

Abstract of New TEPRI (TEPRIa) development

1. Development reason

- Dram and FALC are discontinued by vendor.

2. Development direction

- FALC (Framer chip) (FALC54 → by FALC56 alteration application)
- Taken the new control Platform same as LP 40, TEPRI2 of OS7400.

3. Reference module

- Existing card : OS 500/OS 100 TEPRI (MC 68302 + DPRAM + PEB2254)
- New card : OS7400 TEPRI2 (MPC 852 T + DPRAM+ two PEF 2256.)

4. The target country

Same as previous customers (SEUK,STA,SEI,LSP,.....)

5. Personality development

5.1 H/W

(1) Personality development (Totally, reestablishment)

(2) Alteration particulars

. PEB2254H ==> PEF2256H

. Control platform : CPU : MC 68302 ==> MPC852T

(H/W Platform of uniformity is same as TEPRI2/LP40)

5.2 S/W

(1) Personality development (Totally, reestablishment)

(2) Alteration particulars

. S/W basis structure (CPU + Memory)

(S/W Platform of uniformity is same as TEPRI2/LP40)

6. Material costs change particulars

about : increased more then 5\$.

7. Card's name

- PBA cotton cloth current name as it is use : "TEPRI"
- Card ID : 13h (same as existing card)

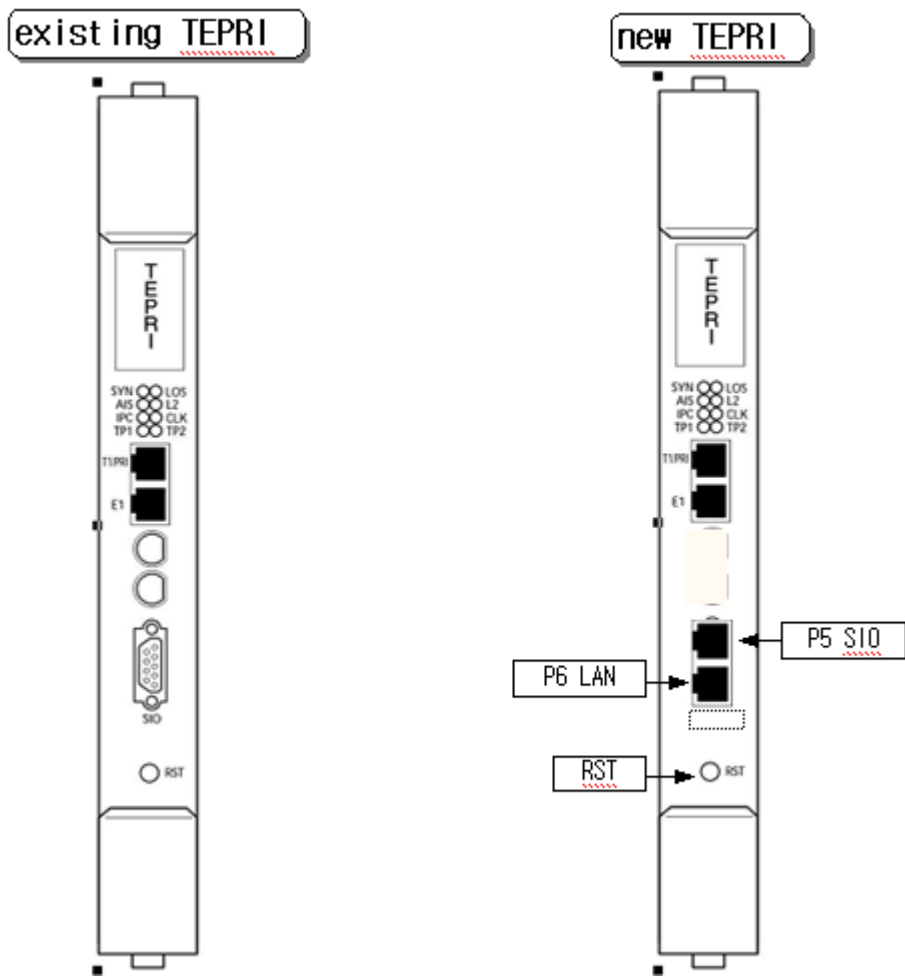


Figure 3

S/W condition for Test : OS500 MP : 2005.11.09 V2.60
 SP : 2005.10.17 V2.16
 new TEPRI F/W : 2005.12.10 V4.05

S/W modifications:

We will produce new TEPRI (TEPRIa). The main reason is that Falc2254 is substituted by Falc2256. Because Falc2254 that is current framer will not be continued any more in stock, and some more Hardware parts(CPU, DRAM, Flash Rom, DP-RAM, CPLD) are changed. So software should be changed to support the new configuration but, call processing, signaling, MMC setting, line cabling and functional parts will be same as current TEPRI.

