Sporty's A300 Transceiver

RX 132.600

Operator's Manual

sporty's® pilot shop

Table of Contents

General Information

Introduction

This manual contains only operational information relative to the A300 Transceiver. This manual is not intended as a service or maintenance manual and does not contain any theory or schematic diagrams.

About This Manual

The manual is broken into the following sections.

1. General Information
2. Controls
3. Brief Operating Instructions
4. Detailed Operating Instructions
5. Specifications

Get familiar with the radio by reading the General Information and Controls sections before proceeding.

Brief Operating Instructions

We recommend that users of the A300 read this manual before operation. However, many users of the A300 have had previous experience with this type of radio. For those users, the Brief Operating Instructions section has been provided.

For the less experienced user, the Detailed Operating Instructions section is provided.

Precautions

• Never attempt to service this unit yourself. It should be referred to qualified service personnel. Please read the warranty instructions on the back cover.

• If liquid or some solid object should fall into the unit, remove the battery pack and have the unit checked by a qualified person before further operation. See the previous instructions.

• Never dispose of batteries or battery packs in a fire. They may explode.

• Never crush or disassemble a NiCad battery pack. They contain toxic chemicals.

• Use only the approved NiCad battery chargers listed under Optional Accessories in this section of the manual.

• Never store a discharged rechargeable battery pack. Battery cell polarity may be reversed making it impossible to recharge.

• Never store a battery pack where it may be accidentally shorted. There is the potential for tremendous current flow.

• Never leave weak or dead batteries in the Alkaline battery case. They may leak and cause permanent damage.

• Never touch an external antenna when the danger of lightning is present.

• Do not leave the radio near heat sources, such as radiators or air ducts, or place the radio in an environment where the radio will be subjected to moisture, excessive dust, shock or mechanical vibration.

• Abrasive cleaners or chemical solvents may mar or damage the case. Clean the radio with a soft cloth dampened with a mild detergent solution.

- If operating the radio at temperatures outside the range of -30°C to +50°C (-22°F to 122°F), the LCD may not display the frequency being heard. If it is used in temperatures lower than the recommended range, the numbers displayed may change very slowly. These irregularities will disappear, with no harm to the radio, when operation is resumed within the recommended temperature range.

Equipment

The A300 is a hand held, aircraft communications transceiver. In the NAV band, 108.000 through 117.950 MHz, it operates in the duplex mode. While receiving a NAV frequency, the unit transmits on the Flight Service Station (FSS) frequency, 122.100 MHz.

In the COMM band, 118.000 through 136.975 MHz, the A300 receives and transmits on the tuned frequency.

The unit will also receive on 137.000 through 142.975 MHz.

Design Features

The following is a list of the A300 standard features.

- 760 Communications Frequencies
- 200 Navigation Frequencies
- NAV Channel Duplex
- 20 Memory Channels
- Scan Tuning
- Search Tuning
- Squelch Off Button
- Lightest Hand Held
- Smallest Hand Held
- Low Battery Warning
- Lighted Display
- Matrix Character Display
- Beep Feature
- Human Engineered, Rubber Touch keys
- Memory Back-up

Supplied Accessories

- Alkaline Battery Case

- Flexible Rubber (Rubber Duck) Antenna
- Wrist Carrying Strap

Optional Accessories

- NiCad Rechargeable Battery Pack, Number 5748A
- Desk Top Charger, 115 volt, Number 5747A
- Desk Top Charger, 230 volt, Number 3918A
- Wall Charger, 115 volt, Number 3582A
- Wall Charger, 230 volt , Number 3898A
- Headset Adapter, Number 3932A
- Metal Belt Clip, Number 3920A
- Alkaline Battery Case, Number 6235A
- Energizer® Alkaline AA Batteries, Number 2066A
- Ground Plane Roof Antenna, Number B1012A
- Car Antenna Kit - Permanent Mount Number 5515A
- Car Antenna Kit - Magnetic Base, Number 5527A
- Leather Carrying Case, Number1018A

To order optional accessories from anywhere in the U.S.A., call 1-800-LIFT OFF.

License Requirements

If the intended use of the A300 is in an aircraft, an Aircraft Radio Station License is required. If the A300 is intended for use as a ground station, a Ground Station Authorization is required. Included with the A300 are FCC Form 404, Application for Aircraft Radio Station License, and FCC Form 406, Application for Ground Station Authorization in the Aviation Services.

This equipment has been accepted by the FCC and entered on their list of Type Accepted Equipment as HBA3DMWIN-1.

Antenna Requirements

Included with the A300 is a flexible rubber antenna (Rubber Duck), which may be used for both COMM and NAV frequencies. However, an external antenna may be needed, if operating inside an aircraft, an automobile or other metal enclosure.

On top of the A300 is a BNC connector, which is standard for use on aircraft radios. Therefore, little difficulty should be encountered in connecting an existing aircraft radio antenna to the A300.

