

AR4007

DIGITAL MULTIMETER



	Components of the product supplied. Description.	Visually inspect for clean unmarked appearance and for the following.
1.	AR4007 Digital Multimeter with battery installed and yellow holster c/w stand attached. Packed in clear plastic bag.	Calibration accuracy within the Lo and Hi 70% limits detailed on page 2. Operational integrity.
2.	Pair of SL10 Test Leads. Packed in a clear, re-sealable, plastic bag.	Electrical continuity.
3.	Certificate of Conformity.	Standard Robin form with correct serial number.
4.	Instruction Manual.	Correct Instruction Manual.
5.	Warranty Registration Card.	Standard Robin Warranty Registration Card.
6.	Carton.	Correct carton with current address, logos and references

AR4007 Digital Multimeter

Range	Applied Value	Tol +/-	Lo Limit	Hi Limit	Lo 70%	Hi 70%	Reading (+ve)	Reading (-ve)
DCV 400mV	390.00 mV	1.4	388.6	391.4	389.0	391.0		
	1.0000 V	0.005	0.995	1.005	0.997	1.004		
	2.0000	0.008	1.992	2.008	1.994	2.006		
	3.9000	0.014	3.886	3.914	3.890	3.910		
	39.000	0.14	38.86	39.14	38.90	39.10		
	390.00	1.4	388.6	391.4	389.0	391.0		
ACV 4V	1.0000 V 50Hz	0.011	0.989	1.011	0.992	1.008		
	2.0000	0.018	1.982	2.018	1.987	2.013		
	3.9000	0.032	3.868	3.932	3.878	3.922		
	3.9000 400Hz	0.239	3.661	4.139	3.733	4.067		
	39.000 50Hz	0.32	38.68	39.32	38.78	39.22		
	39.000 400Hz	0.34	38.66	39.34	38.76	39.24		
	39.000 5kHz	1.03	37.97	40.03	38.28	39.72		
	390.00 50Hz	3.2	386.8	393.2	387.8	392.2		
	390.00 400Hz	3.4	386.6	393.4	387.6	392.4		
	390.00 5kHz	10.3	379.7	400.3	382.8	397.2		
	700.0 50Hz	10	690	710	693	707		
	700.0 400Hz	10	690	710	693	707		
	700.0 5kHz	30	670	730	679	721		
Res 400Ω	390.00 Ω	3.0	387.0	393.0	387.9	392.1		
	3.9000 kΩ	0.023	3.877	3.923	3.884	3.916		
	39.000	0.23	38.77	39.23	38.84	39.16		
	390.00	2.3	387.7	392.3	388.4	391.6		
	3.9000 MΩ	0.023	3.877	3.923	3.884	3.916		
	39.000	0.55	38.45	39.55	38.62	39.39		
Freq 200Hz	190.000 Hz	0.12	189.88	190.12	189.92	190.08		
	2000Hz	1.2	1898.8	1901.2	1899.2	1900.8		
	20kHz	0.012	18.988	19.012	18.992	19.008		
	200kHz	0.12	189.88	190.12	189.92	190.08		
DCI 400uA	390.00 uA	2.1	387.9	392.1	388.5	391.5		
	3900.0	21	3880	3921	3886	3914		
	39.000 mA	0.21	38.79	39.21	38.85	39.15		
	390.00	2.1	387.9	392.1	388.5	391.5		
	3.9000 A	0.044	3.856	3.944	3.869	3.931		
	10.000	0.15	9.85	10.15	9.9	10.11		
ACI 400uA	390.00 uA 50Hz	4.4	385.6	394.4	386.9	393.1		
	390.00 1kHz	4.4	385.6	394.4	386.9	393.1		
	3900.0 50Hz	44	3856	3944	3869	3931		
	3900.0 1kHz	44	3856	3944	3869	3931		
	39.000 mA 50Hz	0.44	38.56	39.44	38.69	39.31		
	39.000 1kHz	0.44	38.56	39.44	38.69	39.31		
	390.00 50Hz	4.4	385.6	394.4	386.9	393.1		
	390.00 1kHz	4.4	385.6	394.4	386.9	393.1		
	3.9000 A 50Hz	0.044	3.856	3.944	3.869	3.931		
	3.9000 1kHz	0.044	3.856	3.944	3.869	3.931		
	10.000 50Hz	0.20	9.80	10.20	9.86	10.14		
	10.000 1kHz	0.20	9.80	10.20	9.86	10.14		
Temp	-40.00 °C	3.1	-43.1	-36.9	-42.2	-37.8		
	0.00	3.0	-3.0	3.0	-2.1	2.1		
	19.00	3.0	16.0	22.0	16.9	21.1		
	390.00	5.9	384.1	395.9	385.9	394.1		
	1200.0	36	1164	1236	1175	1225		
Cap 1uF	0.1000 uF	0.007	0.093	0.107	0.095	0.105		
	0.9000	0.020	0.880	0.92	0.886	0.914		
	9.000	0.20	8.80	9.20	8.86	9.14		
	90.00	2.0	88.0	92.0	88.6	91.4		
	900.0	38	862	938	873	927		
		PASS	FAIL					
CONTINUITY BUZZER								
DIODE TEST								