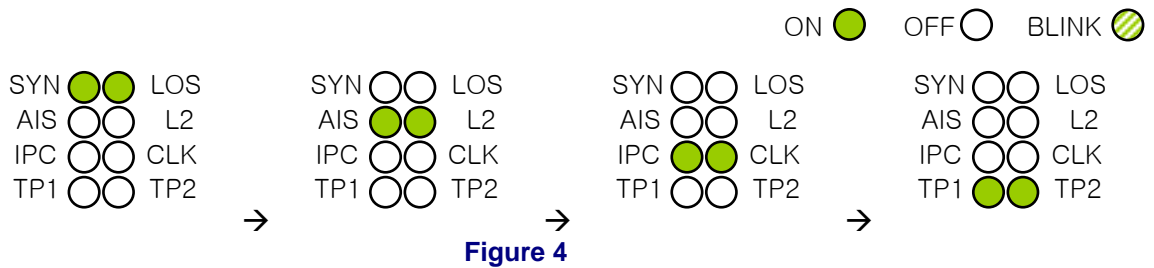
Big difference is (1)LED indication, (2)PGM download on MMC818, (3)SIO port and (4)LAN port.

1) LED indication

① On initialization

On the current TEPRI there is no LED indication during initialization, but on the new TEPRI (TEPRIa) LED will be displayed during S/W loading.

If S/W is copied from Flash rom to DRAM during initialization then LED will be displayed from top to bottom like as below picture.



② Idle/running

If S/W loading is finished and TEPRI is idle status then LED status is same as current TEPRI. For example, E1PRI.

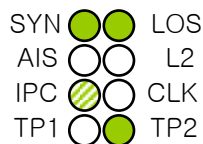


Figure 5

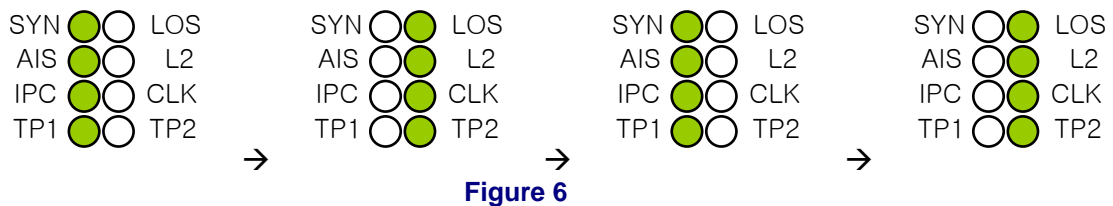
③ PGM download

If you try to upgrade S/W using MMC818(PGM DOWNLOAD), at first LED will be displayed from top to bottom for 20 seconds same as above ①. It means that S/W is copied to DRAM.

After 20 second, *.PGM file will be copied from smart media card to DRAM for about 10 minutes.

And then, *.PGM file will be written to Flash rom. It will take 80 seconds.

During this time, LED will be displayed same as below.



If all downloading is finished, TEPRI will be restarted.

2) PGM download

① File name

S/W is not compatible between current TEPRI and new TEPRI (TEPRIa), so we should differentiate the file name. Current TEPRI is using "PRI_xxxx.pgm", new TEPRI (TEPRIa) is using "PR2_xxxx.pgm".

TEPRIa package ("PR2_xxxx.pgm") is used for OS 500 TEPRIa, OS 7200 TEPRIa and OS 7400 TEPRI2 (2 port TEPRI card).

In the MCP V2.60, "PR2:" option is added on the MMC818. Therefore if you want to upgrade TEPRIa S/W on the MMC818, you should select "PR2:" then you can see the file those name is "PR2_xxxx.pgm".

② With old MCP(earlier version of V2.60)

We recommend that you first upgrade the MCP software to V2.60 or later version when you install TEPRIa card to the existing system.

However, you can upgrade the software using below way if you are in the situation you cannot upgrade the MCP software.

