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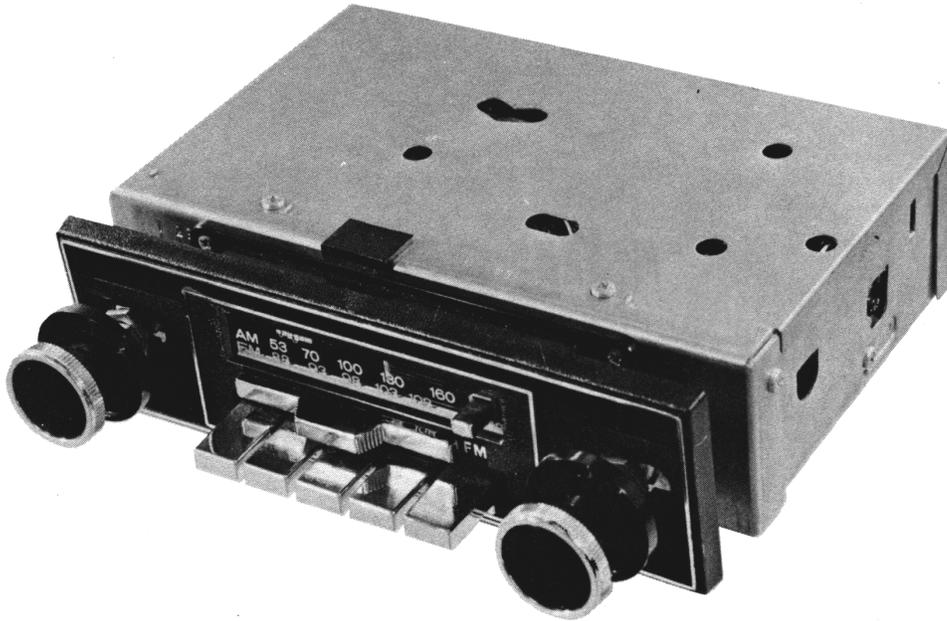
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**MODEL 4601
AM-FM
STEREO RADIO
mobile**

**Manufactured and Distributed by
Hy-Gain de Puerto Rico, Inc.
P.O. Box 68 State Hwy. 31, KM 4.0
Naguabo, Puerto Rico 00718**

EO-460I-A-001



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CHAPTER 1 — GENERAL INFORMATION

Introduction

This service manual contains all the information needed to service and repair the Hy-Gain Model 4601 AM-FM Stereo Radio. It includes an explanation of the theory of operation and alignment procedures. Revision, addendum, and errata sheets will be published as needed. Insert them as required in the manual.

The radio is a compact in-dash mounted mobile unit, completely solid state, and highly reliable with low power consumption. Use the unit with 12 VDC (nominal), negative ground *ONLY!*

Warranty Service Department

For help with technical problems, for parts information, and information on local and factory repair facilities, contact the National Service Manager. When you write, please include all pertinent information that may be helpful in solving the problem. Address the letter to:

Hy-Gain Warranty Service Department
4900 Superior Street
Lincoln, Nebraska 68504
ATTN: National Service Manager

The Warranty Service Department can repair any unit. Before shipping the unit contact the National Service Manager. Often a problem is field solvable with a little extra help. This can save lost time and shipping costs. Limit factory returns to the difficult problems.

How to Ship Returns

To return a unit, get a return authorization. This is important. Handling of the unit may be delayed if shipped without it. If the unit must be shipped immediately, telephone or telex the National Service Manager for expeditious service.

When you request authorization, notification of repairs may also be requested. The notification will include a copy of the bill. Paying the bill before the return of the unit can save the cost of a COD fee.

For warranty repair, prepare a letter in duplicate containing the following information (for out-of-warranty repair delete items 2 and 3):

1. your name and address
2. purchaser's name and address
3. proof of purchase
4. serial number
5. complete description of the problem
6. the return authorization

Check the unit to see that all parts and screws are in place and attach an envelope containing a copy of the letter directly to it so this information is not overlooked. Wrap the unit and the envelope in heavy paper or put it in a plastic bag. If the original carton is not available, place the unit in a strong carton at least *six* inches larger in all three dimensions than the unit. Fill the carton equally around the unit with resilient packing material (shredded paper, excelsior, bubble pack, etc.). Seal the box with gummed paper tape, tie it with strong cord, and ship it by prepaid express, United Parcel Service, or insured parcel post to the address given previously. Mail the original of the letter in a second envelope to that same address.

