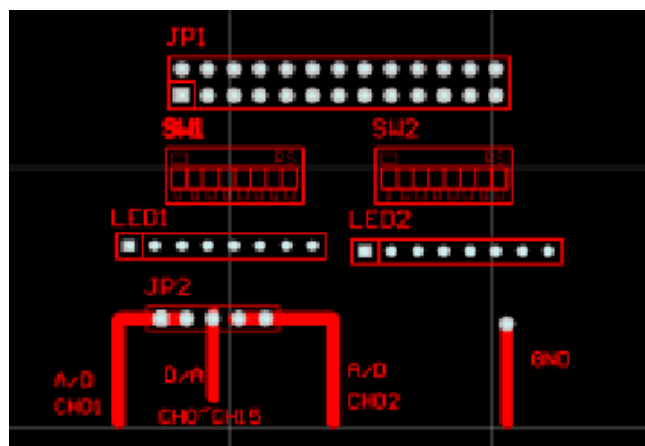
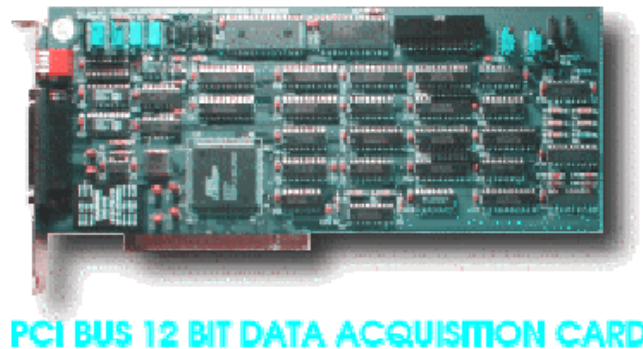


PCI 12bit AD/DA Card Test

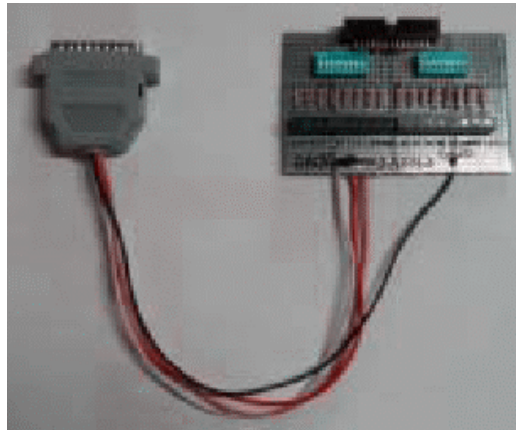
1. Prepare a test tool
 - a. Power Supply
 - b. Digital multi-meter
 - c. Oscilloscope
 - d. PCI 12 bit AD/DA Card
 - e. PCI 12 bit Test tool
 - f. 26 pin Cable
2. Test tool Pin assignment



3. PCI 12 bit AD/DA Card



4. DB 25 pin must be connection PCI 12 bit AD/DA Card.



PCI 12 BIT AD/DA TEST STEP

1. PCI DEVICE LIST

CPU Type	: PENTIUM-MMX	Base Memory	: 640K
Co-Processor	: Installed	Extended Memory	: 80896K
CPU Clock	: 166MHz	Cache Memory	: 512K
Diskette Drive A	: 1.44M, 3.5 in.	Display Type	: EGA/UGA
Diskette Drive B	: None	Serial Port(s)	: 3F8 2F8
Pri. Master Disk	: None	Parallel Port(s)	: 378
Pri. Slave Disk	: None	EDO DRAM at Row(s)	: 2 3 4 5
Sec. Master Disk	: None	SDRAM at Row(s)	: None
Sec. Slave Disk	: None	L2 Cache Type	: Pipelined Burst

PCI device listing.....						
Bus No.	Device No.	Func No.	Vendor ID	Device ID	Device Class	IRQ
0	7	1	8086	7111	IDE Controller	14
0	7	2	8086	7112	Serial Bus Controller	11
0	8	0	5333	8901	Display Controller	10
0	11	0	6666	0200	Unknown PCI Device	11

Verifying DMI Pool Data						
-						

2. Keyin to enforce file

A:\>pciadv03_

3. Master menu

PCI-12/14 bit AD/DA CARD Test Program V1.1

=====

PCI 12 bit AD/DA card found.

I/O Address: 6600 IRQ: 11

(1): ADA Loopback test

(2): D/A Output test

(3): A/D Input test

(4): DIO Loopback test

(5): DIO Output test

(6): DIO Input test

(7): D/A Calibration

(8): A/D Calibration

ESC: EXIT

Choose: _


```

PCI-12/14 bit AD/DA CARD Test Program V1.1
=====
PCI 12 bit AD/DA card found.
I/O Address: 6600   IRQ: 11

(1): ADA Loopback test
(2): D/A Output test
(3): A/D Input test
(4): DIO Loopback test
(5): DIO Output test
(6): DIO Input test
(7): D/A Calibration
(8): A/D Calibration
ESC: EXIT
Loop: 10 Testing Pins:0 Output: 0000 Input:0000 OK

