B.1        Operational data formats

```
Operational-
        Descriptor              ::=     CHOICE {

operational-object-class        [0]     IMPLICIT Operational-Class-Descriptor,
                                                -- not used by the videotex interworking application;
                                                -- therefore not specified in this document

operational-object             [1]      IMPLICIT Operational-Object-Descriptor,
operational-element            [2]      IMPLICIT Operational-Element }

Operational-
Information-Identifier  ::=     Object-or-Class-Identifier
                                                -- used in the case of the delete operation
```

B.1.1      Operational object descriptor

```
Operational-Object-
        Descriptor              ::=     SEQUENCE {

object-type                             Operational-Object-Type OPTIONAL,
descriptor-body                         Operational-Object-Descriptor-Body OPTIONAL}

Operational-Object-
        Type                    ::=     INTEGER {
                                                data-entry (0),
                                                data-entry-program (1),
                                                data-entry-subprogram (2),
                                                field (3),
                                                rules (4),
                                                prompt (5),
                                                result (6),
                                                application-control-memory (7),
                                                record (8),
                                                document-information (12),
                                                special-terminal-facilities (13),
                                                redefinition-entity (14) }

Operational-Object
Descriptor-Body                 ::=     SET  {

object-identifier                       Object-Or-Class-Identifier OPTIONAL,

subordinates                    [0]     IMPLICIT SEQUENCE OF Numeric-String OPTIONAL,
                                                -- not used by the videotex interworking application;
                                                -- therefore not specified in this document

operational-elements           [1]      IMPLICIT SEQUENCE OF Numeric-String, OPTIONAL,
object-class                    [2]      IMPLICIT Object-Or-Class-Identifier OPTIONAL,
                                                -- not used by the videotex interworking application;
                                                -- therefore not specified in this document

-- document-fragment            [3]      IMPLICIT Document-Fragment OPTIONAL,
                                                -- not used by the videotex interworking application;
                                                -- therefore not specified in this document

reference-attribute             [4]      IMPLICIT Reference-Attribute OPTIONAL,
```

| default-value-lists | | [5] | IMPLICIT Default-Value-Lists OPTIONAL, |
| application-defined-attribute-lists | | [6] | IMPLICIT Application-Defined-Attribute-Lists OPTIONAL } |

## B.1.2    Operational elements

Operational-Element          ::=      SET  {

| operational-element-identifier | | Object-or-Class-Identifier OPTIONAL, |
| reference-attribute | [4] | IMPLICIT Reference-Attribute OPTIONAL, |

-- not used by the videotex interworking application

```
application-defined-
attribute-lists                              [6]    IMPLICIT Application-Defined-Attribute-Lists OPTIONAL,
operational-element-
content-type                                 [7]    Operational-Content-Type OPTIONAL,
operational-element-content      [8]    IMPLICIT OCTET STRING OPTIONAL  }
```

## B.1.3    Common attributes

```
Reference-Attribute     ::=                         SEQUENCE OF SEQUENCE {

reference-name                               [0]    IMPLICIT OCTET STRING OPTIONAL,
                                                            -- '00'H reference to a rules SE
                                                            -- '01'H reference to a prompt-in SE
                                                            -- '02'H reference to a prompt-out SE
                                                            -- '03'H reference to a field SE
                                                            -- in the case of first subprogram and last subprogram no
                                                            -- reference name is used

referenced-constituent          Object-Or-Class Identifier }

Default-Value-Lists          ::=    Operational-Object-Descriptor-Body
```

