

(to Recommendation X.21)

**Interface signalling sequence diagrams and time-out operations**

Definition of symbol used to illustrate time-out operation  
in the signalling sequence diagrams:

CCITT-25052

FIGURE B-1/X.21 CCITT-25064

FIGURE B-2/X.21 CCITT-25074

FIGURE B-3/X.21 CCITT-61411

## ANNEX C

(to Recommendation X.21)

### **DTE time-limits and DCE time-outs**

#### **C.1**     *DTE time-limits*

Under certain circumstances this Recommendation requires the DCE to respond to a signal from the DTE within a stated maximum time. If any of these maximum times is exceeded, the DTE should initiate the action indicated in Table C-1/X.21. To maximize efficiency, the DTE should incorporate time-limits to send the appropriate signal under the defined circumstances summarized in Table C-1/X.21. The time-limits given in the first column are the maximum times allowed for the DCE to respond and are consequently the lower limits of the times a DTE must allow for proper network operation. A time-limit longer than the time shown may be optionally used in the DTE; for example, all DTE time-limits could have one single value equal to or greater than the longest time-limit shown in this table. However, the use of a longer time-limit will result in reduced efficiency of network utilization. The actual DCE response time should be as short as is consistent with the implementing technology and in normal operation should be well within the specified time-limit. The rare situation where a time-limit is exceeded should only occur when there is a failure in DCE operation.

The time-limits and actions for loop testing are given in Table C-3/X.21.

#### **C.2**     *DCE Time-outs*

Under certain circumstances this Recommendation requires the DTE to respond to a signal from the DCE within a stated maximum time. If any of these maximum times is exceeded, a time-out in the DCE will initiate the actions summarized in Table C-2/X.21. These constraints must be taken into account in the DTE design. The time-outs given in the first column of the table are the minimum time-out values used in the DCE for the appropriate DTE response and are consequently the maximum times available to the DTE for response to the indicated DCE action. The actual DTE response time should be as short as is consistent with the implementing technology and in normal operation should be within the specified time-out. The rare situation where a time-out is exceeded should only occur when there is a failure in the DTE operation.

The time-outs and actions for loop testing are given in Table C-4/X.21.

TABLE C-1/X.21

**DTE time-limits**

Time-limit	Time-limit number	Started by	Normally terminated by	Preferred action to be taken when time-limit exceeded
3 s	T1	Signalling of <i>call request</i> (state 2)	Reception of <i>proceed-to-select</i> (state 3)	DTE signals <i>DTE ready</i> (state 1)
20 s	T2	Signalling <i>end-of-selection</i> or <i>DTE waiting</i> (direct call) (state 5)	Reception of <i>call progress</i> signals, <i>DCE provided information, ready for data</i> or <i>DCE clear indication</i> (states 7, 10A, 12 or 19)	DTE signals <i>DTE clear request</i> (state 16)
6 s	T3A	Reception of <i>call progress signals</i> or <i>DCE-provided information</i> (states 7 or 10A). Restarted by additional <i>call progress signals</i> or <i>DCE-provided information</i> (states 7 or 10A) (see Note 2)	Reception of <i>ready for data</i> or <i>DCE clear indication</i> (states 12 or 19)	DTE signals <i>DTE clear request</i> (state 16)
60 s	T3B (see Note 1)	Reception of applicable <i>call progress signals</i> (state 7). Restarted by additional <i>call progress signals</i> or <i>DCE provided information</i> (states 7 or 10A) (see Note 2)	Reception of <i>ready for data</i> or <i>DCE clear indication</i> (states 12 or 19)	DTE signals <i>DTE clear request</i> (state 16)
2 s	T4A	Signalling of <i>proceed with call information</i> (state 9B). Restarted by reception of <i>call information</i> (state 10C) (see Note 2)	Reception of <i>end of call information character</i> or <i>DCE clear indication</i> (state 19) or <i>DCE waiting</i> (state 6C)	DTE signals <i>DTE clear request</i> (state 16)
6 s	T4B	Signalling of <i>call accepted</i> (states 9 and 9C). Restarted by reception of <i>DCE-provided information</i> (state 10B) (see Note 2)	Reception of <i>ready for data</i> or <i>DCE clear indication</i> (states 12 or 19)	DTE signals <i>DTE clear request</i> (state 16)

TABLE C-1/X.21 (cont.)

