

PEARCE-SIMPSON

DIVISION OF **GLADDING** CORP.



PANTHER SSB

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, negative ground. 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 blarker, 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 mixed 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 or lower sideband.

SPECIFICATIONS

GENERAL:

Channels	: 23 Channels, Crystal-Controlled AM, Upper Side Band or Lower Side Band
Frequency Range	: 26.965 MHz. to 27.255 MHz.
Frequency Control	: Synthesizer
Frequency Tolerance	: 0.005%
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	: 7½" W × 2½" H × 10½" 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 : ± 600 Hz.
 Audio Output Power : 3.5W

TRANSMITTER:

Output Power : S.S.B.- 12 watts, p.e.p.
 A.M.- 4 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 3,000Hz.
 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
 (increase of Input)

FREQUENCIES AVAILABLE FOR CLASS D OPERATION

Channel	MHz	Channel	MHz	Channel	MHz
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))

WARNING

FCC Rules require that ALL transmitter adjustments, other than those supplied by the manufacturer as front panel operating controls, be made by or under the supervision of the holder of an FCC issued 1st or 2nd class radio operator's license.

Replacement or substitution of crystals, transistors, regulator diodes or any other part of a unique nature, with parts other than those recommended by the manufacturer may cause violation of the technical regulations of Part 95 of the FCC Rules or violation of the Type Acceptance requirements of Part 2 of the Rules.

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 is designed to serve as a means of mounting your PANTHER SSB in any position which is convenient. After you have determined the most convenient location, hold the PANTHER SSB mounted in the cradle, in the exact location desired. If nothing interferes with it, 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 certain nothing will interfere with the installation 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. However, 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 in the off position and power will be supplied to the radio when it is in the on or accessory position. Determine whether your vehicle has a positive or negative grounded system before connecting the power cable.

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.

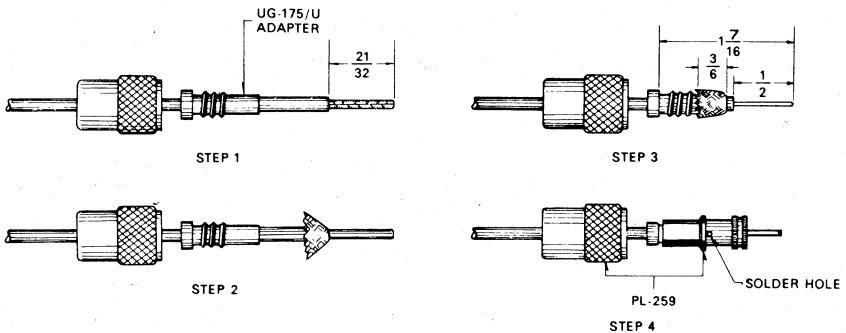
The most efficient and practical installation is a full quarter wave whip mounted on the left rear deck of fender top midway between the rear window and bumper.

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.

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.



ASSEMBLING ANTENNA PLUG TO RG-58U
OR OTHER 1/2" COAXIAL CABLE

Figure 1

TRANSMISSION LINE

To connect an antenna to the transceiver, a 52-ohm coaxial transmission line is required.

[See Figure 1 for assembling connector to RG-58/U coaxial cable.]

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.

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.

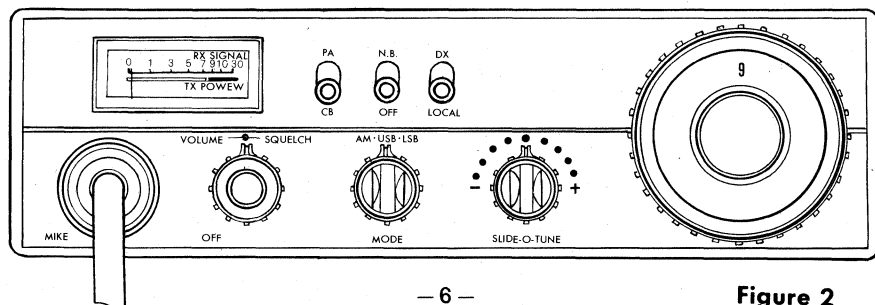
So that you will better understand the difference between AM, upper sideband and lower sideband, a simplified explanation of their characteristics is in order.

