

# NAGRA ARES-BB MANUAL



Version: Sept.6, 2004

**WARNING:** The ARES-BB has a built-in charger (charge current = 300mA).  
NiCd or Ni-Metal-Hydride cells can be used.

PN 2019 615 150

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## 1 DELIVERED WITH.

1 Jack 6.3 mm (90 degrees) connector, 1 USB cable, 1 CDR with Ares Import, Digigram import software and manuals.

## 2 INSTALLING THE BATTERIES (NB-BB OPTION).

On the rear side of the machine, loose the 2 "thumb" screws until the battery box can be removed. To open the battery compartment, slide the inner cover until it is fully open. If dry cells are used verify that the battery compartment switch is in the OFF position. Install the 6 "AA" cells observing the polarity and replace the inner cover. Lock the battery compartment back to the machine.

### Important note:

In the tools sub-menus select the corresponding type of battery pack (AA cells or Li-ion)

When using the external power supply, check that the switch on the battery compartment is set to "OFF" before installing dry cells.

Batt. Type	Capacity	Charging time	Record mode	Manufactory
NimH	1300 mAh	4h30	5h30	GP
NimH	2300 mAh	8h00	11h35	Sanyo
Li-Ion	2400 mAh	8h30	12h30	Saft
Dry cells		x	12h50	Panasonic, Alkaline

In the OFF position, the charger circuitry is not activated and if an external power supply is connected, the machine will run from external supply and not from the batteries.

When an external power supply is connected to the Ares-BB, the green led turns on. During charge, the yellow led turns on. The Ares-BB charges with approx. 300 mA. Charging stops automatically (yellow led turns off). If the yellow led never turns off, it means that one or more cells are defective. If the charger switch is turned on and no batteries are installed while the machine receives external power, the yellow led starts blinking fast.

## 3 INSTALLING THE FLASHCARD.

Insert the flashcard on the right side of the machine and push it fully home (eject button fully out). Compact flash cards must be installed using an adapter.

**NOTE:** The software version, for the Ares-BB V2.00 and higher allows using linear and Strata flash cards, ATA cards, compact flash cards and Micro-drive cards.

### Important note:

When running the machine in the FAT 16 mode, only ATA, Compact flash cards and Micro-drive cards can be used.

## 4 POWER ON, POWER OFF.

Press the "POWER ON" button (1) for 1 second and the machine switches on. To switch "OFF" the machine push the same button again for 1 second.

**Attention:** the machine cannot be switched OFF during RECORD.

## 5 CONTRAST.

If the display contrast is not set properly at power on, switch off the machine, keep the "RIGHT" arrow key (12) pressed while turning on the machine. This brings the machine directly to the contrast menu. Adjust step-by-step with the "UP" (9) or "DOWN" (11) arrow keys to increase or decrease accordingly. Once the correct contrast is found, press the "CENTER" key (13) to store the new setting in the machine. Press the "LEFT" arrow key (10) to quit the menus. The factory setting has the value "32".

## 6 BUTTONS.



- |   |  |    |   |
|---|--|----|---|
| 1 | Power ON / OFF                                   | 9  | Up arrow key or increase output level key |
| 2 | Record, Marker key                               | 10 | Left arrow key                            |
| 3 | Rewind, skip backwards key                       | 11 | Down arrow key or reduce output level key |
| 4 | Stop key   | 12 | Right arrow key                           |
| 5 | Play key   | 13 | Other menu or execute key                 |
| 6 | Forward, skip forwards key                       | 14 | Marker                                    |
| 7 | Reduce input sensitivity or playback level key   | 15 | Keypad lock                               |
| 8 | Increase input sensitivity or playback level key |    |   |

## 7 ARES-P II or ARES-BB DIFFERENCES.

ARES-P II & ARES-BB: Is equipped with a USB 1.1 connector. In the "FAT 16" mode only, the machine is recognized as an external removable hard drive. It also has a built-in speaker, Phantom power, Vortex filter and accepts compact micro-drives up to 2 GB.

The ARES-BB is functionally identical to the ARES-P II. It offers the USER XLR input & output connectors and an ergonomic table-top operation. It gives a 20% increase in autonomy thanks to the additional batteries and can offer a Lithium-Ion pack as an alternative. The ARES-BB cannot use the NP-MICE/NP-MICES Electret microphone capsules.

Without any software options installed, the card is formatted "FAT 16" and is directly compatible with Windows or Mac O/S. The recorded files are Broadcast Wave Format (xxx.wav). Only PCM can be recorded (not compressed).

If equipped with the software option I, the machine emulates also an ARES-P. In the "NFS" (Nagra File System) mode, compressed MPEG files can be recorded. In the "FAT 16" mode, the maximum bit rate becomes 384kb/s 48kHz stereo.

Only ATA, Compact flash or Micro-drive cards can be used in the "FAT 16" mode.

If equipped with software option I & II, the machine also emulates an RCX220. This means that in the "NFS" mode, via USB, Windows recognizes the machine as an external soundcard and in the "FAT 16" mode as an external removable hard drive.

**Important note:** When making linear recordings (WAV) the range of media that can be used is restricted. The card must be capable of writing data at high speed. A stereo recording at 48kHz requires a data rate of  $2 \times 16 \text{ bits} \times 48000 \text{ sampling frequency} \div 8 \text{ bits per Byte}$  gives a data rate of 192 kBytes per second.

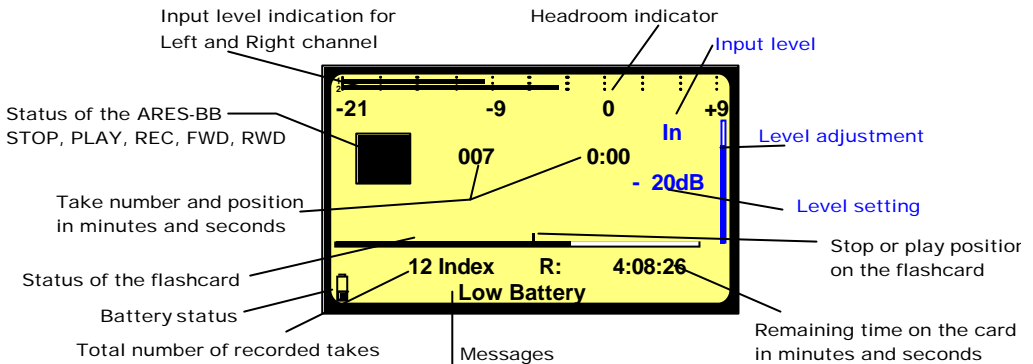
## 8 FIRST TIME SWITCH ON.

Verify first that the keypad lock switch (15) is in the left position. Once the batteries have been installed and turning on, the machine will switch on in the FAT 16 mode. The display will show a picture of a cylinder with the word "FAT" for several seconds.

**To change the mode to "NFS" mode (if the software #1 package is included) jump to page 15 Paragraph 14.3.4 PROGRAM SELECT before continuing.**

## 9 MAIN DISPLAY DESCRIPTION.

Attention: At power on, the display below is shown, but without the level bargraph indicator on the right-hand side. This bargraph appears when the "+" or "-" button (8 or 7) is pressed. It disappears after a few seconds to improve the clarity of the display.



### Status of the ARES-BB



"STOP"	ARES-BB is in STAND BY mode
"RECORD"	ARES-BB is in RECORD mode
"PLAY"	ARES-BB is in PLAY mode
"SEARCH FORWARD"	ARES-BB is playing fast forwards
"SEARCH BACKWARD"	ARES-BB is playing fast backwards

### Take / Index number and position in minutes and seconds

This is the physical playback position. The example shows that playback will start at the beginning of Take / Index 7 (0 minutes, 0 seconds).

### Stop or play position on the flashcard

The marker shows the exact playback position, Take / Index 7 at 0 minutes, 0 seconds.

### Status of the flashcard

The full length of the bargraph corresponds to the total memory of the inserted flashcard. The black area shows how much memory was already used for recording. The clear area shows the remaining memory.

### Total number of recorded Take / Indexes

This area shows the total number of Take / Indexes already recorded on the flashcard.

### Remaining time on the card in minutes and seconds

This indicates how much recording time is left on the card. In this example, it shows 8 minutes, 8 seconds. If the bit-rate is changed, it will automatically be updated. Example 8:08 if 128kb/s was set, it will become 16:16 if the bit-rate was changed to 64kb/s.

### Input level indication for Left and Right channel

In the stereo mode, bargraph 1 corresponds to the left channel and 2 to the right channel. In mono mode, both bargraphs indicate the input level. From 0dB, the bargraph shows the headroom up to +9dB. +9dB corresponds to "FF" for the AD converter.

### Messages

This is the area for messages, such as "**LOW BATTERY**", "**CARD FULL**", "**NO CARD**", etc.

A beep in the headphones corresponds to an arrival of a message on the display.

### Battery status

When the battery icon shows full, it indicates the batteries are fully charged. Full corresponds to a voltage measurement of 7.54V or higher. When the voltage drops below 6V, a warning beep is heard in the headphones and the message "**LOW BATTERY**" appears in the display. When the voltage drops below 5.1V the machine automatically switches off.

When the battery icon disappears during a USB connection in the "FAT 16" mode, it means that the machine is powered by the PC and not anymore by the internal batteries or external power supply.

### Level Adjustment

This bargraph only appears on the screen during the adjustment of the input sensitivity, the output level or the ALC threshold adjustment. If no adjustment is made it will disappear after a few seconds. Simultaneously, the level setting in dB's as well as the kind of adjustment "**IN**", "**OUT**" or "**THR**" will appear on the display.

## 10 RECORD (2), REWIND (3), STOP (4), PLAY (5), FORWARD (6), MARKER (14) KEYS

### 10.1 RECORD KEY (2)

#### For "NFS" mode.

A valid formatted card must be fitted and the machine switched ON. To start recording, the "**RECORD**" key (2) can be pressed, even if the machine was in "**PLAY**" mode or is in one of the sub-menus. The "**RECORD**" key will not work if the machine is deleting a Take / Index or formatting the card.