```

```

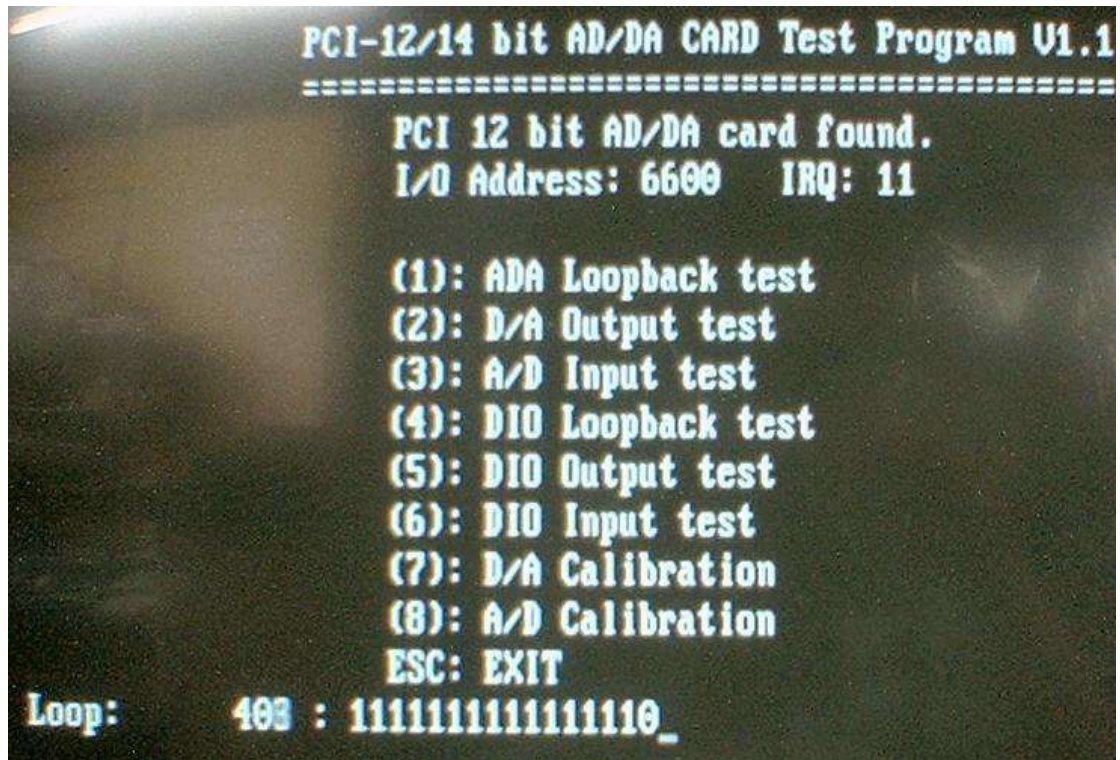
PCI-12/14 bit AD/DA CARD Test Program V1.1
=====
      PCI 12 bit AD/DA card found.
      I/O Address: 6600      IRQ: 11

      (1): ADA Loopback test
      (2): D/A Output test
      (3): A/D Input test
      (4): DIO Loopback test
      (5): DIO Output test
      (6): DIO Input test
      (7): D/A Calibration
      (8): A/D Calibration
      ESC: EXIT

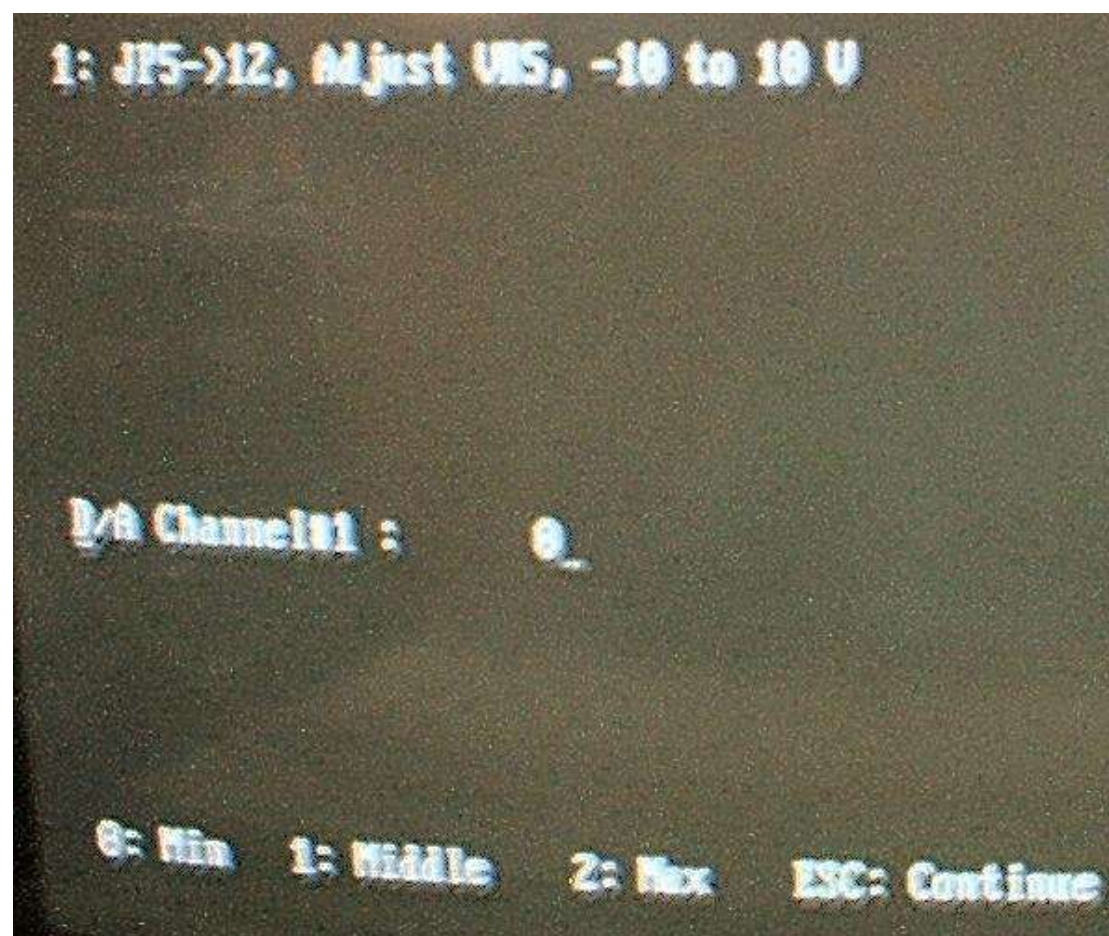
Loop:      359 : 0000000000000000_

