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/// hy-gain VIII

by **hy-gain**

MODEL 3078

**CITIZENS TWO-WAY RADIO
Base Station**

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

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PN 820050

Table of Contents

CHAPTER 1 — GENERAL INFORMATION	page
Introduction	1
General Description	1
Warranty Service Department	1
How to Ship Returns	1
Purchase of Parts	2
Controls and Connections	2
Special Features Instructions	3
Specifications	5
CHAPTER 2 — THEORY OF OPERATION	7
General	7
Crystal Matrix Frequency Synthesizer	7
AM Transmit and USB Transmit and Receive	7
LSB Transmit and Receive	7
AM Receive	7
Receiver	9
AM Reception	9
USB and LSB Reception	9
AGC and Squelch Circuits	9
Noise Blanker	9
Transmitter	10
Mic Amplifier	10
AM Transmit	10
USB and LSB Transmit	10
USB Transmit and LSB Transmit	10
USB Transmit	10
LSB Transmit	10
AM Transmit	11
AVR Power Supply	11
Channel Display	11
Digital Clock	11
CHAPTER 3 — ALIGNMENT	15
General	15
Tools and Equipment	15
Wiring Model 3078 for 240 VAC	15
Synthesizer Alignment Procedures	18
11 MHz Oscillator Circuit	18
14 MHz Oscillator Circuit	18
23 MHz Oscillator Circuit	18
38 MHz Synthesizer Circuit	19
16 MHz Synthesizer Circuit	19
Transmitter Alignment Procedures	20
27 MHz SSB Transmitter Stage Adjustment	20
AM Transmitter Stage Adjustment	21
Receiver Alignment Procedures	21
AGC Adjustment	21
Sensitivity Adjustment	21
Squelch Circuit Adjustment	22
Meter Calibration	22
RF Power Meter	22
Modulation Meter	22
SWR Meter	22
S-Meter Adjustment	22

CHAPTER 4 — CHARTS AND DRAWINGS	27
Voltage Measurement Charts	27
Components Outlines and Wiring Charts	33
Parts List	71
Schematic Diagram	89

List of Illustrations

Figure		Page
1-1		3
1-2		4
2-1	Clock Timing Diagram	12
2-2	Clock Chip Diagram	13
2-3	Block Diagram, USB Receive	foldout
2-4	Block Diagram, LSB Receive	foldout
2-5	Block Diagram, AM Receive	foldout
2-6	Block Diagram, USB Transmit	foldout
2-7	Block Diagram, LSB Transmit	foldout
2-8	Block Diagram, AM Transmit	foldout
3-1	Before Wiring for 240VAC	16
3-2	After Wiring for 240VAC	17
3-3	Components Adjusted for Synthesizer Alignment	23
3-4	Components Adjusted for Synthesizer Alignment	23
3-5	Components Adjusted for Transmitter Alignment	24
3-6	Components Adjusted for Receiver Alignment	25
3-7	Components Adjusted for Meter Alignment	26
4-1	Component Outline - Main P.C. Board	35
4-2	Component Outline - Synthesizer/Oscillator P.C. Board	39
4-3	Component Outline - Power Supply P.C. Board	43
4-4	Component Outline - Matrix P.C. Board	47
4-5	Component Outline - Switch P.C. Board	51
4-6	Component Outline - LED P.C. Board	51
4-7	Component Outline - SWR P.C. Board	55
4-8	Component Outline - Clock Control P.C. Board	59
4-9	Component Outline - Function Switch P.C. Board	63
4-10	Component Outline - Clock LED P.C. Board	67
4-11	Component Outline - Clock Switch P.C. Board	67
4-12	Switch and Chassis Mounted Components	69
4-13	Jack Mounted Component	70
4-14	Meter Mounted Components	70
4-15	Schematic Diagram	foldout

CHAPTER 1 — GENERAL INFORMATION

Introduction

This service manual contains all the information needed to service and repair the Hy-Gain VIII transceiver (Model 3078). It includes an explanation of the theory of operation and alignment procedures. Revision, addendum, and errata sheets will be published as needed. Insert them as required in the manual.

General Description

The Hy-Gain VIII is a full 23-channel, AM/SSB transceiver designed and type accepted for Class D Citizens Radio Service, as designated by the Federal Communications Commission (FCC).

It is a completely solid-state base station, highly reliable with low power consumption. A crystal matrix frequency synthesizer provides immediate operation on all 23 channels without requiring the purchase of additional crystals. Features include a fine tune control to allow single sideband (SSB) stations to be tuned in sharply, two noise reduction circuits, a switchable automatic noise limiter (ANL) with a switchable noise blanker (NB), a digital clock, an SWR bridge, modulation metering, and AC/DC operation.