If during record the "**RECORD**" key is pressed again, a new Take / Index is automatically created. This function is used for "**MARKING**" the audio during record.

#### For "FAT 16" mode.

During record or play, the "**MARKER**" key (14) can be pressed on the fly. This will add a marker inside a single file.

During record, the front red LED turns ON.

During record, the "**POWER**" key is disabled.

### 10.2 REWIND KEY (3) AND FORWARD KEY (6)

These keys have two functions called "**SKIP**" backwards or forwards and "**REWIND**" or "**FORWARD**".

#### SKIP.

##### For "NFS" mode.

In "**STOP**" mode: To jump Take / Index-by-Take / Index, pressing briefly on the "<<" or ">>" keys will decrement or increment the Take / Index position.

In "**PLAY**" mode: To jump to other Take / Indexes on the card, press twice in quick succession the "<<" or ">>" to decrement or increment the Take / Index number.

**IMPORTANT:** Only Take / Index with the same compression as the current settings of the machine can be played back using the SKIP buttons. All other Take / Index with a different compression cannot be selected.

### For “FAT 16” mode.

If the recording contains “markers” then these keys will jump to the next (or previous) marker position.

### FORWARD SEARCH & BACKWARD SEARCH.

This function can be executed in “STOP” or “PLAY” mode. Once the “>>” or “<<” key is pressed for more than 0.5 seconds, the machine starts **FORWARD or BACKWARDS SEARCH** at 4 times nominal speed. The longer the button is pressed, the search speed increments up to 128 times nominal speed. When the button is released, the search stops and it returns to its previous function (STOP or PLAY).

### 10.3 STOP KEY (4)

When this key is pressed during record or playback, the machine stops recording or playing and returns to the “EE” mode.

The “EE” mode means that the input signal is fed to the output. This button can also be used as the “PAUSE” key during playback.

### 10.4 PLAY KEY (5)

After a record session pressing the “PLAY” key, immediately plays back the last recorded Take / Index. After power on pressing “PLAY” will resume playback from its last position before power down, as long as the batteries are installed.

### 10.5 EXTERNAL RECORD COMMAND

On the right side of the machine, a mini jack connector (mono 3.5 mm) is present called “START / STOP”. If the mini jack input is grounded, the record starts, if open, the record stops.

## 11 LEVEL ADJUSTMENT

### 11.1 OUTPUT LEVEL ADJUSTMENT

During the “STOP” or “RECORD” mode, the output level can be adjusted by the “UP ARROW” key (9) to increase or the “DOWN ARROW” key (11) to decrease. Once one of these keys is pressed, an additional bargraph on the right side of the display appears, indicating “OUT”, showing the current position of the adjustment. “0dB” corresponds to maximum output level, “59dB” corresponds to minimum output level and “OFF” corresponds to mute of the output signal.

The setting of the output level can also be stored in the machine in such a way that every time the machine is switched ON, it will Take / Index the same “DEFAULT LEVEL” output adjustment (See “SETTINGS MENU, OUTPUT LEVEL”). During the “PLAY” mode, the output level can be adjusted either by the “UP & DOWN ARROW” keys (9 & 11) or the “+” and “-” keys (8 & 7).

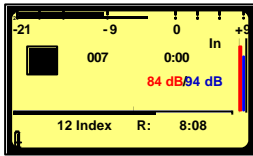
### 11.2 INPUT LEVEL ADJUSTMENT

During “STOP” or “RECORD”, the input level can be adjusted by pressing the “+” (8) or “-” (7) keys to increase or decrease the input sensitivity. Once one of these keys is pressed, an additional bargraph on the right side of the display appears, indicating “IN”, corresponding to the current setting. “74dB” corresponds to maximum input gain, “133dB” corresponds to minimum input gain and “OFF” corresponds to muting of the input signal. If the input sensitivity is adjusted for “74dB”, it means that if the input signal at 74dB SPL will be recorded at a 0dB level.



### Level Adjustment in the stereo mode (FAT 16 only)

When in the sub menus the "MIKE" is set to "STEREO", the left and right channel can be adjusted separately. Holding the left arrow key (10) and adjusting the input sensitivity will only adjust the left channel. Holding the right arrow key (12) and adjusting the input sensitivity will only adjust the right channel. When the input sensitivity between the 2 channels is not identical, the display will automatically show both input sensitivity levels.



As shown on the picture, the red indications correspond to the left channel, the blue indications correspond to the right channel. If no left or right arrow is pressed during the input sensitivity adjustment, both channels will be adjusted simultaneously and keep the same delta until one of the channels is reaching max. or min. level.

### 11.3 THRESHOLD ADJUSTMENT

The "THRESHOLD" adjustment permits selection of the size of the compression zone. It is the lower limit setting of the zone that will be automatically amplified during a silent period. The "ALC" works in a range of 42dB (from 74dB to 116dB). If the "THRESHOLD" is set to 104dB, signals of 104dB and higher (max. 116dB) will be recorded at 0dB level (between -2dB and -6dB for a stable signal). A signal of 90dB will be recorded at -14dB (104dB - 90dB). If "ALC" (Automatic Level Control) is "ON" and the "ALC THRESHOLD" is set to "USING +/- KEYS" (see SETTINGS MENU, ALC THRESHOLD), the threshold during "RECORD" or "STOP" can be adjusted by pressing the "+" or "-" keys (8 or 7). Once one of these keys is pressed, an additional bargraph on the right side of the display, indicating "THR" appears, showing the current position of the adjustment. "74dB" corresponds to maximum threshold level, "104dB" corresponds to minimum threshold level.

## 12 CENTER & ARROW KEYS



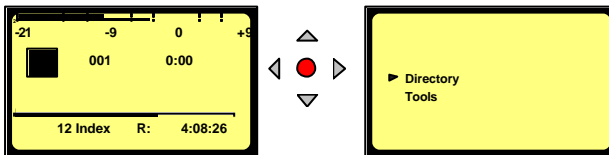
By pushing the **"CENTER"** key (13), the machine gives access to the **"DIRECTORY"**, **"TOOLS"** and **"SETTINGS"** sub-menus. Using the **"ARROW"** keys (9 to 12), you navigate between those sub-menus. To move back to the initial display, press the **"LEFT ARROW"** key (10) (except in the **"DIRECTORY"** where **"CENTER"** key (13) needs to be pressed first to return to the sub-menus).

## 13 LED MODULOMETER

The LED modulometer shows the sum of both channels when the machine is set to Stereo operation. The three leds give a quick visual indication in three colors, green, yellow and red. They light at levels of -21, -9 and 0 dB respectively. Normal operation is with the green and yellow led on and the red led flashing occasionally on signal peaks.

## 14 MAIN MENU.

By pressing the **"CENTER"** key (13), the main menu appears on the display.



**Note:** In the FAT mode, all recorded files are called "Index", in the NFS mode all recorded files are called "Take / Indexs".

The **"DIRECTORY"** gives access to all the information of the recorded files on the flashcard.

If **"TOOLS"** is selected, other sub menus can be selected: **"DATE & TIME"**, **"CARD FORMATTING"**, **"FORMAT REPAIRING"**, **"PROGRAM SELECT"** and **"VERSION"**.

If **"SETTINGS"** is selected, several other sub-menus can be selected such as: **"OUTPUT LEVEL"**, **"INPUT FILTER"**, **"BEEP"** and **"COMPRESSION"** etc.

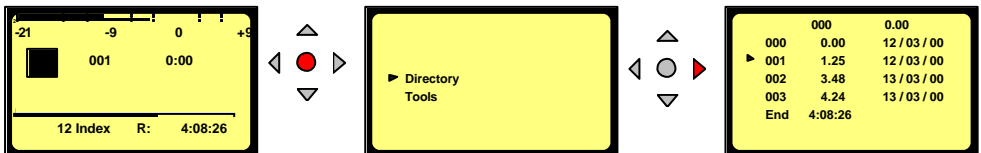
Scrolling through the different sub-menus is done by pressing the **"DOWN ARROW"** (11) or **"UP ARROW"** (9) keys.

Escaping from the sub-menu's is done by pushing the **"LEFT" ARROW** key (10).

Entering a sub-menu is done by pushing the **"RIGHT ARROW"** key (12).

Inside a sub-menu, execute the selected setting by pressing the **"CENTER"** key (13).

### 14.1 DIRECTORY MENU.



By using the **"UP"**, **"DOWN"**, **"LEFT"**, **"RIGHT ARROW"** keys (9, 11, 10, 12), once **"DIRECTORY"** has been selected, it becomes possible to scroll vertically and horizontally to view all the recorded files and their specifications.

If the marker has a "▶" shape, it means that the Take / Index compression is the same as the current settings of the machine.

If the marker has a ">" shape, it means that the Take / Index compression is different from the current settings of the machine.

In the latter case, if the **PLAY** button (5) is pressed, the corresponding compression will be automatically loaded in the DSP, and play starts.

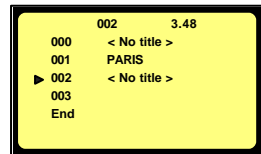
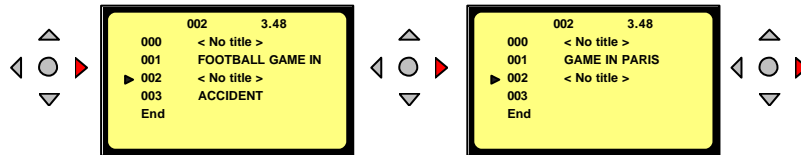
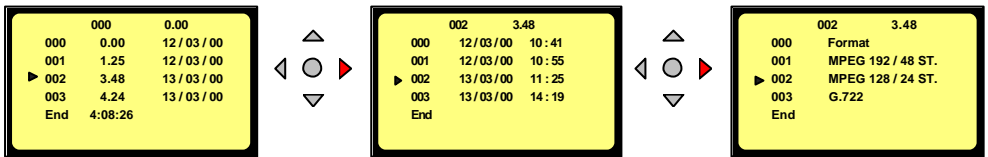
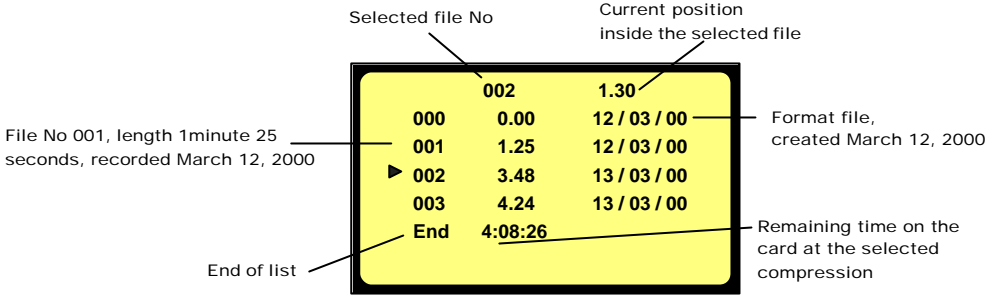
If the marker is in front of one of the audio Take / Indexes, the **PLAY**, **STOP**, **FWD** and **RWD** function keys (3,4,5 &6) become active.