```

6.DIO Input test



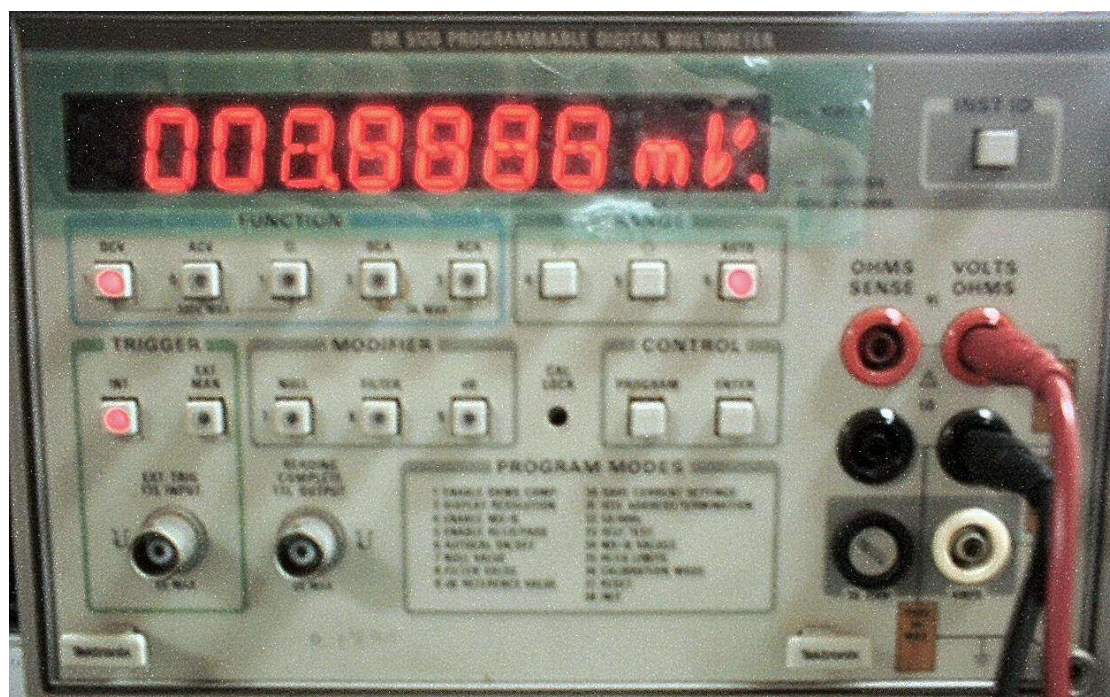
7.D/A Calibration



1: JP5->12, Adjust VR5, -10 to 10 V

D/A Channel 1 : 2048

0: Min 1: Middle 2: Max ESC: Continue



1: JPS->12, Adjust W5, -10 to 10 V

D/A Channel 01 : 4075

0: Min 1: Middle 2: Max ESC: Continue

1: JPS->12, Adjust W5, -10 to 10 V

D/A Channel 01 : 4075

0: Min 1: Middle 2: Max ESC: Continue

1: JPS->12, Adjust W5, -10 to 10 V

D/A Channel 01 : 4075

0: Min 1: Middle 2: Max ESC: Continue

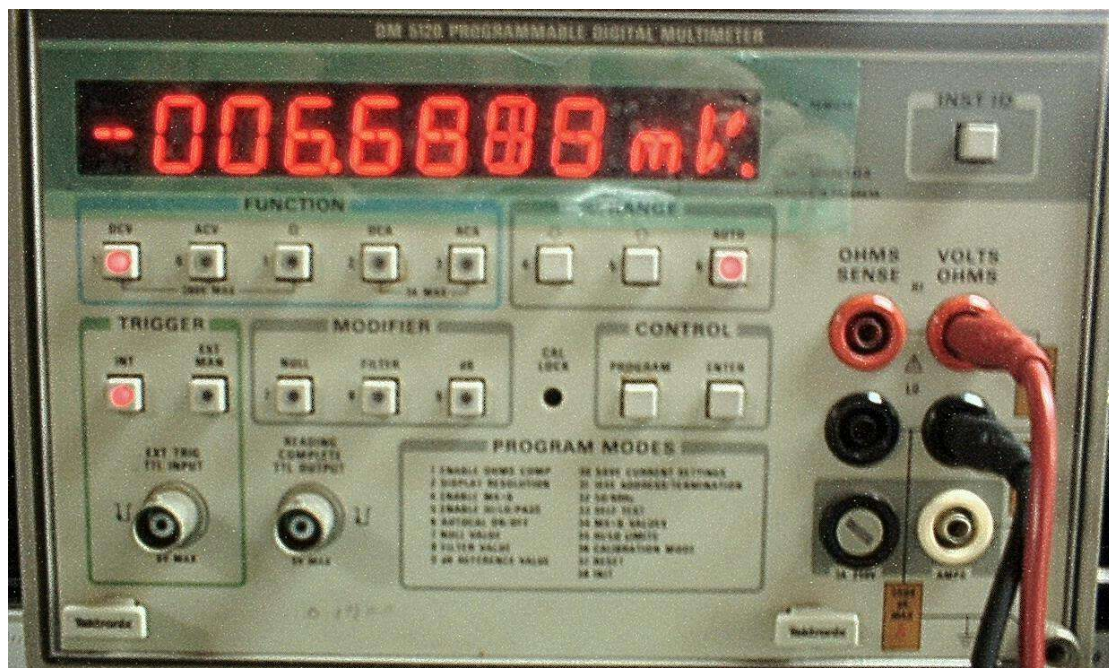


1: JP5->12, Adjust VR5, -10 to 10 V

2: JP5->34, Adjust VR5, 0 to 10 V

D/A Channel#1 : 0

0: Min 1: Middle 2: Max ESC: Continue



1: JP5->12, Adjust VR5, -10 to 10 V
2: JP5->34, Adjust VR5, 0 to 10 V

D/A Channel#1 : 2048

0: Min 1: Middle 2: Max ESC: Continue



1: JP5->12, Adjust VR5, -10 to 10 V
2: JP5->34, Adjust VR5, 0 to 10 V

D/A Channel#1 : 4095_

0: Min 1: Middle 2: Max ESC: Continue



- 1: JP5->12, Adjust VR5, -10 to 10 V
- 2: JP5->34, Adjust VR5, 0 to 10 V
- 3: JP6->12, Adjust VR6, -10 to 10 V

D/A Channel 12 : 0.

0: Min 1: Middle 2: Max ESC: Continue

- 1: JP5->12, Adjust VR5, -10 to 10 V
- 2: JP5->34, Adjust VR5, 0 to 10 V
- 3: JP6->12, Adjust VR6, -10 to 10 V

D/A Channel#2 : 2048_

0: Min 1: Middle 2: Max ESC: Continue

- 1: JP5->12, Adjust VR5, -10 to 10 V
- 2: JP5->34, Adjust VR5, 0 to 10 V
- 3: JP6->12, Adjust VR6, -10 to 10 V

D/A Channel#2 : 4095_

0: Min 1: Middle 2: Max ESC: Continue

- 1: JP5->12, Adjust VR5, -10 to 10 V
- 2: JP5->34, Adjust VR5, 0 to 10 V
