

# ETHERRECORDS

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EtherRecords contains a collection of record definitions needed for low-level Ethernet programming in Lisp.

## Installation

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Load `ETHERRECORDS` from the library.

## General Purpose Records

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`ETHERPACKET` [Data type]

A data type describing a level-zero Ethernet packet. Use a `BLOCKRECORD` overlaying this record to define various level-one packets (see `PUP` and `XIP` below for examples).

`SYSQUEUE` [Data type]

A data type implementing a low-level queue for Ethernet use.

`QABLEITEM` [Record]

A record that overlays any data type whose first field is a pointer used for linking items on a `SYSQUEUE`.

## NS Records

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`XIP` [Record]

A record overlaying `ETHERPACKET` describing the layout of a standard Xerox Internet Packet.

`ERRORXIP` [Record]

A record overlaying `ETHERPACKET` describing the layout of a standard XNS error packet. The value of the `ERRORXIPCODE` field of this record is the most interesting one for programmatic handling of XIP errors. The variable `XIPERRORCODES` contains constants defining most of the standard error codes.

`\XIPOVLEN` [Constant]

A constant representing the number of bytes in a XIP exclusive of the data portion; i.e., the `LENGTH` field of a XIP is the byte length of its data portion plus `\XIPOVLEN`.

`\MAX.XIPDATALENGTH` [Constant]

A constant, the maximum number of bytes permitted in a standard XIP (546).

NSHOSTNUMBER

[Record]

A record describing a 48-bit XNS host number.

NSADDRESS	[Data type]
A data type describing a complete XNS address: 32-bit network, 48-bit host, 16-bit socket.	
NSNAME	[Data type]
A data type describing a standard three-part Clearinghouse name.	

## PUP Records

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PUP	[Record]
A record overlaying ETHERPACKET describing the layout of a standard PUP (PARC Universal Packet).	
ERRORPUP	[Record]
A record overlaying ETHERPACKET describing the layout of a standard PUP error packet. The value of the ERRORPUPCODE field of this record is the most interesting one for programmatic handling of PUP errors. The variable PUPERRORCODES contains constants defining most of the standard error codes.	
PUPADDRESS	[Record]
A record describing how to take a 16-bit PUP address apart into 8-bit network and host numbers.	
\PUPOVLEN	[Constant]
A constant representing the number of bytes in a PUP exclusive of the data portion; i.e., the LENGTH field of a PUP is the byte length of its data portion plus \PUPOVLEN.	
\MAX.PUPDATALENGTH	[Constant]
A constant, the maximum number of bytes permitted in a standard PUP (532).	
\LOCALPUPADDRESS	[Macro]
\LOCALPUPHOSTNUMBER	[Macro]
\LOCALPUPNETNUMBER	[Macro]
These three macros return components of the PUP address of the machine on which the code is running. \LOCALPUPHOSTNUMBER and \LOCALPUPNETNUMBER return the machine's 8-bit host and 8-bit net numbers, respectively; \LOCALPUPADDRESS returns both as a 16-bit number, suitable as a value of the PUPSOURCE field of the PUP record.	

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