



ICP DAS CO., LTD.

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Diagnostic the un-bootable WinCon (Using the Debug Port)

Issued Products: W-8x3x Series and W-8x4x Series

When to use? When the OS image can not be updated by using the EShell via the Ethernet, you can use the PC to connect the Debug Port of the WinCon to display information of the progress of downloading OS image. And then you will know whether the problem is caused by the hardware issue or not.

Tool preparing: One RS-232 cable for the Debug Port.

- Debug Port configuration: baudrate = 38400 bps, data = 8,N,1, flow control = none.
- Debug Port location:



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

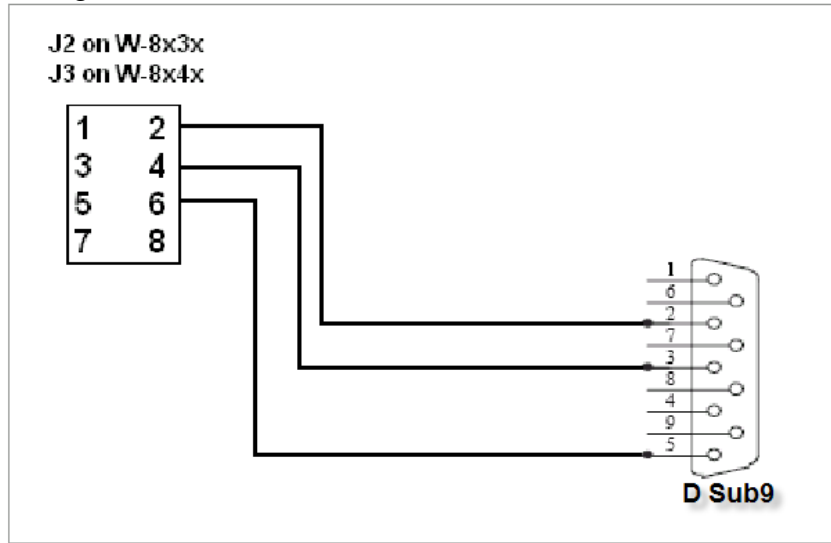


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- **Wiring of the Debug Port and the PC**





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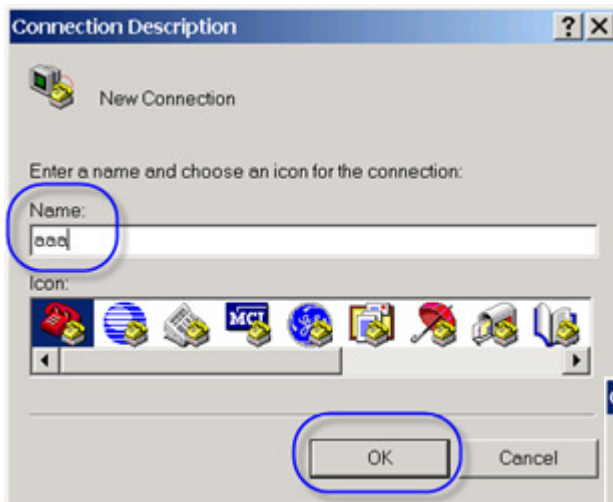
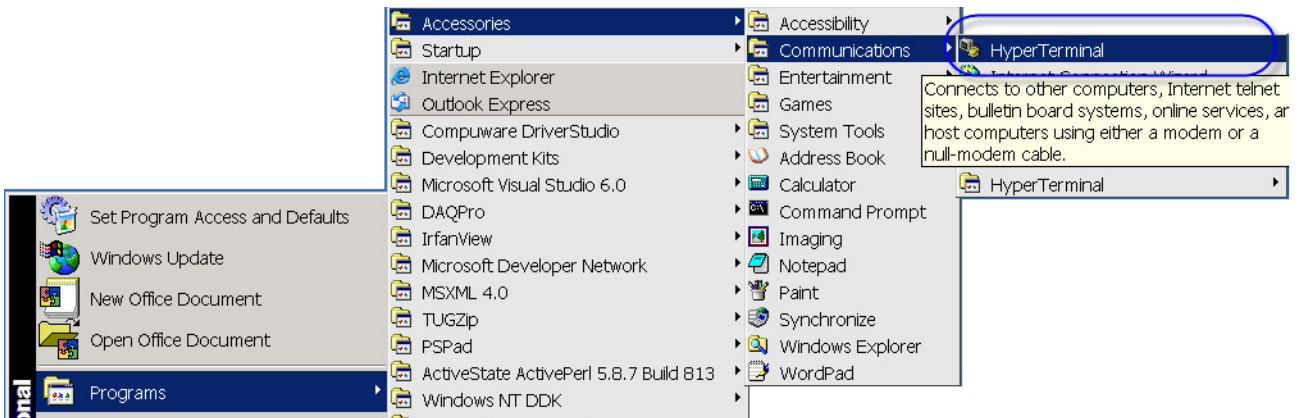
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Get the debug messages

