

GM8136

GMAC

User Guide

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For Faraday Technology Corp
(26276)

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GM8136 GMAC User Guide

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Chapter 1

Introduction

This chapter contains the following sections:

- 1.1 Source File Overview
- 1.2 Configuration in Linux Kernel
- 1.3 Set MAC Driver Argument

1.1 Source File Overview

FA7-Linux provides the GMAC driver to implement the network functions. The related files on Linux are shown in Table 1-1.

Table 1-1. File List of GMAC Driver

File Name	Description
drivers/net/Ethernet/faraday/ftgmac100.c	Main program of the GMAC driver
drivers/net/Ethernet/faraday/ftgmac100.h	Header file of the GMAC driver

1.2 Configuration in Linux Kernel

To activate the GMAC functions, users have to select the desired options in the kernel configuration menu. These options include enabling the Linux networking support and Ethernet (10 Mbps/100 Mbps). Depending on the requirements, users may choose the specified network protocol from the "Networking support" option. After finishing the configuration, users should make the kernel to support the GMAC driver.

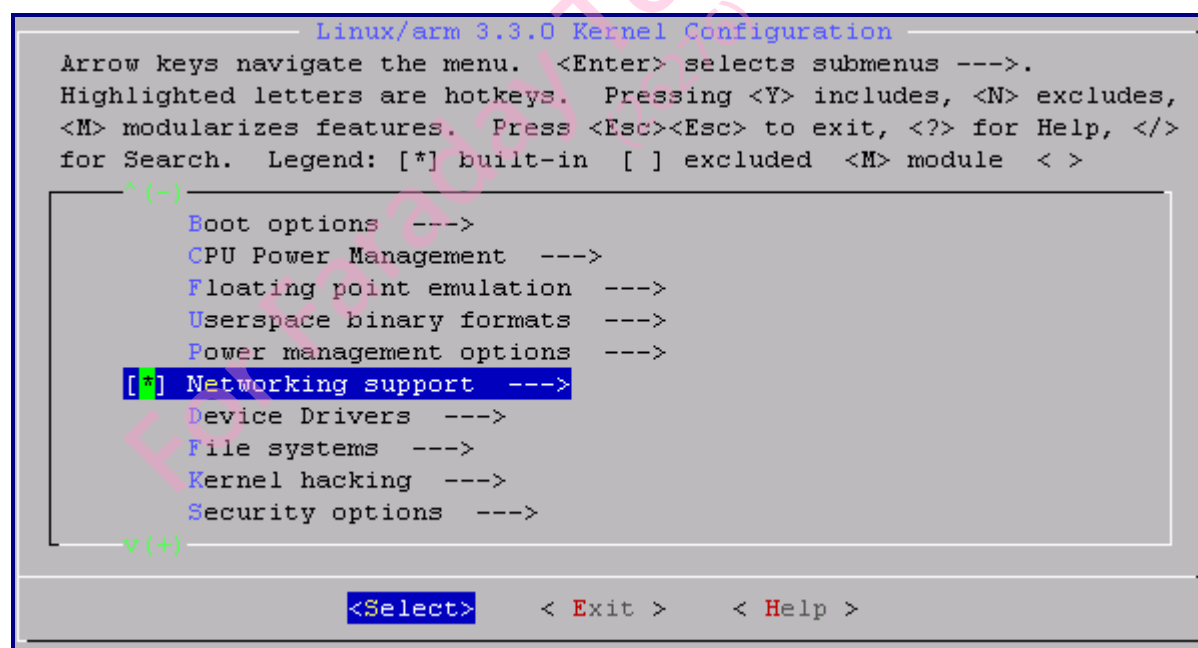


Figure 1-1. Kernel Configuration of Networking Support

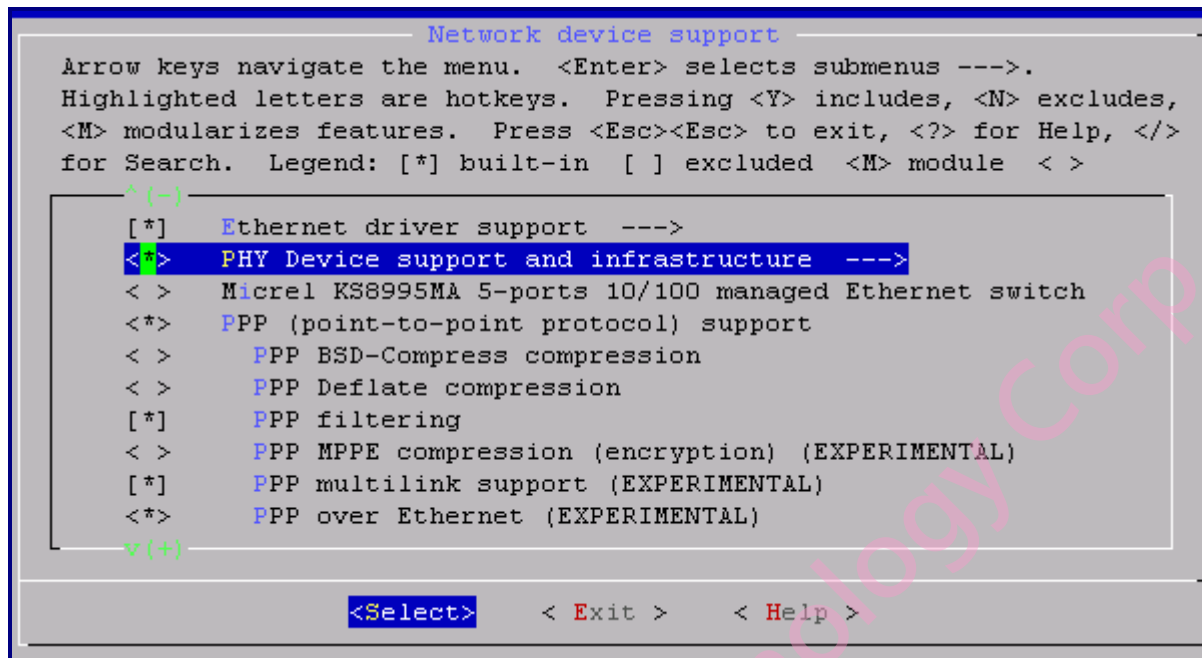


Figure 1-2. Kernel Configuration of PPP Support

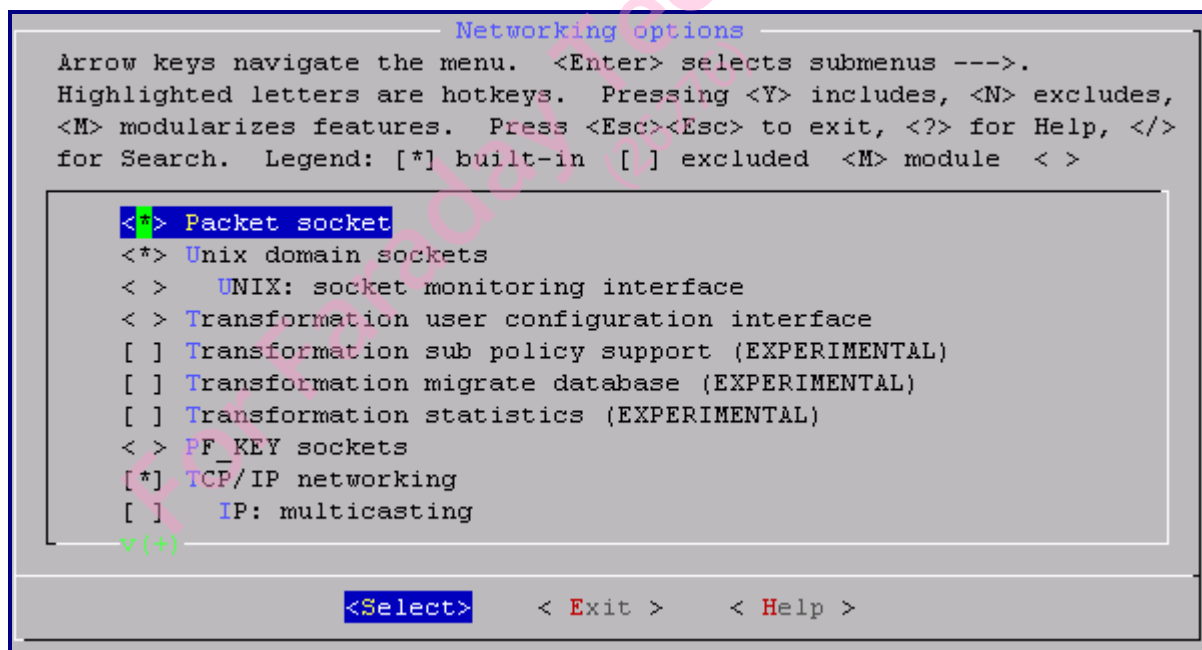


Figure 1-3. Kernel Configuration of Package Socket Support

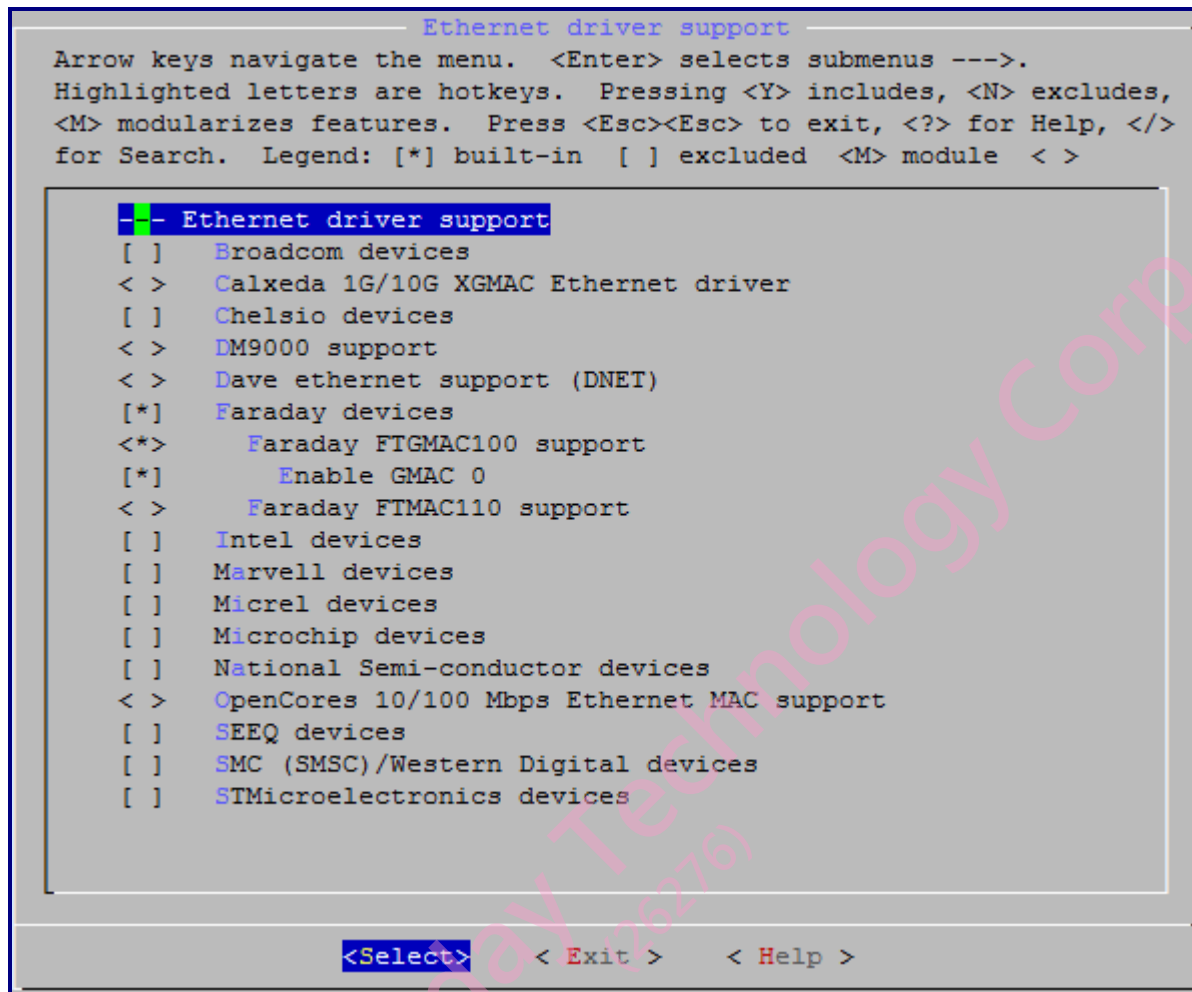


Figure 1-4. Kernel Configuration of Etherent Driver Support

