

Page 2,3: 12-H1 12-H2 12-H6 12-C1 12-C2 12-C6
12-C7 12-C8 12-C9 12-C10 12-C12 12-C45
13-W1 13-W2 6203 6204 6205 1463 1464
1465 6260 6261 6262

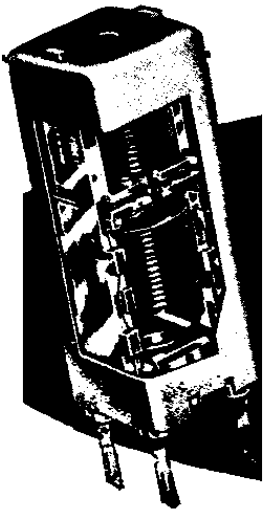
Page 4: 1359 1360 1361 1362

Page 5,6: 13-PH1 13-PH2 13-PH6 13-PC1 13-PC2 13-PC6
13-PC7 13-PC8 13-PC9 13-PC10 6203-PC
6204-PC 6205-PC 1463-PC 1464-PC 1465-PC

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1480 1481 1498

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12-H1, 2, 6 12-C1, 2, 6, 7, 8, 9, 10, 12, 45 13-W1, 2
 6203, 4, 5 1463, 4, 5 6260, 1, 2



The Famous K-TRAN The finest
 miniature I.F. transformer
 ever manufactured.
 Only 2 1/8" high by 3/4" square

www.33audio.com

The Miller K-Tran I.F. Transformers are available for the following frequencies: 262 kc, 455 kc, 1500 kc, 4.5 Mc, 10.7 Mc, 21.25 Mc.

The 4.5 MC transformers are for use in television receivers having an intercarrier sound channel. 10.7 MC transformers find their main application in FM receivers and tuners.

All transformers are shell core permeability tuned, thus providing a magnetic shielding of the windings and reducing the influence of the aluminum can. Stable silver mica fixed capacitors are enclosed in the low-loss terminal base.

A small non-metallic screwdriver should be used for adjusting the transformers to resonance. Under no circumstances should the adjustment exceed the free travel of the cup cores.

A method of mounting K-Tran Transformers is shown on the reverse page using a spring clip. An alternate method consists of utilizing the adapter plate (furnished with the transformer) and making use of a standard tube socket hole in the chassis.

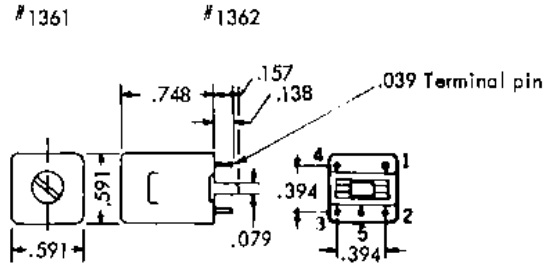
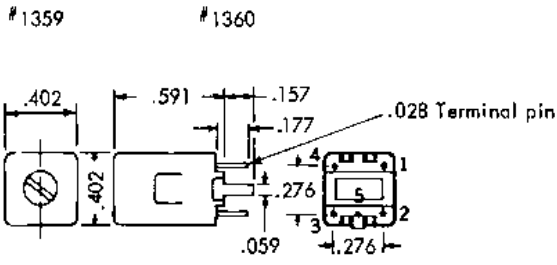
Data on gain and bandwidth given below is applicable to tube types indicated. The application of I.F. transformers, however, is by no means limited to these tube types. On types 12-H and 12-C (262 KC and 455 KC) reversal of primary terminals (#4 to plate and #3 to B+) will result in somewhat less gain and bandwidth. Similar results on some types of transformers (except 12-H6 and 12-C6) will be obtained when interchanging primary and secondary. Transformers operating at 4.5 MC and 10.7 MC should always be connected as shown in diagrams on the reverse page.

CAT. NO.