Time-limit	Time-limit number	Started by	Normally terminated by	Preferred action to be taken when time-limit exceeded
2 s	T5	Change of state to <i>DTE clear request</i> (state 16)	Change of state to <i>DCE ready</i> (state 21)	DTE regards the DCE as <i>DCE not ready</i> and signals
2 s	T6	Change of state to <i>DTE clear confirmation</i> (state 20)	Reception of <i>DCE ready</i> (state 21)	<i>DTE</i> (state 18) <i>ready</i>
0,2 s	T7	Change of state to <i>ready</i> (state 1) when <i>charge information</i> (state 10B) has been requested	Reception of <i>incoming call</i> (state 8)	DTE returns to normal operation and may note absence of <i>charge information</i> (state 10B)

*Note 1* – T38 shall be used when receiving CPS 01 and may also be used when receiving other CPS in code group 0.

*Note 2* – Restart means time-out set to ZERO and restarted.

TABLE C-2/X.21

**DCE time-outs**

Time-out	Time-out number	Started by	Normally terminated by	Action to be taken when time-out expires
36 s	T11	DCE signalling of <i>proceed-to-select</i> (state 3)	DCE reception of <i>end-of-selection</i> signal or in the case of direct call, <i>DTE waiting</i> (state 5)	DCE will signal <i>DCE clear indication</i> (state 19) or transmit appropriate <i>call progress</i> signals (state 7) followed by <i>DCE clear indication</i> (state 19)
6 s	T12	DCE signalling of <i>proceed-to-select</i> (state 3)	DCE reception of first selection character or in the case of direct call, <i>DTE waiting</i> (state 5)	
6 s	T13	DCE reception of <i>n</i> th selection character (state 4)	DCE reception of ( <i>n</i> + 1)th selection character or <i>end-of-selection</i> signal	
0,5 s	T14A	DCE signalling of <i>incoming call</i> (state 8)	Signalling of <i>proceed with call information</i> (state 9B) or <i>call accepted</i> (state 9) or <i>call collision</i> (state 15)	The DTE is noted as not answering. The DCE will signal <i>DCE ready</i> (state 1)
60 s	T14B (see Note 1)			
20 s	T14C (see Note 2)	DCE transmitting <i>end of call information character</i> . Restarted by state 25 <i>DTE-provided information</i> (see Note 3)	Change of state to <i>call accepted</i> (state 9C)	DCE will signal <i>DCE clear indication</i> (state 19) or transmit appropriate <i>call progress</i> signals followed by <i>DCE clear indication</i> (state 19)
0,5 s	T15	Change of state to <i>DCE clear indication</i> (state 19)	Change of state to <i>DTE clear confirmation</i> (state 20)	DCE will signal <i>DCE ready</i> and mark <i>DTE uncontrolled not ready</i> (state 24)
100 ms	T16	Change of state to <i>DCE ready</i> (state 21)	Change of state to <i>ready</i> (state 1)	DCE will mark <i>DTE uncontrolled not ready</i> (state 24)

*Note 1* – T14B will be provided when manual answering DTEs are allowed. It is not envisaged that manual answering DTEs will use the enhanced sub-addressing procedure (see § 4.1.6.2.2).

*Note 2* – T14C applies only to enhanced sub-addressing.

*Note 3* – Restart means time-out set to ZERO and restarted.