If the **RECORD** button (2 or 2bis) is pressed, the display returns to the main screen and the recording starts.

### 14.1.1 HORIZONTAL SCROLLING.

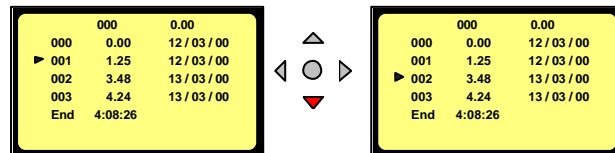
Use the "LEFT" (10) and "RIGHT" (12) "ARROW" keys.

**NOTE** Titles can only be added in the "NFS" mode and are not existing in the "FAT 16" mode



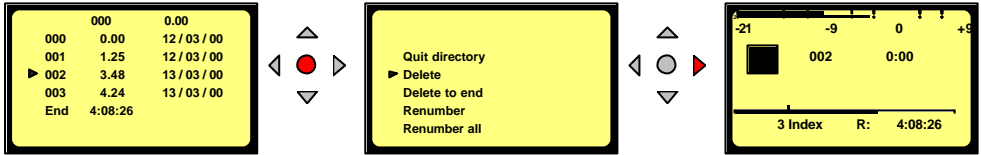
The display shows the length, the date of recording, the time at the record start, the type of compression and the title of each Take / Index. The title can be maximum 31 characters long and scrolls over the display in 3 stages.

### 14.1.2 VERTICAL SCROLLING.



Pushing the "UP" (9) or "DOWN" (11) "ARROW" keys makes the vertical scrolling.

The Take / Index number 000 is the format Take / Index. It shows the time and date when the card was last formatted.



In the “FAT 16” mode, Take / Index 000 does not exist.

### 14.1.3 QUIT DIRECTORY.

To escape from the “**DIRECTORY**”, press the “**CENTER**” button (13) once followed by the “**RIGHT**” arrow key (12). The display returns to “**STATUS**” display.

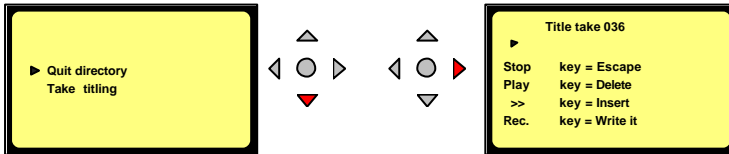
### 14.1.4 TITLING, “NFS” MODE ONLY.

Titles can be added to the format file (000) and each sound file for identification purposes.

In the “**DIRECTORY**”, select the Take for a new title.

Press the “**CENTER**” key once and the following display appears:

Select “**TAKE TITLING**”.



Pressing the “**STOP**” key returns the display to the “**DIRECTORY**”.

Characters can be selected with the “**UP**” and “**DOWN**” keys. To enter the selected character, press the “**CENTER**” key.

To delete a character, highlight the corresponding character with the **LEFT ARROW** or **RIGHT ARROW** keys and press the “**PLAY**” key.

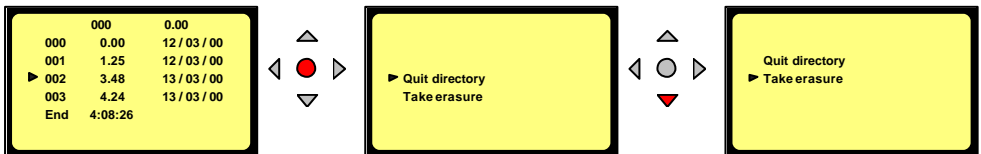
To insert a character, highlight the corresponding character for the insertion area and press the “**>>**” key. All characters from the highlight position will be shifted one space.

To record the title on the flashcard, press the “**RECORD**” key once.

### ATTENTION:

Once a title is added to a recording, it cannot be altered in any way on a linear flash card. Titles on ATA cards can be modified. If during titling, the “**RECORD**” key is pressed twice, the title will be recorded and the machine starts a new audio record.

If during “**TITLING**” the “**RECORD**” button on the side of the machine is pressed, audio record starts immediately and the title is not recorded.



### 14.1.5 ERASING TAKE / INDEX(S), “NFS” MODE ONLY.

Example: Take / Index 2 and higher Take / Index numbers

To delete one or more Take / Indexs, select in the directory the lowest Take / Index number that needs to be deleted, press the **'CENTER'** button (13) and select the **"TAKE / INDEX ERASURE"** menu. Once the selection confirmed by pressing the **"CENTER"** button (13), the erasing starts. To escape from the sub-menu, press the **"LEFT"** (10) or **"RIGHT"** (12) key once.

**NOTE: Erasing individual Take / Indexs in the middle of the "DIRECTORY" is not possible. The erase feature will always erase from the selected Take / Index / Index to the end of the card.**

#### 14.1.6 DELETE, "FAT 16" MODE ONLY.

Any Take / Index from the directory can be deleted without influencing other Take / Indexs.

#### 14.1.7 DELETE TO END, "FAT 16" MODE ONLY.

Erase the selected Take / Index and all Take / Indexs after until the end of the card.

#### 14.1.8 RENUMBER, "FAT 16" MODE ONLY.

Permits after deleting file(s) to renumber the files from the selected file until the end of the card.

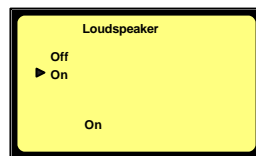
#### 14.1.9 RENUMBER ALL, "FAT 16" MODE ONLY.

Permits after deleting file(s) to renumber all the files from file 1 until the end of the card.

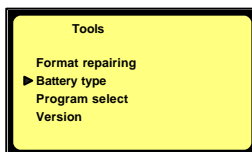
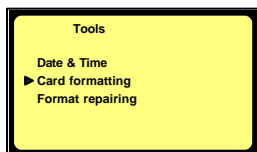
#### 14.2 LOUDSPEAKER.

This switches "ON" or "OFF" the internal loudspeaker.

**NOTE:** The internal loudspeaker can only be used in the playback mode.



#### 14.3 TOOLS.



**"Program select"** and **"Format repairing"** does not appear if the machine is not equipped with software option I.

Several sub-menus are available.

#### 14.3.1 DATE AND TIME.

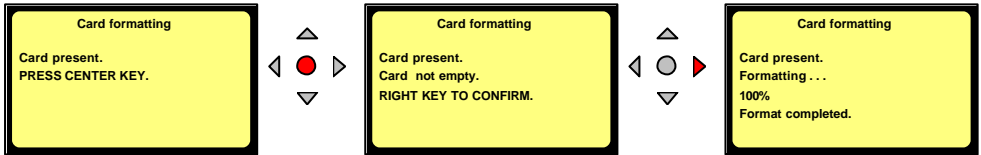
Selecting **"DATE & TIME"** gives access to change the time and date of the real time clock. Once the **"CENTER"** button (13) is pressed, the first digit starts blinking. The number can be modified by pushing the **"UP"** or **"DOWN"** (9 or 11) keys. Pressing the **"RIGHT"** arrow key (12) jumps to the next digit. Once the last number is introduced, the clock starts running. (Hours, Hours, Minutes, Minutes, Seconds, Seconds)

Introducing the date uses the same procedure.

Once the last number is introduced, the date is memorized.

To escape from the sub-menu, press the **"LEFT"** (10) or **"RIGHT"** (12) key once.

### 14.3.2 CARD FORMATTING, "NFS" MODE ONLY.



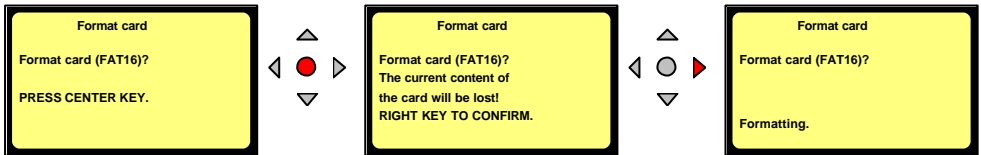
Execute by pressing the "RIGHT" arrow key (12) and the card formatting will begin.

Once the formatting is finished, the display returns to the previous menu.

To escape from the sub-menu, press the "LEFT" (10) or "RIGHT" (12) key once.

When the format command is executed, 'CARD NOT EMPTY' appears if one or more Take / Index are on the card (including format Take / Index 000).

### 14.3.3 CARD FORMATTING, "FAT 16" MODE ONLY.



Execute by pressing the "RIGHT" arrow key (12) and the card formatting will begin.

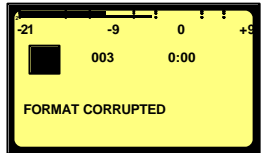
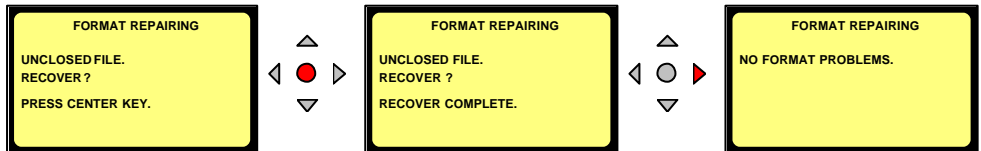
Once the formatting is finished, the display shows "Done".

