INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
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OF ITU

Supplement

V.25 *ter*

(04/95)

DATA COMMUNICATION OVER
THE TELEPHONE NETWORK

SERIAL ASYNCHRONOUS AUTOMATIC
DIALLING AND CONTROL

Supplement to
ITU-T Recommendation V.25 *ter*

(Previously "CCITT Recommendation")

FOREWORD

The ITU-T (Telecommunication Standardization Sector) is a permanent organ of the International Telecommunication Union (ITU). The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, establishes the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

The approval of Recommendations by the Members of the ITU-T is covered by the procedure laid down in WTSC Resolution No. 1 (Helsinki, March 1-12, 1993).

Supplement to ITU Recommendation V.25 *ter* was prepared by ITU-T Study Group 14 (1993-1996) and was approved under the WTSC Resolution No. 1 procedure on the 19th of April 1995.

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NOTE

In this Supplement, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

CONTENTS

SERIAL ASYNCHRONOUS AUTOMATIC DIALLING AND CONTROL

(Geneva, 1995)

1 Introduction and scope

Recommendation V.25 *ter* codifies the most common commands used by DTE to control DCE on asynchronous DTE-DCE connections. Recommendation V.25 *ter* also codifies the syntax to be used by standards committees for extending this command in various ways.

There are now many standards based on this command set using the extended syntax, and more are in development. The committees active in this area include:

Responsible Committee	Reserved Lead-in(s)	Scope
ITU-T Q.7/14	+A, +D, +E, +G, +I, +M, +S	DTE-DCE Protocols/Data Transmission
ITU-T Q.5/8	+F	ITU-T Group 3 Facsimile/Telematic Services
TIA TR-30.4	+A, +D, +E, +G, +I, +M, +S	DTE-DCE Interfaces
TIA TR-29.2	+F, +V	T.30 Facsimile Digital Interfaces
TIA TR-45.3	+C	TIA IS-136 TDMA Digital Cellular
TIA TR-45.5	+C	TIA IS-95 Spread Spectrum Digital Cellular
ETSI/SMG/SMG 4	+C	Global System Mobile, Digital Cellular
PCCA MSC	+W	Wireless Communications Services

This supplement is a reference document that collects and summarizes information from this work. This supplement has two purposes:

- Facilitate cooperation between standards bodies.

- Inform developers of communications equipment or software.

This supplement contains two sections:

- References.

- Tables of commands from various sources, sorted by function.

2 Abbreviations

For the purposes of this Recommendation, the following abbreviations are used:

ETSI European Telecommunications Standards Institute

GSM Global System Mobile, a part of ETSI

MSC Modem Standards Committee

PCCA Portable Computer and Communications Association

SMG Special Mobile Group

TIA Telecommunications Industry Association

3 References

Source Committee	Publication ID, date	Title
ITU-T Q.7/14	Rec. V.25 *ter* 1995	Serial Asynchronous Automatic Dialling and Control
ITU-T Q.5/8	Rec. T.31 1995	Asynchronous Facsimile DCE Control – Service Class 1
ITU-T Q.5/8	Rec. T.32 1995	Asynchronous Facsimile DCE Control – Service Class 2
TIA TR-29.2	TIA-578-A 1995	Facsimile Digital Interfaces – Asynchronous Facsimile DCE Control Standard, Service Class 1
TIA TR-29.2	TIA- 592 1993	Facsimile Digital Interfaces – Asynchronous Facsimile DCE Control Standard, Service Class 2
TIA TR-30.4	TIA-602 1992	Data Transmission Systems and Equipment – Serial Asynchronous Automatic Dialling and Control
TIA TR-29.2	TIA-605 1993	Facsimile Digital Interfaces – Facsimile DCE-DTE Packet Protocol Standard
TIA TR-30.4	TIA-615 1992	Data Transmission Systems and Equipment – Serial Asynchronous Automatic Dialling and Control – Extended Command Syntax
TIA TR-30.4	TIA-617 1995	Data Transmission Systems and Equipment – In-Band DCE Control
TIA TR-45.5	TIA IS-99 1995	Data Services Option Standard for Wideband Spread Spectrum Digital Cellular System
TIA TR-29.2	TIA IS-101 1993	Facsimile Digital Interfaces – Voice Control Interim Standard for Asynchronous DCE
TIA TR-30.4	TIA IS-131 1995	Data Transmission Systems and Equipment – Extensions to Serial Asynchronous Automatic Dialling and Control – Interim Standard
TIA TR-30.4	TIA IS-134 1994	Facsimile Digital Interfaces, Amendments to TIA/EIA-592 to Support Rec. T.30 (1993), Interim Standard
TIA TR-45.3	TIA IS-135 1995	800 MHz Cellular Systems, TDMA Services, Async. Data and FAX
PCCA MSC	STD-101 1995	Data Transmission Systems and Equipment – Serial Asynchronous Automatic Dialling and Control for Character Mode DCE on Wireless Data Services
PCCA MSC	XANX-101-F 1995	Data Transmission Systems and Equipment – Serial Asynchronous Automatic Dialling and Control for Character Mode DCE on Wireless Data Services - Annex F: Miscellaneous Commands
PCCA MSC	XANX-101-I 1995	Data Transmission Systems and Equipment – Serial Asynchronous Automatic Dialling and Control for Character Mode DCE on Wireless Data Services - Annex I: Command Extensions for Analogue Cellular Data Modems
NOTE – TIA TR-30.4 Project PN-3499 is intended to create an ANSI/TIA standard based on PCCA STD-101 and completed Annexes.		

