Intel Atom Base teaching pendant optimized for industrial robots.

DTP7H-P Remote Debugging User's Guide Manual

(R1) Version

DAINCUBE Corp. Intel Atom Base Windows System

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DAINCUBE Corp. Web: <u>www.daincube.com</u> E-mail: sales@daincube.com Tel: 82-32-329-9783~4 Fax: 82-32-329-9785

#401-701, Bucheon TechnoPark 4-Danji, 655 Pyeongcheon-ro, Wonmi-gu, Bucheon-Si, Gyeonggi-Do, Republic of Korea

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Preface

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DAINCUBE Corp. Web: www.daincube.com E - MAIL: sales@daincube.com

Safety precautions

Be sure to observe all of the following safety precautions.

Strict observance of these warning and caution indications are a MUST for preventing accidents, which could result in bodily injury and substantial property damage. Make sure you fully understand all definitions of these terms and related symbols given below, before you proceed to the manual.

Symbols

The following symbols may be used in this specification:

Marning

Warnings indicate conditions that, if not observed, can cause personal injury.

Caution

Cautions warn the user about how to prevent damage to hardware or loss of data.



Notes call attention to important information that should be observed.

Revision history

Revision	Data	Comment
Version 1.0	2018.03.26	Initial version
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1. Introduction

This document describes the remote debugging method of DTP7H-P and Host PC via Ethernet. The DTP7H-P device platform is equipped with the Intel® Atom™ E3815, which allows applications to be developed quickly and easily the same as in an existing PC environment.

The DTP7H-P remote debugging method requires the following procedures.

Using DTP7H-P remote debugging summary.

- A) Visual Studio 2008 install.
- B) Visual Studio Remote Debugging execute.
- C) Make sample project.
- 0) Host PC and DTP7H-P Ethernet connection.
- ${\ensuremath{\mathsf{E}}}$) How sample program debugging in Host PC.

% This document was executed in DTP7H-P Windows 10 IoT Enterprise 32bit environment.

This document skips the installation for Visual Studio 2008.

2. DTP7H-P Remote Debugging with Visual Studio 2008 2.1. Visual Studio Remote Debugging execute.

If Visual Studio 2008 is installed on the Host PC, the executable file is located in the following path. C:\Program Files\Microsoft Visual Studio 9.0\Common7\IDE\Remote Debugger\x86

Copy the "msvsmon.exe" file to the DTP7H-P.

퉬 1033	2014-04-21 오후	파일 폴더
🚳 AvVsPkDH.dll	2008-07-29 오후	응용 프로
🚳 dbghelp.dll	2008-04-04 오후	응용 프로
🚳 iisresolver.dll	2007-11-07 오전	응용 프로
🚳 mcee.dll	2008-07-29 오후	응용 프로
mpishim.exe	2008-07-29 오후	응용 프로
🚳 msvb7.dll	2008-07-29 오후	응용 프로
🙅 msvsmon.exe	2008-07-29 오후	응용 프로
msvsmon.exe.config	2007-11-06 오후	XML Con
🚳 symsrv.dll	2008-04-04 오후	응용 프로
symsrv.yes	2007-12-13 오후	YES 파일

Execute "msvsmon.exe" file among the files copied from DTP7H-P. Select "Unlock remote debugging from any computer" and click "OK" button. Configure Firewall for Remote Debugging X The Windows Firewall on this machine is currently blocking remote debugging. Remote debugging requires that the remote debugging monitor be allowed to receive information from the network. Remote debugging also requires file sharing, DCOM (TCP Port 135) and IPSEC (UDP 4500 / UDP 500) be unblocked. For more information on remote debugging and firewalls, see the 'Remote Debugging' help topic in Visual Studio. What would you like to do? Cancel remote debugging O Unblock remote debugging from computers on the local network (subnet) Unblock remote debugging from any computer OK "msvsmon.exe" is the execution screen. 🔮 Visual Studio Remote Debugging Monitor \times File Tools Help Date and Time Description 3/25/2018 9:55:43 PM Msvsmon started a new server named 'dain@DESKTOP-T5TH3NT'. Waiting for n...

