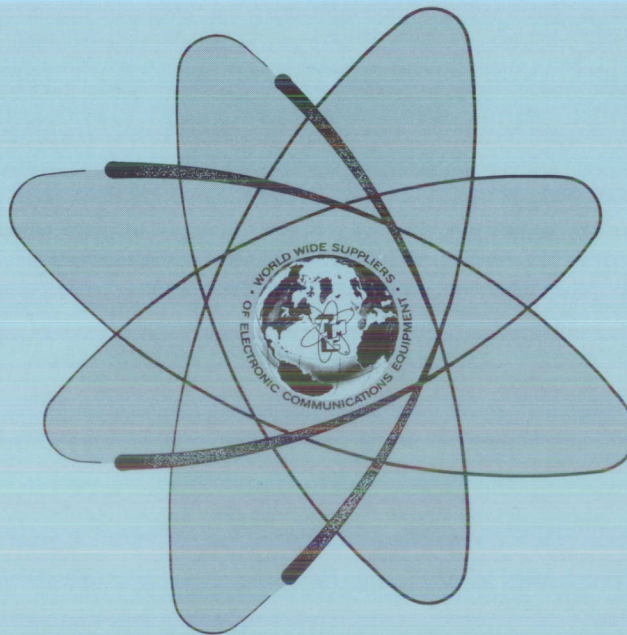


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*for*

HARMONIC FILTERS  
MODEL AF106 SERIES



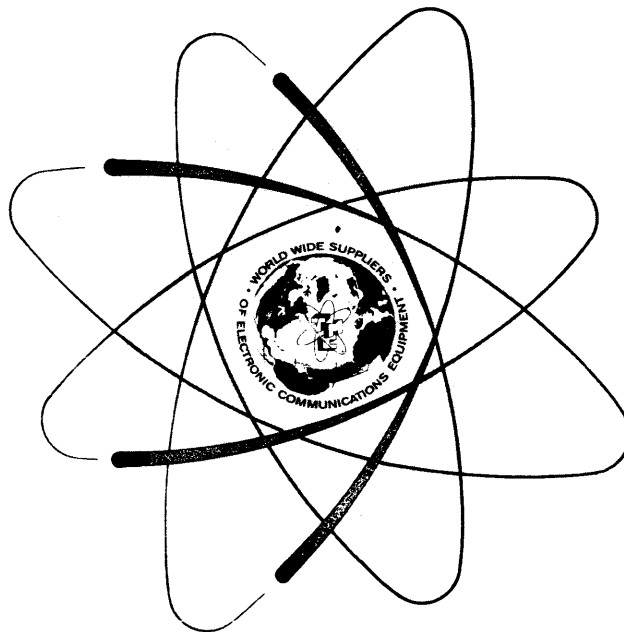
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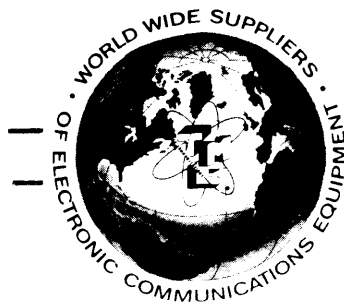
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## NOTICE

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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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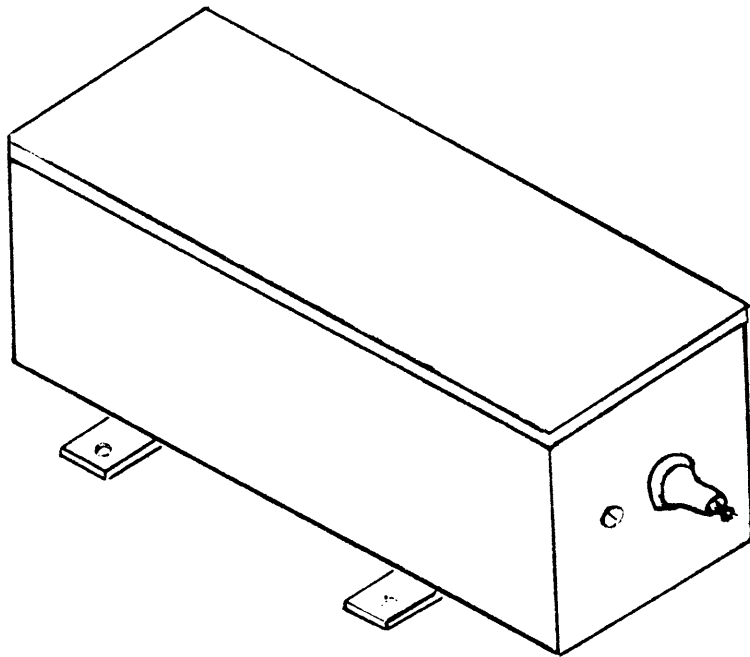


