- administrative-information-SE;
- local-host-information-SE;
- external-host-information-SE;
- document-information-SE;
- special-terminal-facilities-SE.

Some attributes of these objects are updated at connection time with values carried by parameters of the D-INITIATE service element (to be detailed).

ANNEX B

(to Recommendation T.564)

This Annex is a provisional part of this Recommendation.

This Annex describes the minimum size of the data structures which must be supported by the local host.

Size of the display and the data entry structures: 2 K bytes;
Size of application control memory structure: FFS;
Number of characters that may be input in the fields: 500;
Number of data entry subprograms: 24;
Number of fields: 24;
Number of rules: 24;
Number of prompts: 24
Number of records: FFS

This element contains the following application defined attributes:

10.4.1.1Measurement unit

This attribute specifies the unit used to express the dimensions attribute of the PAGE-SE. The following value is identified:

- character box.

10.4.1.2Dimensions

This attribute consists of a pair of coordinates that specify the dimensions of the DDA of the videotex terminal. These dimensions are expressed in accordance with the measurement-unit attribute.

10.4.2REDEFINITION-ENTITY-SE

This SE contains the following application defined attribute:

10.4.2.1Redefinition coding

This attribute is subdivided in two parts: it specifies the type and it specifies the syntax used to encode the redefinition content. The following redefinition types have been identified:

- DRCS;
- colour redefinition.

The following redefinition syntax have been identified:

- interworking data syntax;
- data syntax I;
- data syntax II;
- data syntax III.

10.4.2.2Redefinition content

This attribute contains the actual redefinition data to be downloaded to the userw's terminal. This data will redefine a terminal facility as identified by the redefinition coding type. It consists of a sequel of bytes coded in accordance to the value of the redefinition coding attribute.

ANNEX A

(to Recommendation T.564)

This Annex is an integral part of this Recommendation.

This Annex specifies the constituents of the layout structure and of the operational structure which are implicitly created at connection time.

Profiles:

- document profile;
- operational profile (for further study).

Layout structure:

- specific layout root;

Operational structure:

- data-entry-SE;
- result-SE;
- result-content portion;

The service cost corresponds to the additional cost in the currency of the external host for using a videotex service. This cost is time dependent. This attribute indicates the value of the price for the service cost per time unit. It may depend on the day and the time (for further study).

10.3.6Items for further study concerning the administrative structure

a) Depending on the decisions of CCITT Study Group III on the interpretation of the item- over-limit facility, the introduction of an accounting-information-SE might be necessary so that the local host can provide the external host with limits on the:

- item cost;
- time-based charging;
- session cost;

and the currently translation. This is for further study.

b) The exchange of total session cost at the end of the session, which might be achieved by introducing a charge-info and a charge-info-request attribute to the LOCAL-HOST-SE and to the EXTERNAL-HOST-SE, is for further study.

c) Introducing value added taxes is for further study.

d) Using a result parameter is for further study.

e) In addition to a time-based charging for the communication cost, other methods could be taken into account (i.e. volume oriented). This is for further study.

10.4Special terminal facilities structure

This special terminal facilities structure is concerned with information which enables the external host to reconfigure the videotex terminal. The following categories of such information are identified:

- screen format;
- dynamically redefinable character sets (DRCS);
- redefinable colours.

Note - If the local host do not support these categories the structure is not used.

The special terminal facilities structure consists of:

- one SPECIAL-TERMINAL-FACILITIES-SE;
- zero, one or more REDEFINITION-ENTRY-SEs subordinate to the SPECIAL-TERMINAL- FACILITIES-SE.

Terminal redefinition data shall be downloaded by the local host to the videotex terminal, before any blocks or fields are displayed.

Figure 9/T.564 describes the hierarchy of the special terminal facilities structure.

FIGURE 9/T.564

This SE contains information pertinent throughout the whole association.

This SE makes use of the following application defined attributes:

10.3.2.1External host Id

This attribute identifies the external host to be connected to.