1. Run the Hyper Terminal

- **Note: Make sure the debug cable is connected to the COM1 of the PC.**
- **Note: If a query message pops up for location information, give a location code and then click “ok” twice.**



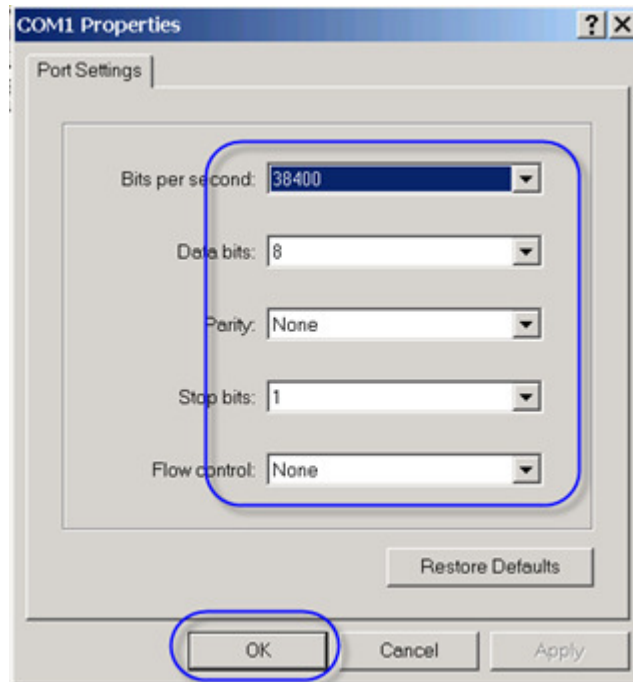


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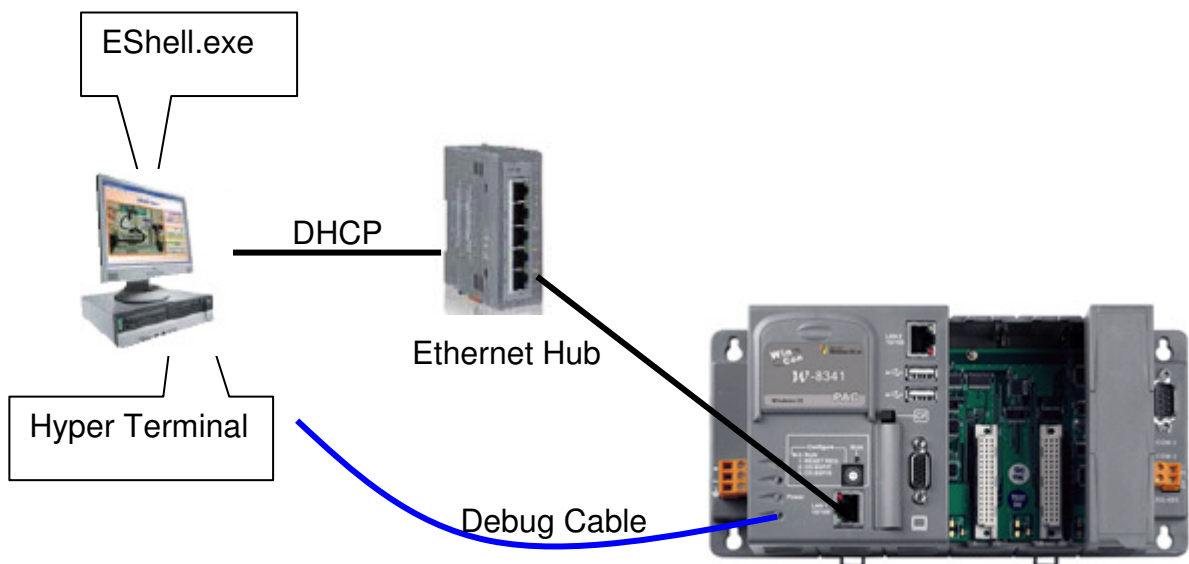
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2. Configure the COM1 as following



3. Connect the Ethernet cables and the debug cable, and then power on the WinCon to begin to get the debug messages. Please refer to appendix A~D for detailed debug messages.