- 3: JP6->12, Adjust VR6, -10 to 10 V
- 4: JP6->34, Adjust VR6, 0 to 10 V

D/A Channel#2 : 0_

0: Min 1: Middle 2: Max ESC: Continue

- 1: JP5->12, Adjust VR5, -10 to 10 V
- 2: JP5->34, Adjust VR5, 0 to 10 V
- 3: JP6->12, Adjust VR6, -10 to 10 V
- 4: JP6->34, Adjust VR6, 0 to 10 V

D/A Channel#2 : 2048_

0: Min 1: Middle 2: Max ESC: Continue

1: JP5->12, Adjust VR5, -10 to 10 V
2: JP5->34, Adjust VR5, 0 to 10 V
3: JP6->12, Adjust VR6, -10 to 10 V
4: JP6->34, Adjust VR6, 0 to 10 V

D/A Channel 2 : 4095_

0: Min 1: Middle 2: Max ESC: Continue

8. A/D Calibration:

電壓轉換刻度予以忽略不作爲參考值。

Channel# 0 :	2047	4.9976 U
Channel# 1 :	2047	4.9976 U
Channel# 2 :	2047	4.9976 U
Channel# 3 :	2047	4.9976 U
Channel# 4 :	2047	4.9976 U
Channel# 5 :	2047	4.9976 U
Channel# 6 :	2047	4.9976 U
Channel# 7 :	2047	4.9976 U
Channel# 8 :	2047	4.9976 U
Channel# 9 :	2047	4.9976 U
Channel#10 :	2047	4.9976 U
Channel#11 :	2047	4.9976 U
Channel#12 :	2047	4.9976 U
Channel#13 :	2047	4.9976 U
Channel#14 :	2047	4.9976 U
Channel#15 :	2047	4.9976 U

JP2	JP3	JP4	JP5	(Open JP1 if AD526 is used)
23	23	12	12	Adjust VR3 and VR4 to 2047

Channel# 0 :	0	0.0000 V
Channel# 1 :	0	0.0000 V
Channel# 2 :	0	0.0000 V
Channel# 3 :	0	0.0000 V
Channel# 4 :	0	0.0000 V
Channel# 5 :	0	0.0000 V
Channel# 6 :	0	0.0000 V
Channel# 7 :	0	0.0000 V
Channel# 8 :	0	0.0000 V
Channel# 9 :	0	0.0000 V
Channel#10 :	0	0.0000 V
Channel#11 :	0	0.0000 V
Channel#12 :	0	0.0000 V
Channel#13 :	0	0.0000 V
Channel#14 :	0	0.0000 V
Channel#15 :	0	0.0000 V

