **DR-333**
- isdn spid2 command **DR-333**
- isdn static-tei command **DR-335**
- isdn switch-type (BRI) command **DR-336**
- isdn switch-type (PRI) command **DR-339**
- isdn t306 command **DR-342**
- isdn t310 command **DR-344**
- isdn tei-negotiation (global) command **DR-349**
- isdn tei-negotiation (interface) command **DR-350**
- isdn timer t309 command **DR-346**
- isdn timer t321 command **DR-348**
- isdn transfer-code command **DR-353**
- isdn twait-disable command **DR-354**
- isdn v110 only command **DR-355**
- isdn v110 padding command **DR-357**
- isdn voice-priority command **DR-358**
- isdn x25 dchannel command **DR-360**
- isdn x25 static-tei command **DR-361**

## L

- l2f ignore-mid-sequence command **DR-362**
- L2F (Layer 2 Forwarding)
  - tunnel information, displaying **DR-966**
- l2f tunnel busy timeout command **DR-363**
- l2f tunnel retransmit initial retries command **DR-364**
- l2f tunnel retransmit retries command **DR-365**
- l2f tunnel timeout setup command **DR-366**
- l2tp drop out-of-order command **DR-367**
- l2tp flow-control backoff-queuesize command **DR-368**
- l2tp flow-control maximum-ato command **DR-369**
- l2tp flow-control receive-window command **DR-370**
- l2tp flow-control static-rtt command **DR-372**
- l2tp hidden command **DR-373**
- l2tp ip tos reflect command **DR-375**
- l2tp ip udp checksum command **DR-377**
- L2TP (Layer 2 Tunneling Protocol)
  - dial-out calls, tunneling **DR-7**
  - LCP, negotiating **DR-389**
  - local host name, specifying **DR-398**
  - protocol, assigning **DR-576**
  - tunneled PPP connections, accepting **DR-5**
- l2tp security crypto-profile command **DR-378**
- l2tp tunnel authentication command **DR-380**
- l2tp tunnel busy timeout command **DR-381**
- l2tp tunnel hello command **DR-382**
- l2tp tunnel password command **DR-385**
- l2tp tunnel retransmit initial retries command **DR-387**
- l2tp tunnel retransmit initial timeout command **DR-388**
- l2tp tunnel timeout no-session command **DR-383**
- LAPB Numbered Mode negotiation **DR-556**
- LAPB-TA (Link Access Procedure, Balanced-terminal adapter)
  - encapsulations, dynamic detection **DR-18**
- lcp renegotiation command **DR-389**
- leased lines
  - connection progress display **DR-805**
- limit base-size command **DR-391**
- limit overflow-size command **DR-392**
- line command **DR-393**
- line-power command **DR-396**
- lines
  - activity status **DR-635**
  - automatic disconnect **DR-20**
  - auxiliary port absolute line number **DR-394**
  - console port **DR-394**
  - dedicated asynchronous mode, configuring **DR-14**
  - disconnecting **DR-218**
  - incoming and outgoing calls **DR-440**
  - interactive mode, configuring **DR-15**

line configuration mode **DR-393**  
 modem discovery mode **DR-412**  
 queued connections, clearing **DR-84**  
 relative line number **DR-393**  
 reverse connection **DR-427**  
 types  
   specifying **DR-393**  
   (table) **DR-394**  
 virtual terminal **DR-395**  
 loadsharing command **DR-397**  
 local name command **DR-398**  
 loopback  
   channel-group **DR-401**  
   from MIP over dedicated T1 link **DR-402**  
   T1 line **DR-400**  
   virtual terminal line assignment **DR-1070**  
 loopback (controller e1) command **DR-399**  
 loopback local (controller) command **DR-400**  
 loopback local (interface) command **DR-401**  
 loopback remote (controller) command **DR-402**  
 LQM (Link Quality Monitoring), enabling **DR-555**

