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TECHNICAL MANUAL
for
MULTIPLE AUDIO FILTER
MODEL MAF-1



THE TECHNICAL MATERIEL CORPORATION
MAMARONECK, N.Y.

OTTAWA, ONTARIO



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NOTICE

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THE TECHNICAL MATERIEL CORPORATION

C O M M U N I C A T I O N S E N G I N E E R S

700 FENIMORE ROAD

MAMARONECK, N. Y.

W a r r a n t y

The Technical Materiel Corporation, hereinafter referred to as TMC, warrants the equipment (except electron tubes,*fuses, lamps, batteries and articles made of glass or other fragile or other expendable materials) purchased hereunder to be free from defect in materials and workmanship under normal use and service, when used for the purposes for which the same is designed, for a period of one year from the date of delivery F.O.B. factory. TMC further warrants that the equipment will perform in a manner equal to or better than published technical specifications as amended by any additions or corrections thereto accompanying the formal equipment offer.

TMC will replace or repair any such defective items, F.O.B. factory, which may fail within the stated warranty period, PROVIDED:

1. That any claim of defect under this warranty is made within sixty (60) days after discovery thereof and that inspection by TMC, if required, indicates the validity of such claim to TMC's satisfaction.
2. That the defect is not the result of damage incurred in shipment from or to the factory.
3. That the equipment has not been altered in any way either as to design or use whether by replacement parts not supplied or approved by TMC, or otherwise.
4. That any equipment or accessories furnished but not manufactured by TMC, or not of TMC design shall be subject only to such adjustments as TMC may obtain from the supplier thereof.

Electron tubes*furnished by TMC, but manufactured by others, bear only the warranty given by such other manufacturers. Electron tube warranty claims should be made directly to the manufacturer of such tubes.

TMC's obligation under this warranty is limited to the repair or replacement of defective parts with the exceptions noted above.

At TMC's option any defective part or equipment which fails within the warranty period shall be returned to TMC's factory for inspection, properly packed with shipping charges prepaid. No parts or equipment shall be returned to TMC, unless a return authorization is issued by TMC.

No warranties, express or implied, other than those specifically set forth herein shall be applicable to any equipment manufactured or furnished by TMC and the foregoing warranty shall constitute the Buyers sole right and remedy. In no event does TMC assume any liability for consequential damages, or for loss, damage or expense directly or indirectly arising from the use of TMC Products, or any inability to use them either separately or in combination with other equipment or materials or from any other cause.

*Electron tubes also include semi-conductor devices.

PROCEDURE FOR RETURN OF MATERIAL OR EQUIPMENT

Should it be necessary to return equipment or material for repair or replacement, whether within warranty or otherwise, a return authorization must be obtained from TMC prior to shipment. The request for return authorization should include the following information:

1. Model Number of Equipment.
2. Serial Number of Equipment.
3. TMC Part Number.
4. Nature of defect or cause of failure.
5. The contract or purchase order under which equipment was delivered.

PROCEDURE FOR ORDERING REPLACEMENT PARTS

When ordering replacement parts, the following information must be included in the order as applicable:

1. Quantity Required.
2. TMC Part Number.
3. Equipment in which used by TMC or Military Model Number.
4. Brief Description of the Item.
5. The *Crystal Frequency* if the order includes crystals.

PROCEDURE IN THE EVENT OF DAMAGE INCURRED IN SHIPMENT

TMC's Warranty specifically excludes damage incurred in shipment to or from the factory. In the event equipment is received in damaged condition, the carrier should be notified immediately. Claims for such damage should be filed with the carrier involved and not with TMC.

All correspondence pertaining to Warranty Claims, return, repair, or replacement and all material or equipment returned for repair or replacement, within Warranty or otherwise, should be addressed as follows:

THE TECHNICAL MATERIEL CORPORATION
Engineering Services Department
700 Fenimore Road
Mamaroneck, New York

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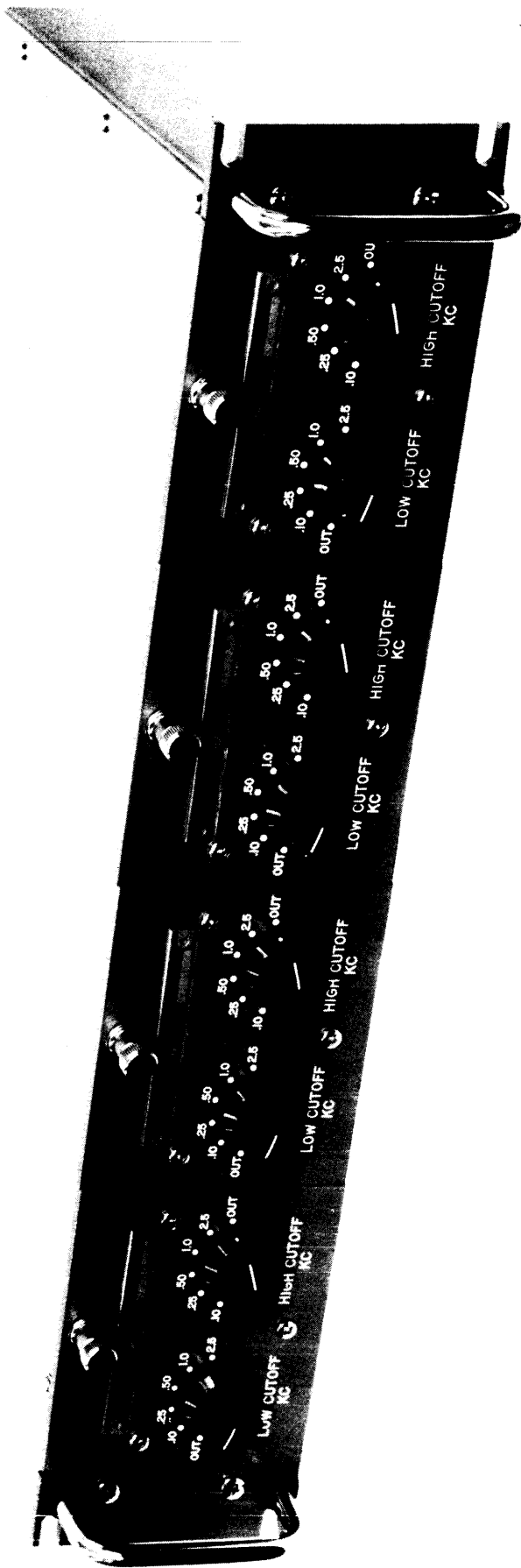


FIGURE 1-1. MULTIPLE AUDIO FILTER MODEL MAF-1

GENERAL INFORMATION

1-1. PURPOSE OF EQUIPMENT

Multiple Audio Filter, Model MAF-1, a passive filter drawer consisting of four individual channel filters, is designed to be integrated into Technical Materiel Corporation's Model MSG(A)-1 Independent AGC Receiving System. The MAF-1 affords a large selection of audio bandwidths in order to eliminate particular types of interference due to environment, terrain, or local transmitters.

