INSTRUCTION MANUAL

MODEL RPL-4

REMOTE PICKUP LINK

(450-470 MHz)

Tx #30831 & Rx #32258

@ 455.750 MHz & 455.800 MHz

MOSELEY ASSOCIATES, INC.

SANTA BARBARA RESEARCH PARK

GOLETA, CALIFORNIA 93017

INSTRUCTION MANUAL

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REMOTE PICKUP LINK

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MOSELEY ASSOCIATES, INC.
Santa Barbara Research Park
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Goleta, California 93017

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INSTRUCTION MANUAL

MODEL RPL-4

REMOTE PICKUP LINK

I. INTRODUCTION

The Model RPL-4 Remote Pickup Link was designed to provide a high-quality program link between the broadcast studio and an outside or remote broadcast location. Operating in the 450-470 MHz band, the RPL-4 System is designed for two-channel operation with the second set of crystals optionally available.

The RPL-4 consists of a Transmitter and a Receiver. The Transmitter was designed to operate continuously from 120/240 VAC, 50-60 Hz and from 13.5 VDC negative ground, and it is supplied with an AC power cord and a DC cable connector.

The Transmitter has been compactly and ruggedly designed to facilitate its use in mobile or fixed portable service. All input and output connectors are conveniently located near the front panel of the Transmitter for operator convenience. Easy access is afforded to all circuitry due to the modular design of the system.

Metering of important parameters is provided on the RPL-4 Transmitter. For monitoring audio levels, a PEAK AUDIO position is provided. Metering is also provided for relative FORWARD POWER, relative REFLECTED POWER, relative I.P.A DRIVE , actual FINAL CURRENT, and POWER SUPPLY VOLTAGE.

For applications requiring higher RF output, the Moseley Associates Model AMP-4 may be used in conjunction with the RPL-4 Transmitter. The Model AMP-4 provides a 5 dB power gain. With a 10-watt input, the AMP-4 will yield 32 watts of RF output. This amplifier is not recommended in aeronautical service. This follows the policy of limiting airborne transmitter power output to 18 watts.

The Receiver requires only 1-3/4 inches of vertical rack space. To assist the operator in optimizing antenna orientation for remote pickup broadcasts, a front-panel signal-strength meter continuously monitors the received signal. Selectors are provided to select the desired frequency channel either from the front panel or from a remote location.

II. SPECIFICATIONS

A. Overall System

Audio Response	±1.5 dB, 30-10,000 Hz
Distortion	Less than 1.3%, 30-10,000 Hz
Signal-to-noise ratio	55 dB below 100% modulation (60 dB typical)
Frequency Range	450-470 MHz, Two Frequency operation within 2 MHz spacing. One set of crystals supplied with link.

B. Transmitter

RF Output	13 watts maximum, 10 watts minimum into 50Ω load. Output connector Type BNC female.
VSWR Protection	Withstands infinite VSWR at all phase angles.
Deviation	RPL-4A 5 kHz (7.5 kHz max audio) for 100% modulation. RPL-4B 10 kHz (15 kHz max audio as applicable) optional for 100% modulation.
Frequency Stability	±0.00025% (-30°C to 50°C)

RPL-4A Frequency Group No. 2

Group No. 2 Channels are: (MHz)

450.0875	455.0875
450.1125	455.1125
450.1875	455.1875
450.2125	455.2125
450.2875	455.2875
450.3125	455.3125
450.3875	455.3875
450.4125	455.4125
450.4875	455.4875
450.5125	455.5125
450.5875	455.5875
450.6125	455.6125

RPL-4B Frequency Group N1, R and S

Group No. 1 Channels are: (MHz)

450.050	455.050
450.150	455.150
450.250	455.250
450.350	455.350
450.450	455.450
450.550	455.550

Group R Channels are: (MHz)

450.650	455.650
450.700	455.700
450.750	455.750
450.800	455.800
450.850	455.850

Group S Channels are: (MHz)

450.925	455.925

Operating Temperature Range	-30°C to 50°C
Audio Inputs	3 independent channels (two microphone and one line).
Audio Input Impedances Line	50,000Ω bridging, unbalanced
Microphone	50-150Ω, balanced, floating
Audio Input Levels Line	-15 dBm to +10 dBm from 600Ω source
Microphone	-60 dBm to -40 dBm
Audio Peak Limiter	Control Range greater than 25 dB, attack time 1 ms, release time 700 ms
Metering	Peak Audio, Forward RF Power, Reflected RF Power, Final Amp. Current, I.P.A. RF Drive, and Power Supply Voltage
Audio Monitoring	Utility output with adjustable gain for feeding headphones or other audio amplifiers.

Power Requirements AC	120/240 VAC, ±15%, 50-60 Hz, 45 watts maximum
DC	13.5 VDC, filtered, negative ground, 2.5A maximum; 15 VDC maximum, 12 VDC minimum.
Size	4" (10.2 cm) high, 14.5" (36.8 cm) wide, 11" (27.9 cm) deep
Weight	16 pounds net (7.2 kg. net)

C. Receiver

Sensitivity	1.5 microvolt maximum for 20 dB quieting, 10 microvolts maximum for 40 dB SNR.
Selectivity	
5 kHz Deviation	-6 dB @ ±22 kHz -60 dB @ ±42 kHz
10 kHz Deviation	-6 dB @ ±44 kHz -60 dB @ ±75 kHz
All Spurious Responses	65 dB below -40 dBm reference
Frequency Stability	±0.0005% (-20°C to 50°C)
RF Input	50Ω unbalanced, input connector Type N female
Audio Output	+10 dBm @ 100% modulation, 600Ω balanced
Squelch	Automatic and adjustable, electronic. Carrier-operated relay output (Form C contacts) optionally available.
Operating Temperature Range	-30°C to 50°C
Power Requirements	120/240 VAC, ±15%, 50-60 Hz, 10 watts

Size	1-3/4 inches high, 19 inches wide, 10 inches deep (4.5 cm x 48 cm x 25 cm)
Weight	10 pounds net (4.5 kg. net)

III. UNPACKING

The RPL-4 Transmitter and Receiver should be unpacked and carefully inspected for concealed damage due to shipping. Retain all boxes and packing material in the event a claim is to be filed against the carrier for damages.

NOTE

Do not attempt any tuning at this time. Field Adjustment Procedures are outlined on pages 12 and 13 of this manual.

IV. INITIAL CHECK-OUT PROCEDURE

In order to check out the equipment, it will be necessary to connect a 50Ω RF termination with a dissipation rating in excess of 15 watts to the BNC connector on the rear of the Transmitter. Check to see that the Transmit Function selector is in the STANDBY position and that the POWER AUDIO switch is not depressed. Connect the line cord to a source of 120 VAC, 50-60 Hz. Note: For 240 VAC, 50-60 Hz operation, refer to drawing 91C6667 for information on rewiring the primary of transformer T101.

Once the Transmitter has been properly terminated, depress the push button marked POWER AUDIO. This applies power to the audio section, multiplier/driver, and the RF power amplifier. Note, however, there will not be any RF output at this time. Place the Metering Selector in the FORWARD POWER position and select the proper Transmit Function. Either FREQ 1 or FREQ 2 may be selected if the optional set of crystals for dual frequency operation has been installed. If the system is set up for single frequency operation, FREQ 1 will be used.

Once the proper Transmit Function has been depressed, there should be an indication on the front-panel meter which is a reading of relative forward power. It would be advisable to check the actual power output with a wattmeter to become familiar with the relative

meter readings in relation to their actual values. The wattmeter should read between 10 and 15 watts. The metering functions of REFLECTED POWER and I.P.A. DRIVE are also relative values while PEAK AUDIO, FINAL CURRENT, and POWER SUPPLY (Vcc) are actual readings. The lower scale on the meter is used for two readings; FINAL CURRENT (0-2.5 amps) and Vcc (0-25 VDC). PEAK AUDIO in dB is read on the upper scale.

Actual values may be compared with the final test values which are located at the end of the text of this manual. Variations of 20% may be expected.

Once it has been established that the Transmitter is operating properly, place the Receiver nearby and connect it to the 120 VAC, 50-60 Hz source. Note that the RPL-4 Receiver does not have a power switch. The L.E.D. indicator located on the front panel will illuminate when the Receiver is connected to the power source. For 240 VAC, 50-60 Hz operation, see drawing 91C6670. A small piece of wire should be inserted into the Type N connector located on the rear of the chassis to minimize multipath effects. The 600Ω balanced output of the Receiver should be connected to a monitor amplifier or suitable test equipment. If specific audio measurements are to be made, the Receiver output should be terminated with a 560Ω resistor.

To verify the operation of the RPL-4 System, apply a +10 dBm signal at 700 Hz to the Line Input of the Transmitter. Adjust the Line Input Control until the meter on the Transmitter reads 0 dB with the Metering Selector in the PEAK AUDIO position. If the Receiver is terminated properly, a +10 dBm signal should be present at the output.

The microphone inputs may be tested at this time. These inputs have an impedance of 50-150Ω.

V. INSTALLATION

A. Transmitter

The Transmitter may be operated from AC and DC power sources. As received from the factory, the RPL-4 is wired for both 120 VAC, 50-60 Hz, and 13.5 VDC operation. Never connect both AC and DC inputs at the same time. If it is desired to operate the Transmitter from 240 VAC, 50-60 Hz, it will be necessary to rewire the primary of transformer T101 as shown in drawing 91C6667. If the RPL-4 Transmitter is to be operated from 13.5 VDC, connect the DC source using the cable connector provided. The cable connector is keyed so that

it can be connected only one way; however, care should be taken when connecting the DC power cable to the cable connector to insure proper polarity. See drawing 91C6667 for proper connection. Diode protection has been provided within the regulator, and in the event the polarity is accidentally reversed, the Transmitter will blow the DC fuse.

CAUTION

Do not connect the RPL-4 Transmitter to a DC source greater than 15 VDC as damage to the unit may result.

When the Transmitter is to be used in a fixed location, care should be taken to provide adequate ventilation. If the Transmitter is used for mobile operation, it may be desirable to fabricate a mounting bracket. Due to the wide variety of applications and vehicles, no mounting bracket is supplied or available. The same considerations regarding air circulation still apply in mobile operation.

B. Receiver

The Receiver operates from 120 VAC, 50-60 Hz. If it is desired to operate from 240 VAC, it will be necessary to rewire the primary of the power transformer; see drawing 91C6670 for details.

If remote selection of the frequency channel is desired, use the appropriate barrier terminals on the rear of the chassis. A SPDT contact configuration is required for this function. The program output of the Receiver is available from the same barrier strip.

C. Antenna and Transmission Line

Transmission line considerations will determine to some extent the placement of the Transmitter and Receiver. Lengthy transmission lines will introduce unwanted amounts of attenuation. Therefore, it is always good practice to place both the Transmitter and Receiver as close to the antenna as possible. If a long length of transmission line is required, use the lowest loss line practical.

There are many possible antenna configurations which will work satisfactorily with the RPL-4, and the choice should be determined by the application and service of the equipment. The internal metering of the RPL-4 may be used to help match the antenna to the

transmitter. Observe the reflected power by placing the Metering Selector in the REFLECTED POWER position. Tune the antenna for minimum indication on the meter, consistent with maximum forward power. It should not be necessary to adjust the Transmitter as it has been factory aligned for operation into a 50Ω load. When installing the antennas, make sure that both the transmitting and receiving antennas are polarized in the same plane.

VI. OPERATION

A. Transmitter

To place the RPL-4 Transmitter into operation, check to see that the POWER AUDIO switch is not depressed and that the Transmit Function is in STANDBY. Connect the AC power cord to a source of 120 VAC, 50-60 Hz, or connect a DC source of 13.5 VDC, negative ground, to the DC power plug located on the rear of the chassis. Never connect both AC and DC inputs at the same time. Due to the wide variety of mobile installations, no DC power cable is provided. However, a connector is provided to allow for the fabrication of a suitable power cable. When fabricating this cable, be certain to observe the correct polarity, and select the proper wire size to avoid excessive voltage drop.

Connect all audio equipment that is to be used in conjunction with the RPL-4 to the Transmitter. The two Microphone Inputs are located on the right side of the chassis, while the Line input and Utility Output jacks are located on the left side. Connect the RF transmission line to the antenna and to the BNC connector located on the rear of the chassis.

Power is applied to the audio section, multiplier/driver, and RF power amplifier by depressing the push button labeled POWER AUDIO. However, this does not place the Transmitter in a radiating condition. To place the Transmitter on the air once the POWER AUDIO push button has been depressed, simply select the proper Transmit Function.

Either FREQ 1 or FREQ 2 may be selected if the system has been equipped with the optional set of crystals for dual frequency operation. FREQ 1 will be used if the system is not equipped with the optional crystals.

Relative forward power, as well as other metering functions, may be observed by selecting the appropriate position on the Metering Selector.

With the POWER AUDIO push button depressed and the Transmit Function in STANDBY, the audio mixer section of the Transmitter may be used for other applications, or this condition may be used to preset audio levels before placing the Transmitter in a radiating condition.

B. Receiver

The operation of the RPL-4 Receiver is very simple since there are only three controls for the operator's use; the receiver frequency selectors labeled FREQ 1 and FREQ 2, and REMOTE SELECT. The frequency selectors are used to determine on which channel the Receiver will operate. The REMOTE SELECT is used when it is desired to select the Receiver frequency channel from a remote location. Barrier terminals have been provided on the rear of the chassis for this function. An SPDT contact configuration is required.

A relative signal strength meter has been incorporated into the Receiver to assist in the setup of the RPL-4 System. Also incorporated in the Receiver is a provision for an optional carrier-operated relay which may be used for external control purposes.

VII. CIRCUIT DESCRIPTION

A. Transmitter

The transmitter is comprised of five major subassemblies: power supply, VCXO, multiplier/driver, RF power amplifier, and audio section.

1. Power Supply

The power supply regulator exhibits an exceptionally low forward voltage drop so that it cannot only regulate the rectified filtered AC input, but also the unregulated 12-15 VDC input for extremely stable RPL-4 operation. Q102 biases and temperature compensates Q104, the current clamping transistor. Q103 is a current driver for the series pass transistor Q101, CR101, CR102, and CR103 set a bias on the voltage regulator IC101. See drawings 91B6908 and 20A2576.

2. Two-Channel VCXO

In order to generate a stable signal at the output frequency in the 450-470 MHz band and at the same time frequency-modulate the carrier, a VCXO (voltage-controlled crystal oscillator) is used. Q1, L1, C10, C11, and Y1 comprise the basic 4 MHz oscillator. Frequency multiplication of 108 times following the oscillator produces the desired output frequency. To produce frequency modulation (refer to drawing 91C7164), two diodes, CR1 and CR2 which change capacity as a function of voltage, are employed in the oscillator circuitry. Temperature compensation is achieved by application of DC bias to the modulator diodes. Thermistors (temperature variable resistors) R10 and R12 and a resistor network, (R15, R9, R11, R13, R14, and R18), provide the necessary corrective bias for operation over the specified temperature range.

The Channel 1 VCXO, Q1, output drives emitter follower Q2 which isolates the oscillator circuitry from loading. Q5 is used as an OR amplifier and passes the 4 MHz signal from whichever crystal oscillator is operating. Q6 is a current amplifier with an RF output of approximately 0 dBm into 50 ohms. In Channel 2 operation, transistors Q3 and Q4 operate in the same manner as Q1 and Q2.

In order to limit the RF bandwidth with high frequency audio a three section audio low pass filter, U1, limits the upper audio which can be transmitted. The RPL-4A is limited to 7.5 kHz and the RPL-4B is limited to 15 kHz.

3. Multiplier/Driver

Transistor Q1 is a frequency tripler followed by another tripler, Q2, operating with output frequencies at 12.5 to 13.5 and 37.5 to 40 MHz respectively. Tuned circuits (L2, C4, C8), (L3, C10, C11), (L4, C13, C14), (L10, C16), (L5, C5, C17) and (C6, C19, L6) are employed to remove undesired frequency components appearing because of frequency multiplication. CR3, C45, C46, C44, L1, R21, R22, and R23 are part of a phase modulator and are not used in the RPL-4 series of transmitter. Tripler Q3 multiplies the signal to 112.5-120 MHz with (L7, C23, C31) and (C25, C40, L8) passing only the desired signal to Q4. This transistor is used to double the signal to 225-240 MHz with (L9, C28), (L17, C41) and (C29, Z2) used to remove all unwanted signals. Q5, an amplifier with the output

at 225-240 MHz, and filter (L13, C55, C32, Z5), amplify and filter the signal before it is doubled in the final transistor Q6. The filter (L15, C34), (L11, C38) and (L12, C39) is triple-tuned to the desired output, reducing all unwanted signals to at least 50 dB lower than the 100 MW nominal 450-470 MHz desired signal. See drawings 91C6900 and 20A2549.

4. RF Power Amplifier

The RF power amplifier is located at the rear of the chassis. The schematic and component layout can be seen in drawings 91B6864 and 20A2549.

The approximately 100 milliwatts of RF power developed in the Multiplier/Driver subassembly is applied to the Power Amplifier subassembly where Q701, Q702 and Q703 amplify the 450-470 MHz signal to power level of 10 watts nominal into 50 ohms. C702, C701, C703, L701, Z701, and R701 filter and match the 50 ohm input signal to the base of Q701. C706, C707, L702, Z703, and R709 match and filter the RF signal from the output of Q701 to the input of Q702. C710, C711, R702, and Z705 match the output of Q702 to the input of Q703. The output of Q703, the final output transistor, is matched to the antenna output with a complex matching network formed by L704, L705, L706, L707, C727, C715, C716, C717 and C718. This highly selective multisection filter attenuates all unwanted signals to at least 60 dB below the main signal. A dual-directional coupler samples the relative forward and reflected RF powers which are indicated on the front-panel meter. The overall amplifier efficiency is on the order of 50 percent.

5. Audio Section

The audio printed circuit board is located directly behind the front panel. Schematic and component layout can be seen in drawings 91C6584 and 20A2356. The audio sections consists of three major subsections; mixer, limiter amplifier, and peak audio limiter.

There are three inputs available; two 50-150Ω balanced, floating microphone inputs, and one 50,000Ω bridging, unbalanced line input. These inputs are combined electronically by an active mixer, IC2. The output of the active mixer is applied to the limiter amplifier, IC3. IC3 supplies audio to the utility amplifier and the phase inverter which, in turn, feeds the meter driver and peak detector.

The peak audio limiter is composed of a solid-state optical attenuator, limiter amplifier IC3, phase inverter IC5, peak detector IC7, and buffer amplifier IC8. This limiter has an attack time of 1 millisecond and a release time of 700 milliseconds with a typical control range greater than 25 dB.

The utility amplifier output is an unbalanced 600Ω with an output of 0 dBm, which can be used to drive a monitor amplifier, headphones, tape recorder, or telephone line.

Adjustments are provided for Modulation Level (R35), Utility Level (R27), Meter Calibration (R47), Meter Zero Adjust (R66), and Meter Acceleration (R51). It is not recommended that the Meter Acceleration be adjusted in the field as it has been pre-adjusted at the factory for optimum response and should require no further adjustment.

Pre-emphasis is standard on the RPL-4. However, if it is desired to operate the system without pre-emphasis, refer to drawings 91C6584 and 20A2356 for information on pre-emphasis components.

B. Receiver

The RPL-4 Receiver is a superheterodyne, dual-conversion type Receiver employing 30 MHz and 10.7 MHz I.F. frequencies. The Receiver is composed of nine subassemblies; preselector, preamplifier, balanced mixer/I.F., two-channel local oscillator, 30 MHz-10.7 MHz converter, crystal bandpass filter, FM demodulator, audio processor and power supply. The schematic for the Receiver can be seen in drawing 91C6670. (See Figure 2 for subassembly layout). The received signal is applied to the three-section helical preselector which is followed by a low-noise preamplifier. Local oscillator injection and the incoming signal are applied to a double balanced mixer which is followed by a 30 MHz bandpass filter and amplifier. This resulting signal is then applied to the second converter which converts the 30 MHz signal down to 10.7 MHz. The output of this converter is passed through a 10.7 MHz crystal bandpass filter and applied to the FM demodulator. The FM demodulator is of the ratio type, and included in the demodulator is a high gain RF amplifier limiter IC. The output of the demodulator is then applied to the audio processor where it undergoes amplification and filtering before reaching the 600Ω balanced output of the receiver.

