WJ-861X RECEIVER

APPENDIX S

WJ-861X IF AMPLIFIER/FM DEMODULATOR BANDWIDTH COMBINATIONS OPTION

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WARNING

This equipment utilizes voltages which are potentially dangerous and may be fatal if contacted. Exercise extreme caution when working with the equipment with any protective cover removed.

PROPRIETARY STATEMENT

TABLE OF CONTENTS

APPENDIX S

TABLE OF CONTENTS (Continued)

LIST OF TABLES

LIST OF ILLUSTRATIONS

LIST OF ILLUSTRATIONS

APPENDIX S

IF AMPLIFIER/FM DEMODULATOR BANDWIDTH COMBINATIONS OPTION

S.1 GENERAL DESCRIPTION

The WJ-861XB Receiver provides for up to either five or ten IF Amplifiers (A3A9-A3A13) and FM Demodulators (A3A17-A3A21) to be installed, depending on the setting of the DIP switch S1 on the Receiver Interface (A5A2). With switch position 2 CLOSED, the receiver supports 5 IF bandwidths and in the OPEN position, 10 IF bandwidths can be supported. These bandwidths are selectable from those listed in **Table S-1**. In addition to the bandwidths listed in **Table S-1**, additional bandwidths may be available upon special request.

The IF Amplifiers and FM Demodulators are available in either single (5 bandwidth) or dual (10 bandwidth) configurations. In the single configuration, each IF Amplifier (A3A9-A3A13) and FM Demodulator (A3A17-A3A21) contains only one bandwidth. In the dual configuration each module contains two IF Amplifiers (on the A3A9-A3A13 modules) and two FM Demodulators (on the A3A17-A3A21 modules). Dual configuration modules are controlled by pressing the same front panel BANDWIDTH pushbutton. Repeatedly pressing the BANDWIDTH pushbutton of a dual configured receiver toggles the selected bandwidth from one bandwidth to the other.

Selection of one of the receiver's bandwidths is accomplished by pressing the key labeled with the desired bandwidth. Pressing a BANDWIDTH pushbutton enables the selected bandwidth and applies digital control data from the Receiver Interface (A5A2) to the bandwidth decoder (U10) on the AGC module (A3A8). Bandwidth decoder U10 decodes the bandwidth select data from the digital control section and applies the enable data to the 2nd Converter (A3A7). This enable data energizes one of five switches to select the desired IF bandwidth.

The 21.4 MHz IF Amplifier module is provided in two versions, the single amplifier version (Type 724006-X and Type 726013-X) or the dual version (Types 726009-X, 726010-X, and 796337-X). Whether the single or dual IF Amplifier modules are installed in the receiver, circuit operation is essentially the same. Only one additional line is added to the switchable modules to control selection of the dual bandwidth modules.

S.2 INSTALLATION

The 21.4 MHz IF Amplifier modules (A3A9-A3A13) are installed in the RF/IF Motherboard (A3) in the connector slots labeled XA9 through XA13. Refer to **Figure 5-6** of the WJ-861XB Instruction Manual for these connector locations. The FM Demodulator modules (A3A17-A3A21) are installed in the RF/IF Motherboard in connectors XA17 through XA21. For proper operation, the IF Amplifiers and FM Demodulators must be in the same corresponding slots. For example if the 10 kHz IF Amplifier is installed in RF/IF Motherboard connector XA9, then the 10 kHz FM Demodulator must be installed in connector slot XA17.

S.3 OPERATION

With the IF Amplifiers and FM Demodulators installed in the receiver, pressing one of the front panel BANDWIDTH pushbuttons enables the associated IF Amplifier and FM Demodulator module. The selected bandwidth is indicated by the illuminated LED on the pushbutton that was pressed.

Table S-1. Available Bandwidths

SINGLE			DUAL		
IF Bandwidth in kHz ±10%	21.4 MHz IF AMP Type	FM Demod Type	IF Bandwidth in kHz±20%	Switchable IF Amp Type	Switchable FM Demod Type
1.5	724006-22	794106-10	3.2/10	726009-1	796354-1
3.2	724006-16	794106-6	3.2/6.4	726009-17	796354-10
4.0	724006-23	794106-11	6.4/10	726009-5	796354-3
6.0	724006-7	794106-3	10/20	726009-11	796354-7
6.4	724006-18	794106-3	10/25	726009-14	796254-8
10	724006-1	794106-1	10/30	726009-21	796354-11
15	724006-21	794106-8	15/20	726009-6	796354-4
20	724006-2	794106-2	20/30	726009-15	796354-9
25	724006-17	794106-7	20/50	726009-2	796354-2
30	724006-10	794106-5	30/40	726009-7	796354-6
40	724006-8	749107-5	30/50	726009-8	796354-5
50	724006-3	794106-9	50/75	726009-16	796355-6
60	724006-24	794107-13	50/100	796009-12	796355-5
75	724006-9	794107-6	75/100	726009-9	796355-3
100	724006-4	794107-2	100/200	726009-3	796355-1
150	724006-25	794107-14	100/300	726009-4	796355-2
250	724006-5	794107-3	150/200	726009-10	796355-4
300	724006-6	794107-4	150/300	726009-18	796355-7
400	724006-20	794104-2	200/300	726009-20	796355-8
500	726013-1	794104-2	200/400	726009-25	796356-3
1000	726013-2	794104-1	250/500	726009-13	796356-3
2000	726013-3	794105-1	300/500	726009-19	796356-5
4000	726013-4	794105-2	300/1000	726010-7	796356-4
8000	796337-1	794105-4	400/600	726010-1	796356-1
10000	796726-1		500/1000	726010-2	796356-2
			800/1200	726010-13	796356-7
			1000/2000	726010-3	796357-1
			1600/3200	726010-14	796357-7
			2000/4000	726010-4	796357-2
			4000/6000	726010-5	796357-3
			4000/8000	726010-6	796357-4
			4000/10000	726010-8	796357-5
			8000/10000	726010-9	796357-6

With dual IF Amplifiers and Switchable FM Demodulators installed, each BANDWIDTH key can select one of two bandwidths. Pressing the BANDWIDTH pushbutton the first time selects the narrower IF bandwidth. Pressing the same IF bandwidth key again selects the wider IF bandwidth. Repeatedly pressing the same pushbutton toggles the selected bandwidth between the narrower and wider IF bandwidth.

Attempting to select an empty IF bandwidth slot causes **ERROR 814** to be displayed on the front panel. However, for test purposes the receiver may be placed in the Test mode (by holding the FUNCTION key pressed, when power is applied to the receiver) allowing an empty IF bandwidth slot to be selected without generating an **ERROR 814.** The Test mode digitally displays the analog voltage for the selected bandwidth on the front panel. This three-digit display appears to the right of the MEMORY SELECT window. Refer to **Table S-4** for the decimal bandwidth code.

Placing the Receiver Interface (A4A2) switch S1 in the OPEN position also provides a three-digit display of the selected IF bandwidth. These digits are displayed to the right of the MEMORY SELECT window. With the 6.4 kHz IF bandwidth selected, **006** is displayed. Selecting 8000 kHz causes **8E3** to be displayed.

NOTES

The Test mode decimal bandwidth code overrides the three-digit bandwidth display. Test mode is disabled by turning receiver power off and back on again.

Receiver DIP switch settings are only read when the receiver is powered up. Changing the DIP switch settings requires receiver power to be cycled off and on again to affect receiver operation.

"Shrinkage" of IF bandwidths, greater than 2000 kHz in width, is evident when the receiver is tuned near the preselector band breaks.

S.4 FUNCTIONAL DESCRIPTION

The 21.4 MHz IF output from the 2nd Converter (A3A7) is switched to the appropriate 21.4 MHz IF Amplifier by a PIN diode switching network controlled by the BW #1 through BW #5 bandwidth select inputs. The select inputs are supplied by AGC subassembly A3A8. This PIN switch directs the IF signal to the selected IF Amplifier. Each 21.4 MHz IF Amplifier contains an IF Amplifier and a bandpass filter to limit the bandwidth of the IF signal. The WJ-861XB Receiver can accept up to five standard IF bandwidths or ten IF bandwidths, if dual IF modules are used.

The output signal of the selected 21.4 MHz IF Amplifier is applied to the AM Demodulator (A3A16), and is amplified both linearly and logarithmically. Amplifiers Q1 and U1 provide linear amplification of the 21.4 MHz signal. This signal is then applied through a 4 MHz bandpass filter, when wideband IF amplifiers are selected or through a 300 kHz filter when narrowband IF amplifiers are used. The post-filtered IF output is provided to the SWITCHED IF connector (J1) on the rear panel which provides a sample of the band-limited IF signal. This filtered IF signal is also directed to the FM Demodulators for detection of FM video and to the AM Detector for detection of AM video. Logarithmic amplifiers U5, U6 and U7 provide an output that is a dc level that varies logarithmically with signal strength. This dc level is applied to the AGC I/O subassembly where it is summed with a sample of the AM video to provide an

indication of the signal strength to the Digital Control Section. The LOG video level is also provided to the Audio/Video/COR subassembly to activate the COR and Squelch circuitry.

Both the 21.4 MHz IF and AM video signals from the AM Demodulator are applied to the FM Demodulators (A3A17 through A3A21). Up to five FM Demodulators can be used with bandwidths corresponding to the 21.4 MHz IF Amplifier bandwidths. Each FM Demodulator is matched in bandwidth to one of the 21.4 MHz IF Amplifiers to provide a full-scale output at the IF signal band-edge. The FM portion of these subassemblies consists of FM detector circuitry to demodulate the 21.4 MHz IF and provide a video signal which is amplified by the video amplifier. The AM portion consists of a low-pass filter for filtering out any 21.4 MHz component present on the AM video signal. The AM and FM video outputs are then applied to the Audio/Video/COR subassembly (A3A15).

S.5 DETAILED CIRCUIT DESCRIPTION

S.5.1 TYPE 724006-X, 21.4 MHZ IF AMPLIFIER (A3A9-A3A13)

The Type 724006-X 21.4 MHz IF Amplifier is produced in several versions to provide IF bandwidths from 1.5 kHz to 300 kHz. Refer to schematic diagram **Figure S-19** as a reference for the following circuit description.

Each version of the Type 724006-X IF Amplifier is identical, with the exception of the band-limiting crystal filter (FL1) and values of some of the components used. Refer to **Table S-1** on the schematic diagram for the specific component values for each IF amplifier version.

When the IF Bandwidth slot selected contains one of these IF Amplifiers, the decoder on the AGC Amplifier (A3A8) applies +15 Vdc to connector pin 15, energizing the subassembly. The input signal from the 2nd Converter is supplied to input transformer T1. A voltage divider, composed of resistors R20, R19, and R18, is connected between +15 Vdc and ground to provide a dc level at connector pins 11 and 12 that represents the subassembly's IF bandwidth code (see **Table S-3**). This dc level, which is set by the adjustment of R19, is provided to the AGC Amplifier and to the Digital Control Section to indicate the IF bandwidth of the subassembly installed in each bandwidth slot. Diode CR1 isolates the voltage divider from the bandwidth code line when the IF Amplifier is not selected.

The 21.4 MHz input signal present at connector pin 1 is applied to the primary of transformer T1. This transformer provides an impedance match between the 2nd Converter and crystal filter FL1. Filter FL1 band-limits the 21.4 MHz IF signal to the stated bandwidth of the IF Amplifier and directs the band-limited signal, through C2 and R21 to pin 3 of FET amplifier Q1. Bias for gate 1 of Q1 (pin 3) is provided by the voltage divider formed by R5, R6 and R7. Bias for gate 2 (pin 2) is provided by the voltage divider formed by R2, R4 and potentiometer R3. Potentiometer R3 adjusts the amplifier gain by varying the gate bias on pin 2. The output of Q1 is developed across the tuned tank circuit formed by C9, C15, L2 and R11. This tank circuit is center tuned to 21.4 MHz and has a bandwidth greater than the tuned tank filter. Resistor R11 loads the tank and lowers the Q of the tank to widen the bandwidth of the tuned circuit and also limit the tank impedance. The value of R11 is selected to provide the proper gain of Q1, and the value of R3 (in the gate 2 circuit) provides the fine gain adjustment.

The output of Q1 is coupled across C10 to emitter follower Q2. This circuit buffers the output of Q1 and provides a low impedance output at connector pin 29. The 21.4 MHz IF output is developed across R15 and is coupled to the output by C12 and R17. Bias for Q2 is provided to the base of the transistor by the voltage divider formed by R12 and R13.

S.5.2 TYPE 726013-X, 21.4 MHZ IF AMPLIFIER (A3A9-A3A13)

The Type 726013-X IF Amplifier is produced in several versions, providing IF bandwidths from 500 kHz to 4 MHz. The only difference between the different versions is the bandpass filter (FL1). **Table A** on the Type 726013-X schematic diagram (**Figure S-20**) lists the filter number for the different IF amplifier type numbers.

When the IF bandwidth slot containing the Type 726013-X 21.4 MHz IF Amplifier is selected, +15 Vdc is applied from the AGC Amplifier (A3A8) bandwidth decoder U10 to connector pin 15 to energize the selected IF Amplifier. With the IF Amplifier energized, the 21.4 MHz IF signal at connector pin 1, from the 2nd Converter (A3A7), is transformer coupled across transformer T1 to bandpass filter (FL1). Crystal filter FL1 limits the IF bandwidth to the stated bandwidth (±10%). This band-limited IF signal is coupled across C5 to the base of amplifier Q1. Resistor R7 provides impedance matching for the output of FL1. Resistors R4, R5, R6 and R8 provide base biasing for transistor Q1. Emitter biasing for Q1 is provided by resistors R11, R12 and R13. Variable resistor R13 controls the gain of Q1. The amplified output from Q1 is directed to the primary of transformer T2. Resistor R9 loads the primary of T2 and along with R10 provides collector biasing for Q1. IF signals from the secondary transformer of T2 are capacitive coupled by C7 to connector pin 29. From pin 29, the 21.4 MHz IF signal is directed to the AM Demodulator/IF Output Amplifier (A3A16).

The +15 Vdc bandwidth select voltage, at connector pin 15, is applied through inductor L1 to provide the supply voltage for transistor Q1. This select voltage is also used by the voltage divider (R1, R2 and R3) to forward bias diode CR1 and provide the bandwidth code voltage to connector pin 11. Variable resistor R2 adjusts the bandwidth code voltage to be within limits for the selected bandwidth. Refer to **Table S-3** for the bandwidth code voltages. When an IF Amplifier is not selected, CR1 is reverse biased to prevent an erroneous voltage from being applied to the bandwidth code line.

Capacitors C1, C2, C3 and C4 provide filtering of any ac variations that may be on the supply voltage lines.

S.5.3 TYPE 796337-1, 21.4 MHZ IF AMPLIFIER (8 MHZ) (A3A9-A3A13)

Refer to **Figure S-21** for the Type 796377-1 schematic diagram.

When the bandwidth slot containing the 8 MHz IF Amplifier is selected, +15 Vdc is supplied to connector pin 15. Resistors R1, R2 and R3 from a voltage divider network to provide a dc voltage at connector pins 11 and 12. Resistor R2 is adjusted to provide the proper bandwidth code to the Digital Control Section and to the AGC Amplifier to indicate that the 8 MHz IF Amplifier is in the active bandwidth slot. Diode CR1 isolates the voltage divider from the bandwidth code lines when the 8 MHz IF Amplifier is not selected.

The input signal entering at connector pin 1 is applied through C1 to a resistive attenuator pad composed of resistors R4, R5 and R6. This resistive pad provides approximately 7 dB of signal attenuation. Attenuated IF signals are capacitively coupled by C4 to connector pin 29 as the 21.4 MHz IF Output.

Capacitors C2 and C3 provide filtering of any ac variations present on the bandwidth select line.

S.5.4 TYPE 726009-X, SWITCHABLE IF BANDWIDTH FILTER AMPLIFIER (A3A9-A3A13)

The Type 726009-X Switchable IF Bandwidth Filter Amplifier is produced in several versions providing IF bandwidths from 3.2 kHz to 300 kHz. Refer to **Figure S-28** for the Type 726009-X, Switchable IF Bandwidth Filter Amplifier schematic diagram.

Each version of the Type 726009-X Switchable IF Bandwidth Filter is identical, with the exception of the band-limiting crystal filters FL1 and FL2, and the values of some of the components. Refer to the **Table 1** on schematic diagram **Figure S-28** for the specific component values for the different IF amplifier versions.

When the IF bandwidth slot containing this subassembly is selected, the decoder on the AGC Amplifier (A3A8) applies +15 Vdc to connector pin 15 to energize the IF subassembly. The input signal from the 2nd Converter is applied from connector of pin 1 to input transformer T1. A voltage divider, composed of R1, R2 and R3, provides a dc level at connector pins 11 and 12 that represents the subassembly's IF bandwidth. This dc level, set by potentiometer R2, is applied to the AGC Amplifier and to the Digital Control Section to determine the IF bandwidth of each filter installed in the selected bandwidth slot. Diode CR1 isolates the voltage divider from the bandwidth code line when this subassembly is not selected. Switching control (BWA/BWB) at connector pin 5 provides switching logic from the Switchable FM Demodulator subassemblies to select the upper (logic "1") or lower (logic "0") IF bandwidth filter. A logic "1" at connector pin 5 turns transistor Q2 on, which in turn grounds Q1 selecting the upper filter when Q3 conducts. A logic "0" selects the lower filter by turning on transistor Q1.

The 21.4 MHz IF signal entering at connector pin 1 is applied to transformer T1. This transformer provides an impedance match between the 2nd Converter and crystal filters FL1 and FL2. These filters band-limit the 21.4 MHz IF signal to the stated bandwidths of this subassembly and apply the band-limited signal through either capacitor C8 or C14 to pin G1 of FET amplifier Q4. Bias for gate 1 of Q4 is provided by the voltage divider formed by R20, R23 and R24. Bias for gate 2 (G2) is provided by the voltage divider formed by R19, R22 and potentiometer R21. Potentiometer R21 provides the gain adjustment of Q4 by varying the bias on gate 2. The output of Q4 is developed across the tuned tank circuit formed by C22, C24, L11 and R28. This tank circuit is center tuned to 21.4 MHz and has a bandwidth greater than that of the crystal filters. Resistor R28 lowers the Q of the tank to widen the bandwidth of the tuned circuit and limit the tank impedance. The value of R28 is selected to provide the proper gain of Q4 with potentiometer R21 (in the gate 2 circuit) providing fine gain adjustment.

The tank circuit output is coupled across C25 to emitter follower Q5. This circuit buffers the output of Q4 and provides a low impedance output at connector pin 29. The 21.4 MHz IF output is developed across R33 and is coupled to the output by C28 and R34. Bias for Q5 is provided to the base of the transistor by the voltage divider formed by R29 and R30.

S.5.5 TYPE 726010-X, SWITCHABLE IF BANDWIDTH FILTER AMPLIFIER (A3A9-A3A13)

The Type 726010-X Switchable IF Bandwidth Amplifier is produced in several versions providing IF bandwidths of from 400 kHz to 10000 kHz. Refer to **Figure S-29** for the Type 726010-X, Switchable IF Bandwidth Filter Amplifier schematic diagram. Each version of the Type 726010-X Switchable IF Bandwidth Filter is identical, with the exception of band-limiting crystal filters FL1 and FL2, and values of some of the components used. Refer to **Table 1** on the schematic diagram for the specific component values for the different IF bandwidth versions.

When the IF bandwidth slot containing this subassembly is selected, the decoder on the AGC Amplifier (A3A8) applies +15 Vdc at connector pin 15 to energize the subassembly. When energized, the input signal from the 2nd Converter is applied to input transformer T1 from connector pin 1. A voltage divider, composed of R16, R17 and R18, provides a dc level to connector pins 11 and 12 that represents the subassembly's IF bandwidth. This dc level is set by potentiometer R17 and is applied to the AGC Amplifier and to the Digital Control Section to determine the bandwidth of each filter installed in the selected IF bandwidth slot. Diode CR9 isolates the voltage divider from the bandwidth code line when this subassembly is not selected. When transistor Q3 conducts, diode CR10 is forward biased and the voltage divider formed by R15, R17 and R18 provides the bandwidth code voltage to connector pins 11 and 12 through diode CR9. When transistor Q1 conducts, diode CR11 is forward biased and the voltage divider formed by R16, R17 and R18 provide the bandwidth code voltage to connector pins 11 and 12 through diode CR9. Logic levels present at connector pin 5 (Switching Control) provide switching logic from the Switchable FM Demodulator subassemblies to select the upper (logic "1") or lower (logic "0") IF bandwidth filters.

A logic "1" at connector pin 5 is used to select the upper filter (FL2). With a logic "1" at connector pin 5, transistor Q2 turns on and grounds the base of transistors Q1 and Q3. This condition turns on Q3 and turns off Q1. When Q3 conducts, the voltage from Q3 is applied through inductors L2 and L3 to forward bias shunt diodes CR2 and CR3 and forward bias series diodes CR5 and CR8. With Q1 cut off, a low voltage from Q1 is applied to shunt diodes CR6 and CR7 and to series diodes CR1 and CR4 reverse biasing them. Under these operating conditions, the IF signal present at connector pin 1 is easily passed through forward biased diode CR5, through the bandpass filter (FL2) and through forward biased diode CR8.

IF signals present at the input of the unselected IF filter path have to first pass through reverse biased diode CR1. Any signals that pass through CR1 are shunted by forward biased diode CR2. If any IF signal is passed through FL1, the filtered output signal is further shunted by forward biased diode CR3. Additional signal attenuation is provided by reverse biased diode CR4. This results in a negligible IF signal level for the unselected IF bandwidth filter.

Applying a logic "0" at connector pin 5 turns off transistor Q2 which also turns off Q3 and turns on Q1. When transistor Q1 conducts, a high voltage from Q1 is applied through inductors L1 and L4 to series diodes CR1 and CR4 and also through inductors L6 and L7 to shunt diodes CR6 and CR7. Under these operating conditions, the IF signal present at connector pin 1 is directed through the FL1 filter signal path and any IF signal applied to the FL2 signal path is greatly attenuated.

After filtering the 21.4 MHz IF signal is applied through either capacitor C8 or C14 to transistor Q4. Bias for Q4 is provided by a voltage divider formed by R19, R20 and R22. The gain of Q4 is adjusted by potentiometer R27 and its output is buffered by the circuitry composed

of C20, R23 and R24. A low impedance output at connector pin 29 is provided via transformer T2 and coupling capacitor C21.

S.5.6 TYPE 794106-X, FM DEMODULATOR (A3A17-A3A21)

Type 794106-X FM Demodulator provides FM demodulation and AM filtering of the received signals. These FM Demodulators can be installed in slots A3A17 through A3A21 of the RF/IF Motherboard. Refer to **Figure S-22** for the Type 794106-X FM Demodulator schematic diagram. With the exception of component values, which determine the bandwidth of these subassemblies, the FM Demodulators are identical. Refer to **Table A** on the schematic diagram for the component value differences for the different type numbers.

The detected AM signal, from the AM Demodulator (A3A16), enters at connector pins 15 and 16 and is supplied to pin 16 of U3. U3 functions as a switch to permit the signal to pass when the bandwidth slot containing this FM Demodulator is selected. When selected, a +15 Vdc switching voltage from the AGC Amplifier (A3A8), is provided to pin 15 of U3, closing the switch contacts between pins 16 and 1. The AM signal is then passed through a low-pass filter composed of L5 and C17 and applied to connector pin 13. This filter has a cutoff frequency equal to one-half of the selected bandwidth, thus limiting the bandwidth of the detected AM signal.

The FM portion of this subassembly is composed of U1, U2 and their associated components. Integrated circuit U1 functions as a FM limiter and quadrature detector, with crystal filter Y1 and inductors L1 and L2 forming the quadrature circuit. U1 compares the phase of the 21.4 MHz IF signal from connector pin 27 with the signal developed across the quadrature circuit and provides a demodulated output which represents the phase deviations about 90°. At the 21.4 MHz center frequency, the phase difference is 90°, with the phase difference shifting above and below 90°, with FM modulation.

The demodulated FM signal is then applied, through buffer U2B, to amplifier U2A. Integrated circuit U2A provides amplification of the detected signal to drive the output stages on the Audio/Video/COR subassembly (A3A15). The gain of this circuit is set to provide a 2 volt peak-to-peak output, at full IF deviation, by the ratio of resistor R14 and potentiometer R15. Resistors R11, R13 and potentiometer R12 provide a dc bias to pin 3 of U2A to adjust the offset of the output. Resistor R12 is adjusted to provide a "0" output at the 21.4 MHz IF center frequency. The low-pass filter at the output of U2A, composed of L4 and C11, filters out any IF component present on the detected video signal.

S.5.7 TYPE 794107-X, FM DEMODULATOR (A3A17-A3A21)

The Type 794107-X FM Demodulator is produced in several versions to provide bandwidths of from 50 kHz to 300 kHz. **Table A** on the schematic diagram lists the different versions of this subassembly. With the exception of component value differences, listed in **Table A** on **Figure S-23**, each Type 794107-X FM Demodulator version is identical. Refer to the schematic diagram **Figure S-23** as a reference for the following circuit description.

The AM portion of this subassembly accepts the detected AM video signal from the AM Demodulator (A3A16) and provides band-limiting through a low-pass filter, composed of L4 and C16. The filter cutoff frequency is set to one-half of the selected IF bandwidth. Integrated circuit U4 functions as a switch to permit the AM video signal to pass only when the slot

containing this subassembly is selected. When selected, +15 Vdc is provided by the AGC Amplifier at connector pin 25, causing the switch contact between pins 16 and 1 to close.

The FM portion of this subassembly is comprised of U1, U2, U3 and their associated components. The 21.4 MHz IF signal enters at connector pins 27 and 28 and is coupled through capacitor C1 to pin 1 of integrated circuit U1. Integrated circuit U1 provides limiting and demodulation of the IF signal to produce the FM video output. The tank circuit, comprised of R2, C6, C7, C18 and L2, is tuned to 21.4 MHz and is connected in series with inductor L7 to provide the required phase shifted signals to the quadrature detector contained in U1. At the 21.4 MHz center frequency the tank circuit appears as a pure resistance, causing a 90° phased shifted signal to be applied to pin 9 of U1. The IF signal and the 90° phase shifted signal produce a "0" output from the detector. As the IF signal shifts above and below 21.4 MHz, due to FM modulation, the signal phase at pin 9 shifts above and below 90° causing the detector to produce an output equal to the FM modulation. This demodulated output is then applied to output amplifier U3, through buffer U2. U2 provides a voltage gain that is determined by the ratio of resistor R10 and potentiometer R11. Gain of U3 is set by R11 to produce a 2 volt peak-to-peak signal at the output when the FM modulation is equal to the bandwidth of the FM demodulator. A voltage divider formed by R13, R15 and potentiometer R14 provides bias at pin 3 of U3 to adjust the offset of the output signal. From U3, the signal is directed to connector pin 1 through a low-pass filter composed of L3 and C12. This filter removes any residual 21.4 MHz IF component from the demodulated signal.

S.5.8 TYPE 794104-X, FM DEMODULATOR (A3A17-A3A21)

The Type 794104-1 and Type 794104-2 FM Demodulators provide FM demodulation and AM video filtering for IF bandwidths of 1 MHz and 500 kHz, respectively. These subassemblies can be installed into slots A3A17 through A3A21 of the RF/IF Motherboard. Refer to **Figure S-26** for the Type 794104-X FM Demodulator schematic diagram.

The IF input applied to this subassembly enters at connector pin 27 and is coupled through capacitor C1 to integrated circuit U1. U1 is a high gain, wideband amplifier which provides an overdriven output clipping AM variations from the IF signal. The supply voltage for U1 is provided by diodes VR1 and VR2 which combine to drop the +15 Vdc input to approximately +6.5 Vdc.

From limiter U1, the clipped signal is applied through load resistor R2 to a Foster-Seeley discriminator. The primary of transformer T1, L1, R5, and capacitors C6 through C8 form a tank circuit that is tuned to 21.4 MHz by capacitor C8. Capacitor C9 couples and phase shifts a portion of the primary signal to the secondary circuit of T1 for summing with the signal coupled across the transformer. The secondary circuit of T1 is tuned to 21.4 MHz by the secondary of T1, C12, C14 and the adjustment of C10. The secondary circuit senses the phase difference as the FM modulated signal deviates about the IF center frequency. In the secondary circuit, an amplitude-varying signal is created whose amplitude varies with frequency shift. This amplitude varied signal is detected by diodes CR1 and CR2 and is then developed across resistors R7 and R8. Capacitor C15 filters out any IF component from the detected signal.

The detected video signal from the FM discriminator is applied through resistor R11 to output amplifier, U2. Resistors R10, R12, R13, R14 and potentiometer R9 form a voltage divider to provide the bias voltage at pin 2 of U2. Potentiometer R9 adjusts the offset at the output of U2 to provide a "0" output at the 21.4 MHz IF center frequency. Resistor R15 and potentiometer R16 set the gain of U2 to provide the proper peak-to-peak output signal level. At

the output of U2, a low-pass filter, comprised of L7 and C21 eliminates any residual IF component and high frequency noise from the output signal.