Authorised:



Service Manager

Date:

06/01/2000

REQUIRED MEASURING INSTRUMENTS

- 1) Digital Multimeter (> 0.5 CLASS) ----- 1 set
- 2) Oscilloscope (> 40MHz) ----- 1 set
- 3) Multi Function Calibrator * (> DATRON 4700 CLASS) ----- 1 set

* The accuracy of Calibrator should be at least 10 times the accuracy of the Meter.

2. TEST

2.1 The Naked Eye Examination

At first examination the P.C. boards whether they have damaged parts or wrong valued parts comparing with the P.C.B. Parts location layouts after departing the battery from the meter.

Especially examine the height of inserted parts whether they are higher than that of the LCD Module or not.

2.2. Initial Test

2.2.1. Assembling the main board with the sub-board, connect a 9V battery to the battery terminals.

2.2.2. Using DMM, examine that the voltage value between Max134's PIN 14 and PIN 30 is 2.95V.

[Standard : 2.7V - 3.2V]

2.2.3. Using DMM, examine that the voltage value between Max134's PIN 14 and PIN 29 is 5V.

[Standard : 4.5V - 5.5V]

- 2.3.1. Press the ON/OFF button to turn the meter on.
- 2.3.2. turn the rotary switch to the position of DC mV.
- 2.3.3. Connect the voltage output terminal of Calibrator to the COM terminal and VQHz terminal separately and then set Calibrator at DC 100mV.
- 2.3.4. Adjust VR3 (CAL) of the meter and set it at 100mV.
[Standard : DC 100.0mV (NOMINAL)]
* At this time, for the POWER-ON-ZERO-OFFSET calibration, turn the meter OFF and then ON by pressing the ON/OFF button. If the meter does not read 100mV. repeat 2.3.3. and 2.3.4. continuously until the meter reads 100mV.
- 2.3.5. Turn the rotary switch to the position of DC V.
- 2.3.6. Set Calibrator at DC 1V.
- 2.3.7. Adjust VR1 (DC) of the meter and set it at 1V.
- 2.3.8. Setting Calibrator at each voltage value of the following Table 1, examine the measured value for each range.

	0000	1000	ERROR
400mV			$\pm 0.3\%$ rdg ± 5 digit
4V			"
40V			"
400V			"
1000V			$\pm 0.75\%$ rdg ± 3 digit

TABLE 1

2.4. AC Volt Test

- 2.4.1. Turn the rotary switch to the position of AC V.
- 2.4.2. Press RANGE button and set the meter at 1.000V range.
- 2.4.3. Connect the voltage output terminal of Calibrator to the COM terminal and VQHz terminal separately and then set Calibrator at 0V and adjust VR6 (OFS) of the meter and set it at 0V to have 0V shown on the LCD display.
- 2.4.4. Setting the rotary switch at the position of AC V, press RANGE button for 3 or so seconds. Then, the meter is now working in Auto Ranging.
- *2.4.5. Set Calibrator at AC 1V.
- *2.4.6. Adjust VR4 (AC) of the meter and set it at 1V.
[Standard : AC 1.000V (NOMINAL)]
- *2.4.7. Setting Calibrator at each voltage value of the following Table 2. examine the measured value for each range.

	0000	1000	ERROR
4V			$\pm 0.5\%$ rdg ± 3 digit
40V			"
400V			"
750V			$\pm 1.0\%$ rdg ± 5 digit

TABLE 2

The software on μ -controller of the meter was designed for both 50Hz and 60Hz. Thus, test as 2.4.5. ~ 2.4.7. for 50Hz or for 60Hz in each case whether the measured values should be within the specifications of table 2.

2.5 DC Current Test

2.5.1 400mA Range Test

- 2.5.1.1 Set Calibrator at DC Current 390mA.
- 2.5.1.2 Connect the test lead of the meter to the Current terminal of Calibrator and then connect the test lead with COM terminal and mA/μA terminal of the meter separately after turning the rotary switch to the position of DC mA
- 2.5.1.3 Examine the measured values on the LCD display.
[Standard : 390.0mA ±0.5% rdg + 1 digit]
- 2.5.1.4 Read each measured value at 0A, 400μA, 4mA, 40mA and 395mA
[Standard : ±0.5% rdg + 1 digit]