The receiver employs a variable electronic squelch. The squelch level is adjusted by R6 on the audio processor board.

The output of the Receiver may be adjusted from its nominal +10 dBm output at 100% modulation ±3 dBm by R26 on the audio processor board. Also, provisions are included on the audio processor board to allow for the addition of an attenuator pad to provide an output other than the nominal +10 dBm.

De-emphasis is standard on the RPL-4 Receiver. If it is desired to run the system flat, refer to drawing 91C6595 and 20A2367 for information on de-emphasis components.

VIII. FIELD ADJUSTMENTS

A. Transmitter

Complete tuning of the Transmitter in the field is not recommended. However, slight frequency adjustments may be accomplished by adjusting L2 for Channel 1 and L7 for Channel 2.

B. Receiver

In normal operation there will be little or no need to adjust the Receiver in the field. However, C101, C102 and C103 on the preselector may be adjusted to improve Receiver sensitivity. Trimmer capacitors are provided within the two-channel local oscillator to allow for adjustment of the oscillator frequency. Capacitor C103 adjusts the Channel 1 frequency, and C111 adjusts the Channel 2 frequency.

IX. SERVICING

If it should become necessary to troubleshoot the RPL-4 System, complete schematics and component layout diagrams have been provided and are located at the rear of this manual. All test point voltages are shown on the schematics to aid in localizing any problem. Because of its modular design, the RPL-4 should be relatively simple to troubleshoot should it become necessary.

If factory assistance is needed, please note all pertinent voltages, attempts made in trying to locate the trouble, and any other information that may be helpful in diagnosing the problem. Contact Moseley Associates, Inc. at any time regarding any problem encountered with the RPL-4. Direct any inquiries on the operation of the RPL-4 to our Customer Service Department.

X. OPTIONAL MODEL AMP-4 RF POWER AMPLIFIER

When it is felt that additional output from the RPL-4 Transmitter is desired for extended coverage or other requirements, the Model AMP-4 RF Power Amplifier may be used in conjunction with the RPL-4 Transmitter. This amplifier provides a nominal 5 dB power gain, and with a 10-watt input will produce an output near 35 watts. Installation of the AMP-4 is straightforward. Consideration should be given to placement of the amplifier so air can circulate freely by the heat sink. Further, wiring for the DC supply voltage to the AMP-4 should be of sufficient size to provide up to 6 amperes of current without an appreciable voltage drop. Voltage requirements are 13.5 VDC, negative ground. It is suggested that wire of equivalent size be used for ground return to a common point. In a vehicle, do no rely on the body as a ground return. No control of the AMP-4 is required since only negligible current is drawn only with the presence of RF input. It should be noted that the AMP-4 is Type Accepted for use with the RPL-4A & B only, although it will work with other equipment.

MOSELEY ASSOCIATES, INC.

TEST DATA

MODEL RPL-4

450 MHz

Date 6 Jan. 1981
F.O. No. 11-6051
Tester Conrad

Customer KFRC
Tx Serial No. 30831
Rx Serial No. 32258
Frequency 455.750 MHz
2nd Freq. 455.800 MHz

Transmitter Meter Readings

Vcc	11.5
IPA Drive	16.5
Final Current 2 amp max	14.5
Forward Power	17.5
Reflected Power	1.5
Audio set for 100%	0 dB
Measured Tx Power (watts)	10.0

Receiver Meter Readings

µ Volts	SNR	Signal Strength
3.0	32/32	20 dB Min 5.0/5.2
10	42/42	6.4/6.4
30	52/52	7.0/7.0
100	60/59	7.4/7.4
300	62/62	7.9/7.8
1,000	63/63	8.3/8.3 7.5-9.5

Transmitter Deviation Control
Set for -15 dBm input = 100% Modulation
Deviation 10 kHz
Receiver Audio Gain Control
Set for +10 dBm output = 100% Modulation
SNR 60/61 dB refereneced to 100% Modulation
at full saturation
Power Supply to be set using DVM
Transmitter Power Supply set for 11.5 VDC,
RF out 10.0 watts
Receiver Power Supply set for 11.5 VDC
Audio V P-P at brown test point on VCXO card
for 100% modulation .35 V P-P
Audio V P-P at yellow test point on VCXO card
for 100% modulation .32 V P-P
Spurious Emissions -60 dB
Readings taken into 50Ω load
Receiver squelch set for 1.3 µV 25 db SNR

System Performance

Frequency Hz	Distortion %	Response dB
70	.36/.20	-10.0/-10.5
700	.23/.25	-10.0/-10.2
3,000	.56/.58	-10.2/-10.2
7,000	.49/.53	- 9.9/- 9.7
10,000	.15/.20	- 9.5/- 9.0
15,000	.17/.18	-10.8/-10.3

Receiver sensitivity 0.7/0.8 µV
for 20 dB quieting.

DC X
MIKES X
UTILITY X

Transmitter Test Point Readings

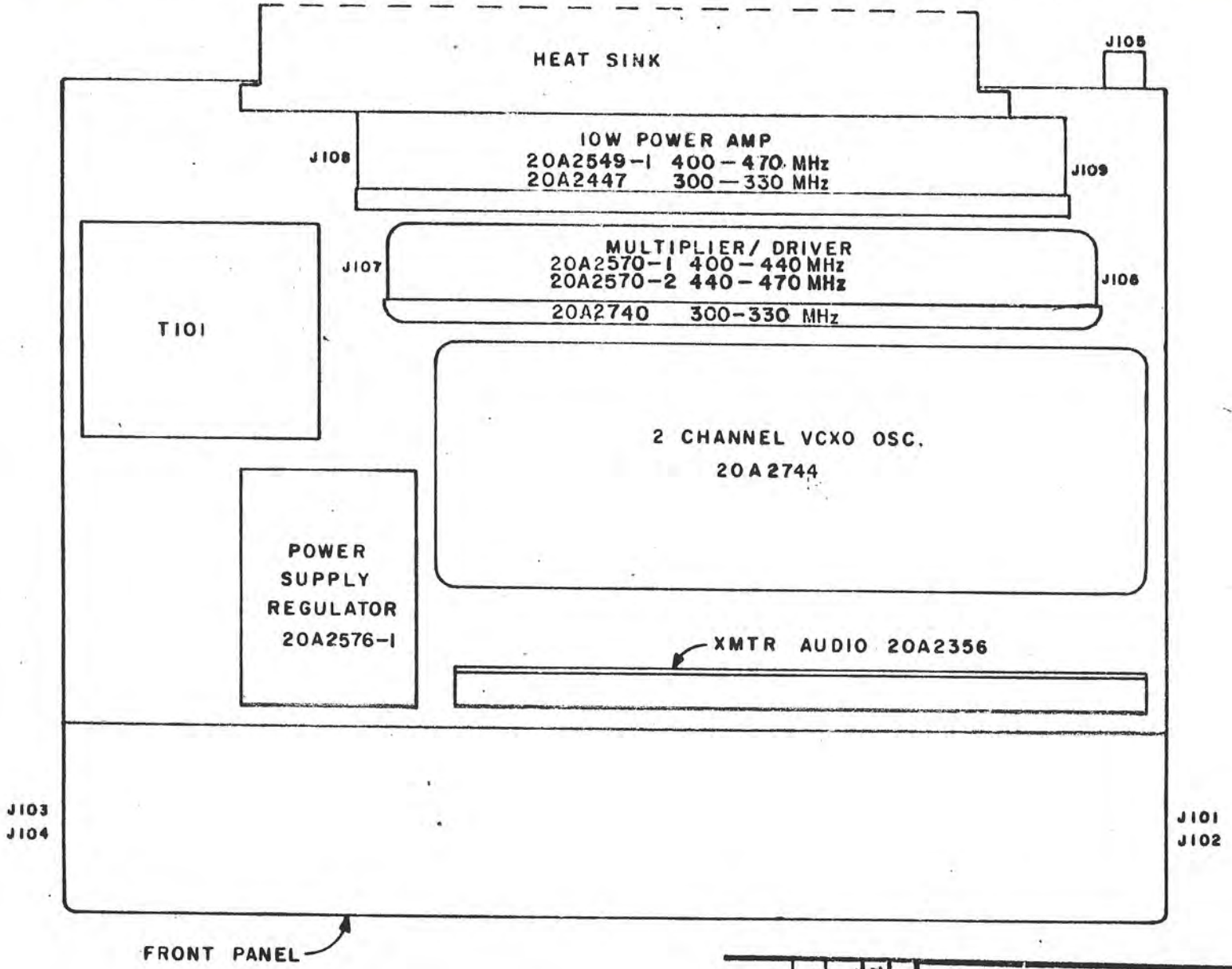
Test Points

VCXO 1	VDC		VCXO 2	VDC
Brown 1.35	1.75	nominal	Yellow 1.36	1.75
Red 6.47	6.5	nominal	Green 5.97	6.5
Orange 2.92	3.1	nominal	Orange 2.87	3.1

Mult/Driver

	VDC
Brown 3.01	2.50
Red 0.29	0.30
Orange 0.94	0.85
Yellow 0.70	1.00
Green 0.66	0.60
Blue 0.54	0.40

Rev. 12/7/78
mlc



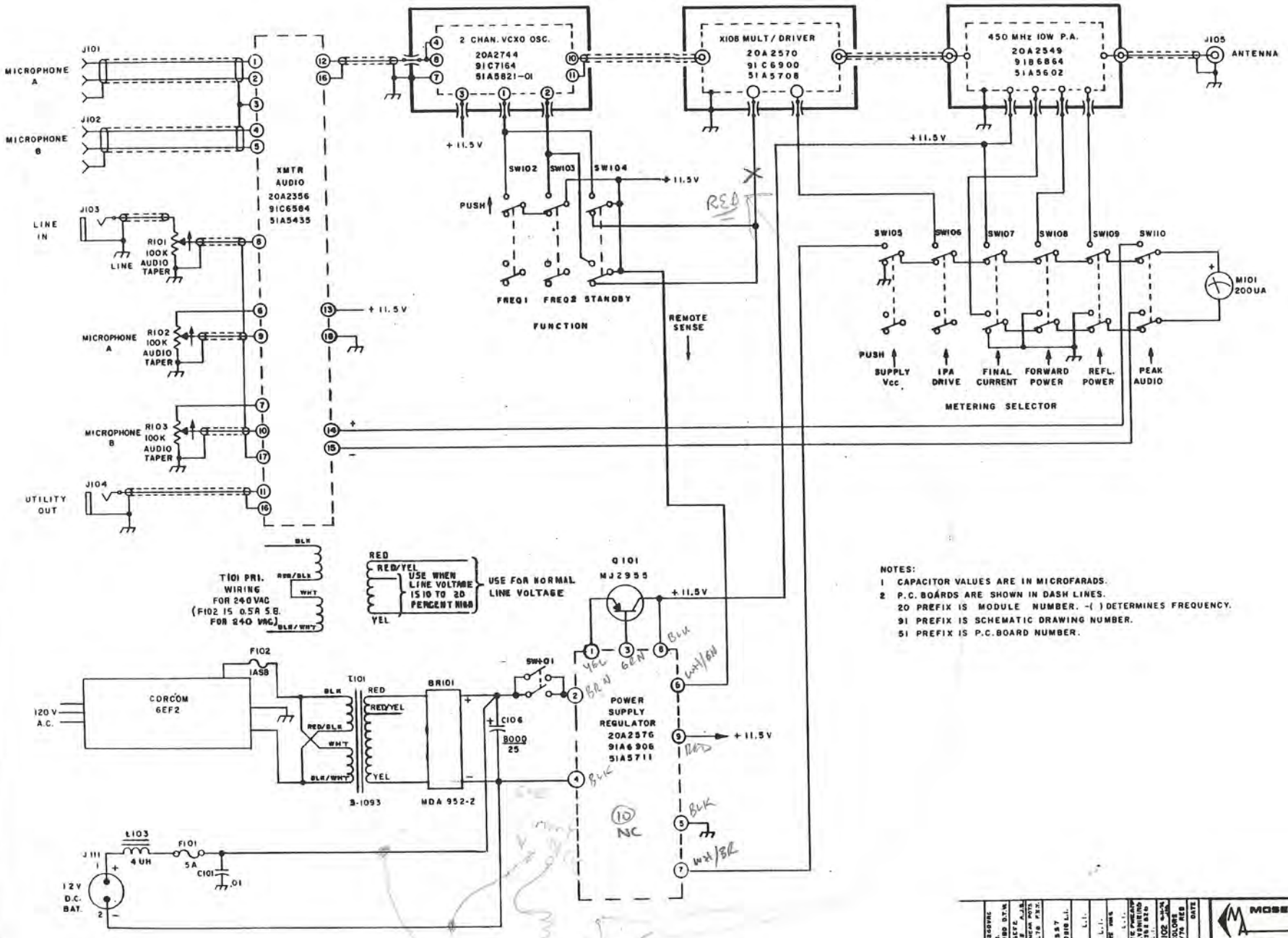
REVISIONS	DATE	MGMT. APPR.
B Ø ADD NEW PART NUMBER. 26 JULY 73 ECO 17102 A.J.B.		
A UPGRADE RPL SYSTEM 26 JUN 73 ECO 12 A.J.B.		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93117

FIGURE 1
RPL-4 TRANSMITTER LAYOUT

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1°

DWN	F X Y	6/29/73	SCALE: 1/2
CHK			
ENG	SLM	29 Jun 73	21A2449 B Ø



NOTES:
1. CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARDS ARE SHOWN IN DASH LINES.
   20 PREFIX IS MODULE NUMBER. -( ) DETERMINES FREQUENCY.
   91 PREFIX IS SCHEMATIC DRAWING NUMBER.
   51 PREFIX IS P.C. BOARD NUMBER.

REVISIONS	DATE	
A	CHANGE L101, L102 TO... CHANGE WIRE COLORS TO...	8/JAN/74 JEB
B	CHANGE L101, L102 VALUES TO...	15 JULY 74
C	ADD R105 SUPPLY TO...	15 JULY 74
D	ADD RED WIRE FROM...	10 MAY 77
E	CHANGE R101 VALUE TO...	8 JUNE 77
F	ADDED C106	13 MARCH 78
G	LIES WESTBURN VCXO'S NO LONGER USED	10 JAN 78
H	ADDED CORCOM 6EF2	17 JAN 78
I	WIRING ADDED. REVISED DWG.	8 FEB 78
J	CHANGE R101 TO 100K AUDIO TAPER	8 FEB 78

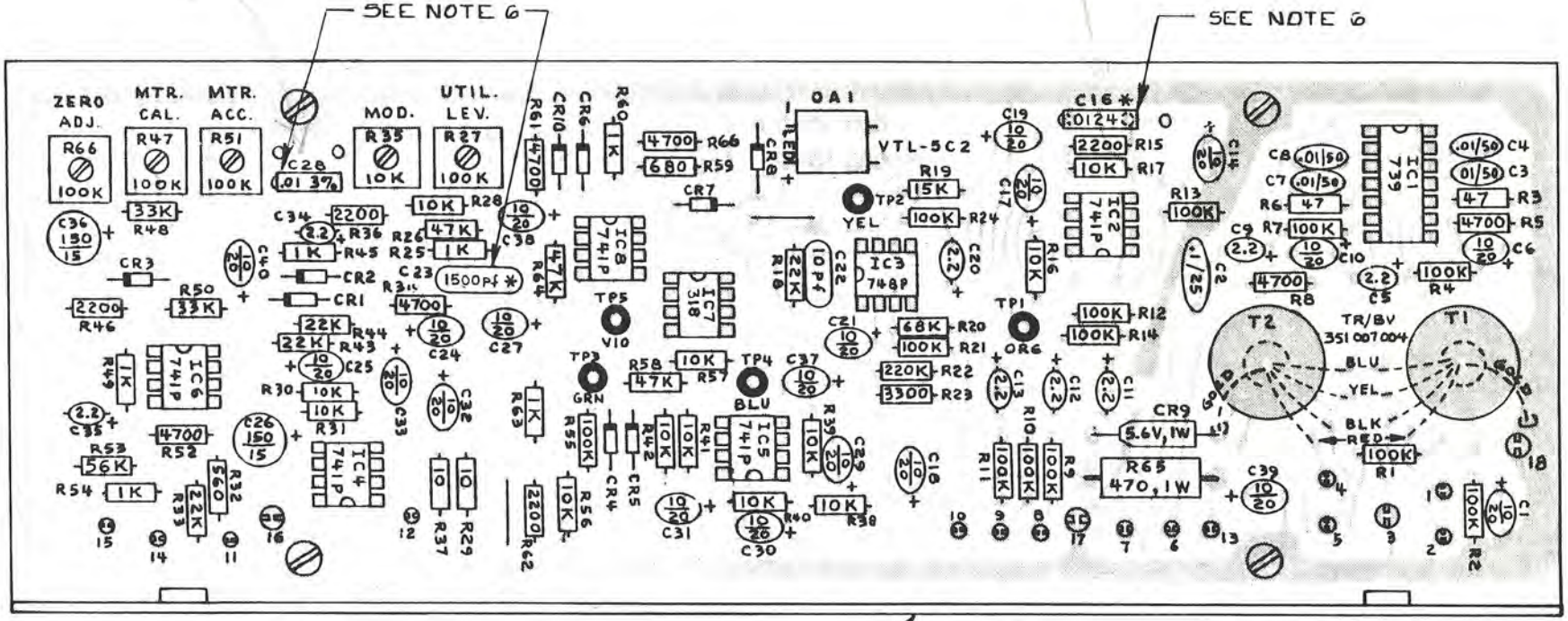
MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
RPL-4 TRANSMITTER

TOL: FRACT. ± 1/32, .XX ± .020, .XXX ± .010, ∠ ± 1/2°
DWN FXY 4/24/73 SCALE:
CHK
ENG SLM 4/24/73

91C6667 JØ

20A2356 GØ



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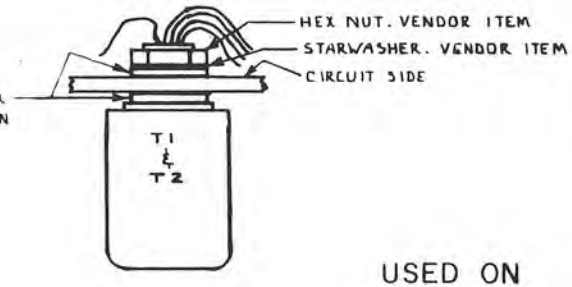


USED ON
SEE 92C1177

NOTES:

1 UNLESS OTHERWISE SPECIFIED;
RESISTOR VALUES ARE IN OHMS, 1/4W, 10%
CAPACITOR VALUES ARE IN MICROFARADS.

2 -|>|- DENOTES IN4154 DIODE.

3 P.C. BOARD 51A5435-REV.C

4 SCHEMATIC 91C6584.

5 * REMOVE C16 & C23 TO REMOVE DE-EMPHASIS.