It is important that the shipment be well packed and fully insured. Damage claims can delay repair and return of the unit. All claims must be settled between you and the carrier.

CHAPTER 2 — THEORY OF OPERATION

General

The theory of operation of the Hy-Gain Model 4601 AM-FM stereo receiver is divided into two sections: the AM receiver section, and the FM receiver section.

AM Section

With Power switch S1 in the "ON" position, AM-FM Selector switch, S2, in the "AM" position, the AM signal is received at the antenna. The signal passes through the Antenna Matching Circuit, TC4, and is coupled to the base of RF Amplifier, Q9. From Q9 the amplified signal is passed to the base of Converter, Q10, where the IF frequency of 262.5 kHz is developed. The IF signal then passes through IFT5,6 to the base of IF Amplifier, Q7. The amplified signal is taken off the collector of Q7 and passes through IFT7 and 8 to the Detector, D6. The detected audio signal then goes to pin 4 of Audio Amplifier, IC2, and pin 4 of the Audio Amplifier, IC3, where it is amplified. The amplified audio signal then passes out pin 9 of amplifiers, IC2 and IC3, to the speakers.

FM Section

With Power switch, S1, in the "ON" position, the AM-FM Selector switch, S2, in the "FM" position, the signal is received at the antenna and is passed through the Antenna Matching Circuit, TC1, to the emitter of RF Amplifier, Q1. From Q1, the amplified signal is passed to the base of Mixer Stage, Q2. Q3 is the FM Variable Oscillator. An intermediate frequency of 10.7 MHz is provided by the combined action of Q2 and Q3 on the received frequency. The IF frequency, 10.7 MHz, is then applied to the base of the Amplifier, Q4. The amplified signal is then filtered by IFT2,3 and is applied to Limiters, Q5 and Q6. The signal is then applied to the base of IF Amplifier, Q7. The amplified signal then goes through IFT4 and is detected by the Ratio Detector comprised of D3 and D4. After being detected the signal goes to pin 2 of the MPX IC, IC1. IC1 is a phase locked loop FM stereo demodulator with automatic stereo/monaural switching. The composite signal is applied to pin 2. VR2, R140, and C138 control the VCO oscillating frequency and channel separation. VR1, R138, and C135 form a low pass filter to detect the 19 kHz pilot signal. The detected voltage drives the stereo indicator lamp. The left audio signal is then taken off at pin 4 of IC1, and is applied to pin 4 of the Audio Amplifier, IC2. The amplified signal leaves IC2 at pin 9 and drives the left speaker(s). The right audio signal leaves IC1 at pin 5, and is applied to pin 4 of the Audio Amplifier, IC3. After being amplified, the audio signal leaves IC3 at pin 9 and drives the right speaker(s).

Miscellaneous

Q8 acts as an electronic switch to turn off the FM MPS section of the receiver when S2 is in the AM position. Q12 kills the Audio Amplifiers, IC2 and IC3 whenever an interconnected CB unit is receiving or transmitting.

CHAPTER 3 — ALIGNMENT

General

These procedures must be followed to align the Hy-Gain Model 4601 AM-FM stereo receiver. Alignment should not be undertaken unless the technician has adequate test equipment and a full understanding of the circuitry of the system.

These procedures are divided into two sections: FM tuner alignment, and AM tuner alignment. See *Equipment* below for a complete list of recommended equipment. These procedures assume that proper voltages are present at all points in the unit. If not, troubleshoot before continuing.

Recommended Equipment

The following items of equipment are recommended for use in aligning the Hy-Gain 4601 AM-FM stereo receiver.

1. Sweep generator
2. FM signal generator
3. Oscilloscope
4. Dummy load (4 ohms)
5. Millivoltmeter
6. FM stereo modulator
7. Multitester
8. AM signal generator

All test equipment should be properly calibrated.

FM Section

FM IF Alignment

1. Connect the sweep generator output to TP1 and connect the vertical cable of the oscilloscope to TP2. Turn the FM indicator on the high frequency side to a position where no interference is caused by broadcast signals

2. With the sweep generator frequency set to 10.7 MHz, gradually increase the output level of the sweep generator until the waveform shown in figure 3-1A appears on the CRT screen. Perform the adjustment with the generator output as small as possible and the oscilloscope vertical gain as large as possible.