When using the flexible antenna inside an aircraft or other enclosure, try operating the A300 near a window for better performance.

Low Battery Indication

Low Battery Indication will occur when the battery pack discharges to less than seven volts. Seven volts is the ideal level for a NiCad battery pack but may be slightly premature for an Alkaline battery pack. When Low Battery Indication is activated, the following conditions occur:

1. "BATT" is displayed on the first line of the LCD.

2. "RX" on the second line of the LCD denotes that the unit is receiving. It changes to "rx."

3. "TX" on the second line of the LCD denotes that the unit is transmitting. It changes to "tx."

4. The unit may continue to transmit for a short period of time, depending on your individual A300.

Turn the POWER OFF and replace the batteries or the battery pack. Memory will be retained for thirty minutes without power.

Removing a Battery Pack

Turn the power OFF. The Battery Pack Release Button is located just under the Push-To-Talk (PTT) switch on the side of the radio. Slide the Battery Pack Release Button upward toward the PTT switch, while sliding the battery pack toward the Battery Pack Release Button.

Attaching a Battery Pack

Both the Alkaline battery pack and the NiCad rechargeable battery pack attach to the A300 identically. Both have grooved guides that match up with the A300.

Make certain the radio is turned OFF. Position the top right side (side with plus (+) and minus (-) terminals) of the battery pack against the bottom left of the radio. Match up the grooves and slide the battery pack onto the radio until it locks in place.

Alkaline Battery Pack

A replaceable alkaline battery pack is standard equipment with the A300. Alkaline batteries are a very good power source for an emergency backup radio because they have excellent storage life and no maintenance is required.

The life of an Alkaline battery pack will be approximately the same as the NiCad battery pack at a 90% standby, 5% receive and 5% transmit duty cycle. At lower duty cycles, the Alkaline battery pack will last considerably longer than the Nicad. At higher duty cycles, the Alkaline battery pack will last considerably less than the NiCad.

THE ALKALINE BATTERY PACK IS NOT RECHARGEABLE! The batteries must be replaced.

To replace the batteries, remove the battery pack from the unit. The case splits into two sections by pressing the button marked "push" while gently pulling the two sections apart. Six 1.5 volt "AA" Alkaline batteries are required.

Replace the batteries by following the plus (+) and minus(-) terminal markings inside the case. When the batteries are replaced, snap the two sections back together and attach the battery pack to the radio.

NiCad Rechargeable Battery Pack

The NiCad (nickel cadmium) recharge-able battery pack is an optional item. Upon receipt, it must be charged before using.

If possible, completely discharge the NiCad battery pack before recharging. Repeated recharging, after minimal usage (discharging) of NiCad batteries, results in "memory effect." The battery voltage drops in two levels during operation. The first drop is approxi-mately an 8% loss of capacity for the the first 30 minutes followed by a 60% loss of capacity during the next 15 min-utes. "Memory effect" can be eliminated by performing two or three complete discharge/recharge cycles.

The following table is a conservative estimate of the life of a fully charged Nicad battery pack at some common duty cycles with the audio silenced by the Squelch Control. Individual battery pack performance may vary slightly.

LIFE	STANDBY %	RECEIVE %	TRANSMIT %
7-8 hrs	95	3	2
5-6 hrs	80	10	10
2-4 hrs	60	20	20

Use only the charging systems recom-mended in this manual.

The NiCad Battery Pack Charging Systems

There are two types of charging systems designed for the A300 NiCad battery pack; the Desk Top Stand and the Wall Charger.

1. Desk Top Stand, 115 volt. This convenient stand plugs into any stan-dard 115 volt wall outlet for charging in the home or office. The A300 sits upright in the stand. Complete re-charging will take approximately 12 hours.

   Desk Top Stand, 230 volt. Other than requiring a 230 volt input source, this unit is the same as the 115 volt Desk Top Stand.

2. Wall Charger, 115 volt. The wall charger has a jack, on one end, that plugs into the battery pack. The other end contains the transformer that plugs directly into any standard 115 volt wall outlet. Complete recharging will take approximately ten hours.

   Wall Charger, 230 volt. Other than requiring a 230 volt input source, this unit is the same as the 115 volt Wall Charger.

Leather Carrying Case

The quality design of the Leather Carrying Case is fashioned after those used by policemen.

The Leather Carrying Case is designed for use with the NiCad Rechargeable Battery Pack. However, if a small amount of tissue paper is packed into the bottom of the Leather Carrying Case, the A300 with an Alkaline Battery Case fits quite well.

An A300, with a Metal Belt Clip installed, will fit into the Leather Carrying Case without modification.

The leather case is available in black only.

Memory Backup

Memory is retained for 30 minutes after the battery pack is discharged. For this reason, it is a good idea to have an extra battery pack or extra batteries on hand when the battery pack is dis-charged.

Display Layout

The LCD display consists of two lines of ten characters each. Matrix characters, not the usual seven segment charac-ters, are displayed resulting in an easy to read display.