6 C16, C23, C28 TO BE INSTALLED IN FINAL TEST IF NEEDED.

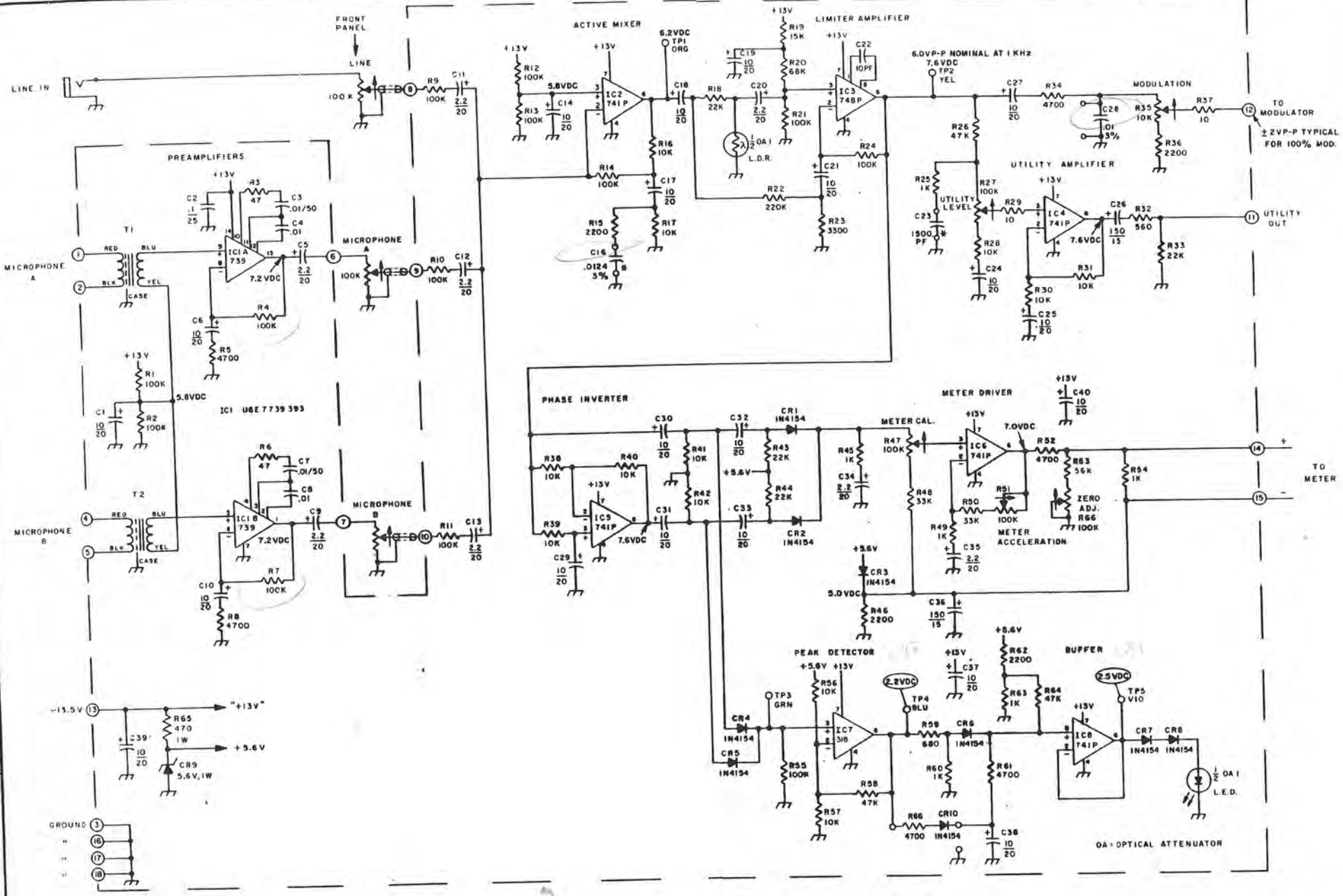
REVISIONS	DATE	MGMT. APPR.
GØ LATEST ARTWORK SHOWN ECO1423 9OCT74 D.T.W.		
F CLARIFIED DETAILED DWG ECO 1186 27JUN79 JAM		
E R53 WAS 68K. ECO 1116. ADDED TERMINALS & NOTE 6 27 FEB.79 ECO 1063 A.J.B.		
D ADD FLAT WASHER TO T1 & T2. 30MAY78 BWF		
C IC7 WAS 714 ECO 872 3-21-77 JAM		
B ADD TRANSFORMER I.D. ADD GOLD WIRES, ADD BRACKET JHM 26 NOV 75		
A OA1 WAS MOUNTED VERT 21MARCH75 L.I.		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
XMTR AUDIO

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	FXY	4/9/73	SCALE: FULL	
CHK			20A2356	GØ
ENG				



R47 to 25K for use with Sennheiser MD-421 microphones

NOTES:
1. UNLESS OTHERWISE SPECIFIED
   RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%.
   CAPACITOR VALUES ARE IN MICROFARADS.
   IC'S LISTED AS 741 (E.G.) ARE SN7274IP (TYP.)
2. P.C. BOARD 51A5435.
3. COMPONENT LAYOUT 20A2356.
4. * REMOVE C16 & C23 TO REMOVE PREEMPHASIS.
5. (oval) READINGS TAKEN WITH 6.0VP-P AT 1KHz AT TP2
6. C16 & C28 NOT INSTALLED WHEN WIDEBAND (15 KHz) OPERATION IS DESIRED.

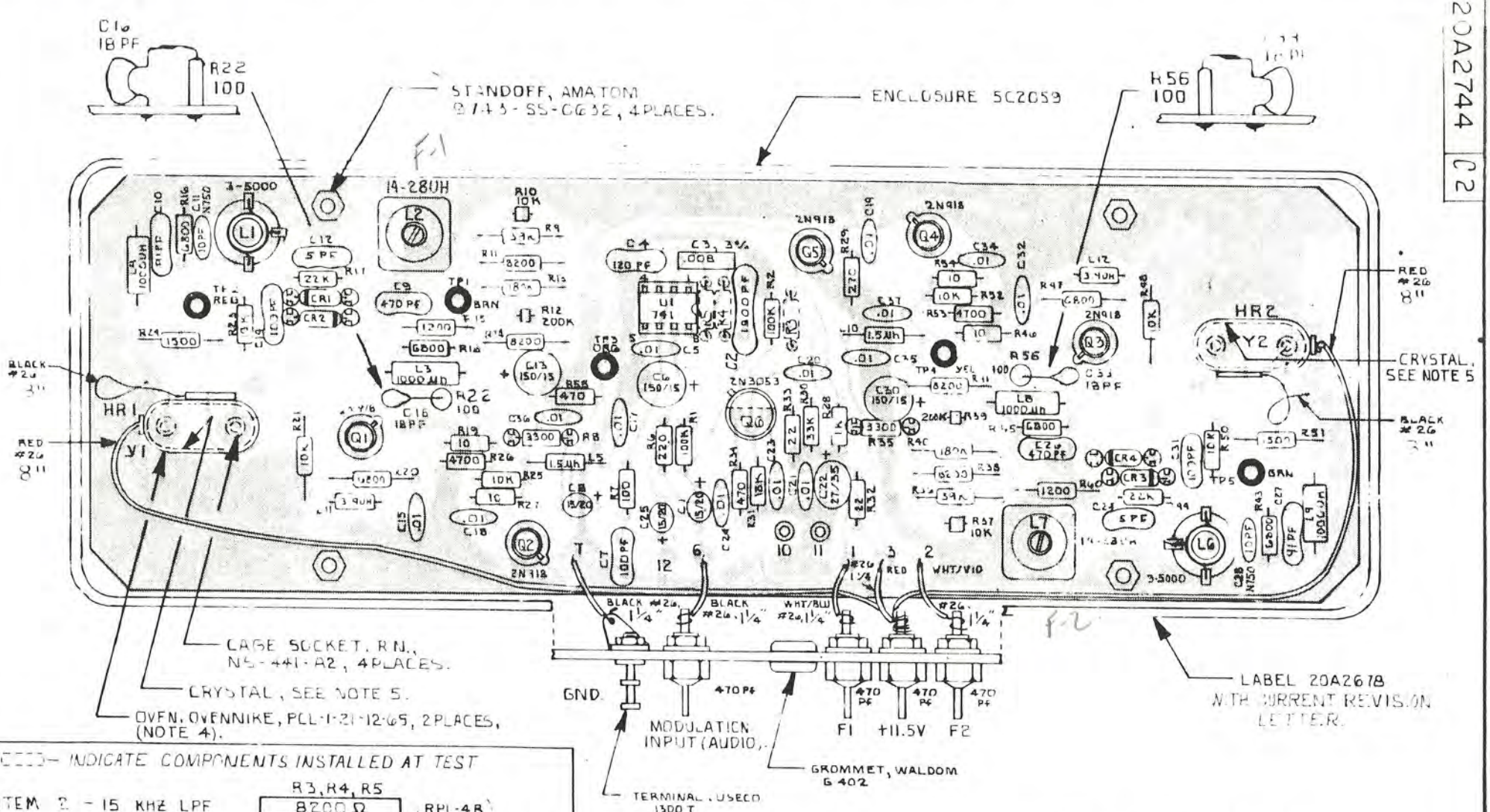
REVISIONS	DESCRIPTION	DWN	CHK	ENG	DATE
D	188 ADD C&K, ECO 1115	F.K.Y.			
C	ADD NOTE 6, ECO 1178	F.K.Y.			
B	ICT WAS 714 ECO 872, 21 MARCH 77				
A	ADD R66 AND C40				JUNE 20 1977

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
TRANSMITTER AUDIO

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°
DWN F.K.Y. 2/20/75 SCALE:
CHK
ENG S.C.M. 2 May 77

91C 6584 D



-[ ]- INDICATE COMPONENTS INSTALLED AT TEST

	R3, R4, R5	
ITEM 2 - 15 KHZ LPF	8200 Ω	(RPL-4B)
ITEM 1 - 7.5 KHZ LPF	18K	(RPL-3A, RPL-4A)

USED ON: SEE 92C1177

NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS 1/4W, 10% CAPACITOR VALUES ARE IN MICROFARADS
2. P.C. BOARD 51A5821-01, REV.-B
3. SCHEMATIC 91C71-4
4. HR1 & HR2 ARE PROPORTIONAL CONTROL HEATERS.
5.

FREQUENCY	Y1 & Y2
140 - 174 MHz	30A0059
215 - 240 MHz	30A0060
420 - 470 MHz	30A0058

USE EMPTY HC w/o XTAL CAN IF ONLY ONE CHANNEL USED.

6. DIODES ARE MV1624
7. SOLDER ALL TERMINALS MOUNTED TO PC B FARSIDE

REVISIONS	DATE	MGMT. APPR.
C2 ADDED 4 LENGTHS PER 17643 L.D.H. 25 JUNE 80		
C1 R56 SJUMPER ADDED. C16 AND 33 WERE 51PF ECO 16DB 21FEB80 C.T.W.		
B1 R8 IDENTIFIED: PC01569 31JAN80 C.T.W.		
B ADDITIONAL NOTE 7 ADDED 27 JUNE 79 ECO 1222 A.J.B.		
A RELEASED FOR PRODUCTION ECO 1146 28MAR79 JAM		

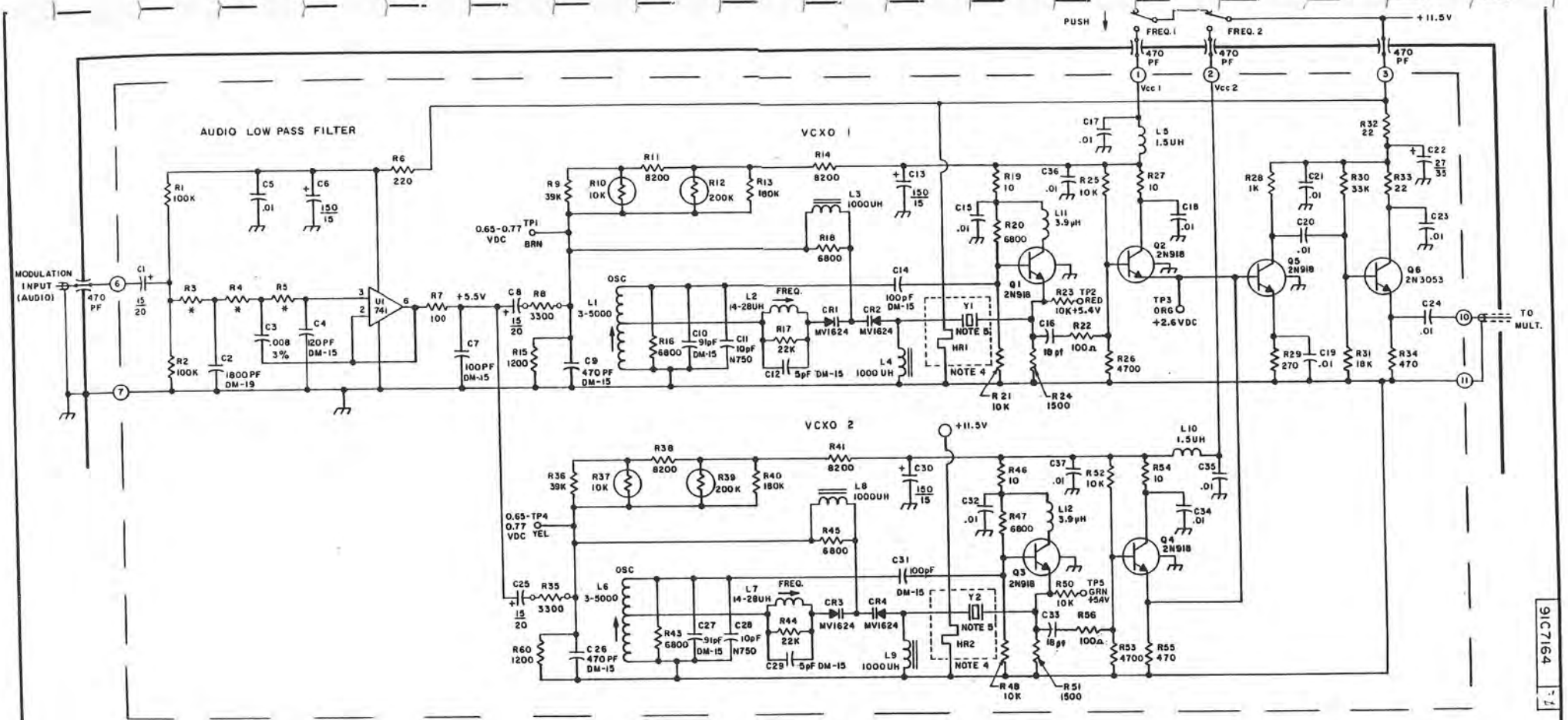
MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT

XMTR 2 CHANNEL VCXO

TOL: FRACT. ± 1/32, .XX ± .030, .XXX .010, ∠ ± 1/2°

DWN	JAM	22MAR79	SCALE: FULL
CHK			
ENG			20A2744 C2



* VARIABLE COMPONENTS

	R3, R4, R5	
15 KHz LPF	8200Ω	(RPL-4B)
7.5 KHz LPF	18 K	(RPL-3A, RPL-4A)

NOTES:

1. UNLESS OTHERWISE SPECIFIED
   RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%
   CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5821-01, REV.-B
3. COMPONENT LAYOUT 20A2744.
4. HR1 & HR2 ARE PROPORTIONAL CONTROL HEATERS.
5.

FREQUENCY	Y1 & Y2
140-170 MHz	30A0059
215-240 MHz	30A0060
420-470 MHz	30A0058

6. R35 SELECTED AND INSTALLED BY TEST.

REVISIONS			
DESCRIPTION			DATE
ECO 5128 ADDED.			
ECO 5128 AND 5129 WERE DIFF.			
ECO 5128 ADDED.			
ECO 5128 INCORPORATED INTO PRODUCTION.			

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
2 CHANNEL VCXO RPL-( ) XMTR

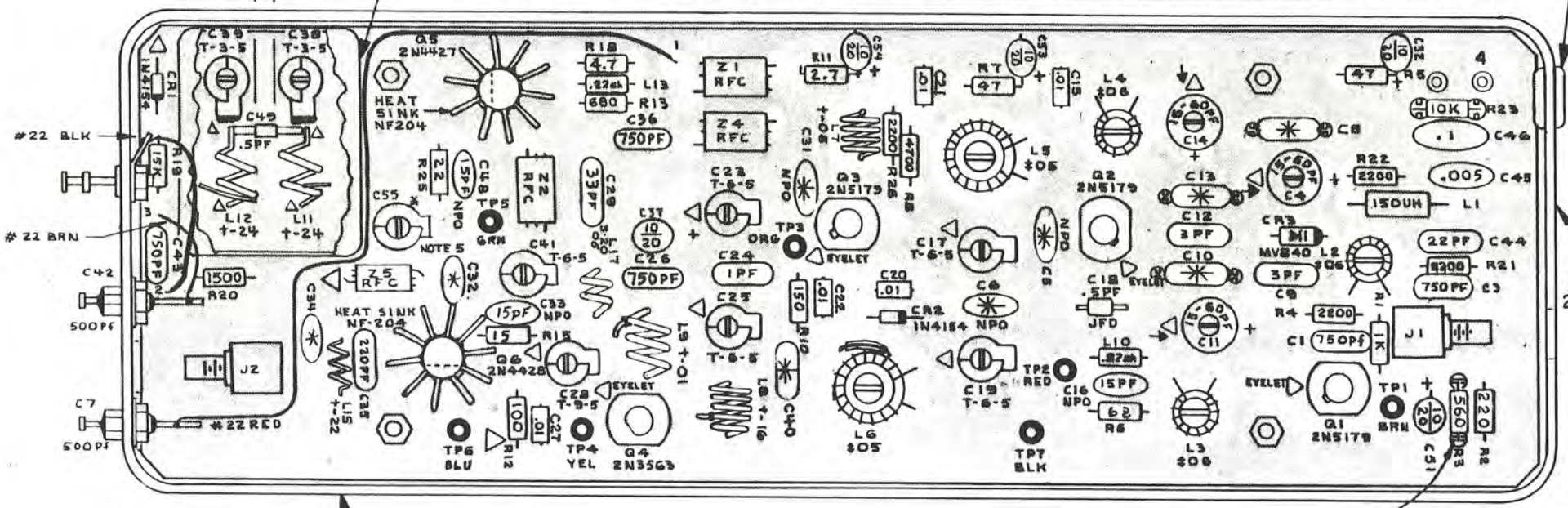
TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	JAM	22MAR79	SCALE:
CHK			91C7164
ENG			

91C7164

NOTE 6. * TYPICAL VALUES

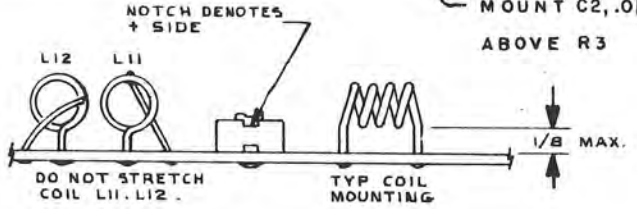
	C5	C6	C8	C10	C13	C31	C32	C34	C40	C55	
ITEM 1	6.8PF	10 PF	250PF	270PF	250PF	10 PF	33 PF DM	15PF DM	10 PF	T-6-5	400 - 440 MHz
ITEM 2	6.8PF	10 PF	220PF	200PF	240PF	10 PF	15PF NPO	6.8PF NPO	10 PF	OMIT	440 - 470 MHz
ITEM 3	15 PF	15 PF	330PF	360PF	360PF	15 PF	33 PF DM	15PF DM	15 PF	T-6-5	370 - 400 MHz



NOTES

1. UNLESS OTHERWISE SPECIFIED
   RESISTOR VALUES ARE IN OHMS. 1/4W, 10%
   CAPACITOR VALUES ARE IN MICROFARADS.
2. ▼ DENOTES ROTOR SIDE
   † " COIL 3-2001-( )
   ‡ " TOROID 3-3001-( )
   ◁ " SOLDER BOTH SIDES OF P.C. BOARD.
   SOLDER ALL COMPONENTS TO GND PLANE WHERE POSSIBLE.
3. P.C. BOARD 51A5708-01
4. SCHEMATIC 91C6900
5. INSTALL C32 1/8" OFF OF BOARD.

