



T10/03-080r2

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# ADT Proposal

## Payload Size – Type Restrictions

### Introduction

In ADT r02 certain payload types have defined payload sizes. Examples include all of the Link Service frames, the SCSI Command and Transfer Ready frames, and the Request for VHF Polling frame.

The existing text does not describe the behaviour of a port that receives a frame with a length inappropriate for the payload type. Two possibilities exist: payload size too large for given payload type and payload size too small for given payload type.

The existing status values do not cover these two cases. Values 02h and 03h only indicate when the actual number of bytes received does not match the received payload size. Value 87h indicates when the received payload size exceeds the negotiated maximum (see Table 6 in sub-clause 6.5.3 Port login).

HP believes that the lack of specification for this case will lead to interoperability problems.

HP wishes to add text that instructs the frame receiver to ignore extra payload and fill in missing payload upon receiving an illegal payload size for the given payload type. HP believes that this solution provides the maximum amount of forward compatibility consistent with good interoperability.

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## Current Text

### 6.5.1 Link service frames overview

Either port may initiate link service frames. Link service frames are used to manage the transport layer. Table 4 defines the values for PAYLOAD TYPE field in ADT frame header for link service protocol frames.

**Table 4 — Link service information units**

Payload Type	Description
0h	ACK (acknowledge)
1h	NAK (negative acknowledge)
2h	Port login
3h	Port logout
4h	Pause
5h	NOP (no operation)
6h	Initiate recovery
7h - Fh	Reserved

### 6.5.2 Acknowledgement information units

[...]

#### 6.5.4 Port login

Port Login frames are used to establish link parameters.

[...]

An automation device that receives a frame indicating a new port login exchange that has initiated a port login exchange that is not yet complete, shall discard the frame. If an automation device receives a frame indicating a new port login exchange that is not already participating in a port login negotiation may discard the frame and initiate a new port login exchange. A Data Transfer device that receives a Port Login frame shall abort all open exchanges other than the exchange associated with the Port Login frame.

Table 6 defines the payload of the Port Login Frame.

[...]

### 7.2.1 ADC fast access overview

This protocol is intended to provide a feature set beyond what is provided by SCSI to both take advantage of the features of the transport layer and work around the slower speed of it. The ADC Fast Access protocol provides:

- A simple method for accessing the Very High Frequency Polling IU define in ADC,
- a method for device to report asynchronous activity, and
- a method to control these asynchronous reports.

ADC fast access frames support the Payload Type codes listed in Table 14.

**Table 14 — ADC Fast Access information units**

Payload Type	Description
0h	Request for VHF Polling IU
1h	VHF Polling IU
2h	AER IU
3h	AER Control IU
4h - Fh	Reserved

### 7.2.2 Request for VHF Polling information unit

[...]

## Detailed Changes to Draft Technical Standard

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### 6.5.2 Payload size – type consistency

Unless otherwise specified in this standard, the receiver of a link service frame shall not consider it an error if the value of the PAYLOAD SIZE field does not match the specified size for those link service information units that have a specified size. If the size of the payload exceeds the specified size, the frame receiver shall ignore the excess payload bytes except with respect to the calculation of the Checksum field. If the size of the payload is less than the specified size, the frame receiver shall not change the current setting(s) of the parameter(s) controlled by any missing field(s).

### 6.5.3 Acknowledgement information units

[...]

### 6.5.4 Port login

Port Login frames are used to establish link parameters.

[...]

An automation device that receives a frame indicating a new port login exchange that has initiated a port login exchange that is not yet complete, shall discard the frame. If an automation device receives a frame indicating a new port login exchange that is not already participating in a port login negotiation may discard the frame and initiate a new port login exchange. A Data Transfer device that receives a Port Login frame shall abort all open exchanges other than the exchange associated with the Port Login frame.

A device that receives a Port Login frame whose payload contains fewer bytes than specified by this standard shall respond with a fully populated Port Login frame.

Table 6 defines the payload of the Port Login Frame.

[...]

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Unless otherwise specified in this standard, the receiver of a fast access frame shall not consider it an error if the value of the PAYLOAD SIZE field does not match the specified size for those fast access information units that have a specified size. If the size of the payload exceeds the specified size, the frame receiver shall ignore the excess payload bytes except with respect to the calculation of the Checksum field. If the size of the payload is less than the specified size, the frame receiver shall not change the current setting(s) of the parameter(s) controlled by any missing field(s).

### 7.2.2 Request for VHF Polling information unit

[...]