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Appendix A: Debug messages of the W-8x3x while booting

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 ...

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

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 a41bfff is ffffffff and Real length

fffffff is 0

Check Registry in block 1 , Get CheckSum at a413fff is ffffffff and Real length

fffffff 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

Windows CE MS Tcpip [TCP/IP].

Installed over Windows CE MS Tcpip [TCP/IP].

Can't Re

order under CEPreparing To Reorder Installed Chains

MQGC::MQGC Constructor

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 +

Stops at the line means the Y4(32.768k) is bad. It needs to repair.

Following message appears when the OS image is lost or incorrect:

ERROR: Checksum failure (expected=0x18511DB computed=0x22AE265)

***** Checksum failure on record 2, ABORT!!! *****

You must use the EShell to re-download the OS image OS.

Stops at the line when J8 is bad. The J8 needs to repair.

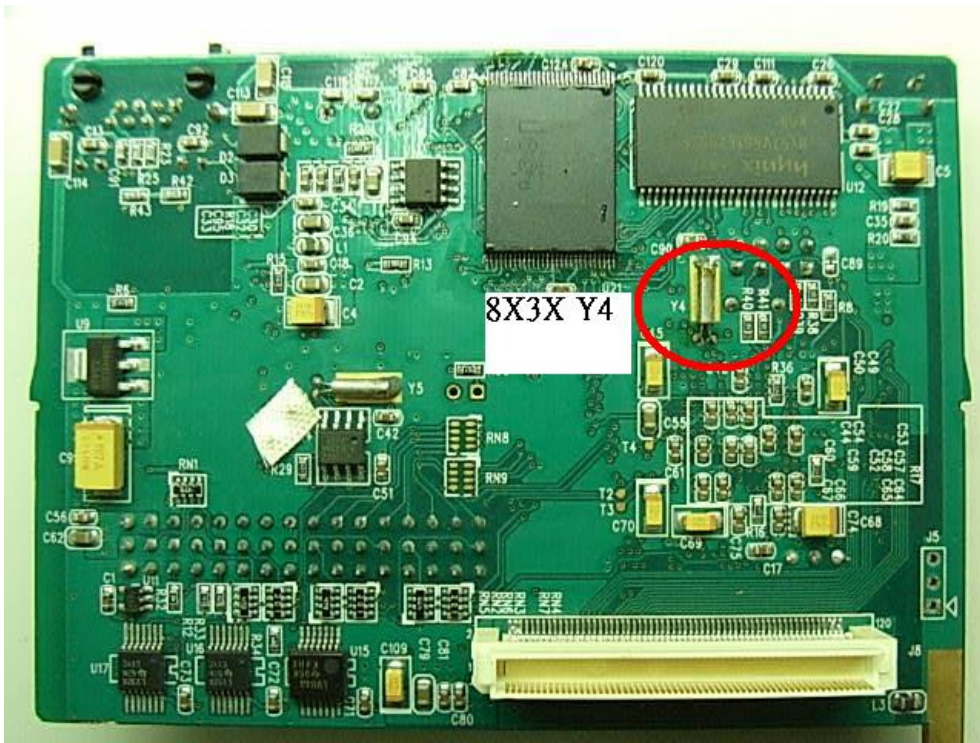
OS booting successful

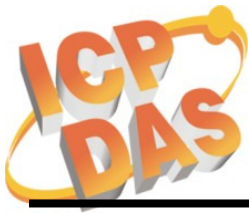


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Appendix B: Debug messages of the W-8x4x while booting

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_RotarySwitich_ID: 0 ==> Boot OS from Flash.

Along test DownloadImage.....!!

Found pTOC signature.

ROMHDR at Address 8C140044h

RomHdr.ulRAMStart=8DC50000h RomHdr.physfirst=8C140044h

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 GREER is 31f

Now GFER is 1b

Now MSC1 is cfd52419

Now GREER a9040010 is 231f

Now GFER a9040014 is 201f

Sp=ffffc7d0

Year == 9

Check Registry in block 2 , Get CheckSum at a41bffff is ffffffff and Real length

fffffff is 0

Check Registry in block 1 , Get CheckSum at a413ffff is ffffffff and Real length

fffffff 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 Tcpi [UDP/IP].

Installed over Windows CE MS Tcpi [UDP/IP].

Installed over W

Windows CE MS Tcpi [TCP/IP].

Installed over Windows CE MS Tcpi [TCP/IP].

Can't Re

order under CEPreparing To Reorder Installed Chains

MQGC::MQGC Constructor

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

Stops at the line means the Y4(32.768k) is bad. It needs to repair.

