Instruction Manual

Albrecht®

Kommunikationstechnik aus Norddeutschland

AE 300

Ultra Wide Range Monitor

Memo

INDEX

About this manual

It is very important that you understand that this manual as been written to be read from beginning to end and is not an indexed reference. Also it is crucial that you actually try out every new command on your scanner as you read about in this manual to familiarize yourself with the unit. If you follow this advice you will get the most out of this manual.

The outside of the unit.

The front of the **AE 300** comprises, in the bottom one third, a built in loudspeaker and, in the top two thirds, a keyboard and LCD display.

The display shows a number of bits of information which will all be mentioned and explained in the process of explaining the general operation of the unit.

The keypad is made up of 26 keys divided into two distinct groups: The numerical part and the command or function part.

These key will all be explained as you read through this manual.

On the right hand side of the **AE 300** is a small concentric socket used to feed power to the unit for both operation from an external (11 to 16 volt) power source and charging of the internal Ni-Cad. batteries.

On the top of the **AE 300** can be found 4 controls, 3 switches, 1 connector and 1 receptacle.
A BNC antenna connector which can be used either to mount an antenna, such as the rubber duck antenna supplied, directly on the unit or for connection to an external antenna and a 3,5mm receptacle for earphones or external speaker of 8 ohms or higher.

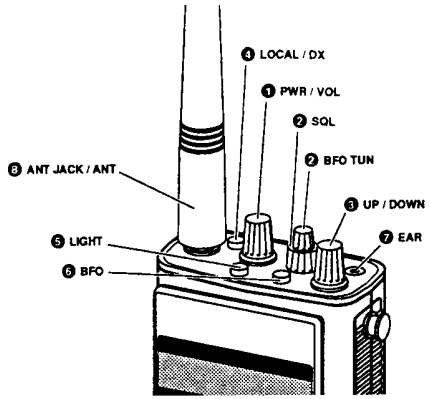
The four controls are volume, squelch, BFO control, the frequency/channel up/down knob.

The three switches are BFO selection switch, LCD light switch and antenna attenuator switch (10dB).

These will be explained later.

Controls and functions

Top Panel



1. PWR (power)Switch and VOL(volume): At fully counter-clockwise position, the **AE 300** is turned off and rotating in clockwise turns on the radio with "click" and further rotation sets the desired level of audio from the receiver.

2. SQL(squelch) and BFO(beat frequency oscillator): SQL is outer knob of the concentric controls on the top panel of the receiver and is provided to eliminate the background noise on unoccupied frequencies, and also to enable the receiver to decide whether or not to stop on a frequency when searching or scanning. Turn the SQL control from the fully counter-clockwise position until the background noise just disappears. This is the most sensitive setting for the SQL. It is usually preferable to advance the squelch control a little way further clockwise than the most sensitive setting to avoid inadvertent stopping on noise or very weak signals. The outer control behind the squelch knob shifts the BFO +/-1.5KHz. This knob does not function unless AM mode is selected and the BFO button is depressed.

3. Dial: This is to move the frequency up and down in **search** mode, and **manual** mode and move the channel up and down in **scan** mode.

4. LOCAL/DX switch: For most uses, the DX or long distance setting is used for most sensitive condition for the receiver. However, when operating the **AE 300** in the presence of very strong signals such as those from TV stations or FM broadcast transmitters, some interference effects may be apparent. This can take the form of increase levels of background noise, or spitting noises occasionally heard on peaks of modulation from the interfering source, or strange spurious signals generated by intermodulation between the strong signals. The cure of most of these effects is the use of the ATT switch in the LOCAL position.

5. LIGHT : Press to illuminate the display and press again to extinguish display lamp.

6. BFO: Toggles between AM or sideband modes, NOTE: BFO for SSB (single Side Band) can only be activated whilst in AM mode. It does not affect FM reception.

7. EAR: This is used for connection of either the earphone supplied, or an external headset or a loudspeaker. When a plug is inserted into this jack, the internal speaker of the **AE 300** is automatically disconnected. The impedance of the external load should be 8 ohms or greater.