Figure 1-1. Typical Configuration of the Harmonic Filters, AF106 Series



SECTION 1  
GENERAL INFORMATION

1-1. GENERAL

The Model AF106 series of Harmonic Filters have been designed and manufactured by The Technical Materiel Corporation, Mamaroneck, New York to operate in the 2 to 19 MHz frequency range.

Six individual units are available each of which is configured to provide a harmonically pure RF output signal in a specific radio transmission band.

The filters, packaged as shown in figure 1-1, are usually incorporated into a fixed frequency transmitter system. However, by providing a suitable switching arrangement more than one transmission band may be accommodated.

Table 1-1 shows the frequency range covered by each of the models.

Table 1-1. Frequency Range of AF106 Filters

Model Number	Frequency Range
AF106-1	2- 3 MHz
AF106-2	3- 4 MHz
AF106-3	4- 6 MHz
AF106-4	6- 9 MHz
AF106-5	9-13 MHz
AF106-6	13-19 MHz

1-2. PHYSICAL DESCRIPTION

The filter is housed in a rectangular metal case fitted with an rf feed-thru connector at each end. Because of the compact configuration of the filter it fits easily within a standard equipment cabinet and may be incorporated into a variety of transmitting systems.

## SECTION 2

### PARTS LIST

#### 2-1. INTRODUCTION

The parts list presented in this section is a cross-reference list of parts identified by a reference designation and TMC part number. In most cases, parts appearing on schematic diagrams are assigned reference designations in accordance with MIL-STD-16. Wherever practicable, the reference designation is marked on the equipment, close to the part it identifies. In most cases, mechanical and electro-mechanical parts have TMC part numbers stamped on them.

To expedite delivery when ordering any part, specify the following:

- a. Reference symbol
- b. Description as indicated in parts list
- c. TMC part number
- d. Model and serial numbers of the equipment containing the part being replaced; this can be obtained from the equipment nameplate

For replacement parts not covered by warranty (refer to warranty sheet in front of manual), address all purchase orders to:

The Technical Materiel Corporation  
Attention: Sales Department  
700 Fenimore Road  
Mamaroneck, New York 10543

PARTS LIST  
for  
HARMONIC FILTERS, AF106 SERIES

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C4500 thru C4514	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 500 $\mu$ f, <u><math>\pm</math>10%</u> , 5,000 WVDC.	CC109-36
C4515	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 100 $\mu$ f, <u><math>\pm</math>10%</u> , 5,000 WVDC	CC109-28
C4516	Same as C4515	
C4517	Same as C4515	
C4518 thru C4525	Same as C4500	
C4526 thru C4528	Same as C4515	
C4529	Same as C4500	
C4530	Same as C4500	
C4531 thru C4533	Same as C4515	
C4534 thru C4536	Same as C4500	
C4537	Same as C4515	
C4538 thru C4540	Same as C4500	
C4541 thru C4544	Same as C4515	
C4545 thru C4551	Same as C4500	
C4552 thru C4555	Same as C4515	

