

**PEARCE-SIMPSON**  
DIVISION OF **GLADDING** CORP.



**PANTHER SSB**

CORRECTION

THE MANUAL IS IN ERROR ABOUT GROUND INSTALLATION.  
THIS PARTICULAR RADIO CAN ONLY BE USED IN NEGATIVE,  
BUT NOT POSITIVE, GROUND INSTALLATION.

## SECTION 1 GENERAL INFORMATION

### DESCRIPTION

Your new PEARCE-SIMPSON PANTHER SSB is a compact, all-transistorized, 23 channel Citizens Band SSB/AM Transceiver. This radio, because of its low current drain, is ideally suited for mobile operation from a 12.6 VDC power source. A 12 VDC power cord and a mounting cradle are included with your PANTHER SSB. 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, slide-o-tune, adjustable squelch, noise blanker, 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 three crystal-controlled oscillators which are beat together to produce the desired frequency. The transmitter final is a conservatively rated high gain RF power transistor.

Both transmitter and receiver work on upper sideband and lower sideband.

### SPECIFICATIONS

#### GENERAL :

Channels	: 23 Channels, Crystal-Controlled AM, Upper Side Band and Lower Side Band
Frequency Range	: 26.965 MHz. to 27.255 MHz.
Frequency Control	: Synthesizer
Frequency Tolerance	: 0.025%
Frequency Stability	: 0.001%
Operating Temperature Range	: -20°C to +50°C
Primary Power	: Input Voltage - 13.8 VDC (EIA Standard)
Antenna	: 52-ohm Coaxial
Size	: 7 ½" W × 2 ½" H × 10 ½" D
Weight	: 7 pounds

#### RECEIVER :

Sensitivity	: S.S.B.- Less than 0.3µV for 10db S+N/N A.M.- Less than 0.8µV for 10db S+N/N
Selectivity	: S.S.B.- 6db at 2.0 KHz., 60db at 5.5 KHz. A.M.- 6db at 10KHz., 50db at 20 KHz.
Spurious Rejection	: 50db minimum
Squelch Range	: S.S.B.- Adjustable from 0.5µV to 1,000µV A.M.- Adjustable from 0.5µV to 1,000µV

1st I.F. Frequency : S.S.B.- 7.8 MHz.  
 A.M.- 7.8 MHz.  
 2nd I.F. Frequency : A.M.- 455 KHz.  
 Noise Blanker : Series gate type (uses F.E.T.)  
 Slide-O-Tune Range :  $\pm 600$  Hz.  
 Audio Output Power : 3.5W

**TRANSMITTER :**

Power : S.S.B.-15 watts, p.e.p.  
 A.M.- 3.5 watts  
 Modulation Capability : A.M.- 100%  
 Spurious Harmonic Suppression : 50db minimum  
 Carrier Suppression : S.S.B.- -40 db  
 Unwanted Side Band : -40db  
 Frequency Response : S.S.B.- 350 Hz. to 2,500 Hz.  
 A.M.- 250 Hz. to 2,000 Hz.  
 Output Impedance : 50 ohms (unbalanced)  
 S.S.B. Filter : 7.8 MHz, Crystal lattice type, 6db  
 at 2.1 KHz., 60db at 5.5 KHz.  
 Automatic Load Control : Holds p.e.p. to 1 db increase w/ 10db  
 (in case of Input)

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**

### **INSTALLATION & INITIAL ADJUSTMENT**

#### **IMPORTANT**

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

### **MOBILE STATION INSTALLATION**

#### **MOUNTING**

For mobile installation, the mounting cradle serves as a means of mounting your PANTHER SSB in any position and attitude which will be convenient to the user. After you have determined the most convenient location in your vehicle, hold the PANTHER SSB 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 PANTHER SSB 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 red power lead is to be connected to the positive terminal of the battery. The black lead is to be connected to ground. (The radio is reverse polarity protected. If you make a mistake in connecting the power leads, the radio will not be damaged. It will be inoperative until the power is connected correctly.) If 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**

Your PANTHER SSB 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 an 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 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 center loaded 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 shortened type antenna 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.

