Made by		Doc. No		PD	D - WI -121-(01)				
Checked by		Version	0	Page	1 of 1				
Approved by		Modified Verson							
. Inspecti	on Items								
(a) Die	ode, Continui	ty Buzzer and all O	hm ranges						
(b) RS	232 (SEND),	LIGHT, STORE, S	SETUP and	d RECALL	functions				
. Calibra	ting Instrum	ent							
(a) Sta	ndard Diode	IN4007, Resistance	ε 0Ω, 10Ω,	50V. Each	1 pc				
(b) Sta	indard 35 seri	es Resistor Box							
3. Inspecti	ng Procedur	es							
Turn t	he rotary swit	ich to $\Omega$ , <b>ha</b> nge. Display when no	Then put	the resistor	or diode to VΩHz COM	Jack and Boucing		the following test	<b>D</b>
Steps	Functions	innut signal	Input	value	Value Range	Digits	adjusting	Accuracy	Remark(s)
1	♣+	.OL	+Forward D	ard Voltage rop	0.4 1				
2	Buzzer	O.L	≤4	l9Ω	Buzzer Beeps	$\Box$ /			
	Buzzer	O.L	≥5	52Ω	Buzzer not Beeps		/		
3	4000	01	Short	Circuit	0.00 0.01	/	/		
	40012	U.L	350	0.0Ω	(347.9 352.0)+R	6		±(0.8%+10)	Use a short cable
4	4ΚΩ	. OL	3.50	00ΚΩ	3.487 3.513				Press "RANGE" button for enterin
5	40ΚΩ	.OL	35.0	00ΚΩ	34.87 35.13	4			the calibrating mode. Then inpu
6	400ΚΩ	O.L	350	.0ΚΩ	348.7 351.3	1		±(0.5%+10)	200Ω 2ΚΩ 20 ΚΩ 2ΜΩ 20Μ
	<b>4M</b> Ω	. OL	3.50	0ΜΩ	3.487 3.513	8			and adjust to the correct value
7									

Remark(s): 1. The test readings hereinbefore retrench specification as a rate of 70%, When the specification can not reach test requirement, inform the Engineers to broaden the relevant specification, then carry out the specification as clients required.

2. When input terminal is short, display will be R

3. Press "EXIT' and blue button together to enter the calibrating mode

4. For checking the Store features :

The first time press "STORE" button, left secondary display shows the current measurement reading, press to clear the store value which start from 0. Press "STORE" again, the left secondary display shows the storing time interval in seconds. Press +/- can change it. Then press "STORE" again will start auto saving the records (VC920 can store up to 10 records, VC960 can store up to 10000records). Press "EXIT" button to stop recording.

### 5. RECALL and RS232 checking :

Connect the cable, press "STORE" button for around 1sec. Meter will enter the Recall mode. The left secondary display shows the existing record no. The right secondary dispay shows the total no. of records. Press button will start the auto SEND function. All the stored data will be copied to the computer via RS232. The SEND function will automatically stop when all data are transferred. Alternatively, press "EXIT" button will stop the function.

#### 6. Backlight checking :

Press and hold "EXIT" button, it will turn on the 1st level backlight (The default setting time is OFF). Now press same button once will turn on the second level backlight. Now press "EXIT" again will switch off the backlight.

#### 7. MAX/MIN checking :

Press "MAX/MIN" button to enter the recording mode. The left secondary display will show the maximum value and symbol. The right secondary display will show the minimum value and symbols. The main display will show the existing measuring value. Press "EXIT" to stop.

#### 8 SETUP checking :

Press and hold "RANGE" to enter the setup mode. Press the same button can enter a) High, Low alarm (or OFF) mode; b) time interval for auto power off; c) buzzer beeps; d) time for backlight off; e) analogue bargraphic setting Press +/- can adjust the value. Press "EXIT" button will end the setup.