## M

map-class dialer command **DR-403**  
 MCMP (Multiclass Multilink PPP), enabling on interface **DR-552**  
 member command **DR-406**  
 member (dial peer cor list) command **DR-407**  
 MICA (Modem ISDN channel aggregation)  
   modem functionality report **DR-959**  
 MLP (Multilink Point-to-Point Protocol)  
   bundle  
     configuring **DR-542**  
     information display **DR-887**  
     SGBP bid winner on **DR-630**  
 modem answer-timeout command **DR-408**  
 modem at-mode command **DR-409**  
 modem at-mode-permit command **DR-411**  
 modem attention (AT) commands **DR-815**  
 modem autoconfigure discovery command **DR-412**  
 modem autoconfigure type command **DR-413**  
 modem autotest command  
   *See* modem recovery action command  
 modem bad command **DR-415**  
 modem buffer-size command **DR-417**  
 modem busyout command **DR-418**  
 modem busyout-threshold command **DR-420**  
 modem callin command **DR-426**  
 modem callout command **DR-427**  
 modem call-record command **DR-422**  
 modem commands  
   Hayes-compatible **DR-465, DR-469**  
 modem country mica command **DR-428**  
 modem country microcom\_hdms command **DR-430**  
 modem cts-required command  
   *See* modem printer command  
 modem dialin command **DR-434**  
 modem dialout controller command **DR-436**  
 modem dtr-active command **DR-437**  
 modem hold-reset command **DR-438**  
 modem host command **DR-439**  
 modem inout command **DR-440**  
 modem link-info poll time command **DR-441**  
 modem log command **DR-443**  
 modem management  
   Call Tracker  
     call handle display **DR-643**  
     configuration information **DR-649**  
     configuring **DR-39, DR-42, DR-44, DR-45**  
     (example) **DR-780**  
     incoming V.110 modem calls **DR-355, DR-357**  
   modem min-speed max-speed command **DR-444**  
   modem poll retry command **DR-445**  
   modem poll time command **DR-446**  
   modem pool, called party assignments **DR-37**  
   modem printer command **DR-449**  
   modem recovery action command **DR-450**

- modem recovery maintenance command **DR-452**
- modem recovery threshold command **DR-455**
- modem recovery-time command **DR-456**
- modem ri-is-cd command
  - See* modem dialin command
- modem shutdown command **DR-459**
- modem startup-test command
  - See* modem recovery action command
- modem status-poll command **DR-461**
- modemcap edit command **DR-462**
- modemcap entry command **DR-463**
- modem-pool command **DR-447**
- modems
  - answer timeout **DR-408**
  - AT command mode **DR-409**
  - attribute values, editing **DR-462**
  - attributes display **DR-842**
  - autoconfigure **DR-413**
  - call switching module, monitoring **DR-794**
  - calls
    - incoming V.110, filtering **DR-355**
  - capability information **DR-463**
  - chat scripts **DR-619**
    - DDR **DR-619**
    - default **DR-619**
  - configuration, displaying **DR-782**
  - connection speeds, monitoring **DR-787**
  - cookies, displaying **DR-793**
  - dialer hold queue **DR-149**
  - digital **DR-815**
  - disabling **DR-418**
  - disconnect reasons **DR-774**
  - discovery mode **DR-412**
  - ds0 threshold **DR-420**
  - DSR control signal **DR-449**
  - event logging **DR-443**
  - firmware upgrade **DR-236**
  - firmware version, displaying **DR-773, DR-807, DR-836**
  - forced reconnection waiting period, configuring **DR-36**
  - history event queue size **DR-417**
  - history log **DR-796**
  - incoming-only calls **DR-434**
  - inoperable **DR-415**
  - isolating **DR-438**
  - MICA technologies **DR-815**
    - bit rates **DR-819, DR-828**
    - character count **DR-826**
    - constellation shaping **DR-822**
    - country codes **DR-428**
    - echo levels **DR-825**
    - error counts **DR-818**
    - frequency offset **DR-824**
    - line shaping graph **DR-827**
    - nonlinear encoding **DR-822**
    - performance statistics (table) **DR-817**
    - phase jitter frequency **DR-824**
    - phase roll **DR-826**
    - polling intervals, setting **DR-441**
    - pre-emphasis index **DR-822**
    - receive signal quality **DR-818**
    - received signal **DR-823**
    - robbed bits **DR-827**
    - round trip delay **DR-826**
    - statistics **DR-810**
    - transmit signal **DR-823**
    - trellis coding **DR-822**
  - Microcom
    - country codes **DR-430**
    - direct-connect session **DR-411**
    - High Density Management System (HDMS) **DR-430**
    - session status **DR-772**
    - statistics, digital **DR-815**
  - off-hook status **DR-426**
  - operation summary **DR-833**
  - performance statistics **DR-763**
  - poll interval **DR-446**
  - polling attempts **DR-445**
  - pools **DR-447**