Click "Tools -> Options", make the following settings and click "OK" button.

(Options			?	\times	
	Server name:	DESKTOP-T5TH3NT:4015				
	Authentication mode					
	O Windows Authentica	Permiss	sions			
	No Authentication (n	ative only)				
	TCP/IP port number:	4015				
	Allow any user to	debug				
	Maximum idla tima (aa aan	4-2.	0			
	No authentication r have hostile traffic	node should never be used , and only supports debugg	on a networ ing native co	rk that m ode.	ight	
			ОК	Cance	el	

When the setting is c	ompleted, check the following screen.			
🙅 Visual Studio Rem	note Debugging Monitor [Authentication Disabled]	_		\times
File Tools Help				
Date and Time	Description			
3/25/2018 9:55:43 PM	Msvsmon started a new server named 'dain@DESKTOP-T5TH	3NT'. Wa	aiting for	n
3/25/2018 9:57:17 PM	Msvsmon started a new server named 'DESKTOP-T5TH3NT:4	015'. Aut	henticatio	on
3/25/2018 9:57:17 PM	WARNING: Remote debugging in 'No Authentication' mode	is not a s	ecure wa	y t

2.2. Make sample project.

Run Visual Studio 2008 to create a test project.

Open Visual Studio and click "File -> Project".



New Project					? 💌
Project types:		Templates:		.NET Framework 3.5	
Smart Devic Office Database Reporting Test WCF Workflow Visual C# Visual C# AlL CLR General MFC	ce f	Visual Studio installed templates -	Test Project CLR Console ATL Project Akefile Project Class Library Class Library Class Library Case Library Case Library MFC DLL MFC Smart D C Win32 Project Win32 Project	Application ect levice Application t ms Control Library	
Smart Devic Test Win32	ce	My Templates			
An empty project fo <u>N</u> ame:	or creating a local app Dain	lication			
Location:	C:₩Users₩yeonsu₩E	Documents₩Visual Studio 2008₩Proje	cts	•	<u>B</u> rowse
Solution:	Create new Solution	•	Create directory for so	lution	
Solution Name:	Dain				
				ОК	Cancel

When the Ne project windows is displayed, click "Empty Project" in the Visual C++ list. When the setting is completed, click "OK" button.

When the project is created, click "Add -> New Item".

ategories:	Templates:		
Visual C++ UI Code Data Resource Web Utility Property Sheets	Visual Studio installed templates	C++ File (.cpp) Static Discovery File (.disco) Midl File (.idl) Registration Script (.rgs) Bitmap File (.bmp) Component Class Installer Class XML Schema Cursor File (.cur) Frameset (.htm) SQL Script File (.sql) XML File (.xml) Curso File (.xml)	
cation: c:\Users\yeo	nsu#Documents#Visual Studio 2008#Projects#	+leap₩aaaaa	Browse

After creating the file, write the following example source code.

```
int main(void){
 int a=0, b=0;
 printf("Number input (a/b) = ");
 scanf("%d/%d",&a,&b);
 printf("%d+%d=%d\n\n", a,b,a+b);
 printf("%d-%d=%d\n\n", a,b,a-b);
 printf("%d*%d=%d\n\n", a,b,a*b);
 printf("%d/%d=%d\n\n", a,b,a/b);
return 0;
```