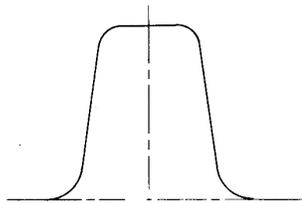


Figure 3-1A. FM IF Waveform

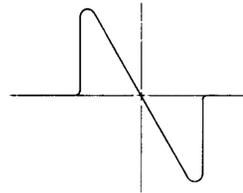


Figure 3-1B. FM S-Curve Waveform

3. Adjust IFT1 to obtain a symmetrical and clear waveform as shown in figure 3-1A.

4. Shift the oscilloscope vertical cable from TP2 to TP3. Adjust IFT4 to obtain an S-curve waveform as shown in figure 3-1B, with good upper/lower symmetry by adjusting the black core. For good linearity in the middle portion of the waveform adjust the blue core of IFT4.

RF Circuit Alignment

Refer to figure 3-2.

1. Set the receiver to the lowest receiver frequency and the FM signal generator to 87.5 MHz. Adjust the OSC Trimmer TC3 for maximum deflection on the millivoltmeter. Keep the volume and tone controls at maximum position.

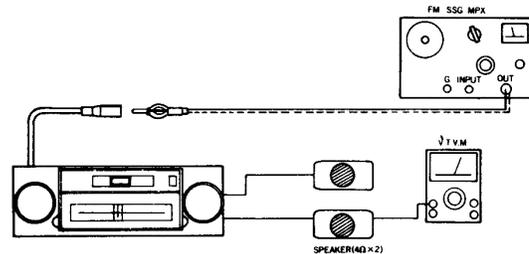


Figure 3-2. FM RF Circuit Equipment Set-Up

2. Set the FM signal generator frequency to 98 MHz, and position the dial pointer at 98 MHz. Adjust the ANT Trimmer TC1 and RF Trimmer TC2 for maximum deflection on the millivoltmeter. The quieting sensitivity should now be less than 18 dB at a 30 dB signal to noise ratio.

FM Multiplex Section Adjustment

1. To adjust the voltage controlled oscillator (VCO) connect a frequency counter to TP4, and adjust VR2 so that the frequency becomes exactly 19.0 kHz.
2. To adjust the indicator lamp sensitivity, connect an FM stereo composite signal generator to the antenna connector. Set the signal generator to the received frequency. Adjust the Stereo Indicator Trimmer Control, VR1, by turning it in the counterclockwise direction to a position where the stereo indicator lights. This adjustment of the lamp sensitivity must be performed after the adjustment of the VCO frequency. The sensitivity increases when VR1 is turned counterclockwise and decreases when VR1 is turned in a clockwise direction.

Alignment of AM Tuner

AM IF Alignment

1. Connect the output of the sweep generator to the RF coil through a capacitor of 0.01 uF.
2. Connect the vertical terminal of the oscilloscope to the "hot" side of the volume control.
3. When the sweep generator frequency is set to 262.5 kHz and its output level is increased, a waveform as shown in figure 3-3 is obtained.

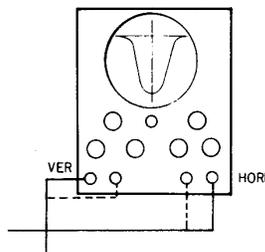


Figure 3-3. AM IF Waveform

- Adjust the core of each IFT (IFT5, IFT6) so that the peak of the waveform shown in figure 3-3 becomes maximum. At this time, the marker signal must be 262.5 kHz.

AM IF Alignment Precautions

- Set the VOL Control to minimum and the TONE Control to maximum.
- With the vertical gain control of the oscilloscope set to maximum, keep the output level of the sweep generator as small as possible.
- Set the dial pointer of the radio set to the high end. Though the position of the dial pointer affects the waveform, a good IF waveform is that which has no relation to the dial pointer setting and is stable. When making the waveform alignment, it is a good idea to check if the waveform is stable by slightly moving the dial pointer.

