



聯傑國際股份有限公司(DAVICOM Semiconductor, Inc.)

How to Install DM9000 Driver on RMI AU1250 Platform

➤ YAMON

This report is for the following hardware setting. If your hardware setting is not the same, you should modify the “**DM9000_BASE address**” . Please refer to AU12xx datasheet for the detail.

➤ DM9000 BASE Address : 0xB7000000

1. Add “lan_dm9000_ini.h” into “arch\include\initmodules.h”

```
#if INCLUDE_LAN_DM9000 /* Depends on ENV */
DO_DISP( "DM9000_LAN" );
#include <lan_dm9000_ini.h>
#endif
```

2. Define INCLUDE_LAN_DM9000. (arch\include\initswitch.h)

```
#define INCLUDE_LAN_DM9000 1
```

3. Copy “lan_dm9000_ini.h” to “\arch\include” directory

4. Set the base address.(arch\include\pb1000.h)

```
#define DM9000_ADDR 0xB7000000
```

5. Set DM9000 in “com_en0_major_device_pb1000_read()”
(arch\syscon\platform\syscon_platform.c)

```
#if defined(INCLUDE_LAN_LAN91C111)
*(UINT32 *)param = SYS_MAJOR_LAN_LAN91C111;
#elif defined(INCLUDE_LAN_SMSC9118)
*(UINT32 *)param = SYS_MAJOR_LAN_SMSC9118;
#elif defined(INCLUDE_LAN_DM9000)
*(UINT32 *)param = SYS_MAJOR_LAN_DM9000;
#else
*(UINT32 *)param = SYS_MAJOR_MAC_AU1000;
#endif
```



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6. Copy "lan_dm9000_api.h" to "include" directory

7. Set Major Device Driver Number for DM9000.(include/sysdev.h)

```
#define SYS_MAJOR_LAN_DM9000      14      /* Ethernet driver:
DAVICOM DM9000x */
```

➤ **Linux (linux-2.6.28)**

This report is for the following hardware setting. If your hardware setting is not the same, you should modify the "DM9000_BASE address" and "interrupt number".

Please refer to AU12xx datasheet for the detail.

- DM9000 BASE Address : 0x19000300
- DM9000 INT pin : GPIO 23 (high active)

#define DM9000_MIN_IO 0x1900 0300

#define DM9000_IRQ AU1000 GPIO 23

1. Set GPIO23 setting for IRQ (arch/mips/alchemy/pb1200/irqmap.c:)

```
struct au1xxx_irqmap __initdata au1xxx_irq_map[] = {
    /* This is external interrupt cascade */
    { AU1000_GPIO_23, INTC_INT_HIGH_LEVEL, 0 }, //ETH INT
};
:
```

2. Copy dm9ks.c and Makefile to drivers/net/ directory

3. Modify drivers/net/Space.c file

```
:
extern struct net_device *dmfe_probe(int unit);
:
#ifdef CONFIG_DM9000
    {dmfe_probe, 0},
#endif
:
```

4. Modify drivers/net/Kconfig file

```
config DM9000
    tristate "DM9000 support"
```



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```
depends on ARM || BLACKFIN || MIPS
```

```
select CRC32
```

```
select MII
```

```
---help---
```

```
Support for DM9000 chipset.
```

```
To compile this driver as a module, choose M here. The module  
will be called dm9000.
```

And run “make menuconfig” before make image.

Appendix:

1. Modify dm9ks.c from “lnx_dm9000_v250_poe_JJ2”, to fix the bug that Rxbyte is always zero.

- Modify the code in “dmfe_interrupt()” function,

```
unsigned long flags;
```

```
//spin_lock(&db->lock); //original code
```

```
spin_lock_irqsave(&db->lock,flags);
```

```
:
```

```
:
```

```
//spin_unlock(&db->lock); //original code
```

```
spin_unlock_irqrestore(&db->lock,flags);
```