TAP DETAIL



USED ON: SEE 92C1177

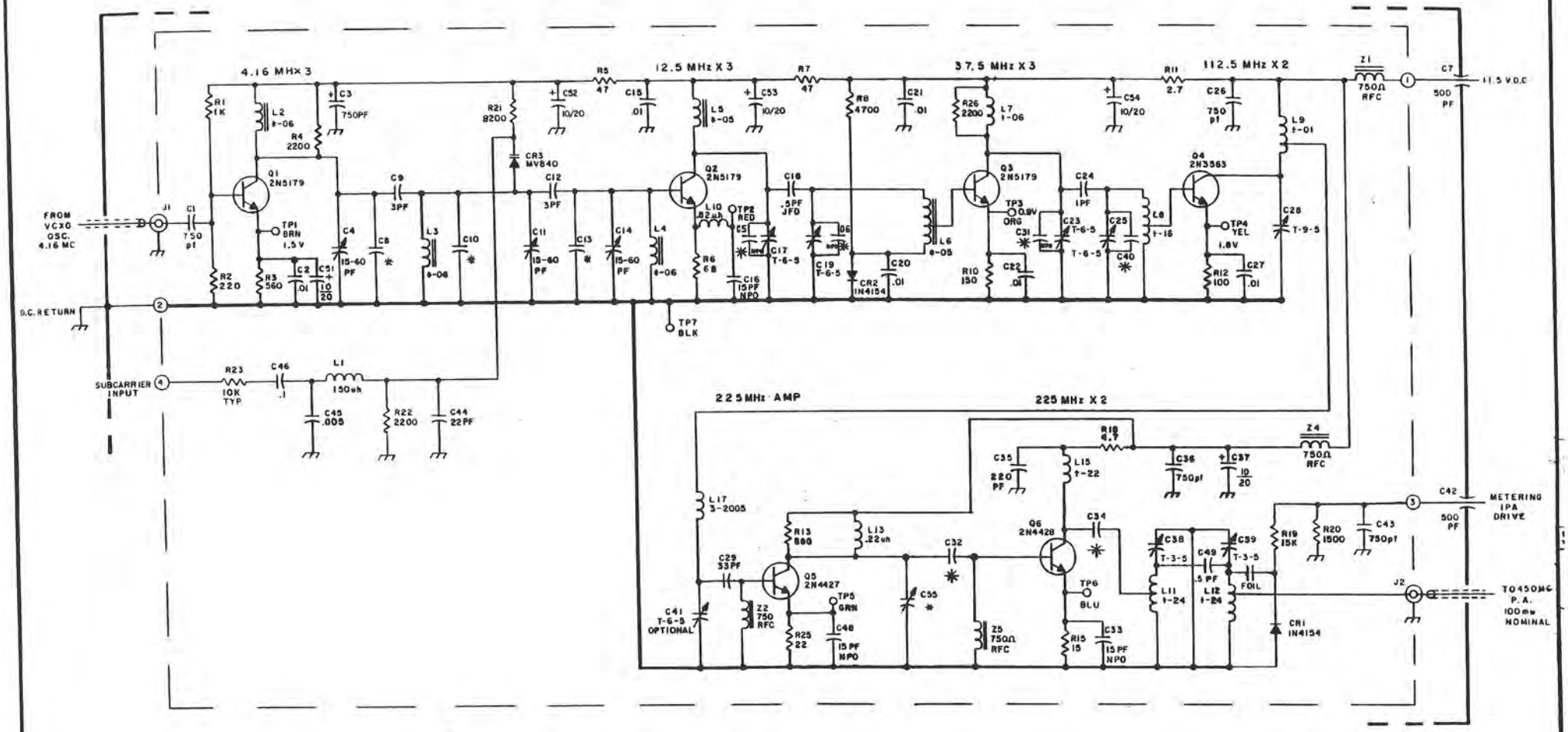
REVISIONS	DATE	MGMT. APPR.
LI ADD USECO TERM TO DWG. 1 AUG 80 ECO 1817 AJB.		
LØ C5 C6 C31 C40 AND ITEM 3 ADDED TO NOTE 6. ECO 1158 2 JUN 80 D.T.W.		
K C2,15,20,21,22 & 27 WAS .001 ADDED NOTE 6. ADDED ROTOR NOTE. ECO 1102 & 1135. 20 JUN 79 JAM		
J R2 WAS 10K R1 WAS 56K 24 MAY 78. ECO 943. L.I.		
I DELETE C 50. 4 MAY 78 BWF		
H CHANGED .01μF CAPACITORS, C2,15,20,21,22, & 27, PER ECO 903 2 MARCH 78 FHL		
G ADDED C52-54. ADDED R24. VALUE CHANGE PER ECO #28. 10 FEB 78 JAM		
F PARTS & VALUES CHANGES 30 MARCH 77 ECO 874 L.I.		
E C32 WAS 10pf NPO PER ECO 860 3 FEB 77 B.H.		
D PARTS & VALUE CHANGES PER ECO 861 22 DEC 76 F.X.Y.		
C HEAT SINK WAS NF-204 & ADDED JUMPER ONE(E) OF Q5 & CHGS PER E.C.O. 822 6-30-76 GM		
B DELETE C47 & R19. R6 WAS 470Ω. 5-13-76 GM		
A REDRAWN AND VALUE CHGS PER E.C.O 800. G.M. 3-19-76		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
450MHz MULT/DRIVER XMTR

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	GM	3-18-76	SCALE: FULL
CHK	FXY	6 APR 76	20A2570 LI
ENG	E.H.	4-6-76	



NOTES:

1. UNLESS OTHERWISE SPECIFIED
   RESISTOR VALUES ARE IN OHMS, 1/4W, 10%.
   CAPACITOR VALUES ARE IN MICROFARADS
2. T- DENOTES AIR COIL 3-2001-( )
   " TOROID 3-3001-( )
3. P.C. BOARD 51A5708-01
4. COMPONENT LAYOUT 20A2570
5. SUBCARRIER INPUT NOT USED FOR R.P.L.
6. * TYPICAL VALUES

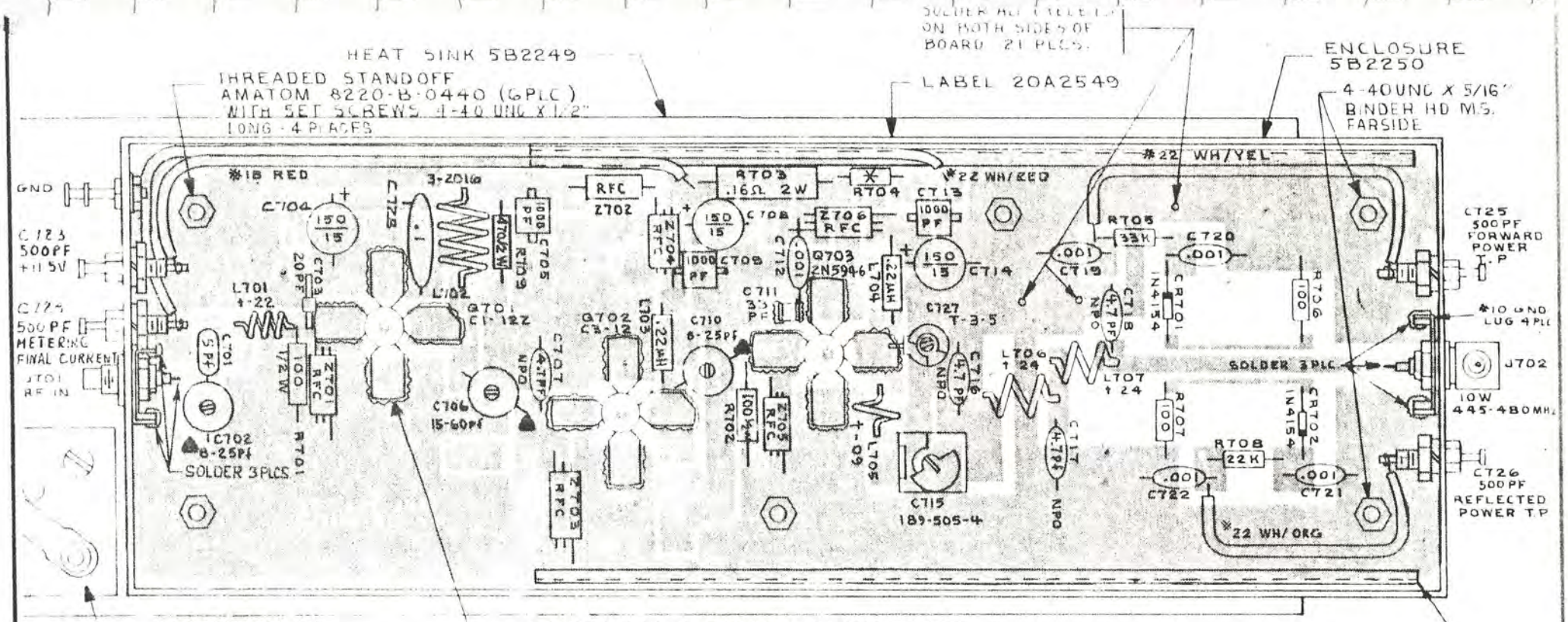
*	C5	C6	C8	C10	C13	C31	C32	C34	C40	C55	
ITEM 1	6.8PF	10 PF	250PF	270PF	250PF	10 PF	33 PF 5%	15 PF 5%	10 PF	T-6-5	400-440 MHz
ITEM 2	8.8PF	10 PF	220PF	200PF	240PF	10 PF	15 PF N90	68 PF N90	10 PF	OMIT	440-470 MHz
ITEM 3	15 PF	15 PF	330PF	360PF	360PF	15 PF	33 PF 5%	15 PF 5%	15 PF	T-6-5	370-400 MHz

USED ON: SEE 92C1177

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
450MHz MULT/DRIVER XMTR

DRWN	G.M.	3-17-76	SCALE:
CHK	F.X.Y.	17 MAR 76	
ENG			91C6900 L



NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4W, 10% CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5602 REV A.
3. SCHEMATIC 91B6864
4. † DENOTES AIR COIL 3-20CT-( ).
5. ▲ DENOTES ARROW (ROTOR) ON CAPACITOR
6. Q701-3 REQUIRE #8 EXTERNAL TOOTH LOCKWASHERS AND # 8-32 NUTS (3 PLCS)
7. CUT TRANSISTOR LEADS PER MPS 040679.
8. APPLY HEAT SINK COMPOUND AND TORQUE TRANSISTORS PER MPS 310579.

USED ON: SEE 92C1177

REVISIONS	DATE	MGMT. APPR.
K2 CHANGES AS PER ECO 1367 6 SEPT 79 C.W.		
K1 NOTE 7 ADDED, SIDE VIEW OF COIL CHANGED TO TOP PC0130? 2 NOV 77 GM		
K COMPLIED WITH ECO 1345 A/B 27 JUN 74 ECO 1345 A/B		
J ADD SOLDER TO GND JAY REMOVED BRASS WASHER 500 PF CAPS WERE 470 PF ECO 911 18 OCT 76 AJB		
H R704 WAS 1K ECO 955A JAM 23AUG78		
H ADD 5A2098-1 L.I. 23MARCH 78		
G ADD ITEMS 1 & 2, C711 & R703 CHANGE ECO 892 19AUG77 FXY		
F ADD NOTE 5 ADD Q701-3 SOLDER JAM 7JUNE77		
E ADDED R703 AND C728 PER ECO 843 11 NOV 76 K.T.		
D PARTS & VALUE CHANGES PER ECO 831. 12 AUG 76 F.X.Y		
C CHGD. C701, C702, L701 & ADDED R709 PER E.C.O 803 26 MAR 76 GM		
B CHANGE C701 & L702. ECO 797 5MAR76 F.X.Y		
A TRANSISTOR 93 WAS C12-12 & MAJOR PARTS CHGS PER E.C.O. 788, REDRAWN. 2-11-76 GM		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

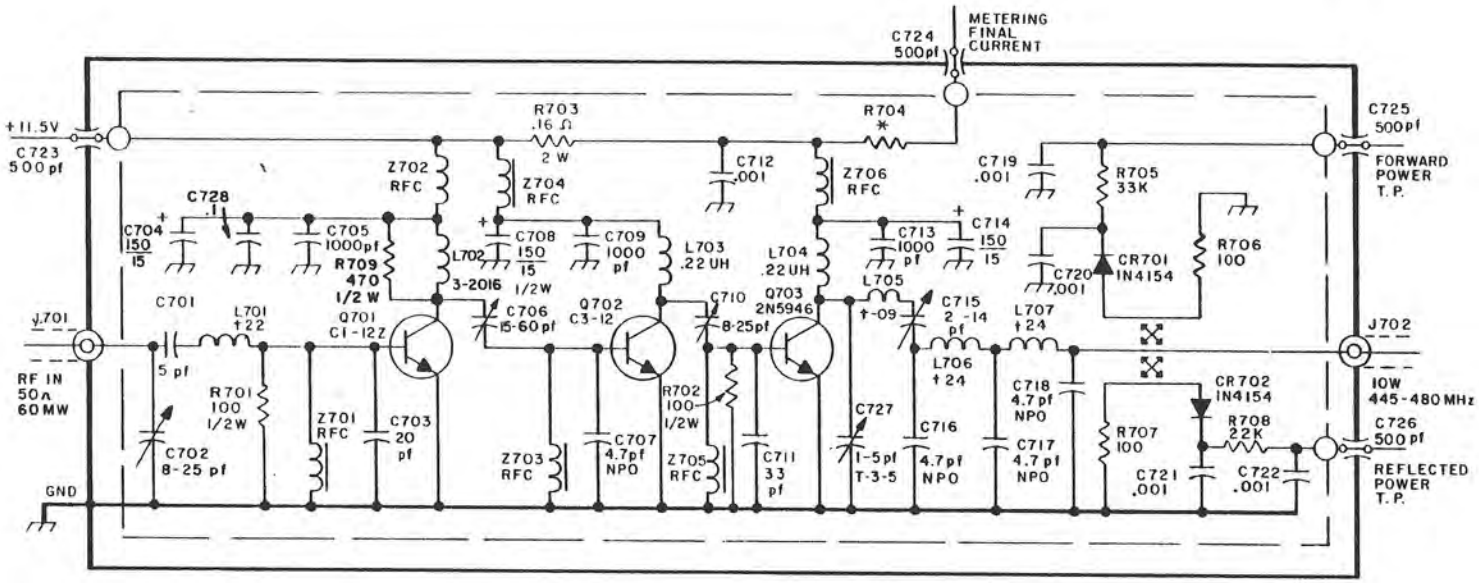
COMPONENT LAYOUT
XMTR 450MHz 10W POWER AMPLIFIER

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	G M	2-6-76	SCALE: FULL
CHK	F X Y	12 FEB 76	20A2549 K4
ENG	[signature]	FEB 12 '76	

ADDED INPUT/OUTPUT COMP PICTORIAL PCO 1811 - 6 AUG 80 JNM K4

CHANGED NOTE 6. PCO 1647. 18 MAR. 80 BWF K3



NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4W, 10%. CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5602.
3. COMPONENT LAYOUT 20A2549
4. † DENOTES AIR COIL 3-2001-( ).

* COMPONENT VARIATIONS

	R704
ITEM 1	1300, 1/4W, 5%
ITEM 2	1500, 1/4W

REVISIONS	DATE	MGMT. APPR.
H	C726 CT725, C724, C723 ADDED 470 PF 20 OCT 76 ECO 971, L.L.	
G	R705 WAS 1K ECO 984 13 JAN 76	
F	ADD ITEMS 1 & 2 C711 DELETE CHANGE ECO 832, 16 JUN 75 F.X.Y.	
E	ADDED R709 AND C725 PER ECO 849 10 NOV 75 L.T.	
D	PARTS & VALUE CHANGES PER ECO 818, 21 AUG 75 F.X.Y.	
C	ADDED C720, C705 TO R709. PER ECO 803, 26 MAR 75 GM	
B	CHANGE C701 to .75pf ECO 797 6 MAR 75 F.X.Y.	
A	TRANSISTOR Q703 WAS 2N5946 A1 NOW ALL UNITS CHGS. PER ECO 788, 2 REDRAWN. G.M. 2-11-76	

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
XMTR 450 MHz 10W POWER AMP.

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	G M	2-4-76	SCALE: NONE
CHK	F X Y	11 FEB 76	91B6864 H
ENG	[signature]	19 Feb 76	

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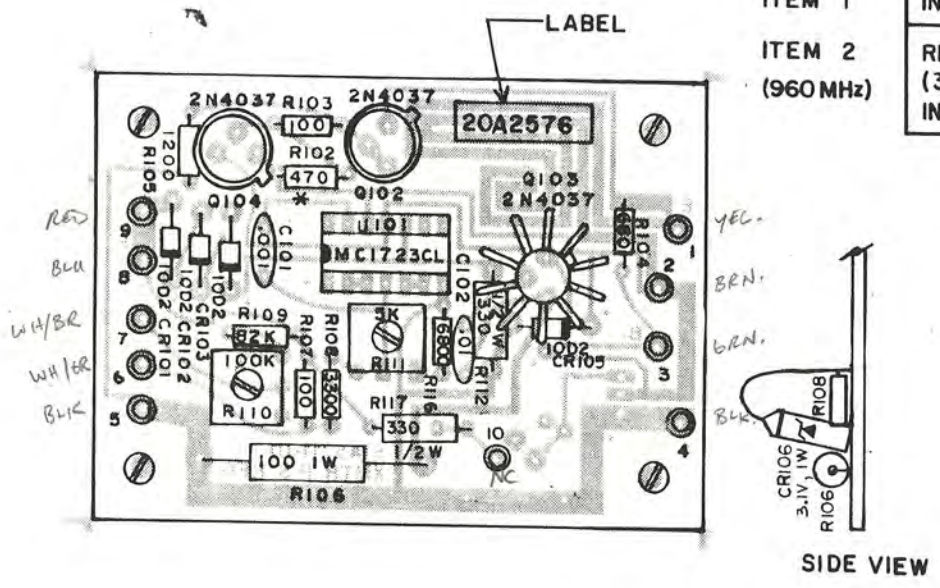


ITEM 1	INSTALL R107 AS SHOWN
ITEM 2 (960 MHz)	REMOVE R107, INSTALL CR106 (3.1V, 1W ZENER) AS SHOWN IN SIDE VIEW

NOTES

1. UNLESS OTHERWISE SPECIFIED ALL RESISTOR VALUES ARE IN OHMS 1/4W, 10%
   CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5711
3. SCHEMATIC 9186908
4. * DENOTES SELECTED VALUE, TYPICAL 470 OHM.