- line range **DR-491**
- statistics **DR-831**
- recovery action **DR-450**
- recovery behavior **DR-452**
- recovery process **DR-455**
- response time **DR-456**
- shutdown **DR-459**
- speed parameters **DR-444**
- status polling **DR-461**
- testing **DR-834**
- upgrade method selection **DR-240**
- V.110 bit rate padding **DR-357**
- modemui command **DR-465**
- modemui-version command **DR-469**
- monitor traffic line command **DR-470**
- MPPE (Microsoft Point-to-Point Encryption)
  - interface information **DR-884**
- multihop hostname command **DR-472**
- Multihop VPDN
  - SP link (example) **DR-1049**
- multilink bundle-name command **DR-473**
- multilink max-fragments command
  - See ppp multilink fragment maximum command
- multilink virtual-template command **DR-476**
- multilink-group command
  - See ppp multilink group command

## N

- name (dial peer cor custom) command **DR-477**
- NetBEUI connections, sessions display **DR-847**
- NetBEUI (NetBIOS Extended User Interface)
  - remote node, configuring **DR-478**
- netbios nb command **DR-478**
- NetBIOS (Network Basic Input/Output System)
  - sessions information, displaying **DR-847**
- network-clock-priority command **DR-479**
- number command **DR-481**

## P

- passwords
  - CPP authentication, enabling **DR-120**
- peer default ip address command **DR-483**
- peer match aaa-pools command **DR-486**
- permission (dial peer voice) command **DR-488**
- pool-member command **DR-490**
- pool-range command **DR-491**
- port (global) command **DR-493**
- port modem autotest command **DR-495**
- port numbers
  - Telnet **DR-607**
- PPP
  - authentication retries, configuring **DR-530**
  - BACP, enabling **DR-531**
  - BAP
    - bad links, removing **DR-502**
    - bundle group display **DR-882**
    - call parameters **DR-500**
    - callback configuration **DR-501**
    - link types **DR-504**
    - nondefault timeout values **DR-511**
    - peer request validation **DR-507**
    - retransmission limits **DR-505**
    - telephone number **DR-508**
    - telephone number negotiation **DR-509**
  - callback, enabling on non-DTR dialer interface **DR-517**
  - client call back **DR-518**
  - encapsulations, dynamic detection **DR-18**
  - interesting traffic idle timer **DR-271**
  - IPCP, setting **DR-523**
  - IPX packet compression over **DR-283**
  - LCP, setting **DR-527**
  - Multilink PPP, enabling **DR-531**
  - secure callback **DR-129**
  - server connections **DR-497**
  - sessions, automatic startup **DR-21**
  - tunneled domain name calls **DR-222**

