PEARCE-SIMPSON
DIVISION OF GLADDING CORPORATION

LYNX 23

SECTION 1
GENERAL INFORMATION

DESCRIPTION

Your new PEARCE-SIMPSON LYNX 23 is an all transistorized, 23-channel Citizens Band Transceiver. This radio is ideally suited for base and/or mobile operation from 115V AC or 12.6V DC power source, either positive or negative ground. A 12V DC power cord, a 117V AC power cord and mounting cradle are included with your LYNX 23. To provide the crystal-controlled, 23-channel operation, PEARCE-SIMPSON utilizes an all-transistor HetroSync™ circuit.

The receiver is a sensitive superheterodyne circuit featuring: Dual conversion, low noise RF stage, adjustable squelch, automatic noise limitter S-meter, ceramic filter, external speaker jack, and instantaneous selection of any of the 23 crystal controlled channels.

The transmitter section is designed around highly reliable silicon transistors and the HetroSync™ circuit. This circuit makes use of the output of two crystal-controlled oscillators which are beat together to produce the desired frequency. The transmitter final is a conservatively rated high gain RF power transistor.

SPECIFICATIONS

GENERAL:

Channels	: 23 Crystal-Controlled
Size	: 12-7/16" Wide × 4-15/16" High × 9-1/4" Deep
Weight	: 8 Pounds
Antenna	: 52-Ohm Coaxial
Primary Power	: Input Voltage 13.8V DC (EIA Standard) & 117V AC

TRANSISTOR COMPLEMENT:

TR-1	2SC710	: RF Amplifier
TR-2	2SC710	: 1st Receiver Mixer
TR-3	2SC710	: 38 MHz. 1st Local
TR-4	2SC710	: 2nd Receiver Mixer
TR-5	2SC710	: 11 MHz. 2nd Local
TR-6	2SC710	: 1st I.F. Amplifier
TR-7	2SC710	: 2nd I.F. Amplifier
TR-8	2SC711	: Squelch Amplifier
TR-9	2SC711	: 1st A.F. Amplifier
TR-10	2SC619	: 2nd A.F. Amplifier
TR-11,12	2SC1173	: A.F. Power Amplifier
TR-13,23	2SC711	: Mike Amplifier
TR-14	2SC710	: Transmit Oscillator
TR-15	2SC710	: Transmit Mixer
TR-16	2SC620	: Transmit Buffer
TR-17	2SC1018	: Transmit Driver
TR-18	2SC756	: Transmit Final
TR-19	2SC711	: Modulation Lamp
TR-20	2SC372	: Voltage Stabilizer
TR-21	2SC1173	: Voltage Stabilizer
TR-22	2SD235	: Voltage Stabilizer

DIODE COMPLEMENT:

D-1	WG1012	: Receiver RF Amplifier Protector
D-2,9,11	WG1012	: Mode Switching
D-3	1N60	: AGC Detector
D-4	1N60	: S Meter
D-5	1N60	: Power Meter
D-6	1S2473	: A.N.L.
D-7,8	1N60	: Squelch
D-10	WZ090	: Receiver
D-12	SR1K-1	: Modulation Stabilizer
D-13	KB-162	: Varistor

RECEIVER:

Frequency Range	: 26.965 MHz. – 27.255 MHz.
Sensitivity	: 0.3 μV for S + N/N using 1,000 Hz. 30% Modulation
Selectivity	: 6 db band width 5 KHz. 50 db band width 20 KHz.
Cross Modulation	: 75 db for 10 μV desired
Spurious Rejection	: 60 db minimum
Adjacent Channel Rejection	: 50 db minimum
Squelch Range	: Adjustable from 0.5 μV – 1,000 μV
Automatic Noise Limiter	: Built-in
1st I.F. Frequency	: 10 MHz. for center frequency
2nd I.F. Frequency	: 455 KHz.
P.A. Maximum Audio Output Power	: 5W
Audio Output Power for 10% Distortion	: 3.5W
Speaker	: 3-5/8"

TRANSMITTER:

Frequency Range	: 26.965 MHz. – 27.255 MHz.
Carrier Frequency Stability	: 0.003%, –30°C to +65°C
Output Power	: 3.5W
Modulation Capability	: 100%
Spurious & Harmonics Suppression	: 55 db minimum
Emission	: 8A3

DO NOT TRANSMIT WITH YOUR EQUIPMENT UNTIL YOU HAVE RECEIVED YOUR LICENSE FROM THE FCC. Illegal operation can result in severe penalties. Be sure that you have read and understand Part 95 of the FCC Rules and Regulations before operating your station.