#### 4. Notes

- . Be sure display for no input signal become steady before input stated value.
- . Pack the Meter after input value became steady, and bouncing digits is less than bouncing values.
- . Calibrate the Meter on/in bubble bags, and put defects or eligible meters into different plastic box orderly in bubble bags.
- . Before the calibrator gives input to the Meter, make sure a proper function has been selected, forbid output first or change function in output state.
- . Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.
- . Turn the Rotary Switch to OFF position or take out the battery.

# 1 , 2 . ≤

3 (),

4		,		
5	LCD			
6	OFF			
: ■				
	( )		DCC003	5

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Che	cked by		Version	0	Pages	1 of 1					
App	roved by		Modified Verson								
1. Iı	nspecti	on Items									
	All DC	CV ranges									
2. C	alibrat	ting Instrume	nt								
	(1) NJ	19 DC Standar	rd Voltage Current So	ource							
	(2) No	on-induction F	lat Screwdriver								
3. Iı	ispecti	ng Procedure	S								
	Turn ro	otary switch to	mVHz range. Input	the testing	voltge to V	ΩHz –CQ	M terminal and	perforn	the fol	llowing checkin	g.
	Steps	Functions	Display when no input signal	Input	Value	Value	Range	Bouncing Digits	Comonent Adjusting	Accuracy	Remark(s)
	1	400mV	OI	Short	Circuit	±0.0	0001	2		+(0.0259/ +8)	Press "RANCE"
	1	400III V	UL	190	)mV	189.98	190.02	3	VR2	±(0.025%+8)	button for
	2	<b>4</b> V	0.0000V	1.	9V	1.8991	1.9009				calibrating
	4	<b>40</b> V	00.000	19	9V	18.991	19.009				input
	5	400V	000.00	19	90V	189.91	190.09	5		±(0.05%+5)	700V then
	6	1000V	0000 0	10	00V	999.4	1000.6				press"HOLD" button for adjusting
	0	1000 \$	0000.0	(-)1	000V	(-999.4	-1000.6)				

Remark(s): 1. The test readings hereinbefore retrench specification as a rate of 60%, When the specification can not reach test requirement, inform the Engineers to broaden the relevant specification, then carry out the specification as clients required.

2. Press "EXIT' and blue button together to enter the calibrating mode

3. Auto power off was default as 10 minutes. Either turn the rotary switch or press the blue button to switch it on.

4. After pass DCV 1000V test, press "HOLD", LCD will display "HOLD" symbol. Buzzer have beep sound. After stopping input 1000V signal, LCD display remain unchange. Press "EXIT to end the setup.

- . Be sure display for no input signal become steady before input stated value.
- . Pack the Meter after input value became steady, and bouncing digits is less than bouncing values.
- . Calibrate the Meter on/in bubble bags, and put defects or eligible meters into different plastic box orderly in bubble bags.
- . Before the calibrator gives input to the Meter, make sure a proper function has been selected, forbid output first or change function in output state.
- . Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.
- . Turn the Rotary Switch to OFF position or take out the battery.

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Approved by	Modified Verson				
1. Inspection Items					
All ACV ranges	5				

# 2. Calibrating Instrument

(1) Fluke 5520 / Fluke 5500

(2) Non-induction Flat Screwdriver

# 3. Inspecting Procedures

Turn the notary quitch to ACU range input the giangle to VOUR	-CON terminal and norfarms the falls	www.ma.ahaaliim
$\Gamma$ unit the rotary switch to AC y range. Inducting signals to y $\Omega$ $\Gamma$ Z	-com terminal and benorm the iono	)wing checking
	P P	