There is only "PRI" option and no "PR2" option in MMC818 in the earlier MCP software version, for example V2.48, than 2.60 MCP S/W. So you need to change the file name from "PR2_xxxx.pgm" to "PRI_xxxx.pgm" and you can upgrade the S/W to TEPRIa card.

<CAUTION>

- Never select TEPRIa S/W package for the current TEPRI card. It will not work.

3) SIO port

SIO port is changed to RJ-45 from DB-9 port. That is only thing to be changed. Using method is same as before. You can refer to the below picture.

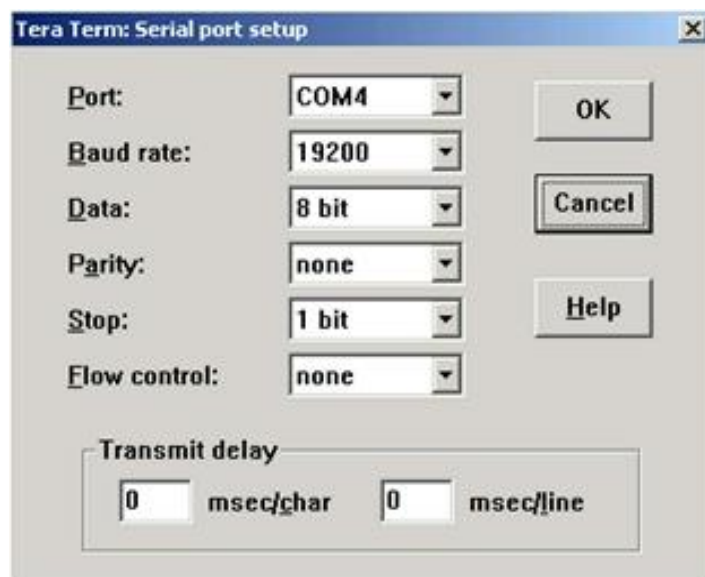


Figure 7

① In BOOTING process

During booting, you can press the [ENTER] button then you can use SIO function.

(Blue characters are action, Red's are Input characters and Pink's are description)

Connect the SIO cable and let the TEPRIa card start.

[Boot PGM] <<< Boot Program of TEPRI System >>> TEPRI BOOT V1.04: 2005/10/25

[Boot PGM] Read netinfo from eeprom

- IP : 255.255.255.255
- GW : 255.255.255.255
- SM : 255.255.255.255
- MAC: 0000F0E8222E

[Boot PGM] !!!Warning: There are No assigned IP Configuration (Default IP Address is set)

[B S P] LTX972 PHY INIT : PASS

[Boot PGM] RTCS creation is OK!

[ENTER] ← Press [enter] key at this point.

[Boot PGM]!Sorry, invalid password...

[Boot PGM] STOP the load to DRAM by Consol command

[Boot PGM] Enter password !

[Boot PGM]!Sorry, invalid password...

[Boot PGM]!Sorry, invalid password...

teprisamsung ← Input it as password

```
* TEPRI Consol command help ... IAP Development Group *
* [Version: TEPRI BOOT V1.04: 2005/10/25] *
*-----*
* HELP ... TEPRI help command *
* LOAD ... File upload from PCMMC via lan interface *
* READIP ... Network parameter infomation display(IP,MAC ...) *
* WRITEIP ... Network parameter write(IP addr + Auto setting) *
* ex) WRITEIP 160.217.70.9 *
* WRITEIP2 ... Network parameter write(IP addr + Gateway addr + subnet mask) *
* ex) WRITEIP2 160.217.70.9 160.217.70.1 255.255.255.0 *
* MACR ... MAC address read *
* MACW ... MAC address write(Only MAC addr) *
* ex) MACW FF 34 56 *
* RESET ... Restart Card *
* FORMAT ... Format NOR Flash Memory *
* VER ... S/W version display *
* LMEM ... Dump memory(list memory) ex) LMEM st_addr (end_addr) (w/l) *
* WMEM ... Modify memory(write memory) ex) WMEM addr val (b/w/l) *
* *
*****
```

[Boot PGM] !!!Warning: There are No assigned IP Configuration (Default IP Address is set)

[Boot PGM] System Network Configuration

- IP : 165.213.176.141 ← This is the default IP address of TEPRIa/TEPRI2 card and you can only see this default IP address during the booting process. In running process, however, it shows 255.255.255.255 instead of the default IP address because it changes to 255.255.255.255 after boot-up.