#include<stdio.h>

}

Dain - Microsoft Visual Stu		
File Felte Merry Part 1	udio (Administrator)	
File Edit View Project	Build Debug Tools Test Window	w Help
🛅 • 🛅 • 💕 📕 🗿 🕽	Build Solution Ctrl+Shift+B	ebug 👻 Win32 💌 🖄
5 II a II 🤉 💀	Rebuild Solution] 亟 He 王 异 印 嵒 🏢 井 📮 i Style
Foolbox 🚽 I	Clean Solution	
General	Build Dain	•
There are no usable controls	Rebuild Dain	·
this group. Drag an item or	Clean Dain	
this text to add it to the	Project Only	
toonbox.	Profile Guided Optimization	t(a/b) = "););
	Batch Build	n", a,b,a+b); ," a b a-b);
	Configuration Manager	n", a,b,a+b);
	Scompile Ctrl+F7	n", a,b,a/b);
	3	1
hen the build is comple	ted, an executable file is created.	
py the executable file	Dam.exe to the DTP7H-P.	
≓	*	
-		
Dain.exe		
Dain ndb		
J Dam.pub		
ain exe" is the executio	n screen	
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ain.exe" is the executic mber input(a/b) =	on screen.	

2.3. Host PC and DTP7H-P Ethernet connection.

In Visual Studio 2008 on the Host PC, click "Debug -> Attach to Process".

• 🖂 • 🎽 🔒 🏈 🕺 🖓 🗈		Windows	•	in32	- 🐸
Daincube.cpp Start Page	•	Start Debugging Start Without Debuggir	F5 ig Ctrl+F5	99994<	2 3 9 9
(Global Scope)	4	Attach to Process		ain0	
(Global Scope)		Exceptions	Ctrl+Alt+E	anto	
L	91	Step Into	F11		
int main(void){	(I	Step Over	F10		
printf("숫자입력"); scanf("%d%d",&a,&b)		Toggle Breakpoint	F9		
printf("%d+%d=%d\nt		New Breakpoint	•		
printf(%d+%d=%d\n\	.0	Delete All Breakpoints	Ctrl+Shift+F9		

Select "Remote (Native only with no authentication)" and enter the IP address of DTP7H-P Click the "Attach" button after completing the setting.

ach to Process						?
Transport:	Remote (Na	tive only with no authentication)				
-	ternote (ive	ave only war no addicticed only				
Qualifier: 1	192.168.1.1	175			-	
Transport Information The 'Remote (Native or only supports debuggin	nly with no ng native c	authentication)' transport should never be used o ode.	n a network t	that might have hostile t	traffic. This trans	sport
Attach to:	Native code	3				
Available Processes						
Process	ID	Title	Туре	User Name	Session	-
conime.exe	428		x86		0	
ctfmon.exe	508		x86		0	
Dain.exe	1952	C:\Documents and Settings\Administrator	x86			
explorer.exe	1832	Program Manager	x86		0	=
hkcmd.exe	460		x86		0	
igfxsrvc.exe	528		x86		0	
igfxtray.exe	368		x86		0	
mspaint.exe	1328	13 - 그림판	x86		0	
msvsmon.exe	1256	Visual Studio Remote Debugging Monitor [A	x86		0	
PersistenceThread.exe	488		x86		0	-
	260		004		0	÷
Show processes from	n all <u>u</u> sers	\checkmark Show processes in all s	essio <u>n</u> s		<u>R</u> efresh	
				<u>A</u> ttach	Cano	el

When the connection is completed, check the following screen in "msvsmon.exe".

🔮 Visual Studio Remote Debugging Monitor [Authentication Disabled] — 🛛			
File Tools Help			
Date and Time	Description		
3/25/2018 9:55:43 PM	Msvsmon started a new server named 'dain@DESKTOP-T5TH3NT'. Waiting for n		
3/25/2018 9:57:17 PM	Msvsmon started a new server named 'DESKTOP-T5TH3NT:4015'. Authentication		
3/25/2018 9:57:17 PM	WARNING: Remote debugging in 'No Authentication' mode is not a secure way t		
3/25/2018 9:58:31 PM	Yangjae connected.		

2.4. How sample program debugging in Host PC. When you have finished writing the example source code, click Breakpoint in the "-" part of the arithmetic operation.