8. ANT: This is a standard BNC high frequency connector mounted on the top panel of receiver.

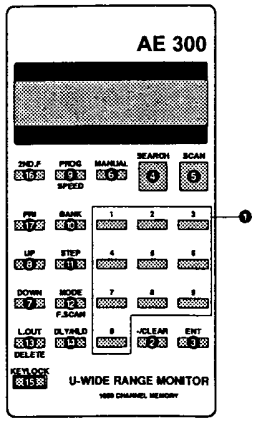
Front Panel and Right-hand side of the receiver

CHG: This concentric socket is mounted on the side of the case and is used for connection of the mains charger supplied, or the car's cigar lighter DC power cord supplied, or any suitable 11 - 16 volt DC supply.

DISPLAY: This provides comprehensive information for the users in easy to understand form.

Keyboard controls

1. First of all we have the numerical keys from 0 to 9, plus the decimal point (.). These are used for entering frequency, frequency step size, memory channel number, bank number, and so on. The same keys are used in the bank select mode, in which case the number 0 to 9 correspond to the frequency bands listed in the operating paragraph of this handbook.



2. CLEAR. (.): Press once to enter a decimal point when entering frequency information. Press twice to clear an incorrect entry of the numbers.

3. ENTER: Used to enter frequency after selection by the keypad or to complete many memory changes or operations.

4. SEARCH: (Legend SEAR is shown on the display)
Used to start the frequency search action of the receiver;
also used to manually advance frequency after the search has stopped.

5. SCAN: (Legend SCAN is shown on the display)
Used to start the memory scanning system of the receiver;
also used to manually advance the memory channels when the scan has stopped.

6. MANUAL: (No legend is shown on the display)
Used to engage the manual mode of receiver control, that is when the user wishes to directly enter a frequency of interest into the receiver, or directly select any memory channel.

7. Down : Initially, the search or scan action is always from lower frequencies to higher, or lower memory channels to higher. If when searching or scanning, the down key is pressed, the search or scan stops, and the down arrow mark is shown on the display. Subsequent short press of the down key will step the scan or search downwards. If the down key is held pressed for more than about one seconds, the scan or search will re-start, but in the downwards direction.

8. Up: Reverse function of Down key.

9. PROG: Used in programming search frequencies and others. When **2nd F** key is pressed , this key can be used to change the scanning or searching speed faster.

10. BANK: Used to select the desired memory bank or search bank from 0 - 9 when scanning or searching.

11. STEP: Used when entering the desired frequency increments or steps, from 1KHz to 999KHz. For under 100KHz, the step can be programmed in multiplying 12.5KHz. For above 100KHz, integer only. Above 512MHz receiving frequencies, 5KHz is minimum frequency step. Frequency step can be programmed from numeric keys. Dial , Up and Down keys can be used to select 1.0KHz, 5.0KHz, 10.0KHz, 12.5KHz, 20KHz, 25KHz, 50KHz and 100KHz for quick programming.

12. MODE: To select W(wide)FM, narrow FM or AM as required. Press this key and then select by pressing either UP key or Down key. Dial can also be used to select receiving mode. Selected mode is displayed on LCD. When **2nd F** key is pressed, this key can be used to start free scan (automatically resume scanning or searching even after locking on to active signal in the duration of 2 second).

13. LOCKOUT: Press once to lockout the channel or frequency shown on the display and press again to restore such back to scanning or searching schedule. When **2nd F** Key is pressed, this can be used to delete a memory channel.

14. DELAY/HOLD: Press to change from DELAY to HOLD and back again sequentially in both search and scan mode. When "HOLD" is shown on the display, the scan or search stops on a busy channel and remains there even after the signal has gone off. When "DELAY" is shown on the display, the scan or each stops on a busy channel, but then automatically resumes the search or scan approximately 2 seconds after the signal has gone off.

15. KEY LOCK: Press this key to disable all keyboard function and dial function. Press again to restore all function back to normal. This button is used to prevent accidental miss-operating or changes of frequency when the receiver is being carried around but still in use.

16. 2ND. F: Press this to use 2nd function of **PROG, MODE** and **L.OUT** keys as described above.

17. PRI: Used to program priority channel to check one of the 900 memory channels every 2 seconds for activity(bank 0 can not be set to the priority). If this channel is found to be busy the scanner will stop whatever it's doing and switch to that channel until it clears or until you tell it to do something else.

Operating the unit.

This manual assumes that you understand the basics of scanners. If you don't know what the squelch control does, for example, then stop here and ask for help from someone who can advise you.