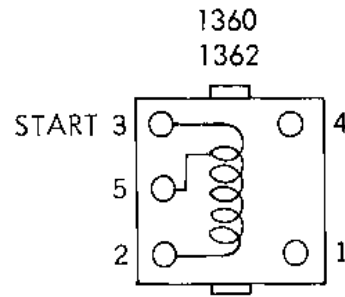
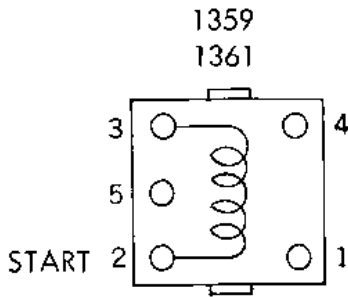
12-H1	262 KC	Input Transformer	Gain (with 6BE6, 240 volts plate):	85.	2 x Bandwidth:	9 KC.
12-H2	262 KC	Output Transformer	Gain (with 6BA6, 240 volts plate):	192.	2 x Bandwidth:	10 KC.
12-H6	262 KC	Output Transformers	with two 125 mmf diode filter capacitors Gain and bandwidth same as 12-H2			
12-C1	455 KC	Input Transformer	Gain (with 6BE6, 240 volts plate):	72.	2 x Bandwidth:	16 KC.
12-C2	455 KC	Output Transformer	Gain (with 6BA6, 240 volts plate):	181.	2 x Bandwidth:	21 KC.
12-C6	455 KC	Output Transformer	with two 125 mmf diode filter capacitors Gain and bandwidth same as 12-C2			
12-C7	455 KC	Input Transformer for Battery Radios	Gain (with 1R5, 90 volts on plate):	24.	2 x Bandwidth:	19 KC.
12-C8	455 KC	Output Transformer for Battery Radios	Gain (with 1T4, 90 volts plate):	80.	2 x Bandwidth:	21 KC.
12-C9	455 KC	Input Transformer for AC-DC Radios	Gain (with 12BE6, 100 volts plate):	65.	2 x Bandwidth:	16 KC.
12-C10	455 KC	Output Transformer for AC-DC Radios	Gain (with 12BA6, 100 volts plate):	186.	2 x Bandwidth:	21 KC.
12-C12	455 KC	Tapped Pri. LF. Transformer	Gain (with 6BE6, 240 volts plate):	72.	2 x Bandwidth:	16 KC.
12-C45	455 KC	Discriminator Trans.	Peak separation: 33 KC		Linearity:	17 KC.
13-W1	1500 KC	Input and Interstage Transformer	Gain (with 6BJ6, 100 volts plate):	53.	2 x Bandwidth:	51 KC.
13-W2	1500 KC	Output Transformer	Gain (with 6BE6, 100 volts plate):	26.	2 x Bandwidth:	62 KC.
6203	4.5 MC	Input or Interstage Transformer	Gain (with 6AU6, 125 volts plate):	32.	2 x Bandwidth:	150 KC.
6204	4.5 MC	Discriminator Trans.	Peak separation: 140 KC		Linearity:	70 KC.
6205	4.5 MC	Ratio Detector Trans.	Peak separation: 180 KC		Linearity:	100 KC.
1463	10.7 MC	Input or Interstage Transformer	Gain (with 6BA6, 240 volts plate):	41.	2 x Bandwidth:	260 KC.
1464	10.7 MC	Discriminator Trans.	Peak separation: 385 KC		Linearity:	240 KC.
1465	10.7 MC	Ratio Detector	Peak separation: 425 KC		Linearity:	240 KC.
6260	21.25 MC	LF. Transformer	Gain (with 6AU6, 240 volts plate):	38.	2 x Bandwidth:	350 KC.
6261	21.25 MC	Discriminator Trans	Peak separation: 440 KC		Linearity:	300 KC.
6262	21.25 MC	Ratio Detector Trans.	Peak separation: 400 KC		Linearity:	200 KC.

(K-TRAN is a registered trade-mark.)