TABLE C-3/X.21

**DTE time-limits for loop testing**

Time-limit	Time-limit number	Started by	Normally terminated by	Preferred action to be taken when time-limit expires
2 s	T20A	DTE sending the <i>loop command</i> (state L21)	DCE signalling <i>loop confirmation</i> (state L22)	DTE stops sending <i>loop command</i> and enters any state or signals <i>DTE clear request</i> (state 16)
6 s	T20B	DTE sending the <i>loop command</i> (state L31)	DCE signalling <i>loop confirmation</i> (state L32)	
2 s	T21	DTE sending <i>loop 2 clear request</i> (state L24A or L24B)	DCE signalling <i>loop 2 clear confirmation</i> (state L25)	DTE signals <i>DTE clear request</i> (state 16)

TABLE C-4/X.21

**DCE time-outs for loop testing**

Time-out	Time-out number	Started by	Normally terminated by	Action to be taken when time-out expires
Duration is a national option	T22	DCE signalling <i>receive loop 2 command</i> (state L26)	DCE reception of <i>loop released</i> (state L28) or <i>test data</i> (state L23) or <i>DTE clear confirmation</i> (state 20)	DCE at the tested side causes the connection to be cleared
Duration is a national option	T23	<i>Test data</i> (state L23) being received by the tested DCE	<i>Loop released</i> (state L28) or <i>DTE clear confirmation</i> (state 20) being received by the tested DCE	DCE at the tested side causes the connection to be cleared

## ANNEX D

(to Recommendation X.21)

### **Formats of selection, call progress, and DCE–provided information signals**

The following description uses Backus Normal Form as the formalism for syntactic description. A vertical line “|” separates alternatives.

<\*> : : = IA 5 character 2/10  
 <+> : : = IA 5 character 2/11  
 <,> : : = IA 5 character 2/12  
 <-> : : = IA 5 character 2/13  
 <.> : : = IA 5 character 2/14  
 </> : : = IA 5 character 2/15  
 <η> : : = IA 5 characters 3/0–3/9  
 <:> : : = IA 5 character 3/10  
 <Facility parameter> : : = See Annex G  
 <Facility request signal> : : = See Annex G  
 <Full address signal> : : = See Recommendation X.121  
 <Abbreviated address signal> : : = National option  
 <Calling line identification signal> : : = See Annex H  
 <Called line identification signal> : : = See Annex H  
 <Indicator> : : = See Annexes F and G  
 <Facility request code> : : = See Annex G  
 <Registration parameter> : : = See Annex G  
 <Call progress signal> : : = See Annex F  
 <DCE–provided information signal> : : = See Annex H  
 <DTE provided information signal> : : = See Annex F

The above signals are combined as follows:

<Address signal> : : = <Address block> : : = <Facility registration/cancellation signal> : : = <Facility registration/cancellation block> : : = <Facility request signal> : : = <Facility request block> : : = <Selection sequence> : : =	<Full address signal>   <.> <Abbreviated address signal> <Address signal>   <Address block> <,> <Address signal> <Facility request code> </> <Indicator> </> <Registration parameter> </> <Address signal> <Facility registration/cancellation signal>   <Facility registration/cancellation block> <,> <Facility registration/cancellation signal> <Facility request code>   <Facility request signal> </> <Facility parameter> <Facility request signal>   <Facility request block> <,> <Facility request signal> <Facility request block> <-> <Address block> <+>   <Facility request block> <-> <+>   <Address block> <+>   <Facility registration/cancellation block> <-> <+>
---	---

<Call progress signal> ::=	<Call progress code>   <Call progress code> <-> <indicator>
<Call progress block> ::=	<Call progress signal> <+>   <Call progress signal> <,> <Call progress block>
<Calling line identification> ::=	<*> <Calling line identification signal> <+>
<Calling line identification (with DNIC or DCC)> ::=	<*> <Calling line identification signal> <+>
<Called line identification block> ::=	<Called line identification signal>   <Called line identification block> <,> <Called line identification signal>
<Called line identification> ::=	<*> <Called line identification block> <+>
<Called line identification (with DNIC or DCC)> ::=	<*> <Called line identification block> <+>
<Dummy line identification> ::=	<*> <+>
<DCE-provided information block> ::=	<DCE-provided information signal> <+>   <DCE-provided information signal> <,> <DCE-provided information block> (Note)
<DTE-provided information block> ::=	<DTE-provided information signal> <+>   <DTE-provided information signal> <,> <DTE-provided information block>

Note – For DCE-provided information signals and blocks other than calling or called line identification signals and blocks.