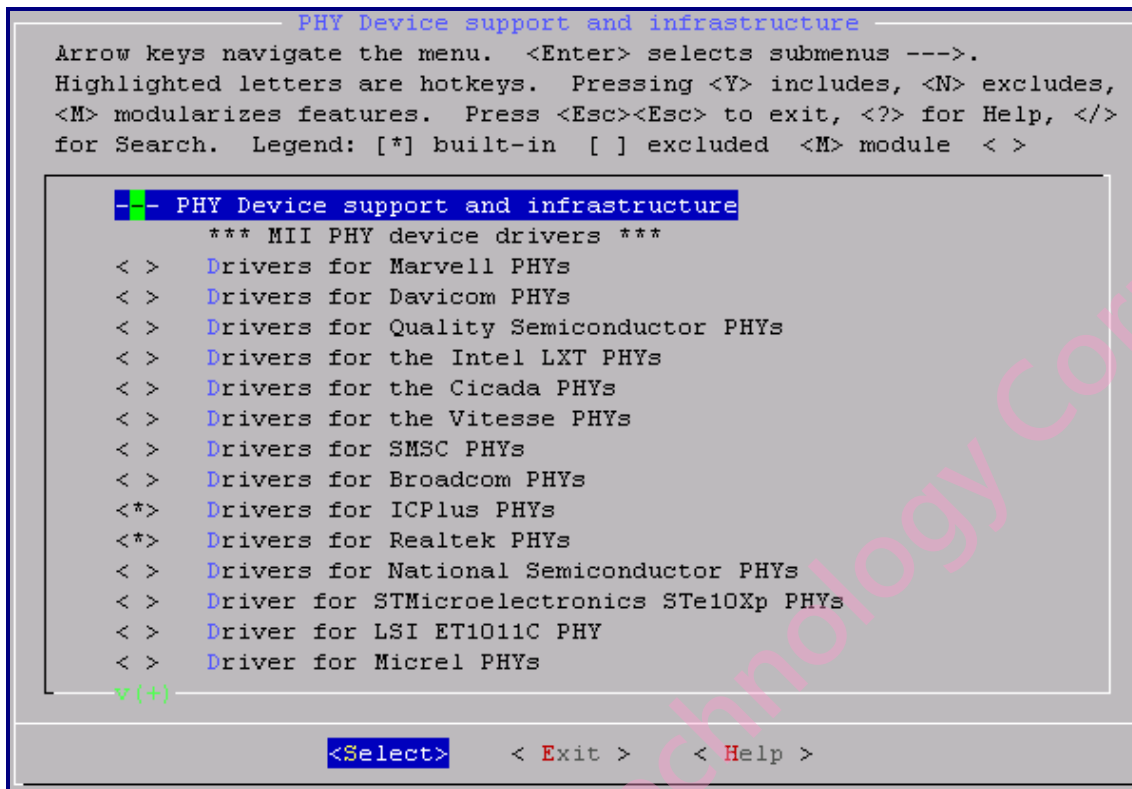


Figure 1-5. Kernel Configuration of PHY Device Support

After compiling the Linux kernel with the selected options, Linux will run and the terminal will show the booting messages. Users can see the descriptions of FTGMAC100 in the booting message if it works.

When the shell starts, users can perform some network tests. For example, users can execute the following commands to set up the Ethernet GMAC address and the IP address.

```
# ifconfig eth0 hw ether 00:11:22:33:44:55
```

```
# ifconfig eth0 192.168.121.139
```

Users can ping another network device by using the following command:

```
# ping 192.168.121.70
```

The result of the above commands is shown in Figure 1-6. Users can start using the network function.

```

...
ftgmac100: Loading version 2.0 ...
ftgmac100-0-mdio: probedftgmac100-0 ftgmac100-0.0: eth0: 1 tx queue used (max:
2)
ftgmac100-0 ftgmac100-0.0: eth0: 1 rx queue used (max: 1)
ftgmac100-0 ftgmac100-0.0: eth0: irq 3, mapped at 90868000
ftgmac100-0 ftgmac100-0.0: eth0: generated random MAC address
32:94:38:37:d4:3b...

```

Figure 1-6. Command Result

1.3 Set MAC Driver Argument

```

/ # ifconfig eth0 192.168.68.15
/ # phy speed is 100, full duplex

/ # ifconfig
eth0    Link encap:Ethernet  HWaddr 32:94:38:37:D4:3B
        inet addr:192.168.68.15  Bcast:192.168.68.255  Mask:255.255.255.0
        UP BROADCAST MULTICAST  MTU:1500  Metric:1
        RX packets:0 errors:0 dropped:0 overruns:0 frame:0
        TX packets:0 errors:0 dropped:0 overruns:0 carrier:0
        collisions:0 txqueuelen:1000
        RX bytes:0 (0.0 B)  TX bytes:0 (0.0 B)

```