To escape from the sub-menu, press the "LEFT" (10) or "RIGHT" (12) key once.

### 14.3.4 FORMAT REPAIRING, "NFS" MODE ONLY.

If during record, the card was removed (or batteries removed), an "UNCLOSED FILE" will be left on the card. This utility allows the user to close this file correctly.

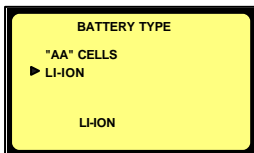
"FORMAT CORRUPTED" will be shown.



Follow the instructions on the display to recover the Take / Index. The last recorded file will be closed at the end of the memory of the card. The remaining time becomes 0 min. 0 sec.

To escape from the sub-menu, press the "LEFT" (10) or "RIGHT" (12) key once.

### 14.3.5 BATTERY TYPE.

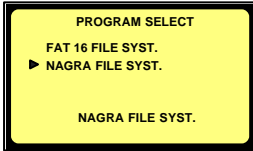


This menu allows selection of the type of battery connected to the Ares-BB.

For dry cells, Ni-mH or Ni-Cd, fitted in the NB-BB box select the mode "AA" cells. For the Lithium-Ion pack NB-LIB, select "Li-ion". If the "Li-ion" selection is made when using the NB-BB pack, then the machine will shut down before the cells are completely exhausted. If however "AA

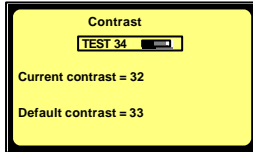
cells" is selected but a Lithium Ion pack is used, then during record, the machine may suddenly turn off and corrupt the card, as the pack will be exhausted and go into its internal safety protection mode before the machine shuts down.

### 14.3.6 PROGRAM SELECT.



The program select permits to swap between the 2 recording modes “FAT 16” mode or “NAGRA” mode (“NFS”) compressed files. This sub menu does not appear if software option I is not installed. To escape from the sub-menu, press the “LEFT” key (10) once.

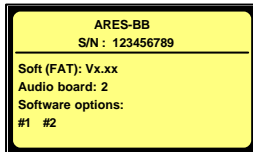
### 14.3.7 CONTRAST.



This menu permits to adjust the contrast of the display. Pressing the “UP” (9) or “DOWN” (11) key changes the current contrast. Pressing the “CENTER” key (13) stores the contrast settings as a default value at power on.

To escape from the sub-menu, press the “LEFT” key (10) once.

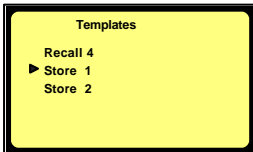
### 14.3.8 VERSION.




Selecting the “VERSION” sub-menu shows the serial number of the recorder as well as current version of the software installed. The version shown in this picture corresponds to the version for the “FAT 16” mode. Turning on the machine in the “NFS” mode will show the “NFS” version.

To escape from the sub-menu, press the “LEFT” key (10) once.

### 14.4 TEMPLATES, “FAT 16” MODE ONLY.



The Ares-BB can store and recall 4 different templates.

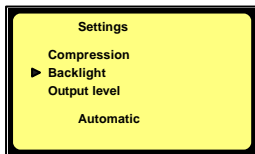
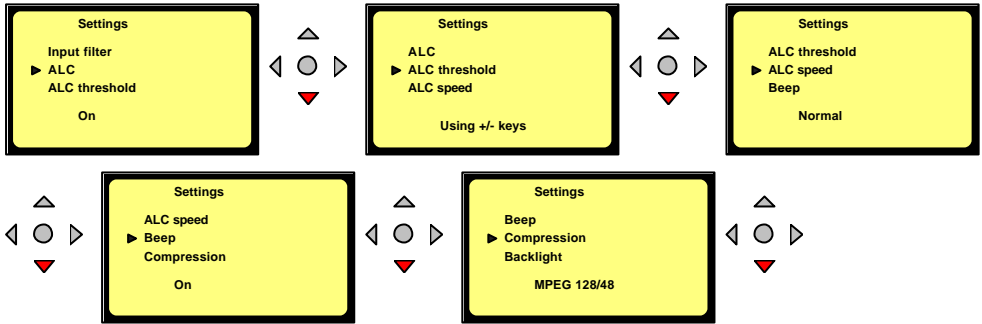
To have an overview of the different sub-menu settings that can be stored, refer to the menu tree at the end of this manual. Only menu settings with a red square against it can be stored. 

To use a template, setup the machine as required, then go to “TEMPLATES”, select “STORE 1” and press the execute key (13). The message “DONE” will appear. If now any changes were made in the setup, you can go to “RECALL 1” and press the execute key once again. This returns the machine to the settings stored in template 1.



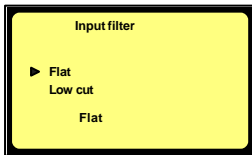
## 14.5 SETTINGS MENU.

The settings menu gives access to several sub-menus.



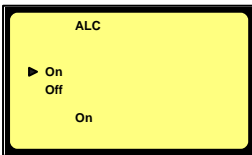
The current setting of each is always shown at the bottom of the display. In "NFS" mode, "COMPRESSION" is shown, in the "FAT 16" mode, the name compression is replaced by "FILE FORMAT".

### 14.5.1 INPUT FILTER.



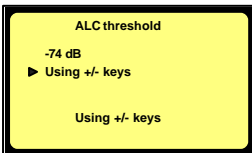
Two possibilities are available: "FLAT" or "LOW CUT".

### 14.5.2 ALC.



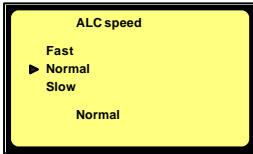
From this sub-menu, the "ALC" can be switched "ON" or "OFF". It is highly recommended to switch on the "LOW CUT" filter if "ALC" is turned ON.

### 14.5.3 ALC THRESHOLD.



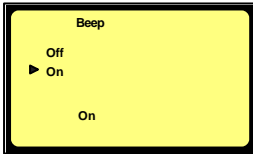
The "THRESHOLD" can be adjusted from -104 dB to -74 dB. In this case the "+"key (8) and the "-"key (7) are disabled. If "USING +/- KEYS" is selected, the "+"key (8) and "-"key (7) are enabled during "STOP" and "RECORD" mode, which allows the "THRESHOLD" level to be adjusted without returning in the "SETTINGS" menu.

#### 14.5.4 ALC REACTION SPEED.



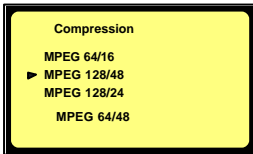
The "ALC SPEED" can be set to a **FAST**, **NORMAL** or **SLOW** reaction time.

#### 14.5.5 BEEP.



The beep signal is only available at the output and is not recorded. It can be switched **ON** or **OFF**.

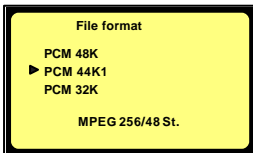
#### 14.5.6 COMPRESSION, "NFS" MODE ONLY.



17 different types of compression can be selected. Use the **UP** (9) or **DOWN** (11) arrow keys to select the type of compression to be used and press the **CENTER** key (13) to select one. The display returns to the previous menu.

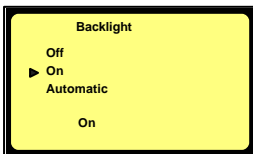
**Example:** MPEG 64/48 stands for: MPEG 1Layer II MONO compression at a total bit-rate of 64kb/s using a sampling frequency of 48kHz.  
MPEG 192/48 ST stands for: MPEG 1 Layer II STEREO compression at a total bit-rate of 192kb/s (96kb/s per channel) using a sample rate of 48kHz.

#### 14.5.7 FILE FORMAT, "FAT 16" MODE ONLY.



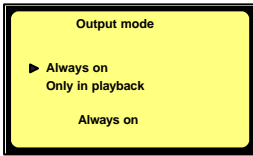
The Ares-BB without any soft option can only record in a linear mode (not compressed). If the soft option I is installed it includes also the selection of MPEG compression and this time up to 384kb/s.

#### 14.5.8 BACKLIGHT.



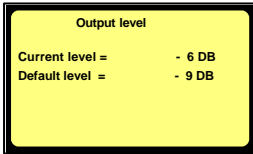
The backlight can be set to always **OFF**, always **ON** or **AUTOMATIC**. In the **AUTOMATIC** mode, the backlight turns on for 15 seconds, each time a key is pressed.

### 14.5.9 OUTPUT MODE.



This sub-menu permits to turn on or off the sound to the output connector in the case that a little speaker is used instead of a headphone. “**ALWAYS**” means that the output sound is always present. “**ONLY IN PLAYBACK**” means that the output sound is present only during playback but not present in the record mode or EE mode.

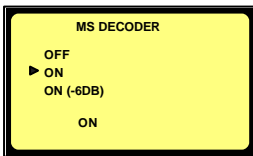
### 14.5.10 OUTPUT LEVEL.



The “**CURRENT LEVEL**” corresponds to the setting before entering the sub-menu. To modify this level, press the “**UP**” or “**DOWN**” keys (9 or 11).

The “**DEFAULT LEVEL**” is the level that has been saved in the memory. To modify the “**DEFAULT LEVEL**” to the value of the “**CURRENT LEVEL**”, press the “**CENTER**” Key (13). The default value will be remembered even if the unit loses power.

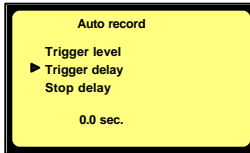
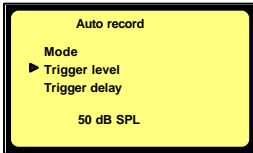
### 14.5.11 MS DECODER, “FAT 16” MODE ONLY.



The “**MS DECODER**” sub menu appears only in the “**FAT**” mode and permits to switch on or of the MS decoding for the headphones. The “**M**” channel corresponds to the left channel input, the “**S**” channel corresponds to the right channel input.

