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T.30
Amendment 3
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SERIES T: TERMINALS FOR TELEMATIC SERVICES

Procedures for document facsimile transmission in the general switched telephone network

Amendment 3

ITU-T Recommendation T.30 – Amendment 3

(Previously CCITT Recommendation)

ITU-T T-SERIES RECOMMENDATIONS

TERMINALS FOR TELEMATIC SERVICES

For further details, please refer to ITU-T List of Recommendations.

ITU-T RECOMMENDATION T.30

PROCEDURES FOR DOCUMENT FACSIMILE TRANSMISSION IN THE GENERAL SWITCHED TELEPHONE NETWORK

AMENDMENT 3

Summary

Amendment No. 3 includes amendments to cover a number of additions, modifications and clarifications to the existing text of Recommendation T. 30.

Multiple Selective Polling was introduced into the Recommendation; however, the multiple selection procedure using the End of Selection (EOS) signal is not currently described. To avoid possible misinterpretation in the implementation of the EOS signal, an amendment has been proposed to clarify the multiple selective polling procedure.

Security capabilities were also recently introduced into Recommendation T.30 and an amendment is proposed to change the status of some bits previously allocated in the DIS signal for use with future alternative encipherment algorithms and hash functions. It is proposed that these bits are just marked as being reserved. Some other minor editorial changes are made to clarify the use of certain bits in the DIS signal in relation to the use with security.

Some clarification has been made to the Notes in Table 2/T.30 associated with the DIS/DTC bits covering support for the V.33 modulation system.

A clarification of the T2 timer loop when used in the error correction mode has been introduced by defining a maximum value.

Clarification also proposed regarding the value of timer T4 and the use of the password, polled subaddress, selective polling, sender identification and sub-address signals.

A simple Binary File Transfer (BFT) negotiation has been introduced into Annex B/T.30. The new text defines the procedures as well as introducing new signals for this method. The addition of a new bit in the DIS/DTC/DCS signals is also proposed to cover the use of the new negotiation method.

The development of new Recommendations T.37 and T.38 requires an indication of Internet facsimile capacities to be included into Recommendation T.30. The proposed amendment is to add 3 new bits into Table 2/T.30. Two of these bits are used to indicate the availability of the store-and-forward simple mode (defined in Recommendation T.37) and the real-time mode (defined in Recommendation T.38). A third bit is reserved for the inclusion of the store-and-forward full mode.

FOREWORD

ITU (International Telecommunication Union) is the United Nations Specialized Agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the 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.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

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

INTELLECTUAL PROPERTY RIGHTS

The ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. The ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, the ITU had received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

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PROCEDURES FOR DOCUMENT FACSIMILE TRANSMISSION
IN THE GENERAL SWITCHED TELEPHONE NETWORK

AMENDMENT 3

(Geneva, 1998)

1)   Table 2/T.30

Replace Table 2 and its Notes with the following:

Table 2/T.30

Bit No.	DIS/DTC	Note	DCS	Note
1	Reserved	1	Reserved	1
2	Reserved	1	Reserved	1
3	Reserved	1	Reserved	1
4	Reserved	1	Reserved	1
5	Reserved	1	Reserved	1
6	V.8 capabilities	23	Invalid	24
7	"0" = 256 octets preferred "1" = 64 octets preferred	23, 42	Invalid	24
8	Reserved	1	Reserved	1
9	Ready to transmit a facsimile document (polling)	18	Set to "0"	
10	Receiver fax operation	19	Receiver fax operation	20
11, 12, 13, 14	Data signalling rate	3	Data signalling rate	
0, 0, 0, 0	V.27 *ter* fall-back mode		2400 bit/s, V.27 *ter*	33
0, 1, 0, 0	V.27 *ter*		4800 bit/s, V.27 *ter*	
1, 0, 0, 0	V.29		9600 bit/s, V.29	
1, 1, 0, 0	V.27 *ter* and V.29		7200 bit/s, V.29	
0, 0, 1, 0	Not used		Invalid	31
0, 1, 1, 0	Reserved		Invalid	31
1, 0, 1, 0	Not used		Reserved	
1, 1, 1, 0	Invalid	32	Reserved	
0, 0, 0, 1	Not used		14 400 bit/s, V.17	
0, 1, 0, 1	Reserved		12 000 bit/s, V.17	
1, 0, 0, 1	Not used		9600 bit/s, V.17	
1, 1, 0, 1	V.27 *ter*, V.29, and V.17	31	7200 bit/s, V.17	
0, 0, 1, 1	Not used		Reserved	
0, 1, 1, 1	Reserved		Reserved	
1, 0, 1, 1	Not used		Reserved	
1, 1, 1, 1	Reserved		Reserved	
15	R8 × 7.7 lines/mm and/or 200 × 200 pels/25.4 mm	10, 11, 13, 25, 34	R8 × 7.7 lines/mm or 200 × 200 pels/25.4 mm	10, 11, 13, 25, 34
16	Two dimensional coding capability		Two dimensional coding	

Bit No.	DIS/DTC	Note	DCS	Note
17, 18	Recording width capabilities	27	Recording width	27
(0,0)	Scan line length 215 mm ± 1%		Scan line length 215 mm ± 1%	
(0,1)	Scan line length 215 mm ± 1% and scan line length 255 mm ± 1% and scan line length 303 mm ± 1%		Scan line length 303 mm ± 1%	
(1,0)	Scan line length 215 mm ± 1% and scan line length 255 mm ± 1%		Scan line length 255 mm ± 1%	
(1,1)	Invalid	6	Invalid	
19, 20	Recording length capability	2	Recording length	2
(0,0)	A4 (297 mm)		A4 (297 mm)	
(0,1)	Unlimited		Unlimited	
(1,0)	A4 (297 mm) and B4 (364 mm)		B4 (364 mm)	
(1,1)	Invalid		Invalid	
21, 22, 23	Minimum scan line time capability at the receiver	4, 8, 23	Minimum scan line time	8, 24
(0,0,0)	20 ms at 3.85 l/mm: $T_{7.7} = T_{3.85}$		20 ms	
(0,0,1)	40 ms at 3.85 l/mm: $T_{7.7} = T_{3.85}$		40 ms	
(0,1,0)	10 ms at 3.85 l/mm: $T_{7.7} = T_{3.85}$		10 ms	
(1,0,0)	5 ms at 3.85 l/mm: $T_{7.7} = T_{3.85}$		5 ms	
(0,1,1)	10 ms at 3.85 l/mm: $T_{7.7} = 1/2\ T_{3.85}$			
(1,1,0)	20 ms at 3.85 l/mm: $T_{7.7} = 1/2\ T_{3.85}$			
(1,0,1)	40 ms at 3.85 l/mm: $T_{7.7} = 1/2\ T_{3.85}$			
(1,1,1)	0 ms at 3.85 l/mm: $T_{7.7} = T_{3.85}$		0 ms	
24	Extend field	5	Extend field	5
25	Reserved	1, 41	Reserved	1, 41
26	Uncompressed mode		Uncompressed mode	
27	Error correction mode	17	Error correction mode	17
28	Set to "0"		Frame size 0 = 256 octets Frame size 1 = 64 octets	7, 24
29	Reserved	1	Reserved	1
30	Reserved	1	Reserved	1
31	T.6 coding capability	9, 17	T.6 coding enabled	9, 17
32	Extend field	5	Extend field	5
33	Field not valid capability		Field not valid capability	
34	Multiple selective polling	52	Set to "0"	
35	Polled SubAddress	26, 44, 45	Set to "0"	
36	T.43 coding	17, 25, 34, 35, 37, 39, 40	T.43 coding	17, 25, 34, 35, 37, 39, 40
37	Plane interleave	25, 46	Plane interleave	25, 46

