

# PEARCE-SIMPSON

DIVISION OF **GLADDING** CORP.



## CHEETAH SSB

# SECTION 1

## GENERAL INFORMATION

### DESCRIPTION

Your new PEARCE-SIMPSON CHEETAH 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, either negative or positive. A 12 VDC power cord and a mounting cradle are included with your CHEETAH 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 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	: 8 3/8 " W × 2 1/2 " H × 10 3/8 " D
Weight	: 7 pounds

#### RECEIVER :

Sensitivity	: S.S.B.- Less than 0.2μV for 10dB S+N/N A.M.- Less than 0.6μV for 10dB S+N/N
Selectivity	: S.S.B.- 6dB at 2.1 KHz., 60dB at 5.5 KHz. A.M.- 6dB at 5 KHz., 50dB at 20 KHz.
Spurious Rejection	: 60dB 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 :**

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 CHEETAH SSB in any position which is convenient. After you have determined the most convenient location hold the CHEETAH SSB and cradle, in the exact location desired. If nothing interferes with it, remove the cradle from the CHEETAH 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 CHEETAH 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.

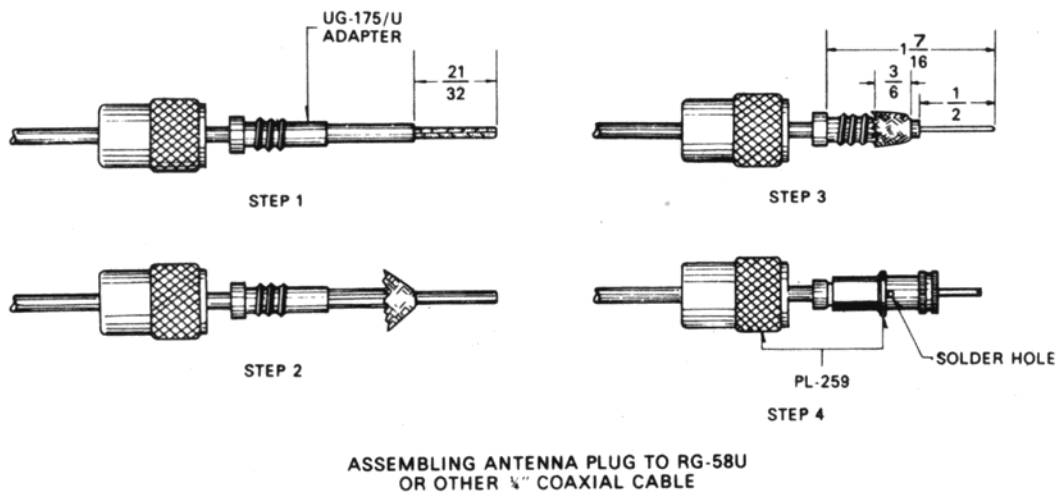


Figure 1

### 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 CHEETAH 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 CHEETAH 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 CHEETAH 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 CHEETAH 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 CHEETAH 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, 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.

### **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.)

## CONTROLS AND INDICATORS

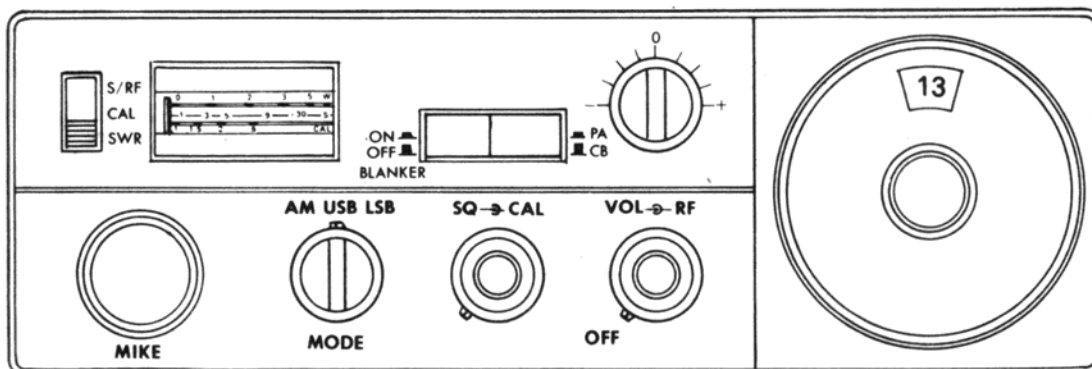


Figure 2

### 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 CONTROL

This control adjusts the strength of incoming signal. If too strong signal comes in, turn it counterclockwise. If you are listening to a weak signal, turn it clockwise for a desired listening level.