- ppp accm command **DR-498**
  - ppp bap call command **DR-500**
  - ppp bap callback command **DR-501**
  - ppp bap drop command **DR-502**
  - ppp bap link types command **DR-504**
  - ppp bap max command **DR-505**
  - ppp bap monitor load command **DR-507**
  - ppp bap number command **DR-508**
  - ppp bap timeout command **DR-511**
  - ppp bridge appletalk command **DR-513**
  - ppp bridge ip command **DR-514**
  - ppp bridge ipx command **DR-515**
  - ppp callback (DDR) command **DR-517**
  - ppp callback (PPP client) command **DR-518**
  - ppp command **DR-497**
  - ppp encrypt mppe command **DR-519**
  - ppp ipcp command **DR-521**
  - ppp ipcp predictive command **DR-523**
  - ppp lcp delay command **DR-525**
  - ppp lcp fast-start command **DR-526**
  - ppp lcp predictive command **DR-527**
  - ppp link reorders command **DR-529**
  - ppp max-bad-auth command **DR-530**
  - ppp multilink command **DR-531**
  - ppp multilink endpoint command **DR-533**
  - ppp multilink fragment delay command **DR-535**
  - ppp multilink fragment disable command **DR-537**
  - ppp multilink fragment maximum command **DR-539**
  - ppp multilink fragmentation command
    - See* ppp multilink fragment disable command
  - ppp multilink group command **DR-540**
  - ppp multilink idle-link command **DR-542**
  - ppp multilink interleave command **DR-543**
  - ppp multilink links maximum command **DR-548**
  - ppp multilink links minimum command **DR-549**
  - ppp multilink load-threshold command **DR-550**
  - ppp multilink multiclass command **DR-552**
  - ppp quality command **DR-555**
  - ppp reliable-link command **DR-556**
  - ppp timeout authentication command **DR-558**
  - ppp timeout idle command **DR-559**
  - ppp timeout idle (template) command **DR-560**
  - ppp timeout multilink link add command **DR-562**
  - ppp timeout multilink link remove command **DR-564**
  - ppp timeout multilink lost-fragment command **DR-566**
  - ppp timeout ncp command **DR-567**
  - ppp timeout retry command **DR-568**
  - pptp flow-control receive-window command **DR-569**
  - pptp flow-control static-rtt command **DR-570**
  - pptp tunnel echo command **DR-571**
  - pri-group timeslots command **DR-572**
  - profile incoming command **DR-575**
  - profiles
    - customer
      - contents display **DR-894**
      - information display **DR-893**
  - protocol stack, SPX status **DR-744**
  - protocol (VPDN) command **DR-576**
- ## Q
- queues
    - packets for modem connection, holding **DR-149**
- ## R
- R2 signaling **DR-228**
  - range command **DR-578**
  - rcapi number command **DR-580**
  - rcapi server command **DR-581**
  - redundancy command **DR-582**
  - reload components command **DR-583**
  - request dialin command **DR-585**
  - request dialout command **DR-587**
  - resource command **DR-589**
  - resource groups, monitoring **DR-898**
  - resource-pool aaa accounting ppp command **DR-592**
  - resource-pool aaa protocol command **DR-594**

resource-pool call treatment command **DR-595**  
 resource-pool call treatment discriminator  
 command **DR-596**  
 resource-pool command **DR-591**  
 resource-pool group resource command **DR-597**  
 resource-pool profile customer command **DR-599**  
 resource-pool profile discriminator command **DR-601**  
 resource-pool profile service command **DR-602**  
 resource-pool profile vpdn command **DR-603**  
 retry keepalive command **DR-604**  
 rollover delay, configuring dial out **DR-302**  
 rotary command **DR-606**  
 rotary groups  
   configuring **DR-606**  
   DDR dialer hold queues **DR-149**  
   services and port numbers (table) **DR-607**  
 rotary-group command **DR-609**  
 routes  
   static, configuring **DR-277**  
 routing  
   asynchronous interfaces, configuring manually **DR-12**  
   dynamic asynchronous connection, configuring  
   manually **DR-12**  
 routing updates, passing **DR-10**  
 RPM (Resource Pool Management)  
   call discrimination profile, creating **DR-601**  
   CLID group, configuring **DR-136**  
   IP pool name restrictions (example) **DR-486**  
   ISDN cause code, modifying **DR-596**  
 RTP (Real-Time Transport Protocol)  
   packets, interleaving **DR-543**  
   special packet queue **DR-279**

