ICP DAS CO., LTD.
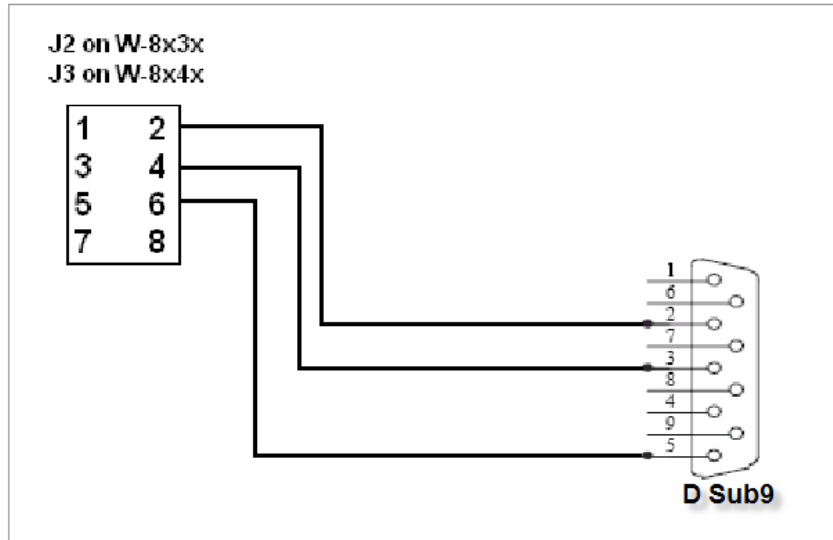
Address: No. 111, Kuangfu N. Rd., Hukou Shiang, Hsinchu, Taiwan 303, R.O.C

Phone: +886-3-5973366   Fax: +886-3-5973733

WinCon 無法開機之問題檢測 (使用 Debug Port)

適用產品型號： W-8x3x 系列及 W-8x4x 系列

使用情況： 當 OS image 無法由 EShell 進行更新時，利用 WinCon 上的 Debug Port 和 PC 連接，可以取得網路下載 OS 的進度, 或開機時的其他訊息回報。利用這些訊息回報，可以了解是否為 WinCon 硬体故障造成之無法開機問題，更進一步判斷是否需要返修。

準備測試工具：一條 Debug 用之 RS-232 線

● Debug Port 通訊格式定義為 baudrate = 38400 bps, data = 8,N,1, flow control = none.

● Debug Port 位置

W-8x4x :
J3
Pin assignment

1	2
3	4
5	6
7	8

W-8x3x :
J2 Pin assignment

2	4	6	8
1	3	5	7

● Debug Port 與 PC 之接線

Debug 訊息取得：

1. 在 Windows 工作列上選擇【開啓】/【所有程式/程式集】/【附屬應用程式】/【通訊】/
   【超級終端機】(請在桌面上建立捷徑)，在【連線描述】的【名稱】中輸入一個名稱(例
   如 Test)(圖 1)，在【連線到】的【使用連線】中選擇 **COM1**(圖 2)

   ※注意：請確認序列埠線接至電腦的 **COM1** 埠
   ※注意：若出現要求輸入地區資訊的對話框，請輸入區碼再按兩次【OK】即可

圖 1 – 輸入名稱(超級終端機)

圖 2 – 選擇通訊埠(超級終端機)