The AM video signal provided by the AM Demodulator (A3A16) enters this subassembly at connector pin 15. This signal is developed across R18 and is applied to pin 16 of U3. The +15 Vdc BW SEL input from the AGC Amplifier (A3A8) causes U3 to switch on when this subassembly is selected, providing a signal path out of U3 pin 1. Inductor L4 and capacitor C22 comprise a low-pass filter to limit the bandwidth of the video signal. The cutoff frequency of this low-pass filter is equal to one-half of the selected IF bandwidth.

S.5.9 TYPE 794105-X, FM DEMODULATOR (A3A17-A3A21)

Type 794105-X FM Demodulator subassemblies can be installed in slots A3A17 through A3A21 on the RF/IF Motherboard. These subassemblies are identical, except for the component values indicated in **Table 1** on the schematic diagram. Refer to **Figure S-27** for the Type 794105-X, FM Demodulator schematic diagram.

The IF signal is applied to this subassembly at connector pin 27 and is coupled across C15 to amplifier U1. This high gain amplifier provides an overdriven output that clips any AM variation from the IF signal. The supply voltage for U1 is provided through VR1, which drops the +15 Vdc input to approximately +10 Vdc. This voltage is supplied to pin 10 of U1 to provide the operating voltage, and to U1 pin 5, to provide the collector supply voltage for the output.

From the output of U1, the IF signal is applied to a Foster-Seeley discriminator. The primary of transformer T1, L1, C9 and C2 form a tank circuit tuned to 21.4 MHz by capacitor C2. Capacitor C5 couples and phase shifts the primary signal and supplies the phase shifted signal to the secondary circuit of T1 for summing with the signal coupled across the transformer. The secondary circuit of T1 (tuned to 21.4 MHz by the secondary winding of T1, C6, C7 and C10) senses the phase difference as the modulated signal deviates about the IF center frequency, due to FM modulation. In the secondary circuit, an amplitude-varied signal is created, whose amplitude varies with the frequency shift. This signal is detected by diodes CR1 and CR2 and is developed across resistors R4 and R5. Capacitor C8 functions as a filter capacitor to remove any residual IF component from the detected signal.

The detected video signal from the FM discriminator is applied across resistor R2 to output amplifier U2. A voltage divider, formed by R6, R8, R12, R13 and potentiometer R14, provides a dc bias voltage at the inverting input of U2 to adjust the dc offset at the output of the amplifier. Potentiometer R9 adjusts the amplifier gain to provide the proper peak-to-peak output signal amplitude. At the output of U2, the low-pass filter comprised of L3 and C11 provides additional filtering to eliminate residual IF components and high frequency noise.

The AM video signal, provided by the AM Demodulator (A3A16) enters the FM Demodulator at connector pin 15. This signal is developed across resistor R10 and is then applied to pin 16 of U3. The +15 Vdc BW SEL input supplied by the AGC Amplifier (A3A8) causes U3 to switch on when this subassembly is selected, providing a signal path through U3 to the output. Inductor L4 and capacitor C12 comprise a low-pass filter with a cutoff frequency equal to one-half of the selected IF bandwidth. This filter limits the bandwidth of the AM video signal to the proper frequency range.

S.5.10 TYPE 796354-X, SWITCHABLE FM DEMODULATOR (A3A17-A3A21)

The Type 796354-X Switchable FM Demodulator can be installed in slots A3A17 through A3A21 on the RF/IF Motherboard. This demodulator subassembly is produced in several versions and provides bandwidths from 3.2 kHz to 50 kHz. Refer to **Figure S-30** for the Type 796354-X Switchable FM Demodulator schematic diagram. **Table 1** on the schematic diagram lists the component values that are different on the various versions of this subassembly.

The detected AM signal from the AM Demodulator (A3A16) enters at connector pins 15 and 16 and is applied to pin 16 of U2. U2 functions as a switch permitting the signal to pass when the bandwidth slot containing this FM Demodulator is selected. When selected, a +15 Vdc switching voltage, provided by the AGC Amplifier (A3A8), is applied to pin 15 of U2 causing the switch contact between pins 16 and 1 to close. The AM signal is then applied to output connector pin 13 through analog switch U5. A logic "0" from the Digital Control Section applied to connector pin 7 selects the narrow bandwidth and a low-pass filter composed of L6 and C17. A logic "1" selects the wide bandwidth through U5 and a low-pass filter composed of L7 and C18. These filters limit the bandwidth of the detected AM signal to one-half of the selected bandwidth.

The FM portion of this subassembly is composed of U1, U3 and their associated components. Integrated circuit U1 functions as a FM limiter and quadrature detector, with crystal filter Y1 and inductors L1 and L3 forming the quadrature circuit. U1 compares the phase of the 21.4 MHz IF signal with the signal developed across the quadrature circuit and provides a demodulated output which represents the phase deviations about 90°. At the 21.4 MHz center frequency, the phase difference is 90°. This phase difference shifts above and below 90° accordingly with the FM modulation. The demodulated FM signal is then applied through buffer U3B to amplifier U3A. Integrated circuit U3A provides amplification of the detected signal to drive the output stages in the Audio/Video/COR subassembly (A3A15). Amplifier gain is set to provide a 2 volt peak-to-peak output at full IF deviation by the ratio of resistor R16 and potentiometer R17. Resistors R13, R15 and potentiometer R14 provide a dc bias to pin 3 of U3A to adjust the offset of the output. R14 is adjusted to provide a "0" output at the 21.4 MHz IF center frequency. The low-pass filters (L4 and C13 - for logic "0" at connector pin 7 or L5 and C14 - for a logic "1" at connector pin 7) filter out any IF component present on the detected video signal.

S.5.11 TYPE 796355-X, SWITCHABLE FM DEMODULATOR (A3A17-A3A21)

The Type 796355-X Switchable FM Demodulator can be installed in slots A3A17 through A3A21 on the RF/IF Motherboard. This demodulator subassembly is produced in several versions and have bandwidths from 50 kHz to 300 kHz. Refer to **Figure S-31** for the Type 796355-X Switchable FM Demodulator schematic diagram. Component differences between the different version type numbers are listed in **Table 1** on the schematic diagram.

The AM portion of this subassembly accepts the detected AM video signal from the AM Demodulator (A3A16) and provides band-limiting through a low-pass filter, composed of L8 and C16 for the narrow bandwidth (for a logic "0" at connector pin 7) and L9 and C17 for the wider bandwidth (for a logic "1" at connector pin 7). The bandwidth is selected by the control signal logic level applied to analog switch U5 from connector pin 7. The filter cutoff frequency is set to one-half of the selected IF bandwidth. Integrated circuit U3 functions as a switch, permitting the AM video signal to pass only when the slot containing this subassembly is selected. When selected, +15 Vdc is provided by the AGC Amplifier at connector pin 25, to close the switch contacts between pins 16 and 1. This provides an AM signal at pins 3 and 4 of digital switch U5.

A logic "0" at connector pin 7 provides a signal path through low-pass filter L8 and C16. A logic "1" at pin 7 provides a signal path through L9 and C17. These filters limit the AM bandwidth to one-half the selected bandwidth.

The FM portion of this subassembly is composed of U1, U2A, U2B, U4 and their associated components. The 21.4 MHz IF signal enters at connector pins 27 and 28 and is coupled through C1 to integrated circuit U1. Integrated circuit U1 provides limiting and demodulation of the IF signal to produce the FM video output. A tank circuit, composed of R4, C6, C9, C8 and L3, is tuned to 21.4 MHz and is connected in series with L1 providing the required phase shifted signals to the quadrature detector, contained in U1. At the 21.4 MHz center frequency, the tank circuit appears as a pure resistance, causing a 90° phase shifted signal to be present at pin 9 of U1. The IF signal and the 90° phase shifted signal produce a "0" output from the quadrature detector. As the IF signal shifts above and below 21.4 MHz, due to FM modulation, the signal phase at pin 9 shifts above and below 90° causing the detector to produce an output equal to the FM modulation. This demodulated output is then applied to output amplifier U2B, through buffer U2A. U2A provides a voltage gain that is determined by resistor R12 and potentiometer R13. The gain is set by R13 to produce a 2 volt peak-to-peak signal at the output when the FM modulation is equal to the bandwidth of the FM demodulator. A voltage divider formed by resistors R14, R16 and potentiometer R15 provides bias at pin 3 of U2B to adjust the offset of the output signal. From U2B, the signal is applied to the output through a low-pass filter composed of L4 and C12 for the narrow bandwidth or L5 and C13 for the wide bandwidth. Filter selection is controlled by the signal level applied to analog switch U4, at connector pin 7. The low-pass filter removes any residual 21.4 MHz IF component from the demodulated signal.

S.5.12 TYPE 796356-X, SWITCHABLE FM DEMODULATOR (A3A17-A3A21)

The Type 796356-X Switchable FM Demodulator can be installed in slots A3A17 through A3A21 on the RF/IF Motherboard. This demodulator subassembly is produced in several versions having bandwidths from 250 kHz to 1000 kHz. Refer to **Figure S-32** for the Type 796356-X Switchable FM Demodulator schematic diagram. **Table 1** on the schematic lists the component differences between the different versions.

The IF input to this subassembly enters at connector pin 27 and is coupled through capacitor C4 to integrated circuit U1. U1 is a high gain, wideband amplifier that provides an overdriven output in order to clip any AM variations from the IF signal. The supply voltage for U1 is applied through diodes VR1 and VR2 which drop the +15 Vdc input to approximately +6.5 Vdc.

From limiter U1, the clipped signal is applied to a Foster-Seeley discriminator. The primary of transformer T1, L3, R3, C9, C11 and C12 form a tank circuit, tuned to 21.4 MHz by capacitor C12. Capacitor C13 couples and phase shifts a portion of the primary signal to the secondary circuit of T1 for summing with the signal coupled across the transformer. The secondary circuit of T1 (tuned to 21.4 MHz by the secondary of T1, and capacitors C16, C17 and C15) senses the phase difference as the FM modulated signal deviates about the IF center frequency. In the secondary circuit, an amplitude-varying signal is created whose amplitude varies with frequency shift. This amplitude varied signal is then detected by diodes CR1 and CR2 and is developed across R7 and R8. Capacitor C18 filters out any remaining IF component from the detected signal.

The detected video signal from the FM discriminator is coupled across R14 to pin 2 of the output amplifier U2. Resistors R9, R11, R12 and potentiometer R10 form a voltage divider providing bias at pin 2 of U2. The adjustment of R10 varies the offset at the output to

provide a "0" output at the 21.4 MHz IF center frequency. Resistor R13 and potentiometer R16 set the gain of U2 to provide the proper peak-to-peak output signal level. At the output of U2, a low-pass filter composed of L5 and C22 for the narrow bandwidth (for a logic "0" at connector pin 7) or L6 and C23 for the wider bandwidth (for a logic "1" at connector pin 7) eliminates any residual IF component and high frequency noise from the output signal. The bandwidth is selected by the control signal logic level applied to analog switch U4 from connector pin 7.

The AM video signal provided by the AM Demodulator (A3A16) enters this subassembly at connector pin 15. This signal is developed across R15 and is applied to pin 16 of U3. The +15 Vdc BW SEL input from the AGC Amplifier (A3A8) causes U3 to close the switch contacts when this subassembly is selected, providing a signal path out of U3, pin 1. A low-pass filter composed of L7 and C24 for the narrow bandwidth (logic "0") or L8 and C25 for the wide bandwidth (logic "1") limits the bandwidth of the video signal. The cutoff frequency of this filter is equal to one-half of the selected IF bandwidth. The bandwidth is selected by the control signal logic level applied to analog switch U5 at connector pin 7.

S.5.13 TYPE 796357-X, SWITCHABLE FM DEMODULATOR (A3A17-A3A21)

The Type 796357-X Switchable FM Demodulator can be installed in slots A3A17 through A3A21 on the RF/IF Motherboard. This demodulator subassembly is produced in several versions having bandwidths from 1000 kHz to 10000 kHz. Refer to **Figure S-33** for the Type 796357-X Switchable FM Demodulator schematic diagram. **Table 1** on the schematic diagram lists the component value differences for each version of this FM demodulator type.

The IF input signal enters this subassembly at connector pin 27 and is coupled across capacitor C3 to amplifier U1. This high gain amplifier provides an overdriven output that clips any AM variation from the IF signal. The supply voltage for U1 is provided through VR1, which drops the +15 Vdc input to approximately +10 Vdc. This voltage is supplied to U1 pin 10, providing the operating voltage, and to U1 pin 5, through T1, L3 and R2 providing the collector supply for the output circuitry of U1.

From the output of U1, the IF signal is applied to a Foster-Seeley discriminator. The primary of transformer T1, L3 and C8 form a tank circuit tuned to 21.4 MHz by the adjustment of capacitor C8. Capacitor C9 couples and phase shifts the primary signal and supplies the phase shifted signal to the secondary circuit of T1 for summing with the signal coupled across the transformer. The secondary circuit of T1 tuned to 21.4 MHz, by the secondary winding of T1, C11 and C12, senses the phase difference as the modulated signal deviates about the IF center frequency, due to FM modulation. In the secondary circuit, an amplitude-varied signal is created, whose amplitude varies with the frequency shift. This signal is detected by diodes CR1 and CR2 and is developed across resistors R4 and R5. Capacitor C13 functions as a filter capacitor to remove any residual IF component from the detected signal.

The detected video signal from the FM discriminator is coupled across resistor R12, to pin 3 of output amplifier U2. A voltage divider formed by R6, R8, R9 and potentiometer R7 provides a dc bias voltage at the inverting input of U2 to adjust the dc offset at the amplifier output. Potentiometer R11 adjusts the amplifier gain to provide the proper peak-to-peak output signal amplitude. At the output of U2, the low-pass filter composed of L5 and C17 for the narrow bandwidth (for a logic "0" at connector pin 7) or L6 and C18 for the wide bandwidth (for a logic "1" at connector pin 7) provides additional filtering to eliminate residual IF components and high frequency noise. The FM bandwidth is selected by the control signal logic level applied to analog switch U4 from connector pin 7.

The AM video signal, from the AM Demodulator (A3A16), enters this subassembly at connector pin 15. This signal is applied to pin 16 of switch U3. The +15 Vdc BW SEL input, supplied by the AGC Amplifier (A3A8), causes U3 to close the switch contacts on when this subassembly is selected, providing a signal path through U3 to switch U5. The low-pass filter composed of L7 and C19 for the narrow bandwidth (logic "0") or L8 and C20 for the wide bandwidth (logic "1") provides a cutoff frequency equal to one-half of the selected FM bandwidth. These filters limit the bandwidth of the AM video signal to the proper frequency range.

S.6 PERFORMANCE TESTS

S.6.1 IF AMPLIFIER PERFORMANCE TESTS

1. Connect the test equipment as illustrated in **Figure S-1.**

2. Set the receiver to the standard test setting described in **Table S-2,** except tune the receiver to 80.0000 MHz and select AGC off.

3. Adjust the signal generator for a 80.0000 MHz CW signal, with the output set to minimum. Set the TF-10141 attenuator for a 3 dB loss.

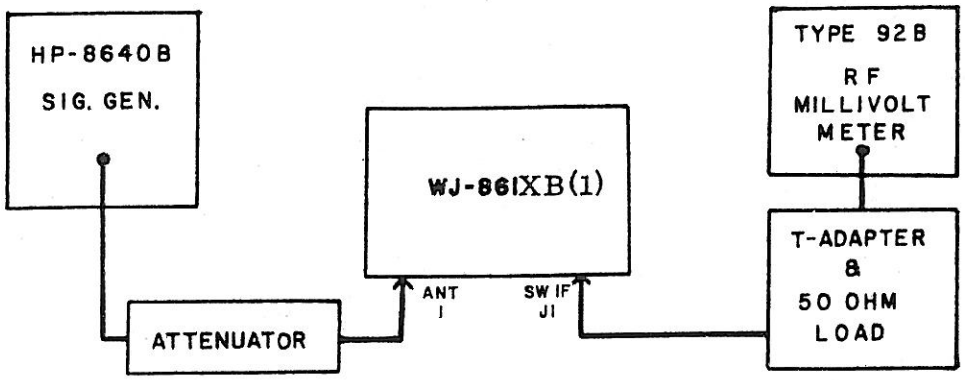

Figure S-1. Amplifier Performance Test, Equipment Connections

Table S-2. Standard Receiver Test Settings

Front Panel	
FREQUENCY	255.5550 MHz
DETECT MODE	AM
AGC	ON
BANDWIDTH	75 kHz (medium)
TUNING RATE	Disabled
AFC	OFF
AUDIO GAIN	Midrange
RF/IFF GAIN	Fully CW
MEMORY SELECT	00
COR LEVEL	00
DWELL	Fully CW
Antenna Selection	ANT 1 (ANT 2 OFF)
Operating Mode	Manual (Local Control)
Rear Panel	
REF SEL (S2)	INT
FL1 S1	120V (or nearest to local line voltage)
LINE AUDIO (R3)	Midrange

4. Increase the signal generator output level (as required) to produce a -30 dBm indication on the Type 92B RF Millivoltmeter.

5. Set the attenuator to 0 dB and increase the signal generator frequency until the RF millivoltmeter again reads -30 dBm. Note the generator frequency.

6. Decrease the signal generator frequency, past 80.0000 MHz, until the millivoltmeter again reaches -30 dBm. Note the generator frequency.

7. Compute the 3 dB bandwidth by subtracting the frequency reading obtained in step 6 from that obtained in step 5. The computed bandwidth should equal the selected bandwidth ±10%.

8. Set the generator frequency for 80.0000 MHz and adjust the output for -30 dBm on the millivoltmeter.

9. Tune the receiver across the IF passband while observing the level variations above and below the -30 dBm reference. The level variations should be no greater than 2.0 dB peak-to-peak.

10. Select the #2 bandwidth and repeat steps 3 through 9.

11. Select the #3 bandwidth and repeat steps 3 through 9.

12. Select the #4 bandwidth and repeat steps 3 through 9.

13. If a 5th IF bandwidth is used, select bandwidth #5 and repeat steps 3 through 9.

14. If the results in steps 3 through 12 are incorrect for any of the selected bandwidths, place the suspected subassembly into a normally operating IF Amplifier slot and retest. If the results are still abnormal, replace the IF Amplifier.

S.6.2 FM DEMODULATOR PERFORMANCE TEST

1. Connect the test equipment as illustrated in **Figure S-2.**

2. Set the receiver to the standard test setting described in **Table S-2,** except, select FM Detection and the #1 bandwidth.

3. Adjust the signal generator to produce a 255.5550 MHz CW signal at an output level of -45 dBm. Set the DVM to measure dc voltage.

4. Observe the dc voltage offset displayed on the DVM. This voltage should be 0.00 ±.20 Vdc.

5. Increase the signal generator frequency by exactly one-half of the selected IF bandwidth and observe the dc voltage reading on the DVM. This voltage should read -2.00 ±.20 Vdc, ± the offset observed in step 4.

6. Return the signal generator frequency to 255.5550 MHz and then decrease the frequency by exactly one-half of the selected IF bandwidth. The voltage displayed on the DVM should read +2.00 ±.20 Vdc, ± the offset observed in step 4.

7. Select IF bandwidth #2 and repeat steps 3 through 6.

8. Select IF bandwidth #3 and repeat steps 3 through 6.

9. Select IF bandwidth #4 and repeat steps 3 through 6.

10. Select IF bandwidth #5 (if used) and repeat steps 3 through 6.

11. If the results obtained in steps 3 through 10 are incorrect for any of the selected IF bandwidths, place the suspected FM Demodulator into one of the normally operating FM Demodulators. (The IF Amplifier associated the suspected bandwidth must also be exchanged.) Retest the subassembly in the new location.

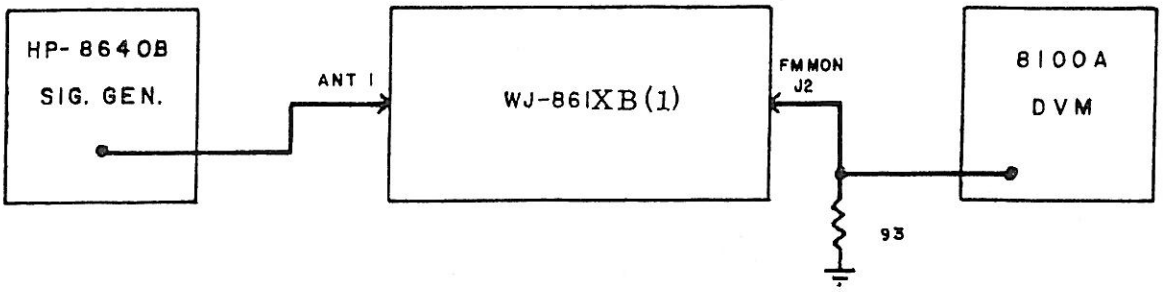

Figure S-2. FM Demodulator Performance Test, Equipment Connections

12. If the results are still abnormal and the IF Amplifier checks normal, per **paragraph S.6.1**, replace the FM Demodulator.

S.6.3 SWITCHABLE IF FILTER AMPLIFIER PERFORMANCE TESTS

1. Connect the test equipment as illustrated in **Figure S-1** of this appendix.

2. Set the receiver to the standard test setting described in **Table S-2**, except tune the receiver to 80.0000 MHz and select AGC off.

3. Adjust the signal generator for a 80.0000 MHz CW signal, with the output level set to minimum. Set the TF-10141 attenuator for a 3 dB loss.

4. Increase or decrease the signal generator output level to produce a -30 dBm indication on the RF millivoltmeter.

5. Set the attenuator to 0 dB and increase the signal generator frequency until the RF millivoltmeter again reads -30 dBm. Note the generator frequency.

6. Decrease the signal generator frequency past 80.0000 MHz until the millivoltmeter again reaches -30 dBm. Note the generator frequency.

7. Compute the 3 dB bandwidth by subtracting the frequency reading obtained in step 4 from that obtained in step 5. The computed bandwidth should equal the selected bandwidth ±10%.

8. Set the generator frequency for 80.0000 MHz and adjust the output for -30 dBm on the millivoltmeter.

9. Tune the receiver across the IF passband while observing the level variations above and below the -30 dBm reference. The level variations should be no greater than 2.0 dB peak-to-peak.

10. Select each of the other nine IF bandwidths and repeat steps 3 through 9.

11. If the results in steps 3 through 10 are incorrect for any of the selected bandwidths, place the suspected subassembly into a normally operating Switchable IF Filter Amplifier slot and retest. If the results are still abnormal, replace the Switchable IF Filter Amplifier.

S.6.4 SWITCHABLE FM DEMODULATOR PERFORMANCE TESTS

1. Connect the test equipment as illustrated in **Figure S-2.**

2. Set the receiver to the standard test setting described in **Table S-2,** except select FM Detection and the #1 bandwidth.

3. Adjust the signal generator to produce a 255.5550 MHz CW signal at an output level of -45 dBm. Set the digital voltmeter (DVM) to measure dc voltage.

4. Observe the dc voltage offset displayed on the DVM. This voltage should be 0.00 ±.10 Vdc.

5. Increase the signal generator frequency by exactly one-half of the selected IF bandwidth and observe the dc voltage reading on the DVM. This voltage should read -1.00 ±.20 Vdc, ± the offset observed in step 4.

6. Return the signal generator frequency to 255.5550 MHz and decrease the frequency by exactly one-half of the selected IF bandwidth. The voltage displayed on the DVM should read +1.00 ±.20 Vdc, ± the offset observed in step 4.

7. Select each of the other nine IF bandwidths and repeat steps 3 through 6.

8. If the results obtained in steps 3 through 7 are incorrect for any of the selected IF bandwidths, place the suspected Switchable FM Demodulator into one of the normally operating Switchable FM Demodulator slots. (The Switchable IF Filter Amplifier associated with the suspected bandwidth must also be exchanged.) Retest the subassembly in the new location.

9. If the results are still abnormal and the Switchable IF Filter Amplifier checks normal, replace the Switchable FM Demodulator.

S.7 ALIGNMENT PROCEDURES

S.7.1 IF AMPLIFIER (A3A9-A3A13), ALIGNMENT

1. Remove the 2nd Converter (A3A7) and the AM Demodulator (A3A16) from their respective slots on the RF/IF Motherboard. Remove the IF Amplifiers installed in slots XA9 through XA13.

2. Insert the appropriate extender card into the XA9 slot of the RF/IF Motherboard and install the IF Amplifier into the extender. Select the #1 IF Bandwidth pushbutton on the receiver front panel.

3. Set the generator to sweep about a 21.4 MHz center frequency, with a bandwidth 20% greater than the IF Amplifier under test.

4. Connect the test equipment as illustrated in **Figure S-3** except, connect the attenuator output to the input of the 50Ω detector.

5. Set the attenuator to 0 dB and set the generator to sweep about a 21.4 MHz center frequency, with a sweep width at least 20% greater than the IF Amplifier under test. Adjust the sweep generator output and the oscilloscope to provide a convenient reference on the CRT.

6. Connect the test equipment as illustrated in **Figure S-3** with the attenuator set to compensate for the gain of the selected IF Amplifier module. Vary the attenuator setting and the signal generator output as required to return the detected display to the reference level set in step 5.

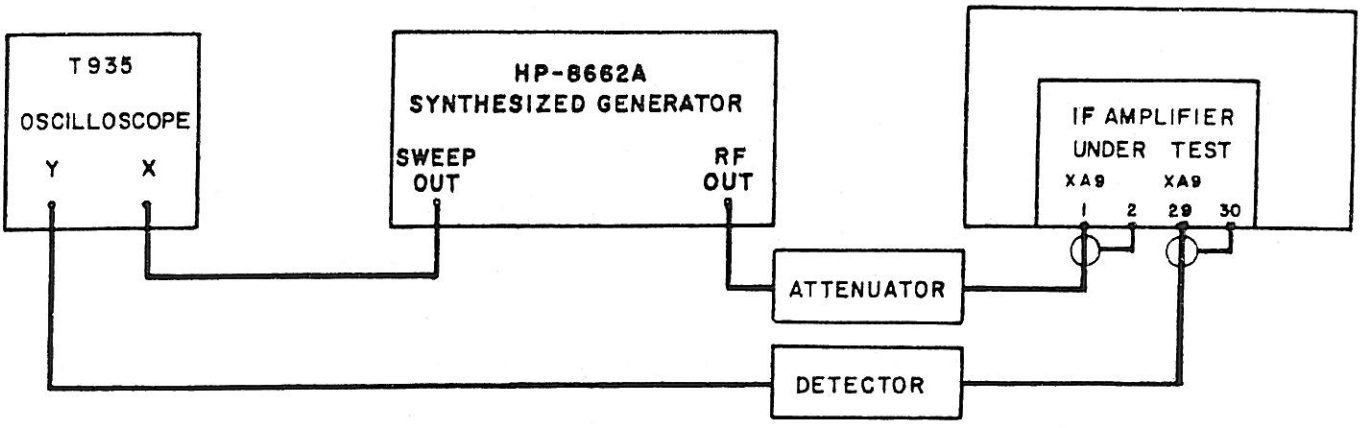

Figure S-3. IF Amplifier Alignment, Equipment Connections

Table S-3. IF Amplifier Response Characteristics

IF Bandwidth Type	3 dB Bandwidth (in kHz)	IF BW Code (Vdc)	Decimal BW Code	Gain Typical (in dB)
724006-22	1.5	0.250	4 - 10	+22
724006-16	3.2	4.500	114 - 127	+22
724006-23	4.0	0.750	17 - 23	+22
724006-18	6.4	0.500	11 - 16	+22
724006-1	10	1.000	24 - 30	+22
724006-21	15	1.500	37 - 43	+20
724006-2	20	2.000	51 - 56	+19
724006-17	25	2.250	57 - 63	+18
724006-10	30	2.500	64 - 70	+17
724006-8	40	2.750	71 - 76	+16
724006-3	50	3.000	77 - 84	+15
724006-24	60	3.250	85 - 91	+14
724006-9	75	3.500	92 - 99	+13
724006-4	100	4.000	100 - 113	+12
724006-25	150	1.750	44 - 50	+10
724006-5	250	5.000	128 - 140	+8
724006-6	300	5.500	141 - 154	+7
724006-20	400	6.500	169 - 181	+6
726013-1	500	6.000	155 - 168	+5
726013-2	1000	7.000	182 - 195	+2
726013-3	2000	8.000	209 - 221	-1
726013-4	4000	9.000	236 - 248	-4
796337-1	8000	8.500	222 - 235	-7
796726-1	10000	9.500	249 - 255	-8

S.7.2 FM DEMODULATOR (A3A17-A3A21), ALIGNMENT

1. Remove the AM Demodulator (A3A16) from Slot XA16 on the RF/IF Motherboard.

2. Connect the test equipment as illustrated in **Figure S-4**, with the sweep generator RF output connected between pin 1 (signal) and pin 2 (shield) of connector XA16. Connect the sweep generator demodulator input at terminal E1 of the FM Demodulator under test.