- GW : 165.213.176.1
- SM : 255.255.255.0
- MAC: 0000F0E8222E

[Boot PGM] Invalid Command

WRITEIP 165.213.176.111 ← If you want to change the IP address. In order to upgrade TEPRIa software through LAN port (see part #5) or connect to TEPRI through Telnet you need to set IP address

to match to your network or PC.

[Boot PGM] System Network changed

- IP : 165.213.176.111

- GW : 165.213.176.1

- SM : 255.255.255.0

- MAC: 0000F0FF2468

[Boot PGM] !!! After card restart, this network information is valid

[Boot PGM] Invalid Command

(IP address is changed from 165.21317.141 to 165.213.176.111.)

② **In running process**

When the TEPRI card is on line mode, you can connect SIO cable and press [ENTER] button.

```
Connect SIO cable and press the [ENTER] button.

DCSPLUS TEPRI system.
Enter password !
DCSPLUS TEPRI system.
Enter password !
plussamsung ← input it as password but it will not be displayed on the screen.

Welcome DCSPLUS TEPRI system !
Start SIO trace mode

*****
TEPRI SIO command help
2005.03.01 IP-KP Development Group
-----

LMEM ... List memory      (LMEM Address)
WMEM ... Revise memory Word (WMEM: Address Word)
OMEM ... Revise memory Byte (OMEM: Address Byte)
BMEM ... Revise memory Block (BMEM: StartAddr EndAddr Word)
STPO ... Set Trace Port   (STPO +/-Port Number)
MSGT ... Message Trace    (MSGT ON/OFF)
MOTF ... Modify Trace Flags
      (T1,E1 : MOTF +/-I(lpc),+/-S(State),+/-L(aLarm),+/-A(Abcd))
      (ISDN : MOTF +/-I(lpc),+/-D(D ch),+/-F(Full audit))
MACW ... MAC address Write (MACW Mac Address)
IPWR ... IP address WRite  (IPWR IP Address)
GWWR ... GateWay address WRite (GWWR Gateway Address)
SMWR ... Subnet Mask write (SMWR Subnet Mask Address)
SYSI ... SYStem Information
HELP ... DCSPLUS TEPRI help command
QUIT ... Quit

*****

TEPRI>sysi ← If you want to see the System information.
system information
System ID      : 0x00, OS7400
CPLD Version   : 0x01
PCB Version    : 0x01
Read Netinfo from EEPROM
MAC address    : 34 12 78 56 ff ff
IP address     : 255.255.255.255
Gateway address : 255.255.255.255
Subnet mask    : 255.255.255.255

Warning: There are No assigned MAC Address (Default MAC is set)
Warning: There are No assigned IP Configuration (Default IP Address is set)
TEPRI>
```

4) LAN port

You can use the LAN port to monitor and debug the TEPRIa at remote site. If you already assign the IP address to 165.213.176.141 while TEPRIa card installation at the site, then you can access the TEPRI card by TELNET. In this case, you should use the port number to **5082**.



Figure 8

```
PASSWORD>
KPSW1234 ← input it as password but it will not be displayed on the screen.
plussamsung
*****
TEPRI SIO command help
2005.03.01 IP-KP Development Group
-----

LMEM ... List memory      (LMEM Address)
WMEM ... Revise memory Word (WMEM: Address Word)
OMEM ... Revise memory Byte (OMEM: Address Byte)
BMEM ... Revise memory Block (BMEM: StartAddr EndAddr Word)
STPO ... Set Trace Port   (STPO +/-Port Number)
MSGT ... Message Trace    (MSGT ON/OFF)
MOTF ... Modify Trace Flags
          (T1,E1 : MOTF +/-I(lpc),+/-S(State),+/-L(aLarm),+/-A(Abcd))
          (ISDN : MOTF +/-I(lpc),+/-D(D ch),+/-F(Full audit))
MACW
IPWR
GWWR
SMWR
SYSI
HELP ... DCSPLUS TEPRI help command
QUIT ... Quit

*****

TEPRI> sysi (Sometimes it may not show although you type the character. In this case,
             you need to check the "local echo" on the Terminal application)

TEPRI System Information
System ID      : 0x00
CPLD Version   : 0x02
PCB Version    : 0x01

TEPRI>
```

5) How to upgrade PR2_xxxx.pgm through LAN port

This is only for the case you cannot upgrade the software for TEPRIa/TEPRI2 card by MMC 818.