2. 在【COM1 內容】的【每秒傳輸位元】中選擇 **38400** (圖 3)
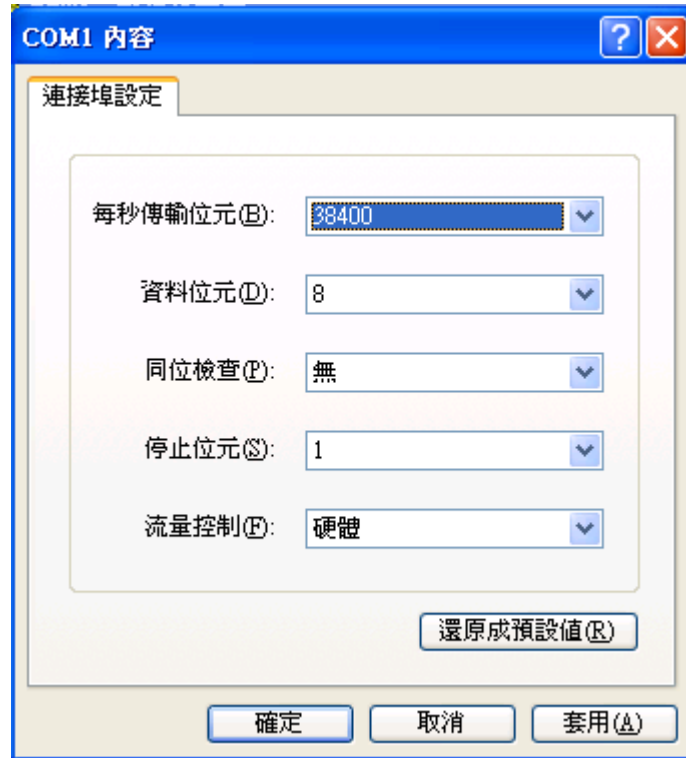
圖 3 – 選擇通訊埠(超級終端機)

3. 接上網路線,開起電源,從【超級終端機】上取得 Debug Port 的訊息。
   細節請參考附錄 A ~ 附錄 D

附錄 A: W-8x3x 開機過程訊息

ICPDAS Eboot Res:6 10/23/2003

Eboot Launching Win CE

ICPDAS WinCon at SDRAM

Eboot Launching Win CE

Microsoft Windows CE Ethernet Bootloader Common Library Version 1.0 Built Oct 23 2003 10:30:24
Copyright (c) 2000-2001 Microsoft Corporation
Microsoft Windows CE Ethernet Bootloader 3.3 for CE/SA11X0BD (Oct 23 2003)
InitClock
System Ready to Run WCE ...

假如停在這一行，表示 Y4(32.768k)不良，需要更換 Y4。

Found pTOC signature.
ROMHDR at Address 8C120044h
RomHdr.ulRAMStart=8D820000h RomHdr.physfirst=8C120000h.
Download successful! Jumping to image at 8C125C1Ch...

Jumping to image at 8C125C1Ch

ICPDAS WinCon at SDRAM

假如 OS image 遺失或錯亂，會出現以下訊息：

ERROR: Checksum failure (expected=0x18511DB computed=0x22AE265)
****** Checksum failure on record 2, ABORT!!! ******

必需用 EShell 重新下載 OS

Eboot Launching Win CE
Windows CE Kernel for ARM   Built on Jul 29 2003 at 10:18:26
ProcessorType=0b11 Revision=9
sp_abt=ffff5000 sp_irq=ffff2800 sp_undef=ffffc800
InitClock
ScanSlotID
 setting up 1111 Daughter Card
Booting Windows CE version 4.10 for (ARM)

Old or invalid version stamp in kernel structures - starting clean! 0 0
Configuring: Primary pages: 10055, Secondary pages: 0, Filesystem pages = 5027

Booting kernel with clean memory configuration:
Memory Sections:
[0] : start: 8d8b6000, extension: 00003000, length: 02747000
Sp=ffffc7d0
Check Registry in block 2 , Get CheckSum at a41bfffc is ffffffff and Real length
 ffffffff is 0
Check Registry in block 1 , Get CheckSum at a413fffc is ffffffff and Real length
 ffffffff is 0
ReadRegistryFromFlash in block 0 CheckSum Fail!
InitializeJit
PCMCIADriver Init slot 1.
Scanning Installed Providers
                        Installing Layered Providers
                                Installed over Windows C
E MS Tcpip [UDP/IP].
             Installed over Windows CE MS Tcpip [UDP/IP].
                                        Installed over W
indows CE MS Tcpip [TCP/IP].
                Installed over Windows CE MS Tcpip [TCP/IP].
                                        Can't Re
order under CEPreparing To Reoder Installed Chains
                                MQGC::MQGC Contructor