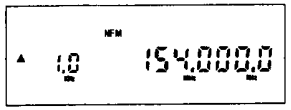
Where text appears in BOLD UPPERCASE it means you must press the keys exactly as shown. For sample: **MANUAL BANK 176** means press the MANUAL key followed by the BANK key followed by the three numerical keys 1 , 7, and 6.

Manual Operation

These operations all require the scanner be in MANUAL mode which is activated by pressing the MANUAL key. Namely both SCAN and SEAR are not shown on the display.

To program, 80.000MHz, 100KHz step, in WFM, from SCAN mode.

MANUAL

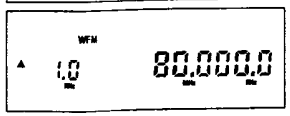


8 0

ENT

To select WFM mode, press **MODE** key. Then LCD goes blank out and display only frequency mode. Select WFM by UP or DOWN key or by rotating dial.

Then press **ENT**



To select 100KHz step, press STEP key. Then STEP on display starts blinking prompting you to enter step frequency. Select step you would like by UP or DOWN key or by rotating dial or by entering appropriate step by numeric jets 0 - 9. Confirm **100KHz** step frequency by pressing **ENT.**

Storing frequencies in memory.

The **AE 300** has 1000 memory locations divided into 10 banks of 100 memories each. In addition, there are 10 search range memories.

The memory location is displayed as a single three digit number in the range **000** to **999**. The first digit is the bank number and the last two digits are the channel number so that bank six, channel seventy seven is shown as **677**.

1. Storing the currently display frequency is done by pressing the **ENT** key followed by the bank and channel number and **ENT** key. Example: To store the currently displayed frequency in bank 6 channel 77 press: **ENT,677, ENT.**

2. To recall any memory press **MANUAL BANK (bank and channel number).** For example: To recall bank 3, channel 27 press: **MANUAL BANK 327.** Note that only channels in which memory exist can be recalled. If you try to recall the bank and channel number which is not programmed yet, your selected bank and channel go back to the bank and channel where you were just before the recall action.

3. To recall memory and delete it, press **MANUAL BANK (bank and channel number), 2ND.F, DELETE .** Ecample: To recall 233 and delete it, press:

   MANUAL, BANK, 2 2 3, 2ND.F, DELETE

Scanning and Searching

It is important to appreciate the difference between scanning and searching. **SCANNING** is the automatic, sequential monitoring of frequencies stored in the memory banks while **SEARCHING** is the sequential monitoring of a range of direct frequencies. For example, if you had stored all the local airport frequencies in bank 1 you would **SCAN** bank 1 to automatically monitor activity on any of these pre-stored frequencies. If, however, you wanted to check the entire range of frequencies from 118MHz to 137MHz to try and find out which frequencies were in use then you would **SEARCH** the range 118MHz to 136MHz

Now there are, as mentioned earlier, 1000 memories for storage of spot frequencies as well as another 10 memories for storing SEARCH ranges. Don't confuse the two. This manual refers to the ten banks of a hundred memories as memory BANKS and the individual 100 memories in each bank as CHANNELS and the ten search range memories as SEARCH MEMORIES or SEARCH RANGE MEMORIES. Each of the 1000 channels store a frequency and a mode (AM/FM/WFM) while the 10 search memories each store a lower and upper frequency limit, step size and mode.
This means that you can store, say, all the air traffic frequencies in bank 1, fire departments in bank 2 etc..

You can store frequency RANGES in the 10 search memories. That is to say you could program the range 144MHz to 146MHz, step size 25KHz, mode FM into search memory 1. Then, every time you tell the unit to SEARCH memory 1 it will continually search through the range 144MHz to 146MHz FM in steps of 25KHz.

Also important is the feature whereby certain banks or search memories can be either excluded. included or linked in scan or search operation. What this mean is that you may have frequencies stored in all 10 memory banks. e.g., fire department, air traffic stc., but you only wish to scan say. the air traffic frequencies. You can either lock out the banks you don't want or tell the scanner to only include the one/s you do want. Obviously if you want to scan 8 out 10 banks it may be easier to lock out the two banks you don't want while if you are willing to scan only 2 banks it would be better to simply include just these two banks rather than tell the scanner to exclude the other eight. When you see how to perform each method you will see that excluding banks is tedious and has to be done one bank at a time while the "include" mentioned involves one single operation and is, in our opinion , the better method for all occasions. Or you can link series of banks and scan only those banks linked. For example if you would like to scan or search bank 3 through 6, you can link bank 3, 4, 5 and 6 and can scan or search repeatedly.