4 Command references

4.1 DCE initialization

Syntax	Reference(s)	Description
Z	6.1.1/V.25 *ter* 6.1.7/TIA-602	Reset to Default Configuration
&F	6.1.2/V.25 *ter* 6.1.8/TIA-602	Set to Factory Defined Configuration
+FIP	8.3.6/T.32 8.3.6/TIA-592	Initialize Facsimile Parameters
+VIP	10.1.1/IS-101	Initialize Voice Parameters

4.2 DCE identification

Syntax	Reference(s)	Description
I	6.1.3/V.25 *ter* 6.1.10/TIA-602	Request Identification Information
+FMI	8.2.4/TIA-578-A 8.2.4/TIA-592 9.3.1/IS-101	Request Manufacturer Identification
+FMM	8.2.4/TIA-578-A 8.2.4/TIA-592 9.3.2/IS-101	Request Model Identification
+FMR	8.2.4/TIA-578-A 8.2.4/TIA-592 9.3.3/IS-101	Request Revision Identification
+GMI	6.1.4/V.25 *ter* 4.1.1/IS-131 5.2.4.8/STD-101	Request Manufacturer Identification
+GMM	6.1.5/V.25 *ter* 4.1.2/IS-131 5.2.4.9/STD-101	Request Model Identification
+GMR	6.1.6/V.25 *ter* 4.1.3/IS-131 5.2.4.10/STD-101	Request Revision Identification
+GSN	6.1.7/V.25 *ter* 4.1.4/IS-131	Request Product Serial Number Identification
+GOI	6.1.8/V.25 *ter* 4.1.5/IS-131	Request Global Object Identification
+CGMI	5.6/IS-99	Request Manufacturer Identification
+CGMM	5.6/IS-99	Request Model Identification
+CGMR	5.6/IS-99	Request Revision Identification
+CGSN	5.6/IS-99	Request Product Serial Number Identification
+CGOI	5.6/IS-99	Request Global Object Identification

4.3   Service and network identification

Syntax	Reference(s)	Description
+GCAP	6.1.9/V.25 *ter* 4.1.6/IS-131	Request Complete Capabilities List
+CGCAP	5.6/IS-99	Request Complete Capabilities List
+FCLASS	8.2.1/T.31 8.2.1/TIA-578-A 8.2.1/T.32 8.2.1/TIA-592 5.4/IS-99 9.2.1/IS-101 4.1.42/IS-135 5.2.4.11/STD-101	Service Class Identification
+GCI	6.1.10/V.25 *ter*	Country of Installation
+CAD	5.6.3/IS-99	Query Analogue or Digital Service
+W	5.2.4.1/STD-101	Compliance Indication
+WS45	5.2.4.6/STD-101	DTE-side Stack Selection
+WS46	5.2.4.7/STD-101	WDS-side Stack Selection (Wireless Data Service)