停在這一行代表 J8 不良，需要更換 J8

MQGC::MapPhysicalDevice - m_nLAWPhysical = 4b800000 m_nVideoMemorySize = 002000
00 m_nIOPhysical = 4be00000 m_nMMIOMemorySize = 0001a000
MSIM: IM_ReadRegistry read KB 5
Read SMC Ethernet Address: 0:1:2:3:4:10
 Compact Flash Card found.
InitPddInterrupts RhPortStatus: 0x0.
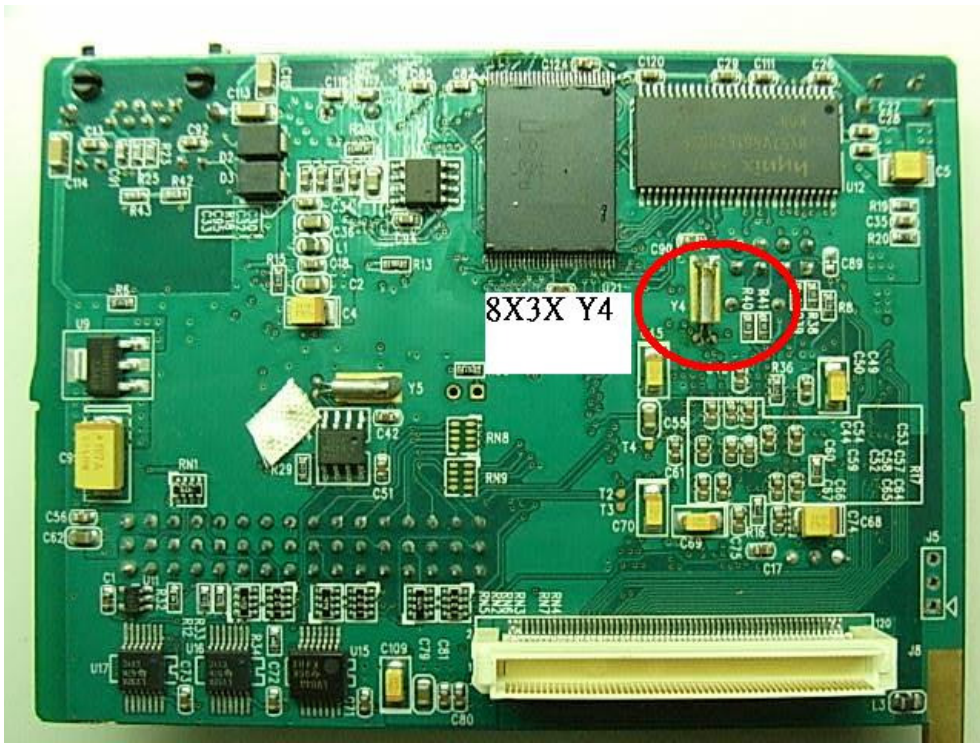OHCIPdd Init Interface Reset done +

看到這一行，表示 完成開機

8X3X Y4

J7/J8

附錄 B: W-8x4x 開機過程訊息

ICPDAS WinCon Eboot Res:9 05/04/2007

Eboot Launching Win CE

ICPDAS WinCon at SDRAM

Eboot Launching Win CE
Eboot Version : V1.0 Bate (2007/09/21)
InitClock.....
Get_RotarySwtich_ID: 0   ==> Boot OS from Flash.
Alung test DownloadImage.......!!