FREQUENCIES AVAILABLE FOR CLASS D OPERATION

Channel	mc/s	Channel	mc/s	Channel	mc/s
1	26.965	9	27.065 *	17	27.165
2	26.975	10	27.075 *	18	27.175
3	26.985	11	27.085 *	19	27.185
4	27.005	12	27.105 *	20	27.205
5	27.015	13	27.115 *	21	27.215
6	27.025	14	27.125 *	22	27.225
7	27.035	15	27.135	23	27.255 *
8	27.055	16	27.155		

*Channels available for communications between units of different stations. (In accordance with FCC Part 95.41 (d) (2))

SECTION 2
INSTALLATIONS & INITIAL ADJUSTMENT

> IMPORTANT
>
> BEFORE DISCARDING ANY OF THE PACKING MATERIALS, EXAMINE THEM CAREFULLY FOR ITEMS YOU MAY HAVE OVERLOOKED.

INSTALLING FIXED STATION

For fixed station operation, plug the AC power cable into the back of the unit. Connect the antenna to the terminal on the back of the unit.

MOBILE STATION INSTALLATION

MOUNTING

For mobile installation, the mounting cradle serves as a means of mounting your LYNX 23 . After you have determined the most convenient location in your vehicle, hold the LYNX 23 , mounted in the cradle, in the exact location desired. If nothing will interfere with mounting it in the desired position, remove the cradle from the LYNX 23 and use it as a template to mark the location for the mounting bolts. Before drilling the holes, make sure nothing will interfere with the installing of the mounting bolts.

POWER CONNECTION

The LYNX 23 is constructed to be used in vehicles using both negative and positive grounds. The red power lead is to be connected to the positive terminal of the battery. The black lead is to be connected to ground. If the existing wiring is used, be sure that it is heavy enough to prevent voltage drop to the radio. A good source of positive battery voltage is at the accessory connection on the ignition switch. Using this as a power source insures the radio will be off when the ignition switch is turned "OFF", and power will be supplied to the radio when it is in the "ON" or "ACCESSORY" position.

ANTENNAS

BASE STATION

The directional beam type of antenna, used within its limitations, is the most effective type to deliver the strongest signals in a particular direction. Gain in one direction is achieved by concentrating the radiated energy into a beam much as the reflector in a flashlight concentrates light. This gain is made at the sacrifice of signal strength in all other directions. This

effect is also true when the antenna is used for receiving, resulting in reducing the signal strength of stations from other directions which might interfere with communications. This type of antenna is very desirable for communications with stations in a particular area. By the addition of rotator, you will be able to beam your signals in any direction.

NOTE : The reference of antenna efficiency is a standard dipole antenna. For example, a beam antenna listed as having 6 db gain means that it has 6 db of gain over a dipole (in the direction it is pointed). Each 3 db of gain is equal to doubling the power, therefore, 6 db would equal 4 times the power. A transmitter with 3 watts output would produce as strong a signal, with 6 db gain beam, as would a 12 watt transmitter feeding a dipole. Besides the gain achieved by the beaming of the signal, additional efficiency is obtained from the added, tuned elements.

When 360-degree coverage is needed for communicating with several stations in different directions, the ground plane type of antenna is very effective. This type affords excellent coverage for communicating with mobile stations which are constantly moving from one area to another.

A modification of this antenna is the colinear ground plane which is actually a form of a beam. This beaming effects of the antenna are in a vertical direction concentrating the energy nearer the ground and reducing the sky wave which would otherwise be lost.

For a base station, the whip antenna is the least desirable type and should be used only for very short range or when no other antenna can be installed in the space available. If it is necessary that the antenna be installed on, or adjacent to the equipment, a "V" or rabbit ear type is much more desirable.

POLARIZATION

For the most efficient communications, the antennas at each station should be mounted in the same plane, i.e. both should be vertical or both should be horizontal. Since a major use of Citizens Band Radio is communicating with mobile units which are equipped with vertically mounted whip antenna, the vertical plane is preferred.

TYPICAL AUTOMOBILE INSTALLATION

MOBILE INSTALLATION

Your LYNX 23 has been adjusted at the factory to give optimum performance using a 52-ohm antenna. There are a number of 52-ohm antennas available for mobile citizens band use.

For an automobile installation, a whip may be used with good efficiency because the automobile acts as a counterpoise and reduces detuning effects. The mounting location also has a great effect on the efficiency.

