

AOR ARDV1 CAT CONTROL PROGRAM (Rev 5.12 - 17 February 2016)

The program has been tested on Windows XP/7/8/10. There are **NO REFUNDS** on software so test with the 'Try Before You Buy' version first. (SEE LAST PAGES FOR SCREEN SHOTS)

INSTRUCTIONS

1. Before you can use the program you must install the USB driver software.

They are included during the setup process. Open the 'ARDV1 COMPUTER CONTROL' folder in the Start Menu to access them. They need to be un-zipped, and installed manually.

The installation programs can also be downloaded from the following:

FOR WINDOWS XP

<https://www.silabs.com/products/mcu/Pages/USBtoUARTBridgeVCPDrivers.aspx#windows-xp>

FOR WINDOWS 7 /8 /10

<https://www.silabs.com/products/mcu/Pages/USBtoUARTBridgeVCPDrivers.aspx#windows>

Some operating systems may install the drivers automatically, but if you encounter problems, uninstall that driver and use the **Windows XP drivers which seem best on ALL 32 bit systems (INCLUDING Windows 7 / 8 / and 8.1)**

Once installed, look in Device Manager / Ports (COM & LPT) and make a note of the Com Port that has been assigned to the AR-DV1. It should be at the end of the line beginning

Silicon Labs CP210x USB to UART Bridge (COM??) ['?' is the port number]

2. FIRST INSTALLATION

Until purchased and activated the program defaults to the 'Try Before You Buy' version..

The program can be installed on as many PC's as you wish, BUT it is 'tied' to the AR-DV1 receiver you supplied your Serial Number for, when purchased. So any PC, but one receiver only.

Run the installation software.

When you run the program for the first time you will be asked to enter the Com Port number manually.

The drivers (above) must be correctly installed, the AR-DV1 switched ON and connected to the computer. Once the Com port has been entered correctly the details are stored.

IF the Serial Number of the receiver does not match the one you supplied, or the radio is not switched ON, or connected correctly, the program cannot load.

The 'Try Before You Buy' version had no serial number check, but some features are limited and the program closes after 10 minutes.

3. ACTIVATION

As soon as we can (see IMPORTANT NOTES below) we will send you an email which contains an activation code. Highlight this code and select 'copy'. In the program's installation folder there is a text file named 'LICENSE'. Navigate to that folder, (there is a link in the Start Menu entry re the program) open the text file, PASTE the code into it and click save. **It is recommended you also save a copy of the LICENSE text file somewhere else, in case you need the code again, and in order to keep it safe.** If the program cannot find the code, or the code is incorrect, it will default to 'Try Before You Buy'.

4. OPERATION

The program takes a little time to load, be patient, it has to manipulate a lot of data.

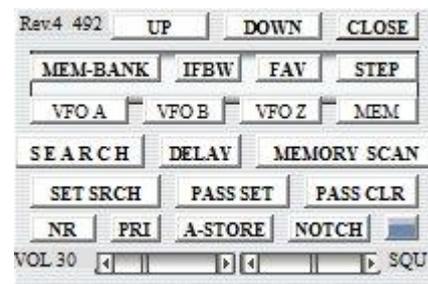
The DISPLAY screen will show most of the information you see on the receiver.

The function of the controls (buttons) are as follows:-

- (a) First click the small **square blue button** in the bottom right hand corner.

This 'toggles' the screen display size. Leave it in full screen for now.

BUTTON BANK 1 - TOP RIGHT (BB1)



- (b) Below the display are buttons re. **SQUELCH** type, VSQ, LSQ, NSQ , AUTO and TSQ. Under these are the **MODE** controls. (See Important Notes below re 'FM-W')

BUTTON BANK 2 - BOTTOM LEFT (BB2)



If you 'right-click' the VSQ (Voice Squelch) button, a window appears and you can use the sliders to adjust the 'Squelch Level' and 'Delay'.