3. Select the IF bandwidth corresponding to the FM Demodulator to be tested and set the sweep about the 21.4 MHz IF center frequency with a bandwidth slightly greater than the bandwidth of the FM Demodulator under test. Activate the 21.4 MHz marker on the sweep generator.

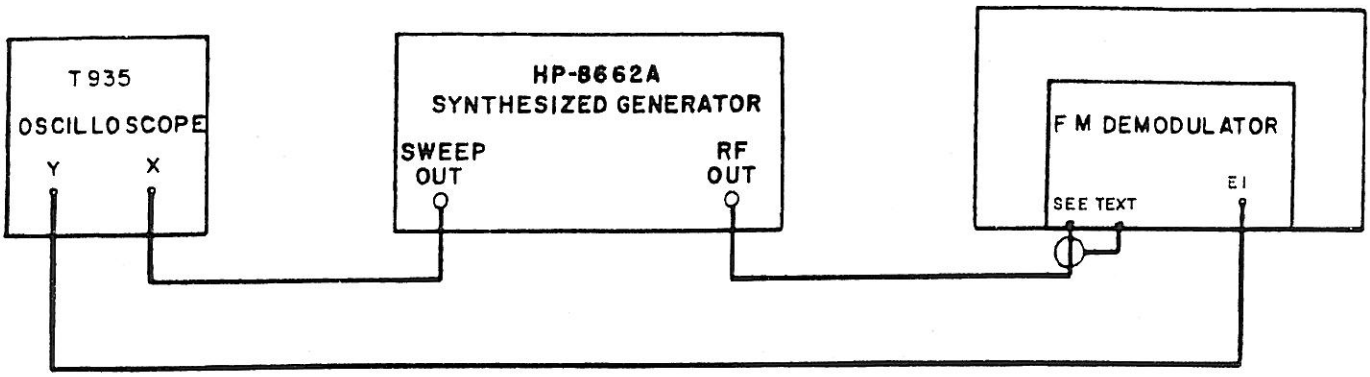

Figure S-4. FM Demodulator Alignment, Equipment Connections

4. Adjust the oscilloscope and sweep generator controls to display an "S" curve as illustrated in **Figure S-5.**

5. For the FM Demodulator under test, adjust the tuning components listed below for the straightest possible line (most linear) extending from the upper and lower band-edges of the FM Demodulator response, with the 21.4 MHz marker at the zero crossing point on the response.

FM Demodulator	Tuning Components
794106-X	L1, L2
794107-X	C18
794104-X	C8, C10
794105-X	C2, C6

6. Disconnect the demodulator input of the sweep generator from terminal E1 of the FM Demodulator and set the generator to produce a fixed 21.4000 MHz output frequency.

7. Connect the DVM to pin 1 of the FM Demodulator under test.

8. For the FM Demodulator under test, adjust the offset potentiometer listed in **Table S-4** for a DVM reading of 0 ±.1 Vdc.

9. Increase the generator output frequency by exactly one-half of the IF Bandwidth. Adjust the gain potentiometer listed in **Table S-4** for a DVM reading of -1.00 ±.10 Vdc (± any offset observed in step 8).

Table S-4. FM Offset and Gain Adjustments

FM Demodulator	Offset Adjustment	Gain Adjustment
794106-X	R12	R15
794107-X	R14	R11
794104-X	R9	R16
794105-X	R14	R9

10. Decrease the generator output frequency to exactly one-half of the IF Bandwidth below the 21.4 MHz center frequency and observe the reading on the DVM. This level should be +1.00 ±.10 Vdc (± any offset observed in step 8).

11. Repeat steps 6 through 10, as required, to obtain a 0 ±.1 Vdc offset at 21.4 MHz and ±1.00 ±.05 Vdc at the band-edge frequencies.

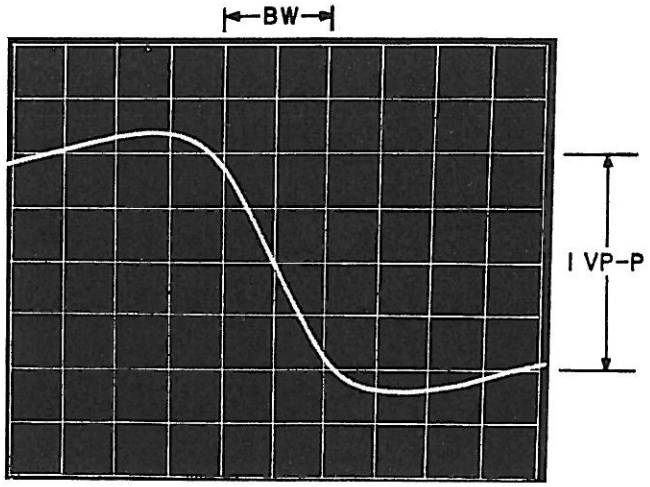

Figure S-5. FM Demodulator "S" Curve

S.7.3 SWITCHABLE IF FILTER AMPLIFIER (A3A9-A3A13), ALIGNMENT

1. Remove the 2nd Converter (A3A7) and the AM Demodulator (A3A16) from their respective slots on the RF/IF Motherboard. Remove the Switchable IF Filter Amplifiers (A3A9 through A3A13) installed in slots XA9 through XA13.

2. Insert the appropriate extender card into the XA9 slot of the RF/IF Motherboard and install the Switchable IF Filter Amplifier into the extender. Select the #1 IF bandwidth position on the receiver front panel.

3. Set the generator to sweep about a 21.4 MHz center frequency, with a bandwidth 20% greater than the switchable IF filter amplifier under test.

4. Connect the test equipment as illustrated in **Figure S-3,** except connect the attenuator output to the input of the 50Ω detector.

5. Set the attenuator to 0 dB. Adjust the sweep generator output and the oscilloscope to produce a convenient reference on the CRT.

6. Connect the detector and attenuator as illustrated in **Figure S-3** and increase the attenuator setting to the dB level listed in the Gain column of **Table S-3,** corresponding to the Switchable IF Filter Amplifier under test.

7. For the Type 726009-X Switchable IF Filter Amplifiers, adjust C24 for the best overall response. Adjust R21 to set the response amplitude equal to within ±1 dB of the reference set in step 5. Connect the DVM between connector pin 12 and ground and adjust R2 to provide the proper IF BW code as indicated in **Table S-3.**

8. For the Type 726010-X Switchable IF Filter Amplifiers, adjust R27 to set the response amplitude equal to within ±1 dB of the reference set in step 5. Connect the DVM between connector pin 12 and ground and adjust R17 to provide the proper IF BW code as indicated in **Table S-3.**

9. Disconnect the test equipment and reinstall the Switchable IF Filter Amplifiers, the 2nd converter and the AM demodulator into their respective slots on the RF/IF Motherboard.

S.7.4 SWITCHABLE FM DEMODULATOR (A3A17 THROUGH A3A21), ALIGNMENT

1. Remove the AM Demodulator (A3A16) from the XA16 slot on the RF/IF Motherboard.

2. Connect the test equipment as illustrated in **Figure S-4,** with the sweep generator RF output connected between pin 1 (signal) and pin 2 (shield) of connector XA16. Connect the sweep generator demodulator input at connector pin 1 of J1 on the Switchable FM Demodulator under test.

3. Select the IF bandwidth corresponding to the Switchable FM Demodulator to be tested and set the sweep about a 21.4 MHz IF center frequency with a bandwidth slightly greater than the bandwidth of the Switchable FM Demodulator under test. Activate the 21.4 MHz marker on the sweep generator.

4. Adjust the oscilloscope and sweep generator controls to display a positive slope "S" curve on the CRT.

5. For the Switchable FM Demodulator under test, adjust the tuning components listed below for the straightest possible line (most linear) extending from the upper and lower band-edges of the Switchable FM Demodulator response, with the 21.4 MHz marker at the zero crossing point on the response.

Switchable FM Demodulator	Tuning Components
796354	L1, L3
796355	C8
796356	C12, C15
796357	C8, C11

6. Disconnect the demodulator input of the sweep generator from J1 pin 1 of the Switchable FM Demodulator and set the generator to produce a fixed 21.40000 MHz output frequency.

7. Connect the DVM to pin 1 of the Switchable FM Demodulator under test.

8. For the Switchable FM Demodulator under test, adjust the offset potentiometer listed as follows for a DVM reading of 0 ±.1 Vdc.

Switchable FM Demodulator	Offset Adjustments	Gain Adjustments
796354	R14	R17
796355	R15	R13
796356	R10	R16
796357	R7	R11

9. Increase the generator output frequency by exactly one-half of the IF bandwidth. Adjust the gain potentiometer listed in step 8 for a DVM reading of -1.00 ±.10 Vdc (± any offset noted in step 8).

10. Decrease the generator output frequency to exactly one-half of the IF bandwidth below the 21.4 MHz center frequency and observe the reading on the DVM. This level should be +1.00 ±.10 (± any offset listed in step 8).

11. Repeat steps 6 through 10 as required, to obtain a 0 ±.1 Vdc offset at 21.4 MHz and +1.00 ±.05 Vdc at the band-edge frequencies.

S.8 REPLACEMENT PARTS LIST

S.8.1 LIST OF MANUFACTURERS

Mfr. Code	Name and Address
02735	RCA Corporation Rt. 202 Somerville, NJ 08876
04213	Caddell-Burns Mfg. Co., Inc. 40 E. Second Street Mineola, NY 11501
04713	Motorola, Inc. 5005 East McDowell Road Phoenix, AZ 80058
07263	Fairchild Camera & Instr., Corp. 464 Ellis Street Mountain View, CA 94040
09021	Airco Electronics, Inc. Bradford, PA 17055
14632	Watkins-Johnson Company 700 Quince Orchard Road Gaithersburg, MD 20878
15542	Mini-Circuits Laboratory 2913 Quintin Road Brooklyn, NY 11229
17217	Gore W. L. & Ass., Inc. 555 Paper Mill Road P.O. Box 9206 Newark, DE 19711
17856	Siliconix, Inc. 2201 Laurelwood Road Santa Clara, CA 95050
18324	Signetics Corp. 811 East Arques Avenue Sunnyvale, CA 94086
25120	Piezo Technology, Inc. P.O. Box 7877 2400 Diversified Way Orlando, FL 32804
27014	National Semi-Conductor, Corp. 2950 San Ysidro Way Santa Clara, CA 95051
28480	Hewlett-Packard Co. 1501 Page Mill Road Palo Alto, CA 94304
32293	Intersil, Inc. 10900 North Tantau Ave. Cupertino, CA 95014
51642	Centre Engineering 2820 E. College Ave. State College, PA 16801
59660	Tusonix, Inc. 2155 Forbes Blvd., Suite 107 Tucson, AZ 85745
70903	Belden Corp. 415 South Kilpatrick Chicago, IL 60644
71279	Cambridge Thermionic Corp. 445 Concord Ave. Cambridge, MA 02138

Mfr. Code	Name and Address
73138	Beckman Instr., Inc. 2500 Harbor Blvd. Fullerton, CA 92634
74306	Piezo Crystal Co. 100 K Street Carlisle, PA 17013
80131	Electronics Industries Ass. 2001 Eye Street, N.W. Washington, DC 2006
80294	Bourns, Inc. 6135 Magnolia Ave. Riverside, CA 92506
81349	Military Specifications
81350	Joint Army-Navy Specifications
88245	Litton Industries 13536 Saticoy Street Van Nuys, CA 91409
91293	Johanson Mfg. Co. P.O. Box 329 Boonton, NJ 07005
94241	Corby Mfg. Co., Inc.
99800	American Precision Industries 270 Quaker Road East Aurora, NY 14052

S.8.2 PARTS LIST

The parts list which follows contains all electrical parts used in the equipment and certain mechanical parts which are subject to unusual wear or damage. When ordering replacement parts from the Watkins-Johnson Company, specify the type and serial number of the equipment and the reference designation and description of each part ordered. The list of manufacturers provided in **paragraph S.8** and the manufacturer's part number for components are included as a guide to the user of the equipment in the field. These parts may not necessarily agree with the parts installed in the equipment; however, the parts specified in this list will provide satisfactory operation of the equipment. Replacement parts may be obtained from any manufacturer as long as the physical and electrical parameters of the part selected agree with the original indicated part. In the case of components defined by a military or industrial specification, a vendor which can provide the necessary component is suggested as a convenience to the user.

NOTE

As improved semiconductors become available, it is the policy of Watkins-Johnson to incorporate them in proprietary products. For this reason some transistors, diodes and integrated circuits installed in the equipment may not agree with those specified in the parts lists and schematic diagrams of this manual. However, the semiconductors designated in the manual may be substituted in every case with satisfactory results.

S.8.2.1 Type 724006-X 21.4 MHz IF Amplifier

REF DESIG PREFIX **A3A9-A3A13**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
	Revision M				
C1	Not Used				
C2	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	12	8121-050-651-472M	59660	
C3 Thru C8	Same as C2				
C9	Capacitor, Mica, Dipped: 24 pF, 5%, 500 V	1	CM04ED240J03	81349	
C10 Thru C14	Same as C2				
C15	Capacitor, Variable, Ceramic: 5-25 pF, 100 V	1	518-002A5-25	59660	
CR1	Diode	1	1N462A	80131	
FL1	See Table 5				
L1	Coil, Fixed: 3.3 µH, 10%	1	1537-24 (18130-14)	99800	
L2	See Table 5				
L3	Coil, Fixed: 18 µH, 10%	1	1537-42 (14046-7)	99800	
Q1	Transistor	1	3N211	80131	
Q2	Transistor	1	2N2857/JAN	81350	
R1	Resistor, Fixed, Film: 210Ω, 1%, 1/10 W	1	RN55C2100F	81349	
R2	Resistor, Fixed, Film: 3.9 kΩ, 5%, 1/4 W	1	CF1/4-3.9K/J	09021	
R3	Resistor, Trimmer, Film: 10 kΩ, 10%, 1/2 W	1	62PAR10K	73138	
R4	Resistor, Fixed, Film: 47 kΩ, 5%, 1/4 W	1	CF1/4-47K/J	09021	
R5	Resistor, Fixed, Film: 10 kΩ, 5%, 1/4 W	1	CF1/4-10K/J	09021	
R6	Resistor, Fixed, Film: 68 kΩ, 5%, 1/4 W	1	CF1/4-68K/J	09021	
R7	Resistor, Fixed, Film: 100Ω, 5%, 1/4 W	3	CF1/4-100 OHMS/J	09021	
R8	Resistor, Fixed, Film: 120Ω, 5%, 1/4 W	1	CF1/4-120 OHMS/J	09021	
R9	Resistor, Fixed, Film: 47Ω, 5%, 1/4 W	3	CF1/4-47 OHMS	09021	
R10	Same as R7				
R11	See Table 5				
R12	See Table 5				
R13	Resistor, Fixed, Film: 8.2 kΩ, 5%, 1/4 W	1	CF1/4-8.2K/J	09021	
R14	Same as R9				
R15	Resistor, Fixed, Film: 470Ω, 5%, 1/4 W	1	CF1/4-470 OHMS/J	09021	
R16	Same as R7				
R17	Resistor, Fixed, Film: 33Ω, 5%, 1/4 W	1	CF1/4-33 OHMS/J	09021	
R18 R19 R20	See Table 5				
R21	Same as R9				
T1	Transformer	1	T4-1	15542	

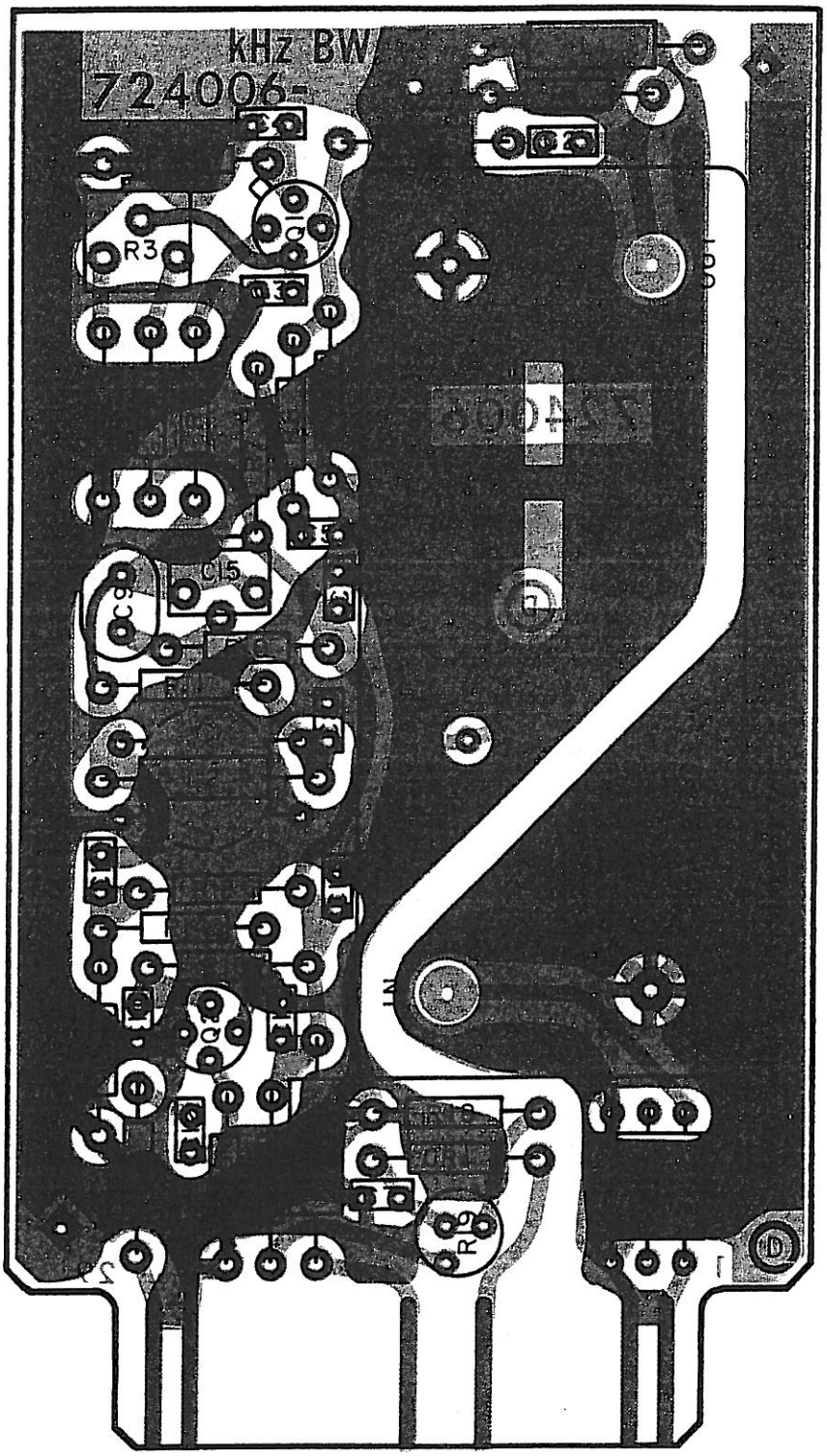

Figure S-6. Type 724006-X 21.4 MHz IF Amplifier (A3A9-A3A13), Location of Components

Table S-5. Type 724006-X Component Differences

Type	FL1 Filter	FL1 Filter ALT. Rev Lev E & above	L2 Coil/Fixed	R11 Res/Fixed/Film	R12 Res/Fixed/Film	R18 Res/Fixed/Film	R19 Res/Trim/Film	R20 Res/Fixed/Film
724006-1 10 kHz	10 kHz 92001 14632	10 kHz 92293 14632	22295-66 14632	N/U	10 k 5% 1/4W CF1/4-10 K/J 09021	100 Ω 5% 1/4W CF1/4-100 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	3.3 k 5% 1/4W CF1/4-3.3 K/J 09021
724006-2 20 kHz	20 kHz 92002 14632	20 kHz 92294 14632	1.0 µH 1537-12 99800	3.9 k 5% 1/4W CF1/4-3.9 K/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	330 Ω 5% 1/4W CF1/4-330 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	2.7 k 5% 1/4W CF1/4-2.7 K/J 09021
724006-3 50 kHz	50 kHz 92000 14632	50 kHz 92291 14632	1.0 µH 1537-12 99800	1.3 k 5% 1/4W CF1/4-1.3 K/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	680 Ω 5% 1/4W CF1/4-680 OHMS/J 09021	500 Ω 10% 1/2W 62PAR1K 73138	2.7 k 5% 1/4W CF1/4-2.7 K/J 09021
724006-4 100 kHz	100 kHz 92024 14632	100 kHz 92292 14632	1.0 µH 1537-12 99800	750 Ω 5% 1/4W CF1/4-750 OHMS/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	680 Ω 5% 1/4W CF1/4-680 OHMS/J 09021	1 k 10% 1/4W 62PAR500 73138	2.2 k 5% 1/4W CF1/4-2.2 K/J 09021
724006-5 250 kHz	250 kHz 92186 14632	250 kHz 92317 14632	1.0 µH 1537-12 99800	750 Ω 5% 1/4W CF1/4-750 OHMS/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	1 k 10% 1/4W CF1/4-1 K/J 09021	1 k 10% 1/2W 62PAR1K 73138	2.2 k 5% 1/4W CF1/4-2.2 K/J 09021
724006-6 300 kHz	300 kHz 92232 14632	300 kHz 92290 14632	1.0 µH 1537-12 99800	750 Ω 5% 1/4W CF1/4-750 OHMS/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	1 k 10% 1/4W CF1/4-1 K/J 09021	1 k 10% 1/2W 62PAR1K 73138	2.2 k 5% 1/4W CF1/4-2.2 K/J 09021
724006-7 6 kHz	6 kHz 92197 .4632	N/A	1.0 µH 1537-12 99800	N/U	10 k 5% 1/4W CF1/4-10 K/J 09021	100 Ω 5% 1/4W CF1/4-100 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	3.3 k 5% 1/4W CF1/4-3.3 K/J 09021
724006-8 40 kHz	40 kHz 92198 14632	40 kHz 92302 14632	1.0 µH 1537-12 99800	N/U	10 k 5% 1/4W CF1/4-10 K/J 09021	100 Ω 5% 1/4W CF1/4-100 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	2.7 k 5% 1/4W CF1/4-2.7 K/J 09021
724006-9 75 kHz	75 kHz 92230 14632	75 kHz 92303 14632	22295-66 14632	1 k 10% 1/4W CF1/4-1 K/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	680 Ω 5% 1/4W CF1/4-680 OHMS/J 09021	1 k 10% 1/2W 62PAR1K 73138	2.2 k 5% 1/4W CF1/4-2.2 K/J 09021
724006-16 3.2 kHz	3.2 kHz 92272 14632	3.2 kHz 92289 14632	22295-66 14632	N/U	24 k 5% 1/4W CF1/4-24 K/J 09021	100 Ω 5% 1/4W CF1/4-100 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	1 k 5% 1/4W CF1/4-1 K/J 09021

Table S-5. Type 724006-X Component Differences (Continued)

Type	FL1 Filter	FL1 Filter ALT. Rev Lev E & above	L2 Coil/Fixed	R11 Res/Fixed/Film	R12 Res/Fixed/Film	R18 Res/Fixed/Film	R19 Res/Trim/Film	R20 Res/Fixed/Film
724006-17 25 kHz	25 kHz 92165 14632	25 kHz 92340 14632	1.0 µH 1537-12 99800	3.9 k 5% 1/4W CF1/4-3.9 K/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	240 Ω 5% 1/4W CF1/4-24 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	3 k 5% 1/4W CF1/4-3 K/J 09021
724006-18 6.4 kHz	6.4 kHz 92271 14632	6.4 kHz 92299 14632	22295-66 14632	N/U	10 k 5% 1/4W CF1/4-10 K/J 09021	100 Ω 5% 1/4W CF1/4-100 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	3.3 k 5% 1/4W CF1/4-3.3 K/J 09021
724006-19 50 kHz	50 kHz 92098 14632	50 kHz 92098 14632	1.0 µH 1537-12 99800	1.3 k 5% 1/4W CF1/4-1.3 K/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	680 Ω 5% 1/4W CF1/4-680 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	2.7 k 5% 1/4W CF1/4-2.7 K/J 09021
724006-20 400 kHz	400 kHz 92238-2 14632	N/A	1.0 µH 1537-12 99800	750 Ω 5% 1/4W CF1/4-750 OHMS/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	1 k 10% 1/4W CF1/4-1 K/J 09021	500 Ω 10% 1/4W 62PAR500 73138	2.2 k 5% 1/4W CF1/4-2.2 K/J 09021
724006-21 15 kHz	15 kHz 92296 14632	15 kHz 92300 14632	1.0 µH 1537-12 99800	6.2 k 5% 1/4W CF1/4-6.2 K/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	270 Ω 5% 1/4W CF1/4-270 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	2.7 k 5% 1/4W CF1/4-2.7 K/J 09021
724006-22 1.5 kHz	1.5 kHz 92309 14632	N/A	22295-66 14632	N/U	24 k 5% 1/4W CF1/4-24 K/J 09021	680 Ω 5% 1/4W CF1/4-680 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	47 k 5% 1/4W CF1/4-47 K/J 09021
724006-23 4 kHz	4 kHz 92318 14632	N/A	1.0 µH 1537-12 99800	N/U	24 k 5% 1/4W CF1/4-24 K/J 09021	470 Ω 5% 1/4W CF1/4-470 OHMS/J 09021	500 Ω 10% 1/4W 62PAR500 73138	6.8 k 5% 1/4W CF1/4-6.8 K/J 09021
724006-24 60 kHz	60 kHz 92319 14632	N/A	1.0 µH 1537-12 99800	1.3 k 10% 1/4W CF1/4-1.3 K/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	1 k 10% 1/4W CF1/4-1 K/J 09021	1 k 10% 1/4W 62PAR1K 73138	3.3 k 5% 1/4W CF1/4-3.3 K/J 09021
724006-25 150 kHz	150 kHz 92334 14632	150 kHz 92304 14632	1.0 µH 1537-12 99800	750 Ω 5% 1/4W CF1/4-750 OHMS/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	510 Ω 5% 1/4W CF1/4-510 OHMS/J 09021	1 k 10% 1/2W 62PAR1K 73138	5.1 k 5% 1/4W CF1/4-5.1 K/J 09021
724006-26	500 kHz 92288 14632	500 kHz 92277 14632	1.0 µH 1537-12 99800	750 Ω 5% 1/4W CF1/4-750 OHMS/J 09021	10 k 5% 1/4W CF1/4-10 K/J 09021	1.5 k 5% 1/4W CF1/4-1.5 K/J 09021	1 k 10% 1/2W 62PAR1K 73138	1.0 k 5% 1/4W CF1/4-1 K/J 09021

S.8.2.2 **Type 726013-X 21.4 MHz IF AMP** REF DESIG PREFIX **A3A9-A3A13**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	8	8121-050-651-472M	59660	
C2 Thru C8	Same as C1				
CR1	Diode	1	1N462A	80131	
FL1	**See Table 6**				
J2	Same as J1				
J3	Same as J1				
L1	Coil, Fixed: 18 µH, 10%	1	1537-42 (14046-7)	99800	
L2	Coil, Fixed: 3.3 µH	1	1025-32 (75084-6)	99800	
Q1	Transistor	1	2N5109	80131	
R1	Resistor, Fixed, Film: 1.9 kΩ, 5%, 1/4 W	1	CF1/4-1K/J	09021	
R2	Resistor, Trimmer, Film: 1 kΩ, 10%, 1/2 W	1	62PR1K	73138	
R3	Resistor, Fixed, Film: 1.5 kΩ, 5%, 1/4 W	1	CF11/4-1.5K/J	09021	
R4	Resistor, Fixed, Film: 6.2 kΩ, 5%, 1/4 W	1	CF1/4-6.2K/J	09021	
R5	Resistor, Fixed, Film: 100Ω, 5%, 1/4 W	2	CF1/4-100 OHMS/J	09021	
R6	Resistor, Fixed, Film: 47Ω, 5%, 1/4 W	1	CF1/4-47 OHMS	09021	
R7	Resistor, Fixed, Film: 243Ω, 1%, 1/10 W	1	RN55C2430F	81349	
R8	Resistor, Fixed, Film: 6.8 kΩ, 5%, 1/4 W	1	CF1/4-6.8K/J	09021	
R9	See Table 6				
R10	Same as R5				
R11	Resistor, Fixed, Film: 330Ω, 5%, 1/4 W	1	CF1/4-330 OHMS/J	09021	
R12	Resistor, Fixed, Film: 12Ω, 5%, 1/4 W	1	CF1/4-12 OHMS/J	09021	
R13	Resistor, Fixed, Film: 500Ω, 10%, 1/2 W	1	62PAR500	73138	
T1	Transformer	2	T4-1	15542	
T2	Same as T1				