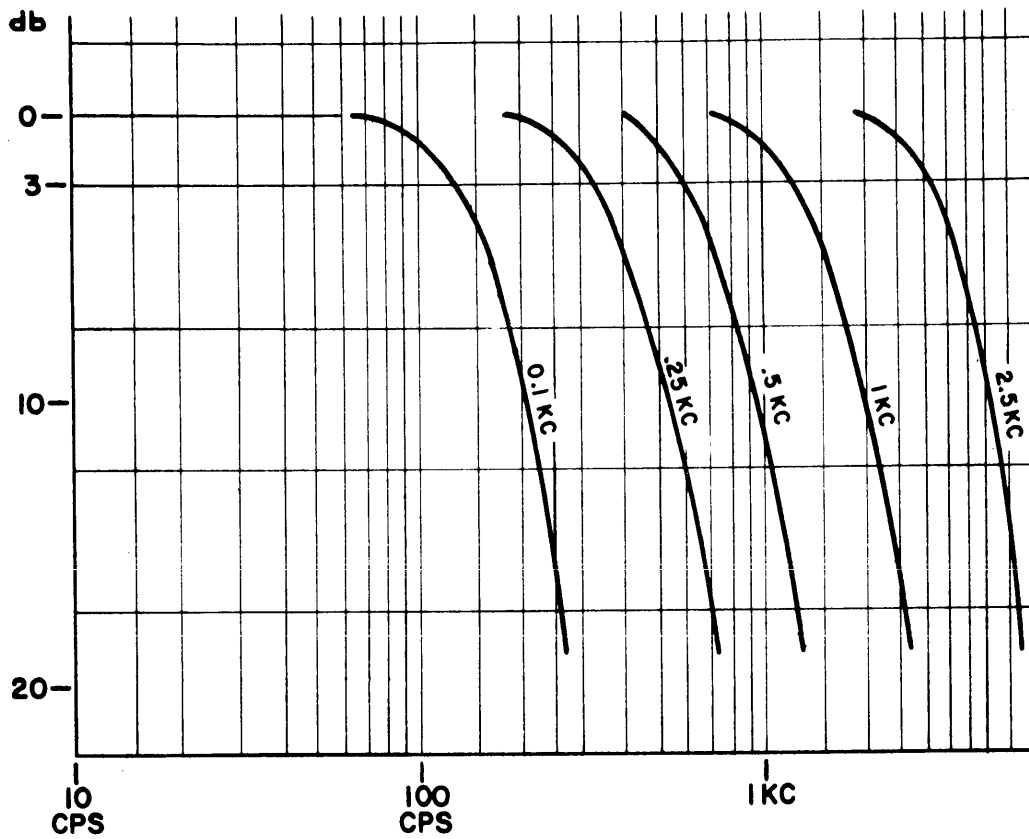
1-2. DESCRIPTION OF EQUIPMENT

Multiple Audio Filter MAF-1, a passive filter device with four separate plug-in drawers, provides individual audio bandpass in steps of 100, 250, 500, 1000, and 2500 cycles. Each drawer has its own hi-pass and lo-pass filters, thus providing adjustable low cutoff and high cutoff points for each band. Both the hi-pass and lo-pass filters can be independently switched off..

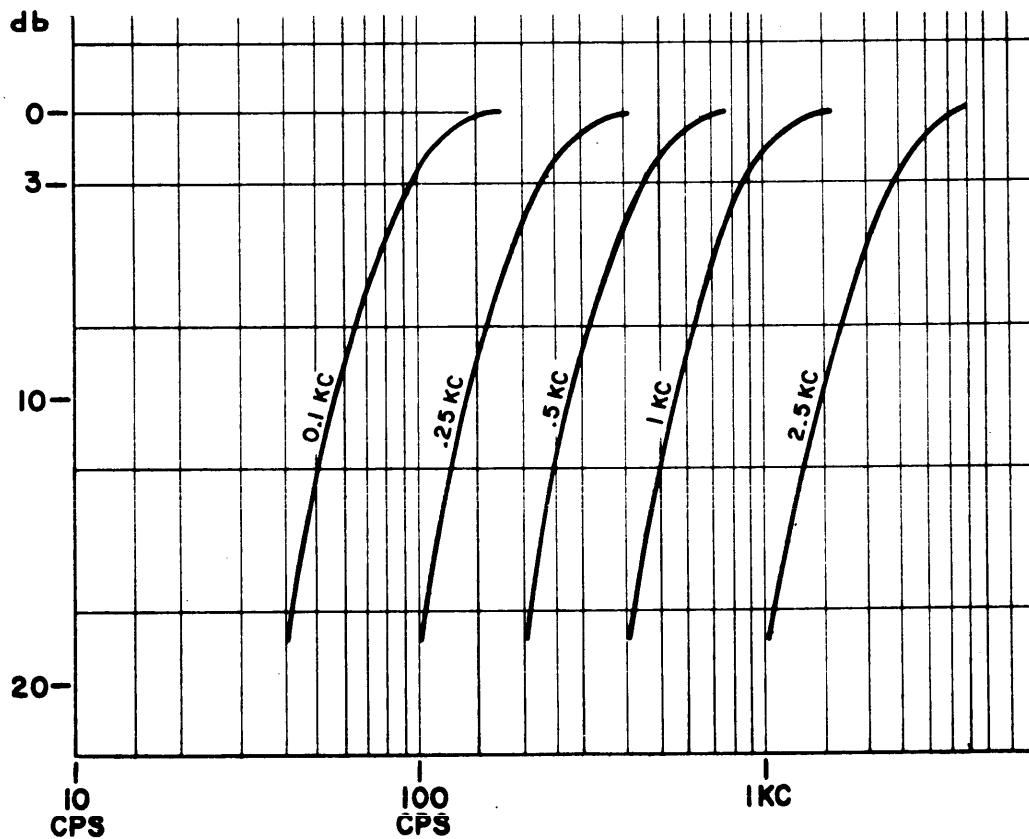
The unit is mounted on a standard 19-inch rack with all individual drawers easily removed by twisting the front panel cam locks. All controls are located on the front panel with all signal connections made to the rear.

1-3. TECHNICAL CHARACTERISTICS

Input and output impedances - - - - -	1000 ohms
Insertion loss - - - - -	-less than 1 db
Cut-off frequencies - - - - -	100, 250, 500, 1000, and 2500 cps
Frequency Response - - - - -	See figure 1-1
Weight - - - - -	20 lbs.
Size - - - - -	3-1/2" x 19" x 14"



a. LOW PASS FILTER (HI CUTOFF)



b. HIGH PASS FILTER (LO CUTOFF)

FIGURE 1-2. FREQUENCY RESPONSE CURVES

SECTION 2
INSTALLATION

2-1. INITIAL INSPECTION

The MAF-1 unit is calibrated and tested at the factory before shipment. Upon arrival at the operating site, inspect the packing case and contents for possible damage. Unpack the equipment carefully. Inspect all packing material for parts which may have been shipped as "loose items." With respect to damage to the equipment for which the carrier is liable, the Technical Materiel Corporation will assist in describing methods of repair and the furnishing of replacement parts.

2-2. MECHANICAL INSTALLATION

The MAF-1 is designed for 19-inch rack mounting with either a tilting or non-tilting slide mechanism. Figure 2-1 shows the tilting-slide type of mechanism. The tilting slide mechanism allows the chassis to be pulled out of the rack and tilted to expose the top and bottom for greater accessibility and ease of maintenance. The main frame is composed of four individual pull-out filter modules which are placed or removed from the main frame by twisting the front panel-mounted cam lock.