NOTE - These buttons are not visible while the radio is in a search mode.

- (c) **MANUAL FREQUENCY ENTRY** is controlled by the bottom right buttons. Use the number buttons to select a frequency. This will show in a black bar under the buttons. Clicking 'ENTER' will change the frequency.

You can use the 'CLEAR' button to empty the box if you make a mistake.

This function is shared with the entry of PRIORITY frequencies (see below).

If '**SET PRIORITY CH**' is displayed at the top of the numbers then click on any VFO button to return to normal frequency entry.

- (d) '**VFO-A**' (BB1) selects that VFO
(e) '**VFO-B**' (BB1) selects that VFO
(f) '**VFO-Z**' (BB1) selects that VFO

NOTE VFO-Z is used by the program to store other frequencies during some operations.

- (g) The '**STEP**' (BB1) button brings up a list of choices which you can select.
(h) The '**UP**' (BB1) and '**DOWN**' (BB1) buttons can be used to change frequencies. In MEMORY mode they move to the next or previous channel.
(i) The '**VOL**' (BB1) and '**SQU**' (BB1) sliders are self explanatory.

NOTE the volume is set to the last setting the radio used whilst under computer control when the program starts.

- (j) '**SET SRCH**' (BB1)

This brings up a new window. Clicking any of the buttons lets you enter SEARCH BANK details.

Select a search Bank. The program takes a few moments and shows 'SEARCHING', then either shows the relevant search details or displays 'Empty Bank'.

If the Bank is empty, you may add new search parameters.

Once you have entered your details, ALWAYS select the 'SAVE CHANGES' button to store them. You can remove a SEARCH BANK by clicking DELETE.

- (k) '**SEARCH**' (BB1)

This brings up BANK selection (bottom right).

By default Bank 00 is selected, and the receiver will start to search that Bank.

If you click on an empty Bank, a warning will appear, and the receiver defaults to Bank 00.

In SEARCH and SCAN modes the displayed frequency has been slowed down, so that it is readable. The frequency display on the radio is just a 'blur'.

The slowed down display makes no difference to the speed the receiver scans, and when it stops on a channel, the correct information is displayed by the program.

NOTE Squelch type or MODE cannot be changed during searches and the buttons are not visible.

(l) **'AGC' - AUTOMATIC GAIN CONTROL** (BB2)

This function is only available in non FM modes. Left click to cycle values, between fast, medium and slow.

(m) **'MEMORY SCAN'** (BB1)

As 'SEARCH' above except if an empty Bank is selected, after the receiver has checked, no changes are made, and the scan will continue in the original Bank which has entries in it. The FIRMWARE does NOT facilitate SAVING 'IF bandwidths' for MEMORY CHANNELS.

The display speed of the scan has been slowed down, which may mean it appears some frequencies are being skipped. The radio is scanning all the frequencies in fact. If it stops on a carrier the correct information appears on the program's screen. (See Mem-Bank)

(n) **'NR' - NOISE REDUCTION** (BB1)

The button activates Noise Reduction. Each click cycles between the three levels and OFF

(o) **'NOTCH' (AUTO)** (BB1)

The button activates Auto-Notch. Each click cycles between the three levels and OFF

(p) **'PRI' - PRIORITY CHANNEL** (BB1)

Click to activate/deactivate. A right-click displays the frequency entry panel (bottom right). 'SET PRIORITY CH' is displayed at the top of the numbers.

Enter the PRIORITY frequency. You may also adjust the priority interval using the slider. It takes a few seconds for the information to be processed by the receiver.

The priority channel is stored in Search Bank 39, channel 49. Do not overwrite this.

It takes time for all the data to be stored once a new priority frequency has been entered. WAIT until the number entry box disappears before clicking another button.

If the priority interval is too small then it will be difficult to enter new VFO frequencies.

The firmware AUTOMATICALLY stores the frequency with the MODE that is currently selected.