Table S-6. Type 726013-X Component Differences

Type	FL1 Filter	FL1 Filter Alt.Rev Lev C and above	R9 Res/Fixed/Film
726013-1 500 kHz	500 kHz 92277 14632	500 kHz 92288 14632	820 Ω 5% 1/4 CF1/4-820 OHMS/J 09021
726013-2 1 MHz	1 MHz 92278 14632	1 MHz 92287 14632	220 Ω 5% 1/4 CF1/4-220 OHMS/J 09021
726013-3 2 MHz	2 MHz 92279 14632	2 MHz 92286 14632	220 Ω 5% 1/4 CF1/4-220 OHMS/J 09021
726013-4 4 MHz	4 MHz 92280 14632	4 MHz 92285 14632	220 Ω 5% 1/4 CF1/4-220 OHMS/J 09021

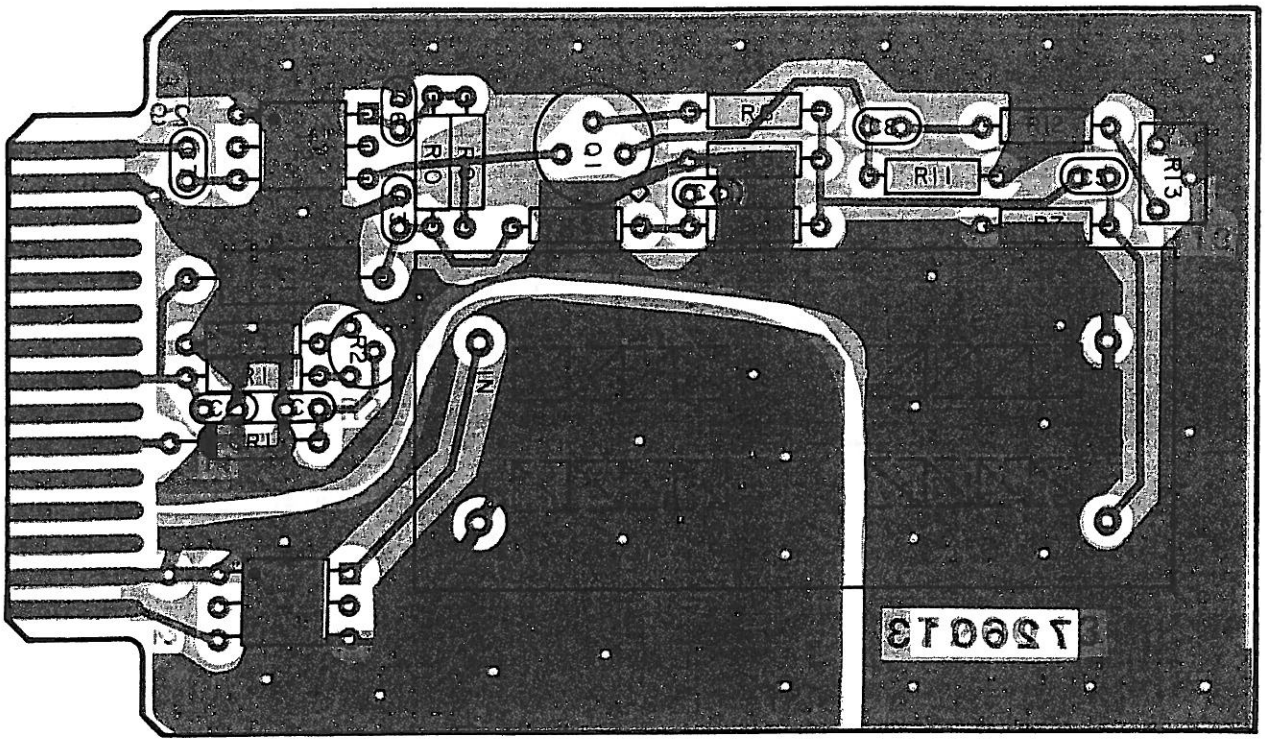

Figure S-7. Type 726013-X 21.4 MHz IF Amplifier (A3A9-A3A13), Location of Components

S.8.2.3 **Type 796337-X 21.4 MHz IF Amplifier** REF DESIG PREFIX **A3A9-A3A13**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	4	8121-050-651-472M	59660	
C2 Thru C4	Same as C1				
CR1	Diode	1	1N462A	80131	
R1	Resistor, Fixed, Film: 1.0 kΩ, 5%, 1/4 W	1	CF1/4-1K/J	09021	
R2	Resistor, Trimmer, Film: 1 kΩ, 10%, 1/2 W	1	62PR1K	73138	
R3	Resistor, Fixed, Film: 2.0 kΩ, 5%, 1/4 W	1	CF1/4-2.0K/J	09021	
R4	Resistor, Fixed, Film: 24Ω, 5%, 1/4 W	1	CF1/4-24 OHMS/J	09021	
R5	Resistor, Fixed, Film: 220Ω, 5%, 1/4 W	2	CF1/4-220 OHMS/J	09021	
R6	Same as R5				

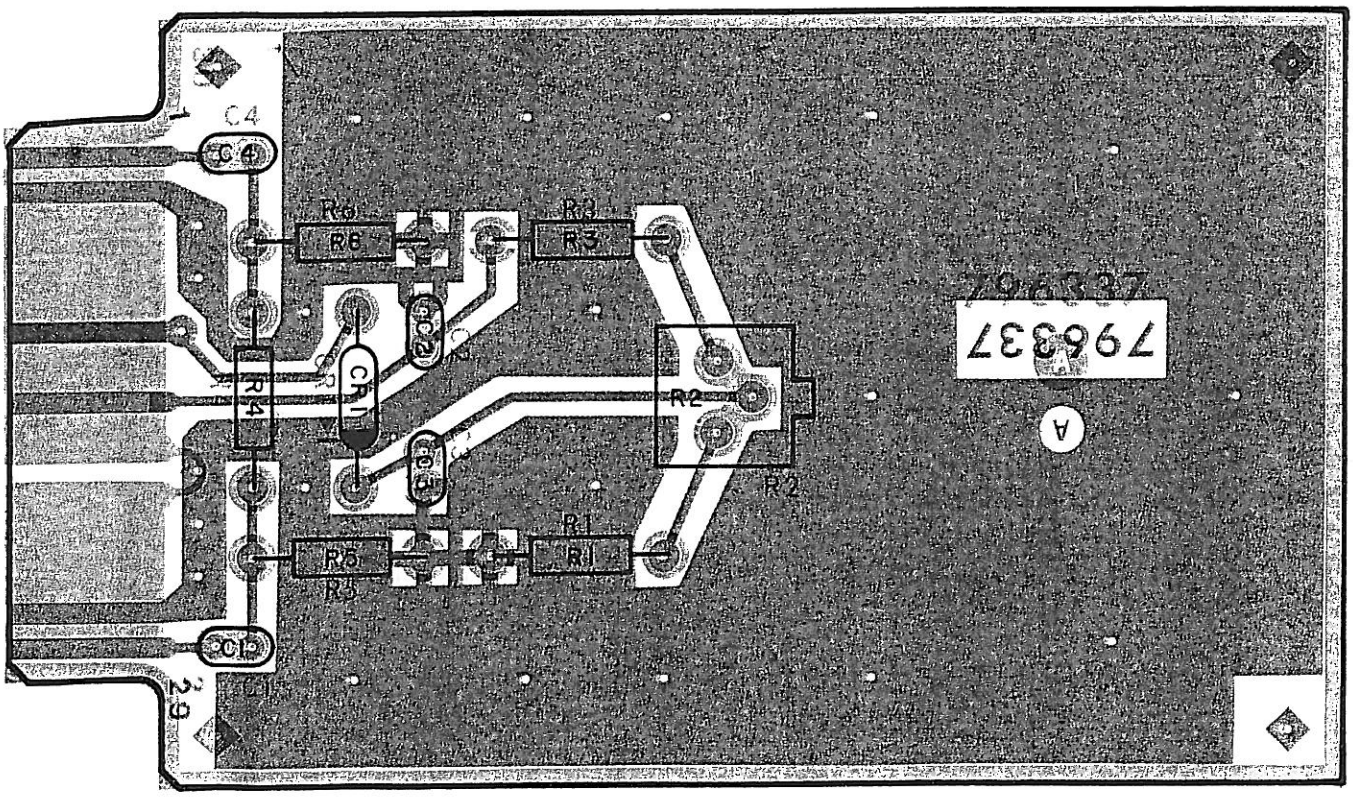

Figure S-8. Type 796337-X 21.4 MHz IF Amplifier (A3A9-A3A13), Location of Components

S.8.2.4 Type 794106-X FM Demodulator

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Disc: .01 µF, 20%, 50 V	5	34453-1	14632	
C2 Thru C4	Same as C1				
C5	Capacitor, Ceramic, Tubular: 15 pF, 5%, 500 V	2	301-000U2J0-150J	59660	
C6	See Table 7				
C7	Not Used				
C8	Capacitor, Ceramic, Disc: 4700 pF, 10%, 200 V	1	CK06BX472K	81349	
C9	Capacitor, Ceramic, Disc: .47 µF, 20%, 50 V	2	34452-1	14632	
C10	Same as C9				
C11	See Table 7				
C12	Capacitor, Electrolytic, Tantalum: 2.2 µF, 40%, 35 V	2	196D225X0035JE3	56289	
C13	Same as C12				
C14	See Table 7				
C15	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	1	8121-050-651-472M	59660	
C16	Same as C1				
C17	See Table 7				
L1	Coil, Variable: 2.97-3.63 µH	1	558-7107-19	71279	
L2	Coil, Variable: 2.43-2.97 µH	1	558-7107-18	71279	
L3	Coil, Fixed: 18 µH, 10%	1	1537-42 (14046-7)	99800	
L4	See Table 7				
L5	See Table 7				
L6	Coil, Fixed: 1.2 mH, 10%	2	553-3635-38	71279	
L7	Same as L6				
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/4 W	1	CF1/4-220 OHMS/J	09021	
R2	See Table 7				
R3	See Table 7				
R4	Resistor, Fixed, Film: 10 kΩ, 5%, 1/4 W	1	CF1/4-10K/J	09021	
R5	Resistor, Fixed, Film: 4.75 kΩ, 1%, 1/10 W	1	RN55C4751F	81349	
R6	Resistor, Fixed, Film: 51.1 kΩ, 1%, 1/10 W	1	RN55C5112F	81349	
R7	Resistor, Fixed, Film: 46.4 kΩ, 1%, 1/10 W	3	RN55C4642F	81349	
R8	Same as R7				
R9	Same as R7				
R10	Resistor, Fixed, Film: 2.21 kΩ, 1%, 1/10 W	2	RN55C2211F	81349	
R12	Resistor, Trimmer, Film: 10 kΩ, 10%, 1/2 W	1	62PAR10K	73138	
R13	Same as R11				
R14	Same as R10				
R15	Resistor, Trimmer, Film: 10 kΩ, 10%, 1/2 W	1	62PAR10K	73138	
R16	Resistor, Fixed, Film: 470Ω, 5%, 1/4 W	1	CF1/4-470 OHMS/J	09021	
R17	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	2	CF1/8-22K/J	09021	
R18	Resistor, Fixed, Film: 22Ω, 5%, 1/4 W	1	CF1/4-22 OHMS/J	09021	

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R19	Same as R17				
R11*	Resistor, Fixed, Film: 26.7 kΩ, 1%, 1/10 W	2	RN55C2672F	81349	
U1	Integrated Circuit	1	CA3089E	02735	
U2	Integrated Circuit	1	MC1458N	18324	
U3	Integrated Circuit	1	1H5040CPE	32293	
Y1	See **Table 3**				

*Nominal Value, Final Value Factory Selected

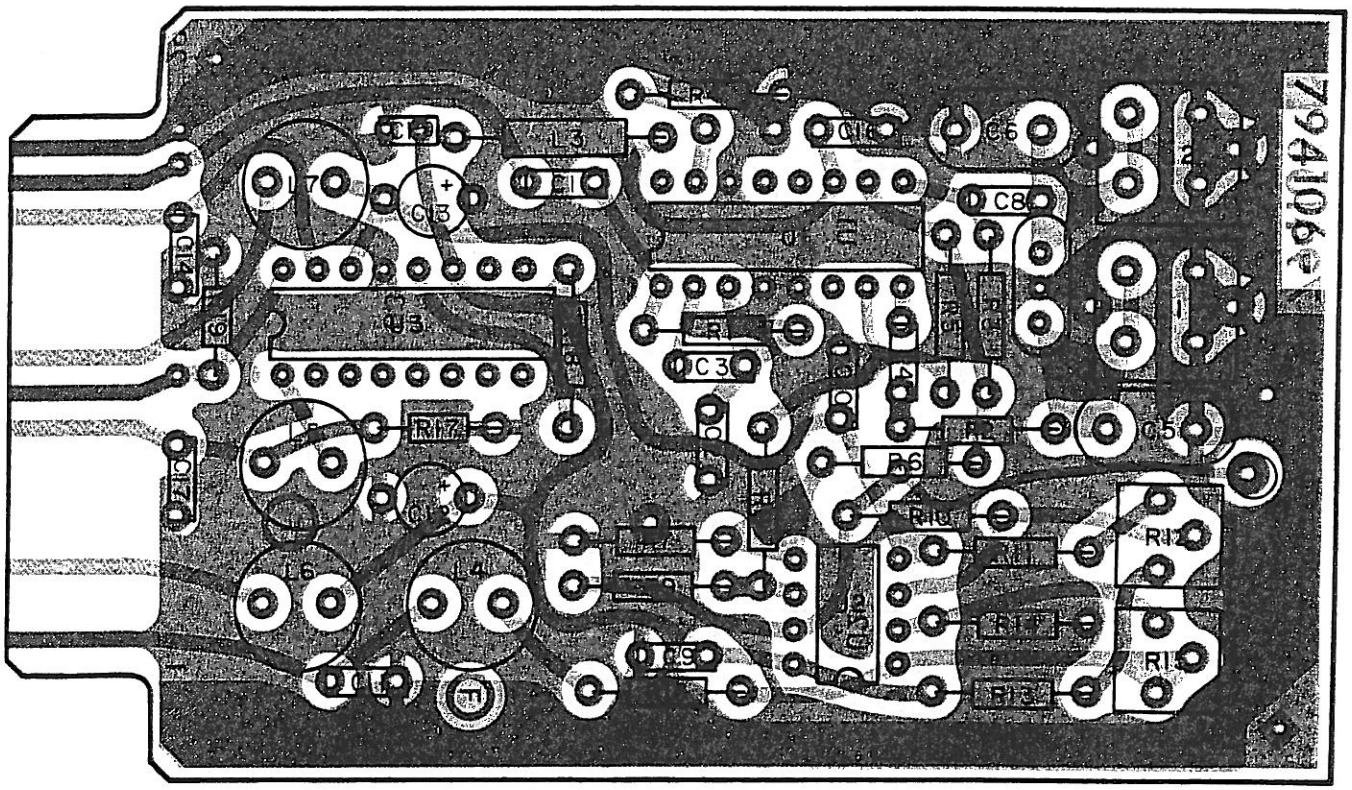

Figure S-9. Type 794106-X FM Demodulatior (A3A17-A3A21), Location of Components

Table S-7. Type 794106-X Component Differences

Type	C6 Cap/Cer/Tub	C11 Cap/Cer/Disc	C17 Cap/Cer/Disc	L4 Coil/Fixed	L5 Coil/Fixed	R2 Res/Fixed/Film	R3 Res/Fixed/Film	Y1 Crystal/DSCRM
794106-1 10 kHz	15 pF 5% 50V 301-000U2JO-150J 59660	.1 µF 20% 50V 34475-1 14632	.068 µF, 10%, 100 V CK06BX683K 81349	22 mH 10% 553-3635-53 71279	15 mH, 10% 553-3635-51 71279	2.37 kΩ 1% 1/10W RN55C2371F 81349	1.37 kΩ 1% 1/10W RN55C1371F 81349	20 kHz 2378F 25120
794106-2 20 kHz	10 pF .5 pF 500V 301-000U2JO-150J 59660	0.056 µF 10% 100V CK06BX563K 81349	Same as C11	10 mH, 10% 553-3635-49 71279	6.8 mH, 10% 553-3635-47 71279	3.65 kΩ 1% 1/10W RN55C3651F 81349	1.62 kΩ 1% 1/10W RN55C1621F 81349	21.4 MHz 2875 74306
794106-3 6 kHz	15 pF 5% 500V 301-000U2JO-150J 59660	.1 µF 20% 50V 34475-1 14632	Same as C11	47 mH, 10% 553-3635-57 71279	22 mH, 10% 553-3635-53 71279	3.37 kΩ 1% 1/10W RN55C2371F 81349	1.37 kΩ 1% 1/10W RN55C1371F 81349	20 kHz 2378F 25120
794106-4 40 kHz	10 pF .5 pF 500V 301-000U2JO-150J 59660	.018 µF 10% 100V CK06BX183K 81349	.012 pF, 10%, 100 V CK06BX123K 81349	4.7 mH, 10% 553-3635-45 71279	Same as L4	2.21 kΩ 1% 1/10W RN55C2211F 81349	Same as R2	21.4 MHz 2875 74306
794106-5 30 kHz	10 pF .5 pF 500V 301-000U2JO-100D 59660	.022 µF 10% 100V CK06B223K 81349	0.018 pF, 10%, 100 V CK06BX183K 81349	6.8 mH, 10% 553-3635-47 71279	Same as L4	2.21 kΩ 1% 1/10W RN55C2211F 81349	Same as R2	21.4 MHz 2875 74306
794106-6 3.2 kHz	15 pF 5% 500V 301-000U2JO-150J 59660	.1 µF 20% 50V 34475-1 14632	Same as C11	22 mH, 10% 553-3635-53 71279	Same as L4	2.37 kΩ 1% 1/10W RN55C2371F 81349	1.37 kΩ 1% 1/10W RN55C1371F 81349	20 kHz 2878F 25120
794106-7 25 kHz	10 pF, 0.5pF, 500V 301-000U2JO-100D 59660	0.039 µF 10% 100V CK06BX393K 81349	Same as C11	8.2 mH, 10% 553-3635-48 71279	6.8 mH, 10% 553-3635-47 71279	3.65 kΩ 1% 1/10W RN55C3651F 81349	1.62 kΩ 1% 1/10W RN55C1621F 81349	21.4 MHz 2875 74306
794106-8 15 kHz	12 pF, 5%, 500V 301-000COGO-120J 59660	0.056 µF 10% 100V CK06BX563K 81349	Same as C11	15 mH, 10% 553-3635-51 71279	10 mH, 10% 553-3635-49 71279	3.01 kΩ 1% 1/10W RN55C3011F 81349	1.5 kΩ 1% 1/10W RN55C1501F 81349	21.4 MHz 2875 74306
794106-9 50 kHz	15 pF, 5%, 500V 301-000U2JO-150J 59660	0.018 µF 10% 100V CK06BX183K 81349	Same as C11	4.7 mH, 10% 553-3635-45 71279	4.7 3.3 mH, 10% 1537-750 99800	2.37 kΩ 1% 1/10W RN55C2371F 81349	9.09 kΩ 1% 1/10W RN55C9091F 81349	35 kHz 3099 74306
794106-10 1.5 kHz	15 pF, 5%, 500V 301-000U2JO-150J 59660	.56 µF 10% 50V M39014/02-1400 81349	Same as C11	150 mH, ±15% 2534-76 99800	Same as L4	2.37 kΩ 1% 1/10W RN55C2371F 81349	1.37 kΩ 1% 1/10W RN55C1371F 81349	20 kHz 2378F 25120
794106-11 4 kHz	15 pF, 5%, 500V 301-000U2JO-150J 59660	.22 µF 10% 50V 8131-050-X7RO-22 56289	Same as C11	47 mH, 10% 553-3635-57 71279	Same as L4	2.37 kΩ 1% 1/10W RN55C2371F 81349	1.37 kΩ 1% 1/10W RN55C1371F 81349	20 kHz 2378F 25120

S.8.2.5 Type 794107-X FM Demodulator

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Disc: .01 µF, 20%, 50 V	3	34453-1	14632	
C2	Same as C1				
C3	Same as C1				
C4	Not Used				
C5	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	2	8121-050-651-472M	59660	
C6	Capacitor, Ceramic, Tubular: 39 pF, 5%, 500 V	1	301-000-U2J0-390J	59660	
C7	Capacitor, Mica, Dipped: 150 pF, 2%, 500 V	1	CM04FD151G03	81349	
C8	Capacitor, Ceramic, Disc: .47 µF, 20%, 50 V	4	34452-1	14632	
C9 Thru C11	Same as C8				
C12	See Table 8				
C13	Capacitor, Electrolytic, Tantalum: 2.2 µF, 20%, 35 V	2	196D225X0035JE3	56289	
C14	Same as C13				
C15	Capacitor, Ceramic, Disc: .1 µF, 20%, 50 V	1	34475-1	14632	
C16	See Table 8				
C17	Same as C5				
C18	Capacitor, Variable, Air: .8-10.0 pF, 250 V	1	5201/W HDW	91293	
C19	See Table 8				
L1	Coil, Fixed: 18 µH, 10%	1	1537-42-(14046-7)	99800	
L2	Coil, Fixed	1	21210-168	14632	
L3	See Table 8				
L4	See Table 8				
L5	Coil, Fixed: 1.2 mH, 10%	2	553-3635-38	71279	
L6	Same as L5				
L7	Coil, Fixed, Molded: 10 µH	1	1025-44 (75084-12)	99800	
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/4 W	1	CF1/4-220 OHMS/J	09021	
R2	See Table 8				
R3	Resistor, Fixed, Film: 10 kΩ, 5%, 1/4 W	1	CF1/4-10K/J	09021	
R4	See Table 8				
R5	Resistor, Fixed, Film: 51.1 kΩ, 1%, 1/10 W	1	RN55C5112F	81349	
R6	Resistor, Fixed, Film: 46.4 kΩ, 1%, 1/10 W	1	RN55C4642F	81349	
R7	Resistor, Fixed, Film: 75 kΩ, 1%, 1/10 W	2	RN55C7502F	81349	
R8	Same as R7				
R9	Resistor, Fixed, Film: 2.21 kΩ, 1%, 1/10 W	1	RN55C2211F	81349	
R10	Resistor, Fixed, Film: 5.11 kΩ, 1%, 1/10 W	1	RN55C111F	81349	
R11	Resistor, Trimmer, Film: 50 kΩ, 10%, 1/2 W	1	62PAR50K	73138	
R12	Resistor, Fixed, Film: 470Ω, 5%, 1/4 W	1	CF1/4-470 OHMS/J	09021	
R13	Resistor, Fixed, Film: 26.7 kΩ, 1%, 1/10 W	2	RN55C2672F	81349	
R14	Resistor, Trimmer, Film: 5 kΩ, 10%, 1/2 W	1	62PAR5K	73138	
R15	Same as R13				

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R16	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	2	CF1/8-22K/J	09021	
R17	Resistor, Fixed, Film: 22Ω, 5%, 1/4 W	1	CF1/4-22 OHMS/J	09021	
R18	Same as R16				
U1	Integrated Circuit	1	CA3089E	02735	
U2	See **Table 4**				
U3	Same as U2				
U4	Integrated Circuit	1	1H5040CPE	32293	

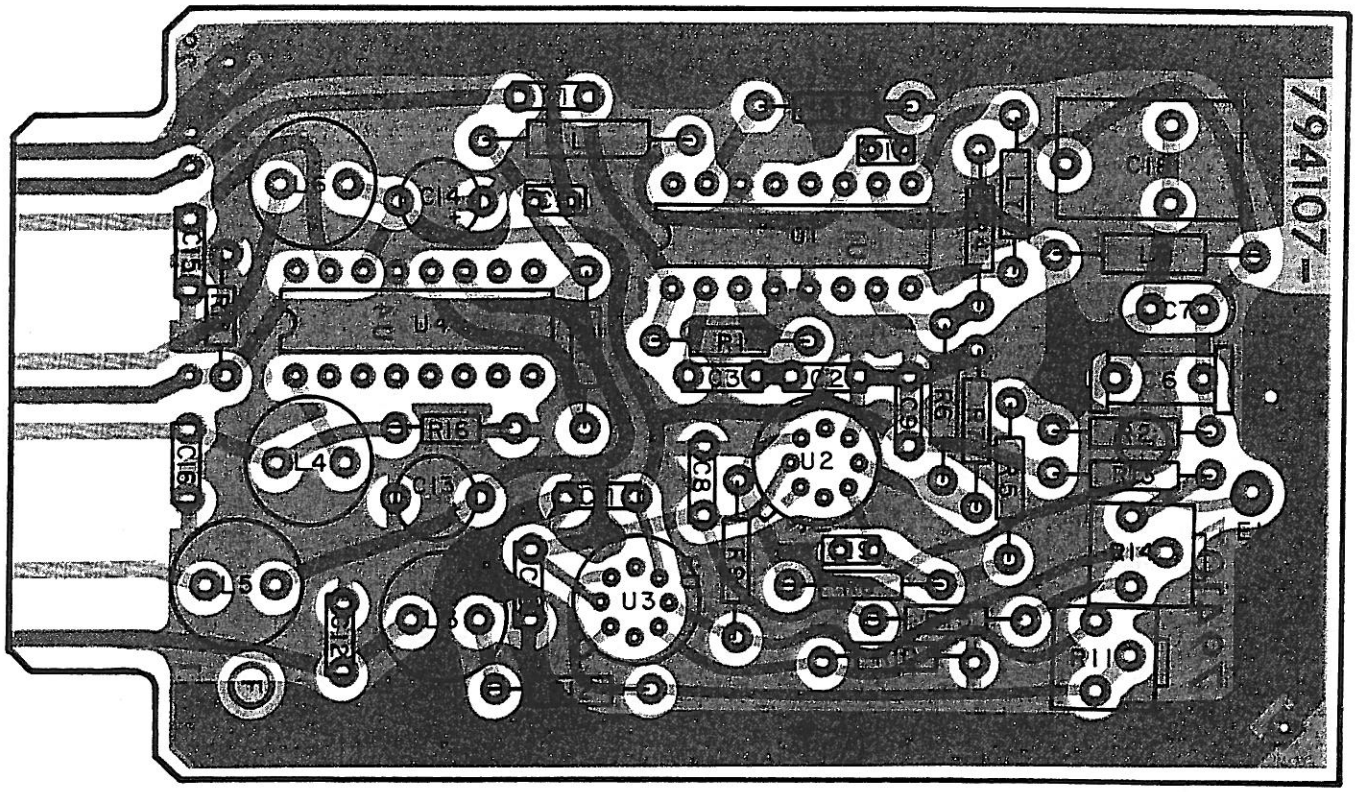

Figure S-10. Type 794107-X FM Demodulator (A3A17-A3A21)

Table S-8. Type 794107-X Component Differences

Type	C12 Cap/Cer/Disc	C16 Cap/Cer/Disc	C19 Cap/Cer/Disc	L3 Coil/Fixed	L4 Coil/Fixed	R2 Res/Fixed/Film	R4 Res/Fixed/Film	U2 Integrated Circuit
794107-1 50 kHz	.018 µH 10% 100V CK06BX183K 81349	.012 µH 10% 100V CK06BX123K 81349	Not Used	4.7 mH 10% 553-3635-45 71279	3.3 mH, 10% 553-3635-43 71279	4.75 k 1% 1/10W RN55C4751F 81349	4.75 k 1% 1/10W RN55C4751F 81349	741HC 07263
794107-2 100 kHz	.01 µH 10% 200V CK06BX103K 81349	6800 pF 10% 200V CK06BX682K 81349	4.7 pF 10% 200V CK06BX682K 81349	2.2 mH 10% 553-3635-41 71279	1.35 mH, 10% 553-3635-39 71279	1.21 k 1% 1/10W RN55C1211F 81349	4.75 k 1% 1/10W RN55C4751F 81349	LM318H 27014
794107-3 250 kHz	3300 pF 10% 200V CK06BX332K 81349	3900 pF 10% 100V CK06BX392K 81349	4.7 pF ±.25 100V 810-100-COHO-479C 59660	1.0 mH 10% 553-3635-37 71279	680 µH, 10% 553-3635-35 71279	453 Ω 1% 1/10 W RN55C4530F 81349	4.75 k 1% 1/10 W RN55C4751F 81349	LM318H 27014
794107-4 300 kHz	2700 pF 10% 200V CK06BX272K 81349	3300 pF 10% 200V CK06BX332K 81349	4.7 pF ±.25 100V 810-100-COHO-479C 59660	820 µH 10% 553-3635-36 71279	560 µH, 10% 553-3635-34 71279	392 Ω 1% 1/10 W RN55C2051F 81349	4.75 k 1% 1/10 W RN55C4751F 81349	LM318H 27014
794107-5 40 kHz	.018 µH 10% 100V CK06BX183K 81349	.012 µH 10% 100V CK06BX123K 81349	Not Used	4.7 mH 10% 553-3635-45 71279	3.3 mH, 10% 553-3635-43 71279	4.75 k 1% 1/10 W RN55C4751F 81349	4.75 k 1% 1/10 W RN55C4751F 81349	741HC 07263
794107-6 75 kHz	.015 µH 10% 100V CK06BX153K 81349	8200 pF 10% 200V CK06BX822K 81349	4.7 pF ±.25 100V 810-100-COHO-479C 59660	3.3 mH 10% 553-3635-43 71279	2.2 mH, 10% 553-3635-41 71279	2.05 k 1% 1/10 W RN55C2051F 81349	4.75 k 1% 1/10 W RN55C4751F 81349	LM318H 21704
794107-13 60 kHz	015 µH 10% 100V CK06BX153K 81349	015 µH 10% 100V CK06BX153K 81349	Not Used	3.3 mH 10% 553-3635-43 71279	3.3 mH 10% 553-3635-43 71279	1.21 k 1% 1/10W RN55C1211F 81349	4.75 k 1% 1/10 W RN55C4751F 81349	LM318H 21704
794107-14 150 kHz	680 pF 10% 200V CK06BX682K 81349	680 pF 10% 200V CK06BX682K 81349	4.7 pF ±.25 100V 810-100-COHO-479C 59660	1.5 mH 10% 553-3635-39 71279	1.5 mH 10% 553-3635-39 71279	1.21 k 1% 1/10W RN55C1211F 81349	4.75 k 1% 1/10 W RN55C4751F 81349	LM318H 21704