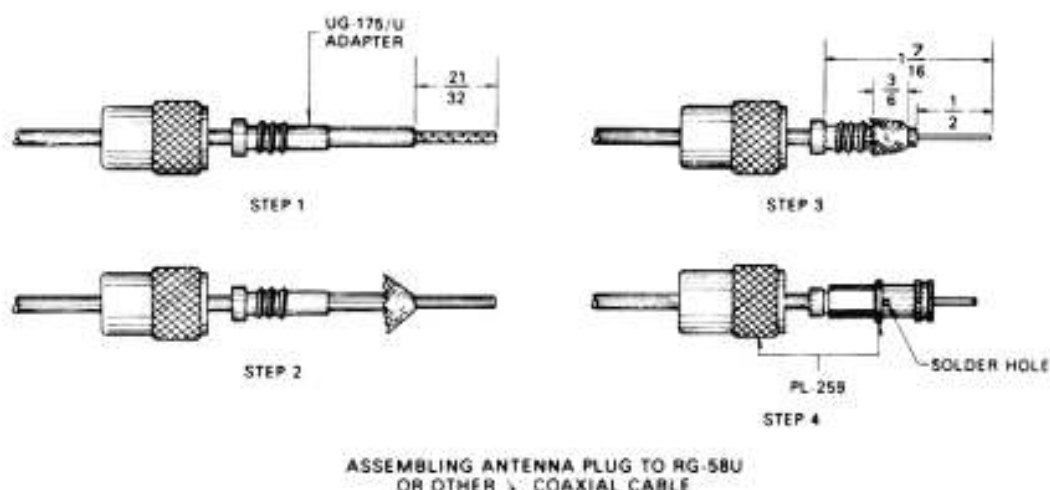


Figure 1

## **TRANSMISSION LINE**

To connect an antenna to the transceiver, a 52-ohm coaxial transmission line is required. RG-8/U coax is recommended for length in excess of 50 feet and RG-58/U coax is recommended for length 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 PANTHER SSB 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 The built-in SWR bridge is ideal for this type of adjustment.

The PANTHER SSB 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 PANTHER SSB contains automatic noise limiter on AM and noise blanker on AM and SSB, 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 service of a qualified technician may be required. See your PEARCE-SIMPSON dealer for advice.

## SECTION 3 OPERATING INSTRUCTIONS

Your PANTHER SSB operates on sixty-nine different channels. There are 23 AM channels, 23 upper sideband and 23 lower sideband. When in the AM mode, the PANTHER SSB will hear only signals being transmitted on double sideband with full carrier (AM). The unit may also receive SSB signals when on the AM mode but you will not be able to understand them. When operating in either of the SSB modes, strong AM signals may also be heard. It is recommended that you return to the AM mode if you wish to listen to these signals.

So that you will better understand the difference between AM, upper sideband and lower sideband, a simplified explanation of their characteristics is in order.

An AM signal consists of a carrier frequency and two sidebands, an upper and lower. Each sideband is an exact duplicate of the other. An AM receiver, when it detects an AM signal, filters out the carrier so that you hear only the intelligence on the sideband. If you listen to an AM signal when your receiver is in the sideband mode, the receiver will not reject the carrier frequency (unless the clarifier is tuned exactly right) and a steady tone will be heard as well as the intelligence. Therefore, for best reception of AM, your mode selector should be in the AM position.

When transmitting on single sideband, no carrier and only one sideband, either upper or lower, is being transmitted. When on AM, your receiver cannot take just this one sideband and change it into usable intelligence. You can recognize a sideband signal coming in on AM by its fluttering characteristic and its unintelligible sound. A signal transmitted on upper sideband can only be properly heard by a receiver tuned to the upper sideband. Such a signal will not be intelligible.

When listening to a sideband signal on the proper mode, it may sound either too high pitched or too low pitched. The reason for this is that your receiver may not be tuned to the exact same frequency as the transmitter it is listening to. For this reason, CHEETAH SSB is equipped with a Clarifier. By turning this Clarifier, you slightly change the frequency of both your transmitter and receivers (within legal limits) so that reception will be in a normal tone.