Adjustment Method Using a Signal Generator and Millivoltmeter

- Connect the millivoltmeter to the output wire.
- Set the signal generator to 262.5 kHz and connect its output to the antenna. Increase the output of the signal generator so that the millivoltmeter shows some deflection.
- Adjust each IFT (IFT5, IFT6) so that the audio output becomes maximum.
- In this adjustment, the TONE Control of the receiver should be set to maximum and the VOL Control should be set to minimum.

RF Circuit Alignment

Refer to figure 3-4 for equipment set-up.

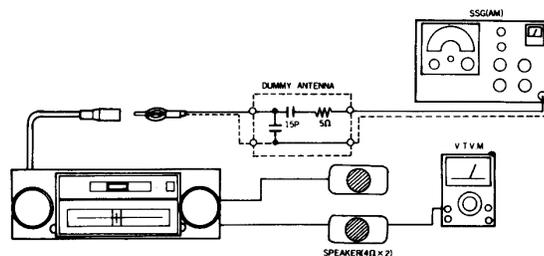


Figure 3-4. AM RF Circuit Equipment Set-Up

- Connect a resistor dummy load to the audio output terminals and connect the millivoltmeter across the resistor. Insert a dummy antenna as shown in figure 3-4 between the ANT connector and the AM signal generator.
- Set the receiver's dial pointer to the maximum frequency point on the dial and set the AM signal generator to 1620 kHz. Adjust the Oscillator Trimmer, TC3, for maximum deflection on the millivoltmeter.
- Adjust the RF Trimmer, TC5, and the Antenna Trimmer, TC4, for maximum deflection on the millivoltmeter.

Adjustment of the Antenna Trimmer

The Antenna Trimmer, TC4, must be adjusted after installing or after repairing the set; when the antenna or the antenna cable is replaced; or when the radio sensitivity is poor and noise is prominent.

1. Set the receiver Volume Control to maximum, the Tone Control to maximum, and the dial pointer to around 1400 kHz to receive white noise (hissing sound).
2. Adjust the antenna trimmer screw as shown in figure 3-5 so that the noise output becomes maximum.

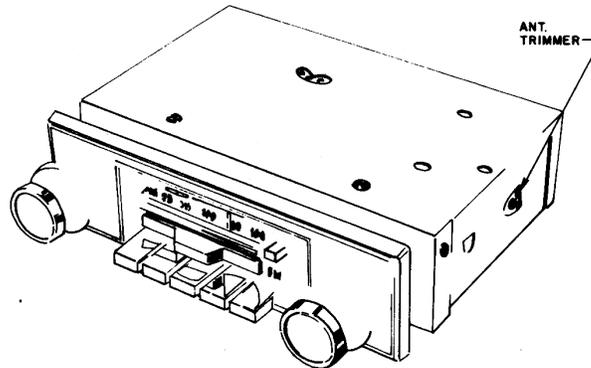


Figure 3-5. Antenna Trimmer Location

CHAPTER 4 — TROUBLESHOOTING

Refer to the following troubleshooting charts for typical problems that may occur in this AM-FM stereo radio.

Trouble	Circuit	Faulty Parts, Cause	Corrective Action
Does not work at all	Power Supply	Fuse open Choke, CH1, open Power supply decoupling capacitor, C503 C504, C505 shorted Zener diode, D9 shorted	Replace Replace Replace Replace
	Audio circuit	Speaker faulty Speaker leads open Output capacitor, C312, C412, short, open Amplifier IC, IC2, IC3, or surrounding parts faulty	Replace Resolder Replace Replace
	AM Section	IFT4, 5 open Q9, Q10 faulty Antenna Trimmer, TC4, shorted Tuner Coil open	Replace Replace Replace Replace
	Both AM and FM	Q7 faulty	Replace
	FM Section	IFT1, 2, 3 open Transistors Q1 through Q6 faulty Tuner Coil open	Replace Replace Replace
Sound volume is low, sensitivity is poor	Audio Circuit	Amplifier IC, IC2, IC3 faulty Output Capacitor, C312, C412, capacitance down Coupling capacitor deteriorated	Replace Replace Replace
	AM Section	Antenna Trimmer, TC4, adjustment faulty IFT4, 5 adjustment faulty Q9, Q10 deteriorated Noise eliminating coil, L3, open Detector diode, D6, deteriorated	Readjust Readjust Replace Replace Replace
	FM Section	Antenna Trimmer, TC1, adjustment faulty Transistor, Q1, Q2, Q3, Q4, Q5, Q6, deteriorated IFT1, 2, 3 adjustment faulty Detector diode, D3, D4, deteriorated AM shield wire open	Readjust Replace Readjust Replace Replace
	Both AM and FM	Q7 deteriorated	Replace
Sound is distorted	Audio Circuit	Amplifier IC, IC2, IC3, faulty Speaker faulty	Replace Replace
	Am Section	AGC Diode, D5, deteriorated AGC Detector Capacitor, C216 capacitance down	Replace Replace
	FM Section	IFT 3 adjustment faulty	Readjust