Steps	Functions	Display when no input signal	Input Value	Value	Range	Bouncing Digits	Component Adjusting	Accuracy	Remark(s)
			2.0V(60Hz)	1.9900	2.0100		VR3		
			3.5V(60Hz/1KHz)	3.4892	3.5108	41		±(0.5%+5)	
1	437	0.0000	3.5V(5KHz)	2 4742	2 5257	00		+ <b>(1 70/</b> + <b>8</b> )	should be less
1	4 V		3.5V(10KHz)	3.4743	3.3237	90	C42	±(1.270+0)	than 40 digits
			3.5V(20KHz)	2 1266	2 5624	241		· ( <b>3</b> 0/ · <b>9</b> )	when testleads
			3.5V(100KHz)	3.4300	3.3034	241	C32	$\pm(3\%+\delta)$	are short. Press
			35V(60Hz/1KHz)	34.892	35.108	41		±(0.5%+5)	
	<b>40</b> V		35V(5KHz)	24 680	25 220	101		· (1 <b>5</b> 0/ · <b>9</b> )	"RANGE"
2		00.000	35V(10KHz)	34.080	35.320	121	C30	±(1.5%+8)	button for
			35V(20KHz)	22 045	26.055	401		.(20/0)	calibrating
			35V(100KHz)	33.945	30.055	401		±(5%+8)	mode. Then
			350V(60Hz/1KHz)	348.92	351.08	41		±(0.5%+5)	input
3	<b>400V</b>	000.00	350V(5KHz)	241 50	250 44	201		. (40/ . 0)	2V 20V 200
			350V(10KHz)	341.30	338.44	321		±(4%+ð)	V 700V Pres
			750V(60Hz/1KHz)	0745.1	0754.9	81		±(1%+8)	s"HOLD" for
4	750V	0000.0	750V(5KHz)	0728.1	0772.9	401	±(5%+8)	aujusung	
			750V(10KHz)	0704.6	0795.6	761		±(10%+8)	

- Remark(s): 1. The test readings hereinbefore retrench specification as a rate of 60%, When the specification can not reach test requirement, inform the Engineers to broaden the relevant specification, then carry out the specification as clients required.
  - 2. Press "EXIT' and blue button together to enter the calibrating mode

- . Be sure display for no input signal become steady before input stated value.
- . Pack the Meter after input value became steady, and bouncing digits is less than bouncing values.
- . Calibrate the Meter on/in bubble bags, and put defects or eligible meters into different plastic box orderly in bubble bags.
- . Before the calibrator gives input to the Meter, make sure a proper function has been selected, forbid output first or change function in output state.
- . Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.
- . Turn the Rotary Switch to OFF position or take out the battery.

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Checked by		Version	0	Pages	1 of 1	
Approved by		Modified Verson				
1. Inspecti	on Items					
All AC	CV ranges					
2. Calibrat	ting Instrumen	t				
(1) Flu	ke 5520 / Fluke	e 5500				
(2) No	on-induction Fla	at Screwdriver				
3. Inspecti	ng Procedures					
Press "	AC+DC" butto	n. Input the signals t	o VΩHz	—C6	M terminal and perform the foll	owing checking.

Steps	Functions	Display when no input signal	Input Value	Value Range	Bouncing Digits	Component Adjusting	Accuracy	Remark(s)
1	<b>4</b> V	0.0000	2.0V(60Hz)Offset 2V	2.8064 2.8504				Short the testleads, adjusting VR5 to
2	<b>40</b> V	00.000	3.5V(60Hz)Offset -3V	4.559 4.659	127		±(1.5%+35)	make the reading less than 50 digits.

Remark(s): 1. The test readings hereinbefore retrench specification as a rate of 60%, When the specification can not reach test requirement, inform the Engineers to broaden the relevant specification, then carry out the specification as clients required.

2. Press "EXIT' and blue button together to enter the calibrating mode

- . Be sure display for no input signal become steady before input stated value.
- . Pack the Meter after input value became steady, and bouncing digits is less than bouncing values.
- . Calibrate the Meter on/in bubble bags, and put defects or eligible meters into different plastic box orderly in bubble bags.
- . Before the calibrator gives input to the Meter, make sure a proper function has been selected, forbid output first or change function in output state.
- . Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.
- . Turn the Rotary Switch to OFF position or take out the battery.