## CONTROLS AND INDICATORS

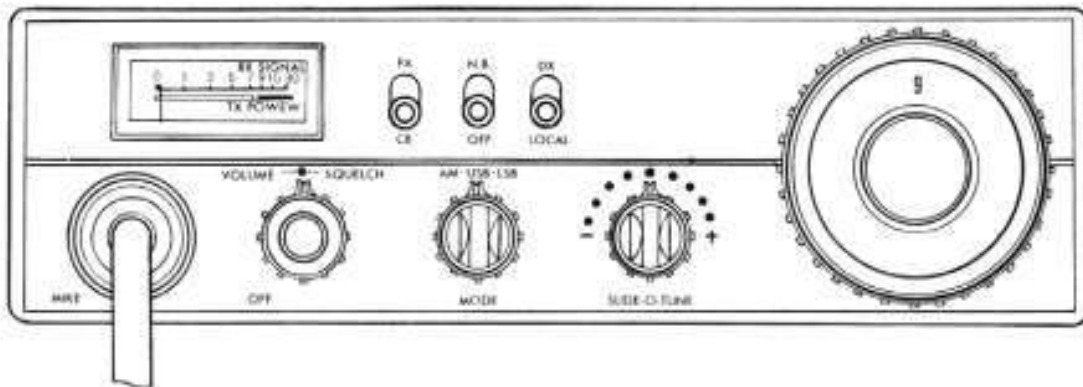


Figure 2

### 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.

### MODE SELECTOR

This selector enables you to select either of SSB modes (upper sideband or lower sideband) or AM. This switch changes both transmitter and receiver simultaneously on each mode.

### VOLUME CONTROL AND ON-OFF SWITCH

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

### RF GAIN SWITCH

This switch selects the strength of incoming signal. If too strong signal comes in, set the DX/LOCAL Switch to "LOCAL" position. If you are listening weak signal, set the switch to "DX" position.

### 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 silencing at all). In the fully clockwise position, the unit is squelched for very strong signals.

### **NOISE BLANKER**

The noise blanker is desired to reduce excessive noise such as electrical interference, ignition noise, etc. To operate, simply set the switch to "N.B." position.

### **SLIDE-O-TUNE**

This control allows you to vary the operating frequencies of both transmitter and receiver below and above the assigned frequency. This may be used for optimum tuning of both SSB and AM signals.

### **PA-CB SWITCH**

This switch is to select the operating mode of either CB or PA.

### **PEARCE-SIMPSON'S EXCLUSIVE FIVE-WAY METER**

This meter is exclusively designed by Pearce-Simpson to work in seven different ways. Those functions are as follows:

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.
2. RF output meter. This shows relative RF power when transmitting. To operate, place the slide switch to "S/RF" position.
3. A receiver-on indicator: When the receiver is on, the meter lights up in amber color.
4. A transmitter-on indicator: When the transmitter is on, the meter lights up in red color.
5. Modulation indicator: The meter needle fluctuates when the transmitter is modulated.

## SECTION 4 REPLACEMENT PARTS

### SEMI CONDUCTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
FET-1	3SK22Y	RF Amplifier
FET-2	2SK30Y	Noise Amplifier for N.B.
TR-1	2SC839H	1st Mixer
TR-2	2SC839H	AM 2nd Local Amplifier
TR-3	2SC839H	2nd Mixer
TR-4	2SC839H	1st I.F. Amplifier
TR-5	2SC839H	2nd I.F. Amplifier
TR-6	2SC945R	SSB A.G.C. Amplifier
TR-7	2SC733R	SSB A.G.C. Amplifier
TR-8	2SC945R	SSB A.G.C. Amplifier
TR-9,10	2SC945R	Squelch Amplifier
TR-11	2SC945R	AM A.G.C. Amplifier
TR-12	2SC839H	1st Local Amplifier
TR-13	2SC839H	7.8 MHz. Amplifier for SSB TX/RX
TR-14	2SC839H	7.8 MHz. Amplifier for AM TX
TR-15	2SC839H	I.F. Amplifier for SSB
TR-16	2SC945QL	1st A.F. Amplifier & A.G.C. Amplifier
TR-17	2SC945R	2nd A.G.C. Amplifier & S-Meter Amplifier
TR-18	2SC839H	11 MHz. Local OSC
TR-19	2SC839H	7 MHz. Local OSC for U.S.B.
TR-20	2SC839H	7 MHz. Local OSC for L.S.B.
TR-21	2SC839H	Carrier Oscillator
TR-22	2SC839H	Buffer
TR-23	2SC945R	Mike Amplifier
TR-24	2SC945R	1st AF Amplifier for TX
TR-25	2SC1307	RF Power Amplifier
TR-26	2SC1306	TX Driver
TR-27	2SC710C	1st TX Mixer
TR-28,29	2SC1096L	RF Power Control
TR-30,31	2SC1096L	AF Power Amplifier
TR-32	2SC735Y	AF Driver
TR-33	2SC945R	1st AF Amplifier
I.C.-1	TA7045M	7.8 MHz./19 MHz. Mixer