Headset Adapter

An optional headset adapter plugs directly into the MIC. and EAR. jacks, located on top of the A300, permitting the use of most aircraft headsets and microphones.

When using a headset with a boom microphone, the Push-To-Talk (PTT) switch is used to key the transmitter. However, a separate push-to-talk switch may be used with the headset adapter.

Beep Feature

As a general rule, one audible beep means the A300 accepts a function and two beeps denotes rejection of a function.

A single "beep" sound is heard when:

1. A frequency is entered manually through the key pad and the radio is ready to receive.

2. A frequency is successfully entered into a memory channel.

A double "beep" sound is heard when:

1. An input error occurs during a keying operation.

2. There is a five second interval between entries during manual keying operations. The unit automatically reverts to the last valid operation prior to starting the keying operation.

3. Attempting to memorize a frequency and all channels are in use. The first line of the LCD display will read:

M_FULL!

4. Attemtping a scan and there are no COMM or Receive Only frequencies in the memory channels. The LCD display will read:
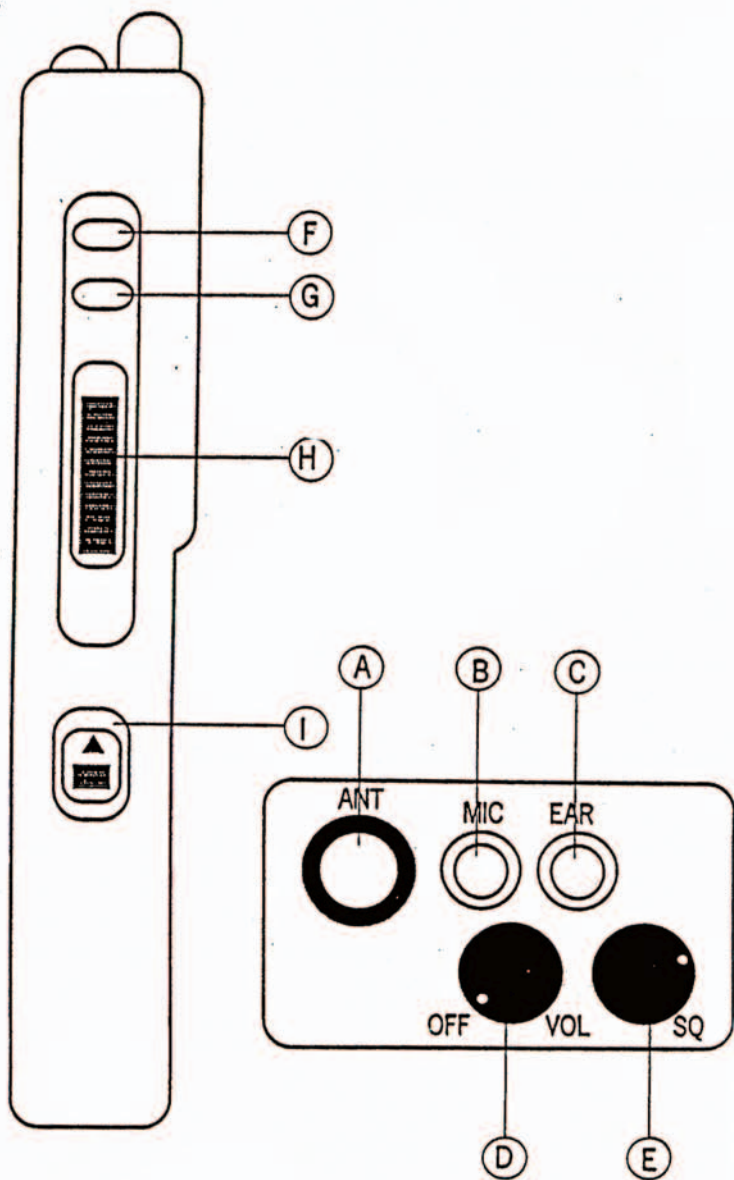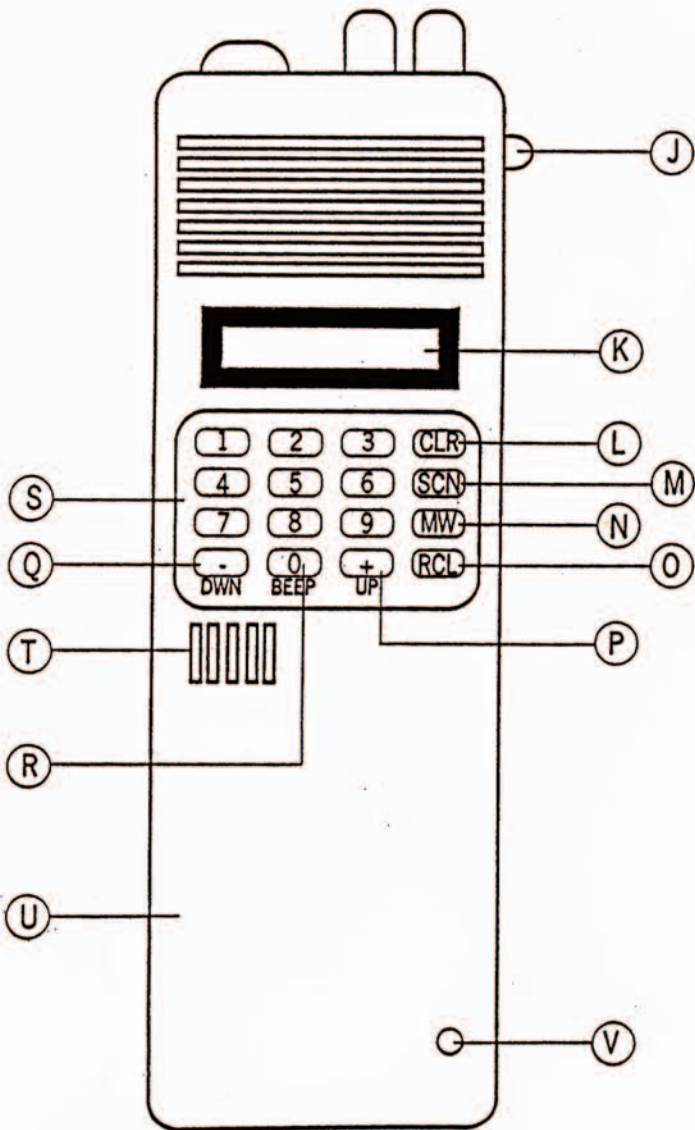
IRG SCAN