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.

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, PANTHER 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



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 to 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 amber.
4. A transmitter-on indicator: When the transmitter is on, the meter lights up red.
5. Modulation indicator: The meter needle fluctuates when the transmitter is modulated.

WARNING

Operation of this equipment requires a valid station license issued by the Federal Communications Commission. Do Not transmit with your equipment until you have received your license. Illegal operation can result in severe penalties. Be certain that you have read Part 95 of the FCC Rules and Regulations before operating your station.

License applications are to be made on FCC Form 505 available from your nearest FCC field office. (A copy of this form is included with your new transceiver.)

You are required to maintain a current copy of Part 95 of the FCC Rules as a part of your station records. Copies of Part 95 are available from: Superintendent of Documents GPO Washington, DC, 20402, for a fee of \$3.50.

Your station license is to be posted in accordance with paragraph 95.101 of the Rules and an executed Transmitter Identification Card (FCC Form 452-C) is to be attached to each transmitter. (A copy of this form is included with your new transceiver.)

SECTION 4 REPLACEMENT PARTS

SEMI CONDUCTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
FET-1	3SK22Y RF Amplifier	5001-046
FET-2	2SK30Y Noise Blanker Amplifier	5001-047
TR-1	2SC839H 1st Mixer	5001-014
TR-2	2SC839H AM 2nd Local Amplifier	5001-014
TR-3	2SC839H 2nd Mixer	5001-014
TR-4	2SC839H 2nd I.F. Amplifier	5001-014
TR-5	2SC839H 2nd I.F. Amplifier	5001-014
TR-6	2SC945R SSB A.G.C. Amplifier	5001-038
TR-7	2SC733R SSB A.G.C. Amplifier	5001-066
TR-8	2SC945R SSB A.G.C. Amplifier	5001-038
TR-9,10	2SC945R Squelch Amplifier	5001-038
TR-11	2SC945R AM A.G.C. Amplifier	5001-038
TR-12	2SC839H 1st Local Amplifier	5001-014
TR-13	2SC839H 7.8 MHz. Amplifier for SSB TX/RX	5001-014
TR-14	2SC839H 7.8 MHz. Amplifier for AM TX	5001-014
TR-15	2SC839H I.F. Amplifier for SSB	5001-014
TR-16	2SC900F 1st A.F. Amplifier & A.G.C. Amplifier	5001-014
TR-17	2SC945R 2nd A.G.C. Amplifier & S-Meter Amplifier	5001-038
TR-18	2SC839H 12 MHz. Local OSC	5001-014
TR-19	2SC839H 8 MHz. Local OSC for U.S.B.	5001-014
TR-20	2SC839H 8 MHz. Local OSC for L.S.B.	5001-014
TR-21	2SC839H Carrier Oscillator	5001-014
TR-22	2SC839H Buffer	5001-014
TR-23	2SC945R Mike Amplifier	5001-038
TR-24	2SC945R Microphone Amplifier	5001-038
TR-25	2SC1307 RF Power Amplifier	5001-071
TR-26	2SC1306 TX Driver	5001-050
TR-27	2SC710C TX Pre-driver	5001-002
TR-28	2SC1096L AM RF Power Adjustor	5001-064
TR-29	2SC945R AM RF Power Adjustor	5001-038
TR-30,31	2SC1096L AF Power Amplifier	5001-064
TR-32	2SC735Y AF Driver	5001-021
TR-33	2SC945R 2nd AF Amplifier	5001-038
I.C.-1	TA7045M 7.8 MHz./19 MHz. Mixer	5002-001

REPLACEMENT PARTS

DIODES

SYMBOL	DESCRIPTION	PARTS NUMBER
D-1,19,27,28,29,30,33, 34,35,36	1N-60P	5001-134
D-2	ZE1.5	5001-147
D-3,4,8,9,10,11,12,24, 25,37,38,49,53,54	1N-60	5001-080
D-5,13	1N4448	5001-146
D-6,7,16,17,18,20,21, 23,31,32,39,40,42,43, 56,57	1S2473 (vertical)	5001-128
D-14,15	1N60-FM1	
D-45,46,47,48	1S1007	5001-120
D-22	WZ081	5001-130
D-26,44,52	CZ092	5001-152
D-41,50	1S2473 (horizontal)	5001-128
D-51,58	SR1K-2	5001-129
D-55	MV-1	