S.8.2.6 Type 794104-1 FM Demodulator

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
	Revision E				
C1	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	7	8121-050-651-472M	72982	
C2 Thru C5	Same as C1				
C6	Capacitor, Ceramic, Tubular: 1.5 pF, ±0.1 pF, 500 V	2	301-000-COKO-159B	72982	
C7	Capacitor, Ceramic, Tubular: 1.5 pF, ±0.25 pF, 500 V	1	301-000-T3KO-159C	72982	
C8	Capacitor, Variable, Ceramic: 2-8 pF, 350 V	1	538-006A2-8	72982	
C9	Capacitor, Ceramic, Tubular: 5.1 pF, ±0.5 pF, 500 V	1	301-000-COHO-519D	72982	
C10	Capacitor, Variable, Air: 0.8-10 pF, 250 V	1	5201/W HDW	91293	
C11	Same as C1				
C12	Same as C6				
C13	Same as C1				
C14	Capacitor, Ceramic, Tubular: 4.7 pF, ±0.25 pF, 500 V	1	301-000-U2JO-479C	72982	
C15	Capacitor, Ceramic, Tubular: 22 pF, 5%, 500 V	1	301-000-COGO-220J	72982	
C16	Capacitor, Ceramic, Disc: 0.1 µF, 20%, 50 V	2	34475-1	14632	
C17	Same as C16				
C18	Capacitor, Ceramic, Disc: 0.47 µF, 20%, 50 V	2	34452-1	14632	
C19	Same as C18				
C20	Capacitor, Electrolytic, Tantalum: 2.2 µF, 20%, 35 V	2	196D225X0035JE3	56289	
C21	Capacitor, Mica, Dipped: 820 pF, 5%, 500 V	1	DM15-821J	72136	
C22	Capacitor, Mica, Dipped: 1000 pF, 5%, 500 V	1	DM15-102J	72136	
C23	Same as C20				
CR1	Diode	2	5082-2800	28480	
CR2	Same as CR1				
L1	Coil Fixed	1	22295-63	14632	
L2	Coil Fixed: 18 µH, 10%	1	1537-42	99800	
L3	Not Used				
L4	Coil, Fixed: 180 µH, 5%	1	1537-88	99800	
L5	Coil, Fixed: 1.2 mH, 10%	2	553-3635-38	71279	
L6	Same as L5				
L7	Coil, Fixed: 220 µH, 5%	1	1537-92	99800	
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/4 W	1	CF1/4-220 OHMS/J	09021	
R2	Resistor, Fixed, Film: 3.3 kΩ, 5%, 1/4 W	1	CF1/4-3.3 K/J	09021	
R3	Resistor, Fixed, Film: 100Ω, 5%, 1/4 W	1	CF1/4-100 OHMS/J	09021	
R4	Resistor, Fixed, Film: 10Ω, 5%, 1/4 W	1	CF1/4-10 OHMS/J	09021	
R5	Resistor, Fixed, Film: 18 kΩ, 5%, 1/4 W	1	CF1/4-18K/J	09021	
R6	Resistor, Fixed, Film: 12 kΩ, 5%, 1/4 W	1	CF1/4-12K/J	09021	
R7	Resistor, Fixed, Film: 22 kΩ, 5%, 1/4 W	2	CF1/4-22K/J	09021	
R8	Same as R7				
R9	Resistor, Trimmer, Film: 20 kΩ, 10%, 1/2 W	1	62PAR20K	73138	
R10	Resistor, Fixed, Film: 100 kΩ, 1%, 1/10 W	2	RN55C1003F	81349	
R11	Resistor, Fixed, Film: 10 kΩ, 5%, 1/4 W	3	CF1/4-10K/J	09021	

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R12	Same as R11				
R13	Same as R10				
R14	Same as R11				
R15	Resistor, Fixed, Film: 20 kΩ, 5%, 1/4 W	1	CF1/4-20K/J	09021	
R16	Resistor, Trimmer, Film: 200 kΩ, 10%, 1/2 W	1	62PAR200K	73138	
R17	Resistor, Fixed, Film: 470Ω, 5%, 1/4 W	1	CF1/4-470 OHMS/J	09021	
R18	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	2	CF1/8-22K/J	09021	
R19	Resistor, Fixed, Film: 22Ω, 5%, 1/4 W	1	CF1/4-22 OHMS/J	09021	
R20	Same as R18				
T1	Transformer	1	24608-8	14632	
U1	Integrated Circuit	1	CA3011	02735	
U2	Integrated Circuit	1	LM318N	27014	
U3	Integrated Circuit	1	IH5040CPE	32293	
VR1	Voltage Regulator: 3.3 V	1	1N746A	80131	
VR2	Voltage Regulator: 5.1 V	1	1N751A	80131	

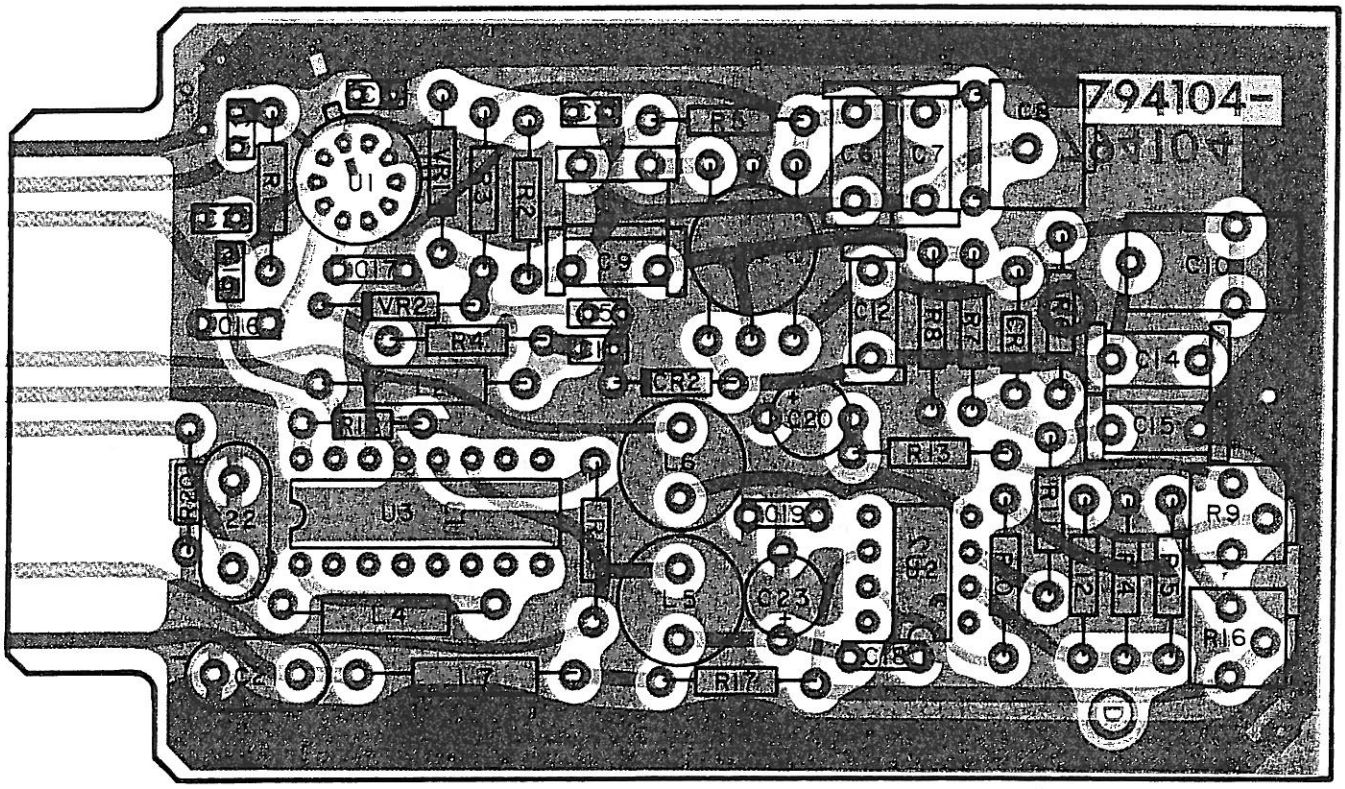

Figure S-11. Type 794104-X FM Demodulator (A3A17-A3A21), Location of Components

S.8.2.7 Type 794104-2 FM Demodulator

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
	Revision E				
C1	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	7	8121-050-651-472M	72982	
C2 Thru C5	Same as C1				
C6	Capacitor, Ceramic, Tubular: 1.5 pF, ±0.1 pF, 500 V	2	301-000-COKO-159B	72982	
C7	Capacitor, Ceramic, Tubular: 1.5 pF, ±0.25 pF, 500 V	1	301-000-T2KO-159C	72982	
C8	Capacitor, Variable, Ceramic: 2-8 pF, 350 V	1	538-006A2-8	72982	
C9	Capacitor, Ceramic, Tubular: 5.1 pF, ±0.5 pF, 500 V	1	301-000-COHO-519D	72982	
C10	Capacitor, Variable, Air: 0.8-10 pF, 250 V	1	5201/W HDW	91293	
C11	Same as C1				
C12	Same as C6				
C13	Same as C1				
C14	Capacitor, Ceramic, Tubular: 4.7 pF, ±0.25 pF, 500 V	1	301-000-U2JO-479C	72982	
C15	Capacitor, Ceramic, Tubular: 22 pF, 5%, 500 V	1	301-000-COGO-220J	72982	
C16	Capacitor, Ceramic, Disc: 0.1 µF, 20%, 50 V	2	34475-1	14632	
C17	Same as C16				
C18	Capacitor, Ceramic, Disc: 0.47 µF, 20%, 50 V	2	34452-1	14632	
C19	Same as C18				
C20	Capacitor, Electrolytic, Tantalum: 2.2 µF, 20%, 35 V	2	196D225X0035JE3	56289	
C21	Capacitor, Ceramic, Disc: 1500 pF, 10%, 200 V	1	CK06BX152K	81349	
C22	Capacitor, Ceramic, Disc: 2200 pF, 10%, 200 V	1	CK06BX222K	81349	
C23	Same as C20				
CR1	Diode				
CR2	Same as CR1				
L1	Coil, Fixed	1	22295-63	14632	
L2	Coil, Fixed: 18 µH, 10%	1	1537-42	99800	
L3	Not Used				
L4	Coil, Fixed: 360 µH, 5%	1	2500-06	99800	
L5	Coil, Fixed: 1.2 mH, 10%	2	553-3635-38	71279	
L6	Same as L5				
L7	Coil, Fixed: 390 µH, 5%	1	2500-08	99800	
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/4 W	1	CF1/4-220 OHMS/J	09021	
R2	Resistor, Fixed, Film: 3.3 kΩ, 5%, 1/4 W	1	CF1/4-3.3 K/J	09021	
R3	Resistor, Fixed, Film: 100Ω, 5%, 1/4 W	1	CF1/4-100 OHMS/J	09021	
R4	Resistor, Fixed, Film: 10Ω, 5%, 1/4 W	1	CF1/4-10 OHMS/J	09021	
R5	Resistor, Fixed, Film: 18 kΩ, 5%, 1/4 W	1	CF1/4-18K/J	09021	
R6	Resistor, Fixed, Film: 12 kΩ, 5%, 1/4 W	1	CF1/4-12K/J	09021	
R7	Resistor, Fixed, Film: 22 kΩ, 5%, 1/4 W	2	CF1/4-22K/J	09021	
R8	Same as R7				
R9	Resistor, Trimmer, Film: 20 kΩ, 10%, 1/2 W	1	62PAR20K	73138	
R10	Resistor, Fixed, Film: 100 kΩ, 1%, 1/10 W	2	RN55C1003F	81349	
R11	Resistor, Fixed, Film: 10 kΩ, 5%, 1/4 W	3	CF1/4-10K/J	09021	

S.8.2.8 Type 794105-X FM Demodulator

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Disc: 4700 pF, 20%, 50 V	5	8121-050-651-472M	59660	
C2	Capacitor, Variable, Air: 0.8-10 pF, 250 V	2	5201/W HDW	91293	
C3	Same as C1				
C4	Same as C1				
C5	See **Table 9**				
C6	Same as C2				
C7	Capacitor, Ceramic, Tubular: 4.7 pF, ±0.25 pF, 500 V	1	301-000U2J0-479C	59660	
C8	Capacitor, Ceramic, Tubular: 3.0 pF, ±0.25 pF, 500 V	1	301-000C0J0-309C	59660	
C9	Not Used				
C10	Not Used				
C11	See **Table 9**				
C12	See **Table 9**				
C13	Capacitor, Electrolytic, Tantalum: 2.2 µH, 20%, 35 V	2	196D225X0035JE3	56289	
C14	Same as C1				
C15	Same as C1				
C16	Capacitor, Ceramic, Disc: 0.1 µF, 20%, 50 V	2	34475-1	14632	
C17	Same as C16				
C18	Capacitor, Ceramic, Disc: 0.47 µF, 20%, 50 V	2	34452-1	14632	
C19	Same as C18				
C20	Same as C13				
CR1	Diode	2	5082-2800	28480	
CR2	Same as CR1				
L1	Coil, Fixed	1	22295-67	14632	
L2	Coil, Fixed: 18 µH, 10%	1	1537-42	99800	
L3	See **Table 9**				
L4	See **Table 9**				
L5	Coil, Fixed: 1.2 mH, 10%	2	553-3635-38	71279	
L6	Same as L5				
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/4 W	1	CF1/4-220 OHMS/J	09021	
R2	Resistor, Fixed, Film: 1.5 kΩ, 5%, 1/4 W	1	CF1/4-1.5K/J	09021	
R3	Resistor, Fixed, Film: 2.7 kΩ, 5%, 1/4 W	1	CF1/4-2.7K/J	09021	
R4	See **Table 9**				
R5	Same as R4				
R6	See **Table 9**				
R7	Resistor, Fixed, Film: 4.7Ω, 5%, 1/4 W	1	CF1/4-4.7 OHMS/J	09021	
R8	See **Table 9**				
R9	Resistor, Trimmer, Film: 20 kΩ, 10%, 1/2 W	2	62PAR20K	73138	
R10	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	2	CF1/8-22K/J	09021	
R11	Resistor, Fixed, Film: 470Ω, 5%, 1/4 W	1	CF1/4-470 OHMS/J	09021	
R12	Resistor, Fixed, Film: 100 kΩ, 1%, 1/10 W	2	RN55C1003F	81349	
R13	Same as R12				

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R14	See **Table 5**				
R15	Resistor, Fixed, Film: 22Ω, 5%, 1/4 W	1	CF1/4-22 OHMS/J	09021	
R16	Same as R10				
T1	Transformer	1	24608-9	14632	
U1	Integrated Circuit	1	CA3011	02735	
U2	Integrated Circuit	1	LM318N	27014	
U3	Integrated Circuit	1	1H5040CPE	32293	
VR1	Voltage Regulator: 5.1 V	1	1N751A	80131	

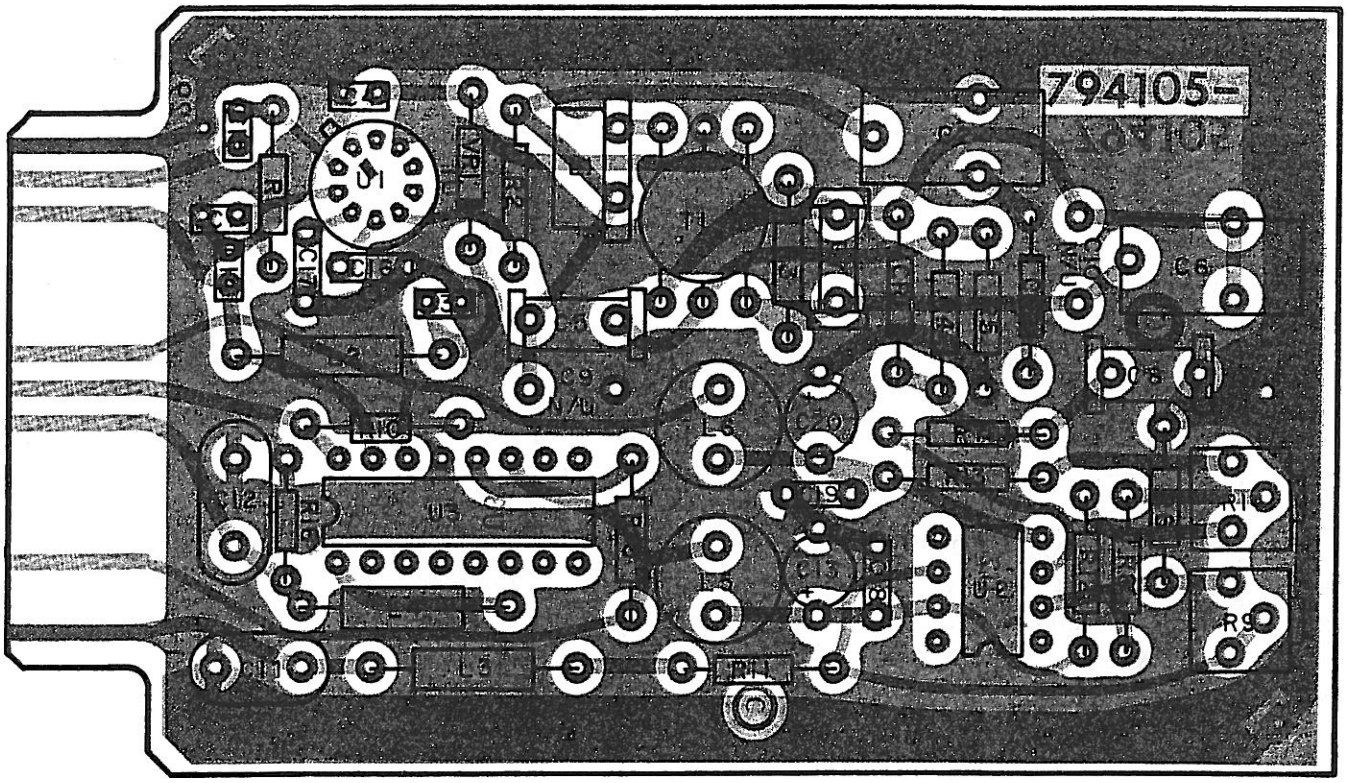

Figure S-12. Type 794105-X FM Demodulator (A3A17-A3A21), Location of Components

Table S-9. Type 794105-4 Component Differences

Type	C12 Cap/Cer/Tub	C11 Cap/Mica/Dipped	C12 Cap/Mica/Dipped	L3 Coil/Fixed	L4 Coil/Fixed	R4 Res/Fixed/Film	R6 Res/Fixed/Film	R8 Res/Fixed/Film	R14 Res/Trim/Film
794105-1 2 MHz	2.5 pF ±.25 pF 500V 301-000GOJO-279C 59660	430 pF 5% 500V DM15-431J 81349	300 pF 2% 500V CM05FD301G03 81349	75 µH 5% 1537-70 99800	100 µH, 5% 1537-76 99800	22 kΩ 5% 1/4W CF1/4-22K 09021	680Ω 5% 1/4W CF1/4-680 OHMS/J 09021	10 kΩ 5% 1/4W CF1/4-10K/J 09021	20 kΩ 10% 1/2W 62PAR20K 73138
794105-2 4 MHz	2.7 pF ±.25 pF 500V 301-000GOJO-279C 59660	130 pF 20% 500V CM05FD131G03 81349	180 pF 2% 500V CM05FD181G03 81349	39 µH 5% 1537-56 99800	47 µH, 5% 1537-60 99800	10 kΩ 5% 1/4W CF1/4-10K/J 09021	1.8 kΩ 5% 1/4W CF1/4-1.8K/J 09021	Same as R4	20 kΩ 10% 1/2W 62PAR20K 73138
794105-3 1 MHz	2.7 pF ±.25 pF 500V 301-000GOJO-279C 59660	820 pF 5% 300V DM15-821J 81349	1000 pF 2% 500V CM06FD102G03 81349	220 µH 5% 1537-92 99800	180 µH, 5% 1537-88 99800	22 kΩ 5% 1/4W CF1/4-22K/J 09021	680 Ω 5% 1/4W CF1/4-680 OHMS/J 09021	10 kΩ 5% 1/4W CF1/4-10K/J 09021	20 kΩ 10% 1/2W 62PAR20K 73138
794105-4 8 MHz	1.0 pF .25 pF 500V 301-000COKO-109C 59660	100 pF 2% 500V CM05FD101G03 81349	300 pF 2% 500V CM05FD301G03 81349	22 µH 10% 1537-44 99800	27 µH, 5% 1537-48 99800	10 kΩ 5% 1/4W CF1/4-10K/J 09021	1.8 kΩ 5% 1/4W CF1/4-1.8K/J 09021	Same as R4	20 kΩ 10% 1/2W 62PAR20K 73138

S.8.2.9 Type 726009-X Switchable IF BW Filter

REF DESIG PREFIX **A3A9-A3A13**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Not Used				
C2	Same as C1				
C3	Capacitor, Ceramic, Monolithic: 5100 pF, ±2%, 100 V	8	300-100-NPO-512G	51642	
C4	Same as C3				
C5	Capacitor, Ceramic, Disc: .1 µF, 20%, 50 V	5	34475-1	14632	
C6	Same as C3				
C7	Same as C5				
C8 Thru C10	Same as C3				
C11	Same as C5				
C12	Same as C3				
C13	Same as C5				
C14	Same as C3				
C15	Same as C5				
C16	Capacitor, Ceramic, Disc: 1, 20%, 50 V	1	8131-050-651-105M	59660	
C17 Thru C21	Same as C1				
C22	Capacitor, Ceramic, Disc: 24 pF, 5%, 50 V	1	8111-050-COGO-240J	59660	
C23	Same as C1				
C24	Capacitor, Variable, Ceramic: 5-25 pF, 100 V	1	518-000A5-25	59660	
C25 Thru C28	Same as C1				
CR1	Diode	1	1N462A	80131	
CR2	Diode	8	5082-3188	28480	
CR3 Thru CR9	Same as CR2				
CR10	Diode	2	1N4449	80131	
CR11	Same as CR10				
FL1	**See Table 10**				
FL2	**See Table 10**				
L1	Coil, Fixed: 18 µH, 10%	1	1025-50 (75084-15)	99800	
L2	Coil, Fixed, Molded: 22 µH, 10%	8	1025-52 (75084-16)	99800	
L3 Thru L9	Same as L2				
L10	Coil, Fixed: 2.7 µH, 10%	1	1025-30	99800	
L11	Coil, Fixed, Molded: 1.0 µH, 10%	1	1025-20 (75083-13)	99800	
Q1	Transistor	2	2N2222A	80131	
Q2	Same as Q1				
Q3	Transistor	1	2N2907/JAN	81350	

REF DESIG PREFIX **A3A9-A3A13**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
Q4	Transistor	1	3N211	80131	
Q5	Transistor	1	2N2857/JAN	81350	
R1	See Table 6				
R2	Resistor, Trimmer, Film: 1 kΩ, 10%, 1/2 W	1	62PR1K	73138	
R3	Resistor, Fixed, Film: 1.0 kΩ, 5%, 1/8 W	1	CF1/8-1.0K/J	09021	
R4	Resistor, Fixed, Film: 4.3 kΩ, 5%, 1/8 W	4	CF1/8-4.3K/J	09021	
R5	Same as R4				
R6 Thru R8	See Table 10				
R9	Same as R4				
R10	Same as R4				
R11	Resistor, Fixed, Film: 20 kΩ, 5%, 1/8 W	3	CF1/8-20K/J	09021	
R12	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	1	CF1/8-22K/J	09021	
R13	Same as R11				
R14	Resistor, Fixed, Film: 4.7 kΩ, 5%, 1/8 W	1	CF1/8-4.7K/J	09021	
R15	Resistor, Fixed, Film: 10 kΩ, 5%, 1/8 W	3	CF1/8-10K/J	09021	
R16	Same as R11				
R17	Resistor, Fixed, Film: 221Ω, 1%, 1/10 W	1	RN55C2210F	81349	
R18	Resistor, Fixed, Film: 47Ω, 5%, 1/8 W	3	CF1/8-47 OHMS?J	09021	
R19	Resistor, Fixed, Film: 33 kΩ, 5%, 1/8 W	1	CF1/8-33K/J	09021	
R20	Resistor, Fixed,Filem: 100Ω, 5%, 1/8 W	3	CF1/8-100 OHMS/J	09021	
R21	Resistor, Trimmer, Film: 10 kΩ, 10%, 1/2 W	1	62PR10K	73138	
R22	Resistor, Fixed, Film: 3.9 kΩ, 5%, 1/8 W	1	CF1/8-3.9K/J	09021	
R23	Resistor, Fixed, Film: 68 kΩ, 5%, 1/8 W	1	CF1/8-68K/J	09021	
R24	Same as R15				
R25	Same as R18				
R26	Resistor, Fixed, Film: 120Ω, 5%, 1/8 W	1	CF1/8-120 OHMS/J	09021	
R27	Same as R20				
R28	See Table 10				
R29	Resistor, Fixed, Film: 8.2 kΩ, 5%, 1/8 W	1	CF1/8-8.2K/J	09021	
R30	Same as R15				
R31	Same as R18				
R32	Same as R20				
R33	Resistor, Fixed, Film: 470Ω, 5%, 1/8 W	1	CF1/8-470 OHMS/J	09021	
R34	Resistor, Fixed, Film: 33Ω, 5%, 1/8 W	1	CF1/8-33 OHMS/J	09021	
R35	See Table 10				
T1	Transformer Assembly	1	180675-1	14632	