5. The low battery indication is displayed during transmission.

Instructions for activating or deactivating the Beep function may be found in either the Brief or the Detailed Operating Instructions.

The beep is not audible inside a noisy aircraft.

Controls

ANT   MIC   EAR

OFF   VOL   SQ

(A). Antenna Connector (ANT.)

The flexible rubber antenna or an external antenna may be attached to this BNC connector.

(B). Microphone Jack (MIC.)

An external microphone may be plugged directly into this jack.

(C). Earphone Jack (EAR.)

An earphone or external speaker may be plugged directly into this jack. The internal speaker is disabled when this jack is in use.

(D). Off/On/Volume Control (OFF VOL)

Combination On/Off Control and Variable Volume Control. Turn the knob clockwise from the OFF position to turn the unit ON. Continued clockwise rotation increases the volume.

(E). Squelch Control (SQ)

A variable squelch control. Rotate clockwise to increase squelch and counterclockwise to decrease squelch.

(F). Squelch Off (SQ OFF)

Pressing this button overrides the Squelch Control, until the button is released.

(G). Display Light (Light)

Press this button to illuminate the display for night viewing. Release the button to turn the light off.

(H). Push-To-Talk Switch (PTT)

When this button is pressed, the unit will transmit on the selected frequency, if the selected frequency is a valid COMM frequency. If the selected frequency is a NAV frequency, the unit will transmit on the Flight Service Station (FSS) frequency, 122.100 MHz. If tuned to 137.000 through 142.975, PTT is inactive.

(I). Battery Pack Release

Pushing this button upward releases the battery pack for removal.

(J). Wrist Strap Pin

Attachment for Wrist Strap Carrier.

(K). LCD Display

The Liquid Crystal Display communicates frequency, channel and other info to the user.

(L). Clear (CLR)

The CLR key is used to clear memory channels, terminate the Scan and Recall procedures and clear any partial or erroneous key entries.

(M). Scan (SCN)

Press the Scan key to initiate a scan of memorized COMM and Receive Only channels.

(N). Memory Write (MW)

This key is used to store frequencies into the 20 memory channels.

(O). Recall (RCL)

A function key used to recall channels that have been previously memorized.

(P). UP (+)

While the unit is in operation, press this key to move to the next highest frequency. If tuned to a COMM channel, press it continuously for about two seconds to initiate a search up the COMM band (including 137.000 through 142.975 MHz).

(Q). DOWN (-)

While the unit is in operation, press this key to move to the next lowest frequency. If tuned to a COMM channel, press it continuously for about two seconds to initiate a search down the COMM band (including 137.000 through 142.975 MHz).

(R). BEEP (0)

This key is used to turn the beep function on or off.

(S). Numeric Keys

These keys on the keyboard are used to enter frequencies into the unit. Only the first five numbers of a frequency need to be entered. The sixth number is implied. If the numbers 1,2,7,5,2 are entered consecutively, the COMM frequency of 127.525 MHz will be selected. If the numbers 1,0,8,2,5 are entered consecutively the NAV frequency of 108.250 MHz will be selected.

(T). Microphone

The internal microphone must be facing the operator during transmission.

(U). Battery Pack

The standard alkaline battery pack or the optional NiCad battery pack is the power source for the A300.