Trouble	Circuit	Faulty Parts, Cause	Corrective Action
Abnormal sound is produced	Audio Circuit	Power supply decoupling capacitor, C505, capacitance down Power IC, IC2, IC3 deteriorated	Replace Replace
	AM Section	Bypass capacitors deteriorated	Replace
	FM Section	Bypass capacitors deteriorated	Replace
Indicator does not light	MPX Section	VR1, VR2 misadjusted Indicator Lamp open R144 open	Readjust Replace Replace
Separation is bad	MPX Section	C142 capacitance down C143 capacitance down R140 open	Replace Replace Replace

CHAPTER 5 — CHARTS AND DRAWINGS

Parts List

Main Unit, Electrical Section

Reference Designator	Description	Part No.
C101	22pF, 50V, ceramic	151-2201-13
C102	15pF, 50V, ceramic	151-1501-13
C103	55pF, 50V, ceramic	151-5501-13
C104	2pF, 50V, ceramic	151-2097-13
C105 thru C107	.001uF, 50V, ceramic	160-1022-05
C108	8pF, 50V, ceramic	151-8091-13
C109	4pF, 50V, ceramic	151-4097-56
C110	22pF, 50V, ceramic	151-2201-13
C111	.001uF, 50V, ceramic	160-1022-05
C112	.0015uF, 50V, polyester	141-1523-12
C113	5pF, 50V, ceramic	151-5097-70
C114	3pF, 50V, ceramic	151-3097-13
C115	.001uF, 50V, ceramic	160-1022-05
C116	1pF, 50V, ceramic	151-1097-13
C117	22pF, 50V, ceramic	151-2201-13
C118	330pF, 50V, ceramic	160-3312-05
C119 thru C120	.001uF, 50V, ceramic	160-1022-05
C121	22pF, 50V, ceramic	151-2201-13
C122 thru C124	.01uF, 50V, polyester	141-1033-11
C125	.001uF, 50V, polyester	141-1023-11
C126 thru C127	.01uF, 50V, polyester	141-1033-11
C128	100pF, 50V, ceramic	160-1012-05
C129	.01uF, 50V, polyester	141-1033-11
C130	.47uF, 50V, electrolytic	180-4744-62
C131	100pF, 50V, ceramic	160-1012-05
C132	.039uF, 50V, polyester	141-3933-13
C133	.0015uF, 50V, polyester	141-1523-11
C134	1uF, 50V, electrolytic	180-1054-62
C135	.033uF, 50V, electrolytic	141-3333-13
C136	2uF, 50V, ceramic	043-0020-00
C137	1uF, 50V, electrolytic	180-1054-62
C138	510pF, 50V, mica	144-5112-17
C139	.2uF, 50V, ceramic	160-2043-11
C140	1uF, 50V, electrolytic	180-1054-62
C141	.47uF, 50V, electrolytic	180-4744-62
C142 thru C143	.047uF, 50V, polyester	141-4733-13
C144	.47uF, 50V, electrolytic	180-1054-62
C201	.01uF, 50V, polyester	141-1033-11
C202	.0039uF, 50V, polyester	141-3923-11
C203	.0047uF, 50V, polyester	141-4723-11
C204	.039uF, 50V, polyester	141-3933-13
C205	.0047uF, 50V, polyester	141-4723-11
C206	91pF, 50V, mica	144-9102-14
C207	.0039uF, 50V, polyester	141-3923-11
C208	.0047uF, 50V, polyester	141-4723-11
C209	270pF, 50V, ceramic	151-2711-50
C210	.047uF, 50V, polyester	141-4733-13
C211	22pF, 50V, ceramic	151-2201-13
C212 thru C213	.01uF, 50V, polyester	141-1033-11
C214 thru C215	.022uF, 50V, polyester	141-2233-12
C216	22uF, 10V, electrolytic	180-2264-22
C301	.047uF, 50V, polyester	141-4733-13
C302	.47uF, 50V, electrolytic	180-4744-62
C303	.0015uF, 50V, polyester	141-1523-11
C304	100uF, 10V, electrolytic	180-1074-22
C305 thru C306	100pF, 50V, ceramic	160-1012-05
C307	47uF, 10V, electrolytic	180-4764-22
C308	.01uF, 50V, polyester	141-1033-11
C309	.033uF, 50V, polyester	141-3333-13