## ANNEX E

(to Recommendation X.21)

### **Interworking between DTEs conforming to Recommendations X.21 and X.21 *bis***

It is recognized that interworking between V-Series DTEs connected to a public data network according to Recommendation X.21 *bis* at one end and Recommendation X.21 at the other end should always be possible for DTEs not using half-duplex operation.

Certain Administrations may provide facilities allowing interworking between DTEs operating in accordance with Recommendations X.21 and X.21 *bis* using half-duplex operation by switching circuit C, I and circuit 109, 105 during the data transfer phase in accordance with Figure E-1/X.21.

Those Administrations not providing this facility shall cause the Recommendation X.21 DCE to signal  $r = 1$ ,  $i = \text{ON}$  when the Recommendation X.21 *bis* DTE signals circuit 105 OFF. This will permit half-duplex operation for those DTEs that do not require circuit 109 to be OFF before signalling circuit 105 ON.

FIGURE E-1/X.21 CCITT-25080

ANNEX F  
(to Recommendation X.21)

TABLE F-1/X.21  
**Coding of call progress signals and DTE provided information**

Code group (see Note 1)	Code	Indicator	Significance	Category
0	00 01 02 03 04 05	— — — — — —	Note 2 Terminal called Redirected call Connect when free Private network reached (see Note 3) Public network reached (see Note 4)	Without clearing
2	20 21 22 23	— — — —	No connection Number busy Selection signals procedure error Selection signals transmission error	With clearing due to short-term conditions
3				Unassigned
4 and 5	41 42 43 44 45 45 46 47 48 49 51 52	— — — — — YY-MM-DD-hh:mm — — — — — —	Access barred Changed number Not obtainable Out of order Controlled not ready DTE inactive until . . . Uncontrolled not ready DCE power off Invalid facility request Network fault in local loop Call information service Incompatible user class of service	With clearing due to long-term conditions
6	61	—	Network congestion	With clearing due to network short-term conditions
7	71 72	— —	Long-term network congestion RPOA out of order	With clearing due to network long-term conditions
8	81 82 83	— — —	Registration/cancellation confirmed Redirection activated Redirection deactivated	With clearing due to network procedure
9	Reserved for national purposes			

*Notes to Table F-1/X.21:*

*Note 1* – From the DTE point of view group 0 means “wait”, groups 2 and 6 mean “try again, next try may result in a call set-up”, groups 4 and 5, and 7 mean “there is no reason for the DTE to try again because the answer will be the same for a longer period of time”. Since group 8 results from a procedure between the DTE and the network, no special action is expected to be taken by the DTE.

Some Administrations may specify by regulation both the delay between and the maximum number of call re-attempts permitted by a DTE in these circumstances (see Recommendation X.96).

*Note 2* – Reserved for use in case of point-to-multipoint calls. This coding is used for a remote DTE to indicate that the call can be established with this one (i.e. no clearing due to the remote DTE or to the network), so that the same order of sequence of call progress signals and called lines identification can be kept.

*Note 3* – In the case of sub-addressing, the DTE may see call progress signals which have originated in the public network and/or the private network. In such cases the call progress signal private network reached shall be used to discriminate between the different origins.

*Note 4* – In the case of a DTE being connected to a private network which also provides for access to a public network, the DTE may see call progress signals which have originated in the private network and/or the public network. In such cases the call progress signal public network reached should be used by the private network in order to discriminate between the different origins.