10.3.2.2Local host Id

This attribute identifies the originating host.

10.3.2.3Bilateral management parameter

This attribute is reserved for information which is exchanged between the two gateways and can be based on bilateral agreement.

10.3.3LOCAL-HOST-INFORMATION-SE
This element is used to transfer information from the local host to the external host.
This element makes use of the following application defined attribute:
10.3.3.1Error report to external host
This attribute is used to indicate to the external host the reason why the local host could not handle the previously received reply.

10.3.4EXTERNAL-HOST-INFORMATION-SE
This element is used to transfer information from the external host to the local host.
This element makes use of the following application defined attributes:
10.3.4.1Error report to local host
This attribute is used to indicate to the local host the reason why the external host could not handle the previously received reply.

10.3.4.2Asynchronous message
This attribute is used to transfer a warning message to the local host.
10.3.5DOCUMENT-INFORMATION-SE
This element contains attributes that supply additional charging information associated with the document and to be used by the local host.

This element contains the following application defined attributes:
10.3.5.1Application time based charging period
This attribute defines the length of the time base in seconds.
10.3.5.2Application price: frame based
This attribute indicates the frame based price of the application in the currency of the external host.

10.3.5.3Application price: transaction based
This attribute indicates the transaction based price of the application in the currency of the external host.

10.3.5.4Application time based charging price
This attribute defines the price per unit in the currency of the external host.
10.3.5.5Communication cost: time based charging period
The service cost corresponds to the additional cost in the currency of the external host for using a videotex service. This cost is time dependent. This attribute indicates the value of the period for the service cost. It may depend on the day and the time (for further study).

FIGURE 7/T.564

10.2.16APPLICATION-CONTROL-MEMORY-SE

10.2.17RECORD-SE

The application defined attributes of the RECORD-SE are the following:

10.2.17.1Record content

This attribute consists of a list of VIA operations which do not concern the RECORD-SE or the APPLICATION-CONTROL-MEMORY-SE.

Details are depending on the ongoing work on operational structures.

10.3Administrative structure

Note - This section is provisional. Final version will be established taken into account the results of CCITT Study Groups I and III concerning videotex administrative and charging matters.

10.3.1Overview of the administrative structure

This structure is used for exchanging supervisory information such as:

- items subject to negotiation (e.g. limits);
- accounting information;
- global information related to the state of the association;
- global information related to the document transferred.

This structure consists of the ADMINISTRATIVE-INFORMATION-SE which has three subordinates:

- LOCAL-HOST-INFORMATION-SE;
- EXTERNAL-HOST-INFORMATION-SE;
- DOCUMENT-INFORMATION-SE.

One and only one SE of each type should exist within the administrative structure (see Figure 8/T.564).

FIGURE 8/T.564

the termination-reason-text attribute of the DATA-ENTRY- PROGRAM-SE.

There is not a DATA-ENTRY-SUBPROGRAM-SE present in the VIA for the information retrieval field when "data-collection-type" has been selected. This includes that the RULES-SE of the last data collection field, the user has "touched", before going to the information retrieval field, is to be used also for the information retrieval field.

10.2.13PROMPT-SE

The PROMPT-SE is subordinate to the DATA-ENTRY-SE. The attributes of a PROMPT-SE are those of a BLOCK-SE, except for the SE-type which is PROMPT. A prompt is a message to be displayed to the user for guidance by the filling of a field.
The prompt referred from a DATA-ENTRY-SUBPROGRAM-SE is automatically displayed when the data entry subprogram becomes active. The prompt is cancelled by the local host when the associated data entry subprogram becomes inactive i.e. when another data entry subprogram becomes active or when the data entry program is terminated.
The cancelled prompt text on the screen must be replaced by a new prompt text and/or by "spaces".