Bit No.	DIS/DTC	Note	DCS	Note
38	Reserved	1	Reserved	1
39	Reserved	1	Reserved	1
40	Extend field	5	Extend field	5
41	R8 × 15.4 lines/mm	10	R8 × 15.4 lines/mm	10
42	300 × 300 pels/25.4 mm	34	300 × 300 pels/25.4 mm	34
43	R16 × 15.4 lines/mm and/or 400 × 400 pels/25.4 mm	10, 12, 13, 34	R16 × 15.4 lines/mm and/or 400 × 400 pels/25.4 mm	10, 12, 13, 34
44	Inch based resolution preferred	13, 14	Resolution type selection "0": metric based resolution "1": inch based resolution	13, 14
45	Metric based resolution preferred	13, 14	Don't care	
46	Minimum scan line time capability for higher resolutions "0": $T_{15.4} = T_{7.7}$ "1": $T_{15.4} = 1/2\ T_{7.7}$	15	Don't care	
47	Selective polling	26, 44	Set to "0"	
48	Extend field	5	Extend field	5
49	Subaddressing capability		Subaddressing transmission	26
50	Password	26	Sender Identification transmission	26
51	Ready to transmit a data file (polling)	17, 21	Set to "0"	
52	Reserved	1	Reserved	1
53	Binary File Transfer (BFT)	16, 17, 21	Binary File Transfer (BFT)	16, 17
54	Document Transfer Mode (DTM)	17, 21	Document Transfer Mode (DTM)	17
55	Electronic Data Interchange (EDI)	17, 21	Electronic Data Interchange (EDI)	17
56	Extend field	5	Extend field	5
57	Basic Transfer Mode (BTM)	17, 21	Basic Transfer Mode (BTM)	17
58	Reserved	1	Reserved	1
59	Ready to transmit a character or mixed mode document (polling)	17, 22	Set to "0"	
60	Character mode	17, 22	Character mode	17
61	Reserved	1	Reserved	1
62	Mixed mode (Annex D/T.4)	17, 22	Mixed mode (Annex D/T.4)	17
63	Reserved	1	Reserved	1
64	Extend field	5	Extend field	5
65	Processable mode 26 (T.505)	17, 22	Processable mode 26 (T.505)	17
66	Digital network capability	43	Digital network capability	43

Bit No.	DIS/DTC	Note	DCS	Note
67 (0) (1)	Duplex and half duplex capabilities Half duplex operation only Duplex and half duplex operation		Duplex and half duplex capabilities Half duplex operation only Duplex operation	
68	JPEG coding	17, 25, 34, 35, 39, 40	JPEG coding	17, 25, 34, 35, 39, 40,
69	Full colour mode	25, 35	Full colour mode	25, 35
70	Set to "0"	36	Preferred Huffman tables	25, 36
71	12 bits/pel component	25, 37	12 bits/pel component	25, 37
72	Extend field	5	Extend field	5
73	No subsampling (1:1:1)	25, 38	No subsampling (1:1:1)	25, 38
74	Custom illuminant	25, 39	Custom illuminant	25, 39
75	Custom gamut range	25, 40	Custom gamut range	25, 40
76	North American Letter (215.9 × 279.4 mm) capability	28	North American Letter (215.9 × 279.4 mm)	
77	North American Legal (215.9 × 355.6 mm) capability	28	North American Legal (215.9 × 355.6 mm)	
78	Single-progression sequential coding (T.85) basic capability	17, 29, 30	Single-progression sequential coding (T.85) basic	17, 29
79	Single-progression sequential coding (T.85) optional L0 capability	17, 29, 30	Single-progression sequential coding (T.85) optional L0	17, 29
80	Extend field	5	Extend field	5
81	HKM key management capability		HKM key management selected	
82	RSA key management capability		RSA key management selected	47
83	Override mode capability	53	Override mode selected	53
84	HFX40 cipher capability		HFX40 cipher selected	
85	Alternative cipher number 2 capability	56	Alternative cipher number 2 selected	56
86	Alternative cipher number 3 capability	56	Alternative cipher number 3 selected	56
87	HFX40-I hashing capability		HFX40-I hashing selected	
88	Extend field	5	Extend field	5
89	Alternative hashing system number 2 capability	57	Alternative hashing system number 2 selected	57
90	Alternative hashing system number 3 capability	57	Alternative hashing system number 3 selected	57
91	Reserved for future security features	1	Reserved for future security features	1
92	T.44 (Mixed Raster Content) mode	50	T.44 (Mixed Raster Content) mode	50
93	T.44 (Mixed Raster Content) mode	50	T.44 (Mixed Raster Content) mode	50
94	T.44 (Mixed Raster Content) mode	50	T.44 (Mixed Raster Content) mode	50

Bit No.	DIS/DTC	Note	DCS	Note
95	Page length maximum strip size for T.44 (Mixed Raster Content)	51	Page length maximum strip size for T.44 (Mixed Raster Content)	51
96	Extend field	5	Extend field	5
97	Colour/gray-scale 300×300 or 400×400 pels/25.4 mm resolution	49	Colour/gray-scale 300×300 or 400×400 pels/25.4 mm resolution	49
98	$R4 \times 3.85$ lines/mm and/or 100×100 pels/25.4 mm for colour/gray-scale	48, 10	$R4 \times 3.85$ lines/mm and/or 100×100 pels/25.4 mm for colour/gray-scale	48, 10
99	Simple Phase C BFT Negotiations capability	54, 55	Simple Phase C BFT Negotiations capability	54, 55
100	Reserved for Extended BFT Negotiations capability	55	Set to "0"	
101	Reserved	1	Reserved	1
102	Reserved	1	Reserved	1
103	Reserved	1	Reserved	1
104	Extend field	5	Extend field	5

NOTE 1 – Bits that are indicated as "Reserved" shall be set to "0".

NOTE 2 – Standard facsimile terminals conforming to Recommendation T.4 must have the following capability: Paper length = 297 mm.

NOTE 3 – Where the DIS or DTC frame defines V.27 *ter* capabilities, the terminal may be assumed to be operable at either 4800 or 2400 bit/s.

Where the DIS or DTC frame defines V.29 capabilities, the terminal may be assumed to be operable at either 9600 or 7200 bit/s per V.29; where it defines V.17, the terminal may be assumed to be operable at 14 400 bit/s, 12 000 bit/s, 9600 bit/s or 7200 bit/s per V.17.

NOTE 4 – $T_{7.7}$ and $T_{3.85}$ refer to the scan line times to be utilized when the vertical resolution is 7.7 lines/mm (or 200 lines/25.4 mm or 300 lines/25.4 mm) or 3.85 lines/mm, respectively (see bit 15 above). $T_{7.7} = 1/2\ T_{3.85}$ indicates that when the vertical resolution is 7.7 lines/mm or 200 lines/25.4 mm or 300 lines/25.4 mm, the scan line time can be decreased by half.

NOTE 5 – The standard FIF field for the DIS, DTC and DCS signals is 24 bits long. If the "extend field" bit(s) is a "1", the FIF field shall be extended by an additional eight bits.

NOTE 6 – Existing terminals may send the invalid (1,1) condition for bits 17 and 18 of their DIS signal. If such signal is received, it should be interpreted as (0,1).

NOTE 7 – The values of bit 28 in the DCS command is valid only when the indication of the Recommendation T.4 error correction mode is invoked by bit 27.

NOTE 8 – The optional T.4 error correction mode of operation requires 0 ms of the minimum scan line time capability. Bits 21-23 in DIS/DTC signals indicate the minimum scan line time of a receiver regardless of the availability of the error correction mode.

In case of error correction mode, the sender sends DCS signal with bits 21-23 set to "1, 1, 1" indicating 0 ms capability.