You need "OfficeServ Manager Launch Pad" program to upgrade x.pgm file via LAN port

- 1) Configure local network between TEPRI2/TEPRIa and your computer, you can use either cross-over cable or hub.
- 2) Connect SIO cable to TEPRI2/TEPRIa from your computer and follow either **below** or "**3) SIO port**" instruction above.

Let the TEPRI card restart by pressing reset button in front of TEPRIa/TEPRI2 card.

```
[Boot PGM] <<< Boot Program of TEPRI System >>> TEPRI BOOT V1.04: 2005/10/25
```

```
[Boot PGM] Read netinfo from eeprom
```

```
- IP : 255.255.255.255
- GW : 255.255.255.255
- SM : 255.255.255.255
- MAC: 0000F0E8222E
```

```
[Boot PGM] !!!Warning: There are No assigned IP Configuration (Default IP Address is set)
```

```
[ B S P ] LTX972 PHY INIT : PASS
```

```
[Boot PGM] RTCS creation is OK!
```

```
[ENTER] ← Press [enter] key at this point.
```

```
[Boot PGM]!Sorry, invalid password...
```

```
[Boot PGM] STOP the load to DRAM by Consol command
```

```
[Boot PGM] Enter password !
```

```
[Boot PGM]!Sorry, invalid password...
```

```
[Boot PGM]!Sorry, invalid password...
```

```
teprisamsung ← Input it as password
```

```
*****
```

```
* TEPRI Consol command help ... IAP Development Group *
* [Version: TEPRI BOOT V1.04: 2005/10/25] *
*-----*
* HELP ... TEPRI help command *
* LOAD ... File upload from PCMMC via lan interface *
* READIP ... Network parameter infomation display(IP,MAC ...) *
* WRITEIP ... Network parameter write(IP addr + Auto setting) *
* ex) WRITEIP 160.217.70.9 *
* WRITEIP2 ... Network parameter write(IP addr + Gateway addr + subnet mask) *
* ex) WRITEIP2 160.217.70.9 160.217.70.1 255.255.255.0 *
* MACR ... MAC address read *
* MACW ... MAC address write(Only MAC addr) *
* ex) MACW FF 34 56 *
* RESET ... Restart Card *
* FORMAT ... Format NOR Flash Memory *
* VER ... S/W version display *
* LMEM ... Dump memory(list memory) ex) LMEM st_addr (end_addr) (w/l) *
* WMEM ... Modify memory(write memory) ex) WMEM addr val (b/w/l) *
* *
*****
```

```
[Boot PGM] !!!Warning: There are No assigned IP Configuration (Default IP Address is set)
```

```
[Boot PGM] System Network Configuration
```

```
- IP : 165.213.176.141 ← This is the default IP address of TEPRIa/TEPRI2 card and you may need to
change it by WRITEIP command to match your network or PC.
- GW : 165.213.176.1
- SM : 255.255.255.0
- MAC: 0000F0E8222E
```

[Boot PGM] Invalid Command

WRITEIP 165.213.176.111 ← If you want to change the IP address. In order to upgrade TEPRIa/TEPRI2 software through LAN port, you need to set IP address to match to your network or PC.