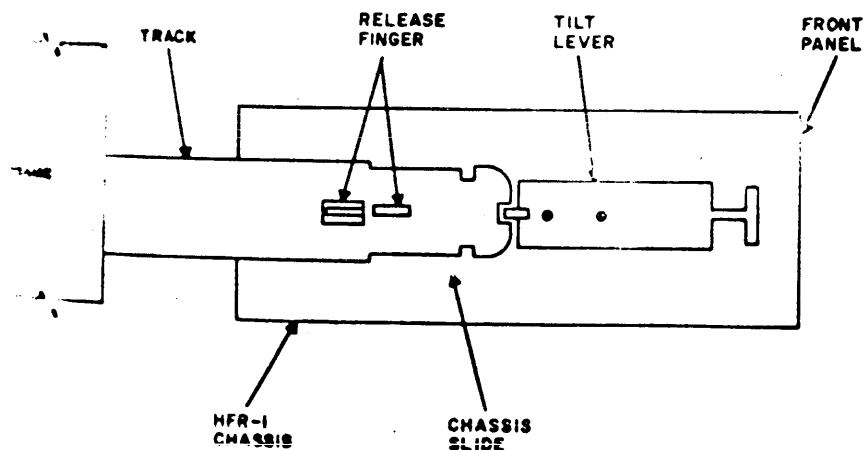


Figure 2-1. Tilting Slide Type of Mechanism

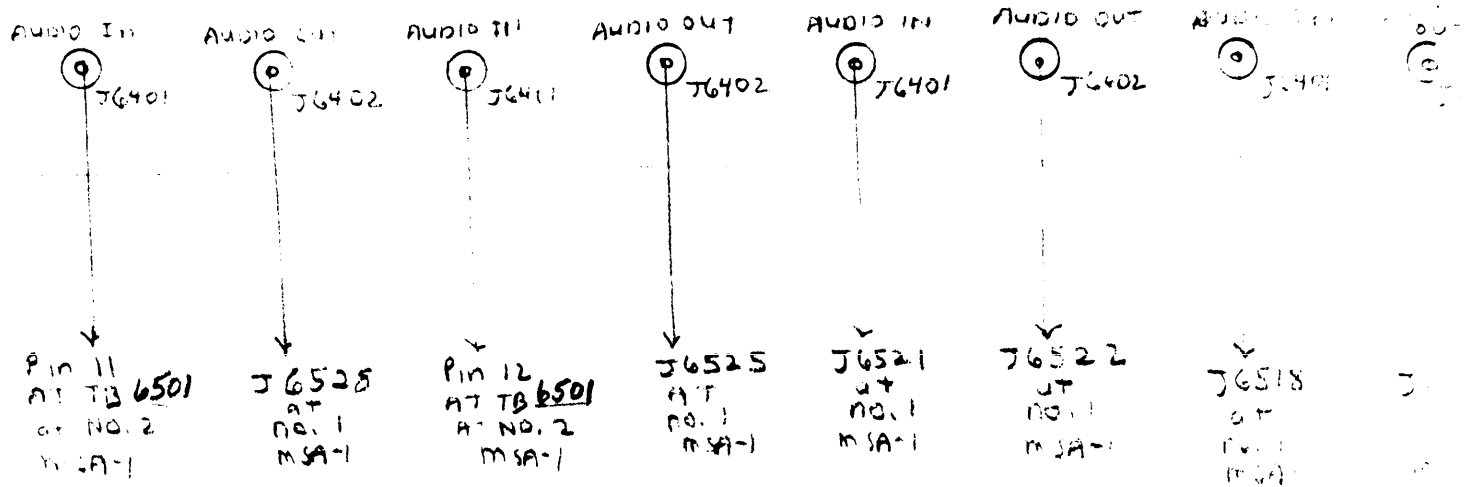
2-3. ELECTRICAL CONNECTIONS

Table 2-1 lists the electrical connections made to both MAF-1 units. The MAF-1 Unit A refers to the MAF-1 unit nearest the top of the rack; MAF-1 Unit B refers to the unit below MAF-1 Unit A. When making these interconnections use figure 2-2.

TABLE 2-1. ELECTRICAL CONNECTIONS

Connect From:	Connect to:
MAF-1 Unit A	
B2 Audio Input Jack J6401	Pin 11 at TB6501 on MSA-1 Unit A
B2 Audio Out Jack J6402	Jack J6528 at MSA-1 Unit A
A2 Audio Input Jack J6401	Pin 12 at TB6501 on MSA-1
A2 Audio Output Jack J6402	Jack J6525 at MSA-1 Unit A
B1 Audio Input Jack J6401	Jack J6521 at MSA-1 Unit A
B1 Audio Output Jack J6402	Jack J6522 at MSA-1 Unit A
B2 Audio Input Jack J6401	Jack J6518 at MSA-1 Unit A
B2 Audio Output Jack J6402	Jack J6519 at MSA-1 Unit A
MAF-1 Unit B	
B2 Audio Input Jack J6401	Jack J6527 at MSA-1 Unit B
B2 Audio Output Jack J6402	Jack J6528 at MSA-1 Unit B
A2 Audio Input Jack J6401	Jack J6524 at MSA-1 Unit B
A2 Audio Out Jack J6402	Jack J6525 at MSA-1 Unit B
B1 Audio Input Jack J6401	Jack J6521 at MSA-1 Unit B
B1 Audio Output Jack J6402	Jack J6522 at MSA-1 Unit B
B2 Audio Input Jack J6401	Jack J6518 at MSA-1 Unit B
B2 Audio Output Jack J6402	Jack J6519 at MSA-1 Unit B