Reference Designator	Description	Part No.
C310	47uF, 10V, electrolytic	180-4764-22
C311	.2uF, 50V, ceramic	043-0020-00
C312 thru C313	1uF, 50V, electrolytic	180-1054-62
C401	.047uF, 50V, polyester	141-4733-13
C402	.47uF, 50V, electrolytic	180-4744-62
C403	.0015uF, 50V, polyester	141-1523-11
C404	100uF, 10V, electrolytic	180-1074-22
C405 thru C406	100pF, 50V, ceramic	160-1012-05
C407	47uF, 10V, electrolytic	180-4764-22
C408	.01uF, 50V, polyester	141-1033-11
C409	.033uF, 50V, polyester	141-3333-13
C410	47uF, 10V, electrolytic	180-4764-22
C411	.2uF, 50V, ceramic	043-0020-00
C412	1uF, 50V, electrolytic	180-1054-62
C413	1uF, 50V, electrolytic	180-1054-62
C501	47uF, 10V, electrolytic	180-4764-22
C502	33uF, 10V, electrolytic	180-3364-22
C503 thru C504	470uF, 16V, electrolytic	042-0173-00
C505	.039uF, 50V, polyester	141-3933-13
C601	33uF, 10V, electrolytic	180-3364-22
CH1	choke	009-0603-00
D1	1S2790, silicon	001-0130-00
D2	(not used)	
D3	1N60, germanium	001-0020-00
D4	1N60, germanium	001-0020-00
D5 thru D6	1N34A, germanium	001-0010-00
D7 thru D8	1S953, silicon	001-0151-00
D9	HZ9B, zener	001-0101-01
D10 thru D11	1S953, silicon	001-0151-00
IC1	IC	051-0086-00
IC2	IC	051-0036-02
IC3	IC	051-0036-02
IFT1	i-f transformer	005-0698-00
IFT2 thru IFT3	i-f transformer	005-0685-00
IFT4	i-f transformer	005-0684-00
IFT5 thru IFT6	i-f transformer	005-0744-00
IFT7 thru IFT8	i-f transformer	005-0745-00
L1 thru L3	(not used)	
L4	coil	010-1698-01
L5	(not used)	
L6	coil	010-1686-00
L7 thru L10	(not used)	
L11	coil	010-1570-01
PL1	lamp	017-0321-01
PL2	stereo indicator lamp	017-0324-00
PL3	dial lamp	017-0323-00
Q1	2SC1342	102-1342-02
Q2	2SC461	102-0461-02
Q3 thru Q7	2SC1675	102-1675-12
Q8	2SC945	102-0945-16
Q9	2SC1675	102-1675-12
Q10	2SC454	102-0454-02
Q11	2SD227	102-0227-18
Q12	2SC945	102-0945-16

**Reference
Designator**

Description

Part No.

NOTE: All resistors are 10%, 1/8 watt unless otherwise noted.