INDUCTANCES

SYMBOL	DESCRIPTION	PARTS NUMBER
L-1	LF-1 100 μ H Micro Inductor	5006-141
L-2	LF-4 8.2 μ H Micro Inductor	5006-145
L-3,4,5	LF-1 470 μ H Micro Inductor	5006-202
L-6,9,11	LC-018 27 MHz./54 MHz. Trap (TC-71024)	5006-116
L-7,8	LE-008 27 MHz. Filter (NS-1367)	5006-203
L-10,12,13	LD-021 Choke (NS1515B)	5006-142
L-14	LF-4 3.9 μ H Micro Inductor	5006-140
L-15	LE-003 Choke (NS1516)	5006-144

TRANSFORMERS

SYMBOL	DESCRIPTION	PARTS NUMBER
T-1	LA-028 Receiver Antenna (TKXC22019GN)	5006-125
T-2,3	LA-025 Receiver RF (TKXC22017AO)	5006-126
T-4	LA-038 Receiver 1st I.F. (TKAC22526N)	5006-147
T-5,14,15	LA-027 7.8 MHz. (TKAC22015A)	5006-131
T-6	LB-011 455 KHz. (LPN5944BM)	5006-077
T-7	LB-003 455 KHz. (LLC3657)	5006-078
T-8	LB-005 455 KHz. (LLC4990A2)	5006-079
T-9	LA-024 11 MHz. (TKXN21017ZVI)	5006-127
T-10,11,12,13	LA-004 19 MHz. (KXN6711BM)	5006-128
T-16	LB-013 7.8 MHz. Carrier OSC (113CC2804AC)	5006-133

REPLACEMENT PARTS

TRANSFORMERS

SYMBOL	DESCRIPTION	PARTS NUMBER
T-17	LA-023 7.8 MHz. (TKAN21016AO) Balance Modulator	5006-134
T-18	LA-069 TX 27 MHz. (TKXC23444N)	5006-200
T-19	LA-020 TX 27 MHz. (TKXN21014AO)	5006-137
T-20	LA-021 TX 27 MHz. (TKXN21379UH)	5006-136
T-21	LA-068 TX 7.8 MHz. (TKAC23360ZVI)	5006-201
CH	TF-041 Choke Transformer (N28-7111H)	5007-023
IPT	TF-027 AF Input Transformer (N24A-7258A)	5007-021
OPT	TF-028 AF Output Transformer (N35-7274)	5007-022

CAPACITORS

SYMBOL	DESCRIPTION	PARTS NUMBER
C-29,180,188	0.47 μ H 50 VDC Electrolytic	
C-11,16,94,95,151,163, 190,194	1 μ F 50 VDC Electrolytic	
C-53	2.2 μ F 25 VDC Electrolytic	
C-57,58,145,146,147, 176	4.7 μ F 25 VDC Electrolytic	
C-15,37,54,144	10 μ F 16 VDC Electrolytic	
C-56	22 μ F 10 VDC Electrolytic	
C-91,97,148	33 μ F 6.3 VDC Electrolytic	
C-27,60,73,134,150	47 μ F 10 VDC Electrolytic	
C-187,192	220 μ F 6.3 VDC Electrolytic	
C-178	220 μ F 10 VDC Electrolytic	
C-186,191	220 μ F 16 VDC Electrolytic	
C-179	220 μ F 25 VDC Electrolytic	
C-181	22 μ F 16V DC Electrolytic	
C-93	330 μ F 10 VDC Electrolytic	
C-185	470 μ F 16 VDC Electrolytic	
C-197	1,000 μ F 25 VDC Electrolytic	
C-142	1 μ F 10 VDC Tantal	
C-52	500 pF 50 WV Styrol (Vertical)	
C-48,86,124,164	0.1 μ F 25 WV Semi-conductive	
C-156,171	1 pF 50 WV Silvered Mica	
C-7,71,79	2 pF 50 WV Silvered Mica	
C-13,20,123	5 pF 50 WV Silvered Mica	
C-9,137,139,140	10 pF 50 WV Silvered Mica	
C-21,105,106,107, 108,109,110,111,112,174	20 pF 50 WV Silvered Mica	
C-172,17	25 pF 50 WV Silvered Mica	
C-36,61,170	30 pF 50 WV Silvered Mica	
C-166	600 pF 50 WV Silvered Mica	