PARTS LIST  
for  
HARMONIC FILTERS, AF106 SERIES

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
C4556	Same as C4500	
C4557	Same as C4515	
C4558	Same as C4500	
C4559 thru C4566	Same as C4515	
C4567	CAPACITOR, FIXED, CERAMIC DIELECTRIC: 50 uuf, +10%, 7,500 WVDC	CC109-19
C4568 thru C4570	Same as C4515	
C4571	Same as C4567	
C4572	Same as C4515	
C4573	Same as C4515	
CP4500	ADAPTER, HN to HN	UG1019/U
CP4501	Same as CP4500	
E4500 thru E4523	INSULATOR, FEEDTHRU: consists of a teflon insulator one brass, nickel plated 10-32 x 1-1/2" phillips-head screw, two flat washers, one split washer, and two hex nuts.	AX663
L4500	COIL, RADIO FREQUENCY; fixed; 3.9 uh	CL401-4
L4501	COIL, RADIO FREQUENCY; fixed; 3.9 uh	CL401-5
L4502	Same as L4500	
L4503	COIL, RADIO FREQUENCY; fixed; 2.7 uh	CL401-6
L4504	COIL, RADIO FREQUENCY; fixed; 2.9 uh	CL401-7
L4505	Same as L4503	
L4506	COIL, RADIO FREQUENCY; fixed; 1.9 uh	CL401-8
L4507	COIL, RADIO FREQUENCY; fixed; 2.1 uh	CL401-9
L4508	Same as L4506	

PARTS LIST  
for  
HARMONIC FILTERS, AF106 SERIES

REF SYMBOL	DESCRIPTION	TMC PART NUMBER
L4509	COIL, RADIO FREQUENCY; fixed; 1.2 uh	CL401-10
L4510	COIL, RADIO FREQUENCY; fixed; 1.3 uh	CL401-11
L4511	Same as L4509	
L4512	COIL, RADIO FREQUENCY; fixed; 0.93 uh	CL401-12
L4513	COIL, RADIO FREQUENCY; fixed; 1.0 uh	CL401-13
L4514	Same as L4512	
L4515	COIL, RADIO FREQUENCY; fixed; 0.58 uh	CL401-14
L4516	COIL, RADIO FREQUENCY; fixed; 0.67 uh	CL401-15
L4517	Same as L4515	

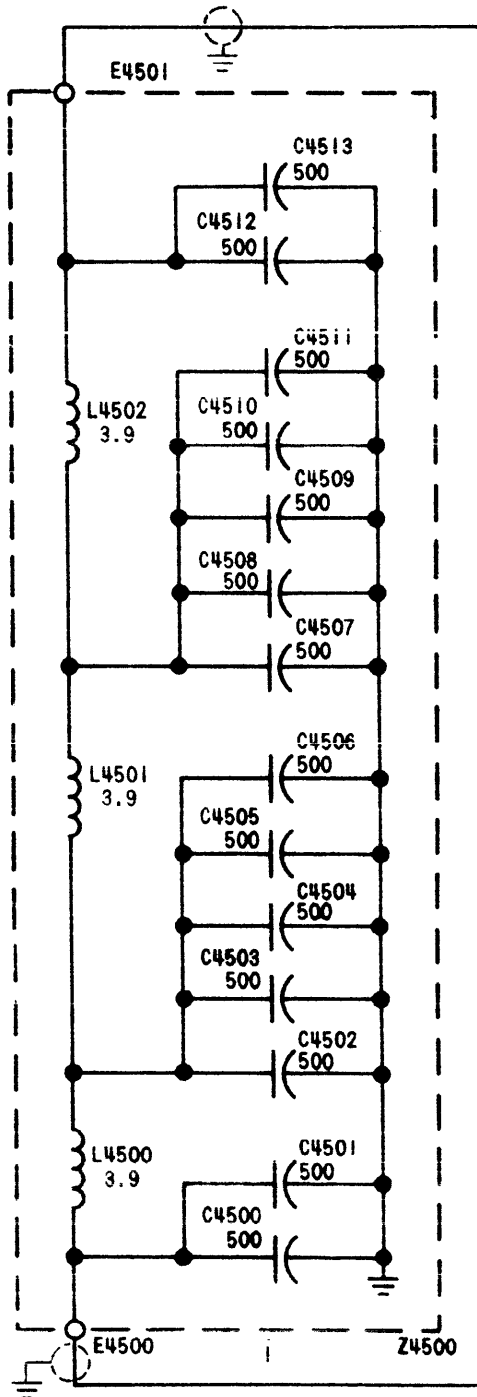


Figure 3-1. Schematic Diagram,  
Harmonic Filter AF106-1  
(2-3 MHz)