However, even in this case, you can scan or search within one single excluded bank by pressing of corresponding numerical key. For example, you linked bank 3 through 6, and now you want to scan or search excluded bank 1, you press numrical key "1" in scan or search mode accordingly.

Be aware that if a bank has been locked in the scan mode then that bank is unavailable in scan mode. For example, you set the scanner to scan bank 2 to 6 and locked out bank 4, then you tried to scan bank 2 through 6, it scans only bank 2,3,5,6 but not bank 4 because as far as it's concerned bank 4 is not exist. To scan bank 2 to 6 completely you have to cancel lock out and resume bank 4. You will see how to do this in later part of this instruction manual.

The same thing is applied to the search mode. If you have set the scanner to inlcude search range memories 1 to 4 but 3 is locked out, in this case the scanner passes memory 3 and search only 1,2,4.

Interestingly enough, this does not apply to STORING a frequency. You can store a frequency in any bank whether it's locked out or not.

Note that the search memory selection has no effect on any mode of operation other than search mode, unlike the scan selection which does affect manual mode as far as memory banks and channels are concerned.

During scanning or searching, when a busy frequency is found the scan or search will stop. What happens next depends on the status of DELAY/HOLD. Pressing the DELAY/HOLD key will toggle between DELAY and HOLD showing the relevant status on the display.

In HOLD mode, the scan or search will stop on a busy frequency and stay there until you tell it to move on by pressing SCAN or SEARCH depending on whether you were SCANNING or SEARCHING when it stopped.

In DELAY mode the scan or search will resume automatically approximately two seconds after the frequency the unit stopped at becomes quiet. (This means, in practice, when the squelch closes.)

In F.SCAN (free scan) mode the scan or search will resume automatically approximately six seconds after the frequency the unit stopped regardless even if signal is still existing on that frequency.
To activate F.SCAN mode, press **2ND.F** and then press **F.SCAN.**

Scanning.

There are 3 distinctive ways to scan **AE 300**

Normal Scan: Scan all the memorized channels unless such are locked out.

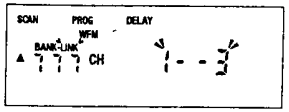
Bank Link Scan: Scan linked series of banks only.

Channel Link Scan: Scan linked series of banks and channel.

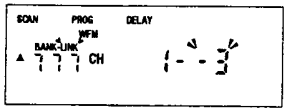
Bank Link Scan

1 Simply pressing **SCAN** will cause a scan of all selected banks to occur.

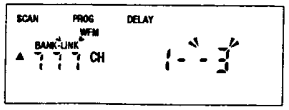
2 To link certain banks, while you are in SCAN mode, press **BANK** key. LINK in display start blinking with current linked lower limit bank number and upper limit bank number blinking. To change current linked banks, follow steps. For example, to link bank 1 to bank 5;



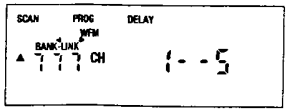
Enter new lower limit bank number, **1**



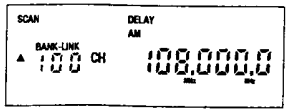
Then press **ENT**



Enter new upper limit bank number, **5**



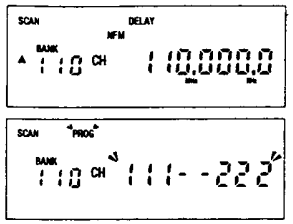
Then press **ENT**



Channel Link Scan

1 To link certain lower limit channel of certain bank to certain upper limit channel of certain bank, step following. For example, Bank 1, channel 20 to Bank 1, channel 80.

While you are in SCAN mode, press **PROG** key and press **SCAN**. PROG in display start blinking with current linked lower limit and upper limit.



Enter new lower limit, **1 2 0**

Then press **ENT**

Enter new upper limit **1 8 0**

Then press **ENT**

While you are in channel link scan mode, PROG display keeps blinking and **AE 300** refuse to accept your entering of new bank designation. If you press **SCAN** key once, **AE 300** goes to bank link scan mode. To go back to channel link scan mode, press **PROG SCAN SCAN.**

2 If you wish to lock out a specific channel within a bank then, while that channel is being monitored, press: **L.OUT**.