The application defined attributes of a PROMPT-SE are the following (as defined for the display structure):

10.2.13.1Position

10.2.13.2Dimensions

10.2.14Prompt content portion

The prompt content portion makes use of the attributes operational element identifier, operational element content type, operational element content (see Recommendation T.441, resp. Annex A of Recommendation T.541) as the related attributes for content portions (defined in Recommendation T.412) are used for blocks.
The application defined attributes for prompt is the following:

10.2.14.1Coding attributes

This attribute is used in the same way as for blocks, it is specified within Recommenda- tion T.412.

10.2.15Application control memory structure

The application control memory structure can be used to store any operation on the VIA, for example:

- the display structure or parts of it (e.g. create BLOCK-SE or modify FIELD-SE) or parts of it;
- the data entry structure or parts of it;
- the administrative structure or parts of it;
- the special terminal facilities structure or parts of it.

An element from the application control memory is invoked by a D-CALL operation and applied to the VIA, if applicable, in both hosts.

The application control memory structure consists of:

- the APPLICATION-CONTROL-MEMORY-SE;
- one or more RECORD-SEs subordinate to the APPLICATION-CONTROL-MEMORY-SE.

The RECORD-SE contains a sequence of one or more of the operations: D-CREATE, D-DELETE, D-MODIFY, which do not concern SEs of the application control memory structure.

Figure 7/T.564 describes the hierarchy of the application control memory structure constituents.

In some videotex services, some userw's keying action (e.g. * or Next) may automatically provoke, even in a data entry subprogram, the termination of the filling of the current field and a cursor movement to the information retrieval field where a retrieval command may be entered. Such a command, once completed, will be interpreted as a termination event by the local host and reported back to the external host as a termination reason.

Enabled: send to the EH
Disabled: local error indication

D7: Move to the previous field
Enabled: send to the EH
Disabled: move to the previous field if any

D8: Repeat the frame
Local action: redisplay the display structure and the content of the data entry structure (field contents and prompts) then restart the data entry at the interrupted point

D9: Repeat the updated frame
Enabled: send to the EH
Disabled: local error indication

D10: Return to the first menu in the application
Enabled: send to the EH
Disabled: local error indication

D11: Previous menu
Enabled: send to the EH
Disabled: local error indication

D12: Ask for help or guidance without leaving the application
Enabled: send to the EH
Disabled: local error indication

D13: Redisplay the initial version of the currently active form
Enabled: local error indication. (When no user input has been transmitted to the external host, also other local actions may be taken)

D14: Redisplay the completed version of the currently active form
Enabled: send to the EH
Disabled: local error indication

D15: Interrupt the action in progress
Local action

D16: Set a marker at the current point
For further study

D17: Abstain from forwarding the content (abort data collection)
Enabled: send to the EH
Disabled: local error indication

D18: Declare valid a set of inputs
Enabled: send to the EH
Disabled: local error indication

- : End of field
Enabled: send to the EH
Disabled: move to the next field if any, otherwise local error indication

- : Time-out
Enabled: send to the EH
Disabled: no action

application for access at a later time within the same session

- Abstain from forwarding the contents of the input field — D17 — NN — E/D
- Declare valid a "set" of inputs — D18 — -- not used --
- Time out (see Note 3) — NN

E

- End of field — NN — E/D

Note 1 - If this command is not supported by the local host or if this command is disabled, then the corresponding local command is mapped to a D-TERMINATE.

Note 2 - This command is directly mapped to a D-TERMINATE.

Note 3 - Time-out is disabled by setting its value to 0.

Remark - See also remark to data-entry type 1.

10.2.12.8.1Specification of local characteristics

Within the national videotex service of country A the user may enter commands which are:

- disabled by the external host;
- specified as local in the list of valid commands;
- or not used in a specific type of data entry.