5 0A Range Test

- 2.5.2.1 Move the test lead from mA/μA terminal to A terminal
- 2.5.2.2 Turn the rotary switch to the position of DC A.
- 2.5.2.3 Set Calibrator at DC Current 10A.
- 2.5.2.4 Regarding the measured values shown on the LCD display contact the jumper with SHUNT (SH) and look for the point at which the LCD display shows 10.00A.
Then, solder that point on SHUNT (SH) with jumper.
After waiting for a while until the heat of SHUNT gets cold examine whether the LCD display shows 10.00A or not
[Standard : 10.00A ±1% rdg + 5 digits]
- 2.5.2.5 Read each measured value at 0A and 4A.
[Standard : ±1% rdg + 5 digits]

2.6 AC Current Test

2.6 400mA Range Test

- 2.6.1.1 Set Calibrator at AC Current 390mA (50Hz or 60Hz)
- 2.6.1.2 Connect the test lead of the meter to the Current terminal of Calibrator and then connect the test lead with COM terminal and mA/μA terminal of the meter separately after turning the rotary switch to the position of AC mA.
- 2.6.1.3 Examine the measured values on the LCD display.
[Standard : 390.0mA ±0.75%rdg + 3 digits]
- 2.6.1.4 Read each measured value at 0A, 400μA, 4mA, 40mA and 395mA.
[Standard : ±0.75% rdg + 3 digits]

2.6 10A Range Test

- 2.6.2.1 Move the test lead from mA μ A terminal to A terminal
- 2.6.2.2 Turn the rotary switch to the position of AC A.
- 2.6.2.3 Set calibrator at AC Current 10A and read the measured value on the LCD display.
[Standard : 10.00A $\pm 1\%$ rdg + 5 digits
- 2.6.2.4 Read each measured value at 0A and 4A.
[Standard : $\pm 1\%$ rdg + 5 digits]

2.7 Resistor Test

- 2.7.1 Change the mode of Calibrator to resistance mode and connect the lead to V, Ω terminal of Calibrator.
- 2.7.2 Connect the lead to COM terminal and V Ω Hz terminal of the meter separately and then turn the rotary switch to the position of Ω .
- 2.7.3 Read each measured value on the LCD display of the meter changing the resistance range of Calibrator to 10 Ω , 100 Ω , 1K Ω , 10K Ω , 100K Ω , 1M Ω , and 10M Ω separately.

Standard	400 Ω	$\pm 0.5\%$ rad + 3 digits
	4 K Ω	
	40 K Ω	
	400 K Ω	
	4 M Ω	
	40 M Ω	$\pm 1\%$ rag + 10 digits —

- 2.7.4 Change the mode of Calibrator to DC 1000V and make the current flow of 2 or so seconds.
- 2.7.5 Change the mode of calibrator to Ω mode again and reexamine as 2.7.1 ~ 2.7.3 whether there is no change.

2.8 Continuity Test

- 2.8.1 Turn the rotary switch to the position of $\cdot \cdot \cdot \cdot \cdot$.
- 2.8.2 Connect a 100 Ω resistor to the Test lead and examine whether the meter sounds beep at under 100 Ω .
At this time the measured value of the resistance should be shown on the LCD display of the meter.

2.9. Diode Test

- 2.9.1. Turn the rotary switch to the position of .
- 2.9.2. Connect the black test lead to COM terminal and connect the red test lead to VΩHz terminal of the meter separately and then connect the black lead to the CATHODE of any Germanium Diode and connect the red lead to the ANODE of any Germanium Diode separately. And read the measured value.
- 2.9.3. Read and examine the measured value when reverse connection.
[Standard : OFL indication]