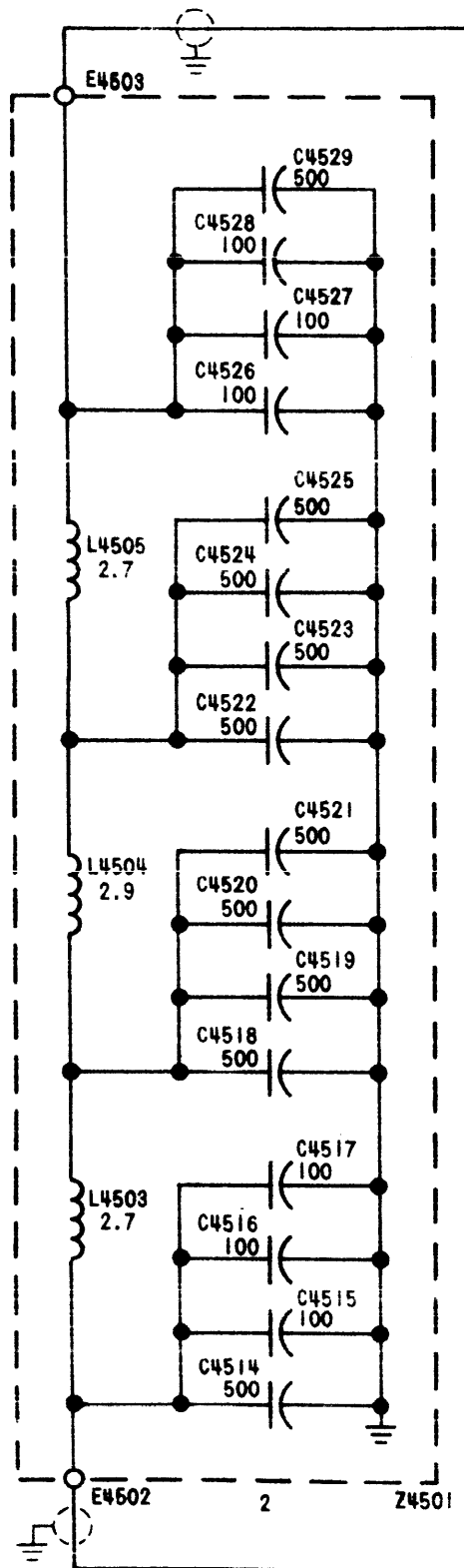


Figure 3-2. Schematic Diagram,  
Harmonic Filter AF106-2  
(3-4 MHz)

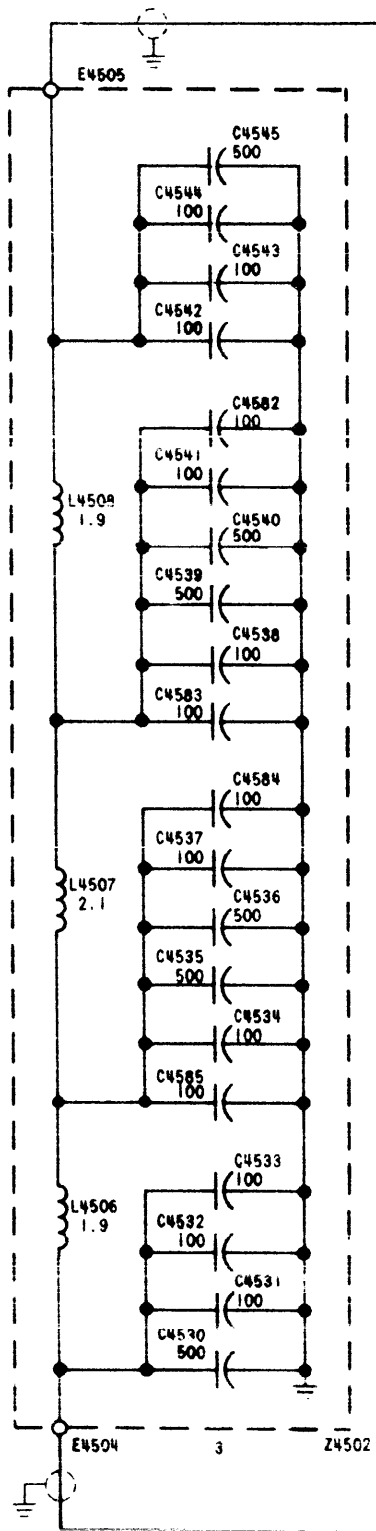


Figure 3-3. Schematic Diagram,  
Harmonic Filter AF106-3  
(4-6 MHz)