[Boot PGM] System Network changed

- IP : 165.213.176.111
- GW : 165.213.176.1
- SM : 255.255.255.0
- MAC: 0000F0FF2468

[Boot PGM] !!! After card restart, this network information is valid

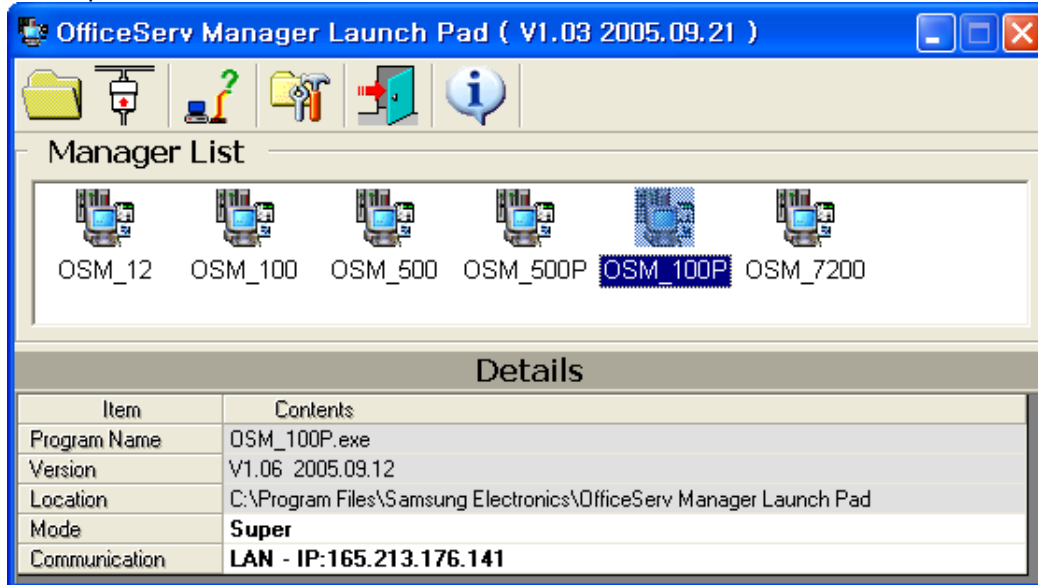
[Boot PGM] Invalid Command

load ← when you want to upload the PR2_xxx.pgm file to TEPRIa/TEPRI2