Following message appears when the OS image is lost or incorrect:
ERROR: Checksum failure (expected=0x18F1528 computed=0x1CBAE2C)
***** Checksum failure on record 27, ABORT!!! *****
You must use the EShell to re-download the OS image OS.

Stops at the line when J7 is bad. The J7 needs to repair.

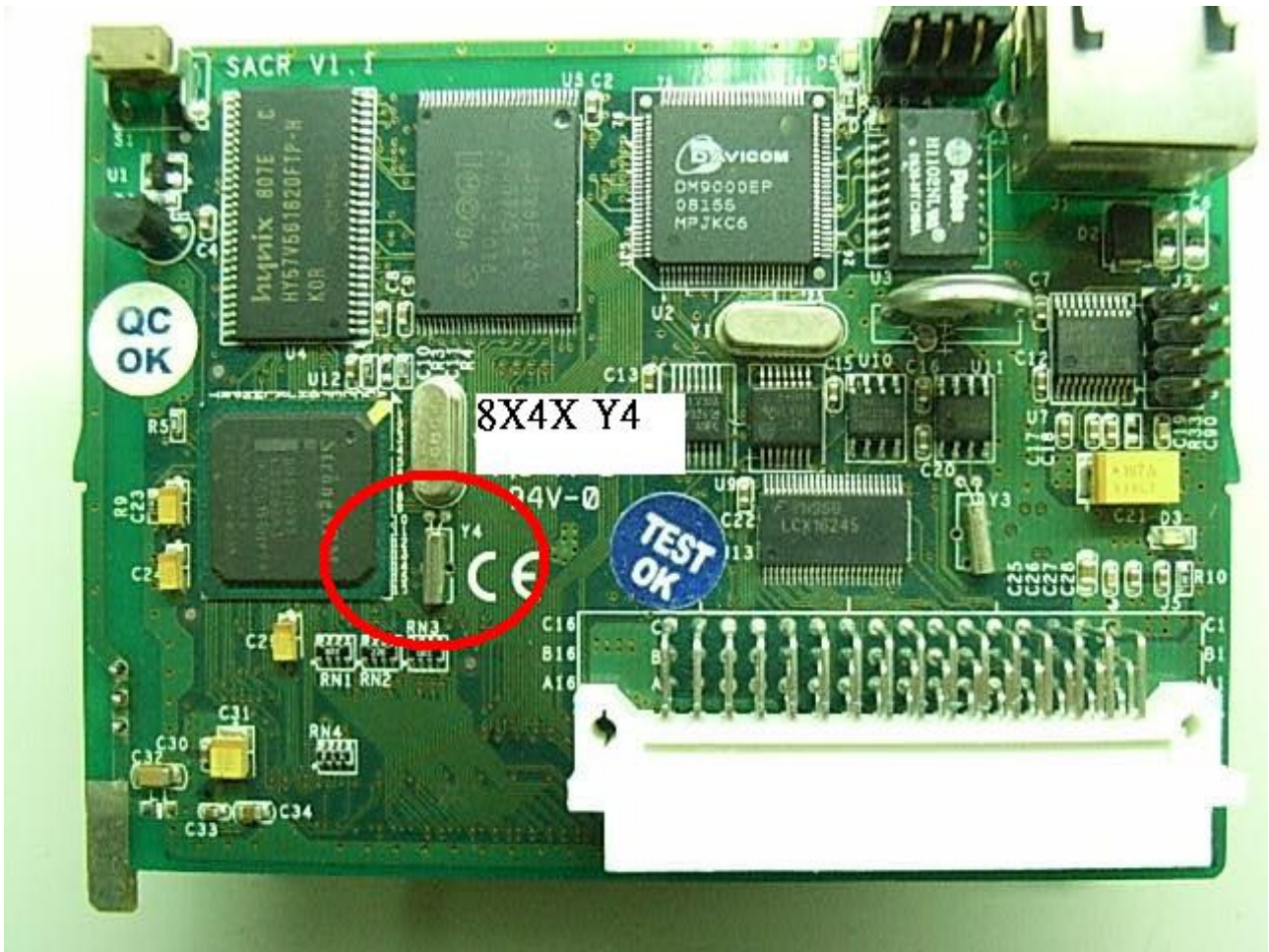
OS download successful



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Appendix C: Debug messages of the W-8x3x while updating the OS by EShell

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 ProcessDHCP()

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 !!

OS download successful



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Appendix D: Debug messages of the W-8x3x while updating the OS by EShell

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_RotarySwitich_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 !!

OS download successful