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Che	ecked by		Version	0	Pages	1 of 1					
Арр	proved by		Modified Verson								
<b>1. I</b>	nspectio	on Items									
	All DC	A ranges									
2. 0	Calibrat	ing Instrume	ent								
	(1) NJ1	19 DC Voltag	e Current Source and	20A DC	Current Sou	rce					
	(2) Cu	tting Nipper a	and Soldering Machir	ie							
<b>3. I</b>	nspectii	ng Procedure	es								
	Turn th	ne rotary swite	ch to the corresponding	ng DCA ra	ange. Input t	he current to A or	mAuA	C⊖₩	<del>I te</del> mina	al and perform	
	the foll	owing checki	ng.			T		Bounc	Compo		,
	Steps	Functions	Display when no input signal	Inpu	t Value	Value	Range	ing Digits	nent	Accuracy	Remark(s)
	1	10A	00.000	1	<b>0</b> A	09.898	10.102	124	R46	±(1.5%+20)	Press ''RANGE''
	2	400uA	000.00	10	)0uA	099.79	100.21	22		±(0.25%+10)	button for entering the calibrating mode. Then
	3	4000uA	000.00	10	00uA	0996.4	1003.6				turn to the correspondin g range and input
	4	40mA	00.000	1(	)mA	09.964	10.036	42		±(0.5%+10)	7A 200uA 2 000uA 20mA 200mA Pre ss"HOLD"
	5	400mA	00.000	10	0mA	099.64	100.36				ss"HOLD" button to adjust

- Remark(s): 1. The test readings hereinbefore retrench specification as a rate of 60%, When the specification can not reach test requirement, inform the Engineers to broaden the relevant specification, then carry out the specification as clients required.
  - 2. Press "EXIT' and blue button together to enter the calibrating mode

- . Be sure display for no input signal become steady before input stated value.
- . Pack the Meter after input value became steady, and bouncing digits is less than bouncing values.
- . Calibrate the Meter on/in bubble bags, and put defects or eligible meters into different plastic box orderly in bubble bags.
- . Before the calibrator gives input to the Meter, make sure a proper function has been selected, forbid output first or change function in output state.
- . Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.
- . Turn the Rotary Switch to OFF position or take out the battery.

/ <b>C9</b>	20/94(	<u>)/960 Cal</u>	libration Inst	truction ( )	-			
Made by		Doc. No	PDD - WI	- 121- 06				
hecked by		Version	0 Pages 1	of 1				
		Modified Verson			1			
Inspecti	on Items	Woulled Verson						
All AC	CA ranges							
Calibrat	ing Instrume	ent						
Fluke :	5500A or 552	0A						
Inspecti	ng Procedure	es						
Turn tl	ne rotary swite	ch to corresponding	ACA range. Input current to	A / mA CON range	e and perform	m the follow	ing test.	
Steps	Functions	Display when no input signal	input Value	Value Range	Bouncing Digits	Component Adjusting	Accuracy	Remark(s)
			1A/60Hz	00.990 01.002	43	VR1	±(0.5%+15)	
1	10A	00.000	10A/60Hz;1kHz	09.901 10.099	123		±(1.5%+15)	
			10A/5KHz	09.563 10.437	403		±(5%+15)	
			350uA/60Hz;1kHz	348.86 351.14	43		±(0.5%+15)	Turn to corr. ACA
2	400uA		350uA/10kHz	347.81 352.19	83		±(1%+15)	
		000.00	3500uA/60Hz;1kHz	3488.6 3511.4	43		±(0.5%+15)	range and
3	4000uA		3500uA/10kHz	3478.1 3521.9	83		±(1%+15)	200uA 20
			35mA/60Hz;1KHz	34.886 35.119	43		±(0.5%+15)	0uA 20m 200mA
4	40mA		35mA/10KHz	34.781 35.219	83		±(1%+15)	A at
	00.000		350mA/60Hz;1kHz	348.86 351.14	43		±(0.5%+15)	"HOLD"
5	400mA		350mA/10kHz	347.81 352.19	83		±(1%+15)	button to adjust
Turn tł	ne switch to H	Iz/% range. Press SE	LECT button twice. Input cu	irrent to mA/uA CO	M-terminal a	and perform	the	Just
follow	ving test.		_		·			
Steps	Functions	Display when no input signal	input Value	Value Range	Bouncing Digits	Component Adjusting	Accuracy	Remark(s)