The “**ON (- 6 dB)**” is to reduce the saturating danger in case that the recording is made with high input levels.

### 14.6 AUTO RECORD, “FAT 16” MODE ONLY.



The “**AUTO RECORD**” menu permits to turn on or off the auto record mode. This mode of recording permits to start a recording automatically depending on

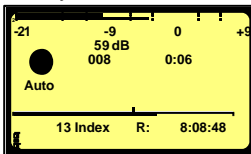
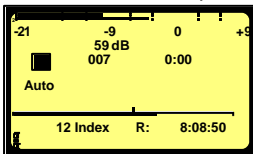
the settings of the different parameters described below. Once the parameters set, put the machine in the record mode. The recording will start once the requested level and length of any incoming sound is obtained.

The “**TRIGGER LEVEL**” sub-menu permits to adjust the level detection to start the recording and can be set in steps of 10 dB from 50 dB SPL to 120 dB SPL.

The “**TRIGGER DELAY**” menu permits to adjust the continuous duration or length of the sound level before the recording starts. It can be set from 0.0 seconds to 1 second. Example: if you clap your hands a single time and the start delay is set to 0.1 second, the recording will not start, as the handclap was shorter than 0.1 seconds.

The “**STOP DELAY**” permits to adjust the duration of recording once the sound level drops below the

threshold level and can be set from 5 seconds up to 15 minutes or nonstop. Once the delay is passed, the machine will return to the waiting position ready for the next recording



The left picture shows the machine ready to record automatically. The right picture shows the machine in the record mode.

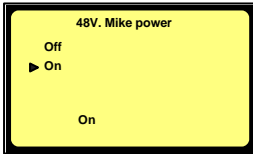
The Ares -BB can also be stopped manually by pressing the Stop button (4).


## 14.7 MIKE



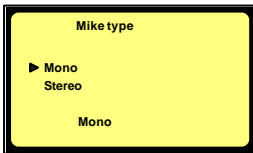
This menu gives access to the selection of the microphone type (routing, Mono or Stereo) as well as the 48V power supply.

### 14.7.1 48V PHANTOM MIKE POWER.



If Phantom microphones are used the 48V must be turned on. This selection needs to be confirmed by pressing the right arrow key. On the main display, the text  will appear next to the battery status.

### 14.7.2 MIKE TYPE, "FAT 16" MODE ONLY.



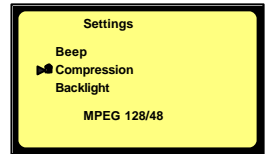
If **'MONO'** is selected and a stereo pair of microphones is connected and the **"FILE FORMAT"** is set to a mono recording, both channels will be mixed and reduced by 3 dB before they are recorded as a mono channel.

If **'STEREO'** is selected and a mono microphone is connected and the **"FILE FORMAT"** is set to a stereo recording, only the left channel will be recorded.

If **'MONO'** is selected and a mono microphone is connected and the **'FILE FORMAT'** is set to a stereo recording, both channels will have the same signal.

## 15 LOCKING THE SETTINGS.

By pressing a certain combination of keys when turning on the machine, the settings can then be locked step-by-step. This to prevent, the user changing the settings inadvertently or otherwise. To obtain the combination code, contact your local **NAGRA** dealer.



Any sub-menu can be locked by pressing the **"STOP"** button or unlocked by pressing the **"PLAY"** button. When the sub-menu has been locked, a closed padlock appears in front of the selected sub-menu. When the sub-menu has been unlocked, the closed padlock disappears. To remove the password, switch off and on again the machine.

## 16 LOCKING THE KEYPAD.

During record or playback the keyboard can be locked by setting the keypad switch (15) to ON. To unlock the keyboard, set the same switch back to OFF. When the keypad is locked, the message "Keypad lock" appears on the display

## 17 AUTO POWER OFF

When the machine is left in the **"STOP"** mode for 10 minutes, it will automatically switch off. During the last 14 seconds of that period, the beep sounds every second. When any key is pressed, the power counter will be reset.

To disable the auto power off, **from the power off status**, press and hold the center key while pressing the power key.

In the case that the machine is turned on with the auto power disabled, the message **"NO AUTO POWER OFF"** appears during a few seconds.

## 18 MESSAGES

### 18.1 IN "NFS" MODE

"LOW BATTERY"	The battery voltage has dropped too low
"NO CARD"	No card is inserted
"FORMAT CORRUPTED"	Occurs if the card was removed during record or power lost abruptly
"CARD FULL"	No more record memory is available
"INVALID CARD"	The card is not recognized by the machine
"UNFORMATTED CARD"	The card is recognized but not formatted
"CARD WRITE PROTECTED"	Write protection switch on the card is ON
"OPEN WRITE ERROR"	Defective card or card error
"WRITE ERROR"	Defective card or card error
"CARD NEARLY FULL"	60 seconds recording time left on the card
"ERASE COMPLETED"	At the end of erasure of one or several Take / Indexs
"FORMAT COMPLETED"	At the end of a card formatting
"CARD READ ERROR"	Impossible to read the directory due to a defective card or a read error
"READ ERROR"	Read error during playback
"UNKNOWN FORMAT"	The card is recognized but not the type of format
"CARD TOO SLOW"	Depending from the selected file format, some cards do not accept a high recording bit rate
"BUFFER OVERFLOW"	Record buffer is full due to a slow card
"AUTO POWER OFF"	The machine will switch of in the next 15 seconds
"NO AUTO POWER OFF"	Auto power off has been disabled

## 18.2 IN "FAT 16" MODE

"WRONG USB VERSION"	DSP and USB software versions are incompatible
"CARD FULL"	No more memory available on the card
"OPEN WRITE ERROR"	Defective card or card error
"WRITE ERROR"	Defective card or card error
"READ ERROR"	Defective card or card error
"CARD TOO SLOW"	Depending from the selected file format, some cards do not accept a high recording bit rate
"DIRECTORY FULL"	999 Take / Indexs (files) already recorded
"CARD NEARLY FULL"	60 seconds recording time left on the card
"KEYPAD LOCKED"	The full keypad is locked
"AUTO POWER OFF"	The machine will switch of in the next 15 seconds
"LOW BATTERY"	The battery voltage has dropped too low
"NO AUTO POWER OFF"	Auto power off has been disabled
"INVALID CARD"	The card is not recognized by the machine
"NO CARD"	No card inserted in the slot
"UNKNOWN FORMAT"	The card is recognized but not the type of format
"DIR UNUSABLE"	The "ARESP" folder cannot be created Example: an ARESP file name was already present
"CARD READING..."	Appears during the directory reading
"CARD BUSY..."	Appears when the card is busy Example: delete to end or renumbering
"USB MODE"	The card is accessed via USB
"AUTO REC. LEVEL ERROR"	The input gain is not suitable versus the record trigger level

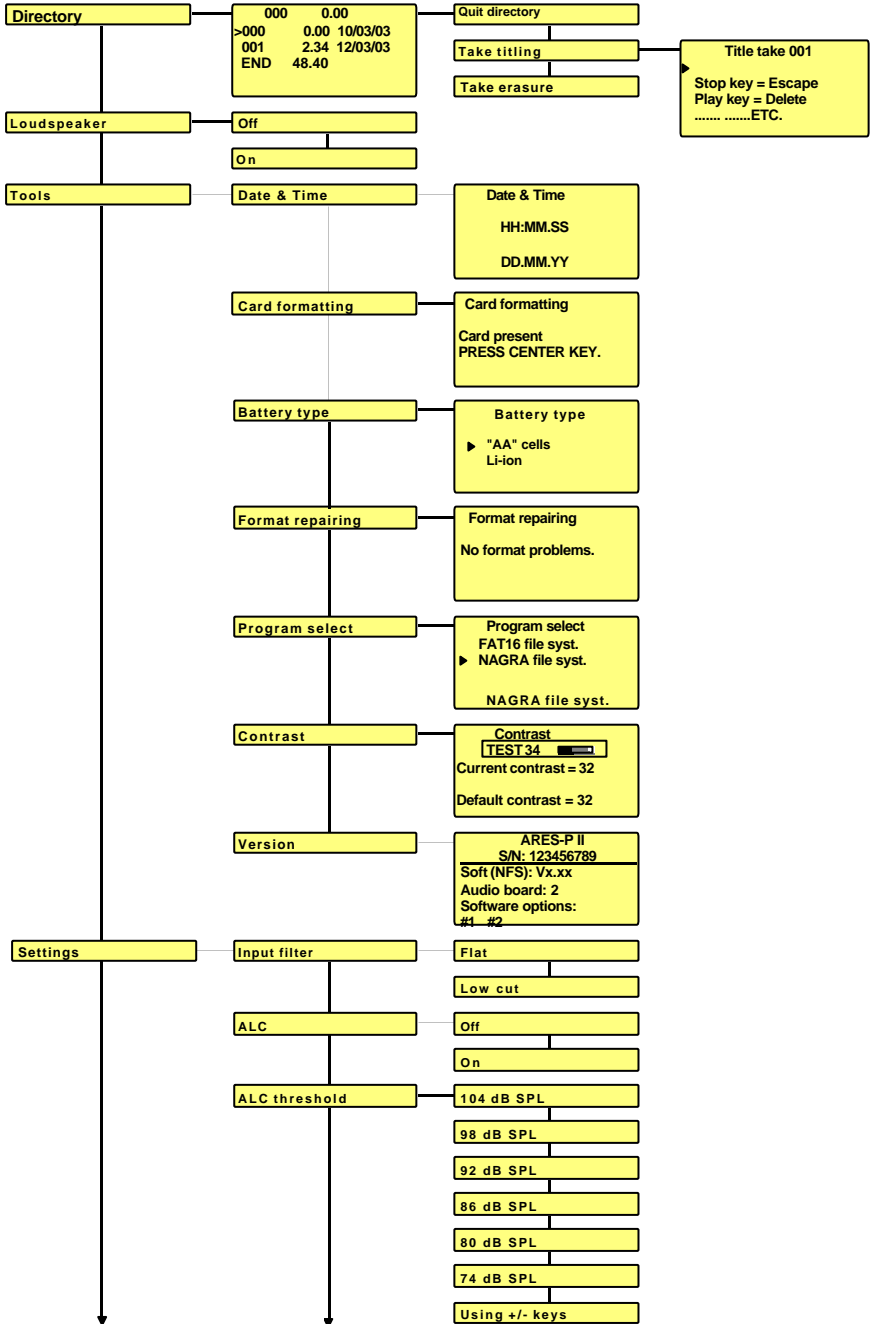
## 19 SOFTWARE UPDATE

A small black 6 pin connector is located just under the flashcard. This connector is a RS232 connector. A special adapter "**NP-PCA**" is needed to connect the RS232 from the machine to a PC or laptop.