Found pTOC signature.
ROMHDR at Address 8C140044h
RomHdr.ulRAMStart=8DC50000h RomHdr.physfirst=8C1400

Jumping to image at 8C14408Ch

ICPDAS WinCon at SDRAM

Eboot Launching Win CE
Windows CE Kernel for ARM   Built on Feb 12 2003 at 15:37:33
ProcessorType=0b11 Revision=9
sp_abt=ffff5000 sp_irq=ffff2800 sp_undef=ffffc800
InitClock.....
SADU CPLD ID:3
ScanSlotID
Reset By H/W
Now GAFR is 8000000
Now GPDR is e670000
Now GRER is 31f
Now GFER is 1b
Now MSC1 is cfd52419
Now GRER a9040010 is 231f
Now GFER a9040014 is 201f
Sp=ffffc7d0
Year == 9
Check Registry in block 2 , Get CheckSum at a41bfffc is ffffffff and Real length
 ffffffff is 0
Check Registry in block 1 , Get CheckSum at a413fffc is ffffffff and Real length
 ffffffff is 0
ReadRegistryFromFlash in block 0 CheckSum Fail!
LAN9000_1 Interrupt Enable
**************OEMInterruptEnable: SYSINTR_LAN_DM9000_2.
Scanning Installed Providers
                Installing Layered Providers