2.10 Frequency Test

- 2.10.1.
 - 2.10.2. and connect the test
 - 2.10.3. of
- of

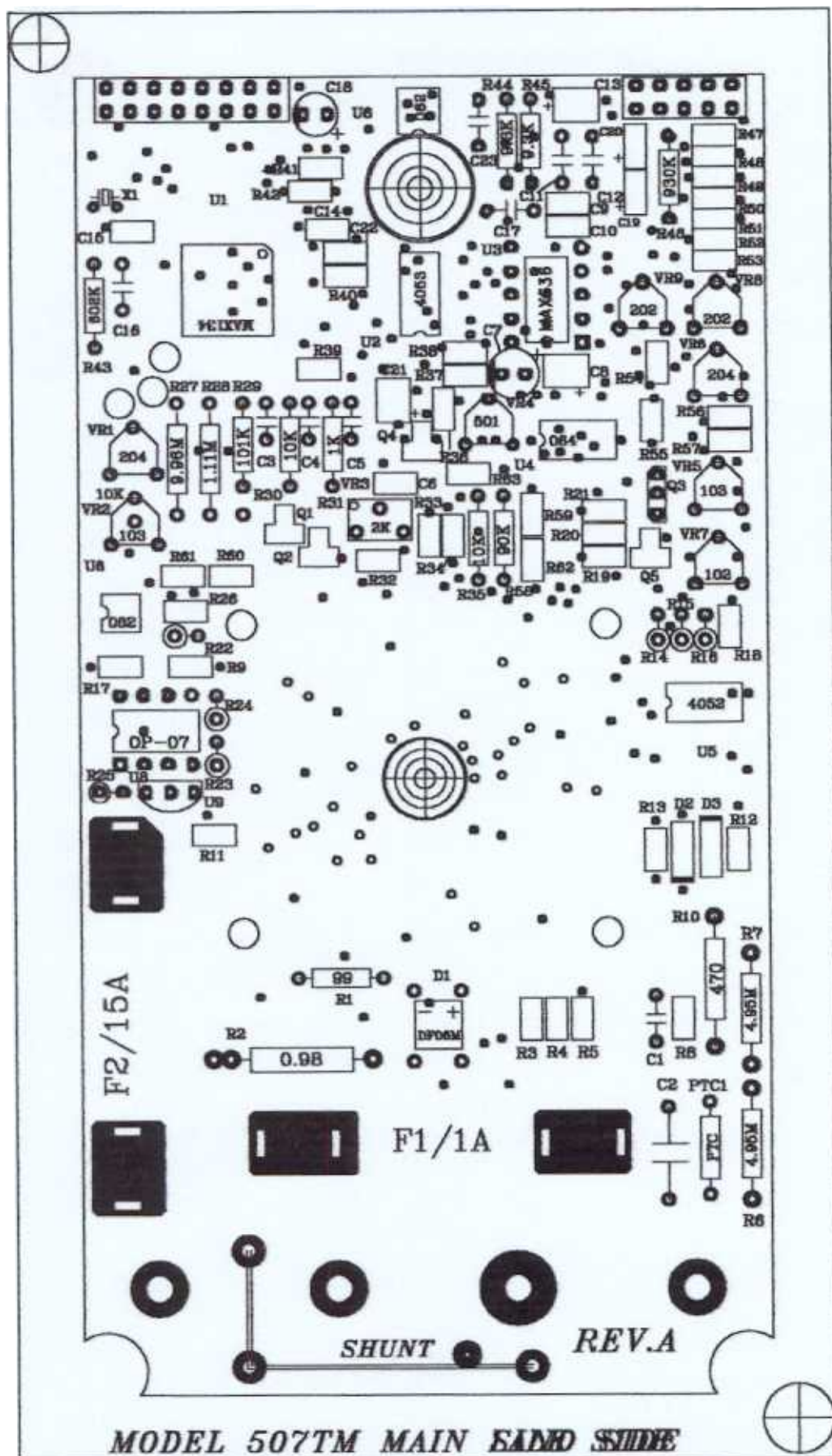
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2.11 Temperature Test (507THD only)

- 2.11.1. Turn the rotary switch to the position of °C.
- 2.11.2. Input the Male temperature sensor (K-type temperature probe) into the Female temperature sensor. When the polarity of temperature sensor should be correctly matched, supply the exact 100°C to K-type temperature probe and adjust VR2 (TEMP) to have 100°C shown on the LCD display of the meter.

2.12 Capacitance Test

- 2.12.1. Turn the rotary switch to the position of CAP.
- 2.12.2. Connect the lead to COM terminal and VΩHzCAP terminal of the meter separately and then set Calibrator at 90μF.
- 2.12.3. Adjust VR5 103 (CAP) to have 90.00μF shown on the LCD display.
- 2.12.4. Set Calibrator at 900μF and adjust VR7 102 (CAP) to have 900.0μF shown on the LCD display of the meter.



VR1: μ V Volt Adjust
 VR2: Temperature
 VR3: DC mVolt
 VR4: AC Volt
 VR5: Capacitance (low)
 VR7: " (high)
 VR6: AC Volt offset.
 VR8,9: THD

화인계기(주)	부품목록(BOM)	REV.NO	1
		PAGE	1/14

MODEL	FINE 507 RMS	DATE	1998 년 10 월 16 일	작성		검토		승인	
CODE	ASS'Y SHIPPING	CUSTOMER	FINE						
NO	CODE NO	DESCRIPTION	SPECIFICATION	VENDER	UNIT	Q'TY	REF.NO	REMARK	
1	03-013-002-0	TEST CORD	FINE용	진아 산업	PCS	1			
2	04-002-015-0	INNER BOX	FINE 507	태환문화사	PCS	1			
3	04-009-014-0	CARTON BOX	480x435x270(200,500,110)	태환문화사	PCS				
4	04-009-009-0	BOX, PAD	400x540x7 (WxLxT), 200	태환 문화사	PCS	2			
5	04-001-014-0	MANUAL		태환문화사	PCS	1			
6	01-034-019-0	SILICA, GEL	50x50 (WxL)	은천 문구	PCS	1			
7	01-034-016-0	OPP TAPE		은천 문구	ROLL				
8	01-034-013-0	POLY BAG	160 x 320	은천 문구	PCS	1			
9	01-034-009-0	P.P BAND		은천 문구	ROLL				
10	00-507-010-3	ASS'Y TEMP ADAPTER		화성 산업	PCS	1			
11	00-507-010-2	ASS'Y TEMP SENSOR		화성 산업	PCS	1			
12	00-507-010-1	ASS'Y SET		화인 계기	PCS	1			
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NOTE