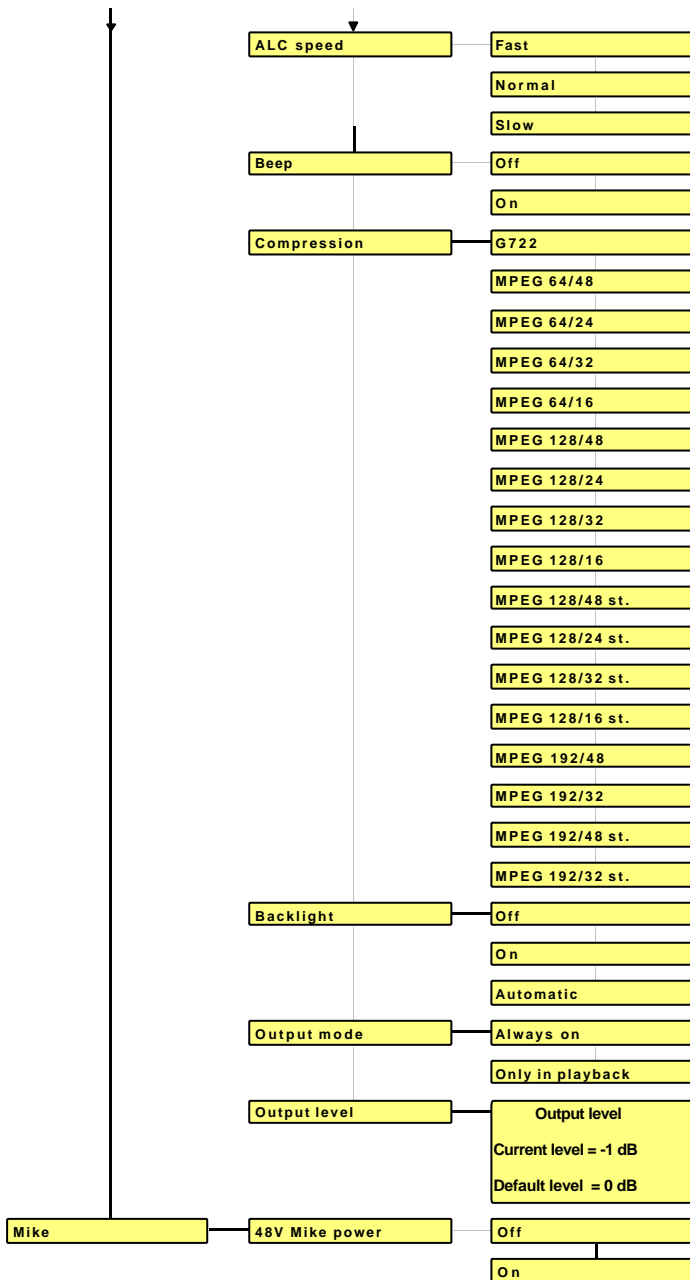
When new software from NAGRA becomes available, it can be delivered by Email or it can be downloaded from the NAGRA web site. By using the PC software called "**PuserLoader**" the machine can be updated with the new software version. This Take / Indexs about 2 to 3 minutes.

# 20 MENU TREE ARES-BB, "NFS" MODE

TREE CONFIGURATION, ARES-BB IN THE CASE OF NFS MODE (NAGRA FILE SYST.)  
 THIS TREE DOES NOT APPEAR IF SOFTWARE OPTION #1 IS NOT INSTALLED



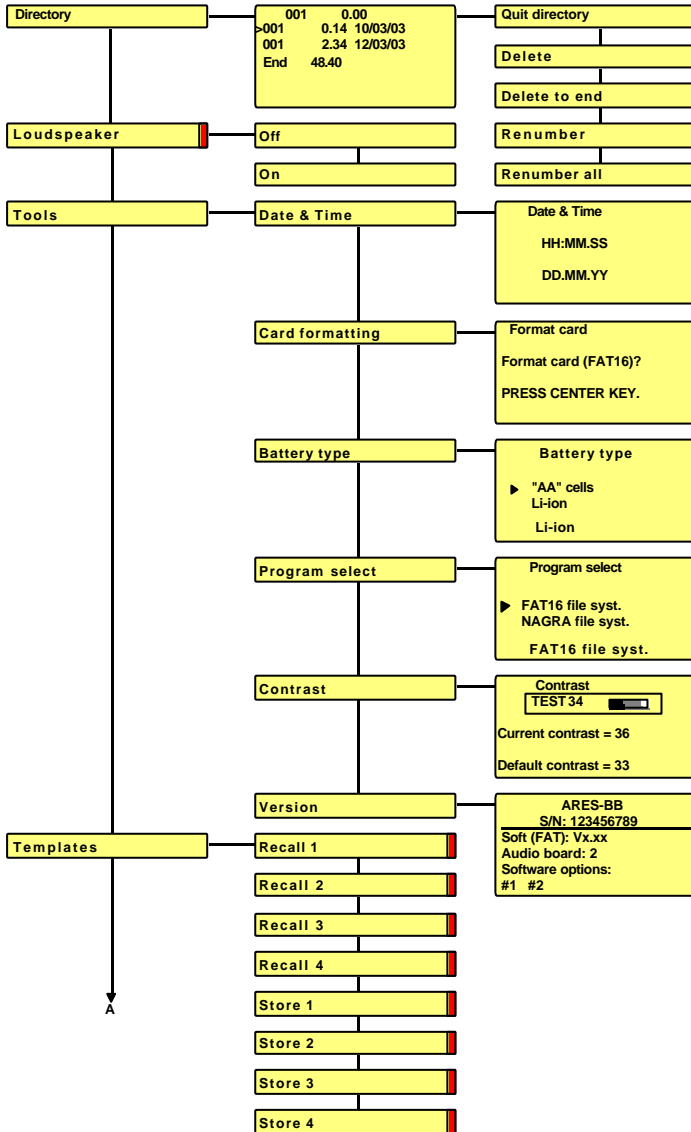
Title take 001  
 Stop key = Escape  
 Play key = Delete  
 ..... ETC.