(V). Wall Charger Jack

The wall charger jack plugs directly into this connector for recharging the NiCad battery pack.

This connector is not mounted on the Alkaline battery pack, since it is not rechargeable.

Brief Operating Instructions

Read This First

This section is provided for the experienced transceiver user. If problems are encountered, refer to the Detailed Operating Instructions section.

Manual Tuning

To manually select a frequency, perform the following steps:

1. Turn the OFF VOL control to the ON position.

2. Adjust the squelch and volume.

3. Enter the desired frequency.

If a Comm frequency is entered, the A300 will receive and transmit on the frequency entered.

If a frequency in the range of 137.000 through 142.975 MHz is entered the unit will receive only.

If a NAV frequency is entered, the unit will receive on the frequency entered and transmit on the Flight Service Station (FSS) frequency, 122.100 MHz.

Memory Functions

The A300 has 20 memory channels, numbered 00 through 19, used to memorize frequencies for use during the Scan and Recall functions.

Memorizing Frequencies To The Next Available Channel

Use this procedure to memorize a frequency to the next available, lowest numbered channel.

1. With the OFF VOL control in the ON position, enter the frequency to be memorized.

2. Press the MW key two times.

The unit will display the channel number used to store the frequency and automatically switch to that frequency in the receiving mode.

Memorizing A Frequency To A Specific Channel

Use this procedure to change the contents of a specific channel.

1. Turn the OFF VOL control to the ON position.

2. Enter the frequency to be stored.

3. Press the MW key.

4. Enter the desired channel number.

The frequency is now memorized into the specified channel and may be utilized during the Scan or Recall procedures.

Memory Channel Changes

This procedure permits browsing through the memory channels, from lowest to highest channel number, and then memorizing a frequency into an unwanted or open channel. To exit the procedure press CLR before executing step four.

1. With the OFF VOL control in the ON position, enter the frequency to be memorized.

2. Press the MW key, then the RCL key. The unit will recall channel 00 automatically and display the frequency currently memorized.

3. Press the UP (+) key or the DOWN (-) key, the unit will browse up or down through the memory channels.

4. When a desired channel has been located, press the MW key to memorize the currently tuned frequency.

The unit has memorized the frequency for use in the Scan or Recall functions.

Search Tuning

Automatic Search

Use Automatic Search tuning to sequentially search the frequencies in the COMM band, 118.000 through 136.975 MHz (includes 137.000 through 142.975 MHz receive only), Searching commences from the currently tuned frequency, provided that the current selection is a valid COMM or Receive Only frequency.

1. Turn the OFF VOL control to the ON position and adjust the squelch and volume.

2. Initiate the search by pressing either the UP (+) or DOWN (-) key (approximately two seconds) until the word "SEARCH" appears on the top line of the display.

3. If a signal is received, the search stops. After stopping, if no signal is

received for two seconds, the search resumes. If the search stops on an undesirable frequency, the search may be resumed by repeating step two.

4. To exit the search procedure, press CLR.

If the search does not stop, the probable cause is adjustment of the Squelch Control. See the Detailed Operating Instructions section.

Manual Search

Use this procedure to step from the currently tuned frequency to the next highest or next lowest frequency, regardless of the band.

1. With the OFF VOL control in the ON position, press the UP (+) or DOWN (-) key to automatically transfer to the next highest or lowest frequency.

Scan Tuning

Use this function to automatically scan through previously memorized COMM channels (including 137.000 through 142.975 receive only).

1. Turn the OFF VOL control to the ON position and adjust the squelch and volume.

2. Press SCN.

3. If none of the memory channels contain a COMM frequency the LCD will read:

    IRG SCAN

4. If a signal is received, the scan stops. After stopping, if no signal is received for two seconds, the scan resumes.

5. To manually stop a scan, press either the UP (+) or DOWN (-) keys. To resume the scan, press the either the UP (+) or DOWN (-) key (approximately two seconds) until the word "SCAN" appears on the first line of the display.

6. To exit the scan procedure, press CLR two times.

If the scan never stops, the probable cause is the adjustment of the Squelch Control. See the Detailed Operating Instructions section.

Recall Tuning

Recall Of A Specific Channel

To recall a specific channel:

1. With OFF VOL control in the ON position, press the RCL key.

2. Enter the desired channel number.

3. Use the UP (+) or DOWN (-) keys to move to the next or previous memory channel, if necessary.

4. Press the CLR key to end the Recall procedure.

The A300 will remain tuned to the last valid frequency selected during the Recall procedure.

Sequential Recall of Memory Channels

Use this procedure to browse sequentially through the memorized channels, from the lowest to the highest channel number.

1. Press the RCL key two times.

2. Press RCL again and the next highest channel will be displayed. Repeated pressing of the RCL key will result in stepping through the memorized channels, one at a time.

To exit the procedure, press CLR.