USED ON : SEE 92C1177

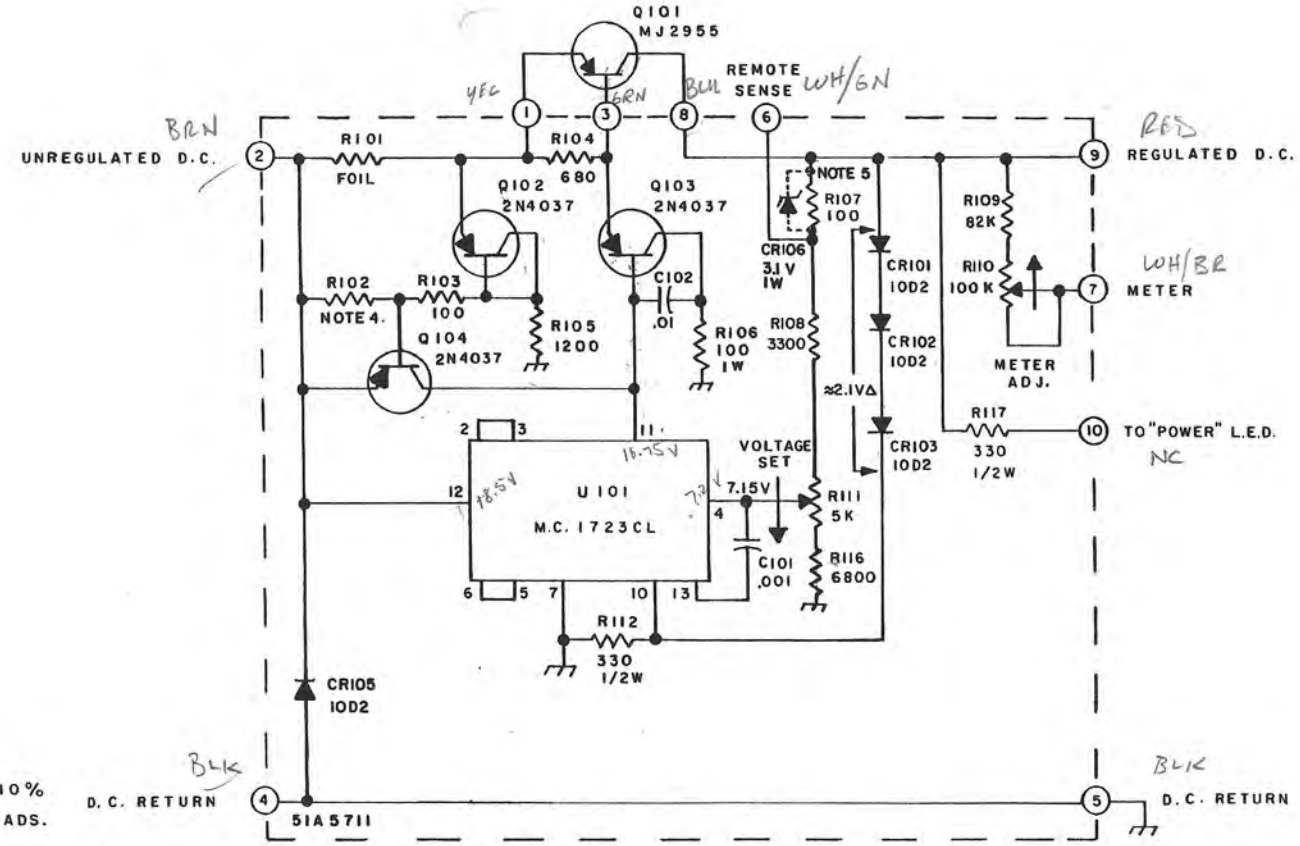
REVISIONS	DATE	MGMT. APPR.
F U101 READED IC 5 JUL 80 ECO 1757 AJB.		
E ADD R117. ECO 1064 & 1066 CHNG. NOTE 4 18JAN79. F.X.Y.		
D REMOVE R113-15, CR1104, Q105 & 6, ADD ITEM 2 ECO 857 7JUNE77 JAM.		
C R113 WAS 6.65Ω. R102 WAS 4700Ω R114 WAS 6.98Ω. R115 WAS 8200. ECO 850. 20DEC76 F.X.Y.		
B ADD R102 VALUE 15DEC76 L.I.		
A Q106 WAS 2N6236 6AUG76 L.I.		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
XMTR P.S. REG

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	L.I.	30APR76	SCALE: FULL
CHK	FXY	7 MAY 76	20A2576 F
ENG	[illegible]	5 6 76	



NOTES:

1. UNLESS OTHERWISE SPECIFIED
   RESISTOR VALUES ARE IN OHMS 1/4 W, 10%
   CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5711
3. COMPONENT LAYOUT 20A2576
4. R102 SELECTED FOR CURRENT LIMITING 470Ω TYP.
5. FOR 960MHz R107 IS REPLACED BY CR106 3.1V, 1W ZENER DIODE

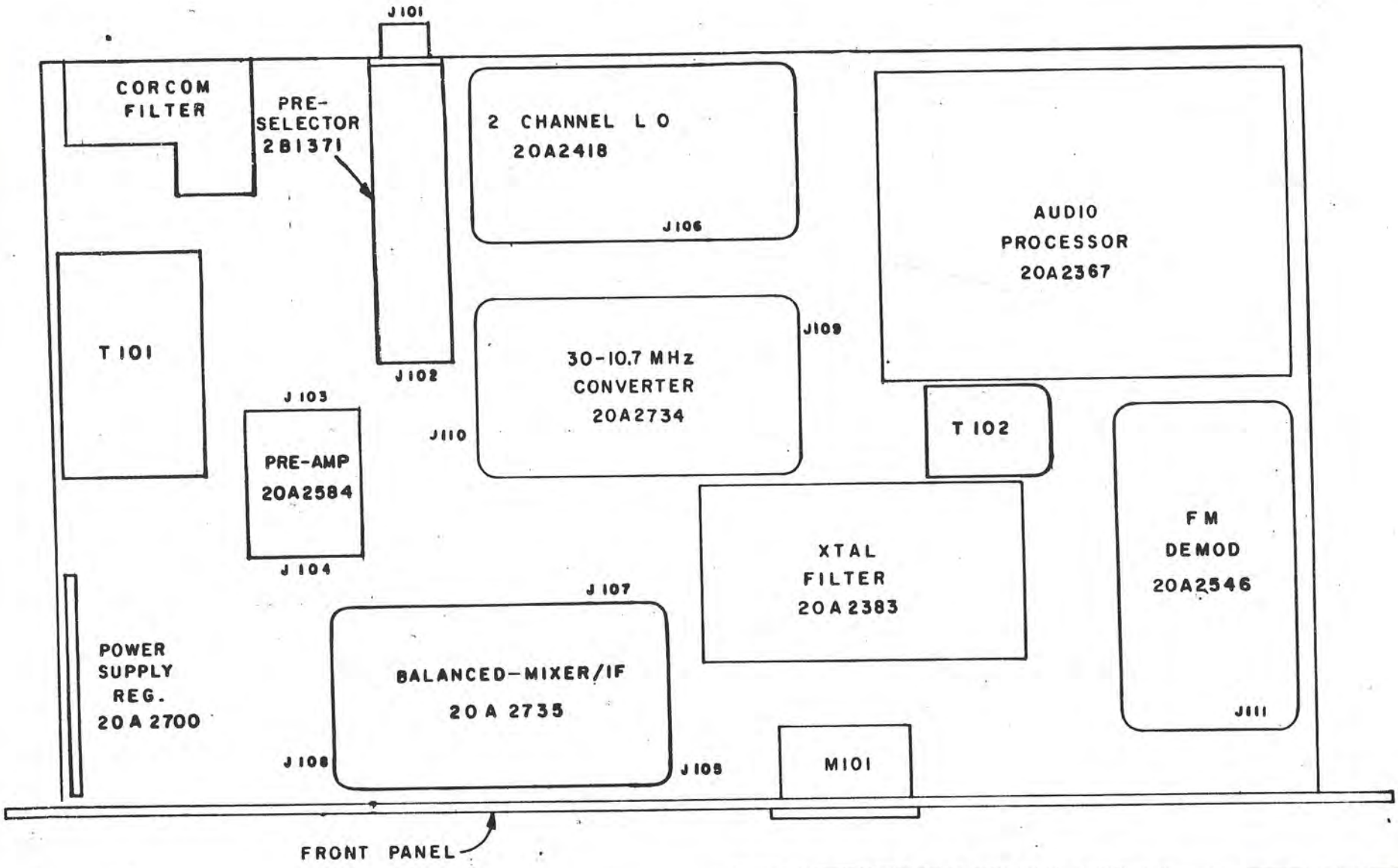
REVISIONS	DATE	MGMT. APPR.
E	DIST RELEASED TO S JUN 80 PCC 17884 JJB.	
D	ADD R117, CHNG. NOTES, ECO# 1068 B1065. 16 JAN 79. F.X.Y.	
C	DELETE R115-118, D105 & CR104, ADD NOTE 5. ECO #87 7 JUNE77 ZMM.	
B	R115 WAS 680Ω, ADD R109 VALUE. R116 WAS 4700Ω, ECO 830. 20 DEC 76. F.X.Y.	
A	Q104 WAS 2N5336 6 AUG 76	L.I.

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
XMTR P.S. REG.

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	L.I.	28APR76	SCALE: NONE
CHK	FXY	6 MAY 76	91B6908 E
ENG	[illegible]	6 MAY 76	



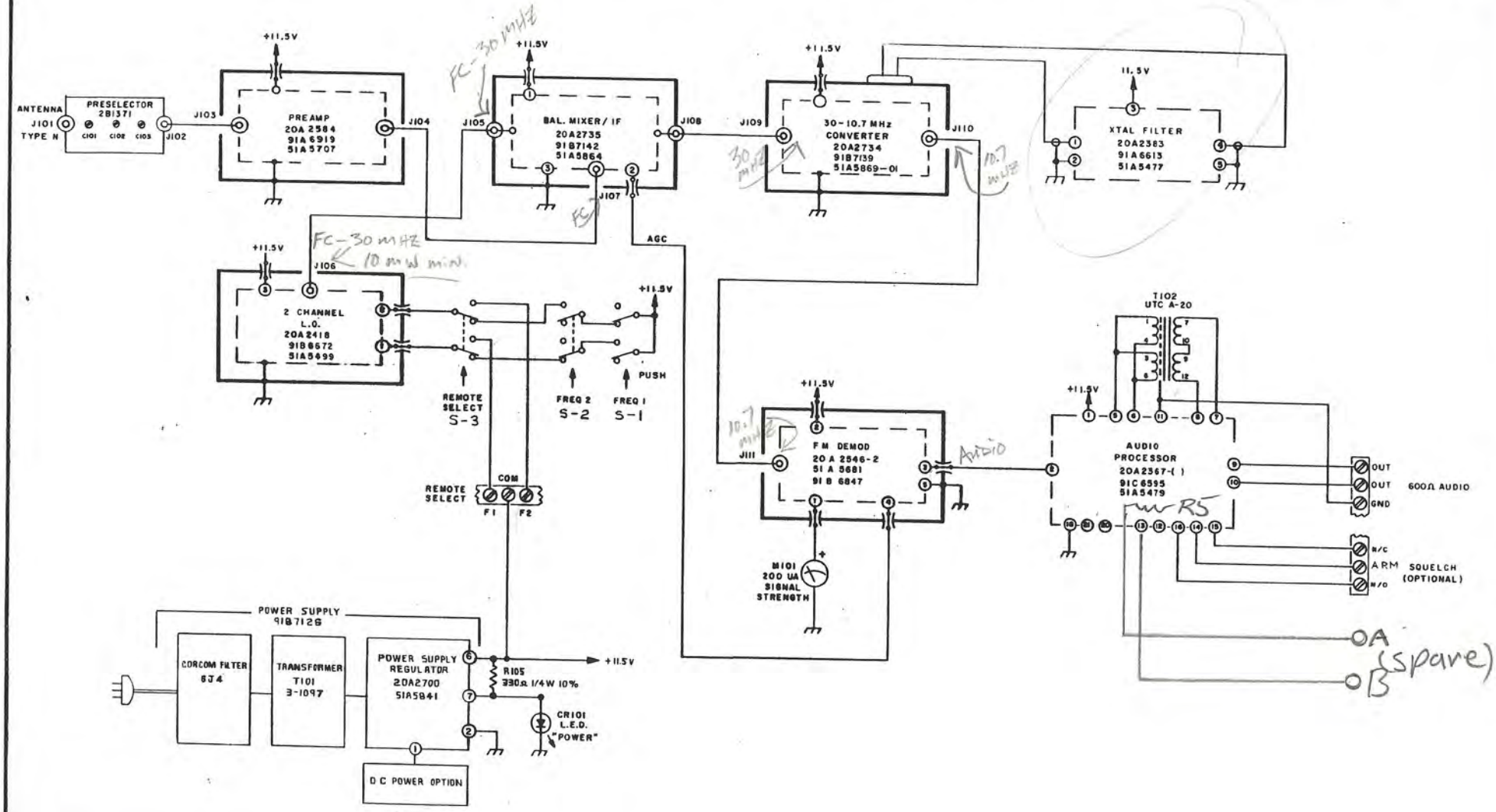
DATE	REVISIONS	MGMT. APPR.
	CHANGES PER ECO 1762. 26 JUN 80 BWF	
	20A2734 WAS 20A2350 20A2735 WAS 20A2419 ECO 1369 AJB 6SEP 79	BD
	UPGRADE RPL SYSTEM 26 JUN 79 ECO 12 A.J.S.	A

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

FIGURE 2
RPL-4 RECEIVER LAYOUT

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	F X Y	6/28/73	SCALE: 1/2
CHK			21A2450
ENG		8/mc 2	



NOTES

1. P.C. BOARDS ARE SHOWN IN DASH LINES.
   20 PREFIX IS MODULE NUMBER. -( ) DETERMINES FREQUENCY.
   91 PREFIX IS SCHEMATIC DRAWING NUMBER.
   51 PREFIX IS P.C. BOARD NUMBER.

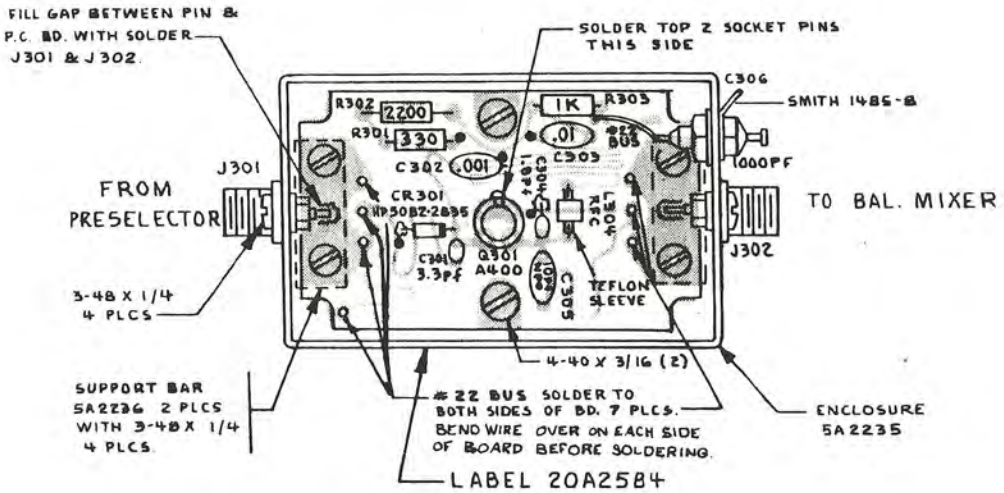
REVISIONS	DATE	APPR.
D	ADDED CORCOM UNIT PWR SUPPLY MODIFIED	
C	ECO885	
B		
A		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
RPL-4 RECEIVER 450-470MHz

DWN F X Y 5/23/73
CHK
ENG

91C6670



NOTES

1 UNLESS OTHERWISE SPECIFIED
RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%.
CAPACITOR VALUES ARE IN MICROFARADS.

2 P.C. BOARD 51A5707

3 SCHEMATIC 91A6919.

4 • DENOTES SOLDER ON TOP SIDE OF BOARD.

USED ON: SEE 92C1176

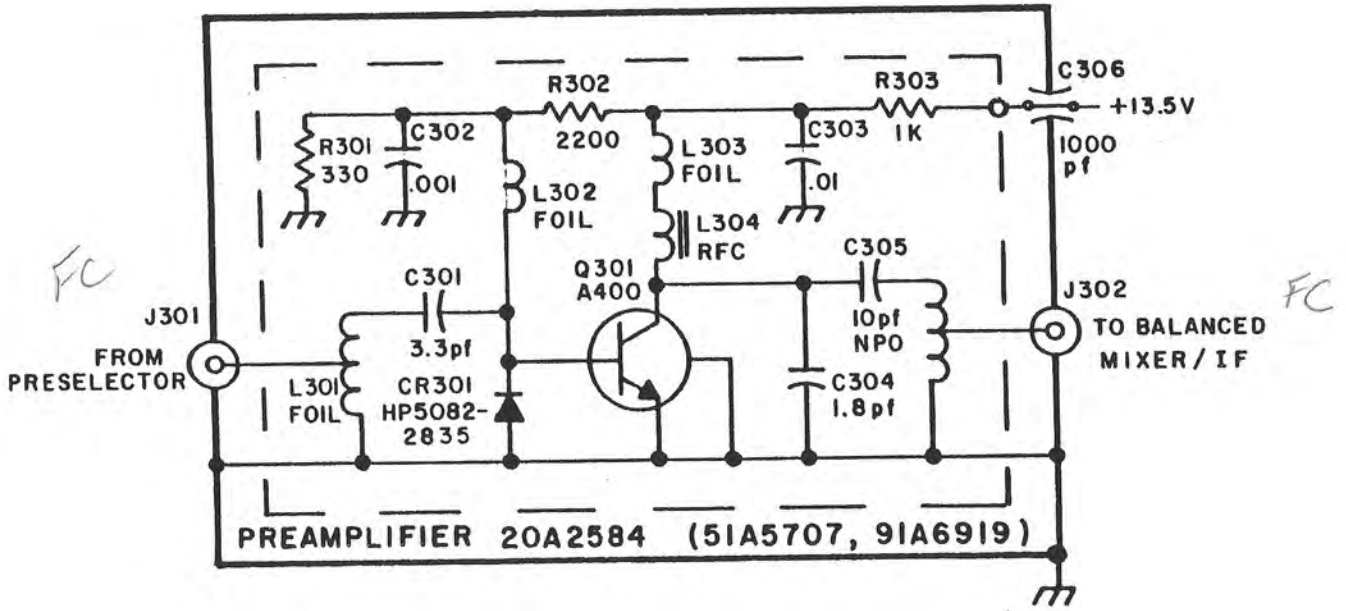
REVISIONS	DATE	MGMT. APPR.
C ADDED ARROWS 7 PLACES 12 APR 74 ECO 1045 A.J.B.		
B ADDED NOTE TO BEND #22 BUS. 8 AUG 76 A.J.B.		
A ADD NOTE 4. MOVE LABEL 9 MAR 78 F.X.Y.		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
RCVR 450 MHz PREAMPLIFIER

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	F X Y	28JUN76	SCALE:
CHK			20A2584 C
ENG	[signature]	29 JUN 76	



NOTES:

1 UNLESS OTHERWISE SPECIFIED
RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%.
CAPACITOR VALUES ARE IN MICROFARADS.