4.4 Local DTE-DCE port control

Syntax	Reference(s)	Description
S3	6.2.1/V.25 *ter*	Command Line Termination Character
S4	6.2.2/V.25 *ter*	Response Formatting Character
S5	6.2.3/V.25 *ter*	Command Line Editing Character
E	6.2.4/V.25 *ter*	Command Echo
Q	6.2.5/V.25 *ter*	Result Code Suppression
V	6.2.6/V.25 *ter*	DCE Response Format
X	6.2.7/V.25 *ter*	Result Code Selection and Call Progress Monitoring Control
&C	6.2.8/V.25 *ter*	Circuit 109 (Received line signal detector) Behaviour
&D	6.2.9/V.25 *ter*	Circuit 108 (Data terminal ready) Behaviour
+IPR	6.2.10/V.25 *ter*	Fixed DTE Rate
+FPR=	8.5.2/TIA-578-A 8.5.3.2/TIA-592	Local DTE-DCE Serial Port Rate
+VPR	10.4.3/IS-101	Select DTE/DCE Interface Rate
+ICF	6.2.11/V.25 *ter*	DTE-DCE Character Framing
+IFC	6.2.12/V.25 *ter*	DTE-DCE Local Flow Control
+FLO=	8.5.1/TIA-578-A 8.5.3.1/TIA-592	Local DTE-DCE Flow Control
+ILRR	6.2.13/V.25 *ter*	DTE-DCE Local Rate Reporting
+IBC	8.3/TIA-617	Control of In-Band Control
+IBM	8.4/TIA-617	In-Band MARK Idle Reporting Control
+FDD=	8.5.3/T.31 8.5.3/TIA-578-A	Double Escape Character replacement control
+FIT=	8.5.4/T.31 8.5.3.1/T.32	DTE Inactivity Time-out
+CIT	5.6/IS-99	Command State Inactivity Timer
+VIT	10.2.3/IS-101	DTE Inactivity Timer
+FPP	8.5.3/T.32	Facsimile Packet Protocol
+VPP	10.4.2/IS-101	Voice Packet Protocol
NOTE – All basic format commands listed above are also included in TIA-602.		

4.5 Call set-up and call progress monitoring

Syntax	Reference(s)	Description
D	6.3.1/V.25 *ter*	Dial
T	6.3.2/V.25 *ter*	Select Tone Dialling
P	6.3.3/V.25 *ter*	Select Pulse Dialling
A	6.3.5/V.25 *ter*	Answer
H	6.3.6/V.25 *ter*	Hook Control
O	6.3.7/V.25 *ter*	Return to On-line Data State
S0	6.3.8/V.25 *ter*	Automatic Answer
S6	6.3.9/V.25 *ter*	Pause Before Blind Dialling
S7	6.3.10/V.25 *ter*	Connection Completion Time-out
S8	6.3.11/V.25 *ter*	Comma Dial Modifier Time
S10	6.3.12/V.25 *ter*	Automatic Disconnect Delay
L	6.3.13/V.25 *ter*	Monitor Speaker Loudness
M	6.3.14/V.25 *ter*	Monitor Speaker Mode
NOTE – All V.25 *ter* commands listed above are also included in TIA-602.		

4.6 Data modem set-up and operation

Syntax	Reference(s)	Description
+MS	6.4.1/V.25 *ter*	Modulation Selection
+MA	6.4.2/V.25 *ter*	Modulation Automode Control
+MR	6.4.3/V.25 *ter*	Modulation Reporting Control
+MV18S	6.4.4/V.25 *ter*	V.18 Selection
+MV18R	6.4.5/V.25 *ter*	V.18 Reporting Control
+MV18AM	6.4.6/V.25 *ter*	V.18 Answer Message
+MV18P	6.4.7/V.25 *ter*	V.18 Order of Probes
+ES	6.5.1/V.25 *ter*	Error Control Selection
+EB	6.5.2/V.25 *ter*	Break Handling in Error Control operation
+ESR	6.5.3/V.25 *ter*	Selective Repeat
+EFCS	6.5.4/V.25 *ter*	32-bit Frame Check Sequence
+ER	6.5.5/V.25 *ter*	Error Control Reporting
+ETBM	6.5.6/V.25 *ter*	Call Termination Buffer Management
+DS	6.6.1/V.25 *ter*	Data Compression
+DR	6.6.2/V.25 *ter*	Data Compression Reporting
NOTE – All commands listed above except +MV18P are also included in TIA IS-131.		