## REPLACEMENT PARTS

### DIODES

SYMBOL	DESCRIPTION	PARTS NUMBER
D-1,19,27,28,29,30,33, 34,35,36	1N-60P	
D-2	ZE1.5	
D-3,4,8,9,10,11,12,24, 25,37,38,49,53,64	1N-60	
D-5,13	1N4448	
D-6,7,16,17,18,20,21, 23,31,32,39,40,42,43, 56,57	1S2473 (vertical)	
D-14,15,45,46,47,48	1S1007	
D-22	WZ081	
D-26,44,52	BZ090	
D-41,50	1S2473 (horizontal)	
D-51,58	SR1K-2	
D-55	CD86003	

### INDUCTANCES

SYMBOL	DESCRIPTION	PARTS NUMBER
L-1	LF-1 100 $\mu$ H Micro Inductor	
L-2	LF-4 8.2 $\mu$ H Micro Inductor	
L-3,4,5	LF-1 470 $\mu$ H Micro Inductor	
L-6,9,11	TC-71024 27 MHz./54 MHz. Trap	
L-7,8	NS-1367 27 MHz. Filter	
L-10,12,13	NS1515B Choke	
L-14	LF-4 3.9 $\mu$ H Micro Inductor	
L-15	NS1516 Choke	

### TRANSFORMERS

SYMBOL	DESCRIPTION	PARTS NUMBER
T-1	TKXC22019GN Receiver Antenna	
T-2,3	TKXC22017AO Receiver RF	
T-4	TKAC22526N Receiver 1st I.F.	
T-5,14,15	TKAC22015A 7.8 MHz.	
T-6	LPN5944BM 455 KHz.	
T-7	LLC3657 455 KHz.	
T-8	LLC4990A2 455 KHz.	
T-9	TKXN21017ZVI 11 MHz.	
T-10,11,12,13	KXN6711BM 19 MHz.	
T-16	113CC2804AC 7.8 MHz. Carrier OSC	

## REPLACEMENT PARTS

### TRANSFORMERS

SYMBOL	DESCRIPTION	PARTS NUMBER
T-17	TKAN21016AO 7.8 MHz. Balance Modulator	
T-18	TKXC23444N TX 27 MHz.	
T-19	TKXN21014AO TX 27 MHz.	
T-20	TKXN21379UH TX 27 MHz.	
T-21	TKAC23360ZVI TX 7.8 MHz.	
CH	Choke Transformer N28-7111H	
IPT	AF Input Transformer N24A-7258A	
OPT	AF Output Transformer N35-7274	

### CAPACITORS

SYMBOL	DESCRIPTION	PARTS NUMBER
C-29	0.47 $\mu$ F 50 VDC Electrolytic	
C-11,16,94,95,151,190, 194	1 $\mu$ F 50 VDC Electrolytic	
C-53	2.2 $\mu$ F 25 VDC Electrolytic	
C-57,58,145,146,147, 176,180	4.7 $\mu$ F 25 VDC Electrolytic	
C-15,37,54,144,181	10 $\mu$ F 16 VDC Electrolytic	
C-56	22 $\mu$ F 10 VDC Electrolytic	
C-91,97,148	33 $\mu$ F 6.3 VDC Electrolytic	
C-27,60,73,134,150	47 $\mu$ F 10 VDC Electrolytic	
C-187,192	220 $\mu$ F 6.3 VDC Electrolytic	
C-178	220 $\mu$ F 10 VDC Electrolytic	
C-186,191	220 $\mu$ F 16 VDC Electrolytic	
C-179	220 $\mu$ F 25 VDC Electrolytic	
C-93	330 $\mu$ F 10 VDC Electrolytic	
C-185	470 $\mu$ F 16 VDC Electrolytic	
C-197	1,000 $\mu$ F 25 VDC Electrolytic	
C-142	1 $\mu$ F 10 VDC Tantal	
C-25	500 pF 50 WV Styrol (Vertical)	
C-48,86,124,164	0.1 $\mu$ F 25 WV Semi-conductive	
C-156	1 pF 50 WV Silvered Mica	
C-7,69,71,79,123	2 pF 50 WV Silvered Mica	
C-13,20	5 pF 50 WV Silvered Mica	
C-9,137,139,140,174	10 pF 50 WV Silvered Mica	
C-21,105,106,107, 108,109,110,111,112	20 pF 50 WV Silvered Mica	
C-172	25 pF 50 WV Silvered Mica	
C-17,36,61,170	30 pF 50 WV Silvered Mica	