R101	3.3k	111-3321-22
R102	3.3k	111-3321-22
R103	100k	111-1041-22
R104	180	111-1811-22
R105 thru R106	3.3k	111-3321-22
R107	8.2k	111-8221-22
R108	100k	111-1041-22
R109	2.2k	111-2221-22
R110	100	111-1011-22
R111	100k	111-1041-22
R112	22k	111-2231-22
R113	4.7k	111-4721-22
R114	1k	111-1021-22
R115	180	111-1811-22
R116	10	111-1001-22
R117	2.2k	111-2221-22
R118	8.2k	111-8221-22
R119	1k	111-1021-22
R120	180	111-1811-22
R121	390	111-3911-22
R122	180	111-1811-22
R123	33k	111-3331-22
R124	1k	111-1021-22
R125	33k	111-3331-22
R126	22k	111-2231-22
R127	180	111-1811-22
R128	390	111-3911-22
R129	10	111-1001-22
R130	39	111-3901-22
R131	100	111-1011-22
R132	15k	111-1531-22
R133	22k	111-2231-22
R134	470k, 1/4W	110-4742-31
R135	68k	111-6831-22
R136	100k	111-1041-22
R137	82k	111-8231-22
R138	82k	111-8231-22
R139	1k	111-1021-22
R140	15k	111-1531-22
R141 thru R143	3.9k	111-3921-11
R144	220, 1/2W	111-2212-41
R145 thru R146	5.6k	111-5621-22
R147	3.9k	111-3921-11
R148	33k	111-3331-22
R149	100k	111-1041-22
R150	47k	111-4731-22
R201	47k	111-4731-22
R202	100	111-1011-22
R203	6.8k	111-6821-22
R204	100k	111-1041-22
R205	3.3k	111-3321-22
R206	100	111-1011-22
R207	12k	111-1231-22
R208	2.2k	111-2221-22
R209	5.6k	111-5621-22
R210	100	111-1011-22
R211	150k	111-1541-22
R212	22k	111-2231-22
R213	220	111-2211-22
R214	10k	111-1031-22
R215	68k	111-6831-22

Reference Designator	Description	Part No.
R216	100	111-1011-22
R217	560k	111-5641-22
R218	22k	111-2231-22
R301	39	111-3901-22
R302	47k	111-4731-22
R401	39	111-3901-22
R402	47k	111-4731-22
R501	820	111-8211-22
R502	1k, ½W	111-1022-41
R503	56, ½W	111-5602-41
R601	150k	111-1541-22
R602	47k	111-4731-22
R603	1k	111-1021-22
TC1	trimmer	004-1488-00
TC2	trimmer	004-1489-01
TC3	trimmer	004-1496-00
TC4	trimmer	004-1488-00
TC5	trimmer	004-1496-00
TC6	trimmer	004-1502-00
VR1	10k, variable resistor, stereo indicator	012-3394-00
VR2	10k, variable resistor, stereo separation	012-3394-00
VR3 thru VR4	100, 50, 30k stacked variable resistor, balance, tone, volume control	012-3496-01
VR5	50, variable resistor, fader control	012-3494-00

Main Unit, Mechanical Section

Reference Designator	Description	Part No.
1	machine screw, M3 x 6	714-3006-81
2	tap tight M3 x 6	731-3006-80
3	pilot light assembly	375-0561-00
4	6 coil push button tuner	937-0148-37
4-1	push button	680-0053-00
4-2	variable resistor	012-3494-00
4-3	tuning coil assembly-C	965-2161-00
5	guide label	285-0656-00
6	guide label	285-0160-00
7	back plate	374-0688-02
8	special nut	722-0020-00
9	special washer	745-0465-01
10	pressed part	330-5671-00
11	rubber part	345-2667-00
12	pilot lamp	017-0324-00
13	pressed part	330-5890-00
14	dial pointer	376-0795-00
15	tuner p.c. board	099-4602-00
16	molded part	335-0818-00
17	special washer	745-0467-00
18	variable resistor	012-3496-01
19	paper part	347-0523-01
20	main p.c. board	099-4602-00
21	switch p.c. board	099-4603-00
22	pilot lamp socket	070-0952-00
23	pilot lamp	017-0323-00
24	filter assembly	944-0466-08

Reference Designator	Description	Part No.
25	pressed part	330-5830-00
26	pressed part	330-5831-00
27	speaker lead	851-2186-01
28	A-lead	850-1460-00
29	fuse	120-0020-00
30	A-lead	850-1460-01
31	choke	009-0616-00
32	rubber part	345-2692-00
33	coil	010-1686-00
34	IC HA1322	051-0036-02
35	plate nut	725-0182-00
36	lower case	311-0891-03
37	set plate	286-3917-01
38	trimmer	004-1489-01
39	upper case	310-0858-02
40	guide label	285-0611-00
41	speaker lead	851-2186-01

Miscellaneous

Reference Part No.	Description	Qty
300-4976-00	mounting bracket	1
380-3531-00	inner knob	2
380-3532-01	outer knob	2
940-2442-04	escutcheon assembly	1