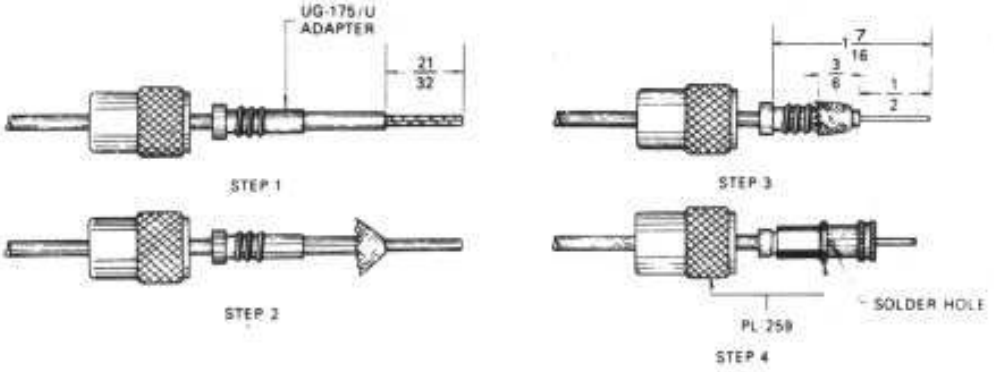
The most efficient and practical installation is a full quarter wave whip mounted on the left rear deck of fender top midway between the rear window and bumper.

The so-called "short whip" is a less efficient antenna because the radiation area is reduced. However, full use of its capability may be achieved since a shorter antenna may be mounted in a more advantageous position on a automobile, such as in the middle of the top.

There are also newer mobile antennas on the market which are made to replace the entertainment radio antenna and are similar in appearance. These antennas serve three purposes: AM and FM entertainment broadcast reception and Citizens Band transmission and reception. With some of these antennas, it is possible to simultaneously transmit on CB and receive on AM broadcast with interaction. These antennas are quite efficient for all three types of operation when properly adjusted.

For a marine installation, the full-length quarter wave whip antenna is very efficient, however, it requires radials which make it hard to mount in small boats. Another excellent antenna is the coaxial sleeve type which requires no radial. A similar antenna is the centerloaded 1/2 wave which is about the same as the full length 1/4 wave whip and it requires no radials. Care must be used when choosing one of the shorted type antennas as considerable variation in efficiency will be found between the various makes and models. As a general rule, avoid those with short radiating elements because the greater the radiating area, the stronger the radiated signal will be.

Your PEARCE-SIMPSON dealer is prepared to offer advice and will help you choose the most desirable antenna for your needs.



ASSEMBLING ANTENNA PLUG TO RG-58U OR OTHER ¼" COAXIAL CABLE

Figure 1

TRANSMISSION LINE

To connect an antenna to the transceiver, a 52-ohm coaxial transmission line is required. RG-8/U coax is recommended for lengths in excess of 50 feet and RG-58/U coax is recommended for lengths less than 50 feet to connect to the transceiver. The RG-8/U requires a PL-259 type connector and the RG-58/U coax requires a PL-259 connector with a UG-175/U adaptor. (See Figure 1 for assembling connector to RG-58/U.)

INSTALLATION ADJUSTMENTS

The output circuit of the LYNX 23 transmitter has been factory adjusted to operate into any good 52-ohm antenna. No attempt should be made to tune the transmitter to the antenna. Instead, the antenna should be adjusted to present the lowest possible SWR (Standing Wave Ratio) A very low SWR means that the antenna is operating at maximum efficiency and will also mean that it is adjusted to 52 ohms. An improperly adjusted antenna causes standing waves to appear on the feed line. Since this feed line is a fixed 52 ohms, and cannot be adjusted, this mismatch appears at the transmitter. If the transmitter is adjusted to compensate for this mismatch, both it and the antenna will no longer be operating at peak efficiency. Since the transmitter has already been adjusted for 52 ohms output and the coaxial feed line has a fixed 52-ohm value, the only remaining element to be adjusted to this value is the antenna itself. When received, the antenna is probably cut as near as is possible to this value. The mounting location on the vehicle or building and surrounding objects affect the antenna however, and requires that it be adjusted to compensate for them.

Many of the newer Citizens Band antennas provide means of adjusting them for lowest SWR. Instructions for doing so are included with the antenna. For such antennas as the full quarter wave length whip, it is necessary to carefully vary the length until the lowest SWR is obtained. For all adjustments to the antenna, connect an SWR meter in the feed line to the antenna.

The LYNX 23 will work into an antenna system having an SWR as high as 3:1. For best communications, you will want this figure as near 1:1 as possible so that the antenna will be operating at its best efficiency.

NOISE SUPPRESSION

The LYNX 23 contains a built-in automatic noise limiter and input power filtering. In most vehicular installations, the noise suppression for the entertainment radio will be sufficient. Vehicles and boats not having this suppression may require that it be installed. In most cases, installation of distributor suppressors and generator condensers will be sufficient. In severe cases, the services of a qualified technician may be required. See your PEARCE-SIMPSON dealer for advice.