## REPLACEMENT PARTS

### CAPACITORS

SYMBOL	DESCRIPTION	PARTS NUMBER
C-116,119,152	40 pF 50 WV Silvered Mica	
C-68,70,72,162	60 pF 50 WV Silvered Mica	
C-62,63,64,136,153	100 pF 50 WV Silvered Mica	
C-19,115,118,121	150 pF 50 WV Silvered Mica	
C-155,161,66	250 pF 50 WV Silvered Mica	
C-65,157	400 pF 50 WV Silvered Mica	
C-158	650 pF 50 WV Silvered Mica	
C-113	10 pF 50 WV N470 Disc	
C-127,130	20 pF 50 WV N750 Disc	
C-99,100,101,102,,103, 104	20 pF 50 WV N1500 Disc	
C-114	150 pF 50 WV Disc	
C-184	390 pF 50 WV Disc	
C-4,8	0.005 $\mu$ F 50 WV Disc	
C-3,14,16,76,78,84, 138,167,168,169, 173,175	0.02 $\mu$ F 50 WV Disc	
C-1,2,35,43,44,45,46, 47,49,51,75,77,82, 87,88,125,141,143, 149,189,193	0.01 $\mu$ F 50 WV Disc	
C-6,12,22,24,26,28,31, 32,34,38,50,55,59,67, 74,80,81,83,85,92,96, 98,122,126,129,135,154, 159,160,163,165,177 196	0.04 $\mu$ F 50 WV Disc	
C-18,39,42,117,120, 128,131,132,133	0.001 $\mu$ F 50 WV Mylar	
C-41	0.002 $\mu$ F 50 WV Mylar	
C-90	0.01 $\mu$ F 50 WV Mylar	
C-10,23,30,33,52,89, 182,183	0.04 $\mu$ F 50 WV Mylar	
C-5,40,188	0.1 $\mu$ F 25 WV Alminum	
C-195	0.001 $\mu$ F 50 WV Tubra	

### RESISTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
R-120	0.5 Ohm 1/4W Carbon	
R-159	2.2 Ohm 1/4W Carbon	

## REPLACEMENT PARTS

### RESISTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
R-123,124	10 Ohm 1/4W Carbon	
R-45,114,119	47 Ohm 1/4W Carbon	
R-140	68 Ohm 1/4W Carbon	
R-3,9,54,59,127,129, 143	100 Ohm 1/4W Carbon	
R-61	150 Ohm 1/4W Carbon	
R-122	180 Ohm 1/4W Carbon	
R-6,17,21,25,55,65,69, 81,108,112,134,142, 147,160	220 Ohm 1/4W Carbon	
R-135	390 Ohm 1/4W Carbon	
R-71,72,82,103,113, 118,126	470 Ohm 1/4W Carbon	
R-5,13,16,20,24,64,68, 76,84,85,88,91,100, 107,141,151	1K Ohm 1/4W Carbon	
R-121	1.2K Ohm 1/4W Carbon	
R-32,35,37,38,39,40	1.5K Ohm 1/4W Carbon	
R-19,49,10J	2.2K Ohm 1/4W Carbon	
R-10	2.7K Ohm 1/4W Carbon	
R-2,43,52,77,79,83, 106,148,150,154	3.3K Ohm 1/4W Carbon	
R-111,125,146	4.7K Ohm 1/4W Carbon	
R-11,22,50,62,66,74, 98,109,115,145, 152,158	5.6K Ohm 1/4W Carbon	
R-14,97,131,138	6.8K Ohm 1/4W Carbon	
R-46	8.2K Ohm 1/4W Carbon	
R-33,41,48,56,57,60,70, 86,89,92,94,117,128, 130,149,155	10K Ohm 1/4W Carbon	
R-53,73	15K Ohm 1/4W Carbon	
R-23,67,80,87,90,93,99, 102,144	22K Ohm 1/4W Carbon	
R-12,110,116,133,153	27K Ohm 1/4W Carbon	
R-15,47,75	33K Ohm 1/4W Carbon	
R-26,34,36,63,95	47K Ohm 1/4W Carbon	
R-31,44	56K Ohm 1/4W Carbon	
R-157	82K Ohm 1/4W Carbon	
R-1,8,156	100K Ohm 1/4W Carbon	
R-42	150K Ohm 1/4W Carbon	