### 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.



## **SWR CALIBRATION CONTROL**

This control is installed to adjust the calibration of SWR-FORWARD meter. Connect antenna, and turn on the power switch. Then, press the microphone button and adjust the CAL control so that the meter needle comes to the "CAL" point. Set the slide switch to "CAL" position in the middle. Read the value on the meter. The closer to 1 the value comes, the better the antenna system matched.

## **NOISE BLANKER**

The noise blanker is designed to reduce excessive noise such as electrical interference, ignition noise, etc. To operate, simply push in the button. To turn off, push it again.

## **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 SEVEN-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. SWR-FORWARD meter: This is to adjust the sensitivity of the meter. Turn "CAL" control knob and make sure the meter needle comes to "CAL" point.
4. SWR-REFLECTED meter: This shows the SWR. Place the slide switch to the "SWR" position and read the value on the meter. The closer to 1 it comes, the better the antenna system is matched.
5. A receiver-on indicator: When the receiver is on, the meter lights up amber
6. A transmitter-on indicator: When the transmitter is on, the meter lights up red.
7. Modulation indicator: The meter fluctuates when the transmitter is modulated.

## SECTION 4 REPLACEMENT PARTS

### SEMI CONDUCTORS

SYMBOL	DESCRIPTION	PART NUMBER
TR-1	3SK22Y RX RF Amplifier	5001-046
TR-2	2SC893H 11 MHz Band Oscillator	5001-014
TR-3	2SC839H 8 MHz Band Oscillator (USB)	5001-014
TR-4	2SC839H 8 MHz Band Oscillator (LSB)	5001-014
TR-5	2SC839H 19 MHz Local Amplifier	5001-014
TR-6	2SC839H RX 1st Mixer	5001-014
TR-7	2SK30Y Noise Amplifier	5001-047
TR-8	2SC839H SSB RX 7.8 MHz Amplifier	5001-014
TR-9	2SC900F RX 1st AF Amplifier	
TR-10	2SC372Y SSB RX AGC Amplifier	5001-020
TR-11	2SC839H AM 2nd Local Oscillator	5001-014
TR-12	2SC839H AM RX 2nd Mixer	5001-014
TR-13	2SC839H AM 455 KHz IF Amplifier	5001-014
TR-14	2SC839H AM 455 KHz IF Amplifier	5001-014
TR-15	2SC372Y SSB AGC Amplifier	5001-020
TR-16	2SA495Y SSB AGC Amplifier	5001-048
TR-17	2SA495Y SSB AGC Amplifier	5001-048
TR-18	2SC372Y Squelch Amplifier	5001-020
TR-19	2SC372Y Squelch Amplifier	5001-020
TR-20	2SC372Y AM AGC Amplifier	5001-020
TR-21	2SC839H Carrier Oscillator	5001-014
TR-22	2SC839H Buffer Amplifier	5001-014
TR-23	2SC372Y SSB Mike Amplifier	5001-020
TR-24	2SC372Y SSB/AM Mike Amplifier	5001-020
TR-25	2SC372Y RX 2nd AF Amplifier	5001-020
TR-26	2SC735Y RX AF Driver Amplifier	5001-021
TR-27,28	2SB474 AF Power Amplifier	5001-049
TR-29	2SC710C TX Pre-driver	5001-002
TR-30	2SC1306 TX Driver	5001-050
TR-31	2SC1307 TX Final	5001-071
IC-1	TA7045M TX or SSB IF Amplifier	5001-001
IC-2	TA7045M TX Balance Mixer	5001-001

### DIODES

SYMBOL	DESCRIPTION	PART NUMBER
D-1,18,19,20,21, 61,62	1N60P Diode	5001-134
D-2	ZEO 1.5 Zenor Diode	5001-147