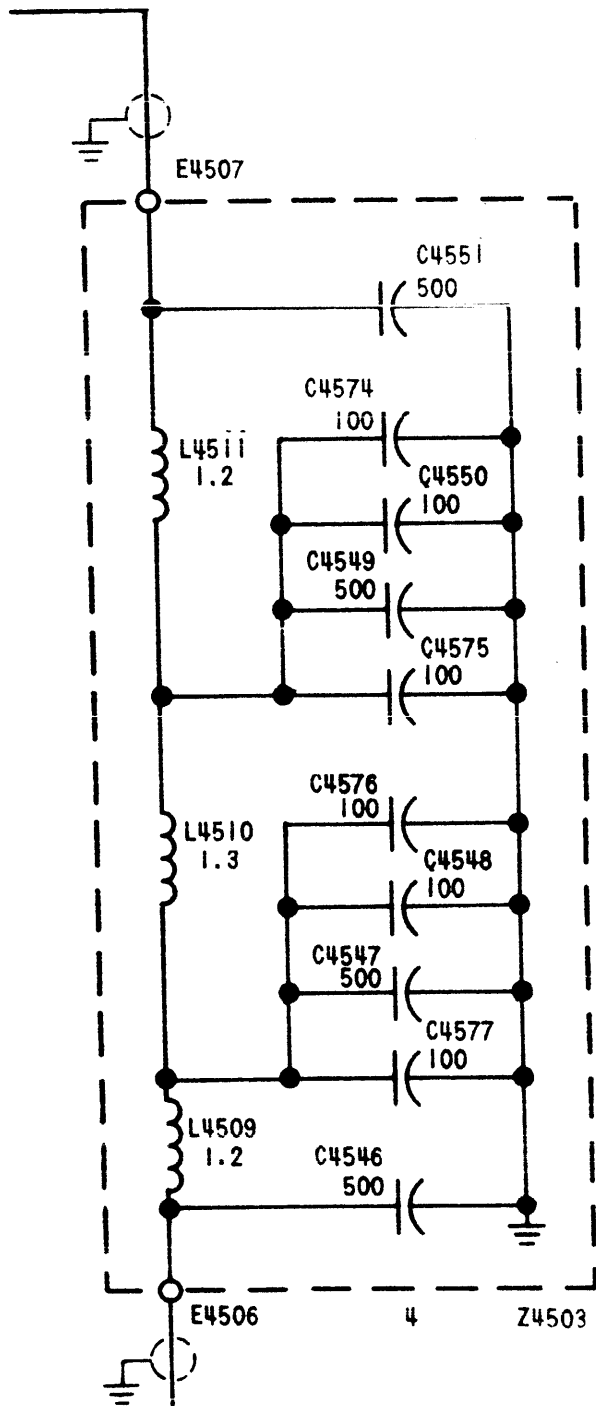


Figure 3-4. Schematic Diagram,  
 Harmonic Filter AF106-4  
 (6-9 MHz)