# ANNEX G

(to Recommendation X.21)

## Facility request, indicator and parameter coding

(for use as appropriate in *facility request* signals and *facility registration/cancellation* signals)

TABLE G-1/X.21

(see Annex D for formats and Note 1 below)

Facility request code	Facility parameter	Indicator	Registration parameter	Address signal	Facility
0	–	–	–	–	Reserved for future use (may be combined with second character)
1	XX (see Note 2)	–	–	–	Closed user group (other than preferential)
2	–	–	–	–	Unassigned
3	–	–	–	–	Unassigned
45	–	1	YY-MM-DD-hh:mm	–	DTE inactive registration
45	–	2	–	–	DTE inactive cancellation
50	–	–	–	–	Reserved
51	–	–	–	–	Reserved
53	–	–	–	–	Reserved
60	0, 1, 2, 3, 4, 5	–	–	–	Multiple address calling
61	–	–	–	–	Charging information
62	–	–	–	–	Called line identification
63	–	1	–	–	Redirection of call activation
63	–	2	–	–	Redirection of call cancellation
63	–	3	–	–	Redirection of call status
64	–	–	–	–	Reverse charging
65	–	1	–	AS	Direct call registration
65	–	2	–	–	Direct call cancellation
66	–	1	AAS	AS	Abbreviated address registration
66	–	2	AAS	–	Abbreviated address cancellation
68	–	–	–	–	Reserved
7	–	–	–	–	Reserved
8	–	–	–	–	Reserved
9	Reserved for national purposes				

AAS abbreviated address signal.

AS address signal.

*Note 1* – For an interim period, the 2/15 “/” separator in the formats will not be used in some networks.

*Note 2* – XX is an index number, i.e., a key code for closed user group other than the preferential group. The index number shall be used to distinguish between parts or groups within one facility. The index number shall furthermore be chosen from IA5, column 3, positions 3/0–3/9, giving a range of possible numbers from 00 to 99.

### G.1 *Multiple address calling*

This facility provides the calling DTE with the capability to request a category of point to multipoint service.

The coding is as follows:

<60> </> <η> <-> <Address block> <+>

where

η is a numerical character with the following significance:

0 Reserved

1 Reserved

2 Reserved

3 Centralized multipoint

4 Reserved

5 Reserved.

### G.2 *Charging information*

This facility enables the calling DTE to request at the *call establishment phase* that charging information for the call be provided at the end of the call.

<61> <-> <address> <+>

### G.3 *Redirection of call*

This facility enables the DTE to request the network to route its incoming calls towards another address. The use of this facility is assigned for an agreed contractual period.

*Activation of redirection of call* – The activation of this facility is coded as follows:

<63> </> <1> <-> <+>

*Cancellation of redirection of call* – The cancellation of this facility is coded as follows:

<63> </> <2> <-> <+>

*Status of redirection of call* – The DTE has the capability to ask the network for the status of its redirection. The coding is as follows:

<63> </> <3> <-> <+>

### G.4 *Reverse charging*

This facility enables the calling DTE to request that reverse charging be applied for the call.

The coding is as follows:

<64> <-> <address> <+>

### G.5 *Direct call on a per call basis*

This facility enables the DTE to designate the address to which all calls will be established when the *selection signals* phase (state 4) is bypassed during call establishment.

*Registration* – The coding of this registration of the address is as follows:

<65> </> <1> </> <0> </> <Address> <-> <+>

where

<Address> is the designated address.



The DTE is able to amend the designated address by performing a cancellation procedure followed by the registration procedure.

The coding of the cancellation procedure is as follows:

<65> </> <2> <-> <+>

#### G.6 *Abbreviated address calling*

This facility enables the DTE to define a full address by an abbreviated address.

The registration coding of an abbreviated address is as follows:

<66> </> <1> </> <xy> </> <Address> <-> <+>

where

<xy> = abbreviated address corresponding to the full address,

<address> = full address.

*Cancellation* – The coding of the cancellation of an abbreviated address is as follows:

<66> </> <2> </> <xy> <-> <+>

where

<xy> is the abbreviated address.

#### G.7 *Closed user group selection*

This facility provides the calling DTE with the possibility to communicate within more than one closed user group.

The coding is as follows:

<1> </> <xx> <-> <Address block> <+>

where

<xx> is the closed user group index number, i.e. the key code for the closed user group other than the preferential group. The index number shall be used to distinguish between parts or groups within one facility. The index numbers are numerical characters chosen from column 3 of IA5.