In case of normal transmission, the sender sends DCS signal with bits 21-23 set to the appropriateness according to the capabilities of the two terminals.

NOTE 9 – T.6 coding scheme capability specified by bit 31 is valid only when bit 27 (error correction mode) is set as a" 1".

NOTE 10 – Resolutions of R4, R8 and R16 are defined as follows:

R4 = 864 pels/(215 mm ± 1%) for ISO A4, North American Letter and Legal.

R4 = 1024 pels/(255 mm ± 1%) for ISO B4.

R4 = 1216 pels/(303 mm ± 1%) for ISO A3.

R8 = 1728 pels/(215 mm ± 1%) for ISO A4, North American Letter and Legal.

R8 = 2048 pels/(255 mm ± 1%) for ISO B4.

R8 = 2432 pels/(303 mm ± 1%) for ISO A3.

R16 = 3456 pels/(215 mm ± 1%) for ISO A4, North American Letter and Legal.

R16 = 4096 pels/(255 mm ± 1%) for ISO B4.

R16 = 4864 pels/(303 mm ± 1%) for ISO A3.

NOTE 11 – Bit 15, when set to "1", is interpreted according to bit 44 and 45 as follows:

bit 44	bit 45	Interpretation
0	0	(invalid)
1	0	200×200 pels/25.4 mm
0	1	$R8 \times 7.7$ lines/mm
1	1	$R8 \times 7.7$ lines/mm and 200×200 pels/25.4 mm

"1" in bit 15 without bits 41, 42, 43, 44, 45 and 46 indicates $R8 \times 7.7$ lines/mm.

NOTE 12 – Bit 43, when set to "1", is interpreted according to bit 44 and 45 as follows:

bit 44	bit 45	Interpretation
0	0	(invalid)
1	0	400×400 pels/25.4 mm
0	1	$R16 \times 15.4$ lines/mm
1	1	$R16 \times 15.4$ lines/mm and 400×400 pels/25.4 mm

NOTE 13 – Bits 44 and 45 are used only in conjunction with bits 15 and 43. Bit 44 in DCS, when used, shall correctly indicate the resolution of the transmitted document, which means that bit 44 in DCS may not always match the indication of bits 44 and 45 in DIS/DTC. Cross selection will cause the distortion and reduction of reproducible area.

If a receiver indicates in DIS that it prefers to receive metric based information but the transmitter has only the equivalent inch based information (or vice versa), then communication shall still take place.

NOTE 14 – Bits 44 and 45 do not require the provision of any additional features on the terminal to indicate to the sending or receiving user whether the information was transmitted or received on a metric-metric, inch-inch, metric-inch, inch-metric basis.

NOTE 15 – $T_{15.4}$ refers to the scan line times to be utilized when the vertical resolution is 15.4 lines/mm or 400 lines/mm.

$T_{15.4} = 1/2 \, T_{7.7}$ indicates that when $T_{7.7}$ is 10, 20 or 40 ms, the scan line time can be decreased by half in higher resolution mode.

When $T_{7.7}$ is 5 ms [i.e. (bit 21, bit 22, bit 23) = (1, 0, 0), (0, 1, 1)] or 0 ms [i.e. (1, 1, 1)], bit 46 in DIS/DTC should be set to "0" ($T_{15.4} = T_{7.7}$).

NOTE 16 – The binary file transfer protocol is described in Recommendation T.434.

NOTE 17 – When either bit of 31, 36, 51, 53, 54, 55, 57, 59, 60, 62, 65, 68, 78 and 79 is set to "1", bit 27 shall also be set to "1".

NOTE 18 – Bit 9 indicates that there is a facsimile document ready to be polled from the answering terminal. It is not an indication of a capability.

NOTE 19 – Bit 10 indicates that the answering terminal has receiving capabilities.

NOTE 20 – Bit 10 in DCS is a command to the receiving terminal to set itself in the receive mode.

NOTE 21 –Bit 51 indicates that there is a data file ready to be polled from the answering terminal. It is not an indication of a capability. This bit is used in conjunction with bits 53, 54, 55 and 57.

NOTE 22 – Bit 59 indicates that there is a character coded or mixed mode document ready to be polled from the answering terminal. It is not an indication of a capability. This bit is used in conjunction with bits 60, 62 and 65.

NOTE 23 – When the optional procedure defined in Annex C is used, in DIS/DTC bits 6 and 7 shall be set to "0" and bits 21 to 23 and 27 shall be set to "1".

NOTE 24 – When the optional procedure defined in Annex C is used, in DCS bits 6, 7 and 28 shall be set to "0" and bits 21 to 23 and 27 shall be set to "1".

NOTE 25 – The optional continuous-tone colour mode and gray-scale mode (JPEG mode) protocols and the optional lossless encoded colour and gray-scale mode (T.43 mode) are described in Annexes E/T.30 and I/T.30 respectively. If bit 68 in the DIS/DTC frame is set to "1", this indicates JPEG mode capability. If bits 36 and 68 are set to "1", this indicates that the T.43 capability is also available. Bit 36 in the DIS/DTC frame shall only be set to "1" when bit 68 is also set to "1". Additionally, then bits 15 and 27 in the DIS/DTC frame shall also be set to "1", if bit 68 or bits 36 and 68 are set to "1". Bit 15 indicates 200×200 pels/25.4 mm resolution capability, which is basic for colour facsimile. Bit 27 indicates error correction mode capability, which is mandatory for colour facsimile. Bits 69 to 71 and 73 to 75 are relevant only if bit 68 is set to "1". Bit 73 is relevant only for JPEG mode. Bits 69, 71, 74 and 75 are relevant for JPEG mode and/or T.43 mode. Bit 37 is relevant only when bit 36 is set to "1" – see also Notes 39 and 40.

NOTE 26 – To provide an error recovery mechanism, when PWD/SEP/SUB/SID/PSA frames are sent with DCS or DTC, bits 49 and 50 in DCS or bits 47 and 50 and 35 in DTC shall be set to "1". For bit 47, setting "1" for DTC means selective polling transmission and for DIS means selective polling capability. For bit 50, setting "1" for DTC means password transmission and for DIS means password or Sender ID capability. For bit 35, setting "1" for DTC means Polled SubAddress transmission and for DIS means Polled SubAddress capability. Terminals conforming to the 1993 version of this Recommendation may set the above bits to "0" even though PWD/SEP/SUB frames are transmitted.

NOTE 27 – The corresponding scan line lengths for inch based resolutions can be found in 2.2/T.4.

NOTE 28 – While using bits 76 and 77 in DIS/DTC, the terminal is required to be able to receive ISO A4 documents in every combination of bits 76 and 77. A4, B4 and A3 transmitters may ignore the settings of bits 76 and 77.

NOTE 29 – The coding scheme indicated by the bits 78 and 79 is defined in Recommendation T.85.

NOTE 30 – When bit 79 in DIS is set to "1", bit 78 shall also be set to "1".

NOTE 31 – In the case of setting (1, 1, 0, 1) in DIS/DTC bits 11-14 in order to announce the capability to receive in Recommendation V.17, some terminals which conform to the 1994 version and earlier versions of this Recommendation recognize the capability to receive in Recommendation V.33 and may set (0, 0, 1, 0) or (0, 1, 1, 0) in DCS bits 11-14. Therefore the terminal which has the capability to receive using the modulation system defined in Recommendation V.17 may optionally support the capability to receive using the modulation system defined in Recommendation V.33.

NOTE 32 – Some terminals which conform to the 1994 and earlier versions of this Recommendation may have used this bit sequence to indicate V.27 *ter*, V.29 and V.33 capabilities.

NOTE 33 – When the modulation system defined in Recommendation V.34 is used, bits 11-14 in DCS are invalid and should be set to "0".