SECTION 3
OPERATING INSTRUCTIONS

CONTROLS AND INDICATORS

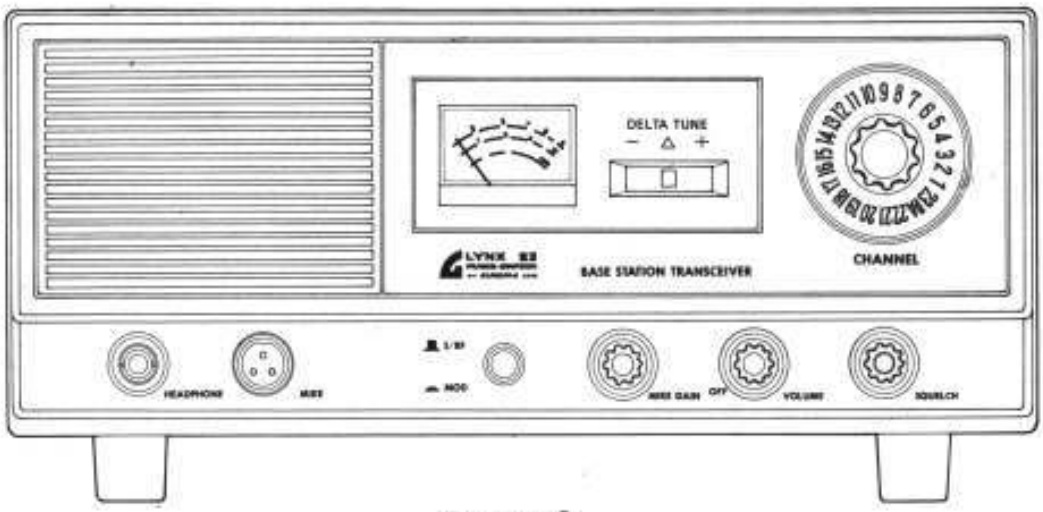


Figure 2

CHANNEL SELECTOR

The Channel Selector switch has 23 operating positions. This switch sets both transmit and receive frequencies simultaneously by switching the proper crystals into the PEARCE-SIMPSON HetroSync™ circuit for any of the 23 CB channels.

VOLUME CONTROL AND ON-OFF SWITCH

This control turns the power ON and OFF, and adjusts the loudness of received signal.

SQUELCH CONTROL

The squelch control is used to silence background noise (atmospheric or man-made noise) in the absence of a received radio signal. In the full counterclockwise position, the radio is unsquelched (no noise silence at all). In the fully clockwise position, the unit is squelched for very strong signals.

MIKE GAIN CONTROL

This control adjusts the loudness of transmitting modulation.

S-RF/MOD SELECTOR SWITCH

This switch is to select the operating mode of S-RF/MOD Meter.

DELTA TUNE

This permits pinpoint tuning of receiver for reception of off-frequency stations. Every signal will come in clean and sharp.

INDICATORS

1. S Meter: A change of one S unit indicates a change of 6 db in signal level. The metering circuit is calibrated so that for 100 microvolts, the S meter will read S9. To operate, set the "S-RF/MOD" switch to "S-RF" position.

2. RF Output Meter: This shows relative RF power when transmitting. To operate, set the "S-RF/MOD" switch to "S-RF" position.

3. MOD Meter: This shows relative transmitting Modulation Percentage. The meter needle fluctuates when unit is voice modulated. To operate, set the "S-RF/MOD" switch to "MOD" position.

4. A receiver-on indicator: When the receiver is on, the meter lights up in amber color.

5. A transmitter-on indicator: When the transmitter is on, the meter lights up in red color.

6. Modulation indicator: The meter fluctuates in brilliant red when the transmitter is modulated.

OPERATING THE LYNX

CAUTION

DO NOT PUSH TRANSMIT SWITCH WITHOUT FIRST CONNECTING A 52-OHM ANTENNA OR DUMMY LOAD.

Rotate SQUELCH CONTROL fully counterclockwise.

Rotate the VOLUME CONTROL clockwise, to apply power, and advance the VOLUME CONTROL until noise or signal is heard in the speaker. (since your LYNX 23 uses all transistors, no warmup time is required)

With no signal present, rotate the SQUELCH CONTROL clockwise to a position in which no noise is heard. Advance this control only for enough to prevent noise from being heard. Advancing it too far may result in a weak station being unable to open the squelch. Since the squelch has been adjusted, with no signal present, then when a station transmits on the channel to which your LYNX 23 is tuned, the squelch circuit will open and the station will be heard. When the station stops transmitting and no signal is received, the squelch gate will be closed and all sound will be "Turned Off". Sometimes noise will build up as a result of a passing truck, etc. If this happens, the SQUELCH CONTROL should be advanced just for enough to keep the circuit closed during these noise peaks.

Rotate the CHANNEL SELECTOR to the desired channel.

Adjust the volume as desired for the station you are listening to.