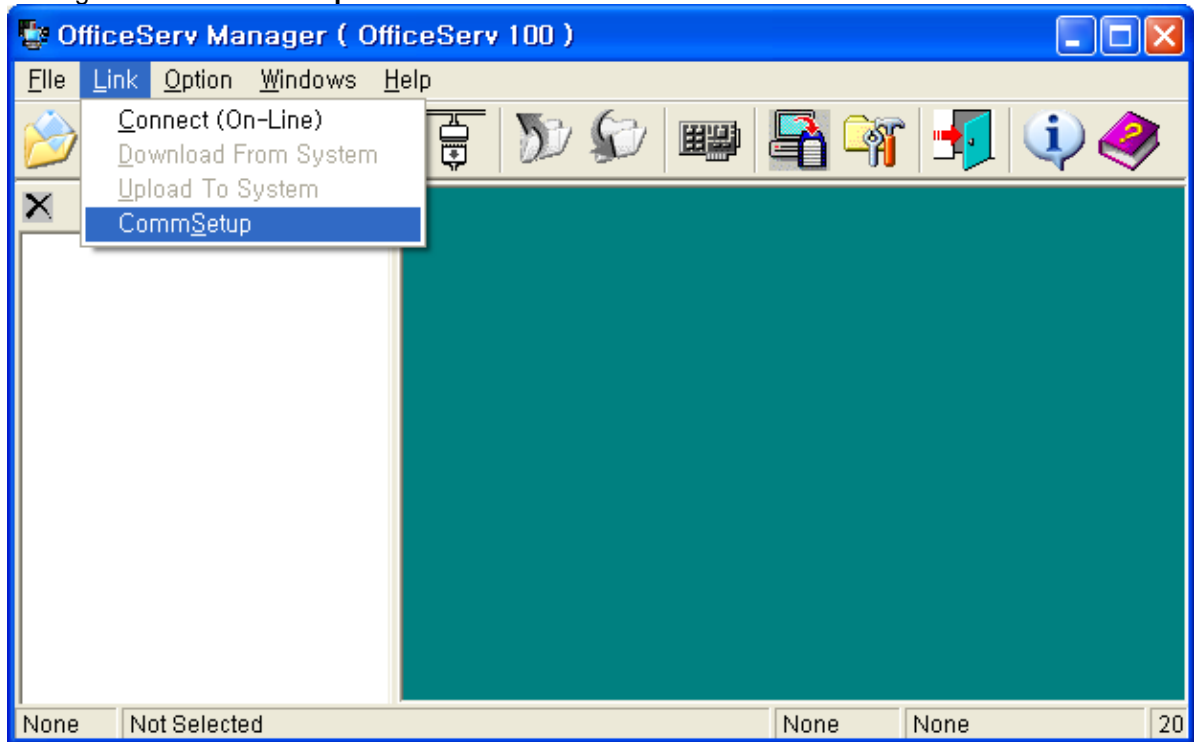
[Boot PGM] System Network changed

- IP : 165.213.176.111
- GW : 165.213.176.1
- SM : 255.255.255.0
- MAC: 0000F0FF2468

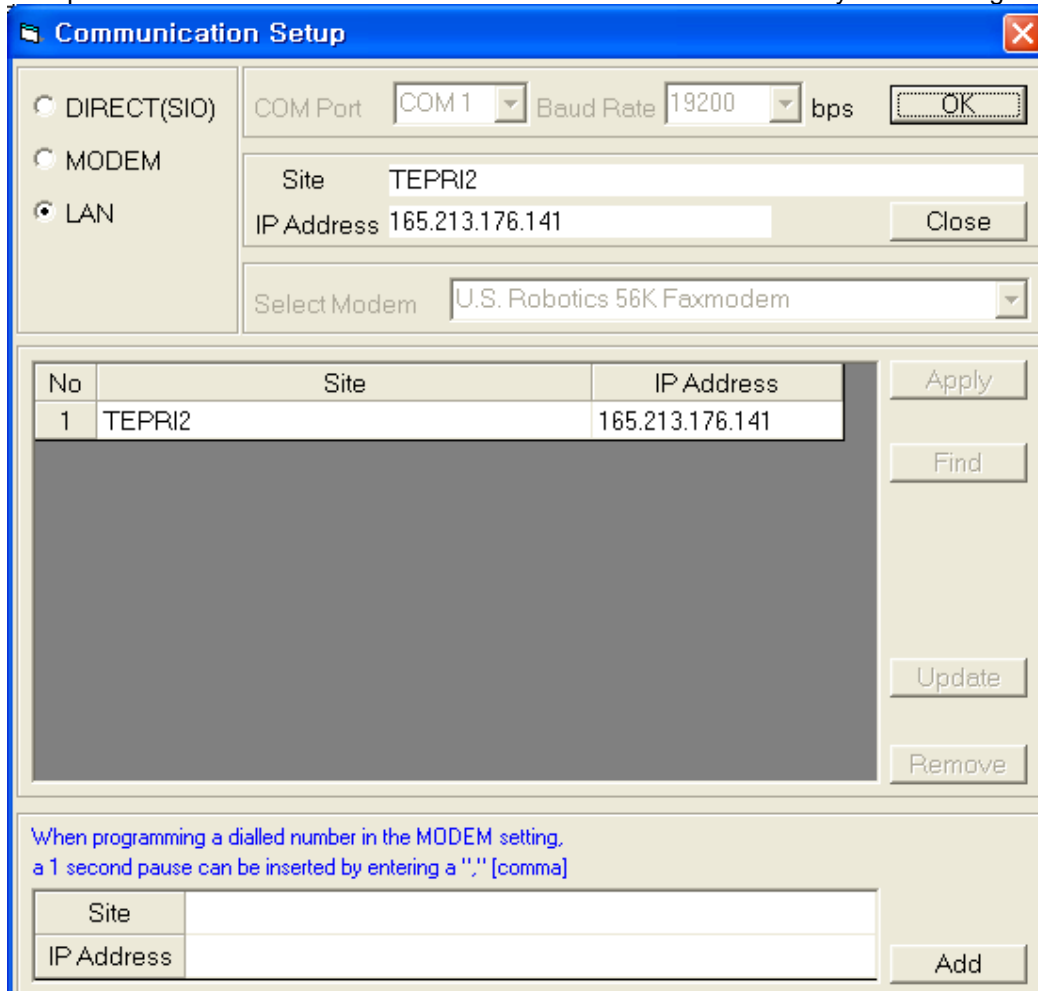
3) Now open the OfficeServ Launch Pad and execute the “OSM_OS100” or “OSM_100P”



