

## THE RIG....

The Swan Model 400 Single Sideband Transceiver, introduced in the spring of 1964, together with its accessories and optional equipment, was designed to be used in either CW or SSB modes on all portions of the 80, 40, 20, 15, and 10 meter amateur radio bands. Operation on AM (single sideband with carrier) is possible by zero beating the receiving signal.

The Swan 400 generates the single sideband signal by means of a crystal lattice filter, and the transceiver operation automatically tunes the transmitter to the receiver frequency. Provisions are included in the transceiver for operation on either upper or lower sideband, and provisions for complete band coverage are included within the basic transceiver.

Basic circuitry of the single conversion design has been proven in thousands of hours of operation of the very popular Swan 100 and 240 series of transceiver. Mechanical, electrical, and thermal stability (the VFO is outboard) are high, and all oscillators are voltage regulated and temperature compensated. Push-to-talk operation is possible in all installations, and operation with a two-contact microphone is possible by use of the Function switch or the VX-1 VOX accessory. The basic transceiver was designed for use with either the Model 420 Frequency Control Unit (VFO), which provides full coverage of all portions of the stated amateur bands, or with the Model 406 Frequency Control Unit which only provides coverage of the American phone bands 80 through 15 meters and two 200 Kc portions of the 10 meter band. With a suitable power supply, operation may be fixed, portable, or mobile.

Power input on all bands is a rated 400 watts PEP on single sideband, and 320 watts DC input on CW. The basic transceiver includes automatic gain control (AGC), automatic limiting control (ALC), selectable sideband, grid-block keying, calibrator, and built in speaker.

## SPECIFICATIONS....

## FREQUENCY RANGES:

Model 420 VFO - This unit has 20 selectable ranges, with each band covering the following frequencies.

3.4 - 4.0 mc., 7.0 - 7.4 mc., 14.0 - 15.0 mc., 21.0 - 21.6 mc., 28.0 - 29.8 mc..

Model 406 Mobile VFO - American phone band coverage of the 80, 40, 20, and 15 meter bands, with two 200 kc segments of the 10 meter band as follows;

3.8 - 4.0 mc., 7.1 - 7.3 mc., 14.15 - 14.35 mc., 21.25 - 21.45 mc., 28.5 - 28.7 mc., 28.7 - 29.9 mc.

## POWER INPUT:

SSB 400 watts PEP on all bands

CW 320 watts DC input

AM 125 watts DC input all bands

## DISTORTION:

Distortion products down at least 30 db.

## UNWANTED SIDEBAND SUPPRESSION:

Unwanted sideband down at least 40 db.

## CARRIER SUPPRESSION:

Carrier suppression down at least 50 db.

## RECEIVER SENSITIVITY:

Less than 0.5 microvolt at 50 ohms impedance for signal-plus-noise ratio of 10 db.

## AUDIO OUTPUT RESPONSE:

Audio output through built in speaker approx. 3 watts to 3.2 ohm load. Response essentially flat 300 to 3000 cps on both receive and transmit.

## METERING:

PA cathode current, 0-800 ma on transmit, S-meter 0-70 over S9 on receive.

## FRONT PANEL CONTROLS:

Function Switch, Sideband Selector, Phone - CW, AF Gain, Bandswitch, Mic. Gain, Carrier Balance, PA Plate Tune, PA Grid Tune, PA Load Coarse, PA Load Fine, VOX - PTT.

REAR PANEL CONTROLS AND CONNECTIONS:

Bias Potentiometer, Grid-Block CW key jack, Jones plug power connector, VOX unit connector, SO239 antenna connector, S-Meter zero, SPDT relay connector.

FREQUENCY CONTROL UNIT CONTROLS:

Bandswitch, Main Tuning, RF Gain. The 400 was the first Swan rig to have the dual rate VFO knob, with ratios of 6:1 on the outer ring, and 36:1 on the inner knob.

VACUUM TUBE COMPLIMENT:

V1 - 6EW6 VFO amplifier  
V2 - 12BE6 transmitter mixer  
V3 - 6GK6 driver  
V4 - 6HF5 PA  
V5 - 6HF5 PA  
V6 - 12BZ6 receiver RF amplifier  
V7 - 12BE6 receiver mixer  
V8 - 6EW6 first IF amp  
V9 - 12BA6 second IF amp  
V10- 12AX7 product detector / receiver audio  
V11- 6BN8 AGC amplifier / detector  
V12- 6GK6 audio output  
V13- 12BA6 100 kc crystal calibrator  
V14- 7360 balanced modulator  
V15- 12BA6 carrier oscillator  
V16- 12AX7 mic. amplifier / transmit audio  
V17- 0A2 voltage regulator

POWER REQUIREMENTS:

Filaments - 12.6 volts, 5.5 amps ac or dc  
Relay - 12 volts dc, 250 ma  
Bias - -110 volts dc, 100 ma  
Medium Voltage - 275 volts dc, 150 ma transmit  
High Voltage - 800 volts dc, 500 ma

WEIGHT AND SIZE:

Model 400 transceiver, 17 lbs, 5.5"H x 13"W x 11"D.  
Model 420 VFO, 9 lbs, 5.5"H x 6.5"W x 11"D.  
Model 406 VFO, 3 lbs, 3"H x 4.75"W x 5"D.

SALES INFO:

Introduced in the spring of 1964  
Model 400 transceiver \$375.00 US  
Model 420 vfo \$120.00 US  
Model 406 vfo \$65.00 US  
Model 117B power supply \$75.00 US  
Model 512 power supply (12 VDC) \$145.00 US  
Model VX-1 plug in vox unit \$25.00 US