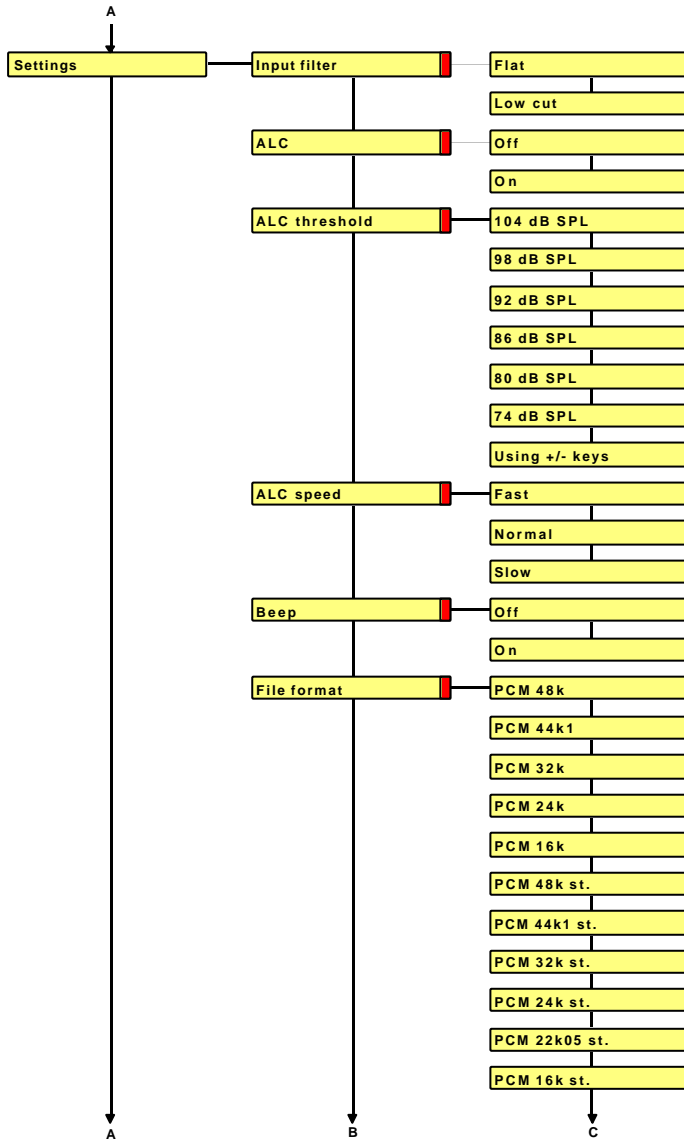


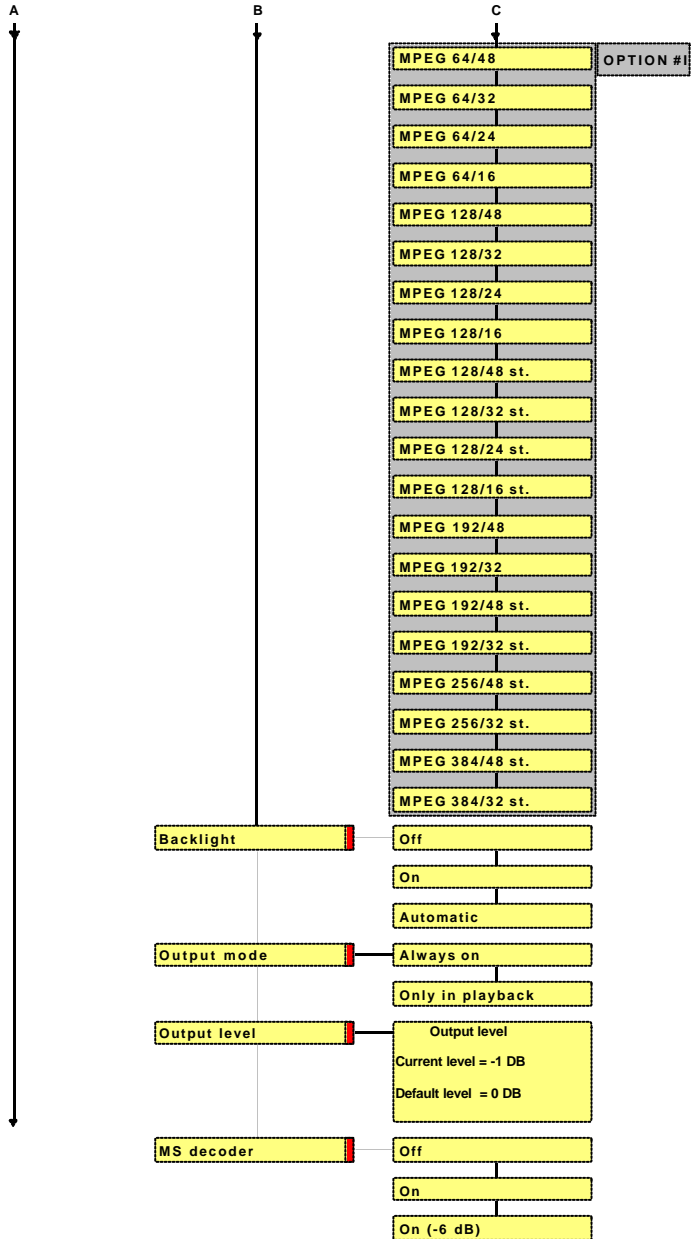


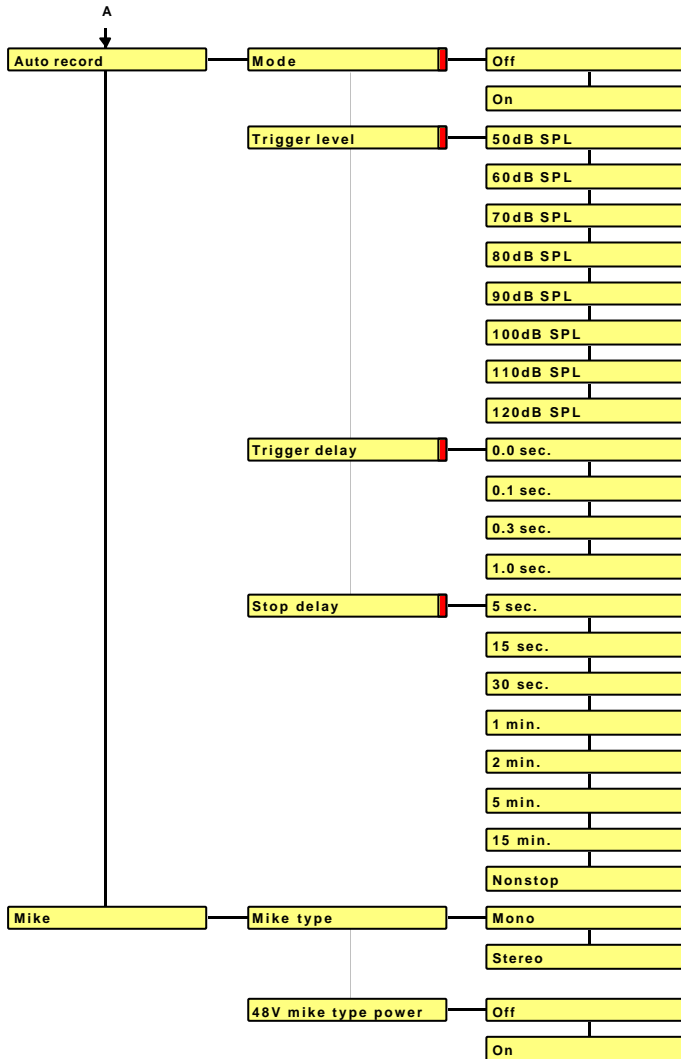
# 21 MENU TREE ARES-BB, "FAT 16" MODE

TREE CONFIGURATION ARES-BB IN THE CASE OF FAT 16 MODE INCLUDING SOFTWARE OPTION #1



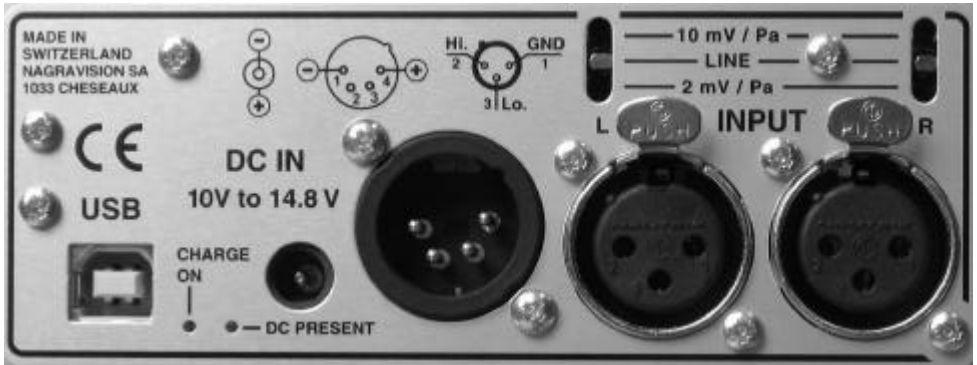






## 22 INPUTS, OUTPUTS & SPECIFICATIONS

### 22.1 LEFT SIDE



Mic. / Line Inputs	2 XLR connectors
Microphone Powering	48 V Phantom via menus
Microphone Sensitivity	10 mV, 2mV Pa switchable
Sensitivity	From 2 mV to 10 mV for 0 dB recording
Line Input	Symmetrical transformerless
Line Input Sensitivity	0.44 V to 1.4 V for 0 dB recording
External power	XLR connector 4 pole or DC connector
Green led	External power presence indicator
Yellow led	Charge indicator
USB connector	USB 1.1

### 22.2 OUTPUT SIDE



Headphone	Jack 6.3 mm stereo connector
Potentiometer	Adjust the headphone output level
Line Output	2 XLR connectors, symmetrical transformerless
Start/Stop remote	Mini jack mono 3.5 mm
Software update	Small 6 pin connector for NP-PCA adapter
THD at 1 kHz	0.1 %
Frequency response	30 Hz – 20 kHz (-3 dB in EE mode)
Total dynamic range	80 dB

For monitoring mono on the headphone input, press the headphone potentiometer.

## 22.3 SPECIFICATIONS

### GENERAL

Data Storage medium	PCMCIA ATA cards, Compact flash cards, Micro drives
Recording Method	Digital (PCM) or Digital compression (optional)
Compression type	ISO MPEG Layer II (optional)
A/D & D/A conversion	20 Bit Sigma-Delta
Sampling Rate	16, 22.05*, 24, 32, 44.1*, 48 kHz
Bit-Rates	64, 128, 192, 256*, 384* kb/s
Mono/Stereo	Switchable and input routing
Recording Capacity	21* minutes on a 256 MB card Stereo 48 kHz, PCM
Max. RecordingCapacity	132* minutes on a 256 MB card Stereo 48 kHz, 256 kb/s
PCMCIA Slot	Single type I & II
Dynamic Range Adjust	50 dB for 0 dB record (manual), 40 dB for 0 dB record (ALC)
Filters	"Flat", "LFA"
File Format	Broadcast Wave Format (.wav)

### POWER SUPPLY

Battery pack	6 x "AA" cells or Lithium Ion pack
Consumption	240 mA during record (no display light)

### PHYSICAL

Dimensions	160 x 168 x 56 mm (6¼ x 6¾ x 2 inch)
Weight	900 g, (2 lb)

\*\*\* Only possible if software option #1 is present

## 23 ARES-BB “NFS” MODE, PC SOFTWARE & INSTALLATION

These programs add several features when the ARES-BB is connected to the USB port of a PC or if the flashcard from the ARES-BB is inserted in a PC PCMCIA slot:


Display the directory of the flash card

Playback of the recorded files

Import recorded files into the computer's hard disk

Edit the recorded files.

Insert the CD in your PC or laptop and follow the instructions.

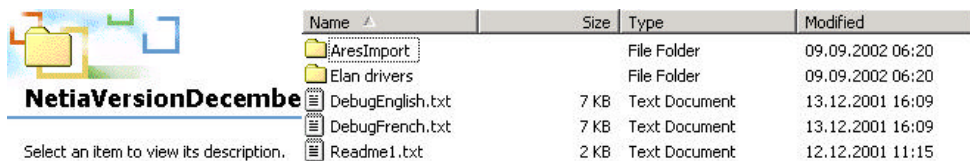


Name	Size	Type	Modified
DigigramVersionAugust2002		File Folder	09.09.2002 06:20
NetiaVersionDecember2001		File Folder	09.09.2002 06:20
pocket2.ico	1 KB	ACDSee ICO Image	04.09.2002 10:24
AUTORUN.INF	1 KB	Setup Information	04.09.2002 10:25
Select.txt	4 KB	Text Document	09.09.2002 06:06

### 23.1 ARES-BB SOFTWARE, “NFS” MODE, USING A PC PCMCIA SLOT

Carefully read the text file in the root directory before any installation.

From explorer, double click the NetiaVersion folder followed by the AresImport folder.



Name	Size	Type	Modified
AresImport		File Folder	09.09.2002 06:20
Elan drivers		File Folder	09.09.2002 06:20
DebugEnglish.txt	7 KB	Text Document	13.12.2001 16:09
DebugFrench.txt	7 KB	Text Document	13.12.2001 16:09
Readme1.txt	2 KB	Text Document	12.12.2001 11:15

Double click “SETUP.EXE” file to start the installation.