#### G.8 *DTE inactive registration/cancellation*

This facility enables the DTE to inform the network about a period of time during which the DTE is unable to accept incoming calls for circuit-switched service.

DTE inactive registration – The activation of this facility is as follows:

<45> </> <1> </> <YY-MM-DD-hh:mm> <-> <+>

where

YY: Year, MM: Month, DD: Day, hh: Hour, mm: Minute

IA5 characters are used for “YY”, “MM”, “DD”, “hh”, “mm”, “-”, and “:”.

DTE inactive cancellation is as follows:

<45> </> <2> <-> <+>

## ANNEX H

(to Recommendation X.21)

### Information content of DCE provided information

#### H.0 General

Except for the *calling* and *called line identification*, the general format for *DCE-provided information*, as defined in § 4.6.3 should apply.

The coding of numerical character used to distinguish between different types of *DCE-provided information* is indicated in Table H-1/X.21.

#### H.1 Information content of calling and called line identification

Two formats are defined:

- i) *Calling* and *called line identification* consist of the international data number as defined in Recommendation X.121 preceded by two prefixes 2/10 (“ \*\* ”). In the case where the originating network does not provide *calling line identification*, only the data network identification code (DNIC) part of the International Data Number preceded by two prefixes 2/10 (“ \*\* ”) may be sent in place of the *dummy line identification*.
- ii) *Calling* and *called line identification* consist of the national number (NN) or network terminal number (NTN) preceded by the prefix 2/10 (“ \* ”).

#### H.2 General coding of the DCE-provided information

TABLE H-1/X.21

**Coding of DCE provided information**

Identifier	Meaning	Remarks
0	Reserved	
1 2 3	Charging information Charging information Charging information	See details in § H.3
4	Sub-addressing	See details in § H.4
5	Date and time indication	See details in § H.5
6	Characteristics of the call	See details in § H.6
7	Type of call indication	See details in § H.7
81	Closed user group indication	See details in § H.8
82	Closed user group outgoing access indication	See details in § H.8.1
9	Reserved	

### H.3 *Information content of charging information*

The *charging information* will inform the subscriber of either the monetary charges for a call, the duration of the call, or the number of units used during the call.

When *charging information* is given in monetary charges for the call,  $n = 1$  and the information shall consist of  $x$  number of integer digits optionally followed by a colon and two digits representing the fraction. The format applied is as follows:

$\langle / \rangle \langle 1 \rangle \langle / \rangle \langle X... \rangle$   
 $\langle / \rangle \langle 1 \rangle \langle / \rangle \langle X... \rangle \langle : \rangle \langle yy \rangle$

When the *charging information* is presented as the duration of a call,  $n = 2$  and the information shall consist of  $x$  number of integer digits representing seconds, the format applied is as follows:

$\langle / \rangle \langle 2 \rangle \langle / \rangle \langle X... \rangle$

When the *charging information* is presented as the number of units used,  $n = 3$ , and the information shall consist of  $x$  number of integer digits representing the units, the format applied is as follows:

$\langle / \rangle \langle 3 \rangle \langle / \rangle \langle X... \rangle$

### H.4 *Sub-addressing information*

The *sub-addressing information* will inform the called DTE of the sub-address sent by the calling DTE.

The format of the sub-addressing information is as follows:

$\langle / \rangle \langle 4 \rangle \langle / \rangle \langle X... \rangle$

The format of the dummy information is as follows:

$\langle / \rangle \langle 4 \rangle \langle / \rangle$

### H.5 *Date and time indication*

The *date and time indication* will inform the subscriber of the date and time the call is established. The format for the *date and time indication* is as follows:

$\langle / \rangle \langle 5 \rangle \langle / \rangle \langle YY-MM-DD-hh:mm \rangle$

where

YY: Year, MM: Month, DD: day, hh: hour and mm: minute

IA5 characters are used for “YY”, “MM”, “DD”, “hh”, “mm”, “–” and “:”.