3 Unlocking a channel (locked by following 4) is accomplished by manually recalling that memory and pressing **L.OUT** so that the L.OUT legend stops flashing on the display.

4 To lock out a whole bank press: **PROG BANK SCAN** and then LCD goes blank out and display SCAN, PROG and BANK plus bank number. Use UP or DOWN key or **DIAL** to select the bank number to lock out. Press L.OUT key to lock that bank number out. L.OUT in display start blinking.

5 To unlock the locked out bank press: **PROG BANK SCAN** and then LCD goes blank out display SCAN, PROG and BANK plus bank number. Use UP or DOWN key or **DIAL** to find locked out bank which is indicated by blinking L.OUT display in LCD. Press L.OUT key to unlock that bank number. L.OUT in display then disappear.

Searching.

1 Pressing **SEARCH** will cause the unit to begging searching repeatedly through all selected search memory ranges.

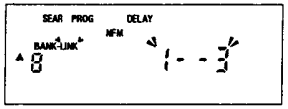
2 Pressing **SEARCH** and **(memory number 0 - 9)** will have the same effect as point 1 but with the difference that the search will commence with the search memory specified.

Pressing a memory number during searching will cause the unit to immediately jump to that search range and continue from there.

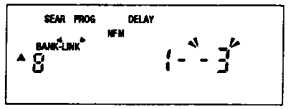
3 If the **AE 300** searching on a busy frequency and you wish to store that frequency in a memory then, when the search stops, press **ENTER** and **(memory number 0 - 9).** For example, if the search stops on a frequency and you wish to store that frequency for future use in bank 7 channel 3 then press: **ENT 7 0 3** . The search will resume at this point.

4 Search mode will search all ranges stored in all 10 search range memories (if they're programmed) unless you limit the range of search memories. You can limit the range of search memories by linking certain search memories.

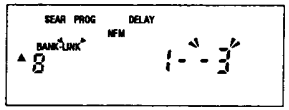
5 To link certain banks, while you are in SEARCH mode, press **BANK** key. LINK in display start blinking with current linked lower limit bank number and upper limit bank number blinking. To change current linked search memories, follow steps. For example, to link bank 1 to bank 4.



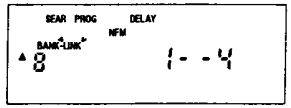
Enter new lower limit bank number, **1**



Then press **ENT**



Enter new upper limit bank number, **4**



Then press **ENT**

6 Sometimes when searching, a particular frequency or frequencies will be constantly busy causing the search to stop each time. These may be "birdies" or just frequencies that are constantly busy. There can be locked out by simply pressing **L.OUT** when the search is stopped on that particular frequency. From then on, that frequency will be skipped. Total 50 frequencies per bank can be locked out.

To unlock the locked out frequencies press: **PROG BANK SEARCH** and then LCD goes blank out and display SEARCH, PROG and BANK plus bank number. To find out locked out frequencies in the bank, press **ENT**. If there are locked out frequencies in the bank, the locked out frequency is displayed on LCD with L.OUT display blinking. To unlock that frequency, press **L.OUT** and L.OUT display goes out. If you would like to find next locked out frequency, press **ENT**, which displays next locked out frequency on the LCD with L.OUT display blinking. To resume searching again, press **PROG.**

7 To lock out a search range memory first open the squelch control so that the search will not run, then press: **BANK .** SEAR PROG is displayed on LCD with linked search memory data and search memory number is displayed. Press **L.OUT** key to lockout the search memory number displayed. **AE 300** resumes searching from next available search memory bank.

Unlocking a locked out search memory is almost identical to unlocking an individual frequency as per point 6.

Press: **PROG BANK SEARCH** and then LCD goes blank out and display SEARCH, PROG and BANK plus bank number. To find out locked out search memory bank, press **ENT** to advance search memory bank number. If the bank is locked out, L.OUT is displayed associated along with the search memory bank number.

To unlock that bank, press **L.OUT** and L.OUT display goes out. If you would like to find next locked out bank, press **ENT**, which displays next locked out bank on the LCD with L.OUT display blinking.

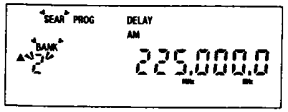
This sounds very complicated, and we suppose it is, but if you actually play around a bit you'll soon get the hang of it and find that it's a very intelligent way of managing a complicated function. It ends up being quite easy to scroll through all locked out memories and/or frequencies and selectively unlock the ones you want to.