## REPLACEMENT PARTS

### DIODES (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
D-3,4,5,6,7,8,23, 24,25,26,27, 29,33,34,46, 47,58,59,63	1N60 Diode	5001-080
D-9,28	1N4448 Diode	5001-146
D-10,11	1N60-FM1	
D-12,13,14,15, 16,17,31,38, 40,42,43,45, 52,56,57	1S-2473 Diode	5001-128
D-22,53,54,55	KB-262 Silicon Varistor	5001-122
D-30,32,39,41	1S-2473 Diode	5001-128
D-35	WZ-081 Zenor Diode	5001-130
D-36,37,44	CZ-092 Zenor Diode	5001-152
D-48,49,50,51	1S-1007 Diode	5001-120
D-64,65	SR1K-2 Diode	5001-129
TH-1,3	TD5-C268 Thermistor	5001-127
TH-2	TD8A-040 Thermistor	5001-151

### INDUCTANCES

SYMBOL	DESCRIPTION	PART NUMBER
L-1	T.V.I. Trap 3½ Turn	5006-042
L-2	LD-010, Peaking Coil (NS-1531)	5006-139
L-3	LF-3R9, 3.9µH Micro Inductor	5006-140
L-4	LF4-8R2, 8.2µH Micro Inductor	5006-145
L-5	LF4-100, 10µH Micro Inductor	5006-146
L-6,7,8,9	LF-101, 100µH Micro Inductor	5006-141
L-10,11,13	LD-011, TX RF Coil (NS-1515)	5006-142
L-12,14,15	LC-018, TX Filter Coil w/core (TC-71024)	5006-116
L-16,17,18	LC-051, TX Filter Coil w/core (TC-71024N)	5006-116
L-19	LE-003, Power Choke Coil (NS-1516)	5006-144

### TRANSFORMERS

SYMBOL	DESCRIPTION	PART NUMBER
T-1	LA-028, RX Antenna Coil (TKXC-22019GN)	5006-125
T-2,3	LA-025, RX RF Coil (TKXC-22017AO)	5006-126
T-4	LA-024, 19 MHz Local Coil (TKXN-21017ZVI)	5006-127

## REPLACEMENT PARTS

### TRANSFORMERS (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
T-5,6,7,8	LA-004, 19 MHz Local Coil (KXN-6711BM)	5006-128
T-9	LA-038, 7.8 MHz IF Coil (TKAC-22526N)	5006-147
T-10,11,12	LA-027, 7.8 MHz IF Coil (TKAC-22015A)	5006-131
T-13	Mecanical Filter (MFH-53S)	5023-007
T-14	LB-003, AM 455 KHz IF Coil (LLC-3657)	5006-078
T-15	LB-005, AM 455 KHz IF Coil (LLC-4990A2)	5006-079
T-16	LB-013, Carrier OSC Coil (113CC-2804AC)	5006-133
T-17	LA-023, B.M. Coil (TKAN-21016AO)	5006-134
T-18	LA-022, TX Coil A (TKAN-21012ZVI)	5006-135
T-19	LA-021, TX Coil B (TKXN-21379UH)	5006-136
T-20	LA-020, TX Coil C (TKXN-21014AO)	5006-137
T-21	LA-026, TX Coil D (TKXN-22018GN)	5006-138
I.P.T.	TF-027, Input Trans. (N-24A-7258A)	5007-021
O.P.T.	TF-028, Modulation Trans. (N-35-7274B)	5007-022
CH	TF-041, Power Choke Trans. (N-28-7111H)	5007-023

### CRYSTALS

SYMBOL	DESCRIPTION	PART NUMBER
X-1	HC-25U 11.000 MHz.	5003-058
X-2	HC-25U 11.050 MHz.	5003-059
X-3	HC-25U 11.100 MHz.	5003-060
X-4	HC-25U 11.150 MHz.	5003-061
X-5	HC-25U 11.200 MHz.	5003-062
X-6	HC-25U 11.250 MHz.	5003-063
X-7	HC-25U 8.1665 MHz.	5003-064
X-8	HC-25U 8.1765 MHz.	5003-065
X-9	HC-25U 8.1865 MHz.	5003-066
X-10	HC-25U 8.2065 MHz.	5003-067
X-11	HC-25U 8.1635 MHz.	5003-068
X-12	HC-25U 8.1735 MHz.	5003-069
X-13	HC-25U 8.1835 MHz.	5003-070
X-14	HC-25U 8.2035 MHz.	5003-071
X-15	HC-25U 7.3435 MHz.	5003-072
X-16	HC-25U 7.7985 MHz.	5003-073
X-17	HC-25U 7.8015 MHz.	5003-074
XF-1	7.8 MHz. Crystal Filter KF07F22F	5023-008