### H.6 *Characteristics of the call*

The *characteristics of the call* will inform the called DTE of the different facilities that have been requested by the calling DTE.

The format of the characteristic of the call is as follows:

$\langle / \rangle \langle 6 \rangle \langle / \rangle \langle XY \rangle$

where

X and Y are two numerical characters.

Table H-2/X.21 indicates the allocation of values of these two characters to facilities.

TABLE H-2/X.21

00	Reserved
01	Reverse charging
02	Reserved
03	Reserved

#### H.7 *Type of call indication*

The *type of call indication* will inform the called DTE of the configuration of the incoming call.

The format of the *type of call indication* is as follows:

</> <7> </> <XY>

where

X and Y are two numerical characters.

Table H-3/X.21 indicates the allocation of values of those two characters to different configurations of calls.

TABLE H-3/X.21

00	Reserved
01	Reserved
02	Reserved
03	Centralized multipoint
04	Reserved

#### H.8 *Closed user group indication*

The *closed user group indication* will inform the called DTE to which closed user group the incoming call belongs.

The format of the *closed user group indication* is as follows:

</> <81> </> <xxxx...x>

where

<x> : closed user group index number.

#### H.8.1 *Closed user group outgoing access indication*

The *closed user group outgoing access indication* will inform the called DTE from a DTE belonging to a closed user group with outgoing access facility. If the called DTE belongs to the same closed user group, the local closed user group index number will be indicated. In other cases, no indication will be given.

The format of the *closed user group outgoing access indication* is as follows:

</> <82> </> <xx . . . x>

where

<x> is the closed user group index number.

# ANNEX I

(of Recommendation X.21)

## Reference and transition tables

TABLE I-1/X.21

Cross reference of interchange circuit signals, states, and reference section

T,	C	R,	I	State No.	Reference in the Recommendation (§)
1,	OFF	1,	OFF	1	2.5.3.1
1,	OFF	0,	OFF	18	2.5.3.3
0,	OFF	1,	OFF	21, 24	2.5.3.6
0,	OFF	0,	OFF	17, 20, 22	2.5.3.4
1,	OFF	BEL,	OFF	8	4.1.5
01,	OFF	1,	OFF	14	2.5.3.2
01,	OFF	0,	OFF	23	2.5.3.5
X,	X	01,	OFF	L27	7.3.2.8
0011,	OFF	D,	ON	L21	7.3.2.1
0011,	OFF	0011,	OFF	L22	7.3.2.2
*,	OFF	BEL,	OFF	9B	4.1.6.2.2.1
*,	OFF	IA5,	OFF	10C	4.1.6.2.2.2
IA5,	OFF	SYN,	OFF	25	4.1.6.2.2.4
*,	OFF	SYN,	OFF	6C	4.1.6.2.2.3
1,	OFF	D,	ON	13R	5.2.2, 5.3.1.2, 5.3.2.2
0,	OFF	1,	ON	16	6.1
0,	OFF	0,	ON	16	6.1
0,	OFF	D,	ON	16	6.1
1,	ON	1,	OFF	11	4.1.10
1,	ON	0,	OFF	19	6.2
0,	ON	1,	OFF	2	4.1.1
0,	ON	0,	OFF	19	6.2
1,	ON	BEL,	OFF	9	4.1.6
1,	ON	+,	OFF	5	4.1.4
1,	ON	SYN,	OFF	6A, 6B, 9C	4.1.7
1,	ON	IA5, <sup>a)</sup>	OFF	7, 10A, 10B	4.1.8, 4.1.9
0,	ON	BEL,	OFF	15	4.3
0,	ON	+,	OFF	3	4.1.2
IA5,	ON	+,	OFF	4	4.1.3
D,	ON	1,	OFF	13S	5.2.1, 5.3.1.1, 5.3.2.1
D,	ON	0,	OFF	19	6.2, Fig. A-3/X.21
1,	ON	1,	ON	12	4.1.1.1
D,	ON	D,	ON	13	5.1, 5.2.3, 5.3.3

<sup>a)</sup> An IA5 character other than BEL.