2 P.C. BOARD 51A5707.

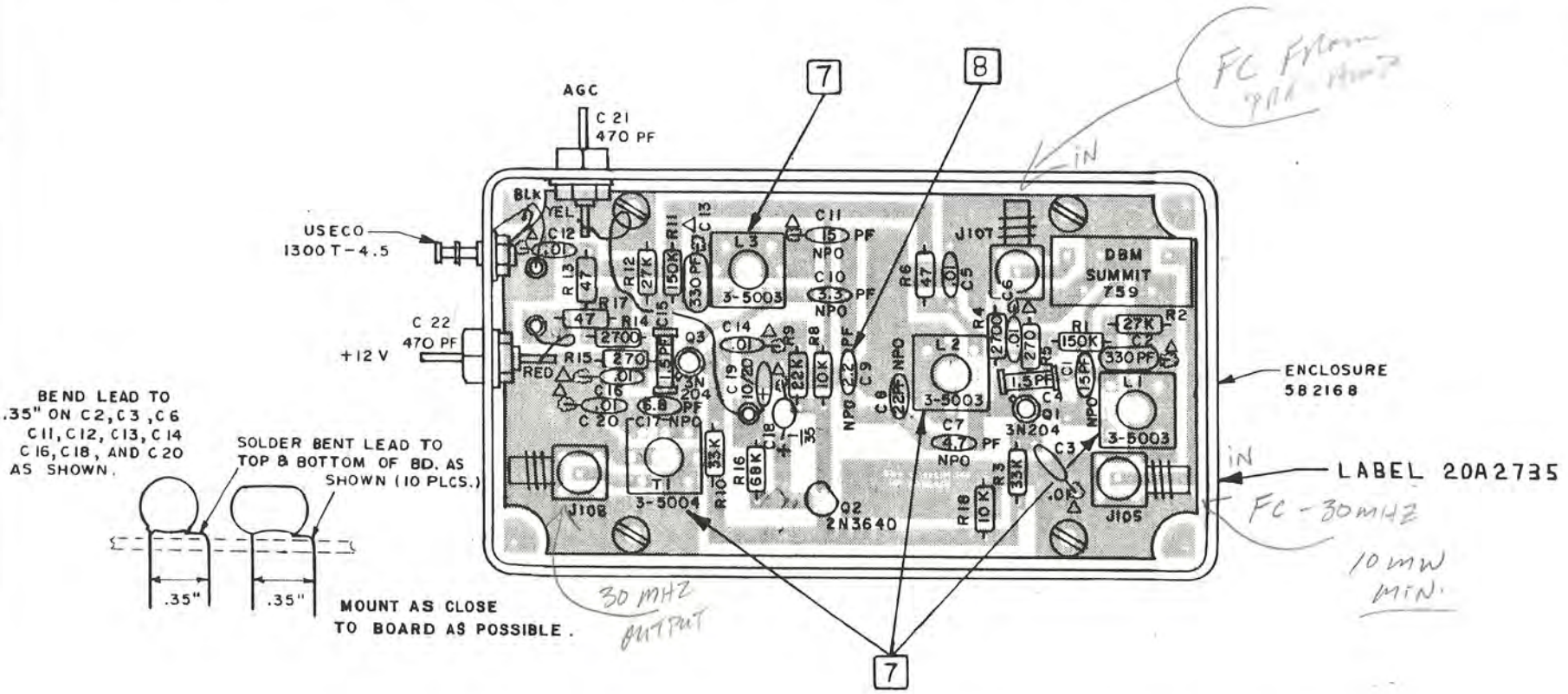
3 COMPONENT LAYOUT 20A2584.

REVISIONS	DATE	MOSELEY ASSOCIATES, INC.
		SANTA BARBARA RESEARCH PARK
		GOLETA, CALIFORNIA 93117

SCHEMATIC
RCVR 450 MHz PREAMPLIFIER

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2

DWN	FXY	25JUN76	SCALE:
CHK			
ENG	GRON	29JUN76	91A6919



NOTES

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%. CAPACITORS ARE IN MICROFARADS.
2. P.C. BOARD 51A5864.
3. SCHEMATIC 91B7142.
4. △ DENOTES SOLDER ON TOP OF BOARD.
5. WIRES # 22 AWG.
6. CUT LEADS ON TRANSISTORS TO 3/16" LONG, NO LESS.
7. REMOVE THE 8/32 SCREWS FROM T1, L1, L2 & L3 AFTER THEY HAVE BEEN SOLDERED IN PLACE AND INSTALL THE SAME COLOR THREADED CORE AS APPEARS ON THE TOP OF THE CUP AS SEEN THRU THE TOP OF THE CAN.
8. FOR ITEM 2 C9 IS REPLACED BY XFI.

ITEM NO.	CAPACITORS, NPO, PF					XFI
	C7	C8	C9	C10	C11	
-1	4.7	22	2.2	3.3	15	—
-2	10	2.2	—	6.8	3.3	PIEZO TEC 4102F

USED ON: SEE 92C1176

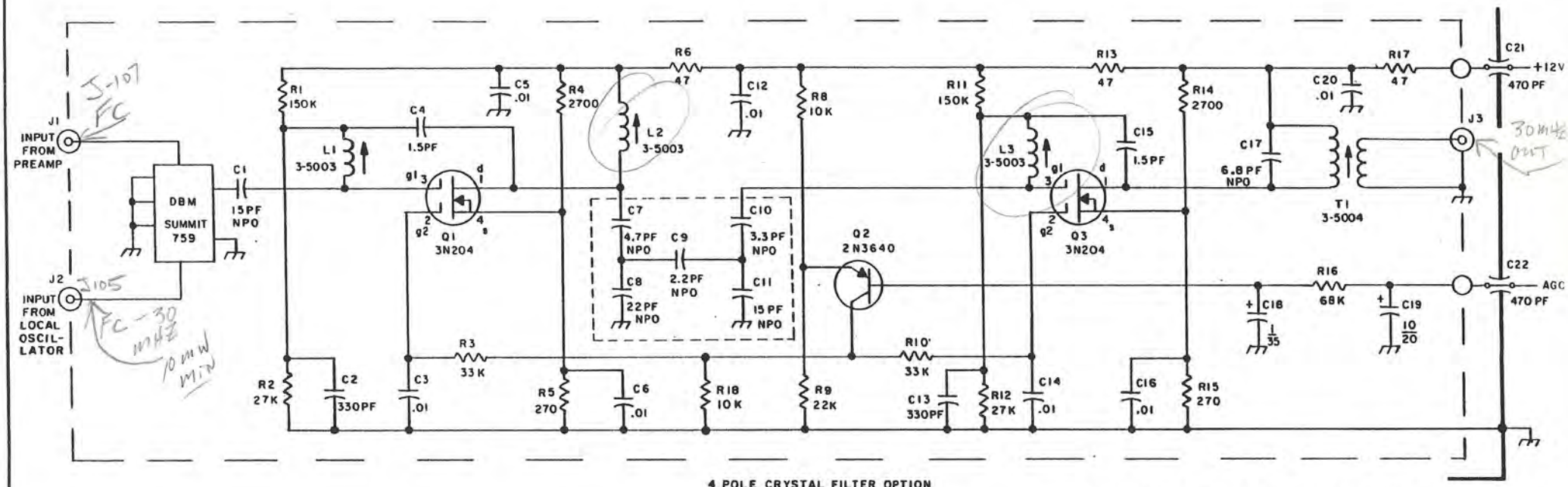
REVISIONS	DATE	MGMT. APPR.
C2 CHANGED "J" NOS. PER PCO 1706 L.D.H 30-APR 80		
C1 ADDED ITEM NO. -1-2. ADDED NOTE 8. PCO 1629 3-4-80 J.C.A.		
B1 POSITION OF GND LUG CHANGED AND LABEL ADDED PCO 1486, NOTE 7 ADDED PCO 1484, 12DEC79 D.T.W.		
B ADDED NOTE #6 20 APR. 79 ECO 1098 A.J.S.		
A RELEASED.	25 JAN 79	F.X.Y.

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

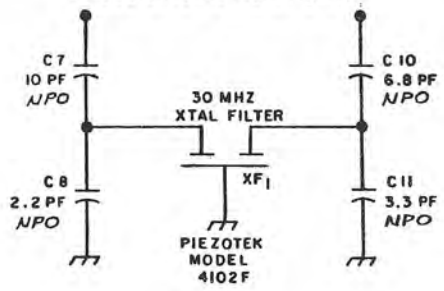
COMPONENT LAYOUT
BAL. MIXER / I.F. AMPLIFIER

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	BWF	26DEC.78	SCALE: 1:1
CHK			
ENG	DAC	19JAN79	20A2735 C2



4 POLE CRYSTAL FILTER OPTION



NOTES

1 UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4W, 10% CAPACITOR VALUES ARE IN MICROFARADS.

2 P.C. BOARD 51A5864.

3 COMPONENT LAYOUT 20A2735.

CRYSTAL FILTER FIELD INSTALLATION

1. REMOVE (5) CAPACITORS WITHIN DASHED AREA - THEN INSTALL 4-POLE XTAL FILTER WITH ASSOCIATED CAPACITORS.
2. THE CRYSTAL FILTER XF_1 IS A SYMMETRICAL DEVICE. THE MIDDLE PIN IS EARTH OR GROUND.
3. AFTER CRYSTAL FILTER INSTALLATION, SUGGEST CHECKING ALIGNMENT OF THIS MODULE. L2 & L3 MAY REQUIRE TUNING FOR OPTIMUM RESPONSE CHARACTERISTICS.

FOR BOC

REVISIONS	DATE	MGMT. APPR.
A2 ADDED A1 PO TO C7,C8,C10,C11 W/ FILTER		
A1 CRYSTAL INSTAL. ADDED PCO 1295 25JULY79 DJW.		
A0 RELEASED 7-13-79		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
BALANCED MIXER / IF AMP.

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	FXY	26 DEC 78	SCALE:
CHK	[illegible]	7-13-79	
ENG	DAC	19JAN79	91B7142 A2

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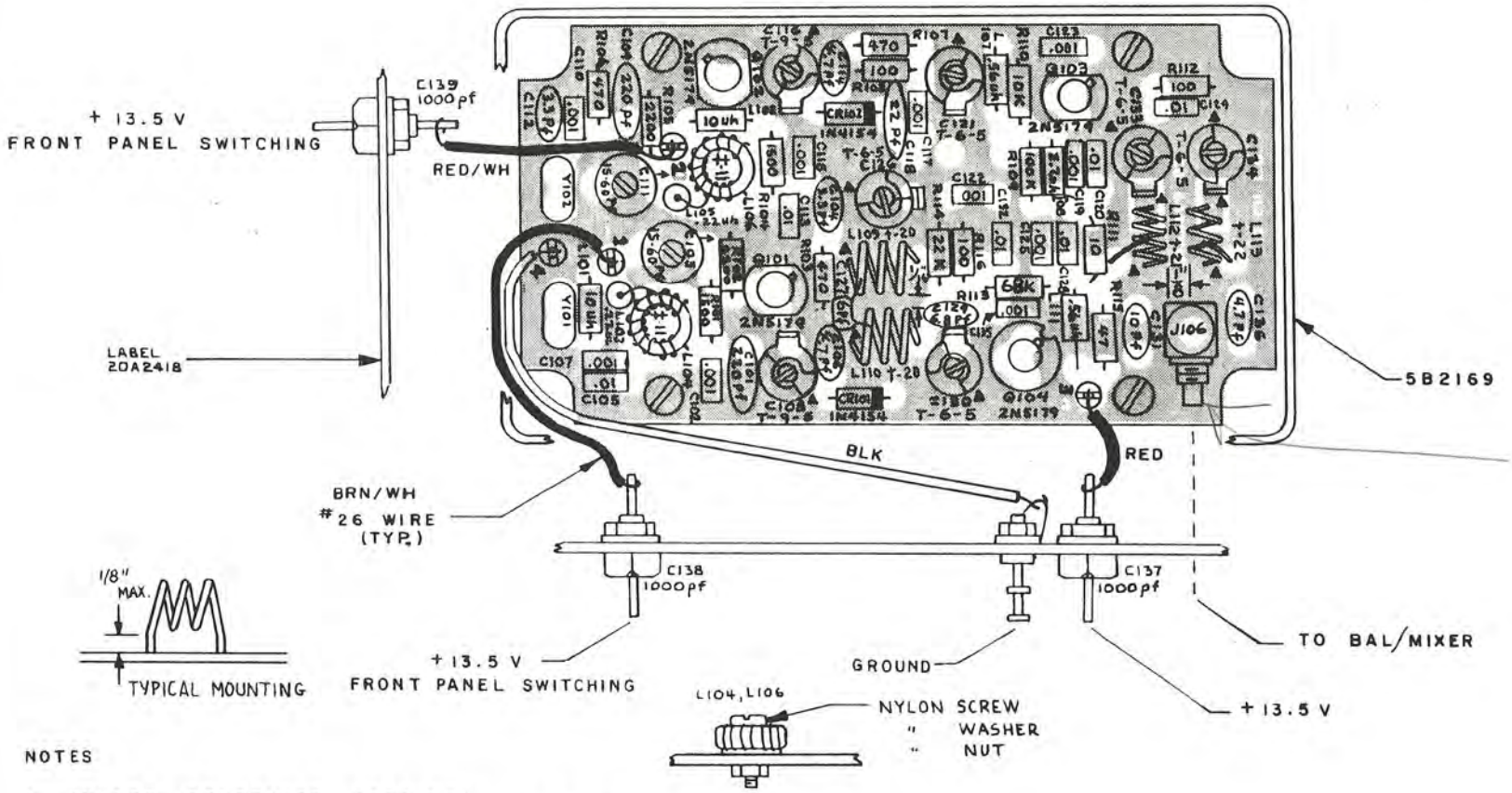


NOTES

1 UNLESS OTHERWISE SPECIFIED
RESISTOR VALUES ARE IN OHMS, 1/4 W, 10 %
CAPACITOR VALUES ARE IN MICROFARADS

2 P C BOARD 51A5499

3 SCHEMATIC 91B6672

4 † DENOTES COIL 3-2001-( )

5 ‡ DENOTES TOROID 3-3001-( ) .

6 Y 101, Y102 = $\frac{Fc-30.000\ MHz}{6}$ (30A0027)

7 ▲ DENOTES SOLDER ON TOP SIDE OF BOARD.

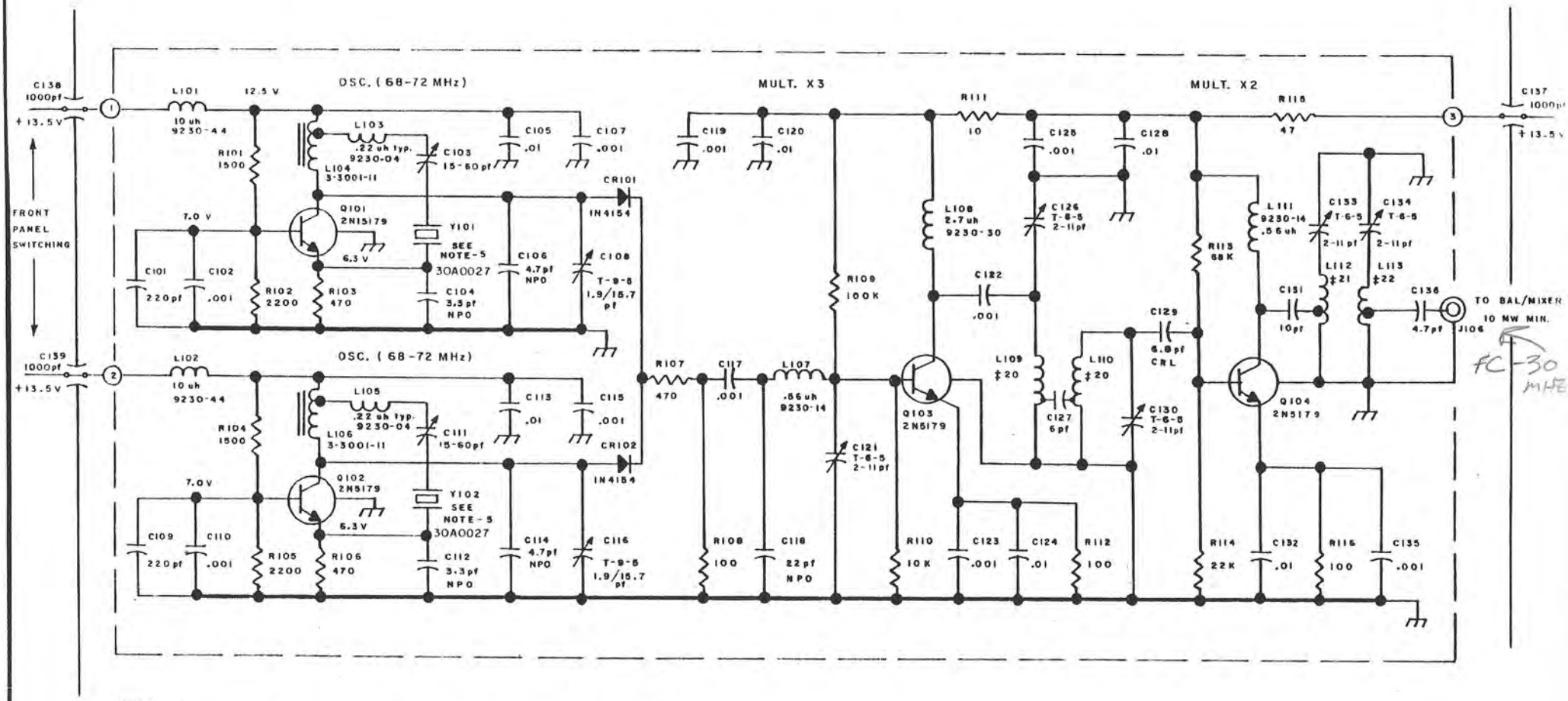
REVISIONS	DATE	MGMT. APPR.
F1 OVERLAY CHANGE. PCD 1687 & MAY 8 D.T.W.		
F CHG'D 0.01MF & .001MF TO CK05 TYPE CAPS PER ECO 3103 10 MARCH 75 FHL		
E DELETED Z101 PER E.C.O 775. 12-10-75 GM		
D REMOVE RED LABEL ON BRN/WH WIRE JHM 24 OCT 75		
C REVISE L109 L110 L112 & L113. ADD MOUNTING VIEWS. 28 AUG 75 F.X.Y.		
B CORRECT L103 TURNS 22 MAR 74 JHM		
A VALUE CHANGES PER ECO #640 JHM 19 FEB 74		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
2 CHANNEL LO RPL-4 RCVR

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	JHM	12-13-73	SCALE:
CHK	F X Y	12/17/73	20A2418 F1
ENG	SLM	17 Dec 73	



NOTES

1 UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%
CAPACITOR VALUES ARE IN MICROFARADS

2 P C BOARD 51A5499

3 COMPONENT LAYOUT 20A2418

4 ‡ DENOTES COIL 3-2001-( )

5 Y101 AND Y102 $\frac{Fc - 30.000\ MHz}{6}$

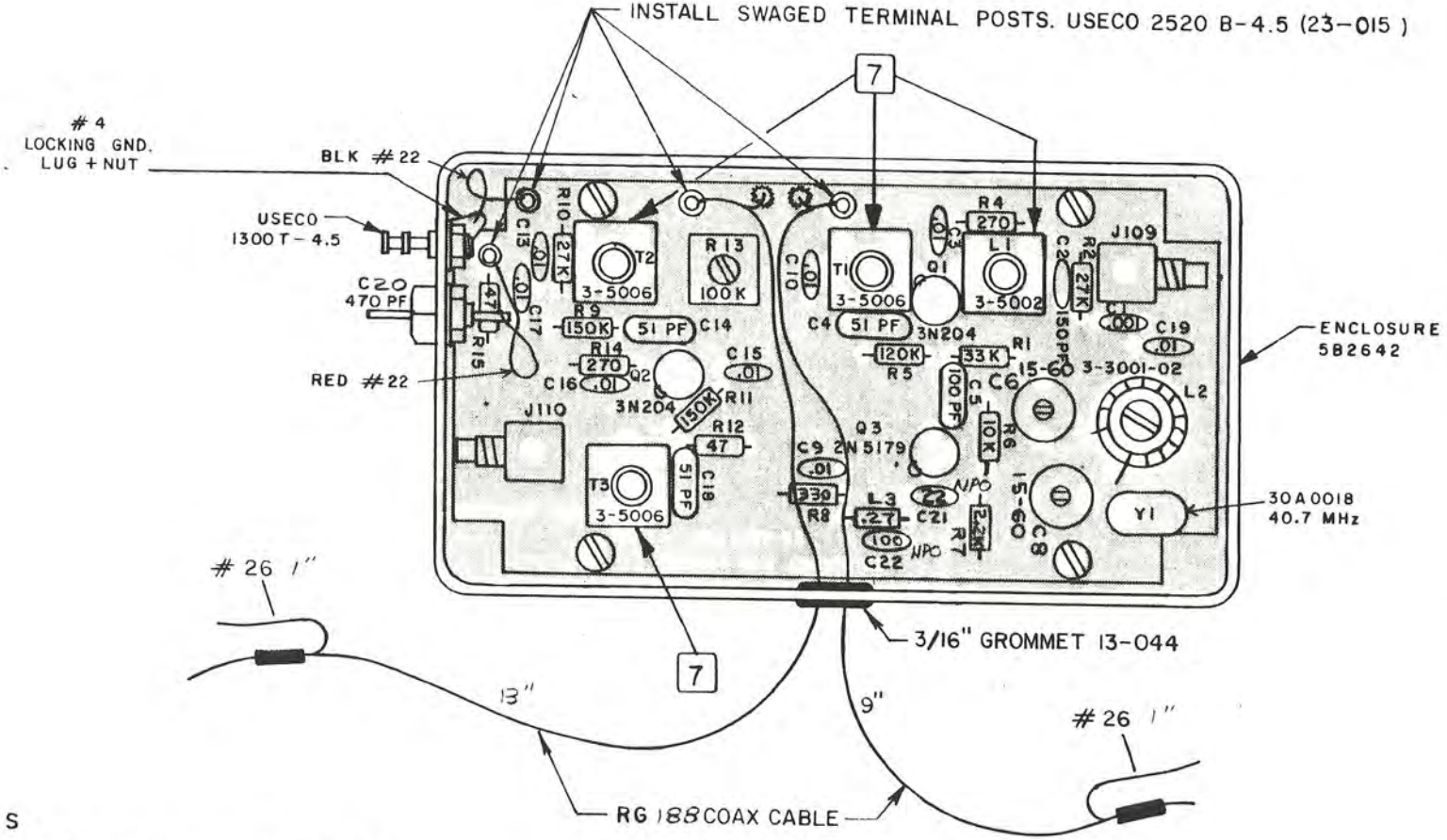
REVISIONS	DATE	MGMT. APPR.
B DELETED Z101 PER E.C.O. 775. 12-10-76		
A VALUE CHANGES PER ECO # 640 JHM 19 FEB 74		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
2 CHANNEL LO RPL-4 RCVR

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	JHM	12-4-63	SCALE:
CHK	FXY	12/17/73	91B6672 B
ENG	SLM	1 Dec 73	



NOTES

1 UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%. CAPACITORS ARE IN MICROFARADS.

2 P.C. BOARD 51A5869-12,22

3 SCHEMATIC 91B7139

4

5

6

7 REMOVE THE 8/32 SCREWS FROM T1,T2,T3 & L1 AFTER THEY HAVE BEEN SOLDERED IN PLACE AND INSTALL THE SAME COLOR THREADED CORE AS APPEARS ON TOP OF THE CUP AS SEEN THRU THE TOP OF THE CAN.