File Edit View Project Build Debug Tools Teşt Window Help Image: State St	🖓 Dain - Microsoft Visual Studio (Administrator)						
<pre>Win32 Win32 Win3 Win32 Wi</pre>	<u>File E</u> dit <u>V</u> iew <u>P</u> roject <u>B</u> uild <u>D</u> ebug <u>T</u> ools Te <u>s</u> t <u>W</u> indow <u>H</u> elp						
Image: Image	🗄 🐨 🐨 📂 💕 🛃 🦪 🐰 🗈 🏝 🗳 🔹 🖓 🖬 🖓 🖬 🖓 🖬 🖓 🖬 🖓 🖓 🖓 🖓 🖓 🖓 🖓						
Toolbox ↓ ↓ × General Global Scope) There are no usable controls in this group. Drag an item onto this text to add it to the toolbox. int main(void){ int a=0, b=0; printf("Number input(a/b) = "); scanf("%d/%d",&a,&b); printf("%d+%d=%d\mmwn", a,b,a+b); printf("%d+%d=%d\mmwn", a,b,a+b); printf("%d+%d=%d\mmwn", a,b,a+b); printf("%d/%d=%d\mmwn", a,b,a+b); printf("%d/%d=%d\mmwn", a,b,a/b); return 0; }							
<pre>General (Global Scope) #include<stdio.h> int main(void){ int a=0, b=0; printf("Number input(a/b) = "); scanf("%d/%d",&a,&b); printf("%d+%d=%d\mmm", a,b,a+b); Printf("%d+%d=%d\mmm", a,b,a+b); printf("%d+%d=%d\mmm", a,b,a+b); printf("%d/%d=%d\mmm", a,b,a/b); return 0; }</stdio.h></pre>	Toolbox - 4 × Daincube.cpp						
	<pre>(Global Scope) There are no usable controls in this group. Drag an item onto this text to add it to the toolbox. (Global Scope) # include<stdio.h> L int a=0, b=0; printf("Number input(a/b) = "); scanf("%d/%d",&a,&b); printf("%d/%d=%d\nnm", a,b,a+b); Printf("%d/%d=%d\nnm", a,b,a+b); printf("%d/%d=%d\nnm", a,b,a+b); printf("%d/%d=%d\nnm", a,b,a/b); return 0; }</stdio.h></pre>						

Number input(a/b) = 6/7 6+7=13

DTP7H-P Remote Debugging Manual

Click "Debug -> Step Into	" to confirm I	next.		
🔮 Dain (Debugging) - Micros	oft Visual Studio	o (Administrator)		
<u>F</u> ile <u>E</u> dit <u>V</u> iew <u>P</u> roject	<u>B</u> uild <u>D</u> ebug	<u>T</u> ools Te <u>s</u> t <u>W</u> indow	<u>H</u> elp	
i 🗊 - 🛅 - 💕 🛃 🕔 i 🐰	B B 9 .	• (?! + 🚚 • 🖳 🕨 Debu	ıg	• Win32
🗼 III 🖬 🖬 🔤 💭		a 🗉 🕴 👷 🔚 🕇	阎 .	표 특 팩 파 프 루 팬
Process: [3412] Dain.exe	+ Thread:	[2112] Main Thread	؛ 🖗 🌱	Stack Frame: Dain.exe!main()
Daincube.cpp				
(Global Scope)				•
<pre>#include<stdio.h> L int main(void){ int a=0, b=0; printf("Number i scapf("Xd/Xd"%a priotf("Xd+Xd=Xd</stdio.h></pre>	nput(a/b) =	"); +b)'		
<pre></pre>	I₩n₩n", a,b,a I₩n₩n", a,b,a I₩n₩n", a,b,a	-b): +b):		
return 0;	J₩n₩n", a,b,a	/b);		
}	Name	Value	Type	
	a 🖉	6	int	-
	🧼 b	7	int	-
	式 Autos 👼 Loo	cals 👼 Watch 1		

[Visual Studio and DTP7H-P debugging in Real time]