REPLACEMENT PARTS

CAPACITORS

SYMBOL	DESCRIPTION	PARTS NUMBER
C-153	200 pF 50 WV Silvered Mica	
C-69	3 pF 50 WV NP-0 Disc	
C-116,119	40 pF 50 WV Silvered Mica	
C-68,70,72,162	60 pF 50 WV Silvered Mica	
C-63,64,136	100 pF 50 WV Silvered Mica	
C-19,115,118,121	150 pF 50 WV Silvered Mica	
C-155,161	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	7 pF 50 WV N470 Disc	
C-127,130	20 pF 50 WV NP-0 Disc	
C-99,100,101,102,,103, 104	20 pF 50 WV N470 Disc	
C-114	150 pF 50 WV Disc	
C-4,8	0.005 μ F 50 WV Disc	
C-3,14,66,76,78,84, 138,167,168,169, 173,175	0.02 μ 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 μ 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, 159,160,165,177 196,198	0.04 μ F 50 WV Disc	
C-18,39,42,117,120, 128,131,132,133	0.001 μ F 50 WV Mylar	
C-41	0.002 μ F 50 WV Mylar	
C-90	0.01 μ F 50 WV Mylar	
C-10,23,30,33,52,89, 182,183	0.04 μ F 50 WV Mylar	
C-5,40,	0.1 μ F 25 WV Alminum	
C-195	0.001 μ F 50 WV Tubra	
C-62	100 pF 50 WV N220 Disc	

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	10 Ohm 1/4W Carbon	
R-45,119	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-6,17,21,25,55,65,69, 81,108,112,134,142, 147,160,122	220 Ohm 1/4W Carbon	
R-135	390 Ohm 1/4W Carbon	
R-71,72,82,103,113, 118,76	470 Ohm 1/4W Carbon	
R-5,13,16,20,24,64,68, 84,85,88,91,100, 107,141,151,77	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	2.2K Ohm 1/4W Carbon	
R-10,138	2.7K Ohm 1/4W Carbon	
R-2,43,52,79,83,101 106,148,150,154	3.3K Ohm 1/4W Carbon	
R-111,125,146,70	4.7K Ohm 1/4W Carbon	
R-11,22,50,62,66,74, 98,109,115,145, 152,161	5.6K Ohm 1/4W Carbon	
R-14,97,131	6.8K Ohm 1/4W Carbon	
R-46	8.2K Ohm 1/4W Carbon	
R-33,41,48,56,57,60 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-1,8,156	100K Ohm 1/4W Carbon	
R-42	150K Ohm 1/4W Carbon	

REPLACEMENT PARTS

RESISTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
R-114	22 Ohm 1/4W Carbon	
R-159	3.9 Ohm 1/4W Carbon	
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	
R-120	0.5 Ohm 1/4W Carbon	

VARIABLE RESISTORS

SYMBOL	DESCRIPTION	PARTS NUMBER
VR-1	100K Ohm B, KVSF10-5BM, Semi-fixed	5008-030
VR-2	50K Ohm B, KVSF10-5BM, Semi-fixed	5008-062
VR-3	5K Ohm B, KVSF10-6BM, Semi-fixed	5008-009
VR-4	200K Ohm B, KVSF10-6BM, Semi-fixed	5008-060
VR-5	500K Ohm B, KVSF10-6BM, Semi-fixed	5008-063
VR-6,15	(RV-099) 100K Ohm B/10K Ohm A, Dual, Variable w/SW	5008-029
VR-7,9	30K Ohm B, KVSF10-6BM, Semi-fixed	5008-023
VR-10	100 Ohm, EVS-PIAAOOE12, 8 ϕ Solid	5008-064
VR-11	5K Ohm B, KVSF10-5BM, Semi-fixed	5008-061
VR-12	100K Ohm B, KVSF10-6BM, Semi-fixed	5008-031
VR-8,14	10K Ohm B, KVSF10-6BM, Semi-fixed	5008-007
VR-13	200 Ohm B, KVSF10-6BM, Semi-fixed	5008-036