                                Installed over Windows C
E MS Tcpip [UDP/IP].
            Installed over Windows CE MS Tcpip [UDP/IP].
                                        Installed over W
indows CE MS Tcpip [TCP/IP].
                Installed over Windows CE MS Tcpip [TCP/IP].
                                        Can't Re
order under CEPreparing To Reoder Installed Chains
                                MQGC::MQGC Contructor
MQGC::MapPhysicalDevice - m_nLAWPhysical = 4b800000 m_nVideoMemorySize = 002000
00 m_nIOPhysical = 4be00000 m_nMMIOMemorySize = 0001a000
NDISPWR:: Found adapter [DM9CE1]
NDISPWR:: Found adapter [DM9CE0]
 Compact Flash Card NOT detected.
Read SMC Ethernet Address: 1:0:1:0:1:0

假如停在這一行，表示 Y4(32.768k)不良，需要更換 Y4。
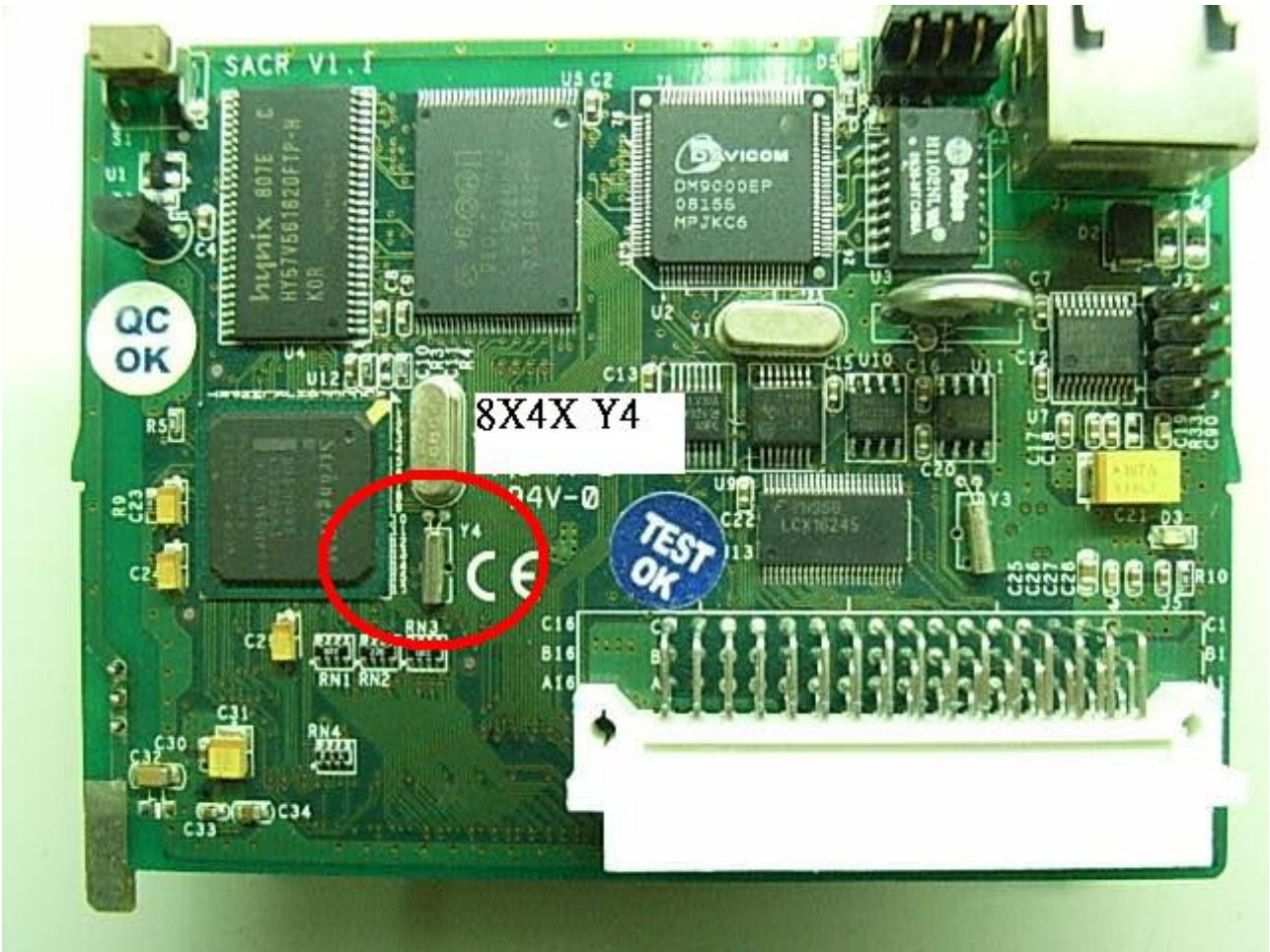
假如 OS image 遺失或錯亂，會出現以下訊息：
ERROR: Checksum failure (expected=0x18F1528 computed=0x1CBAE2C)
****** Checksum failure on record 27, ABORT!!! ******