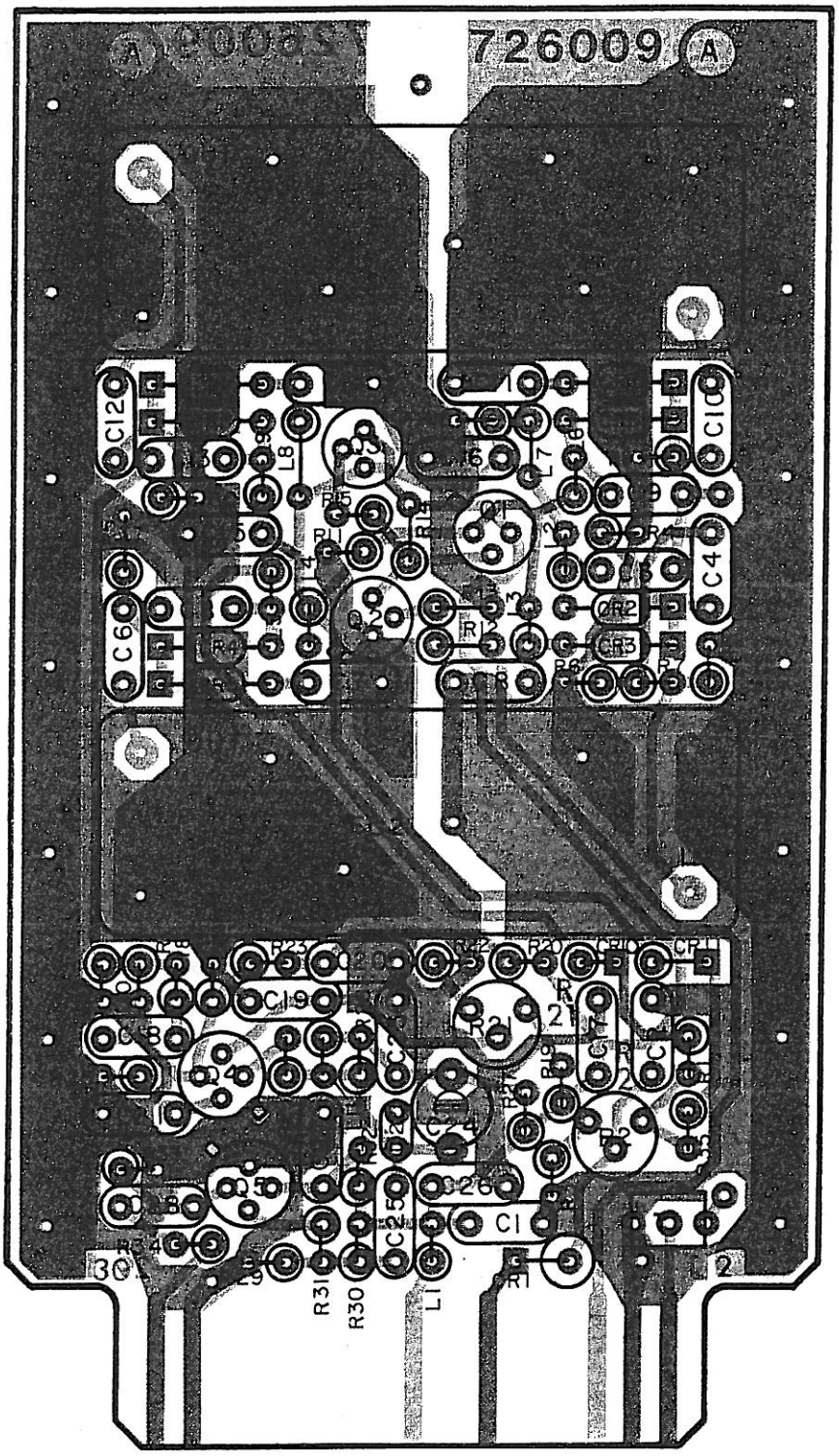

Figure S-13. Type 726009-X Switchable IF BW Filter (A3A17-A3A21), Location of Components

Table S-10. Type 726009-X Component Differences

Type	C29 Cap/Var/ Cer	FL1 Filter	FL2 Filter	L10 Coil/Fixed	R1 Res/Fixed/Film	R6 Res/Fixed/Film	R7 Res/Trim/Film	R8 Res/Fixed/Film	R28 Res/Trim/Film	R35 Res/Fixed/Film
726009-1 3.2/10 kHz	N/U	3.2 kHz 92289 14632	10 kHz 92293 14632	2.7 µH 10% 1025-30 99800	12.1 k 1% 1/10W RN55C1212F 81349	2.4 k 5% 1/8W CF1/8-2.4 K/J 09021	36 Ω 5% 1/8W CF1/8-36 OHMS/J 09021	Same as R6	N/U	1.78 k 1% 1/10W RN55C1781F 81349
726009-2 20/50 kHz	N/U	20 kHz 92294 14632	50 kHz 92291 14632	2.7 µH 10% 1025-30 99800	4.7 pF 1% 1/10W RN55C4751F 81349	910 Ω 5% 1/8W CF1/8-910 OHMS/J 09021	100 Ω 5% 1/8W CF1/8-100 OHMS/J 09021	Same as R6	3.9 k 5% 1/8W CF1/8-3.9 K/J 09021	6.81 k 1% 1/10W RN55C6811F 81349
726009-3 100/200 kHz	N/U	100 kHz 92292 14632	200 kHz 92282 14632	2.7 µH 10% 1025-30 99800	10 k 1% 1/10W RN55C1002F 81349	1.0 k 5% 1/8W CF1/8-1.0 K/J 09021	680 Ω 5% 1/8W CF1/8-680 OHMS/J 09021	Same as R6	1.5 k 5% 1/8W CF1/8-1.5 K/J 09021	2.43 k 1% 1/10W RN55C2431F 81349
726009-4 100/300 kHz	N/U	100 kHz 92292 14632	300 kHz 92290 14632	2.7 µH 10% 1025-30 99800	1.5 k 5% 1/10W RN55C1501F 81349	750 Ω 5% 1/8W CF1/8-750 OHMS/J 09021	100 Ω 5% 1/8W CF1/8-100 OHMS/J 09021	Same as R6	Same as R1	2.43 k 1% 1/10W RN55C2431F 81349
726009-5 6.4/10 kHz	N/U	6.4 kHz 92299 14632	10 kHz 92293 14632	2.7 µH 10% 1025-30 99800	12.1 k 1% 1/10W RN55C1212F 81349	N/U	N/U	N/U	N/U	18.2 k 1% 1/10W RN55C1822F 81349
726009-6 15/20 kHz	N/U	15 kHz 92300 14632	20 kHz 92294 14632	2.7 µH 10% 1025-30 99800	6.81 k 1% 1/10W RN55C6811F 81349	3.3 k 5% 1/8W CF1/8-3.3 K/J 09021	24 Ω 5% 1/8W CF1/8-24 OHMS/J 09021	Same as R6	6.2 k 5% 1/8W CF1/8-6.2 K/J 09021	8.25 k 1% 1/10W RN55C1825F 81349
726009-7 30/40 kHz	N/U	30 kHz 92301 14632	40 kHz 92294 14632	2.7 µH 10% 1025-30 99800	5.62 k 1% 1/10W RN55C5621F 81349	3.3 k 5% 1/8W CF1/8-3.3 K/J 09021	24 Ω 5% 1/8W CF1/8-24 OHMS/J 09021	Same as R6	2.7 k 5% 1/8W CF1/8-2.7 K/J 09021	Same as R1
726009-8 30/40 kHz	N/U	30 kHz 92301 14632	50 kHz 92291 14632	2.7 µH 10% 1025-30 99800	4.75 k 1% 1/10W RN55C4751F 81349	1.8 k 5% 1/8W CF1/8-1.8 K/J 09021	4.7 Ω 5% 1/8W CF1/8-4.7 OHMS/J 09021	Same as R6	2.7 k 1% 1/8W CF1/8-2.7 K/J 09021	5.62 k 1% 1/10W RN55C562F 81349
726009-9 75/100 kHz	N/U	75 kHz 92303 14632	100 kHz 92292 14632	2.7 µH 10% 1025-30 99800	2.43 k 1% 1/10W RN55C2431F 81349	3.3 k 5% 1/8W CF1/8-3.3 K/J 09021	24 Ω 5% 1/8W CF1/8-24 OHMS/J 09021	Same as R6	750 Ω 5% 1/8W CF1/8-750 OHMS/J 09021	2.74 k 1% 1/10W RN55C2741F 81349
726009-10 150/200 kHz	N/U	150 kHz 92304 14632	200 kHz 92282 14632	2.7 µH 10% 1025-30 99800	10 k 1% 1/10W RN55C1002F 81349	3.3 k 5% 1/8W CF1/8-3.3 K/J 09021	240 Ω 5% 1/8W CF1/8-240 OHMS/J 09021	Same as R6	1.5 k 1% 1/8W CF1/8-1.5 K/J 09021	3.65 k 1% 1/10W RN55C3651F 81349
726009-11 10/20 kHz	N/U	10 kHz 92293 14632	20 kHz 92294 14632	2.7 µH 10% 1025-30 99800	5.62 k 1% 1/10W RN55C5621F 81349	1.0 k 5% 1/8W CF1/8-1.0 K/J 09021	680 Ω 5% 1/8W CF1/8-680 OHMS/J 09021	Same as R6	N/U	10 k 1% 1/10W RN55C1002F 81349
726009-12 50/100 kHz	N/U	50 kHz 92291 14632	100 kHz 92292 14632	2.7 µH 10% 1025-30 99800	2.74 k 1% 1/10W RN55C2741F 81349	N/U	N/U	N/U	1.5 k 5% 1/8W CF1/8-1.5 K/J 09021	3.65 k 1% 1/10W RN55C3651F 81349
726009-13 250/500 kHz	N/U	250 kHz 92317 14632	500 kHz 92288 14632	2.7 µH 10% 1025-30 99800	1.33 k 1% 1/10W RN55C1331F 81349	1.5 k 5% 1/8W CF1/8-1.5 K/J 09021	56 Ω 5% 1/8W CF1/8-56 OHMS/J 09021	Same as R6	750 Ω 5% 1/8W CF1/8-750 OHMS/J 09021	1.58 k 1% 1/10W RN55C1581F 81349

Table S-10. Type 726009-X Component Differences (Continued)

Type	C29 Cap/Var/ Cer	FL1 Filter	FL2 Filter	L10 Coil/Fixed	R1 Res/Fixed/Film	R6 Res/Fixed/Film	R7 Res/Trim/Film	R8 Res/Fixed/Film	R28 Res/Trim/Film	R35 Res/Fixed/Film
726009-14	N/C	10 kHz	25 kHz	2.7 µH 10%	5.11 k 1% 1/10W	910 Ω 5% 1/8W	100 Ω 5% 1/8W	Same as R6	N/C	9.53 k 1% 1/10W
10/25 kHz		92293	92340	1025-30	RN55C5111F	CF1/8-910 OHMSJ	CF1/8-100 OHMSJ			RN55C9531F
		14632	14632	99800	81349	09021	09021			81349
726009-15	N/C	20 kHz	30 kHz	2.7 µH 10%	4.64 k 1% 1/10W	1.8 k 5% 1/8W	47 Ω 5% 1/8W	Same as R6	3.9 k 5% 1/8W	5.11 k 1% 1/10W
20/30 kHz		92294	92301	1025-30	RN55C4641F	CF1/8-1.8 KJ	CF1/8-47 OHMSJ		CF1/8-3.9 KJ	RN55C5111F
		14632	14632	99800	81349	09021	09021		09021	81349
726009-16	N/C	50 kHz	75 kHz	2.7 µH 10%	3.01 k 1% 1/10W				1.5 k 5% 1/8W	3.32 k 1% 1/10W
50/75 kHz		92291	92303	1025-30	RN55C3011F	N/C	N/C	N/C	CF1/8-1.5 KJ	RN55C3321F
		14632	14632	99800	81349				09021	81349
726009-17	N/C	3.2 kHz	6.4 kHz	2.7 µH 10%	20 k 1% 1/10W	2.4 k 5% 1/8W	36 Ω 5% 1/8W	Same as R6	N/C	1.78 k 1% 1/10W
3.2/6.4 kHz		92289	92299	1025-30	RN55C2002F	CF1/8-2.4 KJ	CF1/8-36 OHMSJ			RN55C1781F
		14632	14632	99800	81349	09021	09021			81349
726009-18	N/C	150 kHz	300 kHz	2.7 µH 10%	1.21 k 1% 1/10W	2.4 k 5% 1/8W	36 Ω 5% 1/8W	Same as R6	1.5 k 5% 1/8W	6.04 k 1% 1/10W
150/300 kHz		92304	92290	1025-30	RN55C1211F	CF1/8-2.4 KJ	CF1/8-36 OHMSJ		CF1/8-1.5 KJ	RN55C6041F
		14632	14632	99800	81349	09021	09021		09021	81349
726009-19	N/C	300 kHz	500 kHz	2.7 µH 10%	1.62 k 1% 1/10W	1.0 k 5% 1/8W	82 Ω 5% 1/8W	Same as R6	750 Ω 5% 1/8W	1.18 k 1% 1/10W
300/600 kHz		92290	92288	1025-30	RN55C1151F	CF1/8-1.0 KJ	CF1/8-82 OHMSJ		CF1/8-750 OHMSJ	RN55C1181F
		14632	14632	99800	81349	09021	09021		09021	81349
726009-20	N/C	200 kHz	300 kHz	2.7 µH 10%	1.4 k 1% 1/10W				750 Ω 5% 1/8W	9.09 k 1% 1/10W
200/300 kHz		92282	92290	1025-30	RN55C1401F	N/C	N/C	N/C	CF1/8-750 OHMSJ	RN55C9091F
		14632	14632	99800	81349				09021	81349
726009-21	N/C	10 kHz	30 kHz	2.7 µH 10%	4.32 k 1% 1/10W	820 Ω 5% 1/8W	100 Ω 5% 1/8W	Same as R6	N/C	10 k 1% 1/10W
10/30 kHz		92293	92301	1025-30	RN55C4321F	CF1/8-820 OHMSJ	CF1/8-100 OHMSJ			RN55C1002F
		14632	14632	99800	81349	09021	09021			81349
726009-22	N/C	10 kHz	50 kHz	2.7 µH 10%	4.75 k 1% 1/10W	560 Ω 5% 1/8W	180 Ω 5% 1/8W	Same as R6	N/C	1.33 k 1% 1/10W
10/50 kHz		92293	92291	1025-30	RN55C4751F	CF1/8-560 OHMSJ	CF1/8-180 OHMSJ			RN55C1332F
		14632	14632	99800	81349	09021	09021			81349
726009-23	5-20 pF	10 kHz	50 kHz	1.8 µH 10%	4.75 k 1% 1/10W	560 Ω 5% 1/8W	180 Ω 5% 1/8W	Same as R6	N/C	1.33 k 1% 1/10W
10/50 kHz	250V	92474	92473	1025-26	RN55C4751F	CF1/8-560 OHMSJ	CF1/8-180 OHMSJ			RN55C1332F
		14632	14632	99800	81349	09021	09021			81349
726009-24	5-20 pF	300 kHz	500 kHz	1.8 µH 10%	1.15 k 1% 1/10W	1.0 k 5% 1/8W	82 Ω 5% 1/8W	Same as R6	750 Ω 5% 1/8W	1.18 k 1% 1/10W
300/500 kHz	250V	92472	92471	1025-30	RN55C1151F	CF1/8-1.0 KJ	CF1/8-82 OHMSJ		CF1/8-750 OHMSJ	RN55C1181F
		14632	14632	99800	81349	09021	09021		09021	81349
726009-25	N/U	200 kHz	400 kHz	2.7 µH 10%	931 Ω 1% 1/10W	910 Ω 5% 1/8W	100 Ω 5% 1/8W	Same as R6	750 Ω 5% 1/8W	9.09 k 1% 1/10W
200/1400 kHz		92282	92283	1025-30	RN55C9310F	CF1/8-910 OHMSJ	CF1/8-100 OHMSJ		CF1/8-750 OHMSJ	RN55C9091F
		14632	14632	99800	81349	09021	09021		09021	81349
726009-26	N/U	25 kHz	75 kHz	2.7 µH 10%	3.01 k 1% 1/10W	820 Ω 5% 1/8W	100 Ω 5% 1/8W	Same as R6	N/C	4.64 k 1% 1/10W
25/75 kHz		92340	92303	1025-30	RN55C3011F	CF1/8-820 OHMSJ	CF1/8-100 OHMSJ			RN55C4641F
		14632	14632	99800	81349	09021	09021			81349

Table S-10. Type 726009-X Component Differences (Continued)

Type	C29 Cap/Var/ Cer	FL1 Filter	FL2 Filter	L10 Coil/Fixed	R1 Res/Fixed/Film	R6 Res/Fixed/Film	R7 Res/Trim/Film	R8 Res/Fixed/Film	R28 Res/Trim/Film	R35 Res/Fixed/Film
726009-27 40/20 kHz	N/U	6.4 kHz 92299 14632	20 kHz 92294 14632	2.7 µH 10% 1025-30 99800	6.81 k 1% 1/10W RN55C6811F 81349	2.4 k 5% 1/8W CF1/8-2.4 K/J 09021	36 Ω 5% 1/8W CF1/8-36 OHMS/J 09021	Same as R6	N/U	18.2 k 1% 1/10W RN55C1822F 81349
726009-28 50/150 kHz	N/U	50 kHz 92291 14632	150 kHz 92304 14632	2.7 µH 10% 1025-20 99800	7.5 k 1% 1/10W RN55C7501F 81349	Same as R3	68 Ω 5% 1/8W CF1/8-68 OHMS/J 09021	Same as R3	1.5 k 5% 1/8W CF1/8-1.5 K/J 09021	3.65 k 1% 1/10W RN55C3651F 81349
726009-29 300/400 kHz	5-20 pF 250V	300 kHz 92290 14632	400 kHz 92283 14632	1.8 µH 10% 1025-26 99800	931 Ω 1% 1/10W RN55C9310F 81349	Same as R3	82 Ω 5% 1/8W CF1/8-82 OHMS/J 09021	Same as R3	750 Ω 5% 1/8W CF1/8-750 OHMS/J 09021	1.18 k 1% 1/10W RN55C1181F 81349
726009-30 100/150 kHz	N/U	100 kHz 92292 14632	150 kHz 92304 14632	2.7 µH 10% 1025-30 99800	7.5 k 1% 1/10W RN55C7501F 81349	3.3 k 5% 1/8W CF1/8-3.3 K/J 09021	24 Ω 5% 1/8W CF1/8-24 OHMS/J 09021	Same as R6	1.5 k 5% 1/8W CF1/8-1.5 K/J 09021	2.43 k 1% 1/10W RN55C2431F 81349
726009-31 150/200 kHz	N/U	150 kHz 92304 14632	200 kHz 92282 14632	2.7 µH 10% 1025-20 99800	2.21 k 1% 1/10W RN55C2211F 81349	3.3 k 5% 1/8W CF1/8-3.3 K/J 09021	24 Ω 5% 1/8W CF1/8-24 OHMS/J 09021	Same as R6	1.5 k 5% 1/8W CF1/8-1.5 K/J 09021	3.65 k 1% 1/10W RN55C3651F 81349
726009-32 4.0/10 kHz	N/U	4 kHz 92574 14632	10 kHz 92293 14632	2.7 µH 10% 1025-30 99800	11 k 1% 1/10W RN55C1102F 81349	910 Ω 5% 1/8W CF1/8-910 OHMS/J 09021	100 Ω 5% 1/8W CF1/8-100 OHMS/J 09021	Same as R6	N/U	13.3 k 1% 1/10W RN55C1332F 81349
726009-33 3.2/10 kHz	5-20 pF 250V	3.2 kHz 92660 14632	10 kHz 92474 14632	1.8 µH 10% 1025-26 99800	12.1 k 1% 1/10W RN55C1212F 81349	2.4 k 5% 1/8W CF1/8-2.4 K/J 09021	36 Ω 5% 1/8W CF1/8-36 OHMS/J 09021	Same as R6	N/U	1.78 k 1% 1/10W RN55C1781F 81349
726009-34 20/50 kHz	5-20 pF 250V	20 kHz 92661 14632	50 kHz 92472 14632	1.8 µH 10% 1025-26 99800	4.75 k 1% 1/10W RN55C4751F 81349	910 Ω 5% 1/8W CF1/8-910 OHMS/J 09021	100 Ω 5% 1/8W CF1/8-100 OHMS/J 09021	Same as R6	Same as R22	6.81 k 1% 1/10W RN55C6811F 81349
726009-35 100/300 kHz	5-20 pF 250V	100 kHz 92662 14632	300 kHz 92472 14632	1.8 µH 10% 1025-26 99800	1.5 k 1% 1/10W RN55C1501F 81349	750 Ω 5% 1/8W CF1/8-750 OHMS/J 09021	100 Ω 5% 1/8W CF1/8-100 OHMS/J 09021	Same as R6	1.5 k 5% 1/8W CF1/8-1.5 K/J 09021	2.43 k 1% 1/10W RN55C2431F 81349
726009-36 25/34 kHz	N/U	25 kHz 92340 14632	34 kHz 92669 14632	2.7 µH 10% 1025-30 99800	4.64 k 1% 1/10W RN55C4641F 81349	1.2 k 5% 1/8W CF1/8-1.2 K/J 09021	68 Ω 5% 1/8W CF1/8-68 OHMS/J 09021	Same as R6	3.9 k 5% 1/8W CF1/8-3.9 K/J 09021	5.11 k 1% 1/10W RN55C5111F 81349
726009-37 40/50 kHz	N/U	40 kHz 92302 14632	50 kHz 92291 14632	2.7 µH 10% 1025-30 99800	3.65 k 1% 1/10W RN55C3651F 81349	1.8 k 5% 1/8W CF1/8-1.8 K/J 09021	47 Ω 5% 1/8W CF1/8-47 OHMS/J 09021	Same as R6	2.7 k 5% 1/8W CF1/8-2.7 K/J 09021	3.92 k 1% 1/10W RN55C3921F 81349

S.8.2.10 Type 726010-X Switchable IF BW Filter

REF DESIG PREFIX **A3A9-A3A13**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Disc: .1 µF, 20%, 50 V	1	34475-1	14632	
C2	Capacitor, Ceramic, Disc: 1 µF, 20%, 50 V	1	8131-050-651-105M	59660	
C3	Capacitor, Ceramic, Monolithic: 5100 pF, ±2%, 100 V	12	300-100-NPO-512G	51642	
C4 Thru C14	Same as C3				
C15	Capacitor, Ceramic, Monolithic: 4700 pF, ±2%, 100 V	8	300-100-NPO-472G	51642	
C16 Thru C22	Same as C15				
C23	Not Used				
C24	See **Table 11**				
CR1	Diode	8	5082-3188	28480	
CR2 Thru CR8	Same as CR1				
CR9	Diode	1	1N462A	80131	
CR10	Diode	2	1N4449	80131	
CR11	Same as CR10				
FL1	See **Table 11**				
FL2	See **Table 11**				
L1	Coil, Fixed, Molded: 22 µH, 10%	7	1025-52 (75084-16)	99800	
L2 Thru L7	Same as L1				
L8	See **Table 11**				
L9	Coil, Fixed: 18 µH, 10%	1	1025-50 (75084-15)	99800	
Q1	Transistor	2	2N2222A	80131	
Q2	Same as Q1				
Q3	Transistor	1	2N2907/JAN	81350	
Q4	Transistor	1	2N2857/JAN	81350	
R1	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	1	CF1/8-22K/J	09021	
R2	Resistor, Fixed, Film: 20 kΩ, 5%, 1/8 W	3	CF1/8-20K/J	09021	
R3	Resistor, Fixed, Film: 4.7 kΩ, 5%, 1/8 W	2	CF1/8-4.7K/J	09021	
R4	Resistor, Fixed, Film: 10 kΩ, 5%, 1/8 W	1	CF1/8-10K/J	09021	
R5	Same as R2				
R6	Same as R2				
R7	Resistor, Fixed, Film: 4.3 kΩ, 5%, 1/8 W	4	CF1/8-4.3K/J	09021	
R8	Same as R7				
R9 Thru R11	See **Table 11**				
R12	Same as R7				
R13	Same as R7				

REF DESIG PREFIX **A3A9-A3A13**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R14	See Table 11				
R15	See Table 11				
R16	See Table 11				
R17	Resistor, Trimmer, Film: 1 kΩ, 10%, 1/2 W	1	62PR1K	73138	
R18	Resistor, Fixed, Film: 1.5 kΩ, 5%, 1/8 W	1	CF1/8-1.5K/J	09021	
R19	Resistor, Fixed, Film: 100Ω, 5%, 1/8 W	2	CF1/8-100 OHMS/J	09021	
R20	Resistor, Fixed, Film: 6.2 kΩ, 5%, 1/8 W	1	CF1/8-6.2K/J	09021	
R21	Resistor, Fixed, Film: 47Ω, 5%, 1/8 W	1	CF1/8-47 OHMS/J	09021	
R22	Resistor, Fixed, Film: 6.8 kΩ, 5%, 1/8 W	1	CF1/8-6.8K/J	09021	
R23	Same as R19				
R24	See Table 11				
R25	Resistor, Fixed, Film: 470Ω, 5%, 1/8 W	1	CF1/8-470 OHMS/J	09021	
R26	See Table 11				
R27	Resistor, Trimmer, Film: 500Ω, 10%, 1/2 W	1	62PR500	7313u8	
R28	Resistor, Fixed, Film: 1.8 kΩ, 5%, 1/8 W	1	CF1/8-1.8K/J	09021	
T1	Transformer	1	180548-1	14632	
T2	Transformer	1	180289-1	14632	

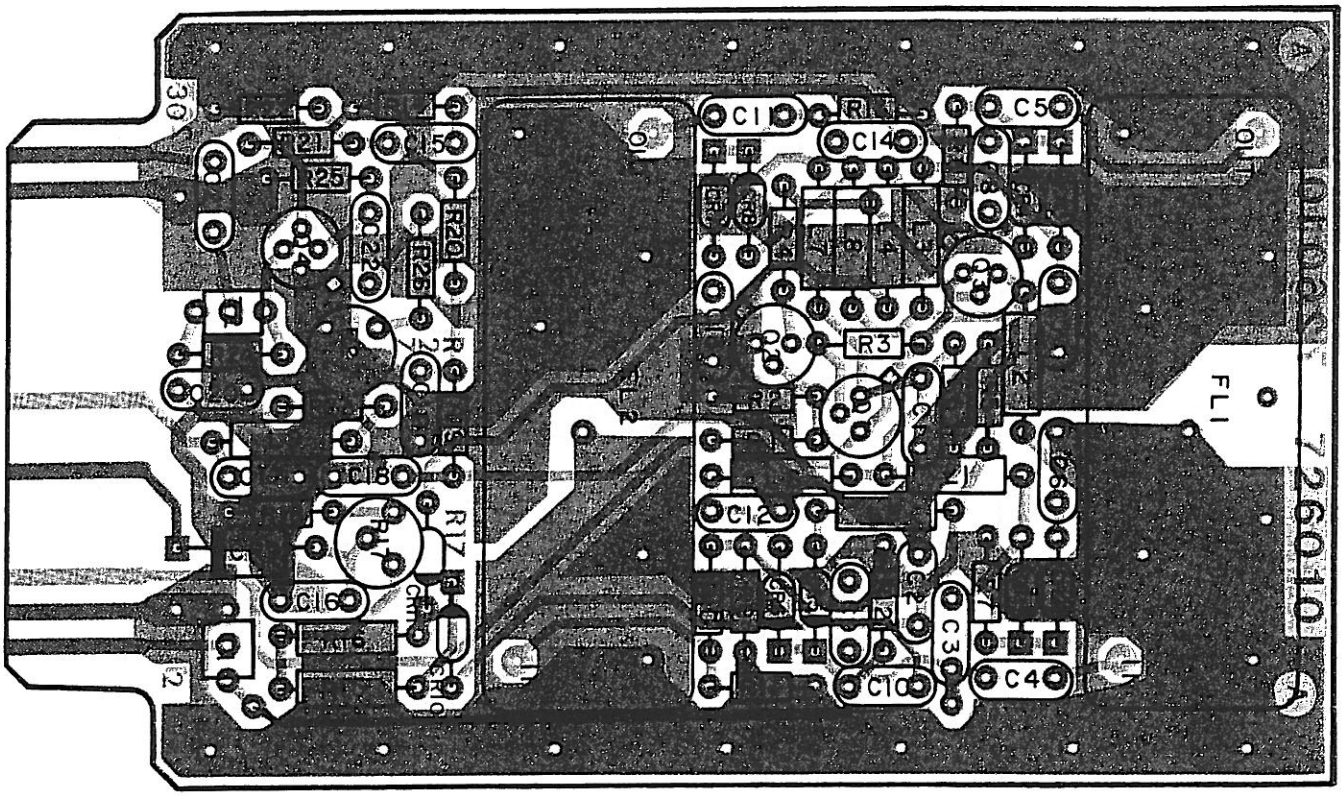

Figure S-14. Type 726010-X Switchable IF BW Filter Amplifier (A3A17-A3A21), Location of Components