## S

script activation command **DR-611**  
 script arap-callback command **DR-613**  
 script callback command **DR-615**  
 script connection command **DR-617**  
 script dialer command **DR-619**  
 script reset command **DR-621**  
 script startup command **DR-623**  
 server connections, transparent global **DR-281**  
 session-limit (VPDN) command **DR-625**  
 sessions  
   timeout period, specifying **DR-1021**  
 sgbp dial-bids command **DR-627**  
 sgbp group command **DR-628**  
 sgbp member command **DR-629**  
 sgbp ppp-forward command **DR-630**  
 sgbp seed-bid command **DR-631**  
 shelf-id command **DR-633**  
 show async status command **DR-635**  
 show busyout command **DR-637**  
 show call calltracker active command **DR-640**  
 show call calltracker handle command **DR-643**  
 show call calltracker history command **DR-644**  
 show call calltracker summary command **DR-649**  
 show call progress tone command **DR-651**  
 show caller command **DR-654**  
 show controllers bri command **DR-656**  
 show controllers e1 call-counters command **DR-663**  
 show controllers e1 cas-data command **DR-665**  
 show controllers t1 call-counters command **DR-667**  
 show controllers t1 cas-data command **DR-669**  
 show controllers t1 clock command **DR-671**  
 show controllers t1 firmware-status command **DR-672**  
 show controllers t1 timeslots command **DR-673**  
 show cot dsp command **DR-675**  
 show cot request command **DR-677**  
 show cot summary command **DR-679**  
 show dhcp command **DR-681**  
 show dialer command **DR-683, DR-691**  
 show dialer dnis command **DR-688**  
 show dialer interface bri command **DR-690**  
 show dialer map command **DR-693**  
 show dialer sessions command **DR-695**  
 show dial-shelf command **DR-696**  
 show dial-shelf split command **DR-699**

- show dsc clock command **DR-700**
- show dsi command **DR-702**
- show dsip clients command **DR-711**
- show dsip command **DR-708**
- show dsip nodes command **DR-713**
- show dsip ports command **DR-715**
- show dsip queue command **DR-718**
- show dsip tracing command **DR-719**
- show dsip transport command **DR-721**
- show dsip version command **DR-724**
- show interfaces bri command **DR-726**
- show interfaces serial bchannel command **DR-731**
- show interfaces virtual-access command **DR-732**
- show ip interface virtual-access command **DR-738**
- show ip local pool command **DR-740**
- show ipx compression command **DR-743**
- show ipx spx-protocol command **DR-744**
- show isdn active command **DR-746**
- show isdn command **DR-746**
- show isdn history command **DR-746**
- show isdn nfas group command **DR-757**
- show isdn service command **DR-746, DR-760**
- show isdn status command **DR-746**
- show isdn timers command **DR-746**
- show line async-queue command **DR-762**
- show modem at-mode command **DR-772**
- show modem bundled-firmware command **DR-773**
- show modem call-stats command **DR-774**
- show modem calltracker command **DR-780**
- show modem command **DR-763**
- show modem configuration command **DR-782**
- show modem connect-speeds command **DR-787**
- show modem cookie command **DR-793**
- show modem csm command **DR-794**
- show modem log command **DR-796**
- show modem mapping command **DR-807**
- show modem mica command **DR-810**
- show modem operational-status command **DR-814**
- show modem summary command **DR-833**
- show modem test command **DR-834**
- show modem version command **DR-836**
- show modemcap command **DR-842**
- show modem-pool command **DR-831**
- show nbf cache command **DR-845**
- show nbf sessions command **DR-847**
- show port config command **DR-849**
- show port digital log command **DR-854**
- show port log command **DR-857**
- show port modem calltracker command **DR-862**
- show port modem log command **DR-865**
- show port modem test command **DR-873**
- show port operational-status command **DR-876**
- show ppp bap command **DR-882**
- show ppp mppe command **DR-884**
- show ppp multilink command **DR-631, DR-886**
- show queuing virtual-access command **DR-890**
- show rcapi status command **DR-892**
- show resource-pool call command **DR-893**
- show resource-pool customer command **DR-894**
- show resource-pool discriminator command **DR-896**
- show resource-pool resource command **DR-898**
- show resource-pool vpdn command **DR-900**
- show sessions command **DR-903**
- show sgbp command **DR-904**
- show sgbp queries command **DR-632, DR-905**
- show snapshot command **DR-906**
- show spe command **DR-908**
- show spe digital active command **DR-914**
- show spe digital command **DR-912**
- show spe digital csr command **DR-916**
- show spe digital disconnect-reason command **DR-918**
- show spe digital summary command **DR-920**
- show spe log command **DR-922**
- show spe modem active command **DR-927**
- show spe modem command **DR-924**
- show spe modem csr command **DR-929**
- show spe modem disconnect-reason command **DR-931**
- show spe modem high speed command **DR-933**