As these commands may not be passed to the external host, the following list describes the behaviour a local host should perform when receiving such a command:

V1: Select an application on a videotex service
Local action

V2: Leave the application and return to the first effective choice of the national videotex service

Enabled: send to the EH or D-TERMINATE
Disabled: D-TERMINATE

V3: Return to the first effective choice of the foreign videotex service
Enabled: send to the EH
Disabled: local error indication

V4: Leave the application and return to the point from which this application was selected
Local action

V5: Provide billing information
Local action

V6: Leave the videotex service
D-TERMINATE

V7: Request service/application id
Local action

D1: Declare and valid an input
Enabled: send to the EH
Disabled: local error indication

D2: Correcting an input
Local action: delete the character, if any

D3: Clearing an input
Local action: delete the current field content and restart the current input

D4: Move one step forward in the application (typically Next or # on the last field)
Enabled: send to the EH
Disabled: local error indication

D5: Move to the next input field
Enabled: send to the EH
Disabled: move to the next field if any

mand is mapped to a D-TERMINATE.

Note 2 - This command is directly mapped to a D-TERMINATE.

Note 3 - Some local hosts may not be able to make the difference between the four D1 sub-commands and consequently may replace D1 b, D1 c and D1 d by D1 a, even if disabled.

Note 4 - The time-out is disabled by setting its value to 0.

Remark - See also remark to data-entry type 1.

c) Types 3 and 4: Data entry on the fly/duplex data entry

Termination reason	Command	Local	CP	E/D
-	Select an application on a videotex service	V1	Y	
-	Leave the application and return to the first effective choice of the national videotex service (see Note 1)	V2	NN	E/D
-	Return to the first effective choice of the foreign videotex service	V3	NN	E
-	Leave the application and return to the point from which this application was selected	V4	Y	
-	Provide billing information	V5	Y	
-	Leave the videotex service (see Note 2) (mandatory)	V6	Y	
-	Request service/application Id	V7	Y	
-	Declare and valid an input (see Note 3)	D1		
a)	free text input a)		NY	E/D
b)	direct selection of a frame	b)	-- not used --	
c)	progress through a choice from one frame to another by the use of one or two digits	c)	-- not used --	
d)	select a frame through the use of a keyword	d)	-- not used --	
-	Correcting an input	D2	Y	
-	Clearing an input	D3	Y	
-	Move one step forward in the application	D4	NN	E/D
	move to the next input field	D5	-- not used --	
-	Retrace the previous step	D6	NN	E/D
-	Move to the previous field	D7	-- not used --	
-	Repeat the frame	D8	Y	
-	Repeat the updated frame	D9	NN	E/D
-	Return to the first menu in the application	D10	NN	E/D
-	Previous menu	D11	NN	E/D
-	Ask for help or guidance without leaving the application	D12	NN	E/D
-	Redisplay the initial version of the currently active form	D13	NN	E/D
-	Redisplay the completed version of the currently active form	D14	NN	E/D
-	Interrupt the action in progress	D15	Y	

the local host sends a V2 command to the external host, the external host may send the "good-by" frame, followed by a D-TERMINATE req.

b) Type 2: Data collection

Termination reason	Command	Local	CP	E/D
-	Select an application on a videotex service	V1	Y	
-	Leave the application and return to the first effective choice of the national videotex service (see Note 1)	V2	NN	E/D
-	Return to the first effective choice of the foreign videotex service	V3	NN	E
-	Leave the application and return to the point from which this application was selected	V4	Y	
-	Provide billing information	V5	Y	
-	Leave the videotex service (mandatory) (see Note 2)	V6	Y	
-	Request service/application Id	V7	Y	
-	Declare and valid an input (see Note 3)	D1		
a)	free text input a)		NY	E/D
b)	direct selection of a frame	b)	NY	E/D
c)	progress through a choice from one frame to another by the use of one or two digits	c)	-- not used --	
d)	select a frame through the use of a keyword	d)	NY	E/D
-	Correcting an input	D2	Y	
-	Clearing an input	D3	Y	
-	Move one step forward in the application	D4	NN	E/D
-	Move to the next input field	D5	NN	E/D
-	Retrace the previous step	D6	NN	E/D
-	Move to the previous field	D7	NN	E/D
-	Repeat the frame	D8	Y	
-	Repeat the updated frame	D9	NN	E/D
-	Return to the first menu in the application	D10	NN	E/D
-	Previous menu	D11	NN	E/D
-	Ask for help or guidance without leaving the application	D12	NN	E/D
-	Redisplay the initial version of the currently active form	D13	NN	E/D
-	Redisplay the completed version of the currently active form	D14	NN	E/D
-	Interrupt the action in progress	D15	Y	
-	Set a marker at the current point in the application for access at a later time within the same session	D16	Y	
-	Abstain from forwarding the contents of the input field	D17	NN	E/D
-	Declare valid a "set" of inputs	D18	NN	E/D
-	Time out (see Note 4)		NN	E
-	End of field		NN	E/D