4.7 Service class 1 facsimile DCE (T.30 protocol in DTE)

Syntax	Reference(s)	Description
+FTS	8.3.1/T.31	Stop transmission and pause
+FRS	8.3.2/T.31	Wait for silence
+FTM	8.3.3/T.31	Transmit data with <MOD> carrier
+FRM	8.3.4/T.31	Receive data with <MOD> carrier
+FTH	8.3.5/T.31	Transmit HDLC data with <MOD> carrier
+FRH	8.3.6/T.31	Receive HDLC data with <MOD> carrier
+FAR	8.5.1/T.31	Adaptive Reception Control
+FCL	8.5.2/T.31	Carrier Loss Timeout
NOTE – All T.31 commands except +FAR and +FCL are included in TIA-578-A.		

4.8 Service class 2 facsimile DCE (T.30 protocol in DCE)

Syntax	Reference(s)	Description
+FDT	8.3.3/T.32	Data Transmission command
+FDR	8.3.4/T.32	Data Reception command
+FKS	8.3.5/T.32	Session Termination command
+FCC=	8.5.1.1/T.32	DCE capabilities parameters
+FIS=	8.5.1.2/T.32	Current Session parameters
+FCS?	8.5.1.3/T.32	Current Session Results parameters
+FLI=	8.5.1.5/T.32	Local ID String parameter, TSI or CSI
+FPI=	8.5.1.5/T.32	Local Polling ID String parameter
+FNS=	8.5.1.6/T.32	Non-Standard Frame FIF parameter
+FLP=	8.5.1.7/T.32	Indicate Document to Poll parameter
+FSP=	8.5.1.8/T.32	Request to Poll parameter
+FCR=	8.5.1.9/T.32	Capability to Receive parameter
+FBU=	8.5.1.10/T.32	HDLC Frame Reporting parameter
+FNR=	8.5.1.11/T.32	Negotiation Message Reporting control parameters
+FAP=	8.5.1.12/T.32	Addressing & Polling capabilities parameter
+FPA=	8.5.1.13/T.32	Selective Polling Address parameter
+FPW=	8.5.1.13/T.32	PassWord parameter (Sending or Polling)
+FSA=	8.5.1.13/T.32	SubAddress parameter
+FFD=	8.5.1.14/T.32	File Diagnostic Message parameter
+FIE=	8.5.2.1/T.32	Procedure Interrupt Enable parameter
+FPS=	8.5.2.2/T.32	Page Status parameter
+FCQ=	8.5.2.3/T.32	Copy Quality Checking parameter
+FRQ=	8.5.2.4/T.32	Receive Quality Thresholds parameters
+FAA=	8.5.2.5/T.32	Adaptive Answer parameter
+FCT=	8.5.2.6/T.32	DTE Phase C Timeout parameter
+FHS?	8.5.2.7/T.32	Call Termination Status parameter
+FRY=	8.5.2.8/T.32	ECM Retry Value parameter
+FMS=	8.5.2.9/T.32	Minimum Phase C Speed parameter
+FND=	8.5.2.10/T.32	Non-Standard Message Data Indication parameter
+FBS?	8.5.3.2/T.32	Buffer Size, read only parameter
+FBO=	8.5.3.4/T.32	Phase C Data Bit Order
+FEA=	8.5.3.5/T.32	Phase C Received EOL alignment parameter
+FFC=	8.5.3.6/T.32	Format Conversion parameter
NOTE – All T.32 commands except +FND and +FIT are included in either TIA-592 or TIA IS-134.		