CRYSTALS

SYMBOL	DESCRIPTION	PARTS NUMBER
X-1	7.3435 MHz. HC-25/U	5003-090
X-2	11.805 MHz. HC-25/U	5003-076
X-3	11.855 MHz. HC-25/U	5003-077
X-4	11.905 MHz. HC-25/U	5003-078
X-5	11.955 MHz. HC-25/U	5003-079
X-6	12.005 MHz. HC-25/U	5003-080
X-7	12.055 MHz. HC-25/U	5003-081
X-8	7.3615 MHz. HC-25/U	5003-082

REPLACEMENT PARTS

CRYSTALS

SYMBOL	DESCRIPTION	PARTS NUMBER
X-9	7.3715 MHz. HC-25/U	5003-083
X-10	7.3815 MHz. HC-25/U	5003-084
X-11	7.4015 MHz. HC-25/U	5003-085
X-12	7.3585 MHz. HC-25/U	5003-086
X-13	7.3685 MHz. HC-25/U	5003-087
X-14	7.3785 MHz. HC-25/U	5003-088
X-15	7.3985 MHz. HC-25/U	5003-089
X-16	7.8015 MHz. HC-25/U	5003-092
X-17	7.7985 MHz. HC-25/U	5003-091

SWITCHES

SYMBOL	DESCRIPTION	PARTS NUMBER
S-2,3	SW-020 6P, Slide Switch (SL-2-2-2-12) (RF Gain/Blanker)	5009-040
S-4-1 . . S-4-8	SR-025/049 Mode Switch	5009-021
S-5-1 . . S-5-3	SW-034 9P, Slide Switch (PA/CB) (SL-3-3-2-02)	5009-041
	SR-010/083 Channel Selector (RL-2.4.24)	5009-020