1359 1360 1361 1362

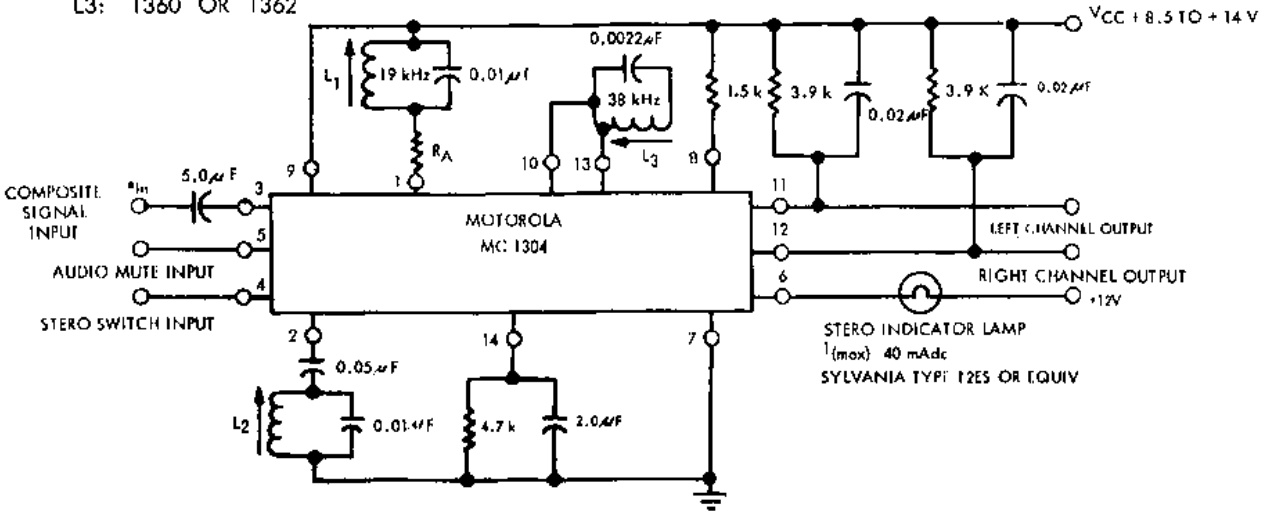


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L1, L2: 1359 OR 1361
L3: 1360 OR 1362

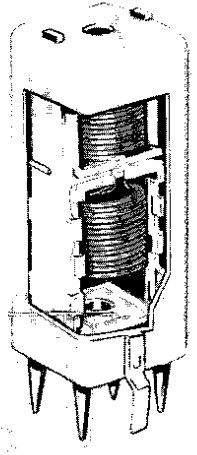
TYPICAL CIRCUIT CONFIGURATION



FOR TYPICAL CIRCUIT OPERATION SEE APPLICATION NOTE AN-432 AVAILABLE FROM MOTOROLA SEMICONDUCTOR PRODUCTS INC. BOX 20912 PHOENIX, ARIZ. 85036

USED ON: MULTIPLEX	J. W. MILLER CO. 8917 SO. MAIN LOS ANGELES, CALIF.	STANDARD PART NO.	
DWG. BY R.A.V.		1359	1360
APP. BY F.T.S.		1361	1362
DATE: 3/26/69		SCALE: NONE	DWG. NO. 1359-60-61-62

Miller: 13-PH1, 13-PH2, 13-PH6, 13-PC1,
 13-PC2, 13-PC6, 13-PC7, 13-PC8,
 13-PC9, 13-PC10, 6203-PC, 6204-PC,
 6205-PC, 1463-PC, 1464-PC, 1465-PC



K-TRAN

The finest miniature printed circuit I.F. transformer ever manufactured. Only 2 1/8" high by 3/4" square.



www.33audio.com

MINIATURE PRINTED CIRCUIT I.F. TRANSFORMERS

The Miller K-Tran I.F. Transformers for printed circuits are available in the following frequencies: 262 kc., 455 kc., 4.5 Mc. and 10.7 Mc.

The 4.5 Mc. transformers are for use in television receivers having an intercarrier sound channel. 10.7 Mc. transformers find their main application in FM receivers and tuners.

All transformers are shell core permeability tuned, thus providing a magnetic shielding of the windings and reducing the influence of the aluminum can. Stable silver mica fixed capacitors are enclosed in the low-loss terminal base.

A small non-metallic screwdriver should be used for adjusting the transformers to resonance. Under no circumstances should the adjustment exceed the free travel of the cup cores.