## REPLACEMENT PARTS

### RESISTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
R-29	220K Ohm 1/4W Carbon	
R-4,18,58	330K Ohm 1/4W Carbon	
R-28	560K Ohm 1/4W Carbon	
R-7,27	1M Ohm 1/4W Carbon	
R-96	470 Ohm 1/4W R type Carbon	
R-104,105	330 Ohm 1/4 R type Carbon	
R-132	10K Ohm 1/4W R type Carbon	
R-30	220K Ohm 1/4W R type Carbon	
R-136	47 Ohm 1/2W R type Carbon	
R-51,78	56 Ohm 1/2W R type Carbon	
R-139	1 Ohm 1W Metal	
R-137	10 Ohm 2W Metal	

### VARIABLE RESISTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
VR-1	100K Ohm B, KVSF10-5BM, Semi-fixed	
VR-2	50K Ohm B, KVSF10-5BM, Semi-fixed	
VR-3	5K Ohm B, KVSF10-6BM, Semi-fixed	
VR-4	200K Ohm B, KVSF10-6BM, Semi-fixed	
VR-5	500K Ohm B, KVSF10-6BM, Semi-fixed	
VR-6,15	100K Ohm B/10K Ohm A, Dual, Variable w/SW	
VR-7,9	30K Ohm B, KVSF10-6BM, Semi-fixed	
VR-10	100 Ohm, EVS-PIAAOOE12, 8 $\phi$ Solid	
VR-11	5K Ohm B, KVSF10-5BM, Semi-fixed	
VR-12	100K Ohm B, KVSF10-6BM, Semi-fixed	
VR-8,14	10K Ohm B, KVSF10-6BM, Semi-fixed	
VR-13	200 Ohm B, KVSF10-6BM, Semi-fixed	

### CRYSTALS

SYMBOL	DESCRIPTION	PARTS NUMBER
X-1	7.3435 MHz. HC-25/U	
X-2	11.805 MHz. HC-25/U	
X-3	11.855 MHz. HC-25/U	
X-4	11.905 MHz. HC-25/U	
X-5	11.955 MHz. HC-25/U	
X-6	12.005 MHz. HC-25/U	
X-7	12.055 MHz. HC-25/U	
X-8	7.3615 MHz. HC-25/U	

## REPLACEMENT PARTS

### CRYSTALS

SYMBOL	DESCRIPTION	PARTS NUMBER
X-9	7.3715 MHz. HC-25/U	
X-10	7.3815 MHz. HC-25/U	
X-11	7.4015 MHz. HC-25/U	
X-12	7.3585 MHz. HC-25/U	
X-13	7.3685 MHz. HC-25/U	
X-14	7.3785 MHz. HC-25/U	
X-15	7.3985 MHz. HC-25/U	
X-16	7.8015 MHz. HC-25/U	
X-17	7.7985 MHz. HC-25/U	

### SWITCHES

SYMBOL	DESCRIPTION	PARTS NUMBER
S-2,3	SL-2-2-2-12, 6P, Slide Switch (RF Gain/Blanker)	
S-4-1 . . S-4-8	MS14-2-8-3, Mode Switch	
S-5-1 . . S-5-3	SL-3-3-2-01, 9P, Slide Switch (PA/CB) RL-2.4.24, Channel Selector	

### MISCELLANEOUS

SYMBOL	DESCRIPTION	PARTS NUMBER
PL-1	16V 80mA, Blank, Pilot Lamp	
PL-2	16V 40mA, Red, Pilot Lamp	
PL-3	16V 40mA, Yellow, Pilot Lamp	
	K07F22A, Crystal Filter	
	LF-B6, Ceramic Filter	
	A-39, Meter	
	MTS-50F-20A, Air-Varicon for Clarifier	
CT-1 . . CT-17	ECV-1ZW20P32, Ceramic Trimmer	
ANT	M-R type Antenna Connector	
EXT SP	SJ296, External Speaker Jack	
SP	92-02D, Speaker	
MIKE	22-115-31, Microphone	
RL	AE3344, Relay	