To transmit, hold the microphone 2 to 3 inches from your mouth. Normally, it is best to hold it so that you talk across it rather than directly into it. This will prevent the sound of your breathing being transmitted. Hold the Push-to-Talk button on the microphone in, and speak in a normal conversational level.

When your transmission is completed, release the button on the microphone and listen for your reply.

When listening to a weak signal, adjust your delta tune switch for strongest signal. The automatic noise limiter will ordinarily be kept on. When under conditions of low noise you may wish to turn it off for extra sensitivity.

SECTION 4
MAINTENANCE & SERVICING

CIRCUIT DESCRIPTION

Your LYNX 23 consists of the following circuit: the PEARCE-SIMPSON HetroSync™ circuit, which provides the receiver injection frequencies and the transmitter carrier frequency; a dual conversion superheterodyne receiver; and an AM-modulated transmitter. It is powered from 13.8V DC and 117V AC source. (see Block Diagram and Schematic)

HETROSYNC™ CIRCUIT

PEARCE-SIMPSON's method of frequency synthesis makes use of 14 crystals to provide crystal-controlled, 23 channel coverage on both transmit and receive functions. The circuit is composed of 37.600 to 37.850 mc master oscillator (TR3), 10.140 to 10.180 mc receive oscillators (TR5), 10.595 to 10.635 mc transmit oscillqtor (TR14) and a transmit mixer (TR15). The two fundamental frequencies are combined in the mixer, whose output will contain the two frequencies fed in, plus the sum of the two and the difference of the two, as well as combinations of the harmonics of the input. We use only the difference frequency. Let us take Channel 9 as an example. The two input frequencies are 37.700 mc and 10.635 mc. The mixer outputs are 37.700 mc, 10.635 mc, 48.335 mc and 27.065 mc. The other frequencies present at much lower levels are the harmonics of the two input frequencies such as 21.270 mc, 31.905 mc, 42.540 mc, etc. In addition to these, will be the sum and difference frequencies from the mixing of the various harmonic and fundamental frequencies. Of all these frequencies, only one falls within the passband of the transmitter. This is 27.065 mc which is the carrier frequency for Channel 9. The nearest unwanted frequency to the carrier frequency is at least 0.955 mc away and outside of the transmitter pass band is adequately suppressed.

TRANSMITTER CIRCUIT

The transmitter circuit makes use of the carrier frequency signal output of the transmit mixer (TR15), which is part of the HetroSync™circuit. The signal is amplified by the buffer (TR16), which is a voltage amplifier, whose output is fed to the driver (TR17). Bandpass transformers L8 through L10 provide the selectivity to select the disired carrier frequency from the mixer (TR15) output. The driver is a low level Class C power amplifier which supplies the necessary RF power at the carrier frequency to drive the final power amplifier (TR18). The final supplies RF power to the antenna through a double pi-matching network. The primary purpose of a

transmitter is to transmit intelligence from one place to another. The function of the modulator is to put the intelligence on the carrier. To do this, the microphone changes sound (mechanical energy) to electrical energy which is an audio frequency signal. Mic amplifier (TR13 & TR23) and audio driver (TR10) amplify this signal and drive the audio power amplifier (TR11 & TR12). This audio power amplifier varies the supply voltage fed to the driver and signal at an audio rate. This variation of the supply voltage varies the amplitude of the carrier output thus producing amplitude modulation.

RECEIVER CIRCUIT

The receiver in the LYNX 23 is a dual conversion superheterodyne circuit. Channel 9 (27.065 mc) will be used as an example to show how the receiver circuit works. A signal at 27.065 mc is received at the antenna and amplified by RF amplifier (TR1) and fed into 1st receiver mixer (TR2). The 27.065 mc signal is mixed with 37.700 mc injection from the HetroSync™ circuit. The 10.635 mc 1st IF output from the 1st receiver mixer is fed into the 2nd receiver mixer (TR4) along with the 10.180 mc injection from the HetroSync™ circuit. The 455 kc 2nd IF output from the 2nd receiver mixer is amplified by the IF amplifiers TR6 and TR7. Then, the signal is detected by detector diode D3 to remove the audio from the IF carrier. The audio is coupled from the detector through the automatic noise limiter network to the 1st receiver audio amplifier (TR9). This amplifier also acts as a squelch gate. If the squelch control has been properly adjusted, this amplifier is biased off and will not allow any noise to be passed. When a signal is received, the amplifier is biased on and audio is allowed to be passed on to the 2nd audio driver (TR10). TR10 in turn, feeds the audio to the audio power amplifier (TR11 & TR12) which drives the speaker.