REVISIONS	DATE	MGMT. APPR.
E4 CALLING .27μH CHOKE L3 3 JULY 80 PCO 1795 AJB		
E3 REV PER PCO 1707 L.D.H. 1 MAY 80		
E2 DELETED NOTES 4&5 PCO1605 2-19-80		
E1 SEE ECO NO. 1520 LDH 8 JAN 80		
D1 NOTE 7 ADDED. PCO 1483 12DEC78 DTW.		
D ADDED OVERLAY 51A5869-21 ECO 1470		
C CHANGE R1 AND C9 ALSO REMOVE J2 AND J3 26 JUN 79 ECO 1243 AJB.		
B CHANGE PER ECO 1049. 26 FEB 79 BWF		
A RELEASED.	2 FEB 79	F.X.Y.

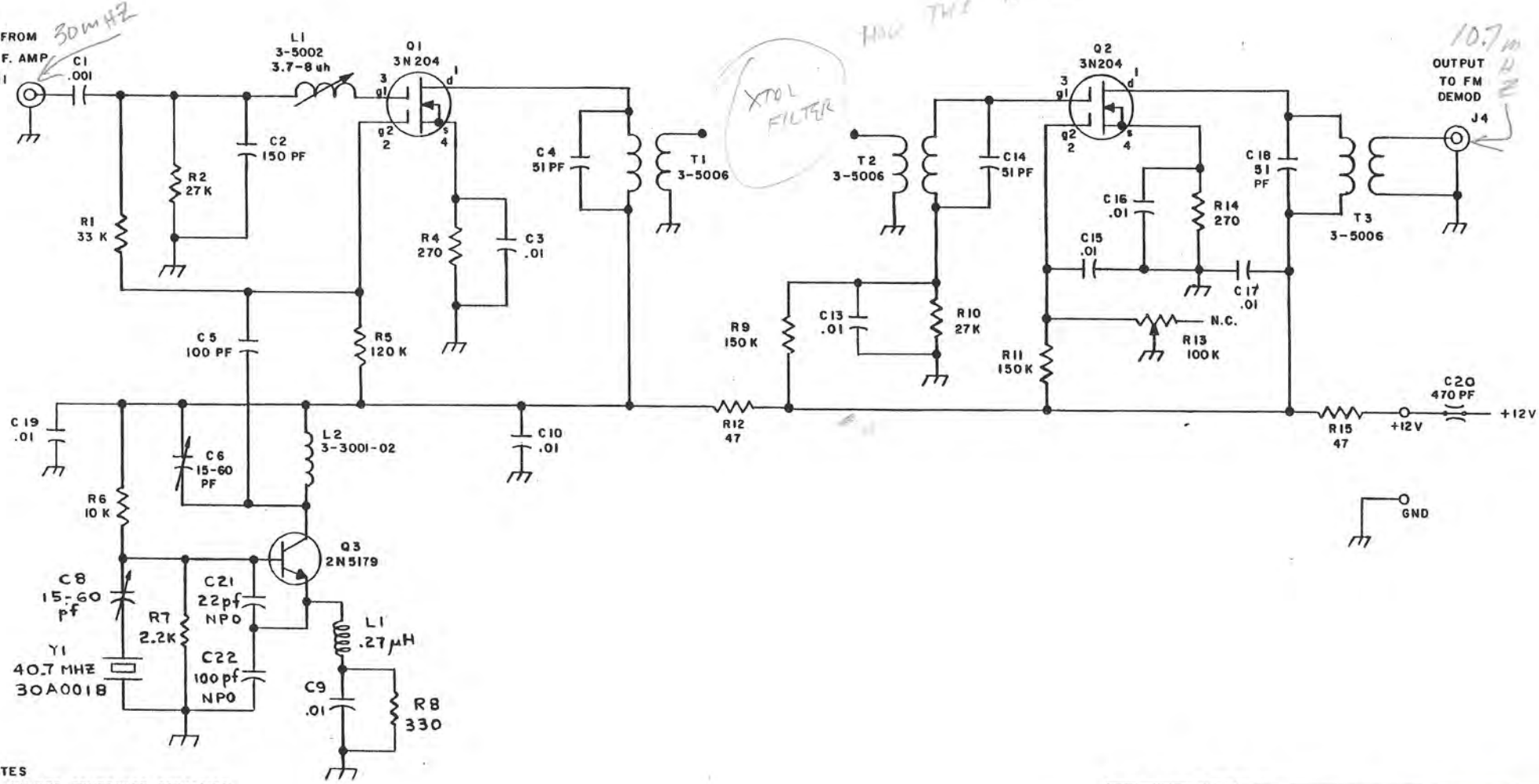
MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
30-10.7 MHz CONVERTER RCVR

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	BWF	22 DEC 78	SCALE:
CHK			
ENG	DAC	19 JAN 79	20A2734 E4

91B7139 C∅



NOTES

1 UNLESS OTHERWISE SPECIFIED RESISTORS ARE IN OHMS, 1/4 W, 10%. CAPACITORS ARE IN MICROFARADS.

2 P.C. BOARD 51A5869

3 COMPONENT LAYOUT 20A2734

REVISIONS	DATE	MGMT. APPR.
C∅ CHANGED PER ECO 1520 L.D.H. 27DEC78		
B CHANGE R1 AND C9 ALSO REMOVE J3 & J4 AND J3 PER ECO 1843 A.J.S.	2 FEB 79	P.K.Y.
A RELEASED		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
30-10.7 MHZ CONVERTER

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	BWF	12DEC78	SCALE:
CHK		2-12-79	91B7139 C
ENG	DAC	19JAN79	

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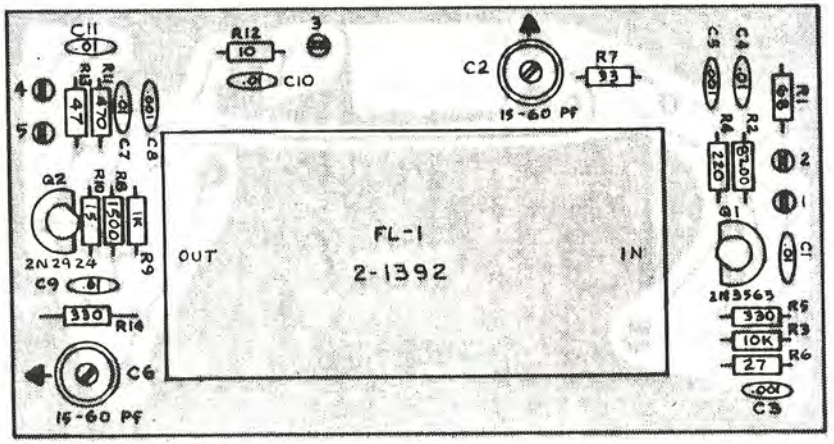
HDD INSTALLED



USED ON
PCL-101 RCVR
RPL-4 "

NOTES:

1. UNLESS OTHERWISE SPECIFIED
   RESISTOR VALUES ARE IN OHMS, 1/4 W, 10%
   CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5477
3. SCHEMATIC 91A6613

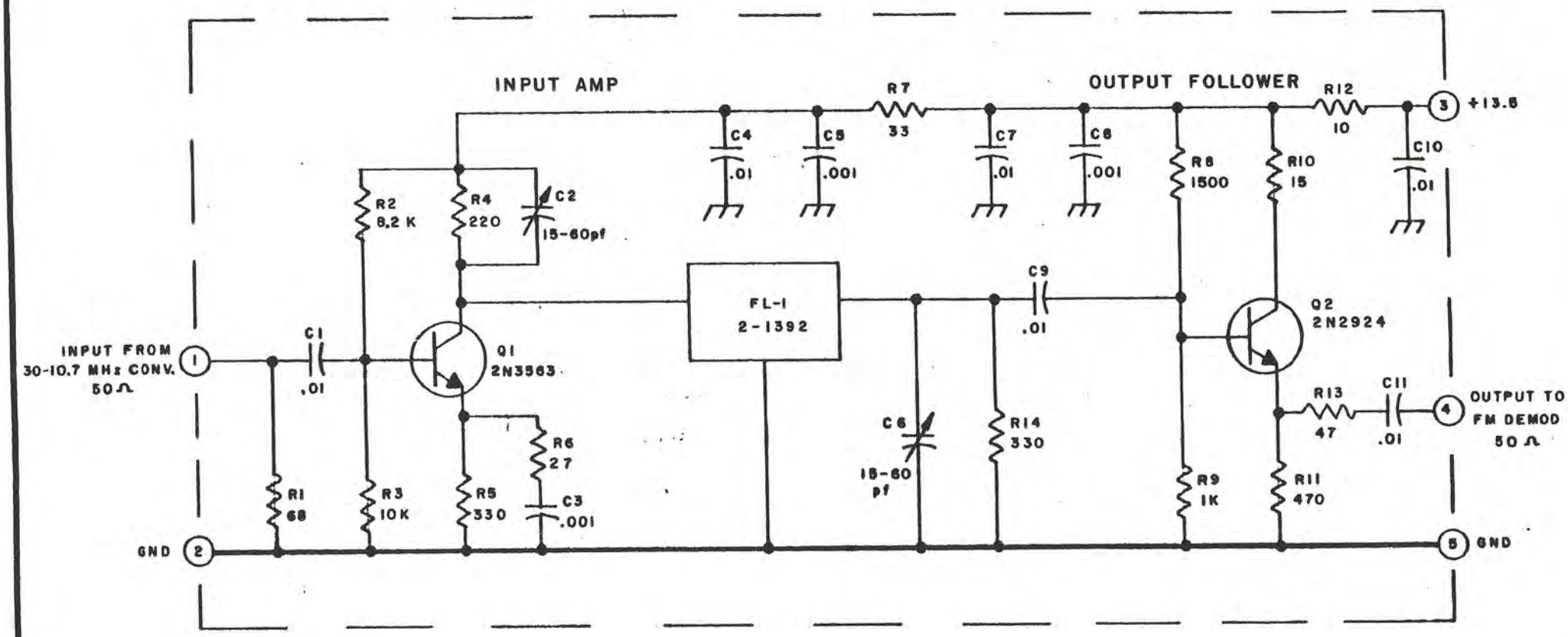
REVISIONS	DATE	MGMT. APPR.
E	FLI NUMBER CHANGED FROM 30A0056 TO 2-1392 19DEC77 F.X.Y.	
D	FL1 WAS 2A1376. ECO 914. 8DEC77 F.X.Y.	
C	ARTWORK REV. B FL-1 WAS A4880 KF 6JAN75	
B	Q-2 WAS 2N3563 JHM R-2 WAS 47 K 12-14-73	
A	BOARD REVERSED REB 9-26-73	

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
XTAL FILTER INTERFACE

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	REB	9-24-73	SCALE: FULL
CHK	FXY	9/27/73	20A2383 E
ENG	SLM	2 Oct 73	



NOTES:

1 UNLESS OTHERWISE SPECIFIED
RESISTOR VALUES ARE IN OHMS, 1/4W, 10%.
CAPACITOR VALUES ARE IN MICROFARADS.

2 P.C. BOARD 51A5477.

3 COMPONENT LAYOUT 20A2383.

USED ON:
SEE 92C1176

REVISIONS	DATE	MGMT. APPR.
E FLI NUMBER CHANGED FROM 20A0056 TO 2-1392. 19DEC77 F.X.Y.		
D FLI WAS 2-1376. OK A-BAO ECO 914. 9DEC77 F.X.Y.		
C R2 WAS 47K G2 WAS 2N3563 ADD RPL-4 JHM 12-17-73		
B R6 WAS 470Ω. R18 WAS 470Ω. 9/11/73		
A ADD FLI NO. VALUE CHANGES. 6/29/73		

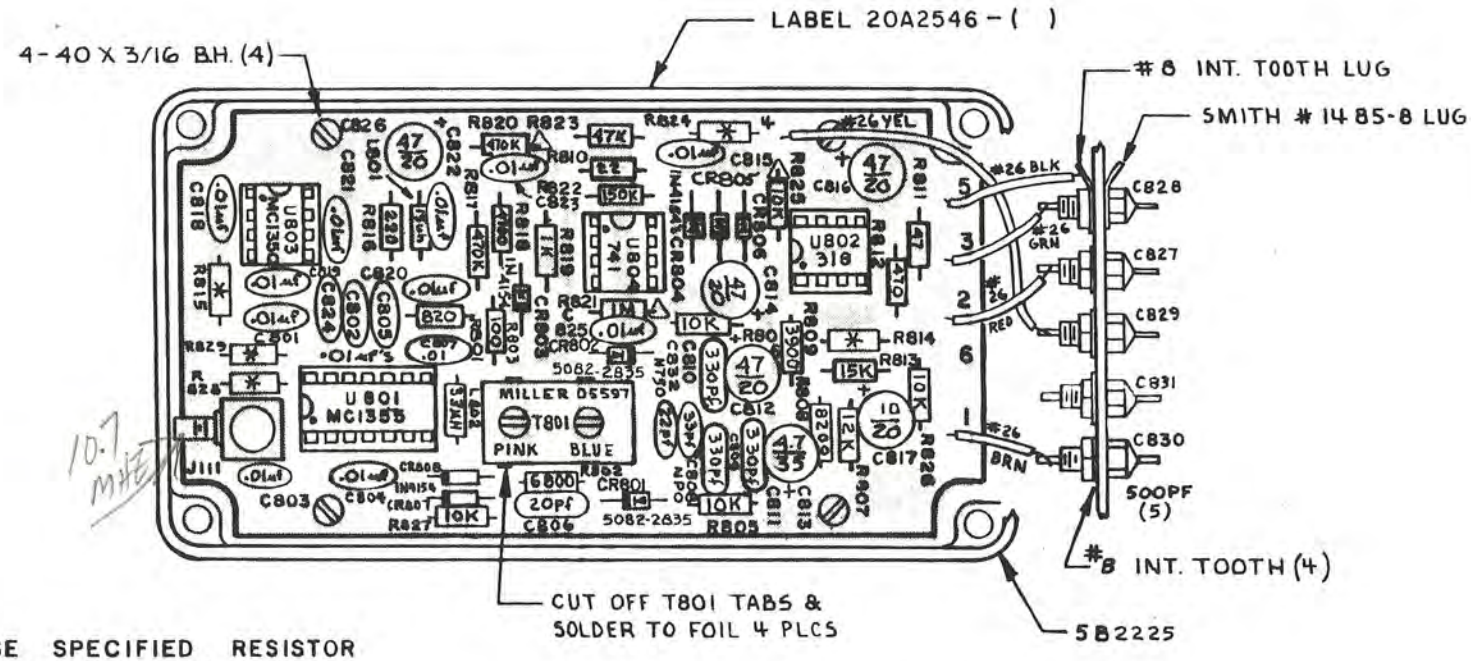
MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
XTAL FILTER INTERFACE

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	F X Y	6/25/73	SCALE:
CHK			
ENG	SLM	11 Sept 73	91A6613 E

20A2546 L1



NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS 1/4 W, 10%, CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5681.
3. SCHEMATIC 91B6847.
4. △ SOLDER RESISTOR LEADS ON BOTH SIDES OF P.C. BOARD
5. ✳ = PARTS DEPENDENT ON DEVIATION — VALUES FOLLOW:

	R815	R828	R829	R814	R824	DEV
ITEM 1	47	DELETE	JUMPER W/TEFLON	680K	1500	5KHZ
ITEM 2	27	56	680	470K	1500	12KHZ
ITEM 3	27	56	680	470K	JUMPER W/TEFLON	12KHZ