MISCELLANEOUS

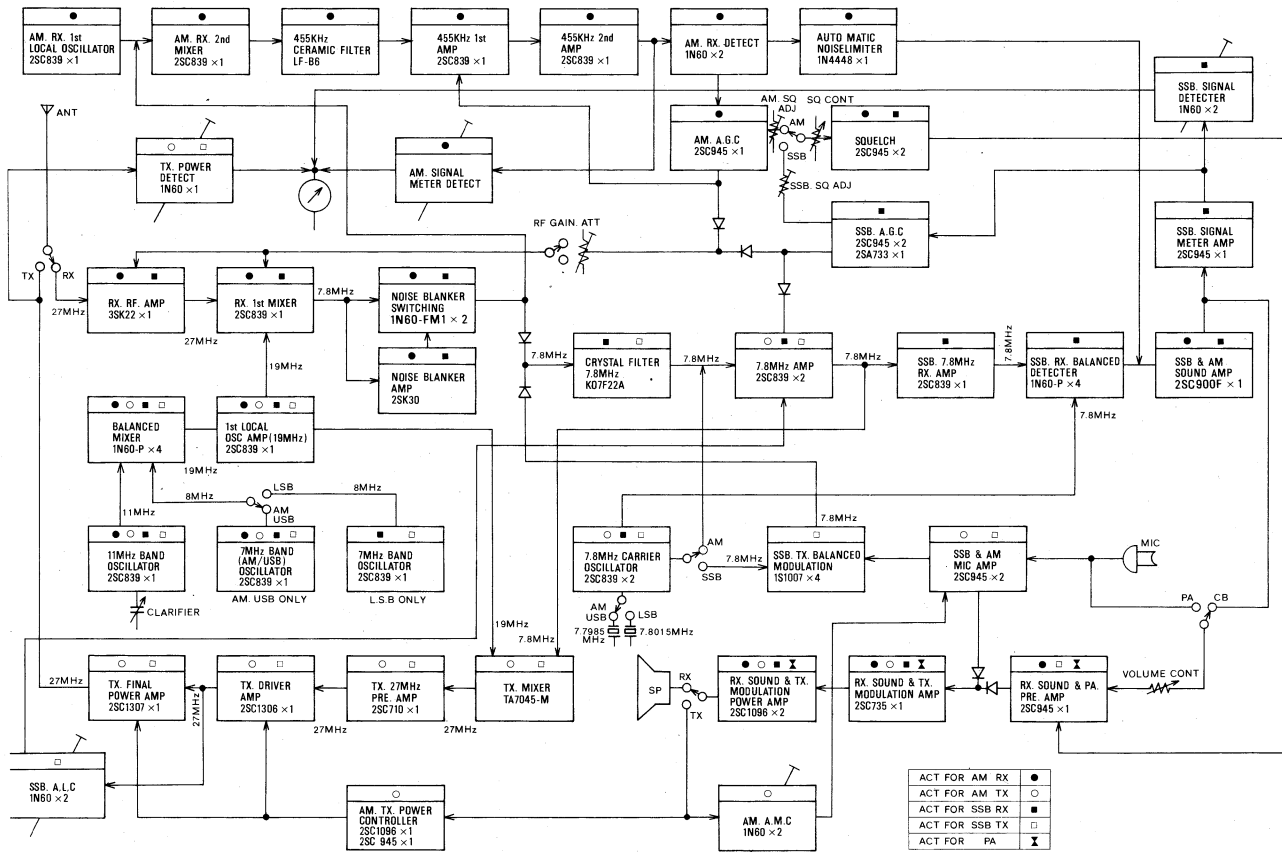
SYMBOL	DESCRIPTION	PARTS NUMBER
PL-1	16V 80mA, Blank, Pilot Lamp	5013-026
PL-2	16V 40mA, Red, Pilot Lamp	5013-027
PL-3	16V 40mA, Yellow, Pilot Lamp	5013-028
	K07F22A, Crystal Filter	5023-008
	LF-B6, Ceramic Filter	5023-001
	MT-002 Meter (A-39)	5014-003
	CV-009 Air-Varicon for Clarifier (MTS-50F-20A)	5016-003
CT-1 . . CT-17	CV-024 20pP, Ceramic Trimmer	5016-004
ANT	JK-002 Antenna Connector (M-R type)	5010-009
EXT SP	JK-010 External Speaker Jack (SJ296)	5010-012
SP	SP-005 Speaker (92-02D)	5012-003
MIKE	MK-005 Microphone (22-115-31)	5004-011
RL	RL-009 Relay (AE3344)	5024-006

REPLACEMENT PARTS

MISCELLANEOUS

SYMBOL	DESCRIPTION	PARTS NUMBER
	SD-0105, Crystal Socket	
	3-P, Microphone Plug	5010-022
	3-P, Microphone Jack	5010-018
	3-P, Ext. Power Plug	5010-026
	3-F, Ext. Power Jack	5010-011
	RF-104, Fuse Holder	5029-001
	Fuse, 2-amp.	5028-001
	A4. 100-051, Test Terminal	
	UT-123-103-00, Printed Circuit Board	
	M2-02061 Front Panel (ABS)	5020-042
	M2-02062 Metal Chassis Complete	
	M3-02065 Metal Cabinet (Top)	5020-043
	M3-02066 Metal Cabinet (Bottom)	5020-044
	M3-02067 Mounting Bracket	5025-014
	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)	5027-052
	M4-02079 Front Plate (Silver Hair-line)	5027-053
	M4-02080 FCC Plate	
	M4-02081 Speaker Net	
	M4-00601 Lamp Bracket	
	M4-00617 Condensor Bracket	
	M4-00640 Screw for Mounting Bracket	5026-010
	M4-00631 Volume Knob (A)	5022-027
	M4-00632 Volume Knob (B)	5022-027
	M3-00633 Selector Knob	5022-028
	Styrofoam Box	5030-038
	Display Box	5030-037
	Instruction Booklet	5031-022
	FCC Application Form	5030-006
	Warranty Card	4000-019