Clearing Memory

Clearing a Specific Channel

Use this function to clear a specific channel or channels.

1. Press the CLR key (approximately two seconds) until the word "CAN-CEL" appears on the first line of the display.

2. Enter the number of the channel to be cleared.

3. The unit display will continue to prompt for entry of another channel. If clearing another channel is desirable, repeat step two.

4. To exit the procedure, press CLR.

Clearing All Memory Channels

Use this function to erase the contents of all memory channels, 00 through 19.

1. Turn the OFF VOL control to the OFF position.

2. Hold the CLR key down while turning the OFF VOL control to the ON position. The first line of the display will be:

M_CLEAR

Beep Function

The BEEP function may be enabled or disabled by utilizing the same procedure.

With the power off, press the BEEP button while turning the power on.

If the Beep Function was previously disabled, it will be enabled. The top line of the display will be:

BEEP

If the Beep Function was previously enabled, it will be disabled.

Detailed Operating Instructions

Read This First

The functions of the A300 are explained in detail in this section. There are several precautions that must be noted and remembered in order to operate the unit properly.

1. When operating the unit, make certain that a charged battery pack and an antenna are properly attached.

2. When entering a frequency or performing a memorizing function, if there is a five second interval between entries, the unit will revert to the last valid function performed.

3. If a partially entered frequency is incorrect, press Clear (CLR), then re-enter the correct frequency.

4. The A300 will not accept frequencies outside the range of 108.000 through 142.975.

5. The Squelch Control should be used prudently. Too much squelch will tune out weak signals and not enough squelch will cause the Search and Scan functions to end prematurely.

Manual Tuning

Communication Band
118.000 through 136.975 MHz
(Also receives only on 137.000 through 142.975)
Use this procedure to manually select any valid A300 frequency.

1. Turn the OFF VOL control clockwise to the ON position. The unit will display the frequency last entered before the set was turned off.

2. Open the Squelch Control (SQ) by turning it counterclockwise as far as possible.

3. Turn the OFF VOL control clockwise to raise the speaker volume to a suitable level.

4. Adjust the squelch, clockwise, to the point of just eliminating the speaker noise.

5. Enter a frequency. For example, to enter the frequency 125.525 MHz, enter the first five numbers of the frequency on the keyboard in sequence: 1,2,5,5,2.

The display will read:

RX 125.525

RX denotes that the unit is in the receiving mode. The A300 will now transmit and receive on the frequency of 125.525 MHz. Press the Push-To-Talk switch (PTT) to transmit and the display will change to as follows:

ON AIR
TX 125.525

TX denotes that the radio is in the transmission mode.

Navigation Band
108.000 through 117.95 MHz

When the A300 is tuned to a NAV frequency it will transmit on the Flight Service Station (FSS) frequency, 122.100 MHz. This is referred to as duplex operation.

Refer to step five of the Communication Band Manual Tuning instructions for selecting a frequency. For example, enter the frequency 117.000 MHz. If no VOR signal is received, the display will read:

RX 117.000

If the VOR signal is weak, the display will read:

----- VOR
RX 117.000

If the the signal is strong, the first line of the display will contain the direction, to or from; the radial number and the literal "VOR." The second line will contain the receiving frequency. The display will read:

T181 VOR
RX 117.000

The A300 will now receive on 117.000 MHz, while transmitting on the Flight Service Station (FSS) frequency, 122.100 MHz.

Now press the Push-To-Talk (PTT) switch. The display reads:

ON AIR
TX 122.100

Here are some important words about NAV frequency performance.

1. At any time, the CLR key may be pressed to reverse the T (TO) or F (FROM) and radial indication.

2. When passing near a VOR, the radial will change rapidly. Since radials are transmitted in a circle pattern, as you approach the VOR or center of the circle, the radials become closer together.

3. The variance of the raidal displayed may be ± 1-2 degrees.

Memory Functions

The A300 has 20 memory channels, numbered 00 through 19, used to memorize frequencies utilized during the Scan and Recall functions.

Memorizing Frequencies To The Next Available Channel

Use this procedure to memorize a frequency to the next available, lowest numbered channel.

1. With the power turned ON, enter the desired frequency. For example, if the desired frequency is 129.500 MHz, enter 1,2,9,5,0. The frequency will be displayed as follows:

RX 129.500

2. Press the MW key **two times**.

The unit will display the channel number used to store the frequency and automatically switch to that frequency in the receiving mode.

If there is no channel available, the unit will indicate that memory is full by displaying on the first line:

M_FULL 1

The radio will then revert to normal operation on the last selected frequency.

Memorizing A Frequency To A Specific Channel

Use this procedure to change the contents of a specific channel.

1. With the power turned ON, enter the desired frequency. For example, if

the frequency is 129.500 MHz, enter 1,2,9,5,0. The frequency will be displayed.