SECTION 5
REPLACEMENT PARTS

CAPACITORS

SYMBOL	DESCRIPTION
C-1	25 pF 50V Mica
C-2,3,5,7,9,10,15,19,20,26, 30,31,38,50,55,71,77,85, 97,100,105,110,114,118, 122,123,124	0.01 µF 25V Disc
C-4,24,27,79,82	3 pF 50V Mica
C-8,41	4.7 µF 16V Electrolytic
C-11,28,32,36,45,80,83,91,96	0.04 µF 25V Disc
C-12,88,101,109	50 pF 50V Mica
C-16,35,47,48,59,64	10 µF 16V Electrolytic
C-17,103,111	5 pF 50V Mica
C-18,104	2 pF 50V Mica
C-22	500 pF 50V Mica
C-23,76,81,106	100 pF 50V Mica
C-25,72	500 pF 50V Disc
C-29,56,57,69,87,90,95	0.04 µF 50V Mylar
C-33,40,99	200 pF 50V Mica
C-34,121	33 µF 16V Electrolytic
C-37	0.1 µF 12V Disc
C-43,46,49	1 µF 16V Electrolytic
C-44,52,58,63	0.1 µF 16V Mylar
C-51,53	100 µF 10V Electrolytic
C-54,60	100 µF 16V Electrolytic
C-61,117	0.005 µF 50V Disc
C-67,68	0.22 µF 50V Mylar
C-70	470 µF 16V Electrolytic
C-73	180 pF 50V Mica
C74 -74	40 pF 50V Mica
C-75	15 pF 50V Mica
C-78,89,93	150 pF 50V Mica
C-92,120	0.001 µF 50V Mylar
C-94	250 pF 50V Mica
C-84	30 pF 50V Mica
C-112	91 pF 50V Mica
C-113,115	1 µF 25V Electrolytic
C-116,119	0.02 µF 50V Mylar
C-125	2,200 µF 25V Electrolytic
C-126	220 µF 16V Electrolytic

REPLACEMENT PARTS

RESISTORS

SYMBOL	DESCRIPTION
R-1	2.2K Ohms, 1/4W Carbon
R-2,11,38,57	220 Ohms, 1/4W Carbon
R-3,6,25,48	150 Ohms, 1/4W Carbon
R-4,7,16,23,30,33,34,41,45, 54,62,76	5.6K Ohms, 1/4W Carbon
R-5,24,70	680 Ohms, 1/4W Carbon
R-8,26,32	33K Ohms, 1/4W Carbon
R-9,18,61	330 Ohms 1/4W Carbon
R-10,13,20,43,49,77,78,82	1K Ohm, 1/4W Carbon
R-12,27,35	6.8K Ohms, 1/4W Carbon
R-14,21	100K Ohms, 1/4W Carbon
R-15,83	470 Ohms, 1/4W Carbon
R-17,63	15K Ohms, 1/4W Carbon
R-19,44,55,85	4.7K Ohms, 1/4W Carbon
R-22,67	47K Ohms, 1/4W Carbon
R-28,68,84	10K Ohms, 1/4W Carbon
R-29,31,86	56K Ohms, 1/4W Carbon
R-36	3.3K Ohms, 1/4W Carbon
R-37,53,89	1K Ohm, 1/4W Carbon
R-39	4.7K Ohms, 1/4W Carbon
R-40	8.2K Ohms, 1/4W Carbon
R-42,46,56,81	22K Ohms, 1/4W Carbon
R-47,66,69	100 Ohms, 1/4W Carbon
R-50	68 Ohms, 1/4W Carbon
R-51	0.5 Ohms, 1/2W Wired
R-52	1.5K Ohms, 1/4W Carbon
R-59	270 Ohms, 1W Metal Covered
R-60	270 Ohms, 1/2W Solid
R-64,91	220 Ohms, 1/4W Carbon
R-65	470K Ohms, 1/4W Carbon
R-71,72	56 Ohms, 1/4W Carbon
R-74	1K Ohm, 1/2W Solid
R-75,88,90	330 Ohms, 1/4W Carbon
R-87	470 Ohms, 1/4W Carbon
R-92	100 Ohms, 1/2W Solid
R-93	220 Ohms, 1/2W Solid
R-94	10 Ohms, 3W Metal Covered