BLOCK DIAGRAM



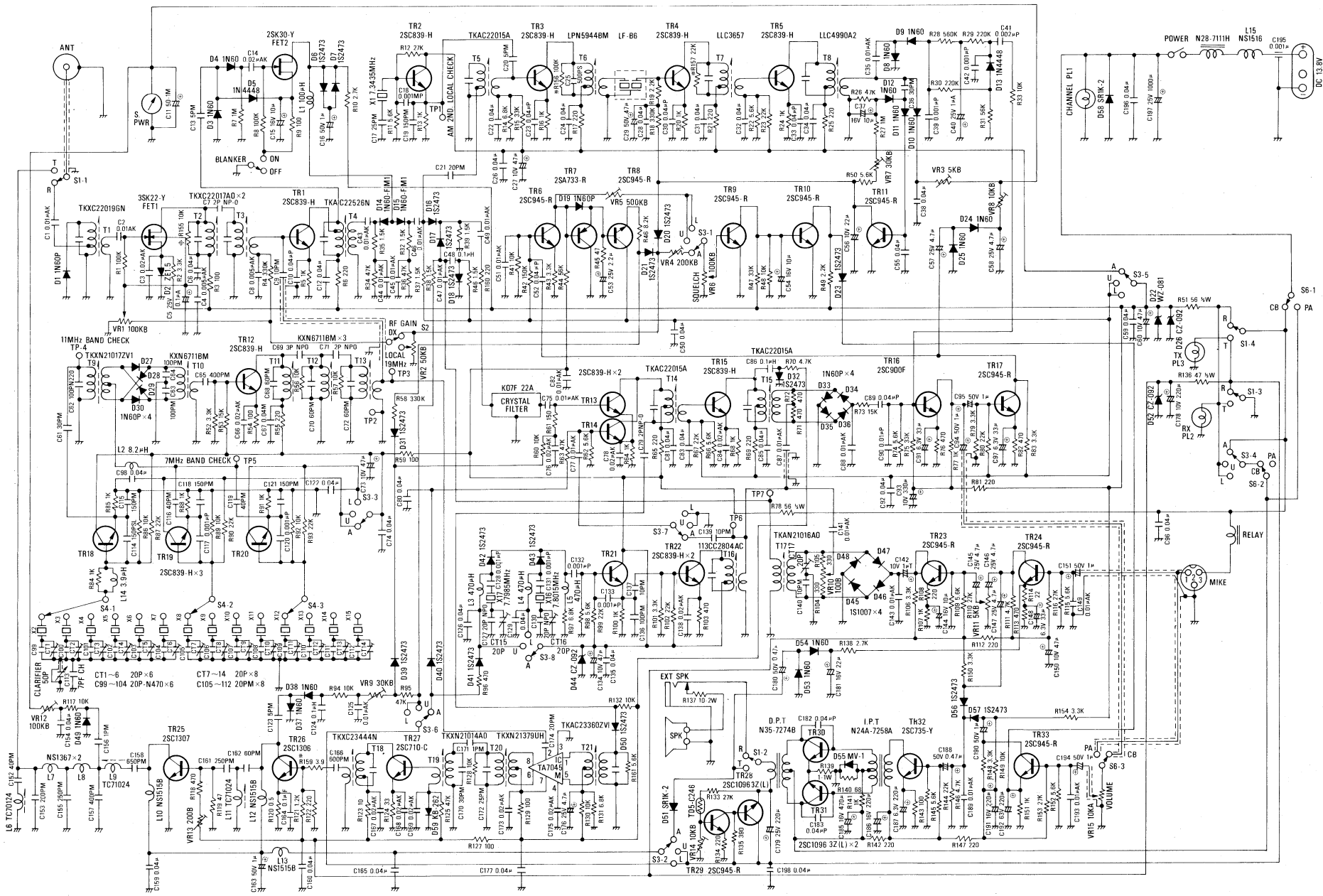
CRYSTAL FREQUENCY CHART (SSB USB/LSB)

XTAL	CHANNEL																						
MASTER ^{USB} _{LSB}	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	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

SCHEMATIC DIAGRAM PANTHER SSB



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 one year period following purchase.

Repair, at our factory, without charge, this equipment, if a defect develops during the first one year 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 18 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.

PEARCE-SIMPSON
DIVISION OF **GLADDING** CORP.
P.O. BOX 520800 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.