- show spe modem high standard command **DR-937**
- show spe modem low speed command **DR-939**
- show spe modem low standard command **DR-941**
- show spe modem summary command **DR-944**
- show spe recovery command **DR-947**
- show spe version command **DR-950**
- show sss session command **DR-956**
- show tech-support modem command **DR-959**
- show tech-support spe command **DR-961**
- show tgrm command **DR-963**
- show vpdn command **DR-965**
- show vpdn domain command **DR-970**
- show vpdn group command **DR-971**
- show vpdn history failure command **DR-974**
- show vpdn multilink command **DR-976**
- show vpdn session command **DR-978**
- shutdown (port) command **DR-984**
- shutdown (spe) command **DR-986**
- signaling-class cas command **DR-987**
- signals
  - CTS timeout **DR-408**
  - DSR modem control **DR-449**
  - DTR
    - low **DR-437**
    - off-hook status **DR-426**
- SLIP (Serial Line Internet Protocol)
  - sessions, automatic startup **DR-21**
- snapshot client command **DR-988**
- snapshot routing **DR-990**
  - dialer map, configuring for DDR **DR-170**
  - parameters, displaying **DR-906**
  - quiet period **DR-98**
- snapshot server command **DR-990**
- software flow control, line configuration **DR-243**
- source template command **DR-992**
- source vpdn-template command **DR-993**
- source-ip command **DR-991**
- spe call-record modem command **DR-997**
- spe command **DR-995**
- spe country command **DR-999**
- spe download maintenance command **DR-1002**
- spe log-size command **DR-1004**
- spe recovery command **DR-1005**
- SPE (service processing element)
  - call success rate, displaying **DR-929**
  - digital calls
    - local disconnect reason, displaying **DR-918**
    - success rate statistics, displaying **DR-916**
  - modem functionality report **DR-961**
  - status, displaying **DR-908 to DR-950**
  - system log, displaying **DR-922**
- spoofing, DDR **DR-686**
- SS7 (Signaling System 7)
  - coexistence of SS7 links and PRI voice and data bearer channels **DR-573**
  - ISDN signaling slot converted to bearer channel on SS7-enabled VoIP with RLM group **DR-573**
- stack group
  - bidding
    - default across stack members **DR-631**
    - offload server **DR-631**
    - overriding offload or default **DR-632**
  - configuration (example) **DR-629**
  - create and name **DR-628**
  - current seed bid value, displaying **DR-905**
  - first call receiver host master bundle interface **DR-631**
  - members
    - configuring **DR-628**
    - displaying **DR-904**
    - host name **DR-629**
    - IP address **DR-629**
- start characters
  - default **DR-243**
  - line, configuring **DR-1007**
- start-character command **DR-1007**
- start-chat command **DR-1008**

stop characters  
 default **DR-243**  
 line, configuring **DR-1010**  
 stop-character command **DR-1010**  
 subscriber access command **DR-1011**  
 subscriber authorization enable command **DR-1014**