If you want to store a particular MODE with the priority frequency, first deselect 'PRI'. Select the mode you want to store, then enter the frequency as above.

When the priority frequency change is in operation, Memory Channel 00-01 appear briefly on the Receiver's screen.

The 'DELAY' button slider (BB1) will control the length of time the priority channel functions.

During searches the program's frequency display will flash if priority is selected.

NOTE The program's frequency display ONLY changes when the priority frequency receives a signal that opens the squelch.

(q) **'SCRAMBLER'** (BB2) - [Disabled by firmware in some Countries]

This button is located under the display when the program is in full screen. Clicking it brings up a screen displaying 'ANALOGUE' and 'DIGITAL'

The ANALOGUE button displays a slider, which allows you to set the different values as specified by the Receiver's firmware.

The manual states that this function only works in FM mode, with an IF bandwidth of 15 or less. We hope that future firmware releases may change this and the descrambler will work with wider parameters, so we have allowed the function to be enabled more widely.

If you want to activate this function for a DIGITAL MODE, then you must first set the program/receiver to 'FM-N'. Click the 'ANALOGUE' button so 'VI' appears on both the receiver's and program's display, THEN click on the digital mode you wish to select, as sometimes the receiver's firmware turns 'VI' off.

The DIGITAL button displays several options.

The MANUAL states this function is for non-licensed low power communication system, in Japan only. There are over thirty thousand different permitted codes!

The SEARCH ON/OFF button activates an automatic search. The values are displayed in the adjacent box. The UP / DOWN buttons increment or decrement the value by 1 in non-auto mode. The slider can be used to adjust the value.

(r) **'AUTO' - AUTO SQUELCH** (BB2)

In auto mode LSQ is selected for all AM modes, NSQ for all FM modes.

(s) **'TSQ' - TONE SQUELCH** (BB2)

Left click activates. 'CTC' appears on screen. Right click to setup (only once TSQ has been clicked), and select the frequency. Function is only available in FM modes. (There are still some firmware problems re. programming this function)

(t) **'DCS' - DIGITAL TONE SQUELCH** (BB2)

Left click activates. 'DCS' appears on screen. Right click to setup once DCS is selected, and select the CODE. Function only available in FM modes with an IF < 30.

NOTE

YOU CAN SET VALUES FOR TSQ, DSQ, OR VSC ON/OFF IN '**MEM**'. FOR INDIVIDUAL MEMORY CHANNELS. SELECT THEIR FREQUENCY AND SET AS DESIRED

THE RADIO STORES THE ABOVE AUTOMATICALLY FOR INDIVIDUAL FREQUENCIES SO THE FUNCTIONS ARE TURNED 'OFF' DURING SCAN AND SEARCH.

(u) '**FAV**' (BB1)

You may store a number favourite channels, for quick selection. When selected a list of these frequencies is displayed (under their name).

Click 'ADD ITEM' to save a new favourite. To Delete a favourite frequency, select it, then click 'DEL ITEM'.

(v) '**MEM**' (BB1)

When this button is clicked the Bank selection is displayed bottom right.

Stored memory Bank frequencies are downloaded from the receiver and shown bottom left, and takes a few moments to complete.

Clicking on a listed item transfers that frequency to the receiver.

You can add or delete frequencies using the MEM-BANK button (see below).

(w) '**MEM-BANK**' (BB1)

This brings up a new window. Click BANK and select one.

You may edit the memory Bank name, or delete the Bank

A list of all the Bank memories is downloaded from the receiver and displayed.

If a Bank has a stored frequency, clicking on it will display its details on the left. A channel can be deleted by clicking DELETE.

You may change any of the details by clicking on the appropriate button and entering the information.

NOTE Frequencies must be within the Receiver's range, and any TITLE no longer than 12 characters.

If you select an empty Bank channel you may enter new details for it, and save them.

Channels may be **moved** to a different Bank, with the option of deleting them from their original Bank if you wish.