8 To program the search memory's range, step size and mode, follow steps.

While you are in search mode,

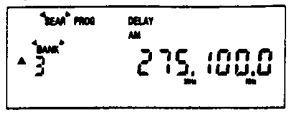
PROG PROG is displayed on LCD.

SEARCH SEAR, BANK and bank number displayed on LCD start blinking

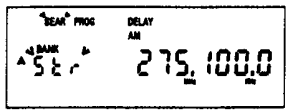


Then select search memory bank number where you would like to program new range. For example, you would like search memory bank number 3 for new search range.

3 Current lower limit frequency is displayed on LCD

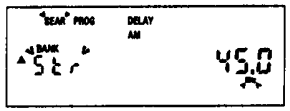


ENT "Str" is displayed on LCD and starts blinking to prompt you to enter new lower limit frequency.

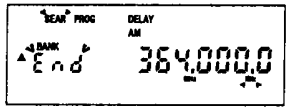


Then enter new lower limit frequency, for example, 450MHz.

4 5 0

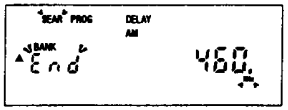


ENT This confirms the new lower limit frequency and End is displayed on LCD and starts blinking to prompt you to enter new upper limit frequency.

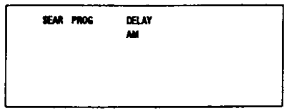


Then enter new upper limit frequency, for example, 460MHz

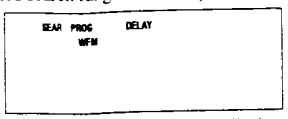
4 6 0



ENT This confirms the new upper limit and LCD goes blank out and display SEAR PROG and receiving mode currently selected. For example, AM.



By using UP or DOWN key or Dial to select appropriate receiving mode on the LCD display you would like to use for newly programmed search range. For example WFM.

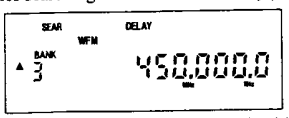


ENT Step frequency and lower frequency limit are displayed on LCD and these start blinking to prompt you to enter new frequency step.

By using UP or DOWN key or Dial, or by entering appropriate step frequency from numeric keys (see page 5, point 11). For example 12.5KHz.

Now you complete the programming by pressing;

ENT **AE 300** resumes searching from bank 3 for newly programmed search range.



The **DOWN** and **UP** key have a useful function in scan and search modes. Pressing it while scanning or searching will stop the operation and allow you to step forward or backwards through the sequence. Pressing and holding the **DOWN** or **UP** key for 2 seconds or so will result in the search or scan resuming in the direction according to the key you press.

A point worth mentioning here, now that you're totally confused and need a bit of help, is that you should watch the display while performing the various programming tasks such as point 8 above,. Watch which legends suddenly appear on the display either showing steadily or flashing as you press each key. You will find that the scanner actually prompts you by flashing various legends on the display during programming as a tip of hint as to what to press next. It is quite intuitive when you've had a bit of practice.

If you're prepared to try out each example and exercise a lot of patience you'll wind up being able to competently use all the features of the **AE 300** and you'll be most impressed by what has got to be the most versatile hand held scanner available today.

Priority

This feature enables you to carry on scanning, searching or whatever while the scanner automatically checks one of the 1000 memory channels every 2 seconds for activity. If this channel is found to be busy the scanner will stop whatever it's doing and switch to that channel until it clears or until you tell it to do something else.

The priority mode is automatically suspended during the entry of frequencies from the keypad and also while manually tuning with the frequency up/down knob to avoid jumping to the priority channel while you're busy.

Programming which channel will be the priority channel is quite simple. You press **PROG PRI** and **bank and channel number ENTER.** For example, if you want bank 1 channel 23 to be used then press: **PROG PRI 123 ENTER.**

To switch the facility on or off press the **PRI** key. The PRI legend will show on the display when the priority feature is active.

To check which channel was last programmed as being the priority channel simply activate the priority mode and fully open the squelch control. Obviously when the priority channel is checked it will be found "busy" as the squelch is open causing the scanner to change to that channel allowing you to see which one it is.

Light

Pressing the **LIGHT** switch on top panel will cause the display to be illuminated and press it again to distinguish the illumination.