4.9 Digital cellular set-up and operation

Syntax	Reference(s)	Description
+CBC	4.1.21/IS-135 5.6/IS-99	Battery Charge
+CCS	4.1.22/IS-135	Compression Status
+CMM	4.1.23/IS-135	Menu Map
+COS	4.1.24/IS-135	Originating Service
+CQD	4.1.25/IS-135	Query Disconnect Timer
+CRC	4.1.26/IS-135 5.6.7/IS-99	Cellular Result Codes
+CSQ	4.1.27/IS-135	Signal Quality
+CSS	4.1.28/IS-135	Serving System Identification
+CTA	4.1.29/IS-135	MT-Terminated Async. Data Calls
+CTF	4.1.30/IS-135	MT-Terminated FAX Calls
+CXT	5.6/IS-99	Cellular Extension
+CFG	5.6/IS-99	Configuration String
+CAD	5.6/IS-99	Query Analogue or Digital Service
+CRM	5.6/IS-99	Set Rm Interface Protocol
+CMIP	5.6/IS-99	Mobile Station IP Address
+CBIP	5.6/IS-99	Base Station IP Address
+CHV	5.6/IS-99	Hang-up Voice
+CDV	5.6/IS-99	Dial Command for Voice Call

4.10 Wireless and analogue cellular set-up and operation

Syntax	Reference(s)	Description
+WS50	4.1.1/XANX-101-F	Normalized Signal Strength
+WS51	4.1.2/XANX-101-F	Carrier Detect Signal Threshold
+WS52	4.1.3/XANX-101-F	Normalized Battery Level
+WS53	4.1.4/XANX-101-F	Normalized Channel Quality
+WS54	4.1.5/XANX-101-F	Carrier Detect Channel Quality Threshold
+WS56	4.1.6/XANX-101-F	Registration Status
+WS57	4.1.7/XANX-101-F	Antenna Preference
+WS58	4.1.8/XANX-101-F	Idle Time-out Value
+WCID	4.2.1/XANX-101-F	Display System ID (operator)
+WCPN	4.2.2/XANX-101-F	Set Personal Identification Number
+WCLK	4.2.3/XANX-101-F	Lock/Unlock DCE
+WCHG	4.2.4/XANX-101-F	Display Battery Charging Status
+WCDA	4.2.5/XANX-101-F	Display Data Link Address
+WCXF	4.2.6/XANX-101-F	Display Supported Annex I commands
+WDAC	I.5.1/XANX-101-I	Data over Analogue Cellular Command Query
+WSTL	I.5.2/XANX-101-I	Call Session Time Limit
+WECR	I.5.3/XANX-101-I	Enable Cellular Result Codes
+WRLK	I.5.4/XANX-101-I	Roam Lockout
+WFON	I.5.5/XANX-101-I	Phone Specification (Type ID)
+WBAG	I.5.6/XANX-101-I	Bias Modem Audio Gain
+WKPD	I.5.7/XANX-101-I	Keypad Emulation
+WDIR	I.5.8/XANX-101-I	Phone Number Directory Selection
+WPBA	I.5.9/XANX-101-I	Phone Battery Query
+WPTH	I.5.10/XANX-101-I	Call Path

4.11 Voice DCE set-up and operation

Syntax	Reference(s)	Description
+VCID	9.2.3/IS-101	Caller ID service
+VDID	9.2.4/IS-101	DID Service
+VNH	9.2.5/IS-101	Automatic Hang-up Control
+VRX	10.1.2/IS-101	Receive Data State
+VTS	10.1.3/IS-101	DTMF and Tone Generation
+VTX	10.1.4/IS-101	Transmit Data State
+VXT	10.1.5/IS-101	Translate Voice Data
+VGR	10.2.1/IS-101	Receive Gain Selection
+VGT	10.2.2/IS-101	Volume Selection
+VLS	10.2.4/IS-101	Analogue Source/Destination Selection
+VRA	10.2.5/IS-101	Ringback Goes Away Timer
+VRN	10.2.6/IS-101	Ringback never appeared timer
+VSD	10.2.7/IS-101	Silence Detection
+VSM	10.2.8/IS-101	Compression Method Selection
+VTD	10.2.9/IS-101	Beep Tone Duration Timer
+VDR	10.3.1/IS-101	Distinctive Ring Cadence
+VDT	10.3.2/IS-101	Control Tone Cadence Reporting
+VEM	10.3.3/IS-101	Event Reporting and Masking
+VBT	10.4.1/IS-101	Buffer Threshold Setting