Data on gain and bandwidth given below is applicable to tube types indicated. The application of I.F. transformers, however, is by no means limited to these tube types. On types 13-PH and 13-PC (262 kc. and 455 kc.) reversal of primary terminals (#4 to plate and #3 to B+) will result in somewhat less gain and bandwidth. Similar results on same types of transformers (except 13-PH6 and 13-PC6) will be obtained when interchanging primary and secondary. Transformers operating at 4.5 Mc. and 10.7 Mc. should always be connected as shown in diagrams on the reverse page.

CAT. NO.	FREQ.	USE	GAIN	BANDWIDTH
13-PH1	262 kc.	Input Transformer	Gain (with 6BE6, 240 volts plate): 85.	2 x Bandwidth: 9 kc.
13-PH2	262 kc.	Output Transformer	Gain (with 6BA6, 240 volts plate): 192.	2 x Bandwidth: 10 kc.
13-PH6	262 kc.	Output Transformer with two 125 mmf diode filter capacitors	Gain and bandwidth same as 13-PH2	
13-PC1	455 kc.	Input Transformer	Gain (with 6BE6, 240 volts plate): 72.	2 x Bandwidth: 16 kc.
13-PC2	455 kc.	Output Transformer	Gain (with 6BA6, 240 volts plate): 181.	2 x Bandwidth: 21 kc.
13-PC6	455 kc.	Output Transformer with two 125 mmf diode filter capacitors	Gain and bandwidth same as 13-PC2	
13-PC7	455 kc.	Input Transformer for Battery Radios	Gain (with 1R5, 90 volts on plate): 24.	2 x Bandwidth: 19 kc.
13-PC8	455 kc.	Output Transformer for Battery Radios	Gain (with 1T4, 90 volts plate): 80.	2 x Bandwidth: 21 kc.
13-PC9	455 kc.	Input Transformer for AC-DC Radios	Gain (with 12BE6, 100 volts plate): 65.	2 x Bandwidth: 16 kc.
13-PC10	455 kc.	Output Transformer for AC-DC Radios	Gain (with 12BA6, 100 volts plate): 186.	2 x Bandwidth: 21 kc.
6203-PC	4.5 Mc.	Input or Interstage Transformer	Gain (with 6AU6, 125 volts plate): 32.	2 x Bandwidth: 150 kc.
6204-PC	4.5 Mc.	Discriminator Trans.	Peak separation: 140 kc.	Linearity: 70 kc.
6205-PC	4.5 Mc.	Ratio Detector Trans.	Peak separation: 180 kc.	Linearity: 100 kc.
1463-PC	10.7 Mc.	Input or Interstage Transformer	Gain (with 6BA6, 240 volts plate): 41.	2 x Bandwidth: 260 kc.
1464-PC	10.7 Mc.	Discriminator Trans.	Peak separation: 385 kc.	Linearity: 240 kc.
1465-PC	10.7 Mc.	Ratio Detector Trans.	Peak separation: 320 kc.	Linearity: 170 kc.

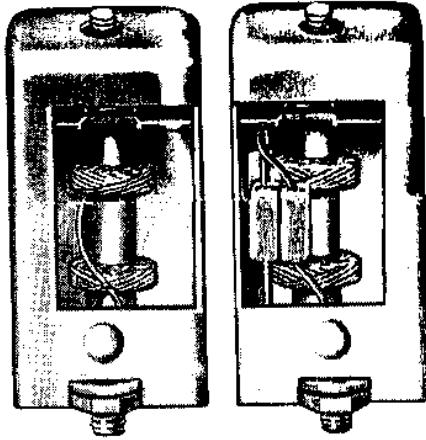
Manufactured under K-TRAN patents of and by Automatic Manufacturing Corp. (K-TRAN is a registered trade-mark.) 13—PH 1. 25M 4-64FH PRINTED IN U.S.A.

(Available Through Your Local Distributor)

J. W. MILLER COMPANY

5917 South Main Street

Los Angeles 3, California



4.5 MC Intercarrier-Sound I.F. Transformers

www.33audio.com

Single and Double Tuned Circuits for the popular intercarrier sound television receivers which employ a common i.f. channel for both picture and sound signals. Discriminator is of Foster-Seeley type and usually requires two or more limiter stages preceding it to reduce susceptibility to amplitude modulation. One i.f. amplifier stage before the ratio detector ordinarily will provide good quality f-m sound.