## T

T1 controllers  
 dialout configuration **DR-436**  
 TCP connections, asynchronous mobility **DR-280**  
 TEI (terminal endpoint identifier), ISDN interfaces  
 static and dynamic, setting **DR-335**  
 Telnet  
 connection message, suppressing **DR-281**  
 template command **DR-1015**  
 terminate-from command **DR-1017**  
 test modem back-to-back command **DR-1018**  
 test port modem back-to-back command **DR-1019**  
 time slots  
 T1, configuring **DR-58**  
 timeout absolute command **DR-1021**  
 timeouts  
 DDR interface, configuring **DR-142**  
 timer command  
 RLM states **DR-1022**  
 trunk group (global) command **DR-1024**  
 tunnel command **DR-1026**  
 tunneling  
 local host name, specifying **DR-398**  
 tunnels  
 VPDN sessions  
 clearing **DR-109**

## U

user profiles, obtaining name of remote **DR-140**  
 username, CPP authentication **DR-120**

## V

V.110 modem calls, selective filtering of  
 incoming **DR-355**  
 V.120  
 answer all incoming calls, configuring to **DR-286**  
 encapsulations, dynamic detection **DR-18**  
 V.25bis, supported options **DR-191, DR-194**  
 virtual access interfaces, vty line status **DR-732**  
 virtual template interfaces  
 as serial interface **DR-263**  
 purpose **DR-263**  
 virtual templates  
 configuration (example) **DR-476**  
 multilink bundle interface, configuring **DR-476**  
 virtual terminal lines, configuring **DR-395**  
 virtual-profile aaa command **DR-1027**  
 virtual-profile if-needed command **DR-1028**  
 virtual-profile virtual-template command **DR-1029**  
 virtual-template command **DR-1030**  
 vpdn aaa attribute command **DR-1033**  
 vpdn aaa override-server command **DR-1035**  
 vpdn aaa untagged command **DR-1037**  
 vpdn authorize domain command **DR-1038**  
 vpdn domain-delimiter command **DR-1040**  
 vpdn enable command **DR-1042**  
 VPDN group  
 authorized sessions display **DR-976**  
 contents display **DR-900**  
 history failure statistics (table) **DR-974**  
 relationships display **DR-971**  
 status of domains and group **DR-970**  
 vpdn history failure table-size command **DR-1044**  
 vpdn incoming command  
*See* accept-dialin command  
 vpdn logging command **DR-1046**  
 vpdn logging history failure command **DR-1047**  
 vpdn multihop command **DR-1048**

vpdn outgoing command  
     *See* request-dialin command

VPDN profile  
     simultaneous connections, defining **DR-391**

vpdn profile command **DR-1052**

vpdn redirect attempts command **DR-1054**

vpdn redirect command **DR-1053**

vpdn redirect identifier command **DR-1055**

vpdn redirect source command **DR-1057**

vpdn search-order command **DR-1058**

vpdn session-limit command **DR-1059**

vpdn softshut command **DR-1060**

vpdn source-ip command **DR-1061**

VPDN template configuration mode, entering **DR-1062**

VPDN (virtual private dialup network)  
     enabling **DR-1042**  
     events, logging **DR-1046**  
     group description **DR-127**  
     history failure table  
         clearing **DR-107**  
         event logging **DR-1047**  
         size **DR-1044**  
     information display **DR-966, DR-967, DR-969, DR-982**  
     load sharing endpoints, configuring **DR-397**  
     tunnel authorization search order **DR-1058**

vpdn-group command **DR-1043**

vpdn-template command **DR-1062**

vty-async command **DR-1066**

vty-async dynamic-routing command **DR-1068**

vty-async header-compression command **DR-1069**

vty-async ipx ppp-client loopback command **DR-1070**

vty-async keepalive command **DR-1071**

vty-async mtu command **DR-1072**

vty-async ppp authentication command **DR-1073**

vty-async ppp use-tacacs command **DR-1074**

vty-async virtual-template command **DR-1075**

**X**

## X.25

    ISDN over D channel **DR-360**  
     static TEI, configuring **DR-361**  
     TEI restrictions **DR-361**  
     traffic over ISDN D channel (example) **DR-257**

x25 aodi command **DR-1077**

x25 map ppp command **DR-1078**