Key Lock.

Pressing the **Key Lock** button located on keyboard panel toggles the key lock mode on and off. When active, the KEY LOCK legend will show on the display. This function simply disables the keypad and the up/down knob for occasions when you have set up the unit to do something and don't wish accidental keystrokes to mess it up.

Clarifying Single Side Band Transmissions

The majority of users of frequencies between 2MHz and 30MHz are utility stations or Utes for short. Marine, aircraft, commercial and amateur radio services use SSB or Single Side Band as the principal mode. With the BFO switch in the OFF position and AM mode is selected and indicated on LCD display, signals monitored will be in the AM mode. Single Sideband transmission, (SSB) will sound distorted.

With exception of the military, world conventions dictate that commercial users, including marine and aircraft will use Upper Side Band or USB mode. Amateur services 7MHz and below use Lower Side Band or LSB. The military can use either or both modes without compliance to world standards.

When monitoring SSB it is necessary to clarify the signals using the BFO control located on the top panel of the **AE 300**. When a SSB transmission is detected, push the BFO button down with the BFO controls in 12 o'clock position, rotate the BFO controls in clockwise or counter-clockwise until the voice sounds normal. To assist in limiting the amount of noise received with SSB signals select LOCAL position of LOCAL/DX push button.

Troubleshooting

Before returning your receiver for repair please check the following.

1. No power

* Check if you have batteries inside of the battery compartment in correct directions.
* Check if the Ni-Cad. batteries are fully charged.
* AC adaptor or cigarette lighter adaptor are firmly and correctly connected.
* The power connection polarity is correct.

2. Can not charge

*Make sure that power switch located top of the radio is off.
*Check if you have batteries in correct directions.
*Check if these batteries are over charged or over discharged.

3. No LCD display

*Check if the batteries are fully charged and appropriate power is applied.

4. Poor sensitivity

* If the (ATT) is depressed then the sensitivity is reduced. Press it again for DX position.
* Check the antenna is correctly connected. The antenna may be faulty or short circuited (maybe in the connector). Or if you connect the radio to external antenna, check coaxial cable.
*The antenna may be miss-matched and unsuitable.

5. No audio output

*The power switch is turned on.
*The volume control is properly used.
* Background noise is audible when the squelch control is turned fully anti-clockwise.
*If a headset, earphone or external loudspeaker is used, check if it is correctly fitted into the appropriate socket.

6. Does not operate properly with from the keypad.

*Check if key lock switch is on. (check LCD display. If key marking is on. It is OK) Press key lock switch to distinguish key marking from the display.
*If you confuse the way how to program, press SCAN or SEARCH key to start it again.
*If **AE 300** refuse to accept numeric key entering, try to press ./clear key and start again.
*Turn the squelch control fully clockwise if the search or scan refuses to operate

Specification

Receiver Coverage	100KHz - 2060MHz		
Receiver Mode	SSB, CW, AM, NFM, WFM		
Frequency Stability	+/-5ppm -10 to +50 Celsius		
Receiver Circuitry	Triple Superhetrodyne		
Frequency Increment	Between 1KHz - 999KHz in integral number Any multiple of 1KHz or 12.5KHz(under 100KHz)		
Memory Channel	1,000 channels (100CH x 10 banks)		
Search Banks	10 programmable by user		
Frequency lockout	50 per search bank, 1,000 total 50 per scan bank, 1,000 total		
Priority Channel	1, programmable by user		
Priority Sampling	Every 2 seconds		
Receiver sensitivity	N-FM 12dB SINAD	AM 10dB S/N	W-FM 40dB in S/N
1 - 5MHz	3dBuEMF	0dBuEMF	37dB or better
5 - 1000MHz	0dBuEMF	0dBuEMF	37dB or better
1000-1500MHz	3dBuEMF	3dBuEMF	37dB or better
1500-2000MHz	6dBuEMF	6dBuEMF	37dB or better
Antenna connection	50 ohm unbalanced, BNC		
Audio output	More than 120mW into 8 ohm load 10% THD		
Power Source	4.8VDC Nicad. Batteries 12VDC external 100VAC, 120VAC, 220VAC (by AC/DC adaptor)		
Memory backup	Non-volatile memory		
Dimensions	78(W) x 41(D) x 184(H) mm		
Weight	410 gram		

We reserve the right to make technical changes to the specifications without prior notice.

Memo