## B.1.4    Application defined attributes

```
Application-Defined-
Attribute-List                  ::=    SET {                   -- DATA ENTRY STRUCTURE

data-entry-type                              [0]    IMPLICIT INTEGER {
                                                            information-retrieval (1),
                                                            data-collection (2),
                                                            on-the-fly (3),
                                                            duplex (4)}  OPTIONAL,

allowed-characters-for-
a-keyword-access-command                     [1]    IMPLICIT BOOLEAN OPTIONAL,
                                                            -- true = yes
                                                            -- false = no
character-list-for-
keyword-access                               [2]    Character-List OPTIONAL,
max-length-keyword-access                    [3]    IMPLICIT INTEGER OPTIONAL,
allowed-character-for-
a-direct-access-command                      [4]    IMPLICIT BOOLEAN OPTIONAL,
                                                            -- true = yes
                                                            -- false = no
termination-reason                           [5]    IMPLICIT Termination-Reason OPTIONAL,
field-layout                                 [6]    IMPLICIT Field-Layout OPTIONAL,
field-text-marking                          CHOICE  {
                                                     [7]    IMPLICIT NULL,
                                                     [8]    Appearance } OPTIONAL,
echo                                         [9]    IMPLICIT INTEGER {
                                                            normal-echo (0),
                                                            fixed-echo (1),
                                                            null (2) }  OPTIONAL,
echoed-character                             [10]   G0G2-Character OPTIONAL,
echo-parameter                               [11]   Appearance OPTIONAL,
time-out                                     [12]   IMPLICIT INTEGER OPTIONAL
```

```
                                        -- measured in seconds
entry-invoke-character          [13]    G0G2-Character OPTIONAL,
local-editing                           [33]    IMPLICIT INTEGER OPTIONAL,
                                                -- details for further study
length-of-valid-choices         [15]    IMPLICIT INTEGER {
                                                        one-digit (1)
                                                        two-digits (2) } OPTIONAL,
list-of-enabled-choices         [16]    List-of-Choices OPTIONAL,
```

```
allowed-characters-for-
data-collection                    [17]   IMPLICIT INTEGER {
                                                  forbidden (0),
                                                  allowed (1),
                                                  alphabetic (2),
                                                  alphanumeric (3),
                                                  numeric (4) }  OPTIONAL,
character-list                     [18]   Character-List OPTIONAL,
list-of-valid-commands             [19]   OCTET STRING OPTIONAL,
                                          -- the OCTET STRING is encoded in a way that the bits are
                                          -- representing the commands as follows:
                                          -- bit 0: time-out, bit 2 = V2, bit 3: V3, bit 8: D1a,
                                          -- bit 9: D1b, bit 10: D1c, bit 11: D1d, bit 14: D4, bit 15: D5,
                                     -- bit 16: D6, bit 17: D7, bit 19: D9, bit 20: D10, bit 21: D11,
                           -- bit 22: D12, bit 23: D13, bit 24: D14, bit 27: D17, bit 28:
                                          -- D18, bit 29: end-of-field,
                                          -- a command is enabled by setting the bit to 1 and disabled by
                                          -- setting the bit to 0.
field-type                         [20]   IMPLICIT INTEGER {
                                                  data-collection-field (0),
                                                  country-code-field (1),
                                                  tel-number-field (2),
                                                  subscr-number-field (3),
                                                  co-user-suffix-field (4),
                                                  user-number-field (5),
                                                  subscr-title-field (6),
                                                  subscr-name-field (7),
                                                  additional-name-field (8),
                                                  street-field (9),
                                                  town-field (10),
                                                  postcode-field (11),
                                                  date-field (12),
                                                  time-field (13),
                                                  date-and-time field (14)
                                                  } OPTIONAL,
system-field-attributes       [21]   IMPLICIT System-Field-Attributes OPTIONAL,
                                          -- the following two attributes are used for prompts, the
                                          -- second also for the SPECIAL TERMINAL-FACILITIES-SE
position                      [22]   IMPLICIT Measure-Pair OPTIONAL,
dimension                     [23]   IMPLICIT Measure-Pair OPTIONAL;

                                          -- APPLICATION CONTROL MEMORY STRUCTURE

record-content                     [14]   IMPLICIT Record-Content OPTIONAL,

                                          -- SPECIAL TERMINAL FACILITIES STRUCTURE

measurement-unit                        [31]   IMPLICIT Measurement-Unit OPTIONAL,
redefinition-coding           [25]   IMPLICIT Redefinition-Coding OPTIONAL,
redefinition-content          [26]   IMPLICIT IMPLICIT OCTET STRING OPTIONAL,

                                          -- ADMINISTRATIVE STRUCTURE

a-price-frame-based                     [27]   IMPLICIT Real-Number OPTIONAL,
a-price-transaction-based     [32]   IMPLICIT Real-Number OPTIONAL,
a-time-based-charging-price   [28]   IMPLICIT Real-Number OPTIONAL,
a-time-based-charging-period  [29]   IMPLICIT INTEGER OPTIONAL,
c-cost-tbc-period             [30]   IMPLICIT INTEGER OPTIONAL,
c-cost-tbc-price                     [24]   IMPLICIT Real-Number OPTIONAL,
```

coding attributes         [8]     IMPLICIT Videotex-Coding-Attributes

```
                              -- coding attributes are to be specified for prompt content
                              -- portions by the relevant content architecture; coding
                              -- attributes are the same as for blocks
                              }
```