화인계기(주)	부품목록(BOM)	REV.NO	1
		PAGE	3/14

MODEL	FINE 507 RMS	DATE	1998 년 10 월 16 일	작성		검토		승인	
CODE	ASS'Y TOP CASE	CUSTOMER	FINE						
NO	CODE NO	DESCRIPTION	SPECIFICATION	VENDER	UNIT	Q'TY	REF.NO	REMARK	
1	01-001-028-0	TOP CASE	507 D/G	현대 실크	PCS	1			
2	01-016-027-0	RUBBER, S/W	507.9	경원 산업	PCS	1			
3	01-004-003-0	KNOB, ROTARY	500용 D/G	동북 정공	PCS	1			
4	01-012-005-0	CAM, ROTARY	501용 RED	동북 정공	PCS	1			
5	01-012-006-0	LUG(A)	501용 RED	동북 정공	PCS	1			
6	01-012-007-0	LUG(B)	501용 RED	동북 정공	PCS	1			
7	01-009-001-0	SOCKET, JACK (A)	500용 RED(A)	동북 정공	PCS	1			
8	01-009-003-0	SOCKET, JACK (B)	500용 D/G (B) 0.1	동북 정공	PCS	1			
9	01-009-004-0	SOCKET, JACK (C)	500용 D/G (C) 3.4	동북 정공	PCS	1			
10	01-019-010-0	SPRING, ROTARY (B)	501용	대성 산업	PCS	2			
11	01-020-004-0	BALL, BEARING	5Φ	대성볼트센타	PCS	2			
12	01-020-001-0	WASHER, E-RING	EW4	대성볼트센타	PCS	1			
13	01-014-021-0	NAME PLATE	FINE 507	세화 정공	PCS	1			
14	01-013-008-0	WINDOW, LCD	500 TRUE	세화 정공	PCS	1			
15	01-018-002-0	INSERT, ROTARY	5x24.5	고성 산업	PCS	1			
16	03-012-001-0	PIEZO		현풍 전자	PCS	1			
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화인계기(주)	부품목록(BOM)	REV.NO	1
		PAGE	5/14

MODEL	FINE 507 RMS	DATE	1998 년 10 월 16 일	작		검		승	
CODE	ASS'Y PCB	CUSTOMER	FINE	성		토		인	
NO	CODE NO	DESCRIPTION	SPECIFICATION	VENDER	UNIT	Q'TY	REF.NO	REMARK	
1	00-507-030-1	ASS'Y MAIN PCB	FINE 507 RMS	북성 메카	PCS	1			
2	00-507-030-2	ASS'Y SUB PCB	FINE 507 RMS	북성 메카	PCS	1			
3	00-507-030-3	ASS'Y SLIDE		화인 계기	PCS	1			
4	02-002-014-0	LCD	LS-04222A (503/7/9)	삼성 전관	PCS	1			
5	01-006-002-0	BRACKET, LCD	500용 I/B	동북 정공	PCS	1			
6	01-011-002-0	BACK, LIGHT	503 HOLE 無 B/K	동북 정공	PCS	1			
7	01-019-004-0	SPRING, GROUND	200용 석도금 7x9x5x0.6x9	대성 산업	PCS	1			
8	01-015-002-0	ZEBRA, LCD	74.5x8.3x2 (500)	동남 실리콘	PCS	2			
9	01-020-007-0	SCREW	M/S 3x5 (동근머리)	대성볼트센타	PCS	4			
10	01-019-006-0	SPRING, PIEZO	110 석도금	대성 산업	PCS	2			
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NOTE									