MAF-1 NO. 1



MAF-1 NO. 2

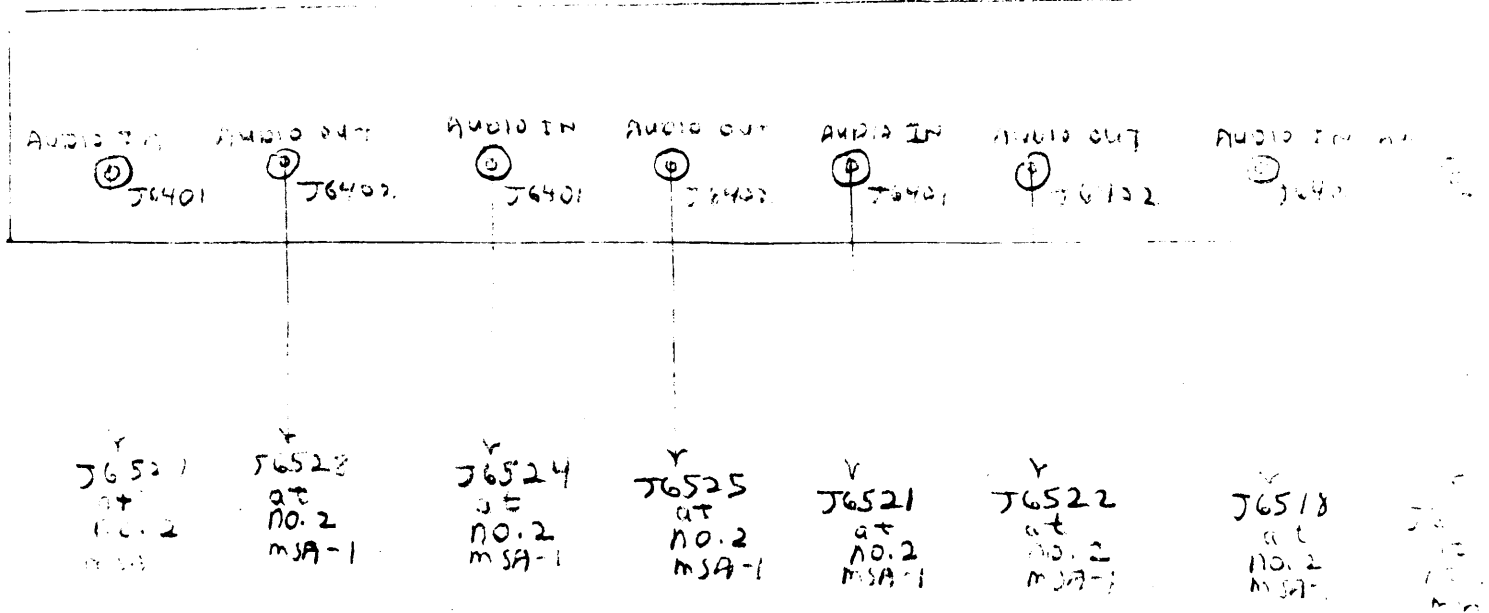


Figure 2-2. Interconnection Diagram

SECTION 3

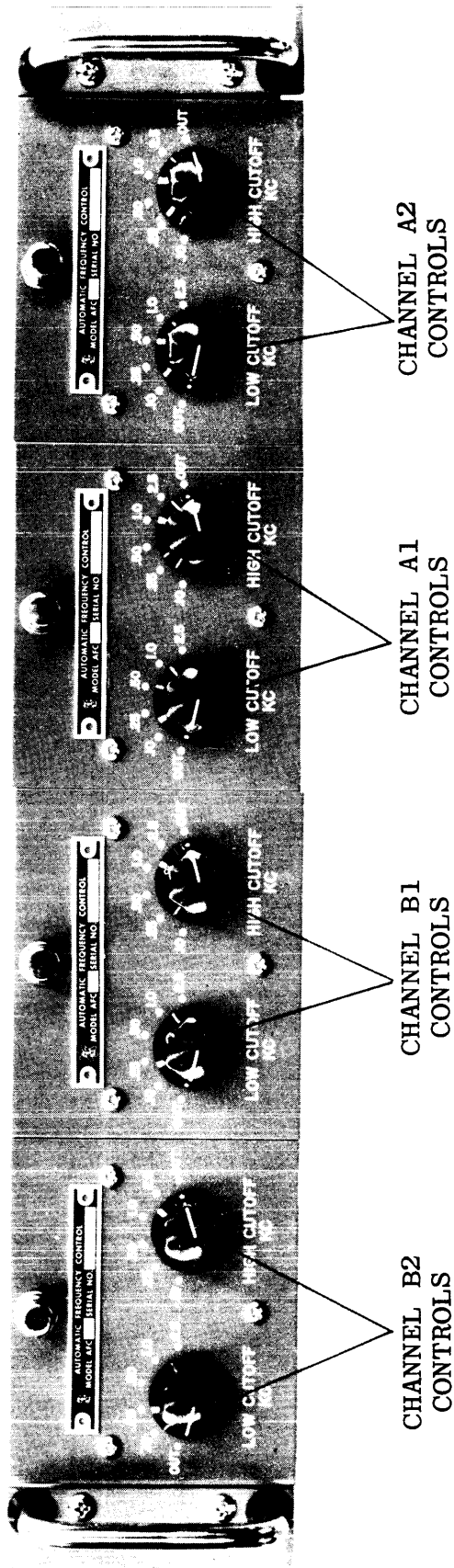
OPERATOR'S SECTION

3-1. OPERATING INSTRUCTIONS

Since all four modules are identical in nature, all discussions regarding operation will be confined to a single module. Figure 3-1 shows operating controls found on each module.

Initially place all controls in OUT position. Adjustments can then be made by using either the LOW or/and HI CUTOFF KC to remove interference. Switching any control to OUT by passes that filter from the circuit.

If it is required to pass a band of frequencies, set HI CUTOFF KC at high end of band and LO CUTOFF KC at low end. To illustrate this, suppose it's necessary to pass a 2 kc band between 0.5 kc and 2.5 kc. Set LO CUTOFF KC control to 0.5 and HI CUTOFF KC control to 2.5. As another example, suppose it's necessary to pass all frequencies above 2.5 kc. Set LO CUTOFF KC at 2.5 and HI CUTOFF knob to OUT.



FIGURES 3-1. FRONT PANEL CONTROLS OF MAF-1 UNIT

SECTION 4

TROUBLESHOOTING

4-1. OVERALL FUNCTIONAL DESCRIPTION OF MAF-1

The MAF-1 consists basically of four identical individual plug-in filters. For purposes of discussion, however, a single filter will be discussed.

Figure 4-1 shows a simplified block diagram of the filter. Note that it's composed of a composite low pass pi filter and high pass(T) filter. All component values making up these two filters are varied by either the LO CUTOFF KC or HI CUTOFF KC controls.

Either the low pass, high pass, or both filters can be switched out if needed. The low pass filter (called this because it attenuates higher frequencies) is controlled by the HI CUTOFF KC control while the high pass filter (which attenuates low frequencies) is controlled by the LO CUTOFF KC control.

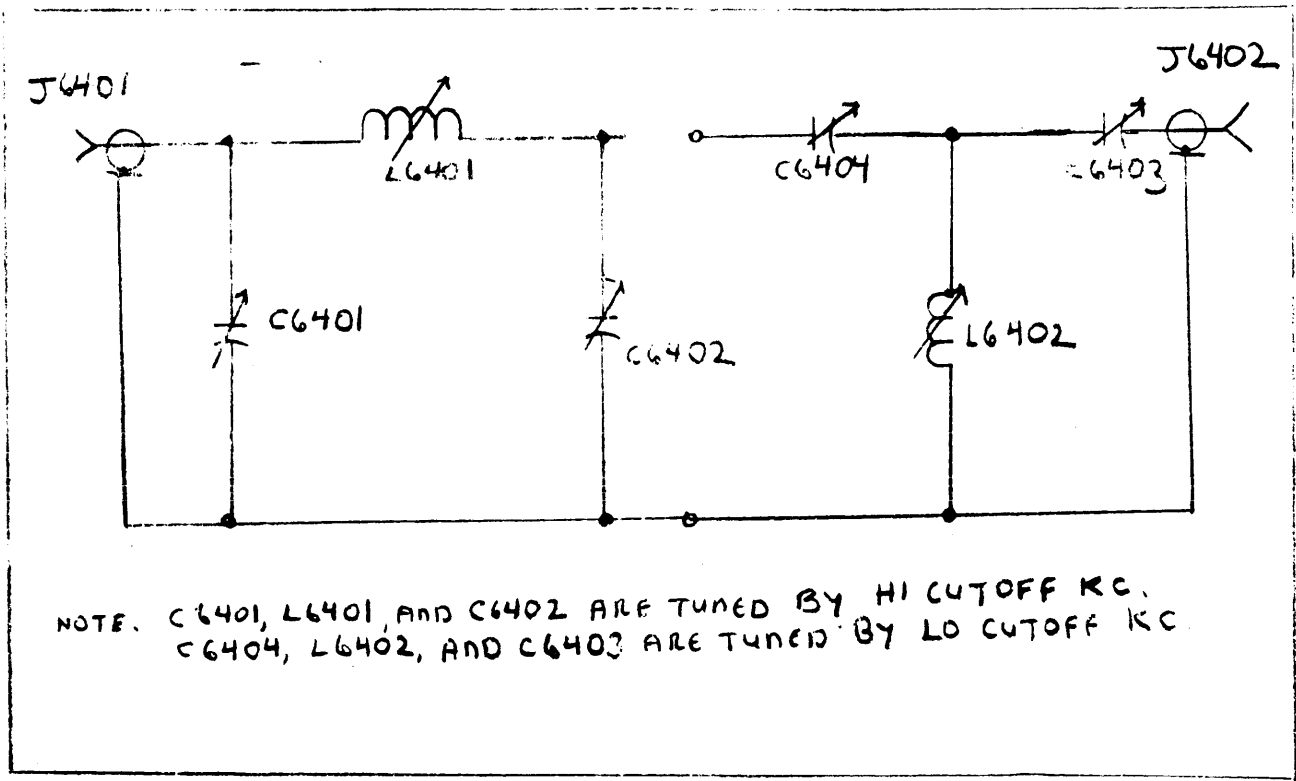


FIGURE 4-1. SIMPLIFIED BLOCK DIAGRAM

Capacitors C6401 and C6402, comprising the legs of the low pass filter, decrease in capacitance along with the inductance of coil L6401 when HI CUTOFF KC switch is rotated clockwise. With the HI CUTOFF switch in .10 position frequencies above 100 cps are attenuated. In position .25 frequencies above 250 cps are attenuated, in position .50 frequencies above 500 cps are attenuated, in 1.0 position frequencies above 1000 cps are attenuated, and in position 2.5, frequencies above 2500 cps are attenuated. Figure 4-2, ~~below~~ shows the response curves for typical low and high pass filters. In OUT position, no attenuation occurs:

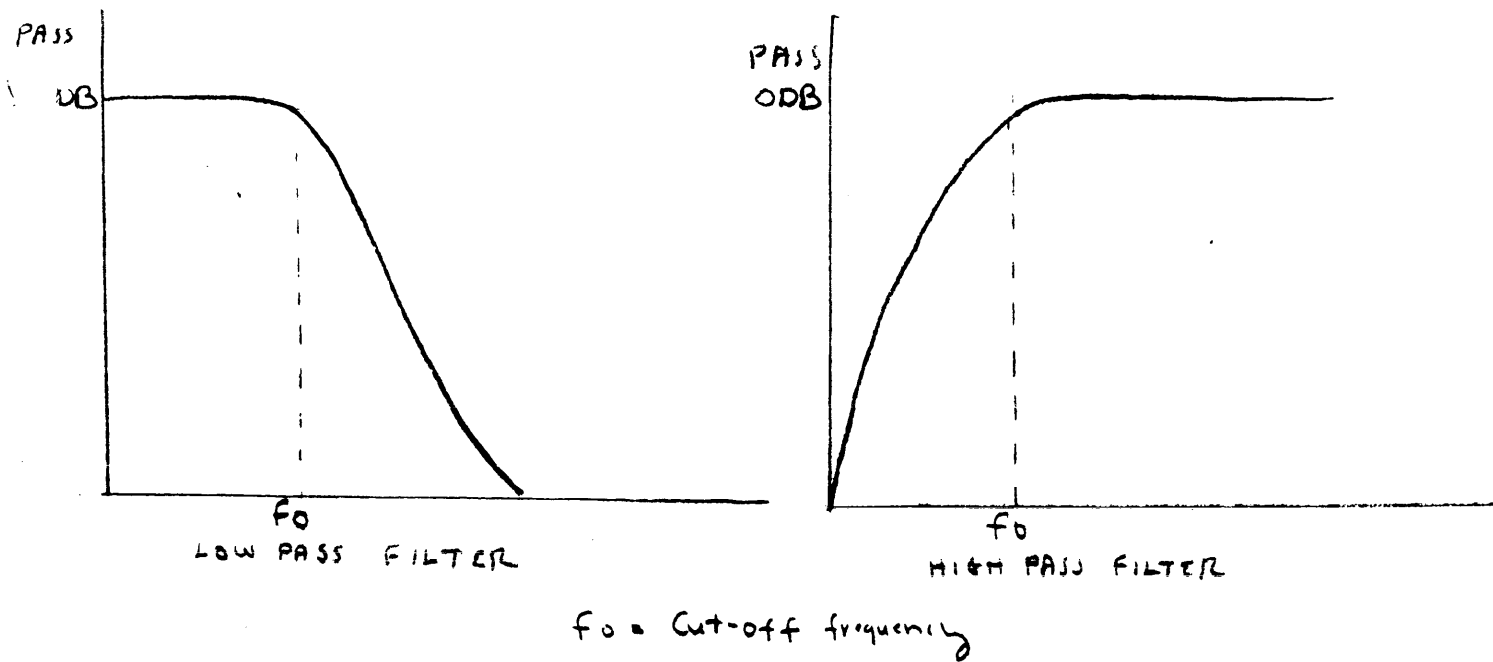


Figure 4-2 . Typical Response Curves for Low Pass and High-Pass Filters

Capacitors C6403 and C6404, comprising the arms of the high-pass filter, decrease in capacitance along with the inductance of coil L6402 when LO CUT OFF KC switch is rotated clockwise. In OUT position of LOW CUTOFF KC no filtering occurs. With the switch in .10 position, frequencies below 100 cps are attenuated, in .25 position frequencies below 250 cps are attenuated, in .50 position frequencies below 500 are attenuated, in 1.0 position frequencies below 1000 cps are attenuated, while in 2.5 position frequencies below 2500 kc are attenuated.

By alternately tuning both controls of each filter, a variety of response curves can be obtained. Figure 4-3 shows the filter components at different switch positions.

Switch Position	LOW PASS FILTER	HIGH PASS FILTER
2		
3		
4		
5		
6		
7		

FIGURE 4-3. FILTER CONFIGURATIONS

4-2. OVERALL TROUBLESHOOTING

An overall indication of filter performance can be determined by using the set up shown in figure 4-4. After building this test set up, set the MAF-1 front panel switches to OUT. The audio generator is adjusted to provide a 1 volt output across the 1K load resistor. (This is the 0 db point.) After doing this measure input voltage at module end of input. These voltages should be the same.

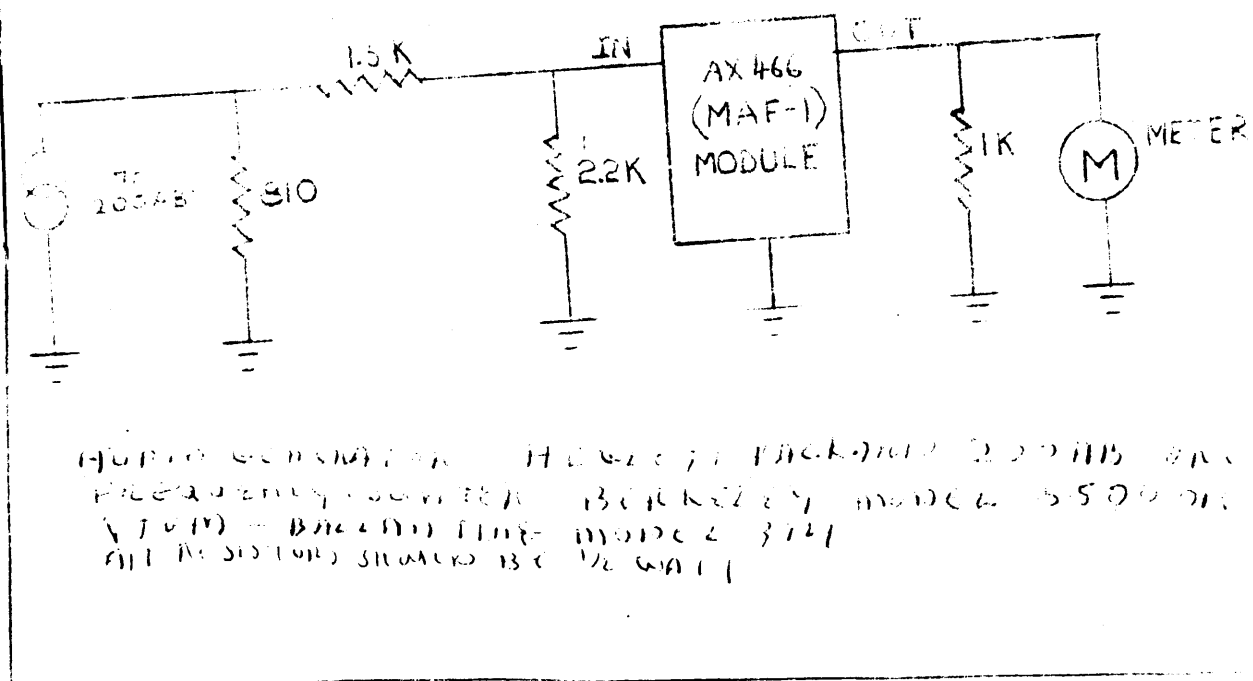


Figure 4-4. Filter Performance Test Set-Up

Next place HI CUTOFF KC switch in the 2.5 position. There should be practically no change in voltage (it should be less than 1 db). This is the insertion loss.