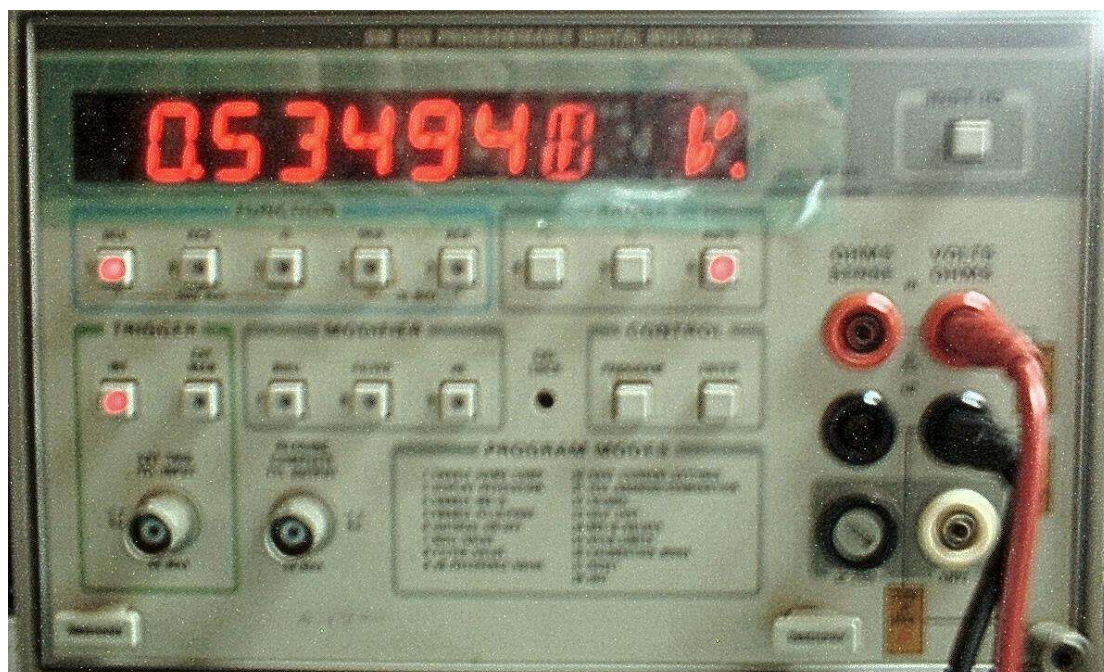
JP2	JP3	JP4	JP5	(Open JP1 if AD526 is used)
23	23	12	12	Adjust VR3 and VR4 to 2047
23	23	12	23	Adjust VR2 to 0

Channel# 0 :	2047	4.9976 U
Channel# 1 :	2047	4.9976 U
Channel# 2 :	2047	4.9976 U
Channel# 3 :	2047	4.9976 U
Channel# 4 :	2047	4.9976 U
Channel# 5 :	2047	4.9976 U
Channel# 6 :	2047	4.9976 U
Channel# 7 :	2047	4.9976 U
Channel# 8 :	2047	4.9976 U
Channel# 9 :	2047	4.9976 U
Channel#10 :	2047	4.9976 U
Channel#11 :	2047	4.9976 U
Channel#12 :	2047	4.9976 U
Channel#13 :	2047	4.9976 U
Channel#14 :	2047	4.9976 U
Channel#15 :	2047	4.9976 U

JP2	JP3	JP4	JP5	(Open JP1 if AD526 is used)
23	23	12	12	Adjust VR3 and VR4 to 2047
23	23	12	23	Adjust VR2 to 0
23	12	12	12	Adjust VR1 to 2047

Channel# 0 :	218	0.5322 V
Channel# 1 :	218	0.5322 V
Channel# 2 :	219	0.5322 V
Channel# 3 :	218	0.5322 V
Channel# 4 :	218	0.5322 V
Channel# 5 :	218	0.5322 V
Channel# 6 :	219	0.5322 V
Channel# 7 :	218	0.5322 V
Channel# 8 :	218	0.5322 V
Channel# 9 :	218	0.5322 V
Channel#10 :	218	0.5322 V
Channel#11 :	218	0.5322 V
Channel#12 :	218	0.5322 V
Channel#13 :	218	0.5322 V
Channel#14 :	218	0.5322 V
Channel#15 :	218	0.5322 V

JP2	JP3	JP4	JP5	(Open JP1 if AD526 is used)
23	23	12	12	Adjust VR3 and VR4 to 2047
23	23	12	23	Adjust VR2 to 0
23	12	12	12	Adjust VR1 to 2047
12	12	12	23	Adjust VR1 to 2047



Channel# 0 :	2045	4.9922 V
Channel# 1 :	2045	4.9922 V
Channel# 2 :	2045	4.9922 V
Channel# 3 :	2045	4.9922 V
Channel# 4 :	2045	4.9951 V
Channel# 5 :	2045	4.9922 V
Channel# 6 :	2045	4.9951 V
Channel# 7 :	2045	4.9922 V
Channel# 8 :	2045	4.9922 V
Channel# 9 :	2045	4.9922 V
Channel#10 :	2045	4.9951 V
Channel#11 :	2045	4.9922 V
Channel#12 :	2045	4.9922 V
Channel#13 :	2045	4.9922 V
Channel#14 :	2045	4.9922 V
Channel#15 :	2045	4.9922 V

JP2	JP3	JP4	JP5	(Open JP1 if AD526 is used)
23	23	12	12	Adjust VR3 and VR4 to 2047
23	23	12	23	Adjust VR2 to 0
23	12	12	12	Adjust VR1 to 2047
12	12	12	23	Adjust VR1 to 2047



Channel# 0 :	1010	2.4809 V
Channel# 1 :	1010	2.4809 V
Channel# 2 :	1010	2.4809 V
Channel# 3 :	1010	2.4829 V
Channel# 4 :	1010	2.4829 V
Channel# 5 :	1010	2.4809 V
Channel# 6 :	1010	2.4809 V
Channel# 7 :	1010	2.4809 V
Channel# 8 :	1010	2.4809 V
Channel# 9 :	1010	2.4829 V
Channel#10 :	1010	2.4829 V
Channel#11 :	1010	2.4829 V
Channel#12 :	1010	2.4809 V
Channel#13 :	1010	2.4809 V
Channel#14 :	1010	2.4809 V
Channel#15 :	1010	2.4809 V