MAIN UNIT
Exploded View

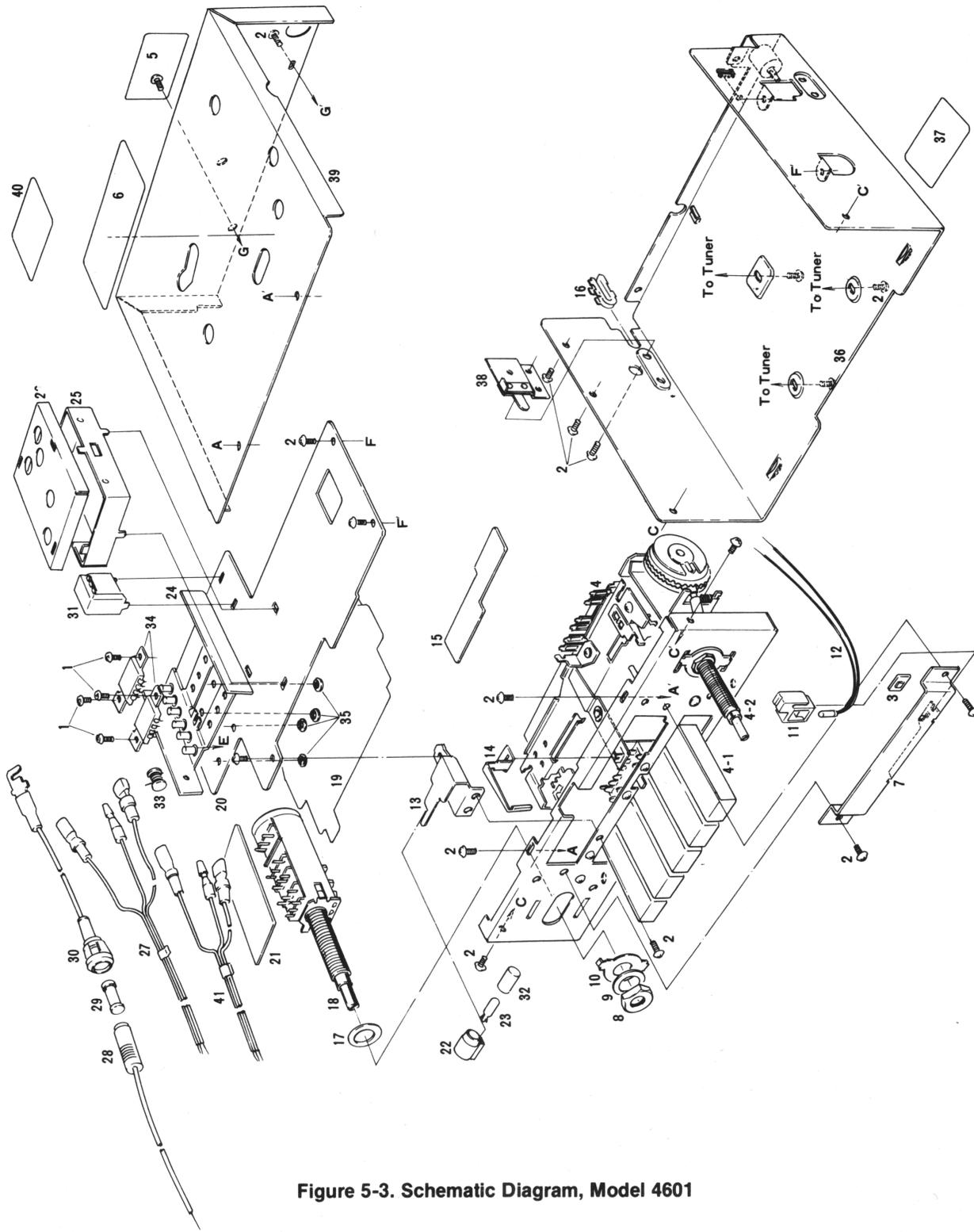


Figure 5-3. Schematic Diagram, Model 4601

Schematic Diagram, Model 4601

HY-GAIN DE PUERTO RICO, INC.

P.O. Box 68 State Hwy 31, Km. 4.0
Naguabo, Puerto Rico 00718