NOTE 34 – Setting bit 68 to "0" indicates that the called terminal's JPEG mode and T.43 mode are not available and it cannot decode JPEG or T.43 encoded data. In a DCS frame, setting bit 68 to "1" indicates that the calling terminal's JPEG mode is used and JPEG encoded image data are sent. Setting bit 68 to "0" and bit 36 to "1" indicates that the calling terminal's T.43 mode is used and T.43 encoded image data is sent. If bit 68 or 36 in the DCS is set to "1" then bits 15 or 42 or 43 or 98 and 27 in the DCS frame shall also be set to "1". Bits 98, 42 and 43 indicate 100×100, 300×300 and 400×400 pels/25.4 mm resolution respectively. Setting bit 68 and 36 to "0" indicates neither the JPEG mode nor the T.43 mode is used, image is not encoded using JPEG nor Recommendation T.43.

NOTE 35 – In DIS/DTC frame, setting bit 69 to "1" indicates that the called terminal has full colour capability. It can accept full colour image data in CIELAB space. If bit 36 is also set to "1", it can also accept colour image data defined in Recommendation T.43. Setting bit 69 to "0" and bit 68 or bits 68 and 36 to "1" indicates that the called terminal has gray-scale mode only, it accepts only the lightness component (the L* component) in the CIELAB representation for JPEG mode and for T.43 mode respectively. In a DCS frame, setting bits 68 and 69 to "1" indicates that the calling terminal sends image in full colour representation in the CIELAB space in JPEG mode. In a DCS frame, setting bit 36 and 69 to "1" indicates that the calling terminal sends colour image in T.43 mode. Setting bit 68 or 36 to "1" and bit 69 to "0" indicates that the calling terminal sends only the lightness component (the L* component) in the CIELAB representation for JPEG or T.43 mode respectively. Note: Colour image will be transmitted only when bits 68 and 69 or 36 and 69 are both set to "1".

NOTE 36 – Bit 70 is called "Indication of default Huffman tables". A means is provided to indicate to the called terminal that the Huffman tables are the default tables. Default tables are specified only for the default image intensity resolution (8 bits/pel/component). The default Huffman tables are to be determined (for example, Tables K.3/T.81 – K.6/T.81). In a DIS/DTC frame, bit 70 is not used and is set to "0". In a DCS frame, setting bit 70 to "0" indicates that the calling terminal does not identify the Huffman tables that it uses to encode the image data as the default tables. Setting bit 70 to "1" indicates that the calling terminal identifies the Huffman tables that it uses to encode the image data as the default tables.

NOTE 37 – In a DIS/DTC frame, setting bit 71 to "0" indicates that the called terminal can only accept image data which has been digitized to 8 bits/pel/component for JPEG mode. This is also true for T.43 mode if bit 36 is also set to "1". Setting bit 71 to "1" indicates that the called terminal can also accept image data that are digitized to 12 bits/pel/component for JPEG mode. This is also true for T.43 mode if bit 36 is also set to "1". In a DCS frame, setting bit 71 to "0" indicates that the calling terminal's image data are digitized to 8 bits/pel/component for JPEG mode. This is also true for T.43 mode if bit 36 is also set to "1". Setting bit 71 to "1" indicates that the calling terminal transmits image data which has been digitized to 12 bits/pel/component for JPEG mode. This is also true for T.43 mode if bit 36 is also set to "1".

NOTE 38 – In a DIS/DTC frame, setting bit 73 to "0" indicates that the called terminal expects a 4:1:1 subsampling ratio of the chrominance components in the image data, the a* and b* components in the CIELAB colour space representation are subsampled four times to one against the L* (Lightness) component. The details are described in Annex E/T.4. Setting bit 73 to "1" indicates that the called terminal, as an option, accepts no subsampling in the chrominance components in the image data. In a DCS frame, setting bit 73 to "0" indicates that the called terminal uses a 4:1:1 subsampling ratio of the a* and b* components in the image data. Setting bit 73 to "1" indicates that the called terminal does no subsampling.

NOTE 39 – In a DIS/DTC frame, setting bit 74 to "0" indicates that the called terminal expects that the CIE Standard Illuminant D50 is used in the colour image data as specified in Recommendation T.42. Setting bit 74 to "1" indicates that the called terminal can also accept other illuminant types besides the D50 illuminant. Setting bit 68 to "1" indicates that the terminal has the JPEG coding capability as described in Annex E/T.4. Setting bit 36 to "1" indicates that the terminal has the colour coding capability as described in Recommendation T.43. In a DCS frame, setting bit 74 to "0" and bit 68 or bit 36 to "1", indicates the calling terminal uses the D50 illuminant in the colour image data representation as specified in Recommendation T.42. Setting bit 74 to "1" indicates that another type of illuminant is used. When bit 68 and 74 are set to "1" the specification is embedded into the JPEG syntax as described in Annex E/T.4. When bit 36 and 74 are set to "1" the specification is embedded into the T.43 syntax as described in Recommendation T.43.

NOTE 40 – In a DIS/DTC frame, setting bit 75 to "0" indicates that the called terminal expects that the colour image data are represented using the default gamut range as specified in Recommendation T.42. Setting bit 75 to "1" indicates that the called terminal can also accept other gamut ranges. Setting bit 68 to "1" indicates that the terminal has the JPEG coding capability, as described in Annex E/T.4. Setting bit 36 to "1" indicates that the terminal has the colour coding capability, as described in Recommendation T.43. In a DCS frame, setting bit 75 to "0" and bit 68 or bit 36 to "1", indicates that the calling terminal uses the default gamut range as specified in Recommendation T.42. Setting bit 75 to "1" indicates that the calling terminal uses a different gamut range. When bits 68 and 75 are set to "1", the specification is embedded into the JPEG syntax as described in Annex E/T.4. When bits 36 and 75 are set to "1", the specification is embedded into the T.43 syntax as described in Recommendation T.43.

NOTE 41 – Some terminals which conform to the pre-1996 versions of this Recommendation may set this bit to "1". Such terminals will give an answering sequence as shown in Figure III.2/T.30.

NOTE 42 – It is understood that for backwards compatibility, a transmitting terminal may ignore the request for the 64 octet frame and therefore the receiving terminal must be prepared to handle 256 octet frames by some means.

NOTE 43 – See C.7.2/T.30.

NOTE 44 – Clarification on the use of selective polling based on the settings of bit 47 and bit 35 is given in 5.3.6.1.2, 5).

NOTE 45 – Clarification on the use of subaddress for polling based on the setting of bit 35 is given in 5.3.6.1.2, 6).

NOTE 46 – In a DIS/DTC frame, setting bit 37 to "0" indicates that the called terminal can only accept image data that are interleaved by stripe interleave (128 line/stripe or less). Setting bit 37 to "1" indicates that the called terminal can also accept plane interleaved image data. In a DCS frame, setting bit 37 to "0" indicates that the calling terminal's image data are interleaved through stripe interleave. Setting bit 37 to "1" indicates that the calling terminal's image data are interleaved through plane interleave. The detail of both interleaving methods are described in Recommendation T.43.

NOTE 47 – The DCS is not emitted in the context of Annex H/T.30; FIF of DCS is included within the new signal "DEC' (see H.6.1/T.30) where the corresponding bit 82 must be set to "1".

NOTE 48 – In a DIS/DTC frame, setting bit 98 to "0" indicates that the called terminal does not have the capability to accept 100×100 pels/25.4 mm spatial resolution for colour or gray-scale images. Setting bit 98 to "1" indicates that the called terminal does have the capability to accept 100×100 pels/25.4 mm spatial resolution for colour or gray-scale images. In a DCS frame, setting bit 98 to "0" indicates that the calling terminal does not use 100×100 pels/25.4 mm spatial resolution for colour or gray-scale images. Setting bit 98 to "1" indicates that the calling terminal uses 100×100 pels/25.4 mm spatial resolution for colour or gray-scale images. Bit 98 is valid only when bit 68 is set to "1".