REPLACEMENT PARTS

SEMICONDUCTORS

SYMBOL	DESCRIPTION	
TR-1	2SC710	RF Amplifier
TR-2	2SC710	1st Receiver Mixer
TR-3	2SC710	38 MHz. 1st Local
TR-4	2SC710	2nd Receiver Mixer
TR-5	2SC710	11 MHz. 2nd Local
TR-6	2SC710	1st I.F. Amplifier
TR-7	2SC710	2nd I.F. Amplifier
TR-8	2SC711	Squelch Amplifier
TR-9	2SC711	1st A.F. Amplifier
TR-10	2SC619	2nd A.F. Amplifier
TR-11,12	2SC1173	A.F. Power Amplifier
TR-13,23	2SC711	Mike Amplifier
TR-14	2SC710	Transmit Oscillator
TR-15	2SC710	Transmit Mixer
TR-16	2SC620	Transmit Buffer
TR-17	2SC1018	Transmit Driver
TR-18	2SC756	Transmit Final
TR-19	2SC711	Modulation Lamp
TR-20	2SC372	Voltage Stabilizer
TR-21	2SC1173	Voltage Stabilizer
TR-22	2SD235	Voltage Stabilizer

DIODES

SYMBOL	DESCRIPTION	
D-1	WG1012	Receiver RF Amplifier Protector
D-2,9,11	WG1012	Mode Switching
D-3	1N60	AGC Detector
D-4	1N60	S Meter
D-5	1N60	Power Meter
D-6	1S2473	A.N.L.
D-7,8	1N60	Squelch
D-10	WZ090	Receiver
D-12	SR1K-1	Modulation Stabilizer
D-13	KB-162	Varistor

REPLACEMENT PARTS

INDUCTANCE

SYMBOL	DESCRIPTION
L-1	TC-71024
L-2	TC-71031
L-4	TC-71025
L-5	TKXN-22160BU
L-6	TKXN-22534
L-7	KXN-22535
L-8,9	KXN-13638HM
L-10	KXN-13636BM
L-11	TC-71026
L-12	TC-71023
L-13,18	2R2 Micro Inductor
L-14	TC-71029
L-16	TC-71030
L-17	NS-1373

TRANSFORMERS

SYMBOL	DESCRIPTION
T-1	TKAC-22536IE 1st I.F.
T-2	TKAC-21165A 1st I.F.
T-3	YLN-20844BM 2nd I.F.
T-4	YMC-20845AC 2nd I.F.
T-5	YMC-20846AC 2nd I.F.
T-6	69M A.F. Input
T-7	N28-751BM A.F. Output
T-8	N60-7979PT Power Transformer
CH	115C Line Filter Choke

VARIABLE RESISTORS

SYMBOL	DESCRIPTION
VR-1,2	Semi-fixed, 10K Ohms, 2P 6BM
VR-3,9	Semi-fixed, 30K Ohms, 2P 6BM
VR-4	Variable, 50K Ohms B, EVC-BOAK20B54
VR-5	Semi-fixed, 50K Ohms, 2P 6BM
VR-6, S-2-a,b	Variable, 10K Ohms A, EVC-BOLK20A14
VR-7	Variable, 10K Ohms A, EVC-BOAK20A14
VR-8	Semi-fixed, 300 Ohms, 3P 5BM