JP2	JP3	JP4	JP5	(Open JP1 if AD526 is used)
23	23	12	12	Adjust VR3 and VR4 to 2047
23	23	12	23	Adjust VR2 to 0
23	12	12	12	Adjust VR1 to 2047
12	12	12	23	Adjust VR1 to 2047



Channel# 0 :	3049	7.4438 U
Channel# 1 :	3049	7.4438 U
Channel# 2 :	3049	7.4438 U
Channel# 3 :	3049	7.4438 U
Channel# 4 :	3049	7.4438 U
Channel# 5 :	3049	7.4438 U
Channel# 6 :	3048	7.4438 U
Channel# 7 :	3048	7.4438 U
Channel# 8 :	3048	7.4438 U
Channel# 9 :	3048	7.4438 U
Channel#10 :	3048	7.4438 U
Channel#11 :	3049	7.4438 U
Channel#12 :	3049	7.4438 U
Channel#13 :	3048	7.4438 U
Channel#14 :	3049	7.4438 U
Channel#15 :	3048	7.4438 U

JP2	JP3	JP4	JP5	(Open JP1 if AD526 is used)
23	23	12	12	Adjust VR3 and VR4 to 2047
23	23	12	23	Adjust VR2 to 0
23	12	12	12	Adjust VR1 to 2047
12	12	12	23	Adjust VR1 to 2047



9.ADA Loopback test

Channel	Input	Error	MeanErr	Bias	MaxErr
1 :	3299	9	8.9383	8.9383	10
2 :	3299	4	3.9820	3.9820	8
3 :	3299	4	4.0250	4.0250	6
4 :	3299	4	3.9599	3.9599	7
5 :	3299	4	4.0583	4.0583	8
6 :	3299	4	4.0000	4.0000	5
7 :	3299	4	3.9899	3.9899	5
8 :	3299	4	3.9599	3.9599	5
9 :	3299	4	3.8553	3.8553	6
10 :	3299	4	4.0060	4.0060	6
11 :	3299	4	4.0088	4.0088	7
12 :	3299	4	3.9899	3.9899	6
13 :	3299	4	4.0593	4.0593	6
14 :	3299	4	4.0225	4.0225	6
15 :	3299	4	4.0255	4.0255	6
16 :	3299	4	3.9510	3.9510	5

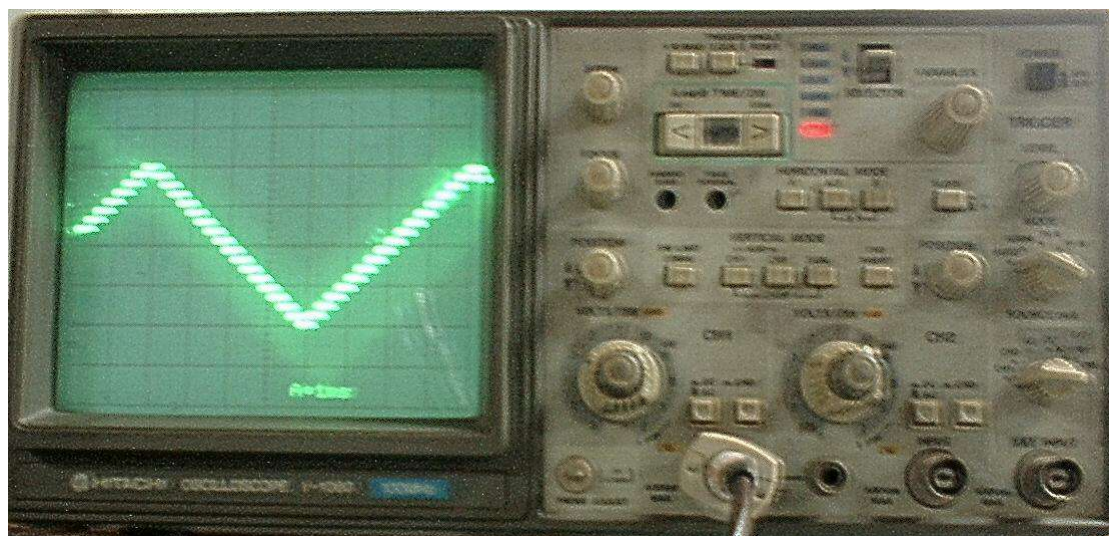
D/A output: 3299_

10. D/A Output test

Loop: 465888 D/A #1 : 2880 D/A #2 : 2880

Channel 1 DC Voltage: 0.000V
Channel 2 DC Voltage: 0.000V
Channel 1: triangle wave
Channel 2: triangle wave

Press 1 or 2 to change wave type.
Press + - to change frequency.
Press Up Down PgUp PgDn Home End to change DC value.