Table S-11. Type 726010-X Component Differences

Type	FL1 Filter	FL2 Filter	C24 Cap/VarCer	L8 Coil/Fixed	R9 Res/Fixed/Film	R10 Res/Fixed/Film	R11 Res/Fixed/Film	R14 Res/Trim/Film	R15 Res/Fixed/Film	R16 Res/Trim/Film	R24 Res/Fixed/Film	R26 Res/Fixed/Film
726010-1	400 kHz	690 kHz		2.7 µH 10%	2.2 k 5% 1/8W	330 Ω 5% 1/8W	2.2 k 5% 1/8W	270 Ω 5% 1/8W	9.09 k 1% 1/10W	1.1 k 5% 1/8W	220 Ω 5% 1/8W	10 Ω 5% 1/8W
400/600 kHz	92283	92284	N/U	1025-30	CF1/8-2.2 K/J	CF1/8-330 OHMS/J	CF1/8-2.2 K/J	CF1/8-270 OHMS/J	RN55C9091F	CF1/8-1.1 K/J	CF1/8-220 OHMS/J	CF1/8-10 OHMS/J
	14632	14632		99800	09021	09021	09021	09021	81349	09021	09021	09021
726010-2	500 kHz	1000 kHz		2.7 µH 10%	1.0 k 5% 1/8W	68 Ω 5% 1/8W	910 Ω 5% 1/8W	270 Ω 5% 1/8W	1.0 k 1% 1/10W	1.21 k 1% 1/10W	220 Ω 5% 1/8W	10 Ω 5% 1/8W
500/1000 kHz	92288	92287	N/C	1025-30	CF1/8-1.0 K/J	CF1/8-68 OHMS/J	CF1/8-910 OHMS/J	CF1/8-270 OHMS/J	RN55C1001F	RN55C1211F	CF1/8-220 OHMS/J	CF1/8-10 OHMS/J
	14632	14632		99800	09021	09021	09021	09021	81349	81349	09021	09021
726010-3	1 MHz	2 MHz		2.7 µH 10%	1.0 k 5% 1/8W	68 Ω 5% 1/8W	1.0 k 5% 1/8W	240 Ω 5% 1/8W	562 Ω 1% 1/10W	750 Ω 1% 1/10W	220 Ω 5% 1/8W	10 Ω 5% 1/8W
1000/2000 kHz	92287	92296	N/C	1025-30	CF1/8-1.0 K/J	CF1/8-68 OHMS/J	CF1/8-1.0 K/J	CF1/8-240 OHMS/J	RN55C5620F	RN55C7500F	CF1/8-220 OHMS/J	CF1/8-10 OHMS/J
	14632	14632		99800	09021	09021	09021	09021	81349	81349	09021	09021
726010-4	2 MHz	4 MHz		3.9 µH 10%	1.0 k 5% 1/8W	68 Ω 5% 1/8W	750 Ω 5% 1/8W	220 Ω 5% 1/8W	301 Ω 1% 1/10W	392 Ω 1% 1/10W	220 Ω 5% 1/8W	15 Ω 5% 1/8W
2000/4000 kHz	92286	92285	N/C	1025-50	CF1/8-1.0 K/J	CF1/8-68 OHMS/J	CF1/8-750 OHMS/J	CF1/8-220 OHMS/J	RN55C3010F	RN55C3920F	CF1/8-220 OHMS/J	CF1/8-15 OHMS/J
	14632	14632		99800	09021	09021	09021	09021	81349	81349	09021	09021
726010-5	4 MHz	6 MHz		3.9 µH 10%	2.2 k 5% 1/8W	330 Ω 5% 1/8W		220 Ω 5% 1/8W	221 Ω 1% 1/10W	301 Ω 1% 1/10W	220 Ω 5% 1/8W	15 Ω 5% 1/8W
4000/6000 kHz	92285	92305	N/U	1025-50	CF1/8-2.2 K/J	CF1/8-330 OHMS/J	N/C	CF1/8-220 OHMS/J	RN55C2210F	RN55C3010F	CF1/8-220 OHMS/J	CF1/8-15 OHMS/J
	14632	14632		99800	09021	09021		09021	81349	81349	09021	09021
726010-6	4 MHz	8 MHz		68 Ω 5% 1/8W	120 Ω 5% 1/8W	3.3 k 5% 1/8W	220 Ω 5% 1/8W	562 Ω 1% 1/10W	200 Ω 1% 1/10W	220 Ω 5% 1/8W	15 Ω 5% 1/8W	
4000/8000 kHz	92286	92373	N/U	CF1/8-68 OHMS/J	CF1/8-120 OHMS/J	CF1/8-3.3 K/J	CF1/8-220 OHMS/J	RN55C5620F	RN55C2000F	CF1/8-220 OHMS/J	CF1/8-15 OHMS/J	
	14632	14632		99800	09021	09021	09021	81349	81349	09021	09021	
726010-7	1 MHz	1 MHz		2.7 µH 10%	680 Ω 5% 1/8W	120 Ω 5% 1/8W	3.3 k 5% 1/8W	270 Ω 5% 1/8W	1.8 k 1% 1/10W	1.74 k 1% 1/10W	1.2 k 5% 1/8W	10 Ω 5% 1/8W
300/1000 kHz	92290	92287	N/C	1025-30	CF1/8-680 OHMS/J	CF1/8-120 OHMS/J	CF1/8-3.3 K/J	CF1/8-270 OHMS/J	RN55C1181F	RN55C2000F	CF1/8-1.2 K/J	CF1/8-10 OHMS/J
	14632	14632		99800	09021	09021	09021	09021	81349	81349	09021	09021
726010-8	4 MHz			3.9 µH 10%	620 Ω 5% 1/8W	120 Ω 5% 1/8W	1.8 k 5% 1/8W	220 Ω 5% 1/8W	2.67 k 1% 1/10W	200 Ω 1% 1/10W	1.2 k 5% 1/8W	10 Ω 5% 1/8W
4000/10000 kHz	92286	N/U	N/U	1025-50	CF1/8-620 OHMS/J	CF1/8-120 OHMS/J	CF1/8-1.8 K/J	CF1/8-220 OHMS/J	RN55C2670F	RN55C2000F	CF1/8-1.2 K/J	CF1/8-10 OHMS/J
	14632			99800	09021	09021	09021	09021	81349	81349	09021	09021
726010-9	8 MHz			3.9 µH 10%	3.3 k 5% 1/8W	150 Ω 5% 1/8W	3.3 k 5% 1/8W	220 Ω 5% 1/8W	274 Ω 1% 1/10W	365 Ω 1% 1/10W	220 Ω 5% 1/8W	15 Ω 5% 1/8W
8000/10000 kHz	92373	N/U	N/U	1025-50	CF1/8-3.3 K/J	CF1/8-150 OHMS/J	CF1/8-3.3 K/J	CF1/8-220 OHMS/J	RN55C2740F	RN55C3650F	CF1/8-220 OHMS/J	CF1/8-15 OHMS/J
	14632			99800	09021	09021	09021	09021	81349	81349	09021	09021
726010-10	8 MHz			3.9 µH 10%	3.3 k 5% 1/8W	22 Ω 5% 1/8W	3.3 k 5% 1/8W	220 Ω 5% 1/8W	274 Ω 1% 1/10W	365 Ω 1% 1/10W	220 Ω 5% 1/8W	15 Ω 5% 1/8W
8000/10000 kHz	92373	N/C	N/C	1025-50	CF1/8-3.3 K/J	CF1/8-22 OHMS/J	CF1/8-3.3 K/J	CF1/8-220 OHMS/J	RN55C2740F	RN55C3660F	CF1/8-220 OHMS/J	CF1/8-15 OHMS/J
	14632			99800	09021	09021	09021	09021	81349	81349	09021	09021
726010-11	1 MHz	2 MHz	5-20 pF	1.8 µH 10%	1.0 k 5% 1/8W	68 Ω 5% 1/8W	1.0 k 5% 1/8W	270 Ω 5% 1/8W	562 Ω 1% 1/10W	750 Ω 5% 1/8W	240 Ω 5% 1/8W	10 Ω 5% 1/8W
1000/2000 kHz	92470	92469	250V	1025-26	CF1/8-1.0 K/J	CF1/8-68 OHMS/J	CF1/8-1.0 K/J	CF1/8-270 OHMS/J	RN55C5620F	CF1/8-760 OHMS/J	CF1/8-240 OHMS/J	CF1/8-10 OHMS/J
	14632	14632		99800	09021	09021	09021	09021	81349	09021	09021	09021
726010-12	4 MHz	6 MHz	5-20 pF	1.8 µH 10%	2.2 k 5% 1/8W	33 Ω 5% 1/8W		220 Ω 5% 1/8W	1.1 k 1% 1/10W	301 Ω 1% 1/10W	220 Ω 5% 1/8W	15 Ω 5% 1/8W
4000/6000 kHz	92468	92467	250V	1025-26	CF1/8-2.2 K/J	CF1/8-33 OHMS/J	N/U	CF1/8-220 OHMS/J	RN55C1101F	RN55C3010F	CF1/8-220 OHMS/J	CF1/8-15 OHMS/J
	14632	14632		99800	09021	09021		09021	81349	81349	09021	09021
726010-13	800 kHz	92489	N/U	2.7 µH 10%	1.2 k 5% 1/8W	68 Ω 5% 1/8W	1.5 k 5% 1/8W	220 Ω 5% 1/8W	1.15 k 1% 1/10W	6.98 k 1% 1/10W	220 Ω 5% 1/8W	10 Ω 5% 1/8W
800/1200 kHz	92488	14632		1025-30	CF1/8-1.2 K/J	CF1/8-68 OHMS/J	CF1/8-1.5 K/J	CF1/8-220 OHMS/J	RN55C1151F	RN65C6980F	CF1/8-220 OHMS/J	CF1/8-10 OHMS/J
	14632			99800	81349	09021	09021	09021	81349	81349	09021	09021

Table S-11. Type 726010-X Component Differences (Continued)

Type	FL1 Filter	FL2 Filter	C24 Cap/Var/Cer	L8 Coil/Fixed	R9 Res/Fixed/Film	R10 Res/Fixed/Film	R11 Res/Fixed/Film	R14 Res/Trim/Film	R15 Res/Fixed/Film	R16 Res/Trim/Film	R24 Res/Fixed/Film	R26 Res/Fixed/Film
726010-14 1600/3200 kHz	92490 14632	92491 14632	N/U	3.9 µH 10% 1025-50 99800	1.2 k 5% 1/8W CF1/8-1.2 K/J 09021	68 Ω 5% 1/8W CF1/8-68 OHMS/J 09021	Same as R9	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	267 Ω 1% 1/10W RN55C2670F 81349	511 Ω 1% 1/10W RN55C5110F 81349	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021
726010-15 4600/6000 kHz	4 MHz 92488 14632	6 MHz 92487 14632	5-20 pF 250V	1.8 µH 10% 1025-26 99800	2.2 k 5% 1/8W CF1/8-2.2 K/J 09021	33 Ω 5% 1/8W CF1/8-33 OHMS/J 09021	Same as R9	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	221 Ω 1% 1/10W RN55C2210F 81349	301 Ω 1% 1/10W RN55C3010F 81349	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	15 Ω 5% 1/8W CF1/8-15 OHMS/J 09021
726010-16 4000/6000 kHz	4 MHz 92285 14632	6 MHz 92305 14632	5-20 pF 250V	1.8 µH 10% 1025-26 99800	2.2 k 5% 1/8W CF1/8-2.2 K/J 09021	33 Ω 5% 1/8W CF1/8-33 OHMS/J 09021	Same as R9	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	1.1 k 1% 1/10W RN55C1101F 81349	301 Ω 1% 1/10W RN55C3010F 81349	Same as R14	15 Ω 5% 1/8W CF1/8-15 OHMS/J 09021
726010-17 1000/1500 kHz	1 MHz 92287 14632	1.5 MHz 92540 14632	N/U	2.7 µH 10% 1025-30 99800	1.8 k 5% 1/8W CF1/8-1.8 K/J 09021	47 Ω 5% 1/8W CF1/8-47 OHMS/J 09021	Same as R9	240 Ω 5% 1/8W CF1/8-240 OHMS/J 09021	93 Ω 1% 1/10W RN55C9310F 81349	9.09 Ω 1% 1/10W RN55C9090F 81349	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021
726010-18 600/1000 kHz	600 kHz 92284 14632	1 MHz 92287 14632	N/U	2.7 µH 10% 1025-30 99800	1.0 k 5% 1/8W CF1/8-1.0 K/J 09021	68 Ω 5% 1/8W CF1/8-68 OHMS/J 09021	Same as R9	270 Ω 5% 1/8W CF1/8-270 OHMS/J 09021	1.21 k 1% 1/10W RN55C1211F 81349	332 Ω 1% 1/10W RN55C3320F 81349	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021
726010-19 800/1000 kHz	800 kHz 92488 14632	1 MHz 92287 14632	N/U	2.7 µH 10% 1025-30 99800	2.2 k 5% 1/8W CF1/8-2.2 K/J 09021	33 Ω 5% 1/8W CF1/8-33 OHMS/J 09021	Same as R9	270 Ω 5% 1/8W CF1/8-270 OHMS/J 09021	1.21 k 1% 1/10W RN55C1211F 81349	698 Ω 1% 1/2W RN55C6980F 81349	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021
726010-20 2000/3200 kHz	2 MHz 92286 14632	2 MHz 92491 14632	N/U	3.9 µH 10% 1025-34 99800	1.0 k 5% 1/8W CF1/8-1.0 K/J 09021	68 Ω 5% 1/8W CF1/8-68 OHMS/J 09021	Same as R9	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	2.67 k 1% 1/10W RN55C2670F 81349	511 Ω 1% 1/10W RN55C5110F 81349	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021
726010-21 4000/10000 kHz	4 MHz 92285 14632	N/U	N/U	3.9 µH 10% 1025-34 99800	330 Ω 5% 1/8W CF1/8-330 OHMS/J 09021	360 Ω 5% 1/8W CF1/8-360 OHMS/J 09021	Same as R9	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	267 k 1% 1/10W RN55C2670F 81349	200 Ω 1% 1/10W RN55C2000F 81349	Same as R14	15 Ω 5% 1/8W CF1/8-15 OHMS/J 09021
726010-22 500/1000 kHz	500 kHz 92471 14632	N/U	5-20 pF 250V	1.8 µH 10% 1025-26 99800	1.0 k 5% 1/8W CF1/8-1.0 K/J 09021	68 Ω 5% 1/8W CF1/8-68 OHMS/J 09021	Same as R9	270 Ω 5% 1/8W CF1/8-270 OHMS/J 09021	1.0 k 1% 1/10W RN55C1001F 81349	1.21 k 1% 1/10W RN55C1211F 81349	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021
726010-23 2000/4000 kHz	2 MHz 92469 14632	4 MHz 92468 14632	5-20 pF 250V	1.8 µH 10% 1025-26 99800	1.0 k 5% 1/8W CF1/8-1.0 K/J 09021	68 Ω 5% 1/8W CF1/8-68 OHMS/J 09021	Same as R9	220 Ω 5% 1/8W CF1/8-220 OHMS/J 09021	301 Ω 1% 1/10W RN55C3010F 81349	392 Ω 1% 1/10W RN55C3920F 81349	Same as R14	15 Ω 5% 1/8W CF1/8-15 OHMS/J 09021

S.8.2.11 Type 796354-X Switchable FM Demod

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Monolithic: 4.7 ±.25, 100 V	4	100-100-N1500-479C	51642	
C2	Capacitor, Ceramic, Disc: .01 µF, 20%, 50 V	5	34453-1	14632	
C3 Thru C6	Same as C2				
C7	Capacitor, Ceramic, Monolithic: 4700 pF, ±2%, 100 V	2	300-100-NPO-472G	51642	
C8	Capacitor, Ceramic, Disc: .1 µF, 20%, 50 V	1	34475-1	14632	
C9	Same as C7				
C10	Same as C1				
C11	Capacitor, Ceramic, Disc: .47 µF, 20 %, 50 V	2	34452-1	14632	
C12	Same as C11				
C13	See **Table 12**				
C14	See **Table 12**				
C15	Capacitor, Electrolytic, Tantalum: 2.2 µF, 20%, 35 V	2	196D225X0035JE3	56289	
C16	Same as C15				
C17	Same as C13				
C18	Same as C14				
C19	Same as C1				
C20	Same as C1				
L1	Coil, Variable: 2.2-3.9 µH	1	6740-19	04213	
L2	Coil, Fixed: 18 µH, 10%	1	1025-50 (75084-15)	99800	
L3	Coil, Variable: 2.43-2.97 µH	1	6740-18	04213	
L4	See **Table 12**				
L5	See **Table 12**				
L6	Same as L4				
L7	Same as L5				
L8	Coil, Fixed: 1.2 mH, 10%	2	553-3635-38	71279	
L9	Same as L8				
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/8 W	1	CF1/8-220 OHMS/J	09021	
R2	Resistor, Fixed, Film: 2.37 kΩ, 1%, 1/10 W	1	RN55C2371F	81349	
R3	Resistor, Fixed, Film: 10 kΩ, 5%, 1/8 W	1	CF1/8-10K/J	09021	
R4	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	2	CF1/8-22K/J	09021	
R5	Resistor, Fixed, Film: 4.75 kΩ, 1%, 1/10 W	1	RN55C4751F	81349	
R6	See **Table 12**				
R7	Resistor, Fixed, Film: 46.4 kΩ, 1%, 1/10 W	3	RN55C4642F	81349	
R8	Resistor, Fixed, Film: 51.1 kΩ, 1%, 1/10 W	1	RN55C5112F	81349	
R9	Same as R7				
R10	Resistor, Fixed, Film: 22Ω, 5%, 1/8 W	1	CF1/8-22 OHMS/J	09021	
R11	Same as R7				
R12	Resistor, Fixed, Film: 1.0 kΩ, 5%, 1/8 W	2	CF1/8-1.0K/J	09021	
R13	Resistor, Fixed, Film: 26.7 kΩ, 1%, 1/10 W	2	RN55C2672F	81349	
R14	Resistor, Trimmer, Film: 10 kΩ, 10%, 1/2 W	1	860X10K	94271	

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R15	Same as R13				
R16	Same as R12				
R17	Resistor, Trimmer, Film: 20 kΩ, 10%, 1/2 W	1	860X20K	94271	
R18	Resistor, Fixed, Film: 470Ω, 5%, 1/8 W	1	CF1/8-470 OHMS/J	09021	
R19	See Table 12				
R20	See Table 12				
R21	Same as R4				
U1	Integrated Circuit	1	CA3089E	02735	
U2	Integrated Circuit	1	1H5040CPE	32293	
U3	Integrated Circuit	1	MC1458N	18324	
U4	Integrated Circuit	2	DG303CJ	17856	
U5	Same as U4				
Y1	See Table 12				

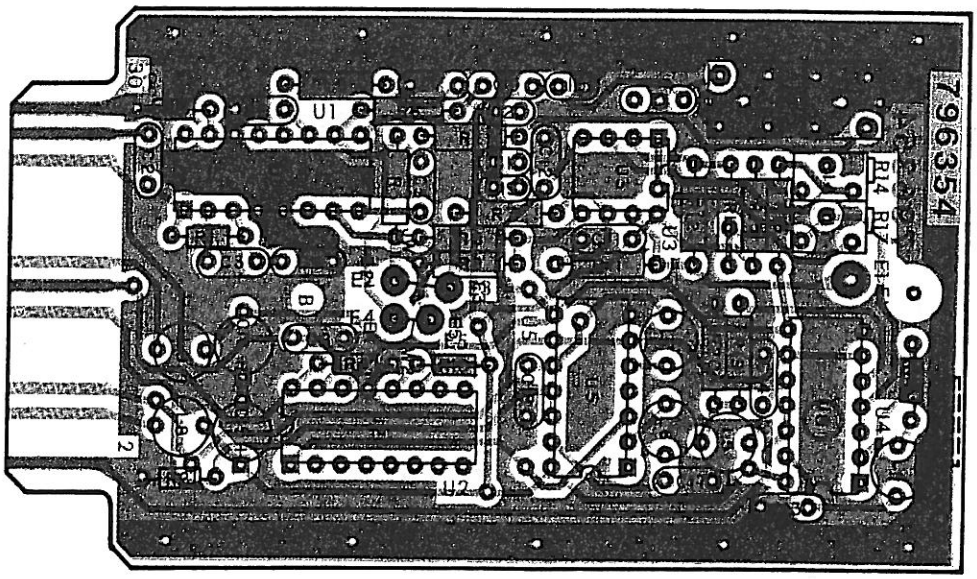

Figure S-15. Type 796354-X Switchable FM Demodulator (A3A17-A3A21), Location of Components

Table S-12. Type 796354-X Component Differences

Type	C13 Cap/Cer/Disc	C14 Cap/Cer/Disc	L4 Coil/Fixed/Molded	L5 Coil/Fixed/Molded	R6 Res/Fixed/Film	R19 Res/Fixed/Film	R20 Res/Fixed/Film	Y1 Crystal/DSCRM
796354-1 3.2/10 kHz	2.7 µF 20% 100V 831M100-651-274M 59660	.68 µF 10% 100V CK06BX683K 81349	56 mH ±15% 2534-66 99800	22 mH ±15% 2534-56 99800	1.21 k 1% 1/10W RN55C2211F 81349	1.47 k 1% 1/10W RN55C1471F 81349	681 k 1% 1/10W RN55C6810F 81349	20 kHz 2378F 25120
796354-2 20/50 kHz	.047 µF 10% 100V CK06BX473K 81349	.01 µF 10% 200V CK06BX103K 81349	10 mH ±10% 2534-48 99800	4.9 mH ±10% 2534-38 99800	9.09 k 1% 1/10W RN55C9091F 81349	1.18 k 1% 1/10W RN55C1181F 81349	787 Ω 5% 1/10W RN55C7870F 81349	35 kHz 3099 74306
796354-3 6.4/10 kHz	.1 µF 20% 50V 34475-1 14632	.1 µF 20% 50V 34475-1 14632	33 mH ±15% 2534-60 99800	22 mH ±15% 2534-56 99800	2.21 k 1% 1/10W RN55C2211F 81349	750 Ω 5% 1/10W RN55C7500F 81349	1.33 k 1% 1/10W RN55C1331F 81349	20 kHz 2378F 25120
796354-4 15/20 kHz	.68 µF 10% 100V CK06BX683K 81349	.047 µF 10% 100V CK06BX473K 81349	15 mH ±15% 2534-52 99800	10 mH ±10% 2534-48 99800	2.21 k 1% 1/10W RN55C2211F 81349	619 Ω 1% 1/10W RN55C6190F 81349	2.0 k 1% 1/10W RN55C2001F 81349	20 kHz 2378F 25120
796354-5 30/50 kHz	.33 µF 10% 100V CK06BX333K 81349	0.22 µF 10% 100V CK06BX223K 81349	6.8 mH ±10% 2534-44 99800	4.7 mH 10% 2534-40 99800	9.09 k 1% 1/10W RN55C9091F 81349	750 Ω 1% 1/10W RN55C7500F 81349	11 k 1% 1/10W RN55C1101F 81349	35 kHz 3099 74306
796354-6 30/40 kHz	.33 µF 10% 100V CK06BX333K 81349	0.22 µF 10% 100V CK06BX223K 81349	6.8 mH ±10% 2534-44 99800	4.7 mH 10% 2534-40 99800	9.09 k 1% 1/10W RN55C9091F 81349	619 Ω 1% 1/10W RN55C6190F 81349	2.0 k 1% 1/10W RN55C2001F 81349	35 kHz 3099 74306
796354-7 10/20 kHz	.68 µF 10% 100V CK06BX683K 81349	.047 µF 10% 100V CK06BX473K 81349	22 mH ±15% 2534-56 99800	10 mH ±10% 2534-48 99800	2.21 k 1% 1/10W RN55C2211F 81349	953 Ω 1% 1W RN55C9350F 81349	953 Ω 1% 1W RN55C9350F 81349	20 kHz 2378F 25120
796354-8 10/25 kHz	.68 µF 10% 100V CK06BX683K 81349	.039 µF 10% 100V CK06BX393K 81349	22 mH ±15% 2534-56 99800	8.2 mH ±10% 2534-46 99800	2.21 k 1% 1/10W RN55C2211F 81349	1.18 k 1% 1/10W RN55C1181F 81349	787 Ω 1% 1W RN55C7870F 81349	20 kHz 2378F 25120
796354-9 20320 kHz	.047 µF 10% 100V CK06BX473K 81349	.33 µF 10% 100V CK06BX333K 81349	10 mH ±10% 2534-48 99800	6.8 mH 10% 2534-44 99800	9.09 k 1% 1/10W RN55C9091F 81349	698 Ω 1% 1W RN55C6980F 81349	14 k 1% 1/10W RN55C1401F 81349	35 kHz 3099 74306
796354-10 3.2/6.4 kHz	2.7 µF 20% 100V 831M100-651-274-M 59660	.1 µF 20% 50V 34475-1 14632	56 mH ±15% 2534-66 99800	33 mH ±15% 2534-06 99800	2.21 k 1% 1/10W RN55C2211F 81349	953 Ω 1% 1W RN55C9530F 81349	953 Ω 1% 1W RN55C9530F 81349	20 kHz 2378F 25120
796354-11 10/30 kHz	.68 µF 10% 100V CK06BX683K 81349	.33 µF 10% 100V CK06BX333K 81349	22 mH ±15% 2534-56 99800	6.8 mH 10% 2534-44 99800	9.09 k 1% 1/10W RN55C9091F 81349	1.33 k 1% 1/10W RN55C1331F 81349	681 Ω 1% 1W RN55C6810F 81349	35 kHz 3099 74306
796354-12 10/50 kHz	.68 µF 10% 100V CK06BX683K 81349	0.22 µF 10% 100V CK06BX233K 81349	22 mH ±15% 2534-56 99800	4.7 mH 10% 2534-40 99800	9.09 k 1% 1/10W RN55C9091F 81349	2.43 k 1% 1/10W RN55C2431F 81349	562 Ω 1% 1W RN55C5620F 81349	35 kHz 3099 74306

Table S-12. Type 796354-X Component Differences (Continued)

Type	C13 Cap/Cer/Disc	C14 Cap/Cer/Disc	L4 Coil/Fixed/Molded	L5 Coil/Fixed/Molded	R6 Res/Fixed/Film	R19 Res/Fixed/Film	R20 Res/Fixed/Film	Y1 Crystal/DSCRM
796354-13 6.4/20 kHz	.1 µF 10% 100V CK06BX104K 81349	.047 µF 10% 100V CK06BX473K 81349	33 mH ±15% 2534-60 99800	10 mH ±15% 2534-48 99800	2.21 k 1% 1/10W RN55C2211F 81349	1.47 k 1% 1/10W RN55C1471F 81349	681 Ω 1% 1/10W RN55C6810F 81349	20 kHz 2378F 25120
796354-14 4.0/10 kHz	.15 µF 10% 50V CK06BX154K 81349	.068 µF 10% 100V CK06BX683K 81349	56 mH ±15% 2534-66 99800	22 mH ±15% 2534-56 99800	2.21 k 1% 1/10W RN55C2211F 81349	1.18 k 1% 1/10W RN55C1181F 81349	787 Ω 1% 1/10W RN55C7870F 81349	20 kHz 2378F 25120
796354-15 25/34 kHz	.039 µF 10% 100V CK06BX393K 81349	.027 µF 10% 100V M39014/02-1384 81349	8.2 mH ±10% 2534-46 99800	6.8 mH ±10% 2534-44 99800	9.09 k 1% 1/10W RN55C9091F 81349	634 Ω 1% 1/2W RN55C6340F 81349	1.78 k 1% 1/2W RN55C1781F 81349	35 kHz 3099 74306
796354-16 40/50 kHz	.022 µF 10% 100V CK06BX223K 81349	.018 µF 10% 100V CK06BX183K 81349	4.7 mH ±10% 2534-40 99800	Same as L5	9.09 k 1% 1/10W RN55C9091F 81349	604 Ω 1% 1/10W RN55C6040F 81349	2.37 k 1% 1/10W RN55C2371F 81349	35 kHz 3099 74306

S.8.2.12 Type 796355-X Switchable FM Demod

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Ceramic, Disc: .01 µF, 20%, 50 V	5	34453-1	14632	
C2	Same as C1				
C3	Same as C1				
C4	Capacitor, Ceramic, Monolithic: 4700 pF, ±2%, 100 V	2	300-100-NPO-472G		
C5	Same as C4				
C6	Capacitor, Ceramic, Monolithic: 47 pF, 5%, 100 V	1	150-100-N750-470J	51642	
C7	Capacitor, Ceramic, Disc: .1 µF, 20%, 50 V	1	34475-1	14632	
C8	Capacitor, Variable, Air: .8-10.0 pF, 250 V	1	5201/W HDW	91293	
C9	Capacitor, Ceramic, Monolithic: 120 pF, 2%, 100 V	1	200-100-NPO-121G	51642	
C10	Capacitor, Ceramic, Disc: .47 µF, 20%, 50 V	2	34452-1	14632	
C11	Same as C10				
C12	Same as C1				
C13	See Table 13				
C14	Capacitor, Electrolytic, Tantalum: 2.2 µF, 20%, 35 V	2	196D225X0035JE3	56289	
C15	Same as C14				
C16	Same as C1				
C17	Same as C13				
L1	Coil, Fixed, Molded: 10 µH	1	1025-44 (75084-12)	99800	
L2	Coil, Fixed: 18 µH, 10%	1	1025-50 (75084-15)	99800	
L3	Coil, Fixed: .32 µH	1	21210-168	14632	
L4	Coil, Fixed, Molded: 2.2 mH, ±10%	2	2534-32	99800	
L5	See Table 13				
L6	Coil, Fixed, Molded: 1.2 mH, ±10%	2	2534-26	99800	
L7	Same as L6				
L8	Same as L4				
L9	Same as L5				
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/8 W	1	CF1/8-220 OHMS/J	09021	
R2	Resistor, Fixed, Film: 10 kΩ, 5%, 1/8 W	1	CF1/8-10K/J	09021	
R3	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	2	CF1/8-22K/J	09021	
R4	Not Used				
R5	Resistor, Fixed, Film: 4.75 kΩ, 1%, 1/10 W	1	RN55C4751F	81349	
R6	Resistor, Fixed, Film: 46.4 kΩ, 1%, 1/10 W	1	RN55C4642F	81349	
R7	Resistor, Fixed, Film: 22Ω, 5%, 1/8 W	1	CF1/8-22 OHMS/J	09021	
R8	Resistor, Fixed, Film: 51.1 kΩ, 1%, 1/10 W	1	RN55C5112F	81349	
R9	Resistor, Fixed, Film: 75 kΩ, 1%, 1/10 W	2	RN55C7502F	81349	
R10	Same as R9				
R11	Resistor, Fixed, Film: 5.1 kΩ, 1%, 1/10 W	2	RN55C5111F	81349	
R12	Same as R11				
R13	Resistor, Trimmer, Film: 100 kΩ, 10%, 1/2 W	1	860X-100K	94241	
R14	Resistor, Fixed, Film: 26.7 kΩ, 1%, 1/10 W	2	RN55C2672F	81349	
R15	Resistor, Trimmer, Film: 5 kΩ, 10%, 1/2 W	1	860X-5K	94271	