## REPLACEMENT PARTS

### VARIABLE RESISTORS

SYMBOL	DESCRIPTION	PART NUMBER
VR-1	100KB-3KVSF10-5BM Semi-fixed	5008-030
VR-2,3,7,11,12, 14,20	10KB-2KVSF10-6BM Semi-fixed	5008-007
VR-5	100KB-2KVSF10-6BM Semi-fixed	5008-031
VR-6	500KB-2KVSF106BM Semi-fixed	5008-063
VR-8,16	RV-014 or RV-116, Variable Dual 10KB/10KA w/SW.	5008-029
VR-9	300KB-2KVSF10-6BM Semi-fixed	5008-066
VR-10,19	RV-013 or RV-115, Variable Dual 100KB/5KB	5008-028
VR-13	470 ohm B Solid Volume SR19R-155	5008-034
VR-15	5KB-3KVSF10-5BM Semi-fixed	5008-061
VR-17	WK19R-60 ohm 2W Semi-fixed Wired	5008-035
VR-18	200B-2KVSF10-6BM Semi-fixed	5008-036

### SWITCHES

SYMBOL	DESCRIPTION	PARTS NUMBER
	SR-010 or SR-083, Channel Selector Switch (RL-2.4.24)	5009-020
	Model switch MS142-8-3	5009-021
	SW-014, Dual type push switch for PA/CB & Blanker	5009-022
S6-1,2	SS(H)23-14 SW-013, SWR Switch	5009-023

### RESISTORS

SYMBOL	DESCRIPTION	PART NUMBER
R-1,26,85	Carbon 100K $\frac{1}{4}$ W ELR	
R-2,5,6,9,15,21, 38,51,59,63, 70,75,92,101, 148	Carbon 1 K $\frac{1}{4}$ W ELR	
R-3,22,40,65,72, 76,115,127,132, 149	Carbon 220 ohm $\frac{1}{4}$ W ELR	
R-4	Carbon 330 K $\frac{1}{4}$ W ELR	
R-7,10,17,19,20, 77,82,125,142	Carbon 10 K $\frac{1}{4}$ W ELR	
R-8,11,12,18,95	Carbon 15 K $\frac{1}{4}$ W ELR	

## REPLACEMENT PARTS

### RESISTORS (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
R-13,50,53,56, 105,109,114, 116,123,126	Carbon 3.3 K	$\frac{1}{4}$ W ELR
R-14,16,27,131, 140,141,118	Carbon 100ohm	$\frac{1}{4}$ W ELR
R-23,78	Carbon 1Mohm	$\frac{1}{4}$ W ELR
R-24,28	Carbon 47 K	$\frac{1}{4}$ W ELR
R-25,29,31,32,33, 45	Carbon 1.5 K	$\frac{1}{4}$ W ELR
R-30	Carbon 2.7 K	$\frac{1}{4}$ W ELR
R-80,153	Carbon 220 K	$\frac{1}{4}$ W ELR
R-34,71	Carbon 120 K	$\frac{1}{4}$ W ELR
R-35,111	Carbon 150ohm	$\frac{1}{4}$ W ELR
R-37,54,74,99, 103,130,147	Carbon 22 K	$\frac{1}{4}$ W ELR
R-36,39,57,73, 88,100,108, 129,139	Carbon 5.6 K	$\frac{1}{4}$ W ELR
R-41	Carbon 4.7 K	$\frac{1}{4}$ W R
R-42,48,55,104, 110,117,124, 144	Carbon 470 ohm	$\frac{1}{4}$ W ELR
R-43,97,151	Carbon 470 ohm	$\frac{1}{4}$ W R
R-44,93,94	Carbon 47 ohm	$\frac{1}{2}$ W R
R-46,47,112,113, 119,120,121, 122,128,143	Carbon 4.7 K	$\frac{1}{4}$ W ELR
R-52,60,169	Carbon 220 ohm	$\frac{1}{4}$ W R
R-58,81,89	Carbon 27 K	$\frac{1}{4}$ W ELR
R-61,90,98,138	Carbon 6.8 K	$\frac{1}{4}$ W ELR
R-62,96	Carbon 33 K	$\frac{1}{4}$ W ELR
R-64	Carbon 8.2 K	$\frac{1}{4}$ W ELR
R-66	Carbon 820ohm	$\frac{1}{4}$ W ELR
R-67,68,91	Carbon 2.2 K	$\frac{1}{4}$ W ELR
R-69	Carbon 470 K	$\frac{1}{4}$ W ELR
R-79	Carbon 560 K	$\frac{1}{4}$ W ELR
R-83	Carbon 150 K	$\frac{1}{4}$ W ELR
R-84	Carbon 3.9 K	$\frac{1}{4}$ W ELR
R-86,152	Carbon 47 ohm	$\frac{1}{4}$ W ELR
R-87,156	Carbon 47 ohm	$\frac{1}{4}$ W R