Loop: 538888 D/A #1 : 2888 D/A #2 : 3888

Channel 1 DC Voltage: 0.000V

Channel 2 DC Voltage: 0.000V

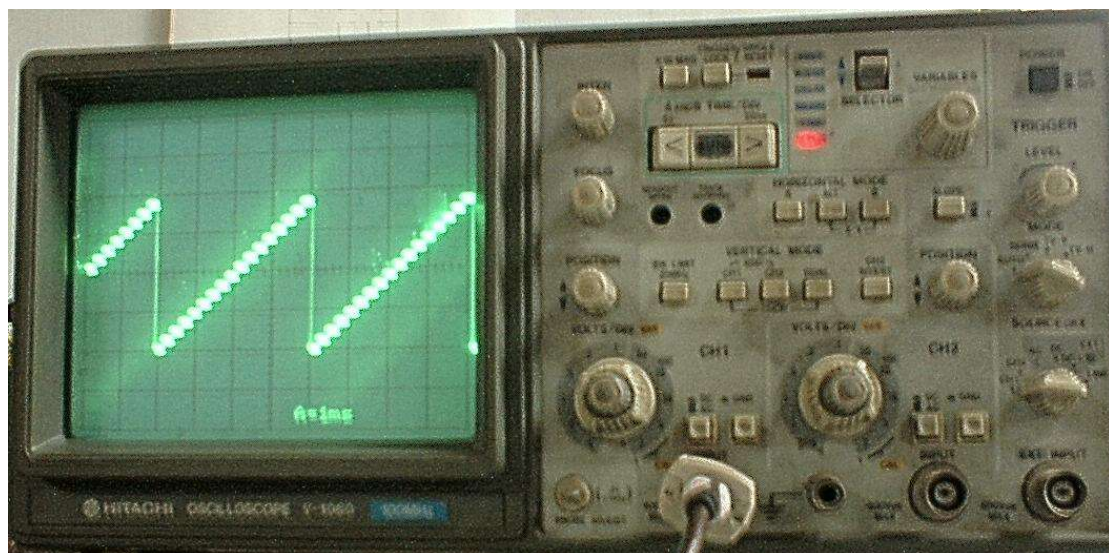
Channel 1: rising triangle wave

Channel 2: triangle wave

Press 1 or 2 to change wave type.

Press + - to change frequency.

Press Up Down PgUp PgDn Home End to change DC value.



Loop: 588888 D/A #1 : 2888 D/A #2 : 3888

Channel 1 DC Voltage: 0.000V

Channel 2 DC Voltage: 0.000V

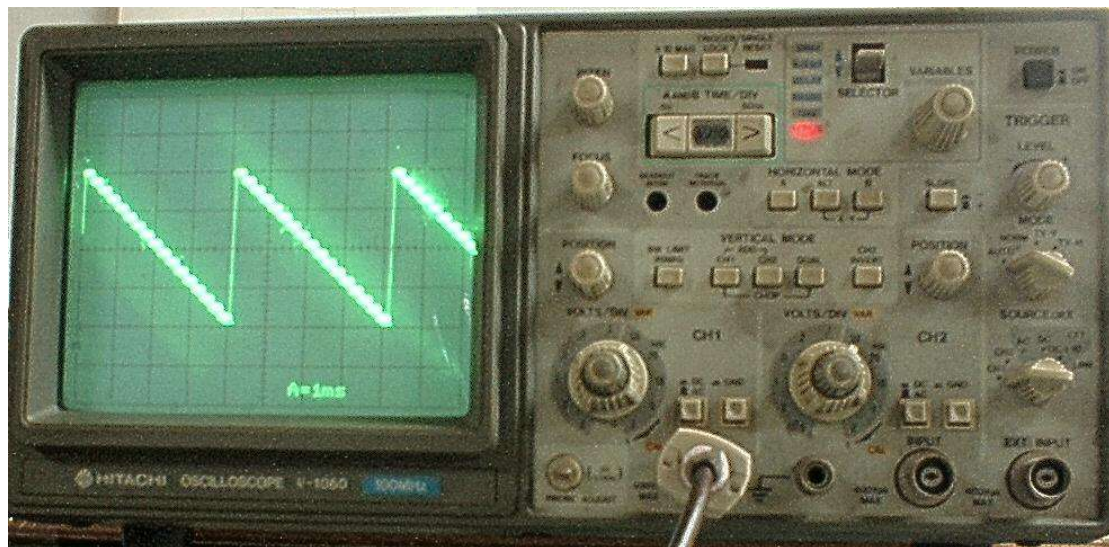
Channel 1: falling triangle wave

Channel 2: triangle wave

Press 1 or 2 to change wave type.

Press + - to change frequency.

Press Up Down PgUp PgDn Home End to change DC value.



Loop: 1000000 D/A #1 : 2000 D/A #2 : 3000

Channel 1 DC Voltage: 0.000V

Channel 2 DC Voltage: 0.000V

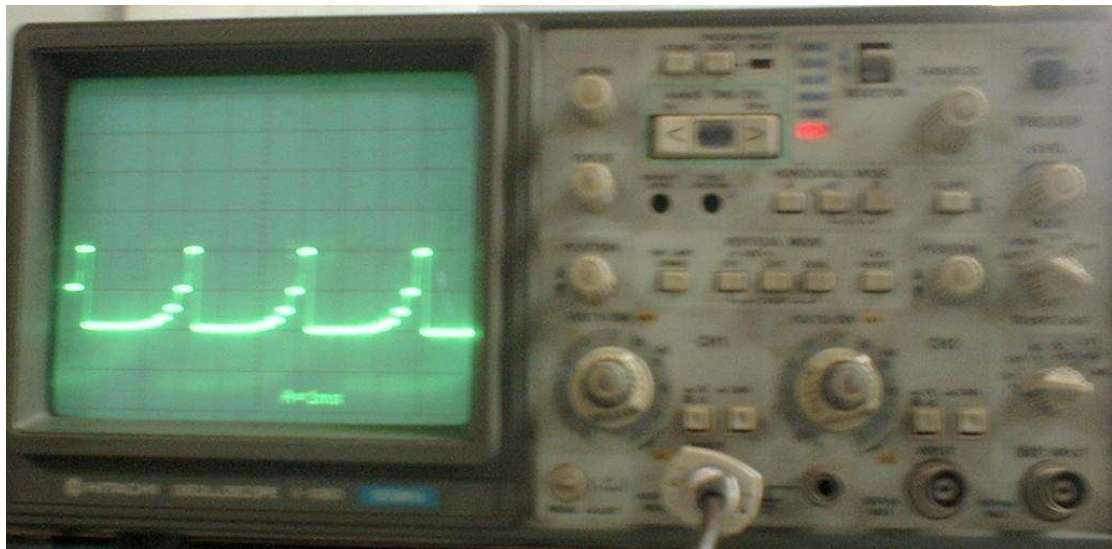
Channel 1: bit inc

Channel 2: triangle wave

Press 1 or 2 to change wave type.