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R16	Same as R14				
R17	Resistor, Fixed, Film: 470Ω, 5%, 1/8 W	1	CF1/8-470 OHMS/J	09021	
R18	See Table 13				
R19	See Table 13				
R20	Same as R3				
U1	Integrated Circuit	1	CA3089E	02735	
U2	Integrated Circuit	1	MC1458N	18324	
U3	Integrated Circuit	1	1H5040CPE	32293	
U4	Integrated Circuit	2	DG303CJ	17856	
U5	Same as U4				

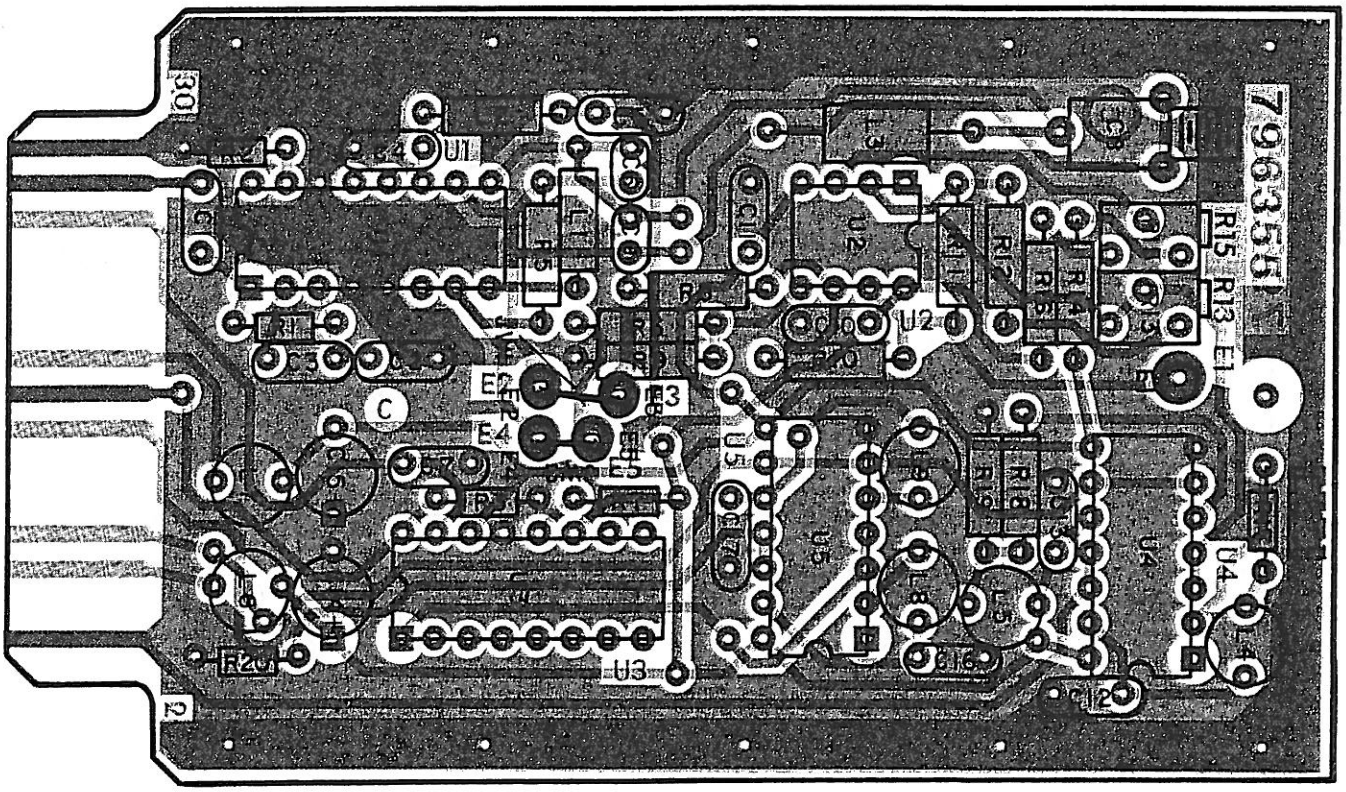

Figure S-16. Type 796355-X Switchable FM Demodulator (A3A17-A3A21), Location of Components

Table S-13. Type 796355-X Component Differences

Type	C13 Cap/Cer/Mono	L5 Coil/Fixed/Molded	R18 Res/Fixed/Film	R19 Res/Fixed/Film
796355-1 100/200 kHz	4700 pF ±2% 100V 300-100-NPO-472G 51642	1.0 mH ±10% 2534-24 99800	953 Ω 1% 1W RN55C9530F 81349	Same as R18
796355-2 100/300 kHz	3300 pF ±2% 100V 200-100-NPO-332G 51642	.68 mH ±10% 2534-20 99800	1.4 kΩ 1% 1/10W RN55C1401F 81349	715 Ω 1% 1/10W RN55C7150F 81349
796355-3 75/100 kHz	10000 pF ±2% 100V 300-100-NPO-103G 51642	2.2 mH ±10% 2534-32 99800	619Ω 1% 1/10W RN55C6190F 81349	1.82 kΩ 1% 1/10W RN55C1821F 81349
796355-4 150/200 kHz	4700 pF ±2% 100V 300-100-NPO-472G 51642	1.0 mH ±10% 2534-25 99800	19Ω 1% 1/10W RN55C6190F 81349	1.82 kΩ 1% 1/10W RN55C1821F 81349
796355-5 50/100 kHz	10000 pF ±2% 100V 300-100-NPO-103G 51642	2.2 mH ±10% 2534-32 99800	953 Ω 1% 1W RN55C9530F 81349	Same as R18
796355-6 50/75 kHz	10000 pF ±2% 100V 300-100-NPO-103G 51642	2.7 mH ±10% 2534-34 99800	6980 Ω 1% 1W RN55C6980F 81349	1.4 kΩ 1/10W RN55C1401F 81349
796355-7 150/300 kHz	3300 pF, ±2% 100V 200-100-NPO-332G 51642	.68 mH ±10% 2534-20 99800	953 Ω 1% 1W RN55C9530F 81349	Same as R18
796355-8 200/300 kHz	3000 pF ±2% 100V 200-100-NPO-302G 51642	.68 mH ±10% 2534-20 99800	680 Ω 1% 1W RN55C6980F 81349	1.4 kΩ 1% 1/10W RN55C1401F 81349
796355-9 50/150 kHz	6200 pF 2% 100V 300-100-NPO-622G 51642	1.5 mH ±10% 2534-26 99800	1.4 k 1% 1/10W RN55C1401F 81349	715Ω 1% 1/10 W RN55C7150F 81349

S.8.2.13 Type 796356-X Switchable FM Demod

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	See Table 14				
C2	Same as C1				
C3	See Table 14				
C4	Same as C3				
C5	Same as C3				
C6	Capacitor, Ceramic, Disc: .1 µF, 20%, 50 V	2	34475-1	14632	
C7	Same as C6				
C8	Same as C3				
C9	Not Used				
C10	Same as C3				
C11	Capacitor, Ceramic, Disc: 1.5 pF, ±.1 pF, 100 V	1	8101-100-COKO-1598	59660	
C12	Capacitor, Variable, Ceramic: 2.5-9 pF, 25 V	2	518-000A2.5-9	59660	
C13	Capacitor, Ceramic, Monolithic: 2.7 pF, ±.1, 100 V	1	100-100-NPO-279B	51642	
C14	Same as C3				
C15	Same as C12				
C16	Not Used				
C17	Capacitor, Ceramic, Monolithic: 4.7 pF, ±0.25 pF, 100 V	1	100-100-N1500-479C	51642	
C18	Capacitor, Ceramic, Monolithic: 22 pF, ±5%, 100 V	1	100-100-NPO-220J	51642	
C19	Same as C3				
C20	Capacitor, Ceramic, Disc: .47 µF, 20%, 50 V	2	34452-1	14632	
C21	Same as C20				
C22	See Table 14				
C23	See Table 14				
C24	Same as C22				
C25	Same as C23				
CR1	Diode	2	5082-2800	28480	
CR2	Same as CR1				
L1	Coil, Fixed, Molded: 1.2 mH, ±10%	2	2534-26	99800	
L2	Same as L1				
L3	Inductor	1	22295-63	14632	
L4	Coil, Fixed: 18 µH, 10%	1	1025-50 (75084-15)	99800	
L5	See Table 14				
L6	See Table 14				
L7	Same as L5				
L8	Same as L6				
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/8 W	1	CF1/8-220 OHMS/J	09021	
R2	Resistor, Fixed, Film: 680Ω, 5%, 1/8 W	1	CF1/8-680 OHMS/J	09021	
R3	Resistor, Fixed, Film: 18 kΩ, 5%, 1/8 W	1	CF1/8-18K/J	09021	
R4	Resistor, Fixed, Film: 100Ω, 5%, 1/8 W	1	CF1/8-100 OHMS/J	09021	
R5	See Table 14				
R6	See Table 14				

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R7	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	4	CF1/8-22K/J	09021	
R8	Same as R7				
R9	Resistor, Fixed, Film: 100 kΩ, 1%, 1/10 W	2	RN55C1003F	81349	
R10	Resistor, Trimmer, Film: 20 kΩ, 10%, 1/2 W	1	860X20K	94271	
R11	Same as R9				
R12	Resistor, Fixed, Film: 10 kΩ, 5%, 1/8 W	2	CF1/8-10K/J	09021	
R13	Resistor, Fixed, Film: 20 kΩ, 5%, 1/8 W	1	CF1/8-20K/J	09021	
R14	Same R12				
R15	Same R7				
R16	Resistor, Trimmer, Film: 200 kΩ, 10%, 1/2 W	1	860X200K	94271	
R17	Resistor, Fixed, Film: 22Ω, 5%, 1/8 W	1	CF1/8-22 OHMS/J	09021	
R18	Resistor, Fixed, Film: 470Ω, 5%, 1/8 W	1	CF1/8-470 OHMS/J	09021	
R19	See **Table 14**				
R20	See **Table 14**				
R21	Same as R7				
R22	Not Used				
R23	Not Used				
T1	Transformer	1	24608-8	14632	
U1	Integrated Circuit	1	CA3011	02735	
U2	Integrated Circuit	1	LM318N	27014	
U3	Integrated Circuit	1	1H5040CPE	32293	
U4	Integrated Circuit	2	DG303CJ	17856	
U5	Same as U4				
VR1	Diode	1	1N746A	80131	
VR2	Diode	1	1N751A	80131	

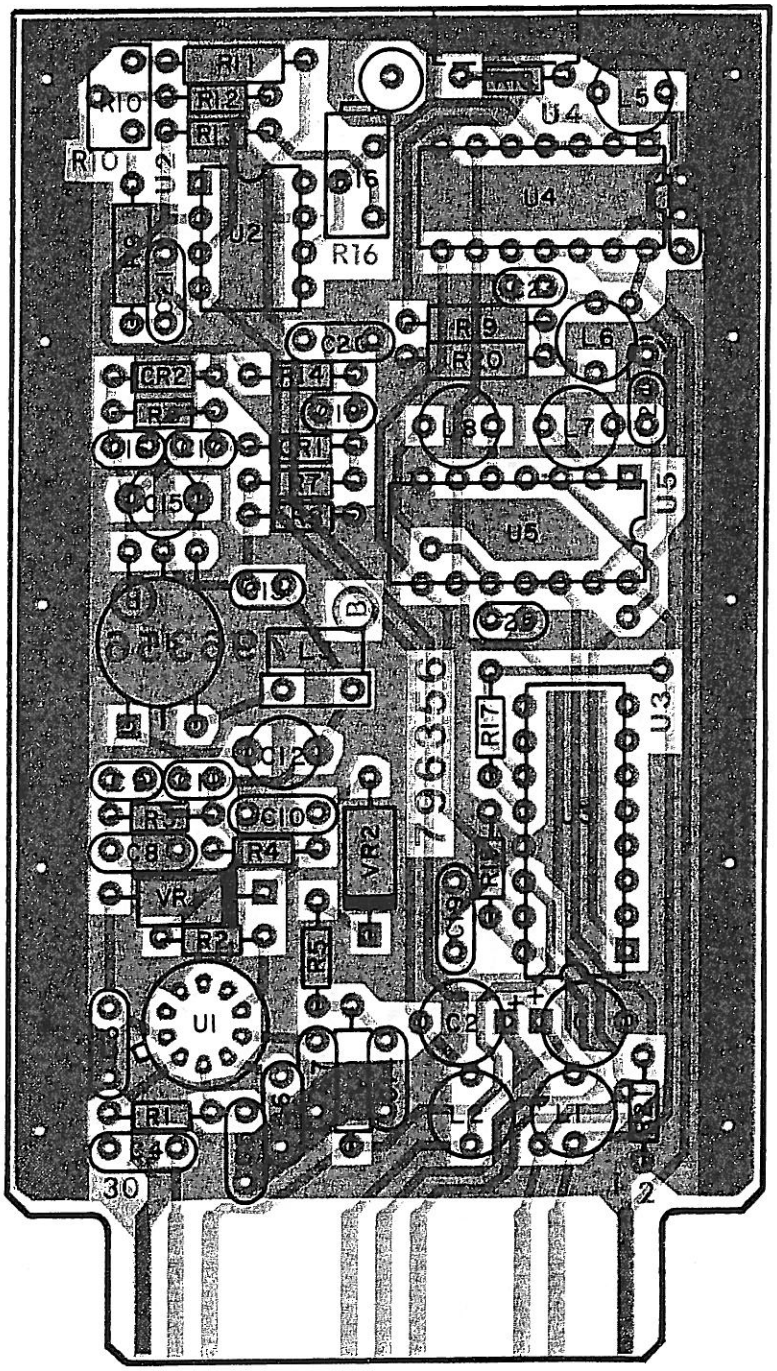

Figure S-17. Type 796356-X Switchable FM Demodulator (A3A17-A3A21), Location of Components

Table S-14. Type 796356-X Component Differences

Type	C1 Cap/Elec/Tant	C3 Cap/Cer/Mono	C22 Cap/Cer/Mono	C23 Cap/Cer/Mono	L5 Coil/Fixed/Molded	L6 Coil/Fixed/Molded	R5 Res/Fixed/Film	R6 Res/Fixed/Film	R19 Res/Fixed/Film	R20 Res/Fixed/Film
796356-1 400/600 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	2400 pF ±2% 100V 200-100-NPO-242G 51642	1600 pF ±2% 100V 200-100-NPO-162G 51642	.56 mH 10% 2534-18 99800	.33 mH 10% 2534-12 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	12 k 5% 1/8W CF1/8-12 K/J 09021	715 Ω 5% 1/10W RN55C7150F 81349	1.4 k 1% 1/10W RN55C1401F 81349
796356-2 500/1000 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	2000 pF ±2% 100V 200-100-NPO-202G 51642	910 pF ±2% 100V 200-100-NPO-911G 51642	.39 mH ±10% 2534-14 99800	.22 mH ±10% 2534-08 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	12 k 5% 1/8W CF1/8-12 K/J 09021	953 Ω 1% 1W RN55C9530F 81349	953 Ω 1% 1W RN55C9530F 81349
796356-3 250/500 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	3900 pF ±2% 100V 300-100-NPO-392G 51642	2000 pF ±2% 100V 200-100-NPO-202G 51642	.82 mH ±10% 2534-22 99800	.39 mH ±10% 2534-14 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	12 k 5% 1/8W CF1/8-12 K/J 09021	953 Ω 1% 1W RN55C9530F 81349	953 Ω 1% 1W RN55C9530F 81349
796356-4 15/20 kHz	100 µF ±20% 20V 196D107XX0020TE4 56289	100 µF ±20% 20V 196D107XX0020TE4 51642	3300 pF ±2% 100V 300-100-NPO-323G 51642	910 pF ±2% 100V 200-100-NPO-911G 51642	.68 mH 10% 2534-20 99800	.22 mH ±10% 2534-08 99800	51 Ω 5% 1/8W CF1/8-51 OHMS/J 09021	120 k 5% 1/8W CF1/8-120 K/J 09021	1.58 k 1% 1/10W RN55C1581F 81349	665 Ω 1% 1W RN55C9530F 81349
796356-5 300/500 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	3300 pF ±2% 100V 300-100-NPO-323G 51642	2000 pF ±2% 100V 200-100-NPO-202G 51642	.68 mH 10% 2534-20 99800	.39 mH ±10% 2534-14 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	120 k 5% 1/8W CF1/8-120 K/J 09021	787 Ω 1% 1W RN55C7870F 81349	118 k 1% 1/10W RN55C1181F 81349
796356-6 30/40 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	4700 pF ±2% 100V 300-100-NPO-472G 51642	2400 pF ±2% 100V 200-100-NPO-242G 51642	1.0 mH 10% 2534-24 99800	.56 mH ±10% 2534-18 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	120 k 5% 1/8W CF1/8-120 K/J 09021	953 Ω 1% 1W RN55C9530F 81349	953 Ω 1% 1W RN55C9530F 81349
796356-7 10/20 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	1200 pF ±2% 100V 150-100-NPO-122G 51642	Cap/Cer/Disc 820 pF2% 100V 200-100-NPO-821G 51642	.27 mH 10% 2534-18 99800	.180 mH ±10% 2534-06 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	12 k 5% 1/8W CF1/8-12 K/J 09021	698 Ω 1% 1/10W RN55C6980F 81349	1.4 k 1% 1/10W RN55C1401F 81349
796356-8 300/1400 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	3300 pF 2% 100V 200-100-NPO-332G 51642	2400 pF ±2% 100V 200-100-NPO-242G 51642	.68 mH ±10% 2534-20 99800	.56 mH ±10% 2534-18 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	12 k 5% 1/8W CF1/8-12 K/J 09021	698 Ω 1% 1/2W RN55C6980F 81349	1.4 k 1% 1/10W RN55C1401F 81349
796356-9 600/1000 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	1600 pF 2% 100V 200-100-NPO-162G 51642	910 pF ±2% 100V 150-100-NPO-911G 51642	.33 mH ±10% 2534-12 99800	.22 mH ±10% 2534-08 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	12 k 5% 1/8W CF1/8-12 K/J 09021	953 Ω 1% 1/2W RN55C9530F 81349	Same as R19
796356-10 800/1000 kHz	2.2 µF ±20% 35V 196D225X0035JE3 56289	4700 pF ±2% 100V 300-100-NPO-472G 51642	1200 pF 2% 100V 150-100-NPO-122G 51642	910 pF ±2% 100V 150-100-NPO-911G 51642	.27 mH ±10% 2534-10 99800	.22 mH ±10% 2534-08 99800	10 Ω 5% 1/8W CF1/8-10 OHMS/J 09021	120 k 5% 1/8W CF1/8-120 K/J 09021	619 Ω 1% 1/10W RN55C6190F 81349	1.65 k 1% 1/10W RN55C1651F 81349

S.8.2.14 **Type 796357-X Switchable FM Demod** REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
C1	Capacitor, Electrolytic, Tantalum: 2.2 µF, 20%, 35 V	2	196D225X0035JE3	56289	
C2	Same as C1				
C3	Capacitor, Ceramic, Monolithic: 4700 pF, ±2%, 100 V	5	300-100-NPO-472G	51642	
C4	Same as C3				
C5	Capacitor, Ceramic, Disc: .1 µF, 20%, 50 V	2	34475-1	14632	
C6	Same as C5				
C7	Same as C3				
C8	See Table 15				
C9	See Table 15				
C10	Same as C3				
C11	Capacitor, Variable, Ceramic: 2.5-9 pF, 25 V	1	518-000A2.5-9	59660	
C12	See Table 15				
C13	Capacitor, Ceramic, Monolithic: 3.0 pF, ±.1 pF, 100 V	1	100-100-NPO-309B	51642	
C14	Same as C3				
C15	Capacitor, Ceramic, Disc: .47 µF, 20%, 50 V	2	34452-1	14632	
C16	Same as C15				
C17 Thru C20	See Table 15				
C21	Capacitor, Ceramic, Monolithic: 1.5 pF, ±.25 pF, 100 V	1	100-100-N220-159C	51642	
C22	Capacitor, Ceramic, Monolithic: 27 pF, ±2%, 100 V	1	200-100-NPO-270G	51642	
CR1	Diode	2	5082-2800	28480	
CR2	Same as CR1				
L1	Coil, Fixed, Molded: 1.2 mH, ±10%	2	2534-26	99800	
L2	Same as L1				
L3	Coil, Assembly	1	22295-67	14632	
L4	Coil, Fixed: 18 µH, 10%	1	1025-50 (75084-15)	99800	
L5 Thru L8	See Table 15				
R1	Resistor, Fixed, Film: 220Ω, 5%, 1/8 W	1	CF1/8-220 OHMS/J	09021	
R2	Resistor, Fixed, Film: 1.5 kΩ, 5%, 1/8 W	1	CF1/8-1.5K/J	09021	
R3 Thru R5	See Table 15				
R6	Resistor, Fixed, Film: 100 kΩ, 1%, 1/10 W	2	RN55C1003F	81349	
R7	Resistor, Variable, Film: 20 kΩ, 10%, 1/4 W	1	3262X-1-203	80294	
R8	Same as R6				
R9	Resistor, Fixed, Film: 10 kΩ, 5%, 1/8 W	1	CF1/8-10K/J	09021	
R10	See Table 15				
R11	Resistor, Variable, Film: 50 kΩ, 10%, 1/4 W	1	3262X-1-503	80294	
R12	Resistor, Fixed, Film: 470Ω, 5%, 1/8 W	2	CF1/8-470 OHMS/J	09021	

REF DESIG PREFIX **A3A17-A3A21**

REF DESIG	DESCRIPTION	QTY PER ASSY	MANUFACTURER'S PART NO.	MFR. CODE	RECM VENDOR
R13	Resistor, Fixed, Film: 22 kΩ, 5%, 1/8 W	2	CF1/8-22K/J	09021	
R14	Resistor, Fixed, Film: 22Ω, 5%, 1/8 W	1	CF1/8-22 OHMS/J	09021	
R15	Same as R12				
R16	See Table 15				
R17	See Table 15				
R18	Same as R13				
T1	See Table 15				
U1	Integrated Circuit	1	CA3011	02735	
U2	Integrated Circuit	1	LM318N	27014	
U3	Integrated Circuit	1	1H5040CPE	32293	
U4	Integrated Circuit	2	DG303CJ	17856	
R5	Same as U4				
VR1	Diode	1	1N751A	80131	

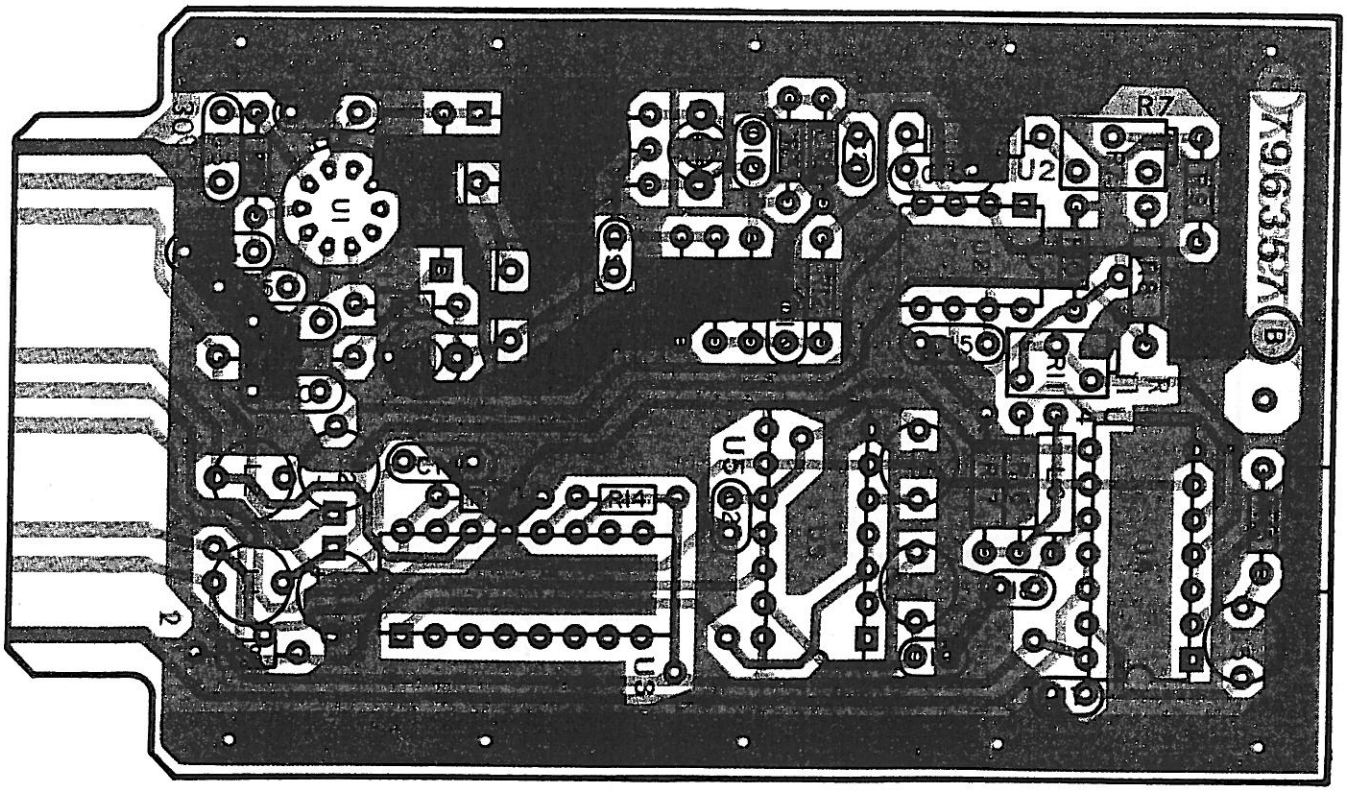

Figure S-18. Type 796357-X Switchable FM Demodulator (A3A17-A3A21), Location of Components

NOTES:

1. UNLESS OTHERWISE SPECIFIED:
   a) CAPACITANCE IS IN pF.
   b) INDUCTANCE IS IN μH.
   c) RESISTANCE IS IN OHMS, ±5%, 1/8W.
2. SWITCHES SHOWN IN LOGIC "0" CONDITION. NARROW BAND SELECTED.
3. THE DIFFERENCE BETWEEN TYPES IS SHOWN IN TABLE I.
4. DIODES SHOWN IN PROPER DIRECTION FOR POSITIVE GOING FM VIDEO. FOR NEGATIVE GOING FM VIDEO DIRECTION IS REVERSED AS INDICATED BY DOTTED OUTLINE.

TABLE I

TYPE NO.	BW (KHz)	C22	C23	C24	C25	L5	L6	L7	L8	R19	R20	R6	C1	C2	C3	R5
796356-1	400/600	2400	1600	2400	1600	560	330	560	330	715	1.4K	12K	2.2μF	2.2μF	C/CM 4700	10
796356-2	500/1000	2000	910	2000	910	390	220	390	220	953	953	12K	2.2μF	2.2μF	C/CM 4700	10
796356-3	250/500	3900	2000	3900	2000	820	390	820	390	953	953	120K	2.2μF	2.2μF	C/CM 4700	10
796356-4	300/1000	3300	910	3300	910	680	220	680	220	1.58K	665	120K	100μF	100μF	C/ET 100μF	51
796356-5	300/500	3300	2000	3300	2000	680	390	680	390	787	1.18K	120K	2.2μF	2.2μF	C/CM 4700	10
796356-6	200/400	4700	2400	4700	2400	1 mH	560	1 mH	560	953	953	120K	2.2μF	2.2μF	4700	10
796356-7	800/1200	1200	820	1200	820	270	180	270	180	698	1.40K	120K	2.2μF	2.2μF	4700	10
796356-8	300/400	3300	2400	3300	2400	680	560	680	560	698	1.40K	12K	2.2μF	2.2μF	4700	10
796356-9	600/1000	1600	910	1600	910	330	220	330	220	953	953	12K	2.2μF	2.2μF	4700	10
796356-10	800/1000	1200	910	1200	910	270	220	270	220	619	1.65K	120K	2.2μF	2.2μF	4700	10