必需用 EShell 重新下載 OS

停在這一行代表 J7 不良，需更換 J7

看到這一行，表示完成開機

附錄 C: W-8x3x 從 EShell 更新 OS image 之過程訊息

ICPDAS Eboot Res:6 10/23/2003

Eboot Launching Win CE

ICPDAS WinCon at SDRAM

Eboot Launching Win CE

Microsoft Windows CE Ethernet Bootloader Common Library Version 1.0 Built Oct 23
 2003 10:30:24
Copyright (c) 2000-2001 Microsoft Corporation
Microsoft Windows CE Ethernet Bootloader 3.3 for CE/SA11X0BD (Oct 23 2003)
Initialize SMC Ethernet
+SMCInit
SMC Ethernet card detected at I/O base 0xABA00000
SMC Ethernet Address: 00:01:02:03:04:10
SMC Ethernet card Config_Reg=2031
SMC Ethernet card Config_Base=1867
SMC Ethernet card Switch=3F
SMC config reg val: 00003231
SMC Reset complete2
-SMCInit
InitClock
Hit ENTER within 3 seconds to enter static IP address!InitDHCP():: Calling Proce
ssDHCP()
ProcessDHCP()::DHCP_INIT
Got Response from DHCP server, IP address: 10.0.12.18

ProcessDHCP()::DHCP IP Address Resolved as 10.0.12.18, netmask: 255.255.255.0
Lease time: 259200 seconds
Got Response from DHCP server, IP address: 10.0.12.18
No ARP response in 2 seconds, assuming ownership of 10.0.12.18
+EbootSendBootmeAndWaitForTftp
Sent BOOTME to 255.255.255.255
Sent BOOTME to 255.255.255.255
Sent BOOTME to 255.255.255.255
Locked Down Link 1
Src IP 10.0.12.18 Port 0800   Dest IP 10.0.12.2 Port 085A
EthDown::TFTPD_OPEN::boot.bin
-EbootSendBootmeAndWaitForTftp
Download Image to Flash ...
I got CE Magic number!!
Image Start at 8C120000 , Size is 16F47A0 bytes.
Start : 8C120000, Lth : 4, RecChk : 106
Start : 8C120040, Lth : 8, RecChk : 2AC
Start : 8C121000, Lth : 3E020, RecChk : 18511DB
Start : 8C160000, Lth : 1FA8, RecChk : 88513
…..
…..
Start : 8D048000, Lth : 7CA26C, RecChk : 2F67023D
Start : 8D81226C, Lth : 54, RecChk : DF0
Start : 8D8122C0, Lth : 24E0, RecChk : D2B4A
TFTP: Desktop losing ACK, block number = 46683, Ack again
Start : 0, Lth : 8C125C1C, RecChk : 0
Image download to SDRAM is successful!
Block Erasing ....
.... Done
Block 1/92 Programing .... Done!
Verifying ...Done
Block 2/92 Programing .... Done!
Verifying ...Done
Block 3/92 Programing .... Done!
Block 90/92 Programing .... Done!
Verifying ...Done
Block 91/92 Programing .... Done!
Verifying ...Done
Block 92/92 Programing .... Done!
Verifying ...Done
Flash Download successful !!   看到這一行，表示 **OS** 下載成功

附錄 D: W-8x4x 從 EShell 更新 OS image 之過程訊息

ICPDAS WinCon Eboot Res:9 05/04/2007

Eboot Launching Win CE

ICPDAS WinCon at SDRAM

Eboot Launching Win CE
Eboot Version : V1.0 Bate (2007/09/21)
InitClock.....
Get_RotarySwtich_ID: 2   ==> Download OS Image to Flash.
Davicom DM9000 0 Detected at ABA00000.
Entering DM9000Init.
DM9000Init: MAC address is 00:0D:E0:F8:0F:64
System ready! Preparing for download OS from flash...
InitDHCP():: Calling ProcessDHCP()
ProcessDHCP()::DHCP_INIT
Got Response from DHCP server, IP address: 10.0.12.9

ProcessDHCP()::DHCP IP Address Resolved as 10.0.12.9, netmask: 255.255.255.0
Lease time: 259200 seconds
Got Response from DHCP server, IP address: 10.0.12.9
No ARP response in 2 seconds, assuming ownership of 10.0.12.9
+EbootSendBootmeAndWaitForTftp
Sent BOOTME to 255.255.255.255
Locked Down Link 1
Src IP 10.0.12.9 Port 0800   Dest IP 10.0.12.2 Port 0851
EthDown::TFTPD_OPEN::boot.bin
-EbootSendBootmeAndWaitForTftp
I got CE Magic number!!
Image Start at 8C140000 , Size is 16FFC3C bytes.
Start : 8C140000, Lth : 4, RecChk : 11B
Start : 8C140040, Lth : 8, RecChk : 391
Start : 8D030000, Lth : 4FDC, RecChk : 207A56
……
……
Start : 8D035000, Lth : 80859C, RecChk : 3231BB45
Start : 8D83D59C, Lth : 54, RecChk : F37
Start : 8D83D5F0, Lth : 264C, RecChk : DA3C0
TFTP: Desktop losing ACK, block number = 46790, Ack again
Start : 0, Lth : 8C14408C, RecChk : 0
Image download to SDRAM is successful!
Block Erasing ....
.... Done
Block 1/92 Programing Verifying ...Done
Block 2/92 Programing Verifying ...Done
Block 3/92 Programing Verifying ...Done
Block 4/92 Programing Verifying ...Done
……
……
Block 90/92 Programing Verifying ...Done
Block 91/92 Programing Verifying ...Done
Block 92/92 Programing Verifying ...Done
Flash Download successful !!

看到這一行，表示 **OS** 下載成功