Transformers are constructed in aluminum shields with top and bottom tuning. All connections are made to solder lugs at the base. Mounting is by #6-32 spade bolts on 1/16" centers. Dimensions: 1 1/8" x 1 1/8" x 2 3/8" high.

The 1498 is assembled in a shield having 1 5/16" mounting centers; the electrical characteristics are the same as our 1468.

Sound pick-off coil and sound trap are wound on 1 3/4" long bakelite form and are unshielded. Mounting clip fits into 5/16" chassis hole; tuning coil stud is adjustable from top of chassis. Sound pick-off coil is used to remove the 4.5 Mc intercarrier signal from the output of the second detector or from the plate of a video amplifier tube. The high-Q sound trap is of the shunt type and may be inserted in any part of a circuit where a 4.5 Mc signal must be attenuated.

Part No.	Inductance Range	Capacity Range to Resonate at 4.5 Mc.
1469	14.5 — 44 uh ±10%	25 — 85 uuf
1470	38 — 100 uh ±10%	13 — 30 uuf

			Frequency
Cat. No. 1466	Input or Interstage I.F. Transformer	1 1/8" sq.	4.5 MC
Cat. No. 1467	Sound Discriminator Transformer	1 1/8" sq.	4.5 MC
Cat. No. 1468	Sound Ratio Detector Transformer	1 1/8" sq.	4.5 MC
Cat. No. 1469	Sound Pick Off Coil (Tapped with cond.)		4.5 MC
Cat. No. 1470	Sound Trap (Tapped)		4.5 MC
Cat. No. 1470-A.	Sound Trap Shielded 3/4" sq. x 2" high		4.5 MC
Cat. No. 1480	Quadrature Coil Unshielded		4.5 MC
Cat. No. 1481	Quadrature Coil Shielded 3/4" sq. x 1 1/2" high		4.5 MC
Cat. No. 1498	Sound Ratio Detector Trans. 1 3/8" sq. x 2 1/2" high		4.5 MC

NO. 1466—4.5 MC FED. 20M 1-63

PRINTED IN U.S.A.

(Available through your local distributor)