화인계기(주)	부품목록(BOM)	REV.NO	2
		PAGE	6/14

MODEL	FINE 507 RMS	DATE	1999 년 01 월 05 일	작		검		승	
CODE	ASS'Y MAIN PCB	CUSTOMER	FINE	성		토		인	
NO	CODE NO	DESCRIPTION	SPECIFICATION	VENDER	UNIT	Q'TY	REF.NO	REMARK	
1	02-001-030-0	P.C.B	507 RMS MAIN	모던씨키트	PCS	1			
2	03-001-023-0	I.C	MAX134 CMH	MAXIM	PCS	1	U1		
3	03-001-017-0	I.C	AD636JH	동백 전자	PCS	1	U3		
4	03-001-027-1	I.C	NJM 062M	신명 교역	PCS	1	U6		
5	03-001-029-0	I.C	NJM 064 BM	신명 교역	PCS	1	U4		
6	03-001-034-0	I.C	NJU 4052 BM	신명 교역	PCS	1	U5		
7	03-001-036-0	I.C	NJU 4053 BM	신명 교역	PCS	1	U2		
8	03-001-042-0	I.C	O	동백 전자	PCS	1	U7		
9	03-001-022-0	I.C	LM334	동백 전자	PCS	1	U8		
			1/2W 5	삼원 전자	PCS	1	R27		
11	01-032-019-2	RESISTOR	1/2W 5	삼원 전자	PCS	2	R7,9		
12	01-032-019-0	RESISTOR	1/2W 1.11M D	삼원 전자	PCS	1	R28		
13	01-032-050-0	RESISTOR	1/4W 1M D	삼원 전자	PCS	1	R16		
14	01-032-044-0	RESISTOR	1/4W 324K D	삼원 전자	PCS	1	R23		
15	01-032-043-0	RESISTOR	1/4W 101K D	삼원 전자	PCS	1	R29		
16	01-032-042-0	RESISTOR	1/4W 100K	삼원 전자	PCS	1	R14		
17	01-032-041-0	RESISTOR	1/4W 90K D	삼원 전자	PCS	1	R58		
18	01-032-040-0	RESISTOR	1/4W 10K D	삼원 전자	PCS	2	R30,35		
19	01-032-039-1	RESISTOR	1/4W 9.9K D	삼원 전자	PCS	1	R15		
20	01-032-038-0	RESISTOR	1/4W 99 D	삼원 전자	PCS	1	R1		
			1W 0.980Ω D	삼원 전자	PCS	1	R2		
23	01-032-137-0	RESISTOR		삼원 전자	PCS	1	R43		
24	01-032-136-0	RESISTOR	1K	삼원 전자	PCS	1	R24		
25	01-032-081-0	RESISTOR	1/4W 576Ω F	삼원 전자	PCS	1	R25		
			1/4W 174Ω F	삼원 전자	PCS	1	R22		

NOTE	
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화인계기(주)	부품목록(BOM)	REV.NO	3
		PAGE	7/14

MODEL	FINE 507 RMS		DATE	1999 년 01 월 05 일		작성		검토		승인	
CODE	ASS'Y MAIN PCB		CUSTOMER	FINE		성					
NO	CODE NO	DESCRIPTION	SPECIFICATION		VENDER	UNIT	Q'TY	REF.NO	REMARK		
1	01-032-195-1	RESISTOR	1 W 470Ω J		삼원 전자	PCS	1	R10			
2	01-033-008-0	PTC(THERMISTOR)	1K		자화 전자	PCS	1	R6			
3	01-032-610-0	RESISTOR CHIP	2012 10M J		주원 전자	PCS	1	R61			
4	01-032-522-0	RESISTOR CHIP	2012 2.2M J		주원 전자	PCS	1	R38			
5	01-032-468-0	RESISTOR CHIP	2012 680K J		주원 전자	PCS	1	R62			
6	01-032-447-0	RESISTOR CHIP	2012 470K J		주원 전자	PCS	2	R12,51			
7	01-032-251-0	RESISTOR CHIP	2012 330K J		주원 전자	PCS	1	R40			
8	01-032-250-1	RESISTOR CHIP	2012 220K J		주원 전자	PCS	2	R4,8			
9	01-032-250-0	RESISTOR CHIP	1/10W 200K J		주원 전자	PCS	1	R55			
10	01-032-249-0	RESISTOR CHIP	2012 100K J		주원 전자	PCS	8				
11	01-032-249-2	RESISTOR CHIP	2012 51K J		주원 전자	PCS		IR20			
12	01-032-248-4	RESISTOR CHIP	2012 47K J		주원 전자			R60			
13	01-032-248-7	RESISTOR CHIP	2012 24K J		주원 전자			R26			
14	01-032-248-5	RESISTOR CHIP	1/10W 22K J		주원 전자	S		R57			
15	01-032-248-6	RESISTOR CHIP	2012 20K J								
16	01-032-237-3	RESISTOR CHIP	2012 19.1K					IR41			
17	01-032-248-0	RESISTOR CHIP			주원 전자				NOTE 2		
18	01-032-247-3	RESISTOR CHIP	2012 5.1K J		주원 전자	PCS	2	R33,42			
19	01-032-246-2	RESISTOR CHIP	2012 3K J		주원 전자	PCS	1	R56			
20	01-032-245-0	RESISTOR CHIP	2012 470Ω		주원 전자	PCS	2	R19,50			
21	01-032-244-2	RESISTOR CHIP	2012 47Ω J		주원 전자	PCS	1	R21			
22	03-010-002-0	MULTITURN V/R	10K (T63Y)		동원 전기	PCS	1	VR2			
23	03-010-003-0	MULTITURN V/R	2K (T63Y)		동원 전기	PCS	1	VR3			
24	02-004-012-0	SEMI V/R	200K		래피드전자	PCS	3	VR1,7,8			
			10K		래피드전자	PCS	1	VR5			
26	02-004-004-0	SEMI V/R	1K		래피드전자	PCS		VR6			
NOTE	N	R13,39,46,47,48,49,52,53									
	N	R11,18,34,36,54									