NOTE 49 – In a DIS/DTC frame, setting bit 97 to "0" indicates that the called terminal does not have the capability to accept 300×300 or 400×400 pels/25.4 mm resolutions for colour/gray-scale images or T.44 Mixed Raster Content (MRC) mask layer. Setting bit 97 to "1" indicates that the called terminal does have the capability to accept 300×300 or 400×400 pels/25.4 mm resolutions for colour/gray-scale images and MRC mask layer. Bit 97 is valid only when bits 68 and 42 or 43 (300×300 or 400×400 pels/25.4 mm) are set to "1". In a DCS frame, setting bit 97 to "0" indicates that the calling terminal does not use 300×300 or 400×400 pels/25.4 mm resolutions for colour/gray-scale images and mask layer. Setting bit 97 to "1" indicates that the calling terminal uses 300×300 or 400×400 pels/25.4 mm resolutions for colour/gray-scale images and MRC mask layer. Bit 97 is valid only when bits 68 and 42 or 43 (300×300 and 400×400 pels/25.4 mm) are set to "1".

NOTE 50 – In a DIS/DTC frame, setting the value of bits 92 through 94 to "0" indicates that the called terminal does not have the capability to accept T.44 Mixed Raster Content (MRC) pages. Setting the value of bits 92 through 94 to non-zero (> 0) indicates that the called terminal does have the capability to accept MRC pages. Bits 92 through 94 are valid only when bit 68 is set to "1". In a DCS frame, setting the value of bits 92 through 94 to "0" indicates that the calling terminal does not transmit MRC pages. Setting the value of bits 92 through 94 to non-zero (> 0) indicates that the calling terminal transmits MRC pages. Bits 92 through 94 are valid only when bit 68 is set. The non-zero value of bits 92 through 94, ranging from X'01' to X'07', identifies the greatest functional mode (performance level) of MRC which is supported, as per Recommendation T.44. For hexadecimal value interpretation, bit 94 is defined as the MSB while bit 92 is the LSB (e.g. 100 for mode X'01'). Mode value X'01' identifies the base mode of T.44, each incremental mode shall support the capabilities defined in the previous mode. In the DIS/DTC, setting the mode value > 0 defines the MRC capabilities supported by the called terminal. In the DCS frame, the mode value may be set to any value less than or equal to that identified in the called terminals DIS/DTC frame. The mode value identified in the DCS frame defines the greatest MRC mode which will be applied to the transmitted data stream.

NOTE 51 – In a DIS/DTC frame, setting bit 95 to "0" indicates that the called terminal does not have the capability to accept page length maximum strip size when receiving T.44 Mixed Raster Content (MRC) pages. Setting bit 95 to "1" indicates that the called terminal does have the capability to accept page length maximum strip size when receiving MRC pages. Bit 95 is valid only when the value of bits 92 through 94 is set non-zero (> 0). In a DCS frame, setting bit 95 to "0" indicates that the calling terminal does not use page length maximum strip size when transmitting MRC pages. Setting bit 95 to "1" indicates that the calling terminal uses page length maximum strip size when transmitting MRC pages. Bit 95 is valid only when the value of bits 92 through 94 is non-zero (> 0).

NOTE 52 – If bit 34 in a DIS frame is set to "1", this indicates the transmitter has multiple selective polling capability. If bit 34 in a DTC frame is set to "1", this indicates additional selection of document continues after current one. The transmitter can send EOS after the transmission of the final page of current document only if bit 34 in the received DTC is set to "1".

NOTE 53 – Bit 83 is used in the scope of Annex G/T.30 (see G.2.3/T.30) and Annex D/T.36 (see D.2/T.36).

NOTE 54 – Bit 99 indicates the use of the simple Phase C BFT negotiation method defined in Annex B/T.30. Some appropriate examples are given in Appendix V/T.30.
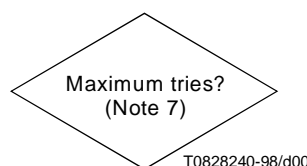
NOTE 55 – The BFT negotiations capability specified by bit 99 is valid only when bit 53 (binary file transfer) is set to "1".

NOTE 56 – Bits 85 and 86 are reserved for future enhancement to Annex D/T.36.

NOTE 57 – Bits 89 and 90 are reserved for future enhancement to Annex E/T.36.

2)   Figure 5-2b/T.30

a)   *Amend the decision boxes containing the text "3 Tries" to read as shown below:*

b)   *Add the following to the Notes at the end of subclause 5.2.1:*

NOTE 7 – Maximum tries is between 1 and 3.

3)   Figure 5-2s/T.30

a)   Replace the text at the bottom of the figure with the following:

NOTE – For manual units, the value of timer T4 may be either 3.0 s ± 15% or 4.5 s ± 15%. If the value of 4.5 s is used, then after detection of a valid response to the first DIS, it may be reduced to 3.0 s ± 15%.

4)   Subclauses 5.3.6.1.2/T.30 and 5.3.6.1.3/T.30

Amendments to the definitions of SEP, SUB, PSA, PWD and SID signals

Add the following text to items 4), 5) and 6) of subclause 5.3.6.1.2 and to items 4) and 5) of subclause 5.3.6.1.3:

"This signal shall only be used once in each signal sequence; i.e. concatenated signals are not permitted."

5)   Figure 6b/T.30

Replace the figure and its associated text as follows:

| Call event No.	Calling terminal	Called terminal
1	Operator detects dial tone and dials desired number	
2		Terminal detects ring and answers the call
3		Optionally, a recorded verbal announcement may be transmitted
4		Transmit ANSam
5	Operator switches the terminal to line. CNG will be transmitted during the time that signals are attempted to be detected	
6		Transmit , DIS
7	Terminal detects V.8 capability and transmits CI	
8	Begin T.30 Annex F if half-duplex or Annex C if duplex procedures	Begin T.30 Annex F if half-duplex or Annex C if duplex procedures
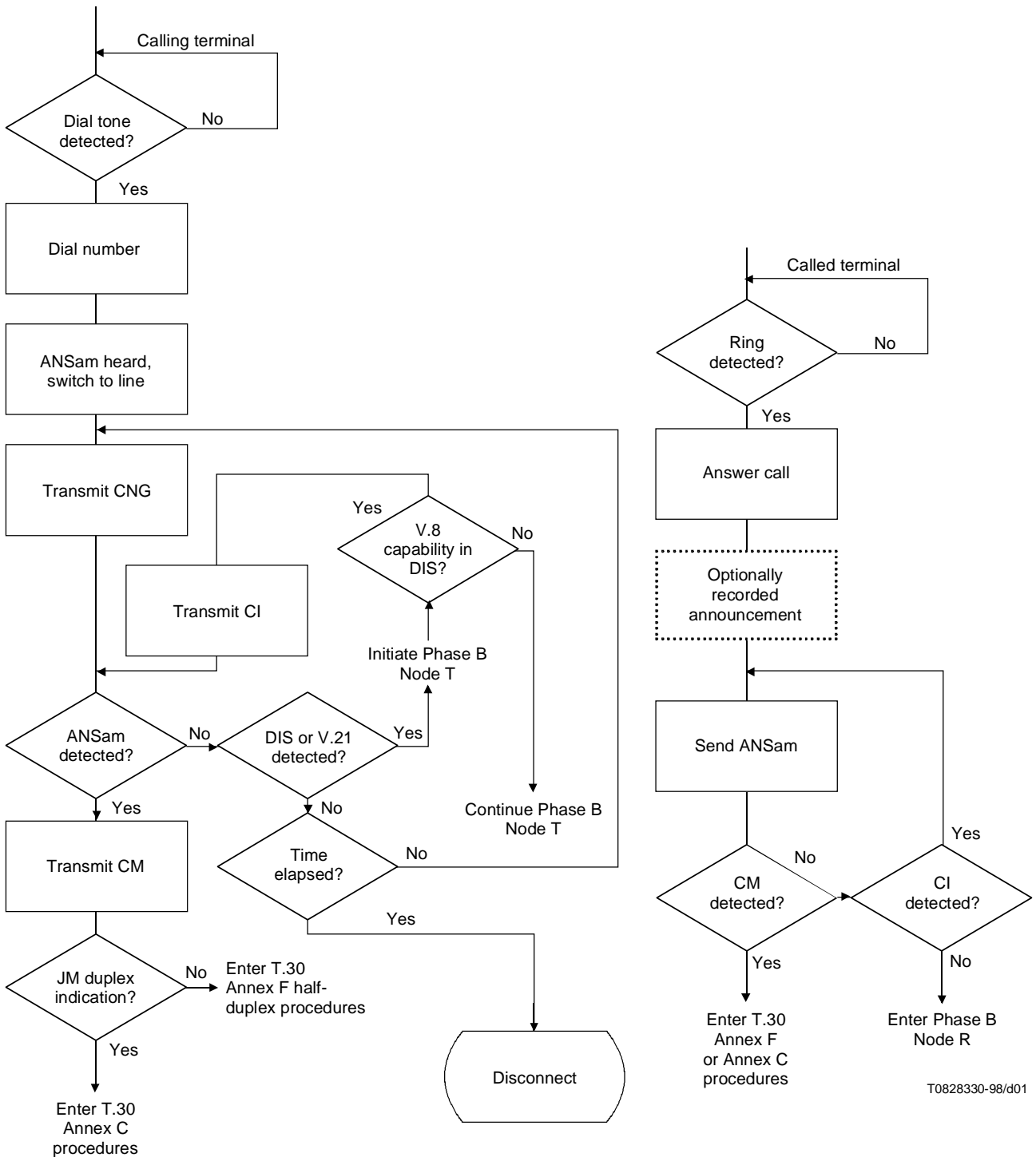
Figure 6b/T.30 – Call establishment, operating method 4 *bis* b

6)   Annex B/T.30

Replace Annex B with the following:

Annex B

BFT diagnostic message

B.1   Introduction

This Annex defines the signals and procedures which shall be used when conducting Binary File Transfer (BFT) or BFT negotiation operations within Group 3 facsimile. The syntax and use of the File Diagnostic Message (FDM) frame within Group 3 facsimile are defined. The methods which are described shall be applicable when using the Binary File Transfer format defined within Recommendation T.434. The purpose of BFT negotiations within Group 3 facsimile is to confirm that the attributes of a file transfer request will be acceptable to the receiver prior to the actual transfer of binary file data.

B.2   Normative references

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; all users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references indicated below. A list of the currently valid ITU-T Recommendations is regulary published.

–   ITU-T Recommendation T.434 (1996), *binary file transfer format for the telematic services.*

–   ITU-T Recommendation X.680 (1997) | ISO/IEC 8824-1:1998, *Information technology – Abstract Syntax Notation One (ASN.1): Specification Of basic notation.*

B.3   Definitions

The File Diagnostic Message (FDM) frame is an optional post-message response which may be sent by the receiver. It provides the transmitter with diagnostic information concerning the current transfer taking place. The semantics and the syntax of the FDM are described in Recommendation T.434 and extended for use in Group 3 facsimile within this Annex (see B.8.2.1).

B.4   Signals and components for BFT file transfer operations

B.4.1   Diagnostic messages in Group 3 facsimile

The file diagnostic message may be used during BFT file transfer operations or as part of BFT negotiations within Phase C of the facsimile procedure. The syntax and procedures for use of diagnostic messages within Group 3 facsimile file transfer procedures are defined below. The use of diagnostic messages during BFT negotiations in Phase C is defined in B.6.3.1.

B.4.2   Use of diagnostic messages during file transfer operations

The diagnostic information may be composed of one or more messages. Each message is informative, transient or permanent. An informative message does not require recovery and does not affect the current state of the BFT. A transient message may not re-occur if the sequence of events is repeated but does imply the failure of the present BFT being performed. A permanent message is sent every time the sequence of events is repeated, and implies the failure of at least the present BFT being performed.

A diagnostic message may be sent in place of an MCF frame. The message may be sent using one or more HDLC frames. If more than one HDLC frame is used, only the last one will have the control field set for a final frame. The encapsulation of the diagnostic information within a frame is completely independent of attribute boundaries. However, each frame must meet the transmission requirements of this Recommendation.

If the transmitter receives a transient or permanent message, it should review the set-up for the current binary file being transmitted. Control will continue as though four PPRs were received (emission of CTC command).

B.4.3   Syntax of FDM Facsimile Information field

The syntax for the FDM Facsimile Information field is defined in B.8.2.

B.5   Service models for BFT negotiations

There are two service models for Binary File Transfer negotiations within Group 3 facsimile. The two models are:

1)   File Transfer Request;

2)   Identification of capabilities.

Depending upon the application, elements of one or both service models may be used in order to successfully complete a BFT negotiation. The two service models are defined below.

B.5.1   File Transfer Request

When this service model is used, the facsimile transmitter makes a File Transfer request and the receiver responds with either a positive or negative acknowledgement. If the initial request is not accepted, the transmitter may choose to make additional requests.

B.5.2   Identification of capabilities

In this service model, the called facsimile terminal identifies its file transfer capabilities, optionally including a list of support file types, and then the sender makes a selection from the list of supported capabilities.

B.6   Signals and components for BFT negotiations

It is possible to conduct Binary File Transfer negotiations via either a simple Phase C mode, using the traditional DIS/DTC/DCS negotiations or in an extended, Phase B, mode, using an extended negotiations protocol (for further study). The signals and settings which are used for the simple mode are defined below. The Phase B mode is for further study.

B.6.1   Settings for DIS/DTC bits

A receiver shall indicate support for the simple Phase C method by setting bit 99 within the DIS or DTC to "1". A transmitter may indicate the intention to proceed with a file request using the simple Phase C method by setting bit 99 within the DCS.

B.6.2   Settings for extended negotiations

For further study.

B.6.3   Use of Group 3 Fax Signals for BFT negotiations

B.6.3.1   Simple Phase C method

The Simple Phase C method for BFT negotiations may be selected using the traditional DIS/DTC negotiations method. A file transfer request using the Simple Phase C method is submitted by presenting BFT negotiations data within Facsimile Coded Data frames available within Group 3 error correction mode. The MCF (message confirmation) signal is used to accept the file request and the File Diagnostic Message (FDM) is used to reject the file request. The syntax of the FIF of the FDM signal for Group 3 facsimile is defined in B.8.2.1.

B.6.3.2   Extended method – Phase B

For further study.

B.7 Procedures for BFT negotiations

B.7.1 File Transfer Request

B.7.1.1 Phase C method

A receiver shall indicate support for the Phase C method by setting bit 99 within the DIS or DTC to "1". A transmitter may indicate the intention to proceed with a file request using the Phase C method by setting bit 99 within the DCS.

B.7.1.2 Phase B method

For further study.

B.7.2 Identification of capabilities

For further study.

B.7.3 BFT File Transfer Response

B.7.3.1 Simple Phase C method

The receiver indicates acceptance of a file transfer request by issuing an MCF signal. The receiver may reject a file transfer request by issuing an FDM signal containing a T.434 diagnostic message code indicating the reason for the rejection. The receiver may optionally return the T.434 tags and values which are not accepted as part of the FDM diagnostic information.