If a malfunction occurs, quickly check the interior of the unit. Check for loose or burnt parts. Also look for shorted or opened circuit components.

The high-cut off filters can be checked as follows: place HI CUTOFF KC switch in .1 position. Then vary the audio generator through this frequency range. Note the 3 db drop-off points. Continue variation of the audio oscillator to the 60 db points. Then inspect the above procedures for the remaining positions of this switch.

The low-cutoff filters can be checked as follows: Place LO CUTOFF KC switch in .1 position. Then vary the audio generator through this range. Note the 3 db drop-off points. Continue variation of the audio oscillator to the 60 db points. Then repeat the above procedures for the remaining positions of the switch.

Figure 4-5 shows a top view of a filter module.

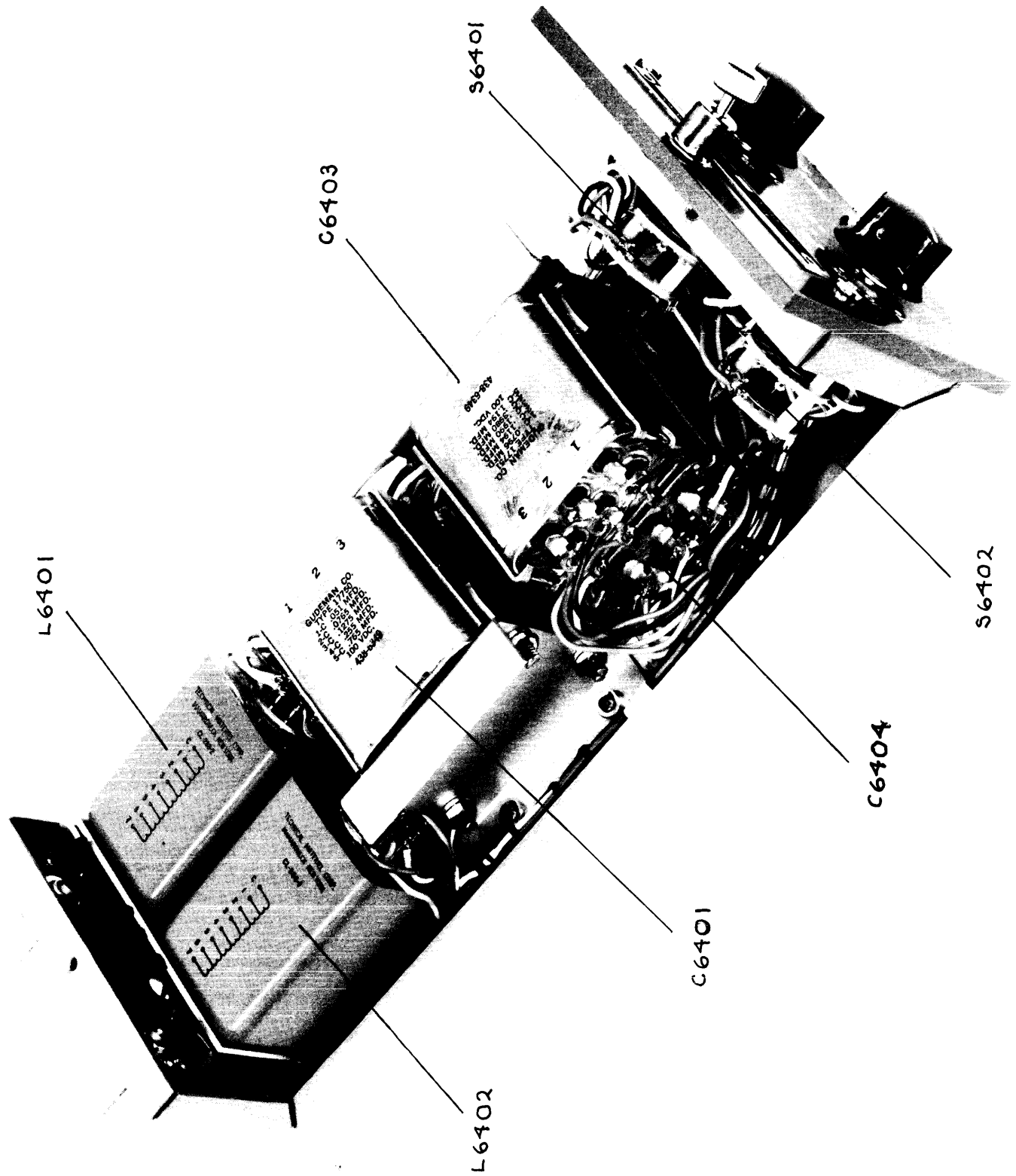


FIGURE 4-5. TOP VIEW OF AUDIO FILTER MODULE

SECTION 5
MAINTENANCE

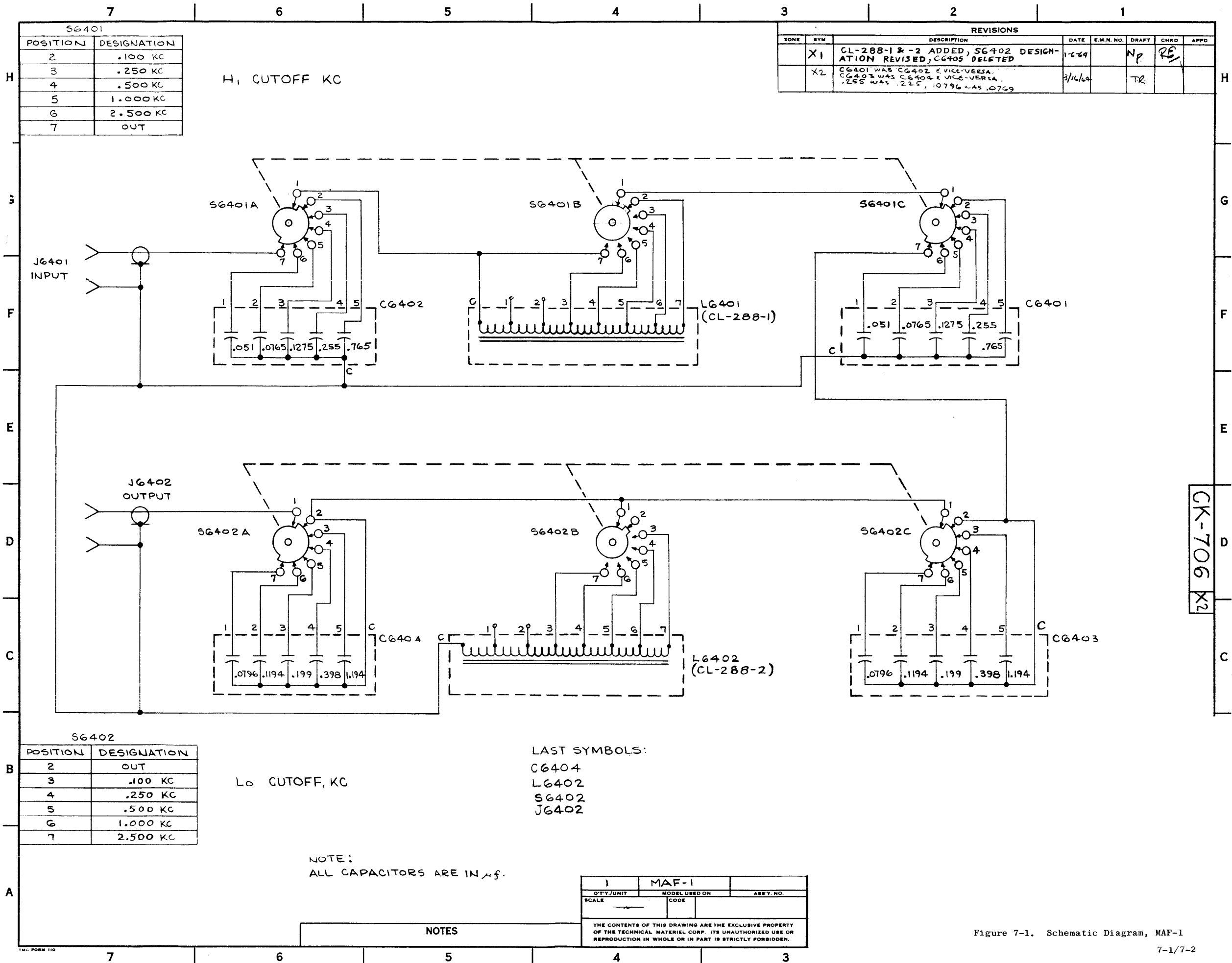
5-1. INTRODUCTION

The MAF-1 has been designed to provide long term, trouble free operation under continuous duty conditions. Since this unit is a passive device the only required maintenance is a periodic inspection of the filter elements for corrosion, dust, or other destructive elements.

SECTION 6
PARTS LIST

This section will be supplied when available.

SECTION 7
SCHEMATIC DIAGRAMS



SG401

POSITION	DESIGNATION
2	.100 KC
3	.250 KC
4	.500 KC
5	1.000 KC
6	2.500 KC
7	OUT

REVISIONS						
ZONE	SYM	DESCRIPTION	DATE	E.M.N. NO.	DRAFT	CHKD
	X1	CL-288-1 & -2 ADDED, SG402 DESIGNATION REVISED, CG405 DELETED	1-2-69		NP	RE
	X2	CG401 WAS CG402 & VICE-VERSA. CG402 WAS CG404 & VICE-VERSA. .255 WAS .225, .0796 WAS .0765	3/16/69		TR	

SG402

POSITION	DESIGNATION
2	OUT
3	.100 KC
4	.250 KC
5	.500 KC
6	1.000 KC
7	2.500 KC

LAST SYMBOLS:
 CG404
 LG402
 SG402
 J6402

NOTE:
 ALL CAPACITORS ARE IN μf .

1	MAF-1	
QTY./UNIT	MODEL USED ON	ASSY. NO.
SCALE	CODE	
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Figure 7-1. Schematic Diagram, MAF-1
 7-1/7-2

SECTION 8
MATERIAL LISTS

LIST SECTION	PART NO.	DESCRIPTION	MATERIAL LOCATION		QTY PER ASSY	QTY PER ASSY	REFERENCES SYMBOLS	REMARKS
			USED TO MOUNT	QTY PER USED TO MOUNT				
2	AX 466	FILTER, AIR	A3375		1			NPL
4	A 3376	CHRISTIAN MEY			1			
3	NP 629	PLATE, IDENT			1			
3	SCBP 348 EN 3	SCR. MACH		NP 629	4			