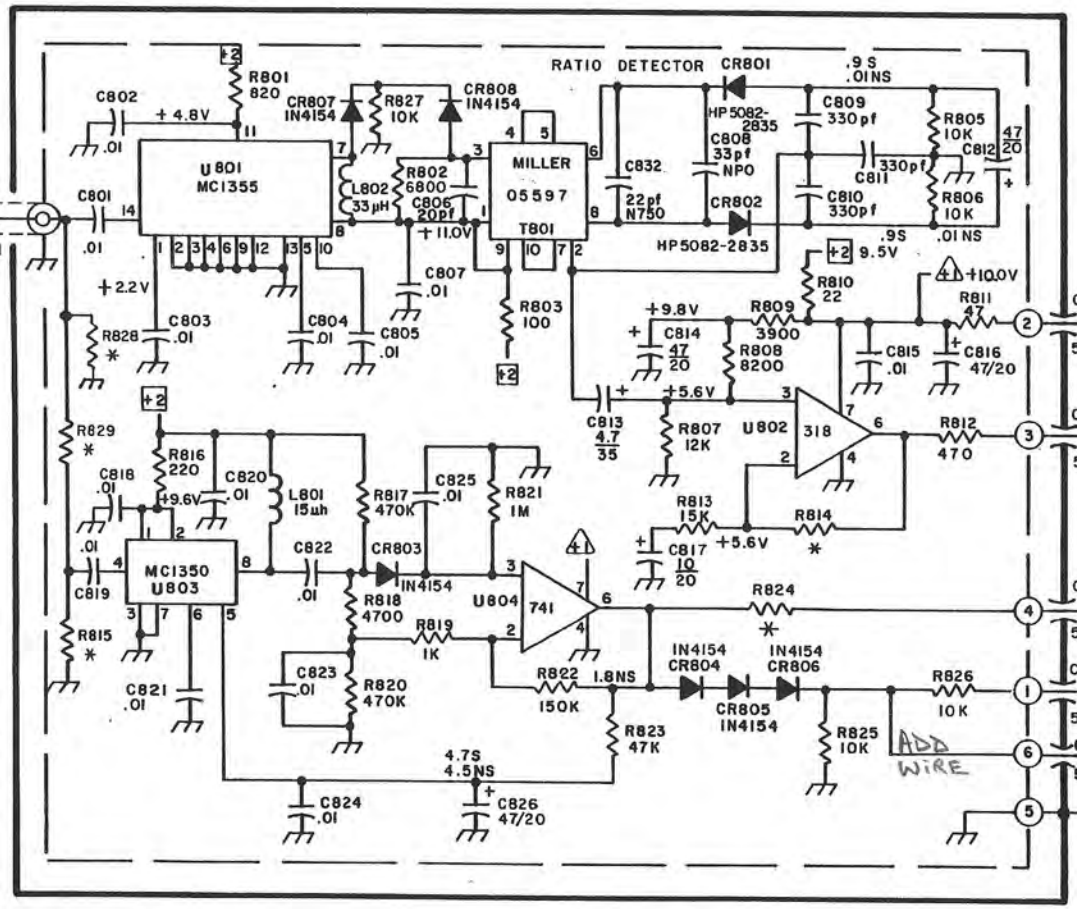
REVISIONS	DATE	MGMT. APPR.
L1 ADDED ITEM 3 TO TABLE ECO1810 LDH 14 JUL 80		
K1 U502, 504, 801, 803 REBOXED IC. ECO1751 AJS. 15 JUN 80		
J1 J111 WAS "J801" PER PCO 1708 LDH 1 MAY 80		
J C817 WAS 47 uF. ECO 1044. 9 FEB 79 BWF		
I CORRECTION: SHOW CR801, CR802 A.J.S. 28 SEPT. 78 ECO 960		
H REMOVE CR801 & CR802 TO .5 HEIGHT REQMT. ECO 960 7 AUG. 78 A.J.S.		
G L802 WAS 10uH, CR801 & 2 WERE IN644F. ECO 944. 9 JUN 78 F.X.Y.		
F CR801 & CR802 HEIGHT WAS 3/16" 30 DEC 77 F.X.Y.		
E T801 WAS 8049. EFFECTIVE WITH ECO 912. 19 DEC 77 F.X.Y.		
D R805, 86 WERE 4700; R826 WAS 47K R814 WAS 1M ECO 912. 7 DEC 77 F.X.Y.		
C ADD R824, R828, R829 & C829 & CHNGE PER ECO 906. 18 MAY 76 F.X.Y.		
B ADD CR807, CR808, R827, L802 & C832, C808 & R814 CHGD. ADD BOTTOM VIEW E.C.0779 12-17-75 G.M.		
A R812 WAS 100Ω 9-24-75 G.M.		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
RCVR FM DEMOD & MTR AMP

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	GM	8-29-75	SCALE: FULL
CHK	FXY	11 SEP. 75	20A2546 L1
ENG	[signature]	9-15-5	



NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4W, 10%. CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5681
3. COMPONENT LAYOUT 20A2546.
4. P.C. BOARD SHOWN IN DASHED LINES.
5. NS DENOTES NO SIGNAL
   S " MAX. SIGNAL

* PARTS DEPENDENT ON DEVIATION

	R815	R828	R829	R814	R824	DEV
ITEM 1	47	DELETE	JUMPER W/TEFLON	680K	150Ω	5KHZ
ITEM 2	27	56	680	470K	150Ω	12KHZ
ITEM 3	27	56	680	470K	JUMPER W/TEFLON	12KHZ

6. DC VOLTAGES TESTED WITH 10 MEGOHM INPUT DVM.
7. VOLTAGES SHOULD BE WITHIN 20% OF THAT SHOWN ON SCHEMATIC.

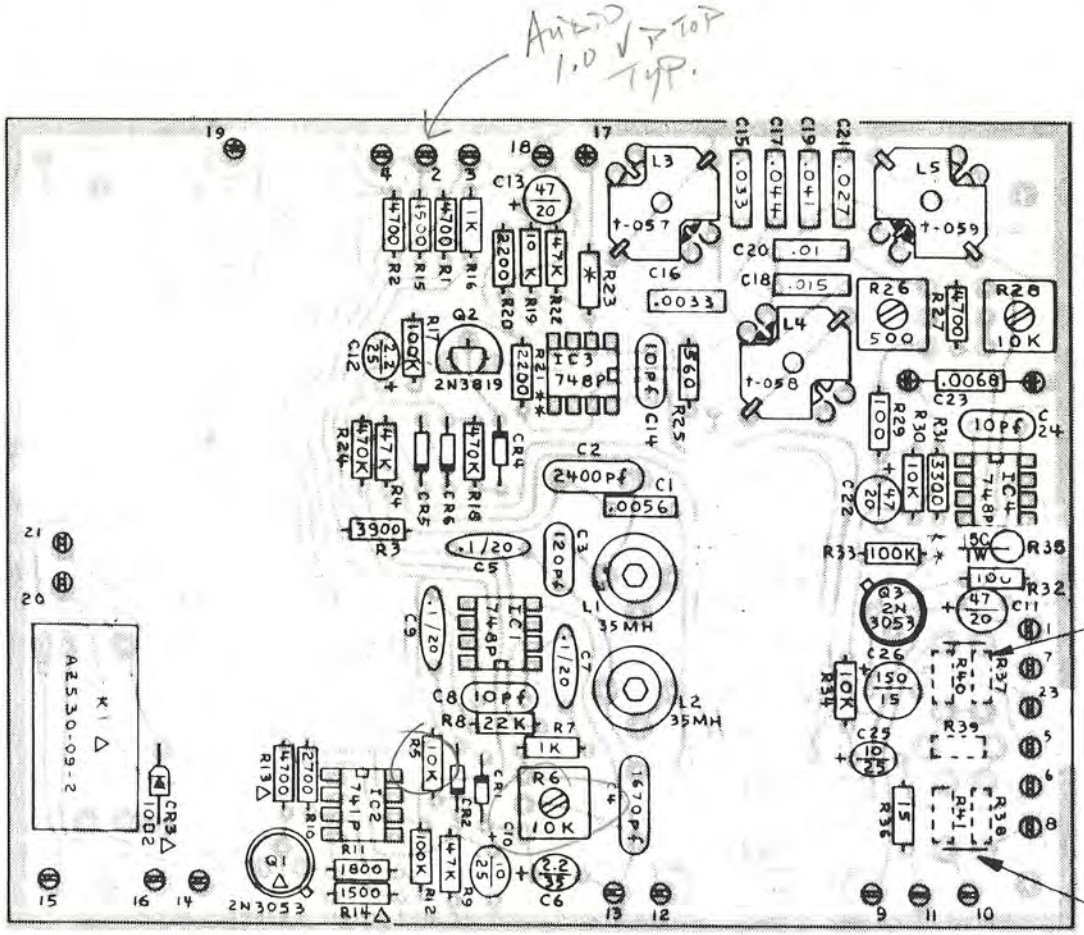
REVISIONS	DATE	MGMT. APPR.
J1 ADDED ITEM 3 TO CHART ECO 1810 LDH 14 JUL 80		
H1 (1403, 801, 802, 804 REVISED IC. 6 JUN 80 ECO 1789 DJS.		
G1 J111 WAS "J801" +2.2V WAS -2.2V PER 1708 LDH 1 MAY 80		
G C817 WAS 47 μF. ECO 1094, 12 FEB. 79 BWF		
F L802 WAS 10 μH. CR801 & 2 WERE IN6419 ECO 944. JUNTB F.X.V.		
E T801 WAS 8849, EFFECTIVE WITH ECO 912. 19 DEC 77 F.X.V.		
D R805 & 6 WERE 9700, R826 WAS 97K R814 WAS 18K. ECO 916 DEC 77 F.X.V.		
C ADDED R827, R828, R829 & CR803 PER ECO 808 16 MAY 78 F.X.V.		
B ADD C807, C808, R827, L802 & C832, CHG. L802 WAS 47 μH, C806 WAS 20 pf PER E.C.O. 778 12-17-76 GM		
A R812 WAS 100Ω. 9-24-75 GM		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
RCVR FM DEMOD & MTR AMP

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	G-M	8-28-75	SCALE: NONE
CHK	FXY	11 SEP 75	9186847 J1
ENG			



* FREQUENCY DEPENDENT PART

	R23
ITEM 1 (148-174 MHz)	330
B(215-230MHz)	
~~ITEM 2 (215-230MHz)~~	~~330K~~ DELETED
ITEM 3 (450-470MHz)	220K

USED ON

SEE 92C1176

NOTES

1 UNLESS OTHERWISE SPECIFIED
RESISTOR VALUES ARE IN OHMS, 1/4W, 10%
CAPACITOR VALUES ARE IN MICROFARADS.

2 P.C. BOARD 51A5848

3 SCHEMATIC 91C6595.

4 —|▮|— DENOTES IN4154 DIODE.

5 ** DENOTES SELECTED VALUE.

6 † - DENOTES CUP CORE COIL 2C1400.

7 REMOVE C23 TO REMOVE DEEMPHASIS.

8 △ OPTIONAL SQUELCH RELAY PARTS.

REVISIONS	DATE	MGMT. APPR.
H P.C. BOARD WAS 51A5479 31 OCT 78 F.X.Y.		
G R21 WAS 1500. ECO 974. 24 OCT. 78 BWF		
F R35 WAS 1/4 W. R33 CHANGES ECO 866 24 FEB 77 B.F. DELETE ITEM 2		
E R26 WAS 200Ω. R29 WAS 390Ω. ECO 767 10 NOV 75 F.X.Y.		
D CHANGE VALUES R15, ITEM 2&3. ECO 634 11/FEB/74 REB		
C R21 WAS 1500 ADD NOTE "USED ON" JHM 12-17-73		
B C12 WAS 10/25, ECO 613 10/11/73 REB		
A ADD NOTE FOR JUMPER WIRES 8/29/73		

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

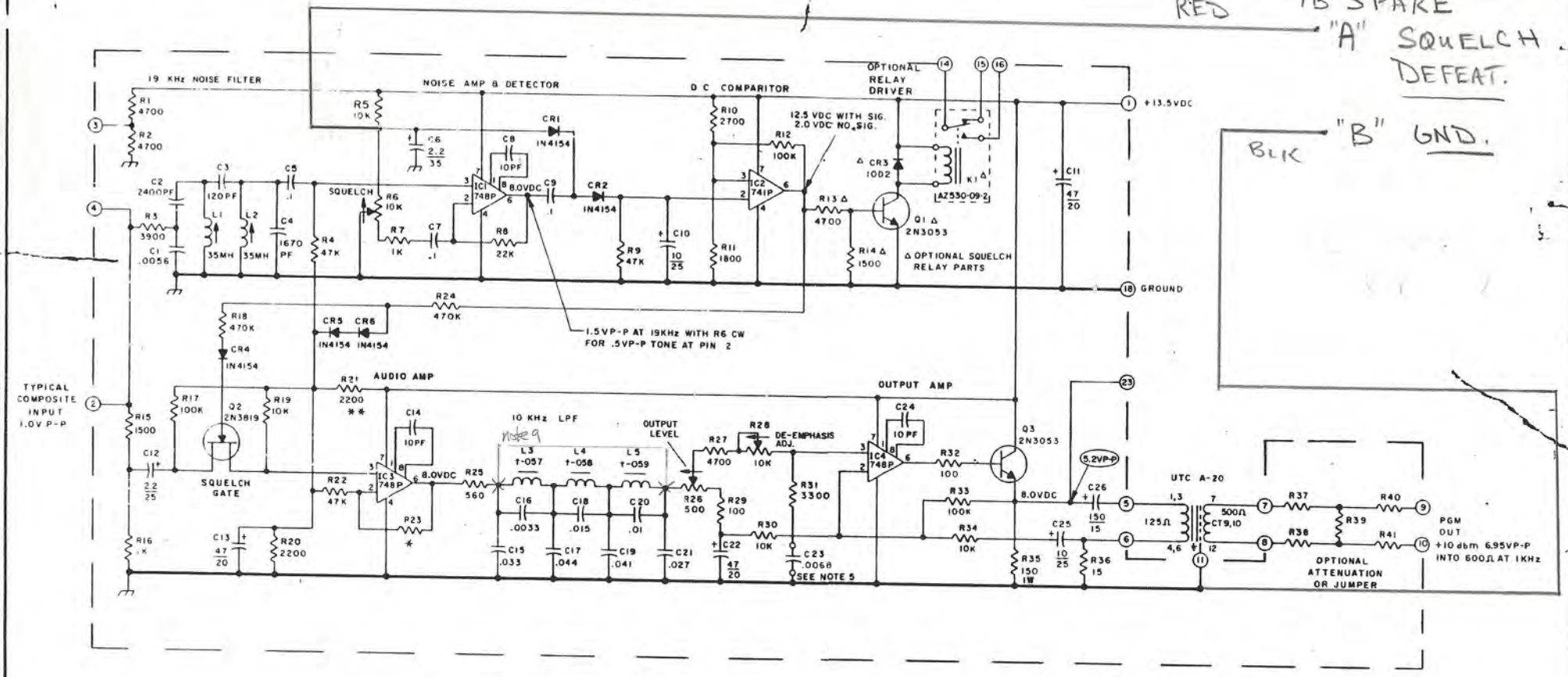
COMPONENT LAYOUT
AUDIO PROCESSOR RCVR

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	FXY	5/7/73	SCALE: FULL
CHK			
ENG	SCM	29 June 73	20A2367 H

RED TB SPARE "A" SQUELCH DEFEAT.

BLK "B" GND.



NOTES:

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/4W, 10% CAPACITOR VALUES ARE IN MICROFARADS. IC'S LISTED AS 741 (E.G.) ARE SN72741P
2. P.C. BOARD 51A5848
3. COMPONENT LAYOUT 20A2367.
4. **DENOTES SELECTED VALUE.
5. REMOVE C23 TO REMOVE DEEMPHASIS.
6. † DENOTES CUP CORE COIL 2C1400.
7. FOR PGM. OUTPUT 86VP-P IS REQUIRED AT PIN 2.
8. ( ) READINGS AT 1KHz

9 10KHz low pass filter bypassed for 15KHz audio response

* FREQUENCY DEPENDENT PART

		R23
ITEM 1	148-174 MHz	330K
ITEM 2	215-230 MHz	330K
ITEM 3	450-470 MHz	220K

REVISIONS	DATE
G P.C. BOARD NO. WAS 51A5848 IS 51A5848-1	
F R21 WAS 1500Ω IS 2200Ω	
E	
D	
C	
B R31 WAS 1500 ADD NOTE "USED ON"	JHM 10-17
A C18 WAS 10/25, ECO 613	10/1/73 REB

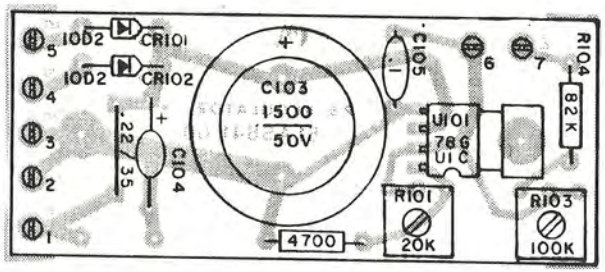
MOBLEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

SCHEMATIC
AUDIO PROCESSOR RCVR

TOL: FRACT. ± 1/32. .XX ± .03. .XXX ± .010. ∠ ± 1/2°

DWN	FXY	5/7/73	SCALE:
CHK			
ENG			

91C6595 G



NOTES

1. UNLESS OTHERWISE SPECIFIED
   RESISTOR VALUES ARE IN OHMS, 1/2W, 10%.
   CAPACITOR VALUES ARE IN MICROFARADS.
2. P.C. BOARD 51A5841.
3. SCHEMATIC 91B7126.

USED ON: SEE 92C1176

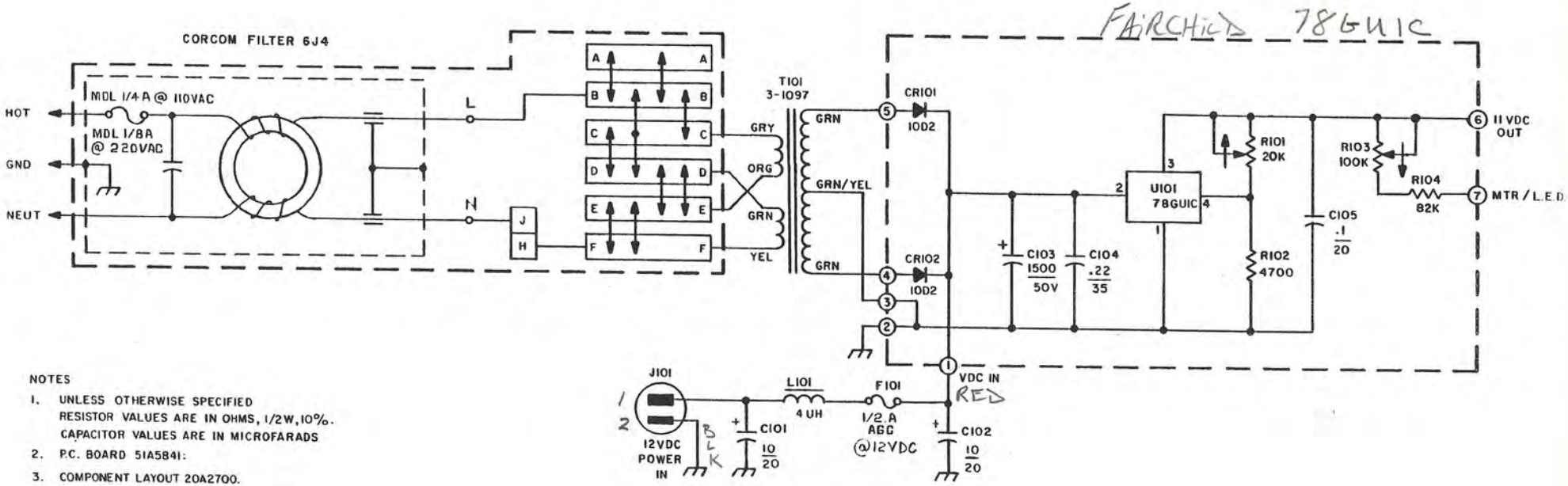
REVISIONS	DATE	MGMT. APPR.
C1	R105 REMOVED. ECO1548 21MAR80 D.T.W.	
B1	SCREW IN U101 REMOVED. PCO1383 12SEPT79 D.T.W.	
B	ADDED CORCOM FILTER UNIT ECO1275 27JUN79 A.J.B.	
A	R101 WAS 25K 1DEC78 F.X.Y.	

MOSELEY ASSOCIATES, INC.
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 93017

COMPONENT LAYOUT
P.S. REGULATOR RCVR

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/2°

DWN	JAM	5SEPT78	SCALE: FULL
CHK	FXY	26SEP78	20A2700 C1
ENG	DAC	26SEP78	



NOTES

1. UNLESS OTHERWISE SPECIFIED RESISTOR VALUES ARE IN OHMS, 1/2W, 10%. CAPACITOR VALUES ARE IN MICROFARADS
2. P.C. BOARD 51A5841:
3. COMPONENT LAYOUT 20A2700.
4. R 103 AND R104 ONLY USED IN PCL-101.

REVISIONS	DATE	MGMT. APPR.
C	R105 & NOTES 5 REMOVED. FUSE VALUES ADDED. ECO 1546 22JUN80 D.T.W.	
B	ADDED CORCOM FILTER UNIT ST. JAN'N. ECO 1275 A.J.B.	
A	R101 WAS 39K. F.X.Y. ST/DEC 78	

MOSELEY ASSOCIATES, INC
SANTA BARBARA RESEARCH PARK
GOLETA, CALIFORNIA 9301

SCHEMATIC
P. S. REGULATOR RCVR

TOL: FRACT. ± 1/32, .XX ± .030, .XXX ± .010, ∠ ± 1/

DWN	JAM	1SEPT78	SCALE:
CHK			
ENG	LAC	26SEP78	91B7126