B.1.5     Basic types

```
Object-or-Class-
        Identifier     ::=     [APPLICATION 1] IMPLICIT Printable-String
                                        -- only digits and space are used in the present version of
                                        -- the standard
                                        -- a "null" value is represented by an empty string
                                        -- the first digit identifies the relevant root:
                                        -- data entry root "0", application
                                        -- control memory root "1", administrative
                                        -- information root "2", special terminal
                                        -- facilities root "3"

Character-List         ::=                     CHOICE {

bit-8-character-list           [0]     IMPLICIT SET OF G0G2-Bit-8-Character,
bit-7-character-list           [1]     IMPLICIT SET OF G0G2-Bit-7-Character }

G0G2-Character         ::=                     CHOICE {

bit-8-character                [0]     IMPLICIT G0G2-Bit-8-Character,
bit-7-character                [1]     G0G2-Bit-7-Character }

G0G2-Bit-8-
        Character              ::=                     INTEGER
                                        -- G0 or G2 character included. Space with 8-bit encoding;
                                        -- values between 20H-7FH and AOH-FFH

G0G2-Bit-7-
        Character              ::=                     CHOICE {

g0-character                   [0]     IMPLICIT INTEGER {
                                        -- G0 character included. Space with 7-bit encoding;
                                        -- values between 20H-7FH
g2-character                   [1]     IMPLICIT INTEGER {
                                        -- G2 character included. Space with 7-bit encoding;
                                        -- values between 20H-7FH

Field-Layout           ::=     SEQUENCE OF SEQUENCE {
                                        Measure-Pair, Measure-Pair }

List-of-Choices        ::=     BIT STRING
                                        -- the length of the string is equal to 10 bits if the length
                                        -- of choices is 1, equal to 100 bits if the length is 2
                                        -- the bit position is representing actual choice value

Appearance             ::=     IMPLICIT SET {

foreground-colour              [0]     IMPLICIT INTEGER OPTIONAL,
background-colour              [1]     IMPLICIT INTEGER OPTIONAL,
underline                      [2]     IMPLICIT BOOLEAN OPTIONAL,
                                        -- true means on; false means off
reverse-video                  [3]     IMPLICIT BOOLEAN OPTIONAL,
                                        -- true means on; false means off
flashing                       [4]     IMPLICIT BOOLEAN OPTIONAL,
                                        -- true means on; false means off

-- the following parameters are only used for the echo parameter

height                         [5]     IMPLICIT BOOLEAN OPTIONAL,
                                        -- true means double; false means normal
width                          [6]     IMPLICIT BOOLEAN OPTIONAL,
                                        -- true means double; false means normal
                                        }
```

```
Termination-Reason    ::=    INTEGER {
                                    time-out (0), V2 (2),
                                    V3 (3), D1a (8),
                                    D1b (9), D1c (10), D1d (11),
                                    D4 (14), D5 (15), D6 (16),
                                    D7 (17), D9 (19), D10 (20),
                                    D11 (21), D12 (22), D13 (23),
                                    D14 (24), D17 (27), D18 (28),
                                    end-of-field (29)}
```

```
Real-Number                    ::=    SEQUENCE {

integer-part                   [0]    IMPLICIT INTEGER DEFAULT 0,
decimal-exponent               [7]    IMPLICIT INTEGER DEFAULT 2 }
                                            -- the encoded real number is obtained by dividing the
                                            -- integer-part by 10**decimal-exponent

Measurement-Unit               ::=    INTEGER {

                                            character-box (0) }

Measure-Pair                   ::=    SEQUENCE {

horizontal                            INTEGER,
vertical                              INTEGER }

Redefinition-Coding            ::=    SEQUENCE {

redefinition-type              [0]    IMPLICIT INTEGER {
                                            drcs (0),
                                            colour-redefinition (1),
                                            reset-sequence (2),
redefinition-coding-data-
                    syntax     [1]    IMPLICIT OBJECT IDENTIFIER }

Record-Content                 ::=    SET OF CHOICE {
                                            D-CREATE,
                                            D-DELETE,
                                            D-MODIFY }
                                      -- these operations are defined in Recommendations T.432
                                      -- and T.433

Operational-Content-
                    Type       ::=    CHOICE {

                               [0]    IMPLICIT INTEGER {
                                            g0g2-bit-8 (0),
                                               -- G0/G2 character included. Space with 8-bit encoding
                                            g0g2-bit-7 (1),
                                               -- G0/G2 character included. Space and SS2 with
                                               -- 7-bit encoding
                                            ascii  1) (3)
                                               -- T.50 (international reference version)
                                               -- character
                                                        } OPTIONAL,
                                               -- the integer value is used in the cases of a field
                                               -- content portion and a result content portion
                               [1]    IMPLICIT OBJECT IDENTIFIER OPTIONAL }
                                      -- the OBJECT IDENTIFIER is used in the case of a prompt
                                      -- content portion

System-Field-Attributes        ::=    SEQUENCE {

protected                      [0]    IMPLICIT BOOLEAN OPTIONAL,
                                            -- true = protected
                                            -- false = not protected
data-source                    [1]    IMPLICIT BOOLEAN OPTIONAL,
                                            -- true = data supplied by local host
                                            -- false = data supplied by the user   }
```

# ANNEX C

## (to Recommendation T.541)

This Annex is an integral part of this Recommendation.

**Summary of ASN.1 object identifiers**

w

| ASN.1 object identifier value | Description | Section |
|---|---|---|
| 0 1 8 16 2 | Object identifier for this operational application profile | Annex C of this Recommendation |

American standard code for information interchange.