The EDIT BANK and DEL Bank buttons automatically save the new settings.

If you change or edit any Channel Data remember to click the 'SAVE' button EACH time a change has been made.

It takes time to upload / download information , so wait for each operation to complete after clicking 'SAVE'. When finished the BANK selector will open.

(x) **'PASS SET' and 'PASS CLR'** (BB1)

Due to problems with the receiver's firmware these functions do not work consistently in scan or search modes. Often more than one click is needed to set a pass frequency.

You will see that pressing PASS SET in search or scan mode sends the signal to the receiver, and it responds with a 'WRITING MEMORY' on the screen, however the firmware sometimes fails to set the pass channel. You may need to click the 'pass' button several times before the radio registers the change. It is hoped that future firmware releases will solve this. In any case the program as it stands is sending the correct information out.

If you wish you can set a memory channel as a pass frequency, by first selecting it using the MEM-BANK button, and press PASS SET. You can clear the pass setting in MEM-BANK mode too.

A ' RIGHT MOUSE' click on PASS CLR is set up to delete ALL pass channels.

(y) **'IFBW'** (BB1)

This button lets you select the correct IF Bandwidth for a displayed frequency's mode in VFO, MEM or FAV. You cannot change the bandwidth during searches.

It is not wise to try to search stored memories which have been saved with a wide bandwidth. The radio will stop on adjacent frequencies if you do.

When you switch the receiver ON, a default Bandwidth is selected.

If you **switch modes**, then the receiver selects a **default bandwidth** (firmware controlled).

(z) **'DELAY'** (BB1)

This buttons brings up a window (bottom left), in which you may make your selections using the appropriate sliders.

NOTE Search and Scan delay values are only stored when either search or scan are active. (This is a firmware issue)

Many of the buttons above have a 'toggle' effect, i.e. clicking the button again either turns the function 'OFF' or closes any window it may have opened. Larger option windows must be closed manually.

QUIT the program by clicking on the top right 'CLOSE' button. This shuts down everything correctly, saving important information AND releases the receiver from computer control.

IMPORTANT NOTES

The AR-DV1 is a fine receiver, but it still has Firmware issues (as of 1601B).

These include problems with computer control.

Although many things work correctly, some have had to be 'forced' into good behaviour by this program, and some cannot be resolved until the firmware is fixed..

You may notice for example that the clock takes up to a minute to appear on the program display.

This is caused because the firmware only allows time entry in hours and minutes, not seconds.

So the program has to wait until the computer's seconds reach 0 before syncing with the receiver.

It only syncs at start-up. The receiver's clock will not always continue showing exactly the same time as that shown on your PC, as both times continue independently.

DIGITAL mode searching or scanning is not recommended, because many digital channels are always transmitting and none of the squelch modes can cope with this. The Receiver may also misbehave when switching from a digital mode frequency to other functions. (a firmware issue.)

If you do accidentally include a digital channel (set to a digital mode) when searching memory channels, then this firmware bug may kick in, and switching to a different function causes the receiver to malfunction.

As yet AOR have supplied no codes to control Color Coding in DMR mode. At present if you switch modes and the Color Code message is being displayed on the receiver, it is not always removed. The program attempts to 'fix' this, but you may see 'D-Star' flash on the receiver's screen while it does this.

'FM-W' - By default an IFBW of 200 is initially selected for the FM Band (88 ~ 108Mhz) . Right click on 'FM-W' [BB2] to select / deselect. This choice is stored by the program.

In some circumstances, sending an instruction to the receiver results in the radio updating, and during this it shows 'Writing Memory' on its screen.

While this message is displayed the radio will not accept new instructions. So if the program seems to 'hang', the chances are you will see that message on the receiver's screen. As soon as it disappears everything functions again. This is a firmware matter re. computer control.

The program reacts as fast as serial communication will allow.