RX 129.500

2. Press the MW key. The unit will then prompt for the number of the memory channel desired. The display will read:

MEMORY??ch
RX 129.500

3. Enter the desired channel number. For example, if the desired channel is 00, simply enter 00.

The unit has memorized frequency 129.500 MHz into channel location 00 and has automatically transferred to frequency 129.500 MHz in the receiving mode. This channel (00) may now be used in the Scan and Recall functions.

This procedure may be aborted before completion by pressing the CLR (Clear) key.

Memory Channel Changes

This procedure permits browsing through the memory channels, from lowest to highest channel number, and then memorizing a frequency into an unwanted or open channel. Use this procedure to:

A. Find an open memory channel and use it.

B. Find a memory channel that contains an unwanted frequency and re-use the channel.

Due to the length of this procedure, it is a good idea to read through this entire procedure before trying it.

1. With the power turned ON, enter the frequency to be memorized. For example, if the frequency is 129.500 MHz, enter 1,2,9,5,0. The frequency will be displayed.

RX 129.500

2. Press the MW key, then the RCL key. Notice the display:

MEMORY ??ch
00 108.000

The unit recalls channel 00 automatically and displays the frequency memorized. The channel number (00) is displayed in the first two positions of the second line followed by the memorized frequency, in this example, 108.000 MHz.

3. By pressing the UP (+) key or the DOWN (-) key, the unit will browse up or down through the memory channels.

4. When the desired channel has been located, press the MW key to memorize the current frequency, in this example 129.500 MHz, in the channel location displayed on the LCD.

The unit has memorized the frequency for use in the Scan or Recall functions and has transferred to 129.500 MHz in the receiving mode.

The procedure may be aborted at any time by pressing the CLR (Clear) key.

Search Tuning

Automatic Search

Use this procedure to step from the currently tuned frequency to the next highest or next lowest frequency, regardless of the band. Searching will commence from the currently tuned frequency, provided that the current selection is a valid COMM frequency (includes 137.000 through 142.975 MHz receive only).

1. Turn the OFF VOL control to the ON position.

2. Adjust the squelch and volume.

3. Initiate the search by pressing either the UP (+) or DOWN (-) key (approxi-

mately two seconds) until the word "SEARCH" appears on the top line of the display.

4. If a signal is received, the search stops. After stopping, if no signal is received for two seconds, the search resumes. If the search stops on an undesirable frequency, the search may be resumed by repeating step three.

5. To stop the search manually, press the UP (+), DOWN (-) or CLR key.

If problems are experienced in initiating a search, try turning the Squelch Control (SQ) clockwise, just enough to eliminate speaker noise. If the search continues without interruption, try rotating the Squelch Control counter-clockwise to a point where speaker noise is just eliminated. If this condition persists, try moving to an area of better reception, such as, near a window.

Manual Search

Use this procedure to step from the currently tuned frequency to the next highest or next lowest frequency, regardless of the band.

1. By pressing the UP (+) key, the unit will automatically transfer to the next highest frequency.

2. By pressing the DOWN (-) key, the unit will automatically transfer to the next lowest frequency.

During this mode of operation, the NAV, Receive Only and the COMM frequencies are considered as one band. For example, if the currently tuned frequency is highest NAV frequency, 117.950 MHz, when UP (+) is pressed, the next frequency tuned will be the COMM frequency 118.000 MHz. Both the UP (+) or DOWN (-) keys are active and may be used as often as required until a desired station is reached.

Scan Tuning

Use this function to automatically scan through previously memorized COMM

channels (including 137.000 through 142.975 MHz receive only).

1. Turn the OFF VOL control to the ON position.

2. Adjust the squelch and volume and then press the SCN (Scan) key.

3. If none of the memory channels contain a COMM frequency, the first line of the LCD will read:

IRG SCAN

4. If a signal is received, the scan stops. After stopping, if no signal is received for two seconds, the scan resumes.

5. To manually stop a scan, press either the UP (+) or DOWN (-) keys. To resume the scan, press the either the UP (+) or DOWN (-) key approximately two seconds.

6. To exit the Scan mode, press the CLR key two times.

If the scan continues without interruption, try rotating the Squelch Control counterclockwise to a point where speaker noise is just eliminated. If this condition persists, try moving to an area of better reception, such as, near a window.

Recall Tuning

Recall Of A Specific Channel

A specific channel may be recalled by pressing the RCL key and then entering the channel number.

For example, assume that the A300 is currently tuned to 108.000 MHz and 117.300 MHz is memorized in channel 19.

1. Press the RCL key. The first line of the display will read:

RCL   ??ch
RX 108.000

The first question mark (?) will flash on the display, prompting for entry of the desired channel.

2. Enter the channel number 19. The display will be:

19ch
RX 117.300

The A300 will now receive the NAV frequency 117.300 MHz.

3. Use the UP (+) or DOWN (-) keys to move to the next or previous memory channel, if necessary.

4. Press the CLR key to end the Recall procedure.

The A300 will remain tuned to the last valid frequency selected during the Recall procedure. If no valid frequency is encountered, the A300 will revert to the last valid frequency tuned before Recall was initiated.

