

Overview

DHCP (Dynamic Host Configuration Protocol) allows you to dynamically allocate IP addresses to devices on a TCP/IP network.

The network administrator assigns a range of IP addresses to a DHCP server. Each client is then configured to request an IP address and possibly other settings from the server. The IP address is permanently allocated, or “leased” over a period of time. DHCP is a draft Internet Standard defined in RFC2131, available at: <http://www.rfceditor.org/>.

iPocket232 Inc. units come pre-configured with an IP address and subnet mask of 0.0.0.0, which automatically enables DHCP.

Within a few seconds after power-up, the unit finds the DHCP server, sends a configuration request, then receives the following configuration information: IP address, IP address lease time, subnet mask and gateway address.

Before the timed lease expires, the unit will request a renewal. If the current IP address is not renewed by the DHCP server, the unit initiates a new request and obtains a new IP address.

Implementation Notes

- The DHCP server must be on the same physical subnet as the iPocket232 Inc. unit.
- The iPocket232 Inc. unit does not verify if a given IP address is already in use. The DHCP server must not allocate the same IP address to multiple devices.

If the DHCP server does not supply the subnet mask and gateway addresses, the subnet mask default value is 255.255.255.0 and the gateway default value is the IP address of the DHCP server.

Supported Options

The following table lists each option supported by the iPocket232 Inc. DHCP client:

Table 1.1: Supported DHCP Options

Option Name	Type (tag)	Data Lgth. (bytes)	Description
Pad	0	0	Align options on word boundaries
Subnet Mask	1	4	Client's subnet mask
Router	3	N	IP addresses for routers on client's subnet
Domain Server	6	N	IP address of Domain Name Server(s)
Domain Name			DNS domain name of client
Address Request	50	4	Requested IP address (DHCPDISCOVER)
Address Time	51	1	Requested IP address lease time, in seconds, for client messages. Offered lease time, in seconds, for server messages.
Option Overload	52	1	'sname' or 'file' fields carry options: 1 = 'file' field holding options 2 = 'sname' field holding options 3 = both
DHCP Msg Type	53	1	1 = DHCPDISCOVER 2 = DHCPOFFER 3 = DHCPREQUEST 5 = DHCPACK 6 = DHCPNAK
DHCP Server ID	54	1	Server IP address
DHCP Message	56	N	Error message from server in DHCPNAK messages
DHCP Max Msg Size	57	2	Maximum length of message in bytes. Minimum length is 576 bytes.
Renewal Time (T1)	58	4	Time in seconds from address assignment until transition to RENEW stage
Rebinding Time (T2)	59	4	Time in seconds from address assignment until transition to REBIND stage