## REPLACEMENT PARTS

### RESISTORS (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
R-102	Carbon 3.3 K $\frac{1}{4}$ W R	
R-106,107	Carbon 330 ohm $\frac{1}{4}$ W ELR	
R-133	Carbon 1.2 K $\frac{1}{4}$ W ELR	
R-134	Carbon 15 ohm $\frac{1}{4}$ W ELR	
R-135	Metalized 1 ohm $\frac{1}{2}$ W R	5019-006
R-136	Cement 5 ohm 5W R	
R-137	Carbon 10 K $\frac{1}{4}$ W R	
R-145,146	Carbon 10 ohm $\frac{1}{4}$ W ELR	
R-150	Carbon 0.5 ohm $\frac{1}{4}$ W ELR	
R-154	Carbon 56 ohm $\frac{1}{4}$ W R	
R-155	Carbon 8.2 K $\frac{1}{4}$ W R	
R-157	Carbon 10 ohm 3W P	

### CAPACITORS

SYMBOL	DESCRIPTION	PART NUMBER
CT-1	CV-009, Air Varicon (MTS-50F-20A)	5016-003
CT-2,3,4,5,6,7, 8,9,10,11,12, 13,14,15,16, 17,18,19	CV-024, Ceramic Trimmer 20pF 50WY	5016-004
C-1	Silvered 30 pF 50V	
C-2,218	Mylar 0.22 $\mu$ F 50V	5017-001
C-3,61,63	Ceramic 0.01 $\mu$ F 50V AK	
C-4,10,37,44,69, 70,71,72,83, 92,130,133, 134,135	Mylar 0.001 $\mu$ F 50V	
C-5,32,93,219	Silvered 150 pF 50V	
C-6,178	Mylar 0.022 $\mu$ F 50V	
C-7,86,112	Aluminum 0.1 $\mu$ F/25V	5018-046
C-8,46,49,190	Silvered 2 pF 50V	
C-11	Mylar 0.005 $\mu$ F 50V	
C-12,96,187	Silvered 15 pF 50V	
C-13	Ceramic 3 $\mu$ F 50V AK	
C-14,15,16,17, 18,19	Ceramic 10 pF 50V N-1500	
C-20,21,22,23, 24,25,26,27	Silvered 20 pF 50V	
C-28,36,40,94	Silvered 40 pF 50V	