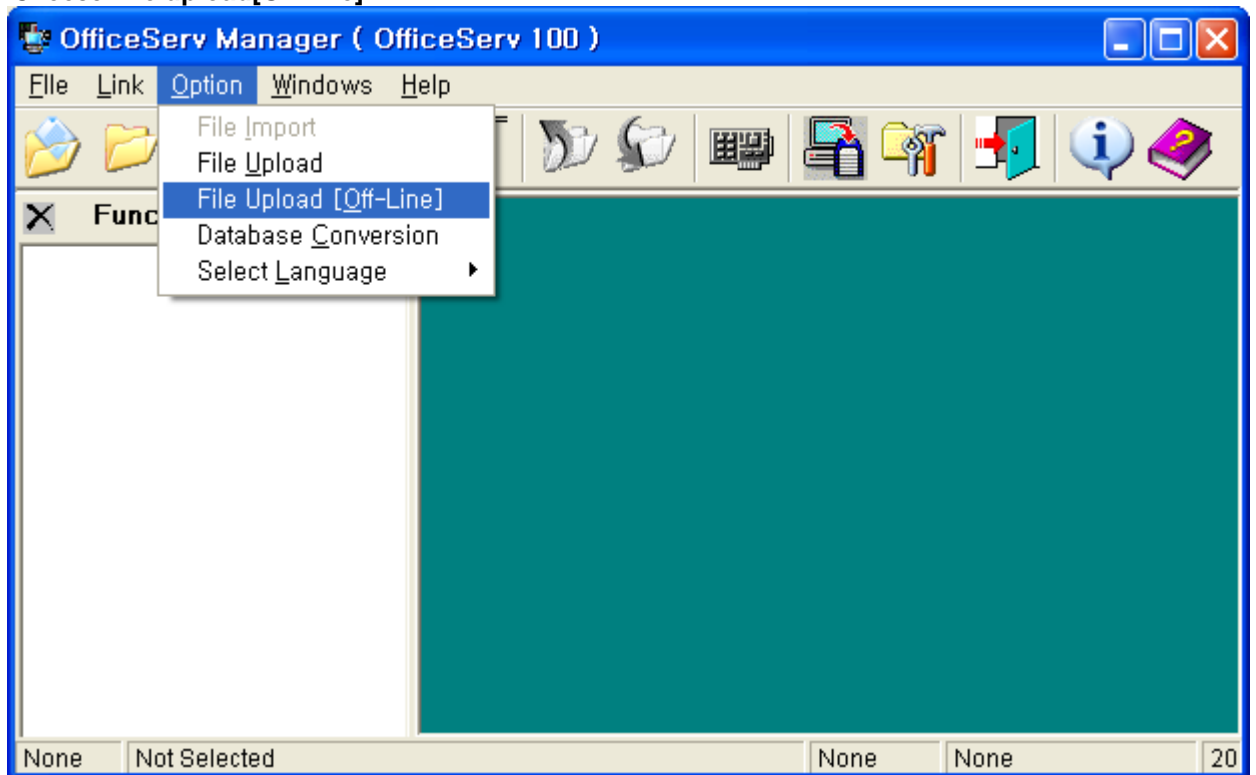
4) Configure the “CommSetup”



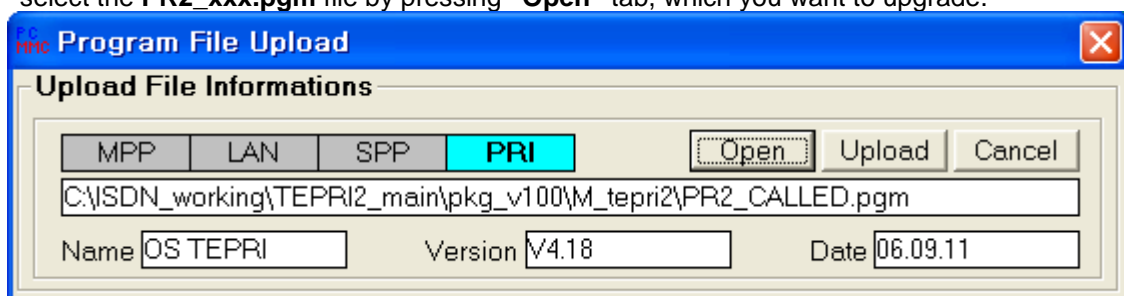
5) Setup the **IP address** below should be that of TEPRIa/TEPRI2 which you set through SIO port.



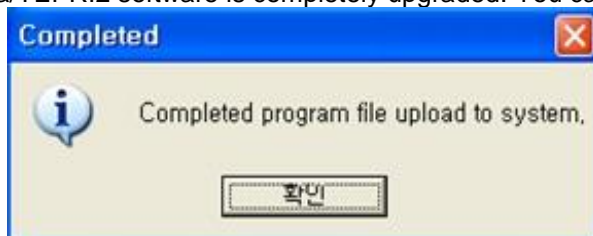
- 6) Choose **File upload[Off-line]**



- 7) select the **PR2_xxx.pgm** file by pressing “**Open**” tab, which you want to upgrade.



- 8) Press **Upload** tab
9) Now “**Input Dealy Time**” window shows and put the value as “**40**” and then press enter key from your PC.
10) Now software upgrading process starts.
11) Although the below window appears, **neither close the window nor press confirmation tab** until TEPRIa/TEPRI2 software is completely upgraded. You can aware of that through SIO window.



- 12) Wait for finishing the upgrade and close above window.
13) TEPRIa/TEPRI2 will automatically restart after finishing the upgrade.