## REPLACEMENT PARTS

### MISCELLANEOUS

SYMBOL	DESCRIPTION	PARTS NUMBER
	SD-0105, Crystal Socket	
	3-P, Microphone Plug	
	3-P, Microphone Jack	
	3-P, Ext. Power Plug	
	3-F, Ext. Power Jack	
	RF-104, Fuse Holder	
	Fuse, 2-amp.	
	A4. 100-051, Test Terminal	
	UT-123-103-00, Printed Circuit Board	
	M2-02061 Front Panel (ABS)	
	M2-02062 Metal Chassis Complete	
	M3-02065 Metal Cabinet (Top)	
	M3-02066 Metal Cabinet (Bottom)	
	M3-02067 Mounting Bracket	
	M3-02068 Baffle Board	
	M4-02069 Heat-sink (A)	
	M4-02070 Heat-sink (B)	
	M3-02071 Front Chassis	
	M4-02072 P.C. Board Holder	
	M4-02073 Shield Board	
	M4-02074 Spring Nut	
	M4-02075 Channel Knob Complete	
	M4-02078 Front Plate (Wooden-grain)	
	M4-02079 Front Plate (Silver Hair-line)	
	M4-02080 FCC Plate	
	M4-02081 Speaker Net	
	M4-00601 Lamp Bracket	
	M4-00617 Condensor Bracket	
	M4-00640 Screw for Mounting Bracket	
	M4-00631 Volume Knob (A)	
	M4-00632 Volume Knob (B)	
	M3-00633 Selector Knob	
	Styrofoam Box	
	Display Box	
	Instruction Booklet	
	FCC Application Form	
	Warranty Card	

### CRYSTAL FREQUENCY CHART (SSB USB/LSB)

XTAL	CHANNEL																						
MASTER <sup>USB</sup> <sub>LSB</sub>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
11.805	•	•	•	•																			
11.855					•	•	•	•															
11.905									•	•	•	•											
11.955													•	•	•	•							
12.005																		•	•	•	•		
12.055																					•	•	•
USB																							
7.3615	•				•				•				•			•				•			
7.3715		•				•				•			•				•			•			•
7.3815			•				•				•			•			•			•			
7.4015				•				•				•			•			•			•		•
7.7985	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
LSB																							
7.3585	•				•				•				•			•				•			•
7.3685		•				•				•			•			•				•			•
7.3785			•				•				•			•			•			•			
7.3985				•				•				•			•			•			•		•
7.8015	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

### CRYSTAL FREQUENCY CHART (AM)

XTAL	CHANNEL																							
MASTER	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	
11.805	•	•	•	•																				
11.855					•	•	•	•																
11.905									•	•	•	•												
11.955													•	•	•	•								
12.005																			•	•	•	•		
12.055																						•	•	•
7.3615	•				•				•				•			•				•				
7.3715		•				•				•			•				•			•			•	
7.3815			•				•				•			•			•			•				
7.4015				•				•				•			•			•			•		•	
XMTR																								
7.7985	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
RCVR																								
7.3435	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	

## FACTORY WARRANTY POLICY

This electronic equipment, manufactured by Pearce-Simpson, Inc., is warranted in accordance with the following terms and conditions—

A. PEARCE-SIMPSON, INC. WILL:

Replace any defective part of this equipment during the 90 day period following purchase.

Repair, at our factory, without charge, this equipment, if a defect develops during the first 90 days following purchase. (This repair service is free only at the factory. No reimbursements can be made for non-factory repair charges.)

B. THE PURCHASER WILL:

Return the warranty registration card within 10 days of purchase.

Pay all transportation charges involved when equipment is returned for factory repair, provide information regarding nature of failure, and accept freight collect shipment of repaired equipment.

The above is void if equipment is modified or repaired without authorization, subjected to misuse, abuse, accident, water damage or other neglect, or has its serial number defaced or removed, or if more than 9 months has elapsed since factory shipment date to dealer.

No obligation is assumed by Pearce-Simpson, Inc., to update previously manufactured equipment.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sale of our products.

**PEARCE-SIMPSON**  
DIVISION OF **GLADDING** CORP.

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P.O. BOX 800 BISCAYNE ANNEX MIAMI, FLORIDA 33152

**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.