화인계기(주)	부품목록(BOM)	REV.NO	2
		PAGE	8/14

CODE ASS'Y MAIN PCB		DATE	1999 년 01 월 05 일	작성		검토	
		CUSTOMER	FINE				
	DESCRIPTION	SPECIFICATION	VENDER	UNIT	Q'TY	IARK	
1	02-004-003-0 SEMI V/R	500Ω	래피드전자	PCS	1	VR4	
2	01-031-004-0 TRIMER	50 5p	우경 전자	PCS	1	C23	
3	01-031-005-0 TRIMER	50 50p	우경 전자	PCS	1	C4	
4	01-026-610-0 CHIP TANTAL	2012 10uF	주원 전자	PCS	2	C19,20	
		2012 2.2uF	주원 전자	PCS	1	C8	
6	01-026-510-0 CHIP TANTAL		주원 전자	PCS	1	C21	
7	01-029-003-0 CHIP CERAMIC	2012 104p Z	주원 전자	PCS	3	C6,9,10	
8	01-029-002-0 CHIP CERAMIC	2012 100p Z	주원 전자	PCS	1	C27	
9	01	2012 472p	주원 전자	PCS	1	C14	
10	01-029-001-5 CHIP CERAMIC	2012 30pF/10v	주원 전자	PCS	1	C15	
11	01-028-010-0 CAP-MYLAR (M.F)	104k/250v	대흥콘덴서	PCS	1	C2	
12	01-028-006-4 CAP-MYLAR	224k/100v	대흥콘덴서	PCS	1	C22	
13	02-003-035-0 CERAMIC	201 / 1kv	동은 전자	PCS	1	C1	
14	01-028-006-6 CAP-MYLAR	331k/100v	대흥콘덴서	PCS	1	C25	
15	01		대흥콘덴서	PCS	1	C24	
16	01-028-006-0 CAP-MYLAR	473k/50v	대흥콘덴서	PCS	1	C5	
17	03-003-008-0 CAPACITOR	472K / 63V	대흥콘덴서	PCS	1	C16	
18	01-027-013-1 CAP-ELECT	100uf/50v (6x5)	우경 전자	PCS	1	C7	
19	02-007-004-0 TRANSISTOR(T.R)	KST 42TF (SMD)	한국반도체	PCS	3	Q1,2,3	
20	02-007-003-1 TRANSISTOR(T.R)	KST 3906 MTF	한국반도체	PCS	1	Q4	
21	03-009-002-0 DIODE	DF06M	LITE ON	PCS	1	D1	
22	01-30-004-1 DIODE	IN4148 (SMD)	주원 전자	PCS	2	D4,5	
23	03-001-001-0 DI.C	TC 04 BCZM	LITE ON	PCS	1	ZD1	
24	01-017-001-0 FUSE HOLDER	200	동아 정밀	PCS	4		
25	03-002-010-0 CONNECTOR	10PIN FEMALE (2x5)	성진 산업	PCS	1	C11	
		16PIN FEMALE (2x8)	성진 산업	PCS	1		

화인계기(주)	부품목록(BOM)	REV.NO	2
		PAGE	9/14

FINE 507 RMS		DATE	1999 년 01 월 05 일	작성		검토		승인	
CODE ASS'Y MAIN PCB		CUSTOMER FINE		성					
NO	CODE NO	SPECIFICATION		VENDER	UNIT	Q'TY	REMARK		
		IT SOCKET	200 8C	고성 산업	PCS	4			
2	03-004-001-0	X-TAL(CRYSTAL)	32.768KHZ	제일 상사	PCS	1	X1		
3	01-018-009-0	SPACER HEX	200	고성 산업	PCS	4			
4	01-020-007-0	SCREW	M/S 3x5 (동근)	대성볼트센타	PCS	4			
5	01-019-002-0	SHUNT	1.6C	대성 산업	PCS	1			
6	01-025-006-0	WIRE SHUNT	Y/L DMM ALL	코리아전자	PCS	1			
		석도금		대성 산업	PCS	1			
8	03-006-001-0		BBS-1A	동익 산업	PCS	1			
			KTK-15A	동익 산업	PCS	1			
10		RESISTOR	1/2W 47K F	삼원 전자	PCS	2	R5,17		
11	01-032-250-3	RESISTOR CHIP	2012 270K J	주원 전자	PCS	1	R63		
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화인계기(주)	부품목록(BOM)	REV.NO	3
		PAGE	10/14