## REPLACEMENT PARTS

### CAPACITORS

SYMBOL	DESCRIPTION	PART NUMBER
C-29,34,35,38, 45,136	Silvered 100 pF 50V	
C-31	Ceramic 150 pF 50V SL	
C-39,111,200	Silvered 400 pF 50V	
C-41,56,73,75, 76,78,95,97, 100,102,104, 105,115,139, 176,180,185, 183,189,191, 192,193	Mylar 0.04 $\mu$ F 50V	5017-003
C-43,47,50,175	Silvered 60 pF 50V	
C-51,62,107,118, 121,122	Electrolytic 10 $\mu$ F/16V	5018-005
C-58	Silvered 5 pF 50V	
C-59	Ceramic 0.02 $\mu$ F 50V AK	
C-60,65,67,68, 80,81,110,114, 126,145,147, 148,157,167, 210,220,221	Mylar 0.01 $\mu$ F 50V	
C-64	Ceramic 0.001 $\mu$ F 50V AK	
C-66,123,127	Electrolytic 1 $\mu$ F/25V	5018-037
C-82,87,149, 158,162,166	Tantal 1 $\mu$ F/10V	
C-84,155	Tantal 33 $\mu$ F/6.3V	
C-85,90,125,140	Electrolytic 47 $\mu$ F/16V	5018-034
C-89,152,153, 154	Tantal 4.7 $\mu$ F/10V	
C-91,129,132	Ceramic 20 pF 50V N-750	
C-98	Styrol 500 pF 50V	5017-005
C-101,143,168	Electrolytic 0.47 $\mu$ F/50V	5018-038
C-108,224,227	Silvered 25 pF 50V	
C-113	Mylar 0.002 $\mu$ F 50V	5018-042
C-116	Electrolytic 2.2 $\mu$ F/16V	5018-048
C-117	Silvered 80 pF 50V	
C-120	Electrolytic 22 $\mu$ F/16	
C-124,165,170	Electrolytic 220 $\mu$ F/16V	5018-023
C-137,138,144, 179	Silvered 10 pF 50V	



## REPLACEMENT PARTS

### CAPACITORS (Continued)

SYMBOL	DESCRIPTION	PART NUMBER
C-142	Silvered 3 pF 50V	
C-151	Tantal 10 $\mu$ F/6.3V	
C-156	Electrolytic 100 $\mu$ F/16V	5018-012
C-164,169	Electrolytic 220 $\mu$ F/6.3V	5018-044
C-171	Electrolytic 470 $\mu$ F/16V	5018-024
C-172,173	Mylar 0.02 $\mu$ F 50V	5017-002
C-174	Electrolytic 220 $\mu$ F/25V	5018-033
C-181	Silvered 1 pF 50V	
C-198	Silvered 250 pF 50V	
C-199	Silvered 180 pF 50V	
C-201	Silvered 300 pF 50V	
C-202	Silvered 120 pF 50V	
C-208,209	Ceramic 0.01 $\mu$ F 50V SL	
C-212	Electrolytic 1,000 $\mu$ F/25V	5018-039
C-213	Tubler ECK-LIH102PE	

### MISCELLANEOUS PARTS

	PART NUMBER
Relay RL-003	5024-004
Sub-miniature Relay RL-008 (MT-12)	5024-005
Ceramic Filter LF-B8	5023-005
M-R Connector, Antenna	5010-009
SJ-296 Jack for Ext. Speaker/PA	5010-012
Speaker 163-01, 8 ohm	5012-008
Microphone MK-005 (22-115-31)	5004-011
DC Power Plug PC211 2-P	5010-034
DC Power Jack SC234 w/switch 2-P	5010-035
Microphone Plug SM-143 3-P	5010-022
Microphone Jack SM-143 3-P	5010-018
Crystal Socket SD-0105	5010-002
Pilot Lamp 14V 30mA (red)	5013-010
Pilot Lamp 14V 30mA (yellow)	5013-011
Pilot Lamp 14V 50mA (clear)	5013-016
Relay Socket	5010-010
Meter Type-31	5014-008
Fuse Holder RF-104	5029-001
Fuse 2 amp.	5028-001
DC Power Cord	5015-010
Metal Cabinet (Top)	5020-030

## MISCELLANEOUS PARTS (Continued)

	PART NUMBER
Front Panel (ABS)	5020-023
Brand Plate (Wooden-grain)	5027-027
Front Plate (Hair-line)	5027-029
Channel Knob Plate	5027-028
Microphone Plate	5027-008
Channel Knob Complete	5022-025
Channel Indicator Dial	5022-026
Volume Knob (A)	5022-027
Volume Knob (B)	5022-027
Selector Knob	5022-028
Mounting Bracket	5025-010
Screw for Mounting Bracket	5026-010
Styrofoam Box	5030-022
Display Box	5030-021
Instruction Booklet	5031-010
FCC Application Form	5030-006
Warranty Card	4000-019



## 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.