B.7.3.2 Enhanced Phase B method

For further study.

B.8 Presentation of BFT negotiations data

This subclause offers rules on how BFT data should be presented during BFT negotiations and syntax for the related signals.

B.8.1 BFT File Transfer Request

For a binary file transfer request, the full ASN.1 coding for a BINARY-DATA-Message shall be used as defined in Recommendation T.434. All or a subset of the tags may be presented during the request. The data-contents tag, length and value may be omitted. Only definite length coding shall be used.

B.8.1.1 Phase C method File Transfer Request

Syntax for Phase C method Transfer Request:

Phase C Signal ::= <T.434 Binary Data Message>

B.8.1.2 Phase B method File Transfer Request

For further study.

B.8.2 BFT File Transfer Response

For a response to a BFT File Transfer request, the following presentation rules apply:

1)   Only definite length coding is permitted.

2)   If multiple tags are to be returned, use the "IMPLICIT SEQUENCE OF SEQUENCE" coding.

3)   If only a single tag is to be returned, only present the ASN.1 syntax for that tag (and data as applicable).

B.8.2.1 Phase C method File Transfer Response

Phase C method Signals: FDM, MCF.

Syntax for FDM Response

FIF ::= <Diagnostic Code>[<Frame Number><Diagnostic Information>]

where the <Diagnostic Information> ::= <Length><Rejected T.434 data>

The structure of the octets of the FIF for the FDM frame shall be as follows:

Octet	Contents	Requirements	Additional comments
First	Diagnostic Code	Mandatory	Values defined in Table B.3/T.434
Second	Frame Number	Optional	To allow multi-frame responses
Additional octets	Diagnostic Information	Optional	Structure for rejected T.434 data

The format of the rejected T.434 data shall follow the rules defined in B.8.2.

B.8.2.2   Phase B method File Transfer Response

For further study.

B.8.3   Lists of Capabilities

For lists of capabilities of a single attribute, use the ASN.1 "OF" syntax, followed by the list of tags and values. The following rules apply:

–   Only definite length coding is permitted.

B.8.3.1   Syntax for File Types Capability List

For further study.

B.8.3.2   Syntax for Compression Types Capability List

For further study.

7)   Subclause H.6.1.4.6/T.30 (Amd.1)

Amend the subclause to read:

H.6.1.4.6 Relationship between FIFs encoding and the structure in HDLC frames

The formatting in super-tags, tags and parameters as described above is independent of the structure in HDLC frames described in H.6.1.1. The series of octets which constitutes the sequence of super-tags, tags and corresponding parameters is orderly inserted in the FIF of the HDLC frames: filling firstly the FIF of the first frame (frame "0"), then filling the FIF of the second frame (frame "1"), etc.

8)   Appendix IV/T.30

a)   *Replace Example 11 and its associated Figure IV.11 with the following:*

Example 11 Auto calling terminal wishing to first transmit to, then receive from an auto answer terminal.

Calling terminal   Called terminal

| CNG → |
| ← CED |
| ← (NSF) (CSI) DIS |
| (PWD) (SUB) (TSI) DCS → |
| Training, TCF ⟶ |
| ← CFR |
| Training, FAX MSG ⟶ |
| EOM → |
| ← MCF |

T2 elapsed

| ← (NSF) (CSI) DIS |
| (PWD) (SEP) (CIG) DTC → |
| ← (SUB) (TSI) DCS |
| ← Training, TCF |
| CFR → |
| ← Training, FAX MSG |
| ← EOP |
| MCF → |
| ← DCN |

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Figure IV.11/T.30

b) *Add the following example:*

Example 12 Calling terminal wishing to receive multiple documents in one call.

Calling terminal (Receiver)   Called terminal (Transmitter)

CNG	
CED	
(CSI) DIS	Bits 9, 47, 34 in DIS = "1"
(PWD) SEP (CIG) DTC	
(TSI) DCS	Bit 34 in DTC = "1" (Notes 1 and 5)
Training, TCF	
CFR	
Training, FAX MSG 1 (page 1)	
EOM	
MCF	(Note 6)

T2 elapsed

(CSI) DIS	
(TSI) DCS	
Training, TCF	
CFR	
Training, FAX MSG 1 (page 2)	
EOS	
MCF	(Note 2)

T2 elapsed

(PWD) SEP (CIG) DTC	
(TSI) DCS	Bit 34 in DTC = "0" (Notes 3 and 5)
Training, TCF	
CFR	
Training, FAX MSG 2 (page 1)	
EOP	
MCF	(Note 4)
DCN	

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NOTE 1 – Receiver sets bit 34 in DTC = "1" to indicate additional selection of document continues after current one.

NOTE 2 – Transmitter sends EOS to indicate the end of document to Receiver.

NOTE 3 – Receiver sets bit 34 in DTC = "0" to indicate no additional selection of documents continues after current one.

NOTE 4 – Transmitter sends EOP to indicate the end of current document and communication to Receiver.

NOTE 5 – Each FIF of PWD and SEP may be different.

NOTE 6 – Transmitter can send EOM to indicate the end of complete page of facsimile information and return to the beginning of Phase B.

Figure IV.12/T.30

9)   Appendix V/T.30

a)   Amend subclause V.3 to read:

V.3   BFT file transfer-protocol overview

Group 3 terminals supporting BFT are capable of sending and receiving facsimile messages and binary data files in the same call establishment. This is accomplished by using Error Correction Mode (ECM) and sending the binary data as the logical equivalent of an error-corrected facsimile message.

The BFT option is indicated by the setting of a capability bit in the DIS/DTC frame. Bit 53 specifies the additional capability required by BFT.

The high-speed binary file data is formed using the coding rules in Recommendation T.434. These rules specify how to code the set of attributes as a sequence of octets. This binary data is then transmitted on the high-speed data channel using ECM.

b)   Add new subclause V.5 as follows:

V.5   Simple BFT negotiation via Phase C method

Session examples for the Simple Phase C BFT method are provided. The examples below are based on flow diagrams and are for illustrative and instruction purposes only. They should not be interpreted as establishing or limiting the protocol.

V.5.1   Subclause V.4 case a) examples

V.5.1.1   A transmitted file is acceptable on a receiver.
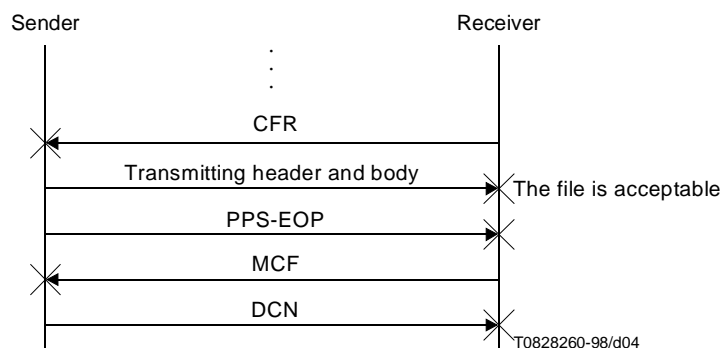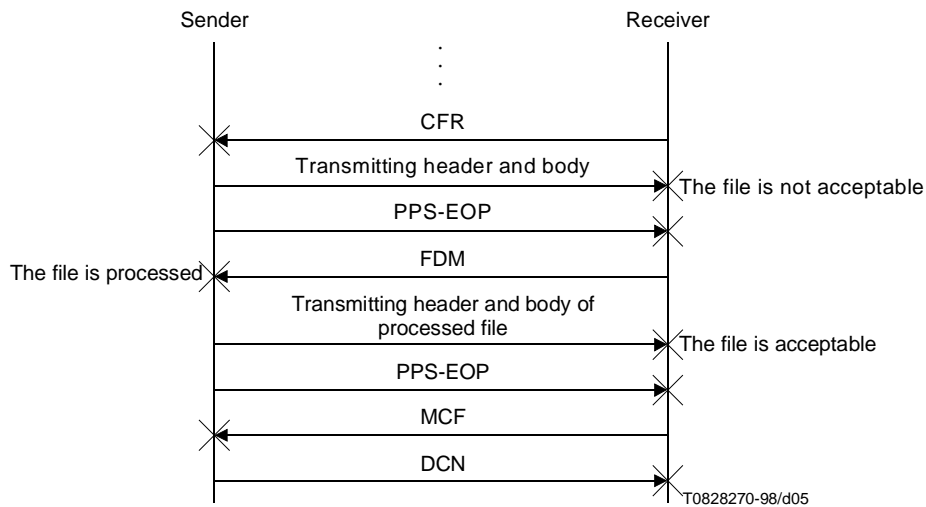