a)	free text input a)	NY	E/D
b)	direct selection of a frameb)	NY	E/D
c)	progress through a choice from one framec) to another by the use of one or two digits	NY	E/D
d)	select a frame through the use of a keywordd)	NY	E/D
-	Correcting an inputD2	Y	
-	Clearing an inputD3	Y	
-	Move one step forward in the applicationD4	NN	E/D
-	Move to the next input fieldD5	-- not used --	
-	Retrace the previous stepD6	NN	E/D
-	Move to the previous fieldD7	-- not used --	
-	Repeat the frameD8	Y	
-	Repeat the updated frameD9	NN	E/D
-	Return to the first menu in the applicationD10	NN	E/D
-	Previous menu D11	NN	E/D
-	Ask for help or guidance without leaving theD12 application	NN	E/D
-	Redisplay the initial version of the currentlyD13 active form	NN	E/D
-	Redisplay the completed version of theD14 currently active form	NN	E/D
-	Interrupt the action in progressD15	Y	
-	Set a marker at the current point in theD16 application for access at a later time within the same session	Y	
-	Abstain from forwarding the contents of theD17 input field	-- not used --	
-	Declare valid a "set" of inputsD18	-- not used --	
-	Time out (see Note 4)	NN	
E			
-	End of field	-- not used --	

Note 1 - If this command is not supported by the local host or if this command is disabled, then the corresponding local command is mapped to a D-TERMINATE.

Note 2 - This command is directly mapped to a D-TERMINATE.

Note 3 - Some local hosts may not be able to make the difference between the four D1 sub-commands and consequently may replace D1 b, D1 c and D1 d by D1 a, even if disabled.

Note 4 - The time-out is disabled by setting its value to 0.

Remark on the use of "good-by" frames

1) The local host does not support the use of "good-by" frames: in this case the local host maps the local V2 command to a D-TERMINATE req. on the international connection.
2) The external host does not support the use of "good-by" frames: in this case the external host should disable the V2 command and the local host consequently maps a local V2 command to a D-TERMINATE req. on the international connection.

- "alphanumeric": only alphanumeric characters may be entered;
- "numeric": only numeric characters may be entered.

When this attribute does not have the value "allowed" or "not allowed", the character-list attribute must not be used or will be ignored.

This attribute is only used in data-entry-type 2.

10.2.12.7Character-list (for data collection)

List of characters according to the specified set in the type of coding attribute of the FIELD-SE. This attribute is set by the external host. It specifies the list of characters which may or may not be entered as user inputs in the field associated with the DATA-ENTRY-SUBPROGRAM-SE from which the RULES-SE is referred. The list of characters is encoded according to T.51 plus "space".

This attribute is only used in data-entry-type 2.

10.2.12.8List of valid commands

This attribute set by the external host specifies the list of commands which are enabled and then may be used as values for the termination reason attribute of the RESULT-SE. Other commands are disabled and cannot be used as value for the termination-reason attribute. However, enabling of commands does not imply that the local host is forced to support all the enabled commands. It is up to the local host to do its best to properly image some commands. Some local hosts may transform some commands into a disconnect.

Abbreviations:

E: Enabled
D: Disabled
Y: Yes
N: No
CP: Indicates if a result content portion may be associated with the command
local: Functions handled locally between the user and the local host; such functions are not exchanged on the international link between gateways. Some functions of this type may provoke a disconnect between the local and the external host.
not used: Not used for a given type of data entry.