All changes mean that information must be sent to the radio, implemented, a reply received, and acted upon, so the program cannot update itself instantly. There will be some short but unavoidable delays during these processes.

'S' Meter

If you watch the meter on the radio you will see it fluctuates very quickly when no definite carrier is present. Far too fast for serial information to keep updated in real time. The actual meter number is not sent from the receiver, so the program's displayed 'S' Meter reading is approximate and may not always be exactly the same as that shown on the AR-DV1's screen. There is a small delay updating the displayed 'S' Meter reading.

This software is designed around Firmware version 1601B. We cannot be responsible for any future firmware updates which may cause problems. No refunds will be made once the software is purchased.

ULTIMATE SOLUTION

From time to time in 'non computer control ' the AR-DV1 has a nervous breakdown.

If the control program does not function correctly then it is more than likely that this has happened.

Just exit the program (top right 'CLOSE' button), unplug the power from the receiver, wait about 15 seconds and reconnect. Once the receiver has powered up restart the program.

It has taken hundreds of hours to create this program.

This has proved extremely difficult, especially because the firmware lacks some needed control codes, and some existing ones do not work correctly. Also there are some firmware anomalies which have caused problems.

This has meant that under certain circumstances 'workarounds' have had to be devised.

Every effort has been made to try to hopefully ensure the program itself has no flaws, and if it does misbehave occasionally please remember it is most likely to be caused by firmware issues, so beyond our control.

Despite the program being very comprehensive in its ability to control the AR-DV1, it does not quite do everything.

If you have concerns please do not post bad reviews. Contact us first, and remember Thumper's mother in 'Bambi' when she said "If you can't say anything nice, don't say anything at all'. (LOL)

On the other hand, if you like the program then please let other people know.

We are a very small operation, and although we will try to respond to any queries, it will take time to reply.

Your personal 'activation code' has to be individually created so there will be a delay after making your payment and you receiving an email containing the code.

At present no 'VAT' is charged on sales.

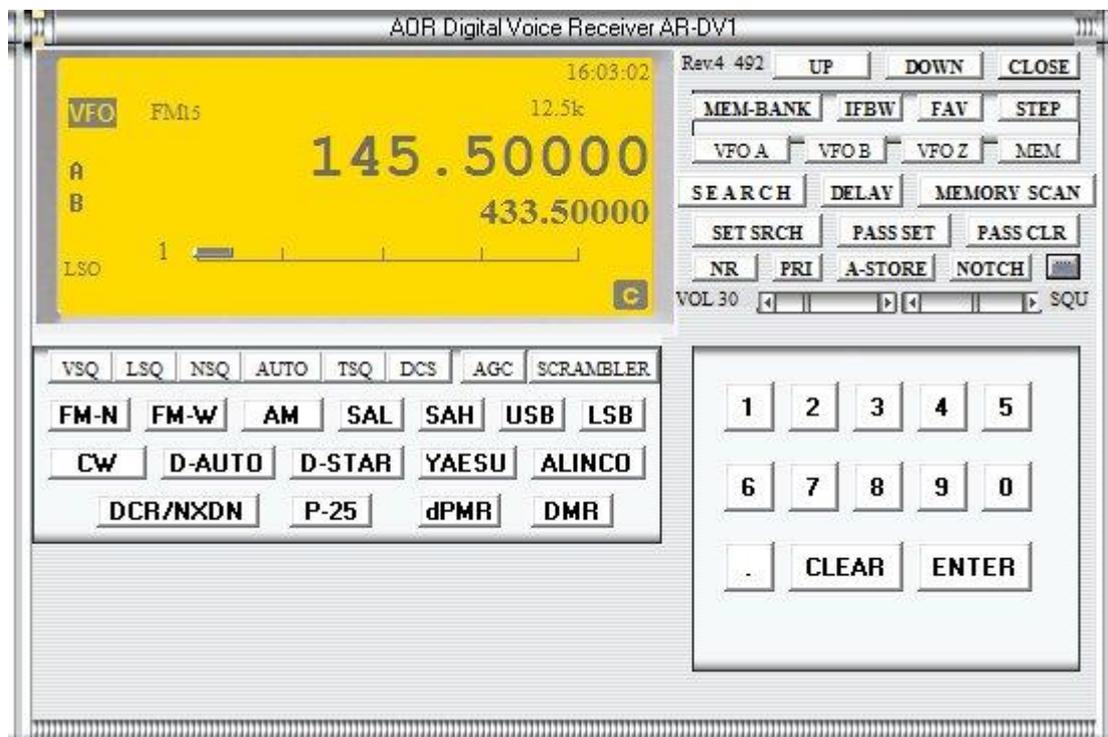
No REFUNDS will be made re. any software purchases. You should run the 'Try Before You Buy' version first, to ensure the software is compatible with your equipment.