Figure V.1/T.30 – Transmitted file acceptable on a receiver

A sender transmits header and body as the first ECM page. (PPS-NULL is transmitted in case of more than one ECM page data.) As a receiver recognizes that the file is acceptable from the header, it transmits MCF.
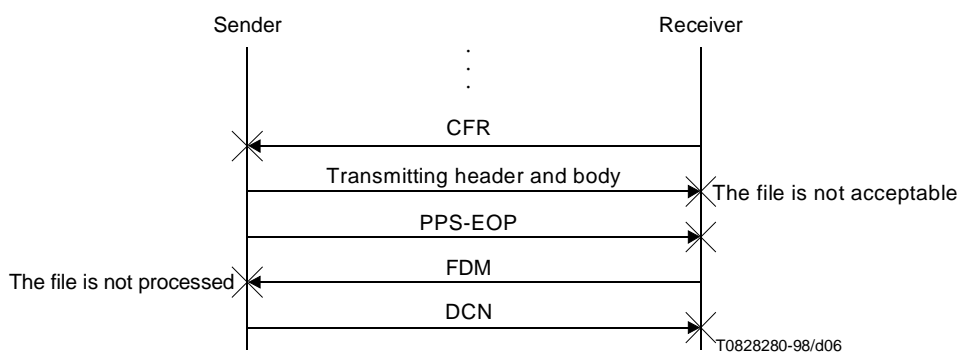
V.5.1.2   A transmitted file is processed on a sender.

Figure V.2/T.30 – Transmitted file processed on a sender

A sender transmits header and body as the first ECM page. As a receiver recognizes that the file is not acceptable from the header, it transmits FDM and notifies the sender with the diagnostic message. The sender processes the file from the content of FDM and transmits header and body of the processed file as the next ECM page.

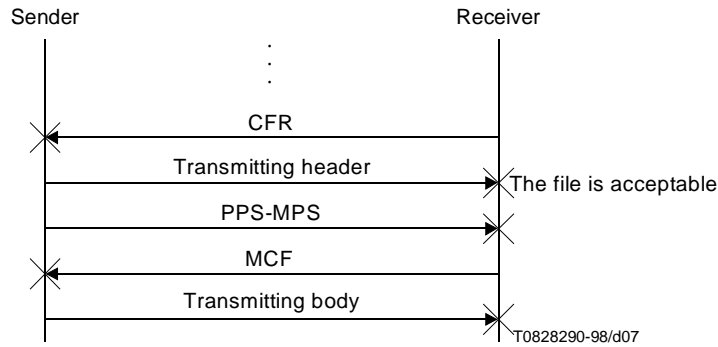**V.5.1.3**   A transmitted file is not processed on a sender.

Figure V.3/T.30 – Tranmitted file not processed on a sender

A sender transmits header and body as the first ECM page. As a receiver recognizes that the file is not acceptable from the header, it transmits FDM and notifies the sender of the diagnostic message. When the sender does not process the file from the content of FDM, it transmits DCN.

V.5.2 Subclause V.4 case b) examples

V.5.2.1 A transmitted file is acceptable on a receiver.

Figure V.4/T.30 – Transmitted file acceptable on a receiver

A sender transmits header as the first ECM page. As a receiver recognizes that the file is acceptable from the header, it transmits MCF. The sender transmits body as the next ECM page.
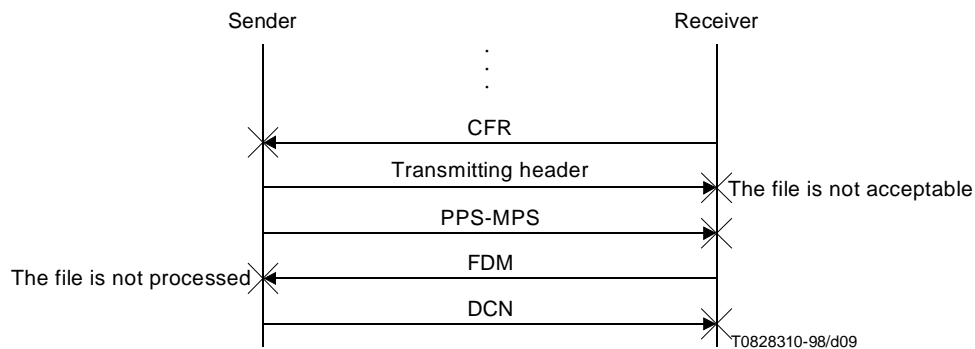
V.5.2.2 A transmitted file is processed on a sender.
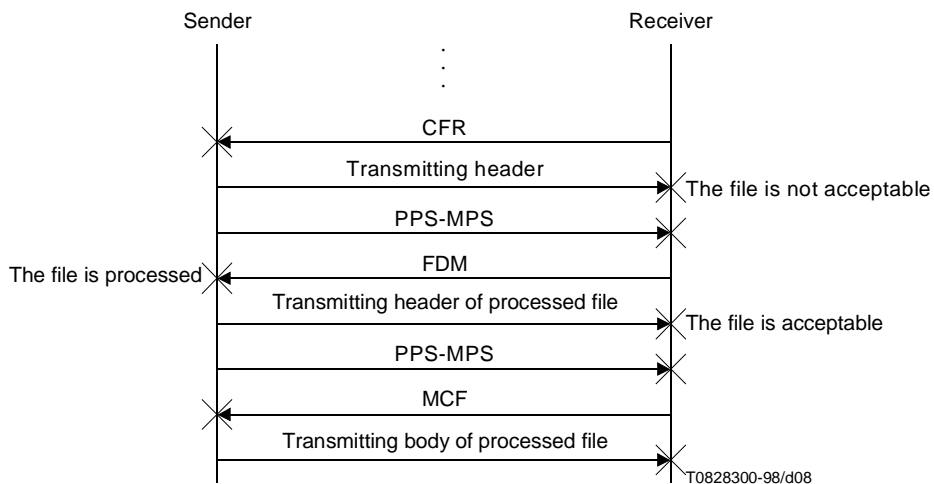
Figure V.5/T.30 – Transmitted file processed on a sender

A sender transmits header as the first ECM page. As a receiver recognizes that the file is not acceptable from the header, it transmits FDM and notifies the sender of the diagnostic message. The sender processes the file from the content of FDM and transmits header of the processed file as the next ECM page. The receiver transmits MCF and the sender transmits body of the processed file as the next ECM page.

V.5.2.3 A transmitted file is not processed on a sender.

Figure V.6/T.30 – Transmitted file not processed on a sender

A sender transmits header as the first ECM page. As a receiver recognizes that the file is not acceptable from the header, it transmits FDM and notifies the sender of the diagnostic message. When the sender does not process the file from the content of FDM, it transmits DCN.

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