REPLACEMENT PARTS

CRYSTALS

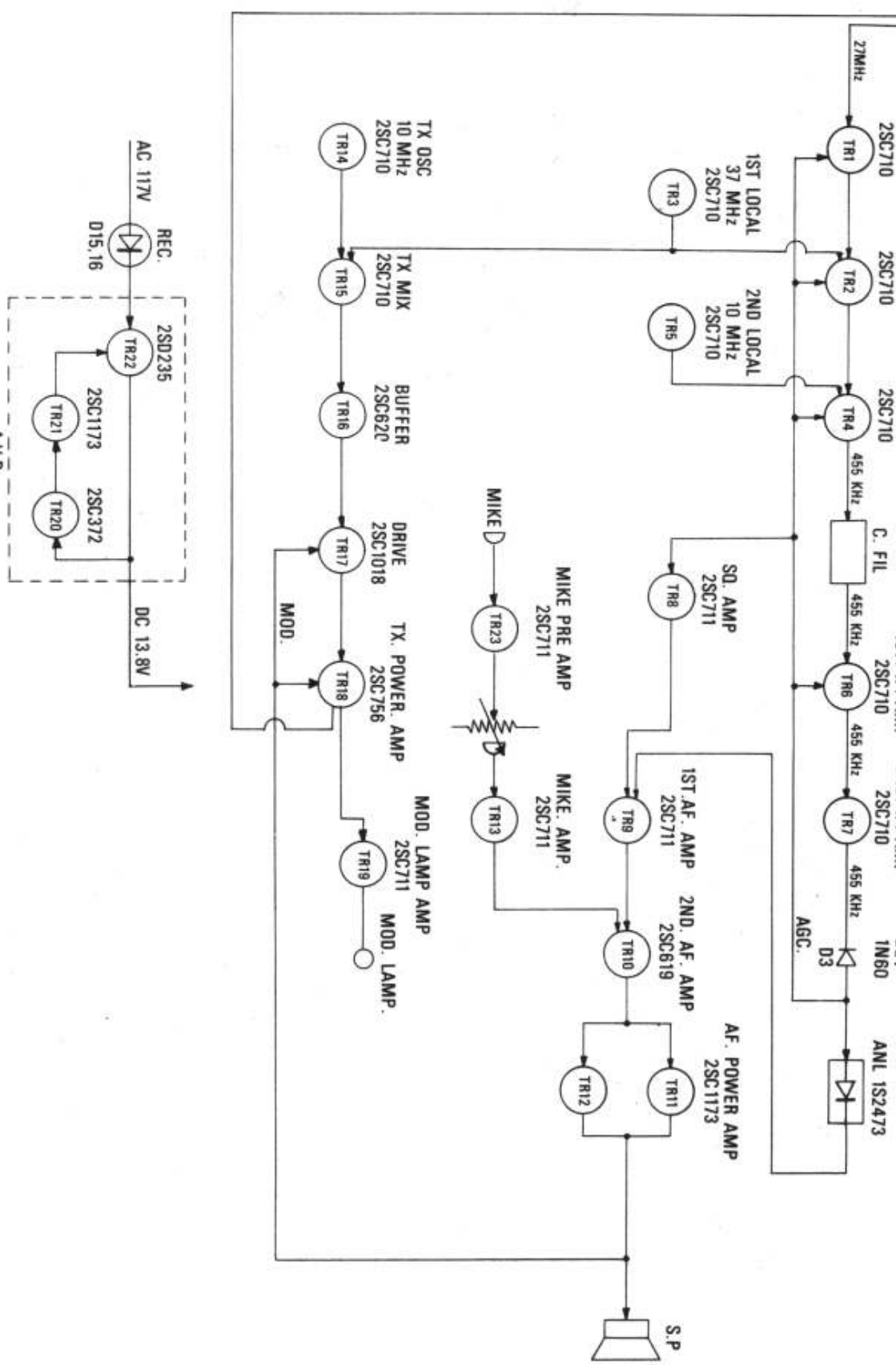
SYMBOL	DESCRIPTION
X-1	HC-25U 37.600 MHz.
X-2	HC-25U 37.650 MHz.
X-3	HC-25U 37.700 MHz.
X-4	HC-25U 37.750 MHz.
X-5	HC-25U 37.800 MHz.
X-6	HC-25U 37.850 MHz.
X-7	HC-25U 10.635 MHz.
X-8	HC-25U 10.625 MHz.
X-9	HC-25U 10.615 MHz.
X-10	HC-25U 10.595 MHz.
X-11	HC-25U 10.180 MHz.
X-12	HC-25U 10.170 MHz.
X-13	HC-25U 10.160 MHz.
X-14	HC-25U 10.140 MHz.

REPLACEMENT PARTS

MISCELLANEOUS PARTS

Ceramic Filter LF-B6
Crystal Socket S-DO105
P.A. & Ext. Sp. Jack SJ-296
Headphone Jack LJ079-1-2
Meter Type "M"
Microphone Plug SM-144 (4-P)
Microphone Jack SM-144 (4-P)
Ext. Antenna Connector M-R Type
Ext. Power Connector CN-3795
Speaker 9P10S
Rotary Switch R71N1008 RL-2-4-24
Rotary Switch B69S1024 BS-1-2-3
Microphone 22-115-32
Fuse Holder NRF00301-2
Fuse Holder RF-104
Fuse 0.7 Amp.
Fuse 2 Amp.
Pilot Lamp 4.5V 35mA, Clear, Yellow & Red
AC Power Cord w/Plug SPT-1
Front Panel ABS
Metal Cabinet Complete
Metal Chassis Complete
Mounting Bracket
Volume Knob
Channel Selector Knob
Channel Indicator Acryl
Delta Tune Knob
Power Switch Knob
Pedestals
Brand Plate
Front Plate
Microphone Plate
FCC Plate
Mounting Bracket Bolt
Screw for Cabinet
Display Box
Instruction Booklet
Styrofoam Box
Warranty Card
FCC Application Form

BLOCK DIAGRAM



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Other Gladding Outdoor Recreation Products Include: Gladding-Hedlund Water Skis; Gladding-Kalamazoo Sleds; Del-Rey Campers and Recreational Vehicles; Gladding-Ranger Sleeping Bags, Bowling, School, Club and Utility Bags; Gladding-South Bend Fishing Tackle; H-I Fishing Tackle; Gladding-Fishing Lines; Gladding-Marine Ropes and Cords; Pearce-Simpson Marine Communications Equipment; Del-Rey Campers and Travel Trailers; Omega Motor Homes and Travel Trailers; Aqua-Float Life Vests, Life Belts and Ring Buoys; Claricon Home Stereo Sets; Carter Sportswear and Outer Clothing.

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