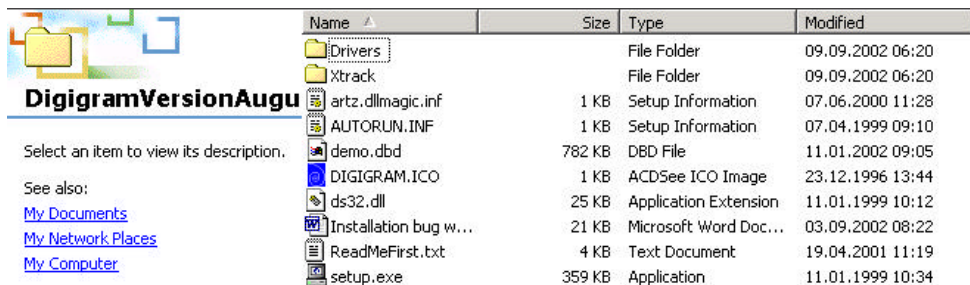
If the PCMCIA slot is based on an ISA or PCI bus or built-in to a laptop, the Elan drivers need also to be installed. If the PCMCIA slot is connected via SCSI, the Elan drivers may not be installed.

### 23.2 ARES-BB SOFTWARE, “NFS” MODE, USING A PC USB PORT

This only works if both software options I & II are installed on the Ares -BB

Carefully read the text file in the root directory before any installation.

From explorer, double click the DigigramVersion folder followed by setup.exe.



Name	Size	Type	Modified
Drivers		File Folder	09.09.2002 06:20
Xtrack		File Folder	09.09.2002 06:20
artz.dllmagic.inf	1 KB	Setup Information	07.06.2000 11:28
AUTORUN.INF	1 KB	Setup Information	07.04.1999 09:10
demo.dbd	782 KB	DBD File	11.01.2002 09:05
DIGIGRAM.ICO	1 KB	ACDSee ICO Image	23.12.1996 13:44
ds32.dll	25 KB	Application Extension	11.01.1999 10:12
Installation bug w...	21 KB	Microsoft Word Doc...	03.09.2002 08:22
ReadMeFirst.txt	4 KB	Text Document	19.04.2001 11:19
setup.exe	359 KB	Application	11.01.1999 10:34

**AresImport:**

AresImport permits to read the directory from the flash card as well as playback and or import and conversion.

**RCXLoad:**

Display the files located on the memory card with their characteristics (date, duration, encoding format) in an MS explorer fashion.

Playing back a selected file, using the ARES-BB audio output or the local PC sound card.

Using Drag and Drop, import one or several files with format conversion to MPEG Layer 2 or PCM format.

**XtrackLE (a Limited Edition of Xtrack):**

Uses the physical I/O of the RCX220 as well as any other standard device.

Offers two fully independent mono or stereo tracks where records can be uploaded via RCXload.

Provides you with of a complete set of tools to cut, copy, paste, trim any portion of a track, as well as level editing functions such as fade in and fade out.

Once the edit finished, it can be processed into a single sound file (**MPEG** or **PCM**) with automatic sampling frequency and bit rate conversion.

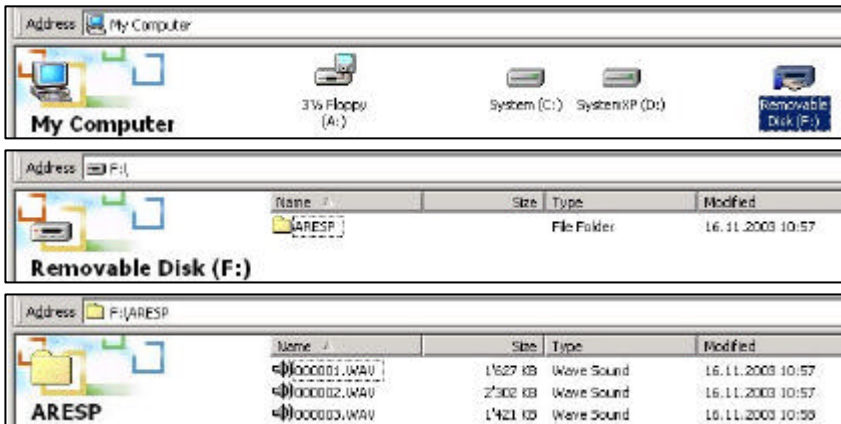
To obtain full multi-track editing capabilities including mp3 export, the full version of Xtrack software can be purchased from Digigram.

**24 ARES-BB “FAT 16” MODE, PC DRIVERS & INSTALLATION**

Turn on the Ares -BB and connect it via the USB cable to the PC or Mac. After a moment, the new device will be detected as an external removable hard drive.

**IMPORTANT: for Windows 98 SE users; connect the Ares-BB (FAT mode) to the PC. Once Windows asks for the USB drivers to be installed, specify the way to the CDR “Win98SeUsbDrivers” folder.**

The following pictures are an example on PC were the Ares - BB is recognized as disk (F).



On PC, to remove the Ares -BB from the USB connection, double click first the “Unplug or Eject Hardware” icon and stop the corresponding drive letter before removing the USB cable.





## 25 SPECIFICATIONS

### GENERAL

<u>Data Storage medium</u>	<u>PCMCIA ATA cards, Compact flash cards, Micro drives</u>
<u>Recording Method</u>	<u>Digital (PCM) or Digital compression</u>
<u>Compression type</u>	<u>ISO MPEG Layer II*</u>
<u>A/D &amp; D/A conversion</u>	<u>20 Bit Sigma-Delta</u>
<u>Sampling Rate</u>	<u>16, 22.05, 24, 32, 44.1, 48 kHz</u>
<u>Bit-Rates</u>	<u>64, 128, 192, 256, 384 kb/s*</u>
<u>Mono/Stereo</u>	<u>Switchable and input routing</u>
<u>Recording Capacity</u>	<u>21 minutes on a 256 MB card Stereo 48 kHz, PCM</u>
<u>Max. Recording Capacity</u>	<u>132* minutes on a 256 MB card Stereo 48 kHz, 256 kb/s</u>
<u>PCMCIA Slot</u>	<u>Single type I &amp; II</u>
<u>Dynamic Range Adjust</u>	<u>50 dB for 0 dB record (manual), 40 dB for 0 dB record (ALC)</u>
<u>Filters</u>	<u>"Flat", "LFA"</u>
<u>File Format</u>	<u>Broadcast Wave Format (.wav)</u>

### INPUTS

<u>Mic. / Line Inputs</u>	<u>2 XLR connectors</u>
<u>Microphone Powering</u>	<u>48 V Phantom</u>
<u>Sensitivity</u>	<u>From 2 mV to 10 mV for 0 dB recording</u>
<u>Line Input</u>	<u>Symmetrical transformerless</u>
<u>Line Input Sensitivity</u>	<u>0.44 V to 2.6 V for 0 dB recording</u>

### OUTPUTS

<u>Headphone</u>	<u>Jack 6.3 mm stereo connector MS decoding</u>
<u>Line Output</u>	<u>2 XLR connectors, symmetrical transformerless</u>
<u>THD at 1 kHz</u>	<u>0.1 %</u>
<u>Frequency response</u>	<u>30 Hz – 20 kHz (-3 dB in EE mode)</u>
<u>Total dynamic range</u>	<u>80 dB</u>

### POWER SUPPLY

<u>Battery pack</u>	<u>6 x "AA" cells</u>
<u>Lithium Ion pack</u>	<u>2400 mAh</u>
<u>Consumption</u>	<u>9 V - 150 mA, 7.2 V – 185 mA during record (no display light)</u>

### PHYSICAL

<u>Dimensions</u>	<u>160 x 168 x 56 mm (6¼ x 6¾ x 2 inch)</u>
<u>Weight</u>	<u>900 g. (2 lb)</u>

(\* including the MPEG option)

Note: We have not tested all available cards and adapters on the market. Therefore we cannot guaranty the perfect operation in ou machines. Cards and adapters supplied by Nagra are guarantied to operate within the machine specifications.

# DECLARATION DE CONFORMITE *DECLARATION OF CONFORMITY*

**FABRICANT:** NAGRAVISION S.A. KUDELSKI GROUP, 1033 CHESEAUX SUISSE  
**MANUFACTURER:** NAGRAVISION S.A. KUDELSKI GROUP 1033 CHESEAUX, SWITZERLAND

**APPAREIL :** NAGRA-BB & alimentation secteur NB-PSU  
**MODEL:** NAGAR-BB & mains power adapter NB-PSU

**NORMES APPLICABLES :**  
**APPLICABLE NORMS:**

Champ électromagnétique rayonné <i>Radiated electromagnetic field</i>	EN 55022 Cl. B <i>EN 55022 Cl. B</i>
Perturbations conduites sur secteur <i>Disturbance voltage on mains terminal</i>	EN 55022 Cl. B <i>EN 55022 Cl. B</i>
Immunité aux champs électromagnétiques <i>Immunity to electromagnetic fields</i>	EN 61000-4-3 <i>EN 61000-4-3</i>
Immunité aux décharges électrostatiques <i>Immunity to electrostatic discharges</i>	EN 61000-4-2 <i>EN 61000-4-2</i>
Immunité aux transitoires électriques rapides en salves sur câble d'alimentation <i>Immunity to burst on mains line</i>	EN 61000-4-4 level 2 (1000V) <i>EN 61000-4-4 level 2 (1000V)</i>
Immunité aux transitoires électriques rapides en salves sur câbles d'entrées/sorties signaux <i>Immunity to burst on input/output line</i>	EN 61000-4-4 level 1 (500V) <i>EN 61000-4-4 level 1 (500V)</i>
Immunité aux ondes de choc <i>Immunity to surge</i>	EN 61000-4-5 level 2 (1000V) <i>EN 61000-4-5 level 2 (1000V)</i>

Cheseaux 1<sup>er</sup> trimestre 2004  
*Cheseaux 1<sup>st</sup> quarter 2004*

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