Note - Further development of videotex interworking may identify a requirement to use also the commands V1, V4, V7 on the international link. This is for further study.

The following list defines the valid commands taken from the list of functions defined by Recommendation F.300.

a) Type 1: Information retrieval

Termination reason	Command	Local	CP	E/D
-	Select an application on a videotex service	V1		Y	
-	Leave the application and return to the first effective choice of the national videotex service (see Note 1)	V2		NN	E/D
-	Return to the first effective choice of the foreign videotex service	V3		NN	E
-	Leave the application and return to the point from which this application was selected	V4		Y	
-	Provide billing information	V5		Y	
-	Leave the videotex service (mandatory) (see Note 2)	V6		Y	
-	Request service/application Id	V7		Y	

This attribute set by the external host specifies the videotex attributes which should apply to the echo, if any. This attribute may specify values for one or several of the following attributes: foreground colour, background colour, underline, echo size (normal size, double high, double width, double size), flashing and reverse video.
This attribute is applied by the local host as far as possible, but the local host may ignore it.

10.2.12RULES-SE

This SE is subordinate to the DATA-ENTRY-SE. It describes the rules applicable to the entry in a field: list of allowed characters, list of authorized retrieval functions, etc.

The application defined attributes of the RULES-SE are the following:

10.2.12.1Time-out

This attribute set by the external host defines the maximum time allowed to the user to enter data. The length of time is measured in seconds. Value 0 indicates that there is no time limit imposed in seconds. Value 1 is reserved for data entry type 1 and will be interpreted by some external hosts as a request for chained frames. A value 1 should be interpreted by the local host as a normal time-out. some local hosts may overwrite with their own value a time-out whose value is greater than 1.
Expiration of time-out provokes termination of the data entry.

10.2.12.2Entry-invoke-character

This attribute set by the external host defines how the empty positions of the field are filled after displaying the initial contents. The following value is identified:

- a fixed character from T.51 plus the character "space".

The visual appearance of the entry-invoke-character is controlled by the field-text-marking attribute. These characters are not entered in the field content portion and not reported to the external host.

10.2.12.3Local editing

This attribute set by the external host indicates that powerful editing capabilities should be performed in the associated field. Such a local editing capability defined by the local host, would allow to insert/delete character/word/line, powerful cursor movement, etc.

This local editing facility is intended to be used by applications dealing with message handling.

Remark on the control of the user input

In the general situation of an international videotex interworking the following attributes (from §§ 10.2.12.4 to 10.2.12.7), specified to allow local hosts to control the users input, may not be supported by some local hosts. In those cases no checking of the relevant attributes will be performed by the local host.

10.2.12.4Length of valid choices

This attribute may take the value 1 or 2 depending on the size of the choice (one or two digits). This attribute is used only in data entry type 1 and not taken into account if the D1 c command is disabled.

10.2.12.5List-of-enabled-choices

This attribute is set by the external host and specifies the list of enabled choices. This attribute is not taken into account by the local host if the D1 c command is disabled. This attribute is used only in data entry type 1.

10.2.12.6Allowed-characters (for data collections)

This attribute set by the external host indicates if the list of characters represents the allowed or forbidden characters.

Possible values:

- "allowed": means allowed characters in the list;
- "not allowed": means forbidden characters in the list;

This attribute may be set either by the external or by the local host and represents the contents of the field. The correspondence between the content information and the different field- blocks of the field is given by the defined order of these field-blocks in the layout attribute of the FIELD-SE, regardless of the relative position of these parts with respect to the screen.

When set by the external host, this attribute represents the initial content of the field.
When set by the local host, this attribute represents the data entered by the user.

10.2.11DATA-ENTRY-SUBPROGRAM-SE

The DATA-ENTRY-SUBPROGRAM-SE is subordinate to the DATA-ENTRY-PROGRAM-SE. Each data entry subprogram applies to one and only one field. There are as many subprograms as fields in the form; consequently, depending on the complexity of the form, one or more data entry subprograms may be defined at the same time.
The following attributes are mapped to the reference attribute defined in Recommendation T.441 (or in Annex A to Recommenda- tion T.541).