MODEL	50	S	DATE	1999 년 01 월 05 일	작성		검토		승인	
CODE	ASS'Y SUB PCB		CUSTOMER	FINE						
NO	CODE NO	DESCRIPTION	SPECIFICATION	VENDER	UNIT	Q'TY	REF.NO			
1	02-001-032-0	P.C.B	507 SUB	모던씨키트	PCS	1				
2		I.C	75P3018AGC	한능 전자	PCS	1	U1			
3	03-001-031-0	I.C	NJU 4011 BM	신명 교역	PCS	1	U2			
4	01-032-249-0	RESISTOR CHIP	2012 100K J	주원 전자	PCS	6				NOTE 1
				주원 전자	PCS	3	R2,9,10			
				주원 전자	PCS	2	R1,3			
7	03-002-013-0	CONNECTOR		성진 산업	PCS	1	CON1'			
				성진 산업	PCS	1	CON2'			
				제일 상사	PCS	1	X1			
10	02-007-003-1	TRANSISTOR(T.R)		한국반도체	PCS	1	Q2			Q1 5M
11	02-007-001-1	TRANSISTOR(T.R)		한국반도체	PCS	1	Q1			Q2
12	01-030-004-1	DIODE	IN4148 (SMD)	주원 전자	PCS	1	D1			
13	01-029-002-4	CHIP CERAMIC	2012 472p	주원 전자	PCS	1	C5			
14	01-029-002-0	CHIP CERAMIC	2012 103p Z	주원 전자	PCS	1	C7			
15	01-029-001-5	CHIP CERAMIC	2012 30pF/10v	주원 전자	PCS	2	C2,3			
16	01-027-013-0	CAPACITOR ELECT	50V (5x7)	우경 전자	PCS	1	C6			
17	01-026-610-0	CHIP TANTAL	2012 10uF	주원 전자	PCS	1	C4			
				주원 전자	PCS	1	C1			
				원진 산업	PCS	1				
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화인계기(주)	부품목록(BOM)		REV.NO	1
			PAGE	11/14

MODEL	FINE 507 RMS	DATE	1998 년 10 월 16 일	작	성	검	토	REF.NO	승	인	REMARK
CODE	ASS'Y SLIDE	CUSTOMER	FINE	VENDER	UNIT	Q'TY	PCS	PCS			
1	01-005-002-01 SLIDE KNOB	206 B/K		동북 정공	PCS	1					
2	01-017-010-01 SLIDE	200용		동아 정밀	PCS	6					
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화인계기(주)	부품목록(BOM)	REV.NO	1
		PAGE	12/14

MODEL	IS	DATE	1998 년 10 월 16 일	작	검	
CODE	ASS'Y TEMP SENSOR	CUSTOMER	FINE		토	(문서)
			SPECIFICATION		TY	IO IKI
1	01-010-001-0	CASE, BASE(A)			1	
2	01-010-003-0	CASE, COVER(C)				
3	01-017-002-0			하크 정밀	PCS	
	017-001-0		0.7 = 0.7	동아 정밀	PCS	
5	03-012-004-0	WIRE, THERMOCOUPLE	K24/1/304, 4ft		PCS	1
6	01-020-011-0	SCREW	M/S 2.3x8 (접시) NI	화인 계기	PCS	1
7	01-020-005-0	NUT	M/S 2.3x1.6	대성볼트센타	PCS	3
8				중앙 정밀	PCS	3
				중앙 정밀	PCS	1

151

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221

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261

화인계기(주)	부품목록(BOM)	REV.NO	1
		PAGE	13/14

MODEL	FINE 507 RMS	DATE	1998 년 10 월 16 일	작성		검토		승인	
CODE	ASS'Y TEMP ADAPTOR	CUSTOMER	FINE						
NO	CODE NO	DESCRIPTION	SPECIFICATION	VENDOR	UNIT	Q'TY	REF.NO	REMARK	
1	01-010-004-0	TEMP ADAPTOR (A)	200C Y/L 사급 PCB/P	동북 정공	PCS	1			
2	01-010-005-0	TEMP ADAPTOR (B)	500A (TOP)Y/L 사급	동북 정공	PCS	1			
3	01-018-018-0	INPUT SOCKET (TEMP)	507	고성 산업	PCS	1			
4	01-017-004-0	CLIP, ALUMEL	T = 0.3	영진 기업사	PCS	1			
5	01-017-003-0	CLIP, CHROMEL	T = 0.3	영진 기업사	PCS	1			
6	01-020-023-0	SCREW	T/S 2.6x6 (접시머리)	대성볼트센타	PCS	1			
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화인계기(주)	REV.NO		1
	PAGE		14/14

부품목록(BOM)

MODEL	FINE 507 RMS	DATE	1998 년 10 월 16 일	작 성	검 토	UNIT	Q'TY	REF.NO	REMARK
CODE	ASS'Y HOLSTER	CUSTOMER/FINE		VENDER		UNIT	PCS		
NO	CODE NO	DESCRIPTION		SPECIFICATION		UNIT	PCS		
1	01-003-004-0	HOLSTER		500용 Y/L	등록 정공	PCS	1		
2	01-003-007-0	TILT STAND		200용 B/K	등록 정공	PCS	1		
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