J. W. MILLER COMPANY

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Los Angeles 3, California

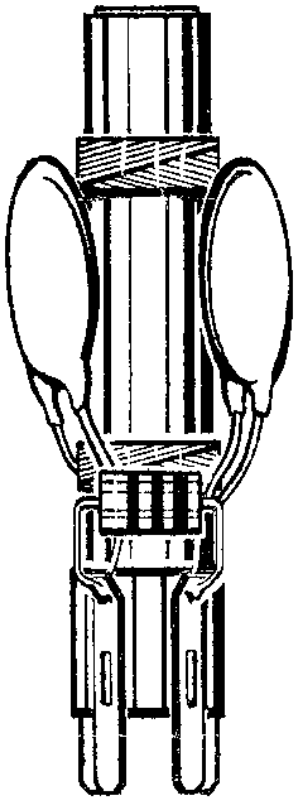
1471A



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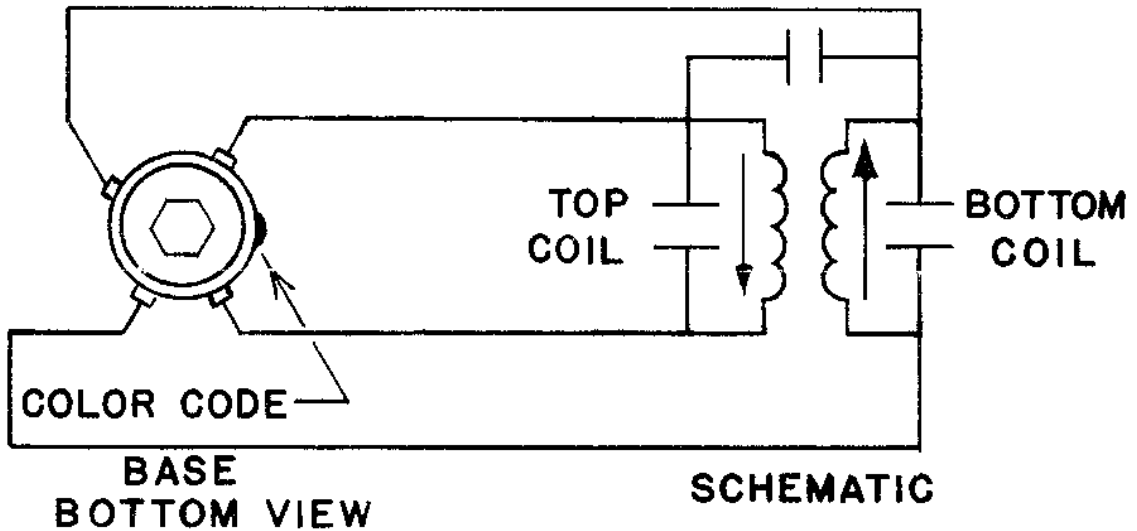


**EXACT REPLACEMENT
FOR
ADMIRAL T.V.**

The 1471-A has been manufactured as an exact replacement for the original equipment produced by Admiral. This item is constructed for printed circuit application.

MAX. DIMENSIONS: 1/2" x 1 3/4" High

PART No.	USE	ADMIRAL PART No.
1471-A	Sound Take-Off	72B185-2 , 72C185-2



(Available through your local distributor)

J. W. MILLER COMPANY

5917 South Main Street

Los Angeles 3, Calif.

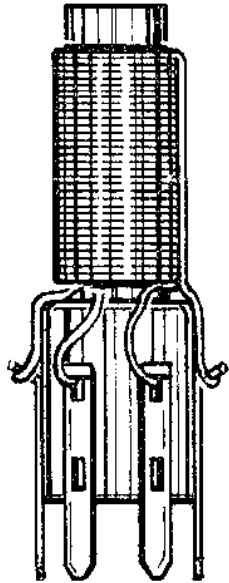
1472A



Miller



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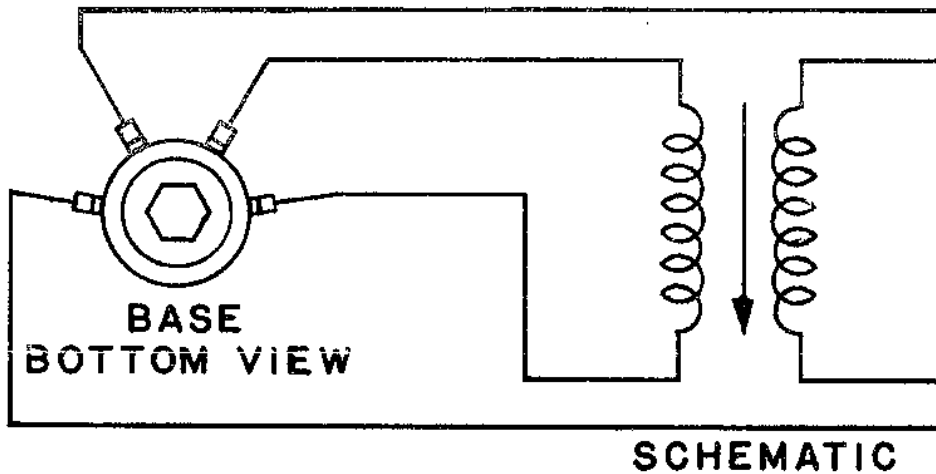


**EXACT REPLACEMENT
FOR
ADMIRAL T.V.**

The 1472-A has been manufactured as an exact replacement for the original equipment produced by Admiral. This item is constructed for printed circuit application.

MAX. DIMENSIONS: 7/16" x 1 1/4" High

PART No.	USE	ADMIRAL PART No.
1472-A	Sound Take-Off	72C132-19



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1472-A, 1471-A FED. 5M 1-63

(Available through your local distributor)

J. W. MILLER COMPANY

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Los Angeles 3, Calif.