-		5.6mA 009.70 010.30% 85			⊥(10/a ± <b>30</b> )	Input smaller than 4mA will display L.O. Input larger			
2	2011/4	000.00 /8	18.4mA	089.21 090.79%		85	/	±(1/0+30)	than 20mA will display HI
emark(s) :	1. The t	est readings herein	before retrench specificat	ion as a rate (	of 60%, When tl	ne specifica	ation can no	t reach test	
	requ	irement, inform the	e Engineers to broaden th	ne relevant sp	ecification, then	carry out	the specifica	ation as clients	
	requ	ired.							
Notes									
. Be s	sure displa	y for no input signal	become steady before input	it stated value.					
. Pack	k the Mete	r after input value be	ecame steady, and bouncing	g digits is less	than bouncing va	lues.			
. Calil	ibrate the M	Aeter on/in bubble b	ags, and put defects or eligi	ible meters int	o different plastic	e box order	ly in bubble	bags.	
. Befo fun	ore the cali	ibrator gives input to utput state.	the Meter, make sure a pro	oper function l	nas been selected	, forbid out	put first or c	hange	
. Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.									
. Turn the Rotary Switch to OFF position or take out the battery.									

		Dec Ne	PDD - WI -121- 07			07					
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Checked by		Version	0	Page	1 of 1						
pproved by		Modified Verson									
. Inspect	tion Items										
(1) All	Cap ranges										
(2) All	Frequency ra	nges									
. Calibra	ating Instrun	nent									
(1) Sta	ndard 33 serie	es single Cap									
(2) SG	8550 Frequen	cy Signal Generator									
(3) Noi	(3) Non-induction Flat Screwdriver										
. Inspect	Inspecting Procedures										
Turn th	ne rotary swite	ch to the Cap range.	Input the Cap	into VΩI	Iz —CO	terminal and	perform	the foll	owing test in seq	uence.	
Steps	Functions	Display when no input signal	Input V	alue	Value	Display	Bouncing Digits	Component Adjusting	Accuracy	Remark(s)	
1	40nF		33n	F	32.790 33.210 +	Open Circuit Value				_	
2	400nF		330n	ıF	327.90	332.10				Input 20nF 200nF	
3	4uF	Less than 8	3.3u	F	3.2790	3.3210	84		±(1%+20)	2uF 20uF 20	
4	40uF	digits	<b>33</b> u	F	32.790	33.210				0uF 2mF 20	
5	400uF	0	330u	ıF	327.90	332.10				mF. Press"HOLD"b	
6	4mF		2.2m	ıF	2.1340	2.2660	404		±(5%+20)	utton to adjust	
7	40mF		22m	F	Neares	t Value	/	I	Reference Only	-	
Turn tł	ne rotary swite	ch to Hz mV range. I	Press blue but	tton until '	'Hz" display on	LCD. Input Cap	to VΩH	Z	COM termin	al	
and per	rform the foll	owing test.	1					-			
Steps	Functions	Display when no input signal	Input V	alue	Value	Display	Bouncing Digits	Component Adjusting	Accuracy	Remark(s)	
1	Hz		10Hz/18	80mV	9.995	10.005	- 2 - - 86 -	/	+(0 01%+8)		
2	112	0.000 0.001	350KHz/1	180mV	349.93	350.07		/	_(0.0170+0)		
3	Duty	V.UUU U.UUI	10.0% / 10V	p-p1kHz	9.76%	10.26%		86 /			
4	Cycle		<b>90.0% / 10V</b>	p-p1kHz	89.28%	90.72%			±(1.070∓00)		