Warranty Service Department

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

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

The Warranty Service Department can repair any unit. Before you ship a unit to us, contact the National Service Manager. Often a problem is field solvable with a little extra help. This can save lost time and shipping costs. Factory returns should be limited to the difficult problems.

How to Ship Returns

To return a unit, get a return authorization first. This is important. You will only delay the handling of your unit if you ship without it. If you must ship immediately, telephone or telex the National Service Manager for expeditious service.

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

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

1. your name and address
2. purchaser's name and address
3. proof of purchase

4. serial number
5. a complete description of the problem
6. the return authorization

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

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

All shipments to us must be sent PREPAID. We *do not* accept collect shipments. After the unit has been repaired, we will send it back to you COD unless you have prepaid the bill. Unclaimed or refused COD shipments will not be reshipped until payment in full is received. These items become the property of Hy-Gain 60 days after refusal or return and will be sold for payment of charges due.

Units with unauthorized field modifications cannot be accepted for repair.

Purchase of Parts

Parts can be purchased from any Hy-Gain Service Center or from the factory Warranty Service Department. When ordering, please supply the following information:

1. unit model number
2. unit serial number
3. part description
4. part number

Controls and Connections

Refer to Figures 1-1 and 1-2.

Of special interest are the following features:

Digital Clock

The clock operates as long as the unit is connected to an AC power source, regardless of whether the power switch is on or off. It will not run when the unit is connected to DC power.

SWR/CAL Switch

Set this switch on CAL in order to calibrate the SWR meter as explained in Calibrating the SWR Meter. It does not function when the calibrate control is set on RF.

Digital Clock Buttons (Rear Panel)

STOP — This stops the movement of the clock but does not turn the display off.

SLOW — This steps the movement slowly forward when resetting to the correct time.

FAST — This steps the movement forward when resetting to the correct time.

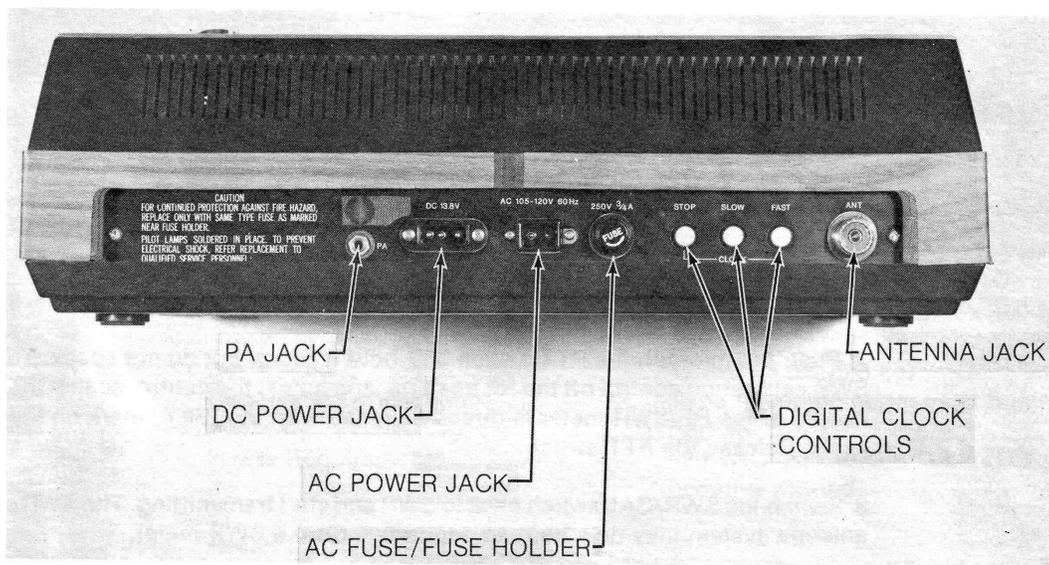


Figure 1-1

Special Features Instructions

Calibrating the Modulation Meter

1. Insure that the CB/PA switch is in the CB position, and then switch the MOD/CAL switch to CAL.
2. Adjust the modulation calibration control so the meter needle of the S/Modulation meter is directly aligned with the "SET" mark on the lower scale.
3. Switch the MOD/CAL switch back to MOD and start transmitting. The degree of modulation while speaking may now be read accurately on the modulation meter.

Calibrating the SWR Meter

1. Insure that the CB/PA switch is in the CB position, and switch the SWR/CAL switch to CAL.