SMALL SELECTION OF SCREEN SHOTS

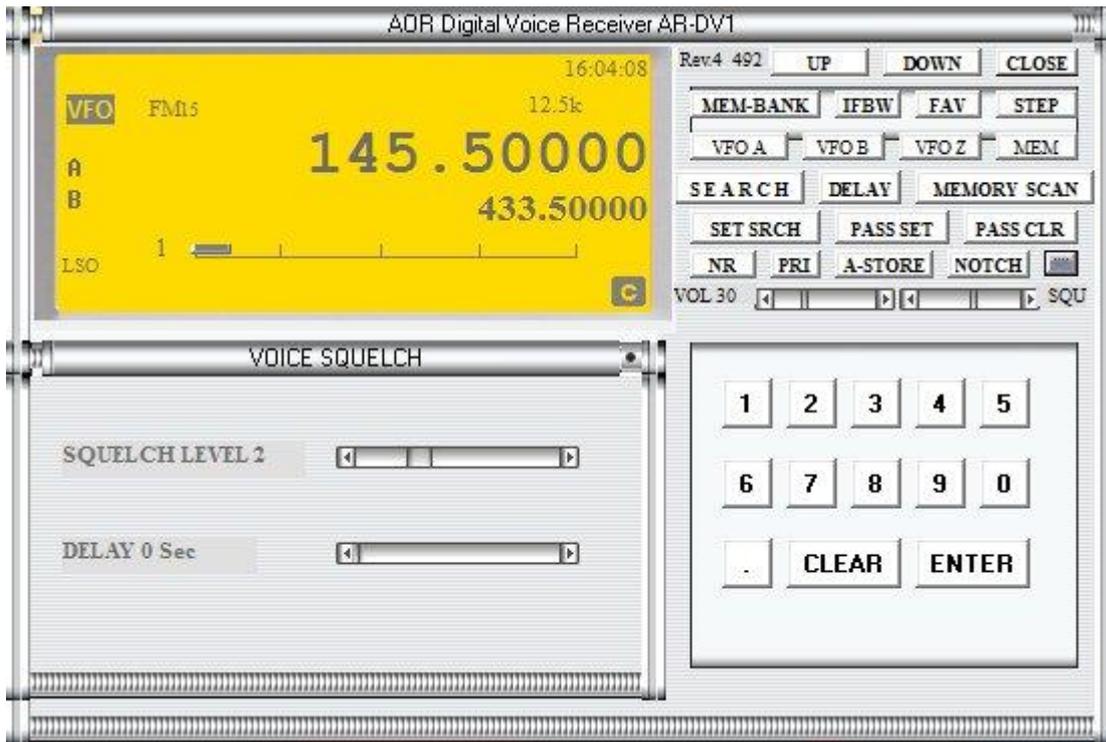
MAIN SCREEN - SMALL



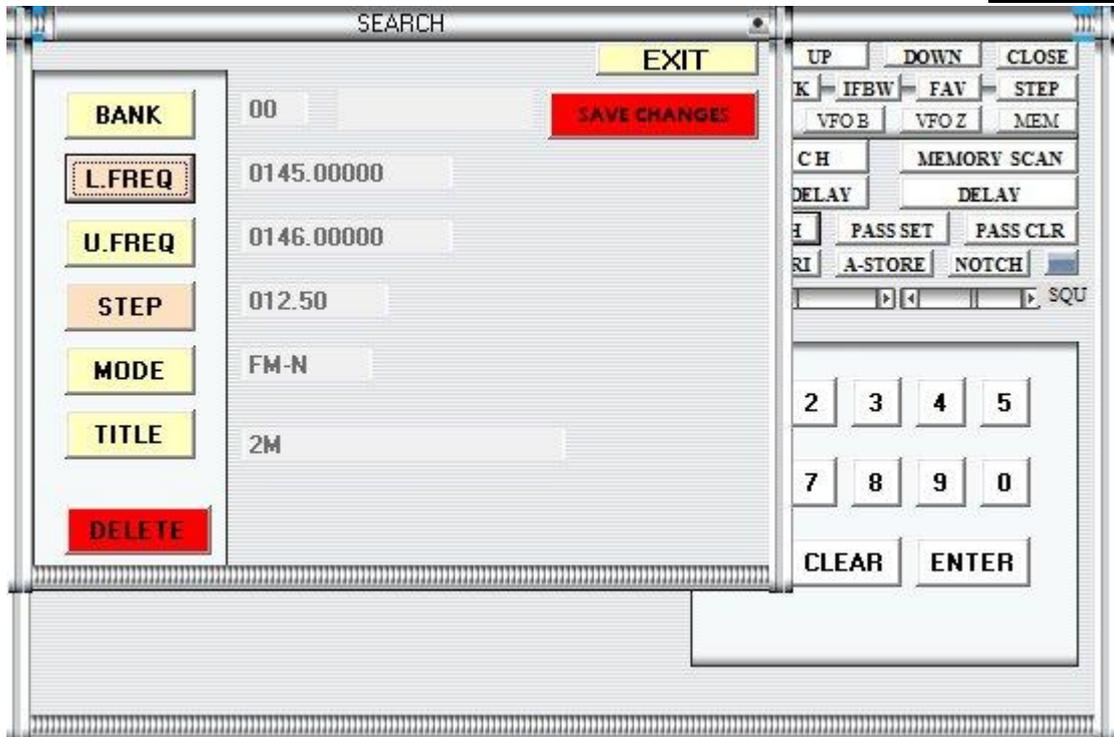
MAIN SCREEN - FULL



VOICE SQUELCH



SETSEARCH



MEMORY BANK CONTROL

MEMORY BANKS

BANK 07

BANKS

EDIT BANK AIR 1

DEL BANK

CHANNEL DATA

CHANNEL 00

PASS CH N

FREQUENCY 0121.10000

MODE AM

PROTECT N

TITLE AIR 1

MOVE

00	FRQ 0121.10000	AIR 1	26	***Empty
01	FRQ 0121.20000	AIR2	27	***Empty
02	FRQ 0121.30000	AIR 3	28	***Empty
03	***Empty		29	***Empty
04	***Empty		30	***Empty
05	***Empty		31	***Empty
06	***Empty		32	***Empty
07	***Empty		33	***Empty
08	***Empty		34	***Empty
09	***Empty		35	***Empty
10	***Empty		36	***Empty
11	***Empty		37	***Empty
12	***Empty		38	***Empty
13	***Empty		39	***Empty
14	***Empty		40	***Empty
15	***Empty		41	***Empty
16	***Empty		42	***Empty
17	***Empty		43	***Empty
18	***Empty		44	***Empty
19	***Empty		45	***Empty
20	***Empty		46	***Empty
21	***Empty		47	***Empty
22	***Empty		48	***Empty
23	***Empty		49	***Empty
24	***Empty			
25	***Empty			

Save **Delete** **Exit**