3	NTH 244 ROL 6	NET CS 2002		NP 629	4			
3	LWE 83 APRN	WASH. LIQ. 1	A3375	NP 629	4			
4	CH 327	CHART, INT. MOUNT	MAR-1		1			

NO OF SHEET 1

NO. OF ASSY. MAR-1

NO. OF ASSY. MAR-1

NO. OF ASSY. MAR-1

NO. OF ASSY. MAR-1

NO. OF ASSY. MAR-1

NO. OF ASSY. MAR-1

NO. OF ASSY. MAR-1

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NO. OF ASSY. MAR-1

NO. OF ASSY. MAR-1

LIST SECTION NO.	PART NO.	DESCRIPTION	ITEM LOCATION		QTY PER USED TO MOUNT	QTY PER ASSEMBLY	QTY PER NEXT ASSY	REFERENCE SYMBOLS	REMARKS
			USED IN ASSEMBLY	USED IN MOUNT					
3	NTH 0632 2015	WASH LK EXT	A3375	MS366		4			
↑	NTH 0832 2015	" " "	A3375	MS366		4			
↓	LWE 0632 2015	WASH LK EXT	A3375	MS366		4			
↓	NT 124-0832-01	NUT, SPACER RD	A3375			5			
↓	MS366	" " "	MS366			X			
↓	MS366	IRIDITE YEL	MS366			X			
↓	54-04	IRIDITE YEL	MS366			X			
↓	S11A	ZN CHROMIUM PAM	MS366			X			
↓	S11S	SMOOTH SY FINISH	MS366			X			
3	MS3617	CHAR, WRPARD	LD 1427			1		MACH	

WATER... LIST/NUMERICAL PARTS LIST

ED ON MODEL: MRF-1

REV. 1

ASSY TITLE: CHASSIS

REV. 1

ASSY LEVEL: 2

SHEET 1

QTY PER NEXT ASSY:	QTY PER NEXT ASSY:	SHEET	OF 1	USED ON		REV.	MODEL:		NEXT ASSY:	QTY PER USED TO MOUNT	ITEM LOCATION USED TO MOUNT	QTY PER USED TO MOUNT	QTY PER ASSY	REFERENCE SYMBOLS	REMARKS
				ASSY	MODEL		ASSY	LEVEL:							
3	LD 1425 / MS 3625	BRACKET													
1	CX 110-1	CAP, EXD, MULTI.													
1	CP 07-5A2	STRAP, MTS													
1	NTH 1032 - RM 10	NUT, PL, HEX													
1	AW 5 10	WASH, IN, SPLIT													
3	MT 119-632-9	NUT, SPECIAL RD													
5	5464	BRIDGES, YES													
1	MS 100	SOLDER, TIN, PLY													
3	MS 3625	BRACKET													

USED ON MODEL: Ax 466

NEXT ASSY: A 3406

WATERGAL LIST / NUMERICAL PARTS LIST

ASSY TITLE: CAP

LIST SECTION	MATERIAL LIST/NUMERICAL PARTS LIST			REV.	USED ON MODEL:	NEXT ASSY:	QTY PER USED TO MOUNT	QTY PER USED TO MOUNT	QTY PER ASSY	REFERENCE SYMBOLS	REMARKS
	ASSY PART NO.: A3371-2	ASSY TITLE: CAR. ASSY	BRACKET								
3	AD1226 MS 3625	BRACKET	A3371-2		USED ON ASSEMBLY	USED TO MOUNT			1		
↑	CX 110-2	CUR. EXP. MOUNT	↑						2	C 6403, 6404	
↓	CPX-SB2	STRIP, MTR	↓			CX110			A		MODIFIED
↓	WTH 125 BN13	NUT PL. HEX				CX110			A		
3	W/SE 10' MKR	WASH R/R SPRT	A3371-2						A		
3	MT21-622-4	NUT SPRING RD	MS3625						2		
5	S46-7	IRIDITE, YEL	MS3625						X		
3	22110	SOLEDG TIP RAY	A3371-2						X		
3	MS 3625	BRACKET	LD1426						1		