Sequential Recall of Memory Channels

Use this procedure to browse sequentially through the memorized channels only, from the lowest to the highest channel number. A channel will be displayed only if there is a frequency memorized in that channel.

1. Press the RCL key two times. For example, assume that channel 00 has a memorized frequency of 120.500 MHz. Channel 00 will be displayed since it is the lowest possible channel number. The display will be:

00ch
RX 120.500

When an unused memory channel is encountered, the frequency portion of the display will be blank.

2. Press RCL again and the next highest channel will be displayed. Repeated pressing of the RCL key will result in stepping through the memorized channels, one at a time.

When the desired channel is reached, press the CLR key to end the Recall procedure and the unit will be tuned to the last channel selected.

Clearing Memory

Clearing a Specific Channel

Use this function to clear a specific channel or channels.

1. Press the CLR key (approximately two seconds) until the word "CANCEL" appears on the first line of the display. The unit will be tuned to the last selected frequency and the display will read:

CANCEL??ch
RX 108.000

The first question mark (?) mark will flash, prompting for entry of the channel number to be cleared.

2. Enter the channel number. For example, if the desired channel number is 01, enter 01 on the keyboard. Memory channel 01 will be cleared.

3. The unit display will continue to prompt for entry of another channel. If clearing another channel is desirable, repeat step two. To return to normal operating mode, press CLR.

Clearing All Memory Channels

Use this function to erase the contents of all memory channels, 00 through 19.

Turn the OFF VOL control to the OFF position (power off). Hold the CLR key down while turning the OFF VOL control to the ON position.

The unit will be tuned to the last selected frequency and the first line of the display will be:

M_CLEAR

Be cautious in using this procedure.
Frequency information may be uninten-
tionally erased.

Beep Function

The BEEP function may be enabled or
disabled by utilizing the same proce-
dure.

With the power off, press the BEEP
button while turning the power on.

If the Beep Function was previously
disabled, it will be enabled and the word
BEEP will be displayed on the first line of
the LCD.

BEEP

If the Beep Function was previously
enabled, it will be disabled and the first
line of the LCD will be blank.

Specifications

General

Communication channels:
760 channels (25 KHz increments) from
118.000 Mhz through 136.975 MHz.

Receive only channels:
240 channels (25 KHz increments) from
137.000 through 142.975 MHz.

Navigation channels:
200 channels (50 KHz increments) from
108.000 MHz through 117.950 MHz.

Memory channels:
20 numbered 00 through 19

Weight with Alkaline Battery Pack:
15.5 Oz. (439 grams)

Weight with NiCad Battery Pack:
1.04 lbs (472 grams)

Dimensions with Alkaline Battery Pack:
Height   6.22 in. (158 mm)
Width   2.48 in. (63 mm)
Depth   1.42 in. (36 mm)

Dimensions with NiCad Battery Pack:
Height   7.01 in. (178 mm)
Width   2.48 in. (63 mm)
Depth   1.42 in. (36 mm)

Dimensions without battery pack:
Height   4.37 in. (111 mm)
Width   2.48 in. (63 mm)
Depth   1.42 in. (36 mm)

Operating Temperature Range:
-30° to +50°C (-22° to +122° F)

Frequency Stability:
± 10 PPM (0.001%) at 25C

Power requirements:
NiCad Battery Pack 9.6 VDC
Alkaline Battery Pack 9.0 VDC
(6 AA batteries X 1.5 VDC)

Receiver

Frequency Range:
108.000 Mhz through 142.975 MHz.

Audio Output:
350 mW into 8 Ohms, 10%

Adjacent Channel Rejection:
-60 dB

Channel Spacing:
25 KHz COMM; 50KHz NAV

Sensitivity:
AM 6 dB $\frac{S+N}{N}$ at 2 µV soft

Selectivity:
-6 dB ± 7 KHz, -60 dB ± 30 KHz

Band Width:
± 7 KHz or over, at 6 dB down
± 30 KHz at 60 dB down

Power Consumption:
55 mA (on; no reception, no noise)
200 mA (max at voice output)

Transmitter

Frequency Range:
118.000 through 136.975 MHz.

Transmitter Power:
1.5 Watts ± 20% , 5 Watt (PEP) at 85%
modulation

Antenna Impedance:
50 Ohms

Spurious Radiation:
-60 dB below carrier

Unnecessary Emissions:
-60 dB or less

Power Consumption:
1 A (max)

A300 License Requirement

1. Operating the radio in an aircraft that has an aircraft radio station license requires no additional license.

2. To get an aircraft radio station license fill out FCC Form 404.

3. Operating the radio on the ground requires a ground station authorization. Fill out FCC Form 406.

4. These forms are available from the FCC by calling 717-337-1212.

sporty's® pilot shop

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