Press + - to change frequency.

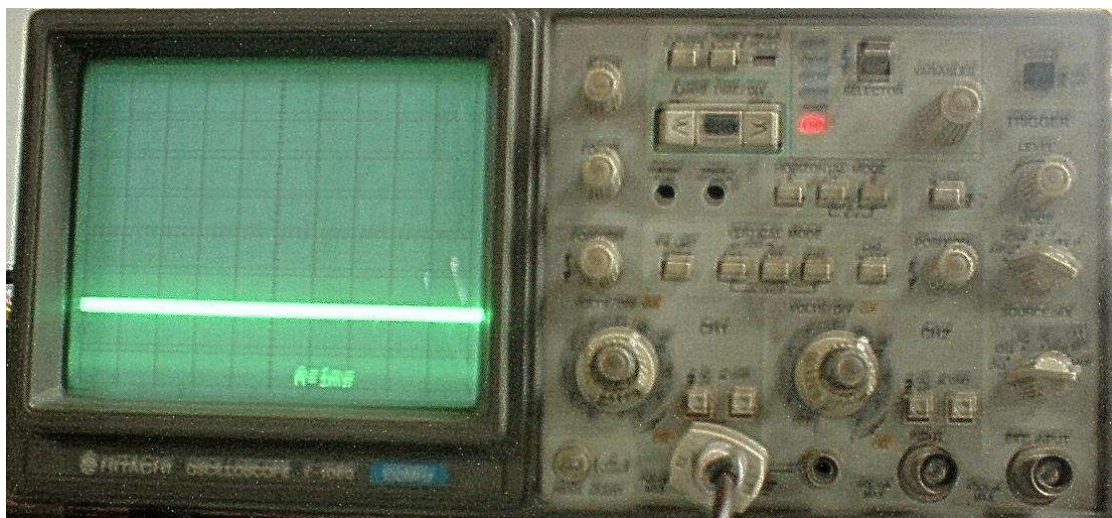
Press Up Down PgUp PgDn Home End to change DC value.



Loop: 652899 D/A #1 : 0 D/A #2 : 2888

 Channel 1 DC Voltage: 0.000V
 Channel 2 DC Voltage: 0.000V
 Channel 1: DC
 Channel 2: triangle wave

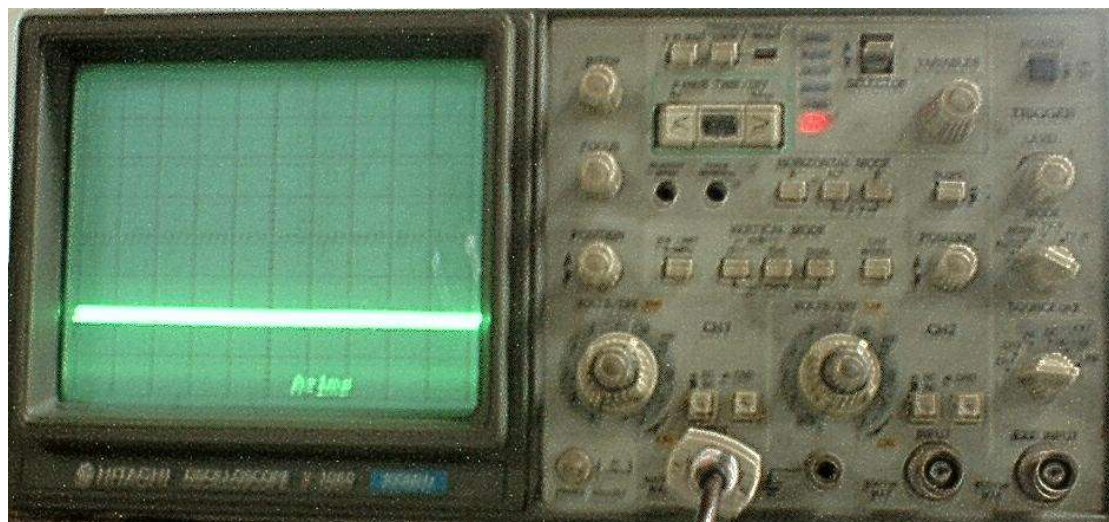
 Press 1 or 2 to change wave type.
 Press + - to change frequency.
 Press Up Down PgUp PgDn Home End to change DC value.



Loop: 683333 D/A #1 : 0 D/A #2 : 3888

Channel 1 DC Voltage: 0.000V
Channel 2 DC Voltage: 0.000V
Channel 1: min value
Channel 2: triangle wave

Press 1 or 2 to change wave type.
Press + - to change frequency.
Press Up Down PgUp PgDn Home End to change DC value.



Loop: 718888 D/A #1 : 4095 D/A #2 : 3888

Channel 1 DC Voltage: 0.000V
Channel 2 DC Voltage: 0.000V
Channel 1: max value
Channel 2: triangle wave

Press 1 or 2 to change wave type.
Press + - to change frequency.
Press Up Down PgUp PgDn Home End to change DC value.



Loop: 753888 D/A #1 : 4096 D/A #2 : 3888

 Channel 1 DC Voltage: 0.000V
 Channel 2 DC Voltage: 0.000V
 Channel 1: square wave
 Channel 2: triangle wave

 Press 1 or 2 to change wave type.
 Press + - to change frequency.
 Press Up Down PgUp PgDn Home End to change DC value.