EX 466

OF 1

LIST SECTION	MATERIAL LIST/NUMERICAL PARTS LIST		REV.	USED ON MODEL	NEXT ASSY: A3-106	QTY PER NEXT ASSY: 1	SHEET OF 1	QTY PER ASSY	REFERENCE SYMBOLS	REMARKS
	ASSY PART NO.: A 3378	ASSY TITLE: GALK ASSY								
	PART NO.	DESCRIPTION	USED ON ASSEMBLY	USED TO MOUNT	ITEM LOCATION	USED TO MOUNT	QTY PER USED TO MOUNT	QTY PER ASSY		
3	MS3626	BRACKET	A3378				1	1		
↑	CL288-1	REACTOR	↑				1	1	L6481	
↓	CL288-2	REACTOR	↓				1	1	L6482	
↓	SEBP63VEN5	SCR, MACH		CL288			8	8		
↓	LWS 06 MRN	WASH LK SPALT	A3378	CL288			8	8		
3	HT129-32-4	NOT SPALNE RD	MS3620				3	3		
5	S404	IRIDITE, YEL	MS3620				X	X		
3	BS100	SOLDER TIN ALY	A3378				X	X		

MATERIAL LIST / NUMERICAL PARTS LIST AX 46 G ASSY LEVEL: 3

ASSY PART NO. A 3379 ASSY TITLE: FRONT PANEL NEXT ASSY: A 3406 QTY PER ASSY

QTY <th rowspan="2">PART NO.</th> <th rowspan="2">DESCRIPTION</th> <th colspan="3">ITEM LOCATION</th> <th rowspan="2">QTY PER ASSY</th> <th rowspan="2">REFERENCE SYMBOLS</th> <th rowspan="2">REMARKS</th>	PART NO.	DESCRIPTION	ITEM LOCATION			QTY PER ASSY	REFERENCE SYMBOLS	REMARKS
			USED ON ASSEMBLY	USED TO MOUNT	QTY PER USED TO MOUNT			
3	LD 1396 / MS 3624	PANEL FR.	A 3379			1		
3	FS 123-1	FASTENER	A 3379			1		
5	S 704	IRIDITE YEK	MS 3624			X		
5	S 114	ZN CHROMATE FRM	MS 3624			X		
5	S 115	SMOOTH BLK ENAM	MS 3624			X		
3	MS 3624	PANEL FR	A 01396					MACH

PART NO.	DESCRIPTION	ITEM LOCATION		QTY PER USED TO MOUNT	QTY PER USED TO MOUNT	QTY PER ASSEMBLY	QTY PER NEXT ASSY	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT						
4	CA 847	WRG HARN	A3406			1			
4	CA 848	WRG HARN	↑			1			
4	A 3371-1	CAP MTG ASSY				1			
4	A 3371-2	CAP MTG ASSY				1			
4	A 3378	COIL MTG ASSY				1			
4	A 3379	FR. PANEL ASSY				1			
3	101428/MS 3622	CHASSIS				1			
1	UG 657 / U	CONN. RECP				2	J 6401, 6402		
1	SW 327	SW SECT., ROT.				2	S 6401, 6402		
1	TM 121-4	TERM STRIP				1			
1	FS 108	CATCH SPRING				1			
1	TE 111-2	LUG SOLDER				2			
1	TE 111-2	SCREW MARCH				2			
1	SC 131-0440-BN 4	↑				1			
1	SC 131-0633-BNS	↓				1			
1	"	↑				7			
1	"	↓				3			
1	SC 663V-BN 6	SCREW MARCH				2			
1	NTH 0440-BN 6	NUT PL HEY				2			
1	"	"				1			
1	LWE 04 MRN	WASH BK EXT				2			
1	LWE 04 MRN	"				1			
1	NT 129-032-09	NUT SCREW BR				5			
1	611 102-10	WASHER BR				2			
1	W4 102-9	WASHER BR				2			
1	W4 102-6	WASHER BR				3			
1	W4 102-1-03V	WASHER BR				3			

PART NO.	DESCRIPTION	ITEM LOCATION		QTY PER USED TO MOUNT	QTY PER ASSEMBLY	QTY PER ASSY	REFERENCE SYMBOLS	REMARKS
		USED ON ASSEMBLY	USED TO MOUNT					
3 BS100	SOLDER TIM, HLY	A3406				X		
5 S404	IRIDITE, YE	MS3622				X		
8 MS3622	CHASSIS	LD1428				1		MACH

ED ON DEL: AX463 SHEET 2

NEXT ASSY: A3552 ASSY LEVEL: 2

DATE: A 24/11/58
 PART NO: A 2404
 ASSY TITLE: CHASSIS
 REV: 1

1101

LIST SECTION	PART NO.		DESCRIPTION	ITEM LOCATION			QTY PER ASSY	REFERENCE SYMBOLS	REMARKS
	USED ON ASSEMBLY	USED TO MOUNT		QTY PER USED TO MOUNT	USED TO MOUNT	QTY PER ASSY			
4	A 3466		CHASSIS ASSY	A3553		1			
3	MS3621		COVER	↑		1			
↑	NP 618		PATE, IDENT			1			
↓	S'FBP 6X56SN 4		SCR, MACH		NP618	4			
↓	NP 123-5 FB		KNOB	A3553		2			
3	MS3621		SCR, MACH		MS3621	2			
5	S 464		IRIDITE, YEL	MS3621		X			
4	EN 328		CHART, UNIT BAKDN	A 466		1			

ED ON MODEL: AX 466
 NEXT ASSY: AX 766
 QTY PER NEXT ASSY: 1
 ASSY LEVEL: 1
 SHEET 1 / 1

MATERIAL LIST / NUMERICAL PARTS LIST
 REV. 1
 ASSY TITLE: FINAL ASSY
 PART NO: A 3553

TITLE: WIRE QUAN: 78 OF

MODEL: CA-78 SHEET

NO: A3406

PART NO.	DESCRIPTION	ITEM LOCATION			REF. SYM.	REMARKS
		USED ON ASSY.	USED TO MOUNT	QUAN. PER ASSY.		
U0	WIRE, ELECT, INS	CH848		9		
U1				8		
U2				8		
U3				8		
U4				8		
U5				8		
U6				8		
U7				9		
U8				9		
U9A				9		
U91				8		
U92				8		
U93				8		
U94				8		
U95				8		
U96				8		
U97				9		
U98				9		
U99				12		
U100				X		

TITLE: HARNESS, CON: A 3406 QUAN: CA 847 OF

PART NO.	DESCRIPTION	USED ON ASSY	ITEM LOCATION		PER ASSY	QTY	REF. SYMBOLS	REMARKS
			WELD TO	MOUNT				
3	MWC 28(1) 1/2 WIRE, ELECT. LINS	CA 847			10			
	↑ U 96	↑			10			
	U 97				10			
	U 7				10			
	U 98				10			
	U 96				6			
	U 8				10			
	U 93				6			
	U 95				6			
	U 92				6			
	U 94				7			
	U 91				7			
	U 1				8			
	U 2				8			
	U 3				8			
	U 4				8			
	U 5				8			
1	MWC 28(0) 1/2 WIRE, ELECT. LINS				8			
3	RG-174 1/2 CABLE RF				14			
	1/2" - 1/4" CD. NYLON TACING	CA 847			X			