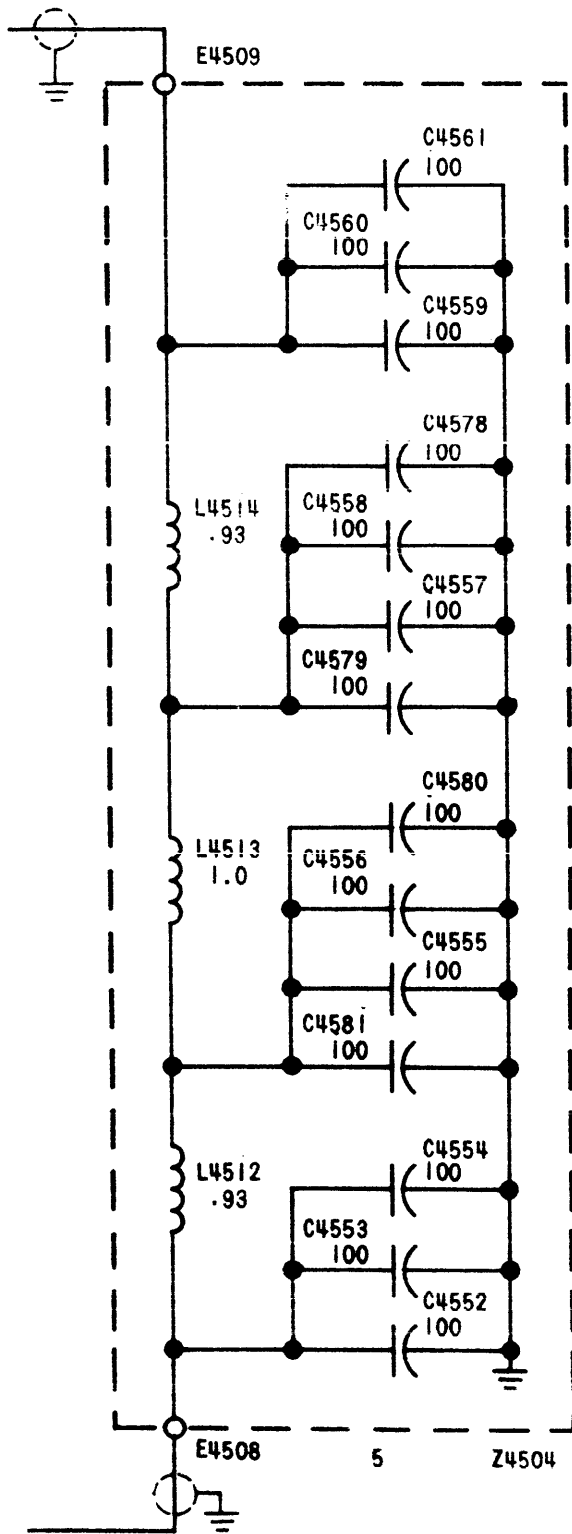


Figure 3-5. Schematic Diagram,  
Harmonic Filter AF106-5  
(9-13 MHz)

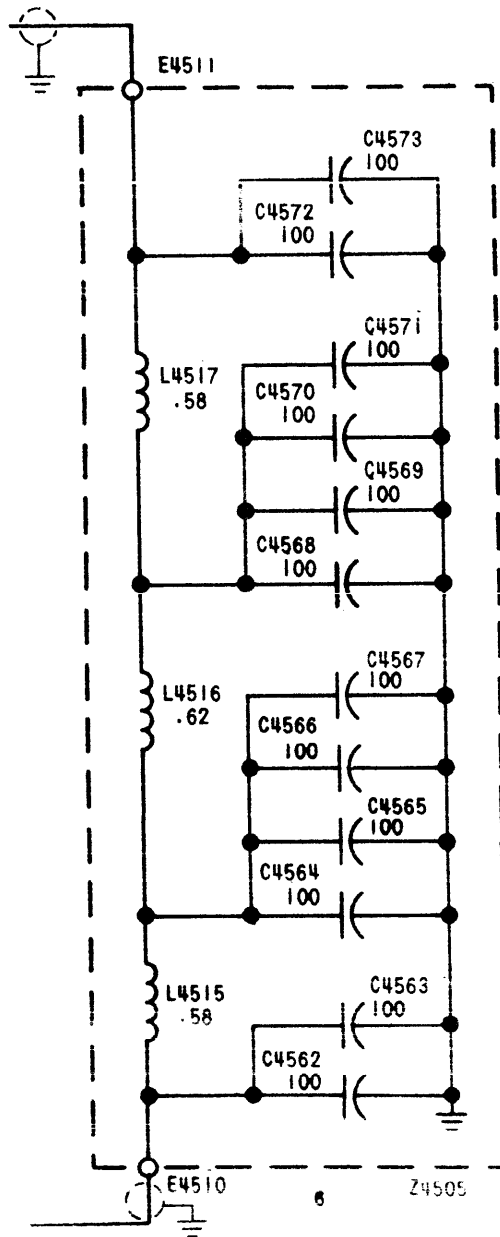


Figure 3-6. Schematic Diagram,  
Harmonic Filter AF106-6  
(13-19 MHz)