- Remark(s): 1. The test readings hereinbefore retrench specification as a rate of 60%, When the specification can not reach test requirement, inform the Engineers to broaden the relevant specification, then carry out the specification as clients required.
  - 2. Press "EXIT' and blue button together to enter the calibrating mode

- . Be sure display for no input signal become steady before input stated value.
- . Pack the Meter after input value became steady, and bouncing digits is less than bouncing values.
- . Calibrate the Meter on/in bubble bags, and put defects or eligible meters into different plastic box orderly in bubble bags.
- . Before the calibrator gives input to the Meter, make sure a proper function has been selected, forbid output first or change function in output state.
- . Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.
- . Turn the Rotary Switch to OFF position or take out the battery.

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Checked by			Version	0 Pages	1 of 1								
Аррі	roved by		Modified Verson										
. Ir	Inspection Items												
		adjustment											
2. C	alibrat	ing Instrume	ent										
	(1) DC	Poentiomete	r										
	(2) Noi	n-induction F	lat Screwdriver										
. Inspecting Procedures													
	Turn th	e rotary swite	ch to range. Input vo	oltage to VΩHz	<b>CON</b> terminal and perform the	follow	ing test						
	Steps	Functions	Display when no	Input Value	Value Range	Boun cing	Comp onent	Accuracy	Remark(s)				
			input bighur	Environmental Temp(20)	0017.8 0022.2		VR4	±(3%+30)	Short the				
	1		Room Temp	12.21mV	(0294.0 0306.0 )+room temp		h., CBirner	±(1%+30)	testleads, adjust				
				42.16mV	0975.0 1025.0 +room temp		by Software	±2.5%	VR4, and let				
				Environmental temp (20)	0061.0 0072.6 +room temp		/	±(4%+50)	display the				
	2		Room Temp	12.21mV	0586.2 0613.8 +room temp		/ [	±(1.5%+50)	environmental				
				42.16mV	1748.7 1851.3 +room temp		/	±3%	temp				
						D							
	Steps	Functions	Display when no input signal	Input Value	Value Range	Boun cing	Comp onent	Accuracy	Remark(s)				
					W 168.6 173.4	161		±(2%+5)	1 When calibrate				
	4			190V /1A/COSφ0.9/50 Hz	A 00.93 01.07 V 188.3 191.7	10	-	±(1%+10)	Firstly input 170V/7A/50HZ to				
	1				VA 0185 0195	17		±(2%+5)	adjust the				
					COS 0.888 0.912 Hz 00044 00056	10		±(1%+10)	current then				
		1			W 2469.7 2530.3	161		±(2%+5)	190V/7A/50Hz to				
				250V	A 09.60 10.40	10	by	±(1%+10)	adjust the voltage.				
	2	W	Reference Only	/10A/COSφ1/60 Hz	VA 2470 2530	17 10	Softw are	±(2%+5)	calibrating Press				
					COS 0.988 1.012 Hz 00044 00056			±(1%+10)	blue button to test				
					11Z 00044 00030		L		voltage, current,				

Г				W	0049.4 0050.6	161		±(2%+5)	frequency, W, VA.
	3		50V /5A/COSφ0.2/50 Hz	A	04.94 05.06	10		±(1%+10)	3 Figurs in this
				V VA	049.1 050.9	17	-	±(2%+5)	to 60%. It is
				COS	0.193 0.207	10		±(1%+10)	allowed to release
				Hz	00044 00056				the standard

. Be sure display for no input signal become steady before input stated value.

. Pack the Meter after input value became steady, and bouncing digits is less than bouncing values.

. Calibrate the Meter on/in bubble bags, and put defects or eligible meters into different plastic box orderly in bubble bags.

. Before the calibrator gives input to the Meter, make sure a proper function has been selected, forbid output first or change function in output state.

. Inspect the LCD display when open the Meter, there should no extra stroke, shadow, leakage, scratch, damage or dirt.

. Turn the Rotary Switch to OFF position or take out the battery.