10.2.11.1Reference-to-a-RULES-SE
This attribute points to a RULES-SE. This attribute cannot take the value "undefined" and must be defined either explicitly or via the default value list mechanism.

Remark on the use of prompts
Prompts are guidance messages that may be associated with each data entry subprogram and are described by the corresponding PROMPT-SEs. Zero, one or two prompts may be associated with each data entry subprogram. If no prompt is associated, both of the relevant reference attributes will not be defined and no prompt message is to be displayed. It is up to the external host to use only a prompt- in or a prompt-in and a prompt-out. On the other hand some local hosts may not support the use of a prompt-out and consequently will ignore the relevant attribute and automatically erase the prompt-in. 10.2.11.2Reference-to-a-PROMPT-IN-SE

This attribute set by the external host points to a PROMPT-SE which is displayed by the local host when this data entry subprogram starts. This attribute may be set to undefined if no prompt-in message is to be displayed.
10.2.11.3Reference-to-a-PROMPT-OUT-SE

This attribute set by the external host points to a PROMPT-SE which is displayed by the local host when this data entry subprogram is stopped. This attribute may be set to undefined if no prompt- out message is to be displayed.
Using a prompt-in and a prompt-out instead of one prompt has not been finally discussed. This is for further study.

10.2.11.4Reference-to-a-FIELD-SE
The value of this attribute depends on the type of the data entry subprogram concerned (information retrieval, data collection or data entry "on-the-fly" or duplex data entry). When defined, it indicates the area in which input characters have to be echoed.
The application defined attributes of the data entry subprogram are the following:

10.2.11.5Echo
This attribute set by the external host specifies the type of echo to be performed by the local host. It may take one of the three values:

- normal echo: the input character is echoed;
- fixed echo: a fixed character is displayed;
- null: no echo is performed.

10.2.11.6Echoed character
This attribute set by the external host and taken into account only if the echo attribute is set to "fixed echo". This attribute specifies a character from the list described in Recommenda- tion T.51 "plus space".

8 Postcode
9 Date
10 Time
11 Date and time

Note - Local hosts which do not support system fields regard all system fields as marked with a zero value.

If on the other hand an external host does not support system fields, local hosts requiring this attribute are defaulting the value of the field-type attribute to "0".

10.2.9.3Protected

This attribute is only meaningful for system fields. For those local hosts which are not able to process system fields, this attribute is not taken into account.

This attribute indicates whether or not the system field may be modified by the user. The value "yes" indicates that the local host must prevent the user from modifying the contents of the field.

10.2.9.4Data-source

This attribute is only meaningful when the field-type attribute is used, the value is not equal to "0" and the protected attribute has the value "not protected".

This attribute can have the values "local host" and "user" to indicate whether the data returned to the external host was supplied by the local host or by the user.

10.2.9.5Field-text-marking

This attribute specifies the visual appearance on the terminal of the contents of the field. The following values have been identified:

a) "explicit" means that a value for one or more of the following attributes:
   - foreground colour;
   - background colour;
   - underlining;
   - flashing;
   - reverse video;

   may explicitly be defined by the external host.
b) "keep current attributes" means that the value of the foreground colour, background colour, underlining, flashing and reverse video are then those naturally defined by positioning the cursor in the field.

In both cases, this attribute is applied by the local host as far as possible but the local host may ignore it.

10.2.10Field content portion

This content portion is used when data entry type 2 is selected. The field content portion makes use of the attribute operational element content type (see Recommendation T.441, or Annex A of Recommendation T.541) as follows:

10.2.10.1Type of coding

This attribute may be set either by the external or local host and specifies the coding used to represent the content and may take one of the following values:

- T.50 (IRV);
- T.51 "plus space"

The field content portion makes use of the attribute operational element content (see Recommendation T.441, or Annex A of Recommendation T.541) as follows: