NAGRA

DAC

Instruction manual

Congratulations

You have just purchased one of the best audiophile digital to analog converters ever made! The Nagra DAC is designed to provide the highest quality of audio performance in an ultra–high-resolution audio system.

The Nagra DAC was created by an engineering team with over 50 years of experience designing world–class products for professional audio, national security and military businesses. Since its inception in 1951, Nagra products continue to earn a reputation for delivering the best possible sonic and mechanical performance under many very difficult operating conditions. Numerous awards have been bestowed upon Nagra for its technical innovation, excellence in design and flawless construction.

In building the DAC converter, significant effort has been focused on building a product that is robust, easy to use and with sonic properties that will delight even the most demanding and critical audiophile.

Thank you for being our customer and enjoy your new Nagra DAC converter!

Warranty

Warranty

NAGRAVISION SA KUDELSKI GROUP certifies that this instrument was thoroughly inspected and tested prior to leaving our factory and is in accordance with the data given in the accompanying test sheet.

We guarantee the products of our own manufacture against any defect arising from faulty manufacturing for a period of three years from the date of delivery.

This limited warranty covers the repair of confirmed defects or, if necessary, the replacement of the faulty parts, excluding all other indemnities.

All freight costs, as well as customs duty and other possible charges, are at the customer's expense.

Our warranty remains valid in the event of emergency repairs or modification being made by the user. However we reserve the right to invoice the customer for any damage caused by an unqualified person or a false manoeuvre by the operator.

We decline any responsibility for any and all damages resulting, directly or indirectly, from the use of our products.

Other products sold by NAGRAVISION SA KUDELSKI GROUP are covered by the warranty clauses of their respective manufacturers.

We decline any responsibility for damages resulting from the use of these products. We reserve the right to modify the product, and / or the specifications without notice.

About your DAC

You are about to experience music as never before with the Nagra DAC converter.

The DAC is designed and hand–built entirely in Switzerland by Nagra engineers, using components of the highest quality from around the world.

♦ It is basically a 2.0 channels 24-bit, 192 kHz up-sampled Digital-to-Analog converter and processor for High-End purists.

♦ The power supply of the DAC is designed to deliver quiet and stable performance suitable for the highest resolution audio system. It is completely isolated from AC line noises.

♦ The DAC accepts up to 5 digital and 1 analog line–level input sources, such as tuners, CD and DVD players and video tape recorders. The 5 digital inputs are devided in 1 AES input, 3 SPDIF inputs and 1 optical input. The analog input source can be selected as an asymmetrical or symmetrical input.

♦ The outputs of the DAC are electronically balanced for the highest audio performance. The outputs can be selected as a symmetrical (XLR) or asymmetrical (RCA – CINCH) output. Optional by pair, the outputs can be delivered as floating (transformer) outputs.

♦ A special filtering technology, called Adaptative Time Filtering allows the input and output clocks to be completely independent, thus eliminating jitter. For this purpose, the two-channel module comes with a DSP. These output DA converters allow an over-sampling process to prevent the output filtering from aliasing artifacts

♦ A remote control for selecting the different input sources, adjusting balance and output levels is included.

This manual describes the proper set-up and use of the DAC. Please read through the manual carefully before attempting to set up and use the DAC. Mishandling and abuse of the DAC leading to faulty operation is not under warranty.

Basic Operations

AC POWERING

Remove carefully the Nagra DAC from its packing. Verify at the rear side that the AC voltage setting is corresponding to the local net voltage Verify that the fuses are corresponding to the local AC voltage. (***Also see AC input panel in the DAC panel description chapter***).

Before installing the AC power cable, verify that the main switch on the rear panel is set to OFF. Connect the power cable to the Nagra DAC and an approved AC power outlet.

On the rear panel, turn ON the main power switch. After a few seconds, on the main front panel, the power LED above the power key turns red.

IMPORTANT NOTE: In some circumstances when the DAC is turned ON, due to an AC power interrupt, the machine once turned ON again could be in an electronically unstable position. In this case, on the rear AC panel, turn OFF the main power switch and leave it OFF for at least 3 minutes. After this delay, the power capacitors are supposed to be discharged. Switch on again, after a few seconds, push the front power key and verify if everything is correct.

If the DAC does not turn ON, this indicates that a faulty condition exists with the following possibilities:
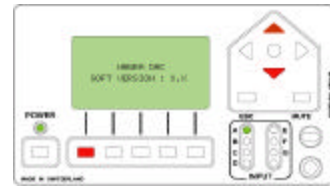
The fuses on the AC panel of the DAC have blown or are not installed.

The power cord is not correctly plugged to the DAC or to the AC power outlet.

If none of the above possibilities are solving the problem, please refer to an authorized NAGRA agency for the repair

On the main panel, press the power key once and verify that the power LED turns green.

**IMPORTANT NOTE**: If the display is not showing any text, it means that the contrast is too low and needs to be adjusted. To do this, keep the left function key pressed while also pressing the up arrow key on the same main panel, this to increase the contrast.

If the display shows a black square, it means that the contrast is too high, so the left function should be kept pressed, while pressing also the down arrow key on the same main panel.

DISPLAY

All text appearing in bold blue is directly related to the menus or display

To prevent any confusion, the Nagra DAC turns on with the default factory settings initialized.

```
IN : ANALOG



LEVEL : -12.0dB

LCD [T-1] T-2 T-3
```
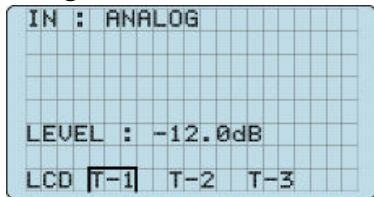
If for any reason, this was changed, please **refer to the Dac menus chapter "Factory configuration"** to reset. Now the display will show the main output level at –12 dB. The analog input is selected and the template T-1 has the small square around it.

The display shows **ANALOG**, that means that the input signal is considered as a stereo or 2 channel input.

Observe also the square around "T-1". If it disappears, it is due to the fact that any of the stored parameters was changed in the sub-menus. By pressing the same function key, the parameters stored in the template "T-1" is restored and the square appears again. **See also Templates in the Dac menus chapter**.

INPUTS

You are now ready to install the different input sources. Only one analog input source is available. As an example the analog signal source can be delivered from a source like TV tuner, Radio tuner or (S) VHS player.

The analog source signal can be an asymmetrical or symmetrical signal. The symmetrical signal should be connected to the XLR connectors (A input) taking care that the switch on the rear panel is set to OPEN. In the case that the source is an asymmetrical signal but you prefer to connect it to the Nagra DAC via the XLR inputs; do not forget to set the same little switch to GROUND position. If you prefer an RCA-RCA (CINCH-CINCH) connection, use the RCA (CINCH) inputs. Never connect different sources simultaneously to XLR and RCA, as this will alter sound's quality.

Refer also to the DAC panel chapter concerning INPUT PANEL.

3 SPDIF, digital inputs B, C, D are available. As an example those signals can be delivered by a CD or DVD player, a Digital tuner etc.

1 TOSLINK digital optical input is also available.

1 AES bus digital input is available. As an example, this signal can be delivered from a Nagra D, a Nagra V as well as from a High-End CD or DVD player.

Pay attention to use high quality digital cables to obtain maximum quality.

OUTPUT LEVEL PRESET

Depending on the sensitivity of the end amplifiers for the speakers, it is possible to set internally 5 different output levels for 0 dB on the modulometer.

Procedure:

Turn off the Nagra DAC with the front power key, followed by the main switch on the rear AC panel. Disconnect the power cord.

Removing the top cover: Remove the 8 hex screws by using the supplied ISO/Allen 2 mm key (2 on the left and 2 on the right side, 4 on the top). Remove the 3 hex screws by using the supplied ISO/Allen 2.5 mm key (1 on the left and 1 on the right side, 1 on the top). Remove carefully the top cover from the housing.

The DAC is basically fitted with 1 D/A DSP converter pcb

Identify the above pcb inside the Nagra DAC.
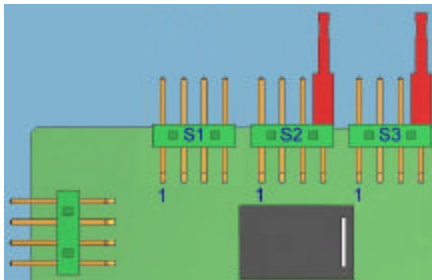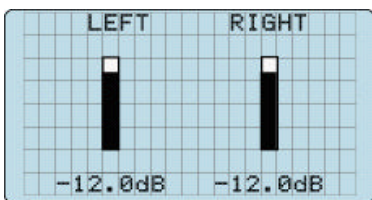

Factory set to 0.775 Vrms

Select the adapted output level from the following table:

Output level versus 0 dB on modulo meter		
Jumper position	Output Vrms	Output dBm
S2, S3 = 1	3.1	12
S2, S3 = 2	2	8
S2, S3 = 3	1.5	6
S2, S3 = 4	0.775	0
S2, S3 = none	6.2	18

Example:
Setting the jumpers for S2 & S3 in position 2 gives an output voltage for 0 dB on the modulometer of 2Vrms or +8 dBm.

VOLUME ADJUSTMENT

This display appears at the moment that the up or down arrow key on the main panel or second panel is pressed. It gives an overall view concerning the **MAIN** level (actually –12.0 dB).

REMOTE CONTROL

The remote control is a common remote control identical to the one delivered with the Nagra MPA-RCMI and PL-L. This means that in the case the Nagra DAC is combined with an MPA or a PL-L, the same remote control can be used for both items.

Buttons 1 to 6
The buttons 1 to 6 permit to select up to 6 remote control ID's (Identification number). This permits to control several Nagra products with a single remote control. Each front panel on the Nagra DAC has its own ID number. As the Nagra DAC has in total 2 panels, 2 different ID's are needed and the 4 ID's left can be used for other products like the Nagra PL-L or Nagra MPA. ***To modify the ID numbers on the DAC side refer to the Dac menus chapter "REMOTE CONTROL".***

Example: The main panel has the ID 1, the front panel has the ID 2.
To change the MAIN volume with the remote control, press the key 1 once and adjust the volume using the up or down arrow keys. To select another input channel, press the left or right arrow key.

To change the trim output level, press the key 2 once and adjust the trim level using the up or down arrow keys. To adjust the balance, use the left or right arrow key.

Buttons A to F
Are not used on the Nagra DAC.

Mute
Pressing once on the mute button, the Nagra DAC output is muted and the led above the power button turns red. Pressing once again, the Nagra DAC returns to normal condition and the led turns green.

ON & OFF
When the OFF button is pressed, the Nagra DAC switches to the standby position. When the ON button is pressed, the Nagra DAC switches back ON.

Up & Down arrow keys
Adjusts the output level.

Left & Right arrow keys
Selects the inputs from A to F. Adjust the balance and also scrolls through the menus.

Center button
This button is used when scrolling through the menus to change parameters.

Scrolling through the menus

All sub-menus can be reached via the remote control. Select first the corresponding ID for the main panel and press the center key once.
By using the up or down arrow keys it becomes possible to surf through all the sub-menus and changing parameters. To confirm any change, press the center key once before leaving the sub-menu. To return to the main display, press several times the left arrow key until it appears.

Battery installation

Turn over the remote control and remove the screw (screwdriver No 3).
Slide the housing from the front panel.
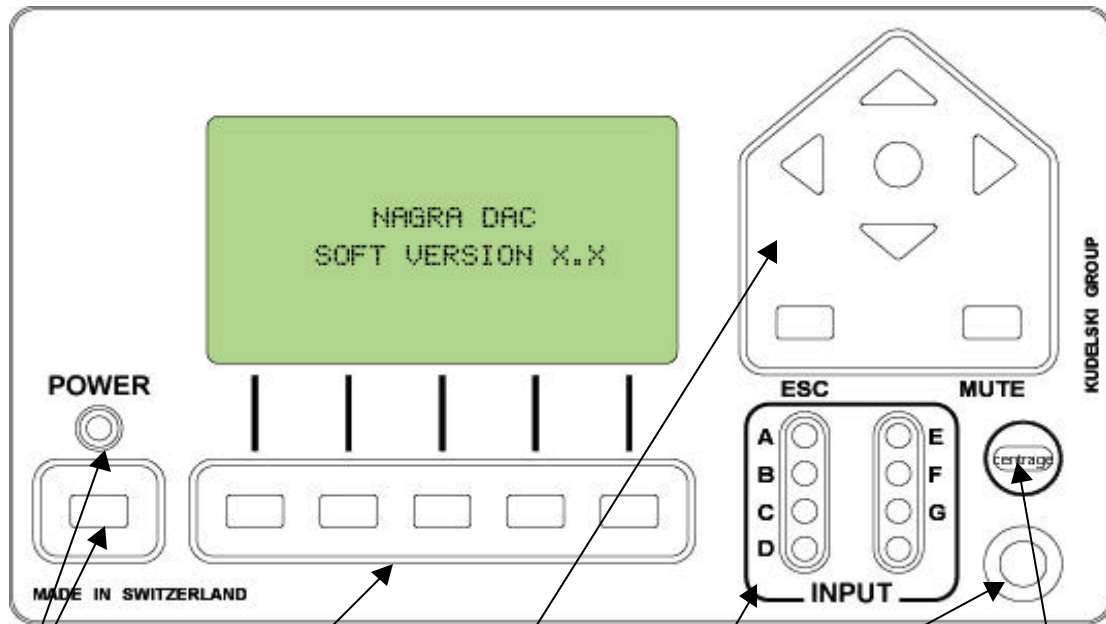Install the 9V battery
Reinstall the housing and lock the screw.
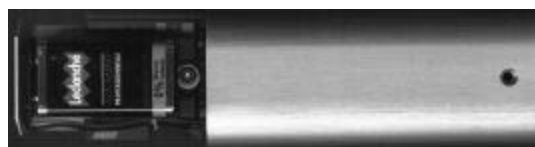
Panel description

1 FRONT PANEL

1.1 FRONT LEFT PANEL

"1" is the front power switch and led. When the machine is switched on the led turns green (not muted). When the led turns red, the machine is switched on but in mute mode.

"2" are the function keys. Those keys permit to scroll through the different sub menus of the machine.

"3" are the 4 arrow keys (up, down, left & right) as well as the center key (Execute), the ESC (escape) key and the MUTE key.
The input pre-selection can be selected by using the left or right function key.

The main volume adjustment (all output channels) can be modified by using the up or down key.
When having the main display and pressing the center key, the display will show the main sub menu.
The ESC key is used to escape from the sub menus. In the case that another parameter was selected when pressing the ESC key, the parameter will be memorized.
Pushing the MUTE key will turn the machine in the MUTE mode. All outputs are muted and the power led turns red. Pushing again returns the machine active with the same settings as before.
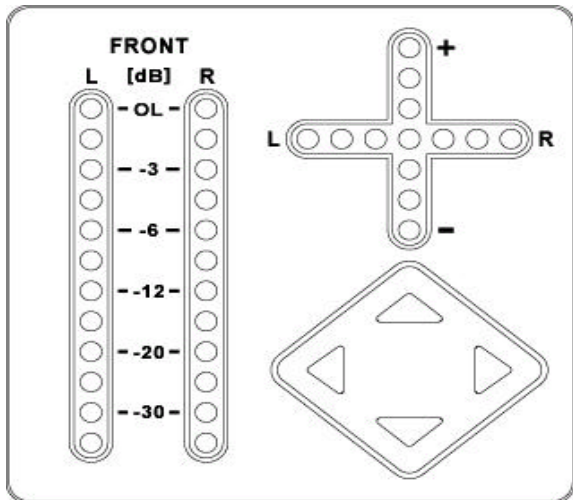
"4" corresponds to the pre-selections area. The corresponding led will turn green.

"5" is the ambient light level detector. When the LED's are in the **AMBIENT** mode (**CORRECTION: AMBIENT**), the brightness of the LED's will be adapted to the ambient lightning.

"6" is the infrared receiver for the remote control.

1.2 FRONT OUTPUT PANEL

The left part (FRONT L & R) shows the modulometers indicating the output level of the FRONT channels.
The way the LED's are lighting up can be selected in the LED sub menu.

The cross indicates the physical position of the adjustment potentiometers. The vertical LED's are showing the position of the output volume potentiometer where the horizontal LED's are showing the position of the balance potentiometer. Be aware that if the balance is in the middle position, the middle LED is not lighting.

The lower right corner shows the arrow keys permitting the adjustment of the output level (up or down arrow keys) and the balance (left or right arrow keys).

### 2.0 INPUTS AND OUTPUTS PANEL

2.1 AC INPUT PANEL

"1" is the fuse holder and voltage selector.
The DAC works from 94 V to 132 V (**fuses: please read on the rear panel 2.0 A and not 0.6A on older versions**) and from 188 V to 264 V (**fuses: please read on the rear panel 1.0 A and not 0.3A on older versions**).
Lift the little clip and remove the holder. Select the corresponding AC voltage and install the fuses. Insert the holder. Verify that through the holder, the corresponding AC voltage is shown.
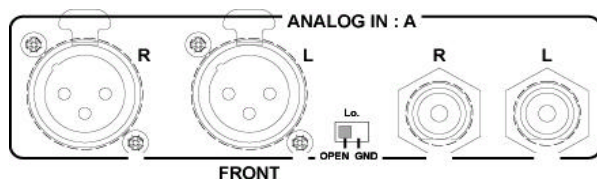
"2" is the AC plug.

"3" is the main power switch.
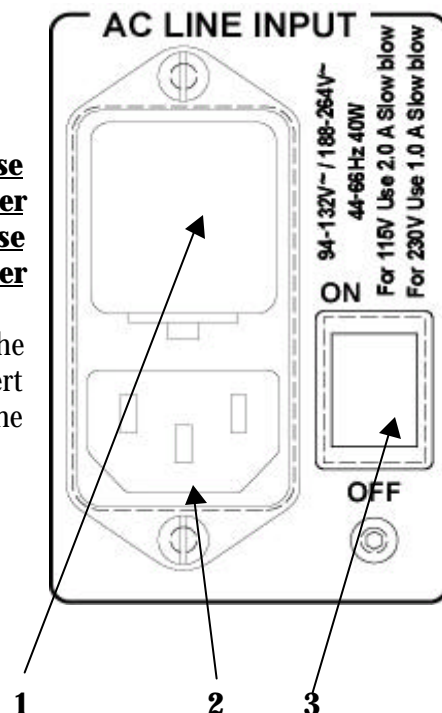
Once the AC voltage is controlled and the AC cable is connected, switch to ON.
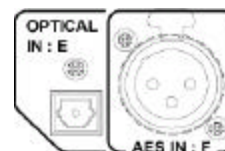
2.2 INPUT PANEL

The **"A"** input is an analog input source. The connection can be made via the XLR connectors or via the RCA connectors. Both may not be used simultaniously. The XLR connectors can be selected as electronically balanced or unbalanced. This depends on the position of the little switch: If "OPEN" is selected, a balanced signal can be connected, if "GND" is selected, an unbalanced signal should be delivered to the XLR input. The analog input source is first converted to a digital source at a sampling rate of 48 kHz 24 bits.

"B", **"C"**, & **"D"** are the digital SPDIF inputs (75? terminated). Maximum input clock is 96 kHz.
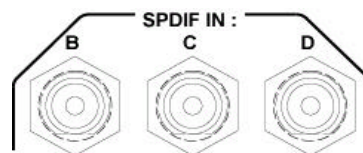
"E" is the optical input. Before using it remove the black cover by pulling it. Maximum input clock is 96 kHz.

"F" is the AES input connector. It is a symmetrical digital signal input and support maximum a clock of 96 kHz.

2.3 OUTPUT PANEL
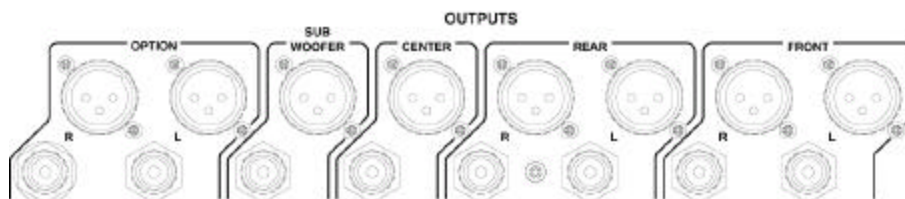
It is possible to select either the XLR outputs or the RCA (Cinch) outputs. Both may not be used together. On the NAGRA DAC, only the FRONT outputs are wired.

2.4 RS232 CONNECTOR

This connector is first of all used by the production area inside the factory and serves also to upgrade the software of the Nagra DAC.
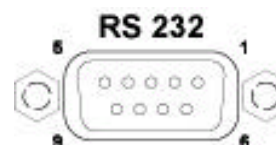
2.5 GROUND CONNECTION
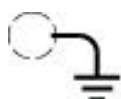
If for any reasons some hum appears, several audio sources can be connected together via this ground (chassis) connector.

Menu tree

DATA STREAM DETAILS	FMT : LINEAR PCM
	SMP FREQ: 48 kHz

TEMPLATES	SAVE	TEMPLATE SAVE PRESS AND HOLD SOFT KEY AT LEAST 3 SEC. T1 T2 T3
	RENAME	TEMPLATE 1: T-1 ▢ A, B, C, ...
		TEMPLATE 2: T-2 ▢ A, B, C, ...
		TEMPLATE 3: T-3 ▢ A, B, C, ...

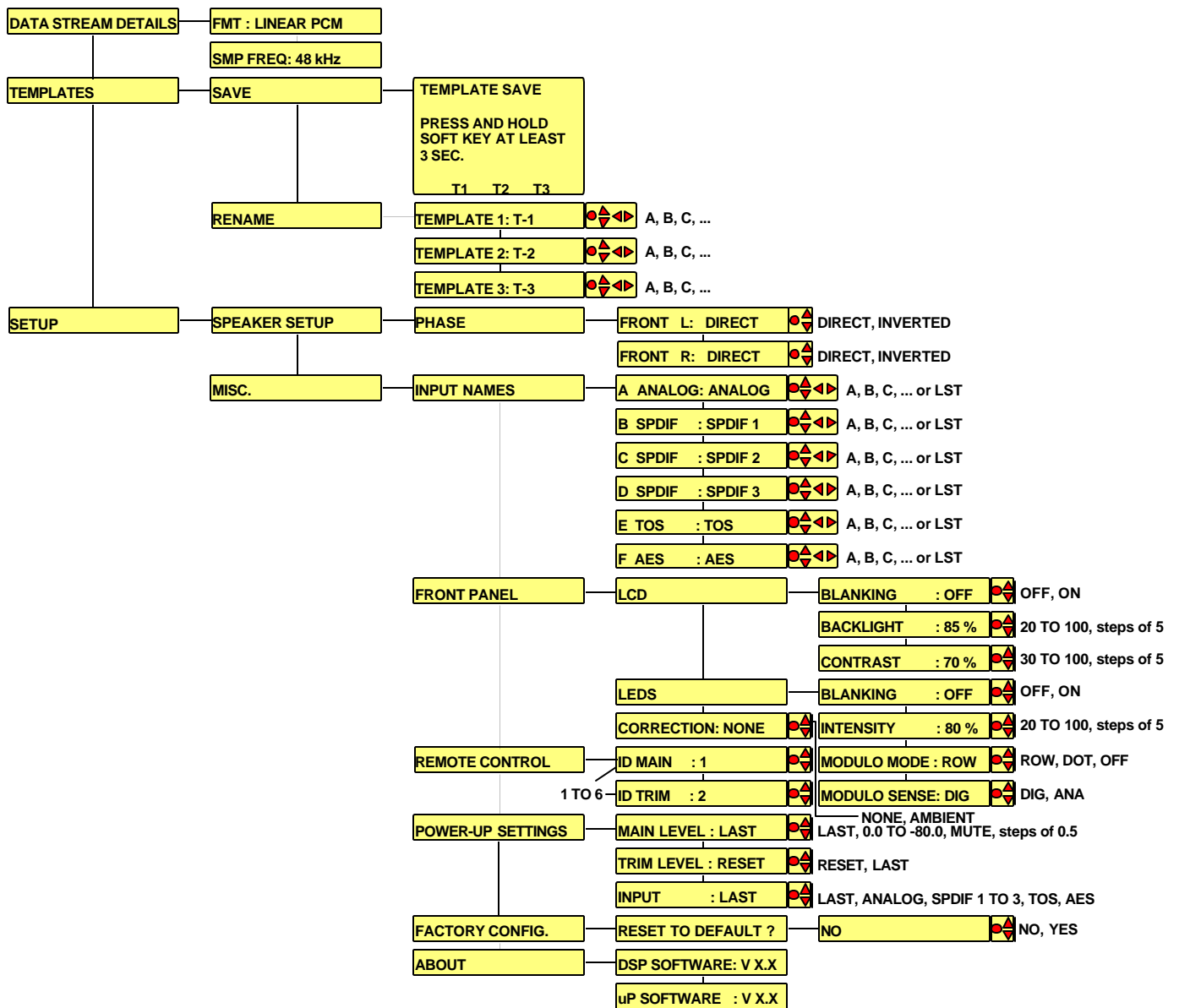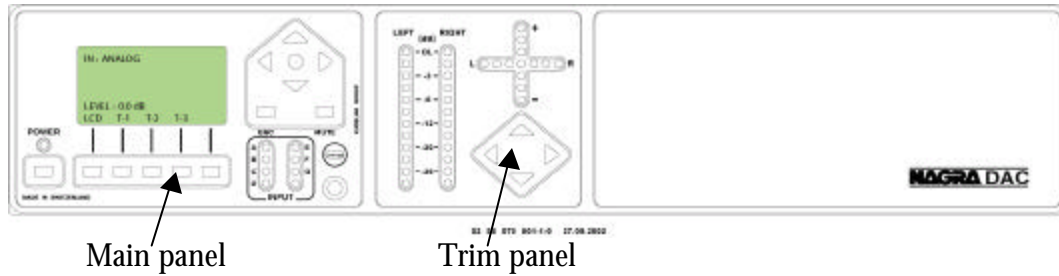| SETUP	SPEAKER SETUP	PHASE	FRONT L: DIRECT ▢ DIRECT, INVERTED
			FRONT R: DIRECT ▢ DIRECT, INVERTED
	MISC.	INPUT NAMES	A ANALOG: ANALOG ▢ A, B, C, ... or LST
			B SPDIF : SPDIF 1 ▢ A, B, C, ... or LST
			C SPDIF : SPDIF 2 ▢ A, B, C, ... or LST
			D SPDIF : SPDIF 3 ▢ A, B, C, ... or LST
			E TOS : TOS ▢ A, B, C, ... or LST
			F AES : AES ▢ A, B, C, ... or LST

FRONT PANEL	LCD	BLANKING : OFF ▢ OFF, ON
		BACKLIGHT : 85 % ▢ 20 TO 100, steps of 5
		CONTRAST : 70 % ▢ 30 TO 100, steps of 5
	LEDS	BLANKING : OFF ▢ OFF, ON
	CORRECTION: NONE ▢	INTENSITY : 80 % ▢ 20 TO 100, steps of 5

REMOTE CONTROL	ID MAIN : 1 ▢	MODULO MODE : ROW ▢ ROW, DOT, OFF
1 TO 6	ID TRIM : 2 ▢	MODULO SENSE: DIG ▢ DIG, ANA

NONE, AMBIENT

POWER-UP SETTINGS	MAIN LEVEL : LAST ▢	LAST, 0.0 TO -80.0, MUTE, steps of 0.5
	TRIM LEVEL : RESET ▢	RESET, LAST
	INPUT : LAST ▢	LAST, ANALOG, SPDIF 1 TO 3, TOS, AES

FACTORY CONFIG.	RESET TO DEFAULT ?	NO ▢ NO, YES

ABOUT	DSP SOFTWARE: V X.X
	uP SOFTWARE : V X.X

RULES TO FOLLOW:

The DAC has 2 front panels.

     Main panel   Trim panel

Entering into the menu tree: Press the center button on the main panel once

Use the up and down arrow keys for vertical scrolling and right and left arrow keys for horizontal scrolling.
Pressing the ESC key will return the menu to the previous menu step by step.

If the sign "˃" appears at the end of the text, it means that it is still possible to move to another menu by pressing the right arrow key.

If the sign "? " appears at the start of the text, it means that the corresponding parameter can be modified by using the up or down arrow keys.

If at the start of the text, the sign "? " is not appearing but only the sign"˃", the center key needs to be pressed before the parameters can be changed.

Means that only the center button needs to be pressed, this to select the present parameter.

Means that first the center button needs to be pressed, followed by the parameter selection via the up and down arrow key. Once the corresponding parameter is selected, press the center key once to validate. The left arrow key permits to return one step, the ESC key returns immediately to the normal display.

Is almost identical to the previous definition. Once the center key is pressed, the up and down arrow keys permit to scroll through the alphabet, the left arrow key permits to jump to the next character position, the left arrow key to return one character etc. Press the center key to validate the introduced text.

All the added text after yellow colored menus is showing the different parameter selections or the minimum and maximum limits of each adjustment.

Dac menus

Display at power on for a few seconds: It shows the software version of the machine.

```
NAGRA DAC

SOFT VERSION : X.X
```

Second display or main display (in the case that the machine was reset to default factory settings):

```
IN : ANALOG



LEVEL : -12.0dB

LCD [T-1]  T-2  T-3 2CH
```

[F1] [F2] [F3] [F4] [F5]
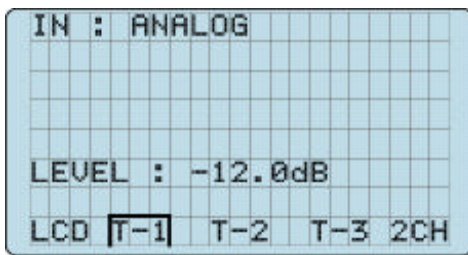
In this case, the machine selected "A", the first input or analog input.

The main output level is by default factory settings –12.0 dB.

The text on the lower line corresponds to the 5 function keys (F1 to F5)
 "LCD" stands for the LCD display. If "F1" is pressed and hold, a new display will come up and it becomes possible to adjust the contrast of the display. This will be explained later in the manual.
"T-1", "T-2", "T-3" are the 3 templates available on the machine. They give the possibility to select directly by one button a fully configured setup as well as the designated input.
All those functions will be explained later in the manual.

IMPORTANT NOTE:

When scrolling through the menus, a time out counter will start automatically and will return any selected position to the main display. The time counter returns to main display if during 30 seconds no menu key was pressed.

1 DATA STREAM DETAILS
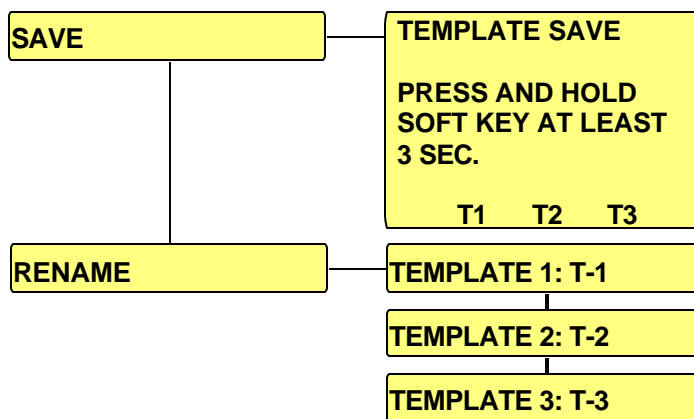
| DATA STREAM DETAILS |——| FMT : LINEAR PCM |

| SMP FREQ: 48 kHz |
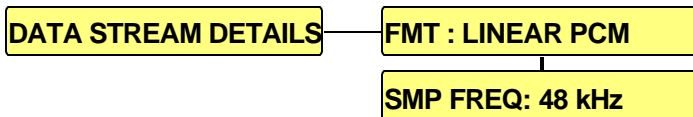
NOTE: In the following explanations, all text written in bold blue (example: **DATA STREAM DETAILS**) is directly showing a sub menu or text included on the same display.

This sub menu gives all the information concerning the selected input source data as well as the output configuration, concerning quantity of channels, versus the speaker setup that was selected.

FMT stands for **FORMAT**. In the case above, the input source is LINEAR PCM data. (Phase Coded Modulation).

SMP FREQ. stands for **SAMPLING FREQUENCY**. The incoming sampling rate. In this case it is 48 kHz.

2 TEMPLATES.

SAVE

TEMPLATE SAVE PRESS AND HOLD SOFT KEY AT LEAST 3 SEC. T1   T2   T3

RENAME

TEMPLATE 1: T-1
TEMPLATE 2: T-2
TEMPLATE 3: T-3

The **TEMPLATES** menu permits to store a full setup configuration for a particular input source and the way that it should be played back at the outputs.
Maximum 3 templates can be stored in the memory of the machine.
Example: for storing the template "**T-1**", go to **SAVE** followed by **TEMPLATE SAVE**. Press and hold the function key bellow T1 until **TEMPLATE SUCCESSFULLY SAVED** appears.

The following parameters are stored in a template: Remote control settings, Power-up settings, LCD & LED Blanking and Light correction, Input source.

The **RENAME** menu permits to enter a customized name.
To enter a customized name, press the center key once. By pressing the up or down arrow keys, the corresponding character can be selected. To jump to the next character position, press once the right arrow key. Maximum 3 characters can be entered. Once the selection is made, press again the center key to confirm and store the new name.

When as an example was [T-1] selected and the square is still around the text, it means that in the mean time, no parameters were manually changed versus the parameters stored for the template. If any stored parameters are changed, the square will disappear.
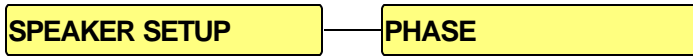
3 SETUP.
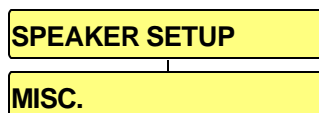
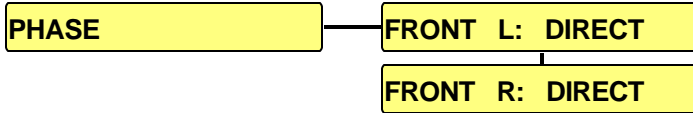| SPEAKER SETUP |
| --- |

MISC.

In the **SETUP** menu, the **SPEAKER SETUP** menu or the **MISC** can be selected.

3.1 SPEAKER SETUP.

The **SPEAKER SETUP** menu permits to change the **PHASE** for each channel individually.

SPEAKER SETUP	──	PHASE

3.1.1 PHASE.

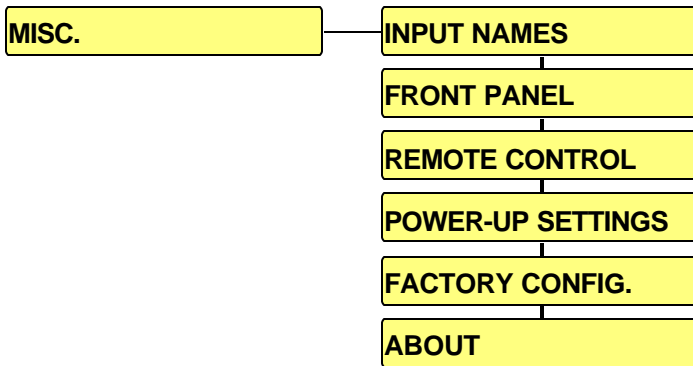| PHASE	──	FRONT L: DIRECT
		FRONT R: DIRECT

The **PHASE** menu permits to reverse the phase individually for each channel.

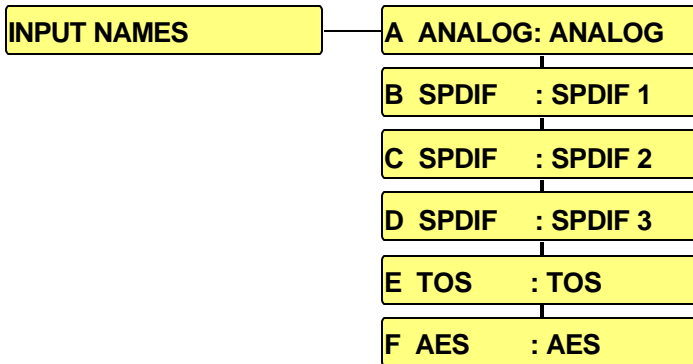**DIRECT** means that the output signal is in phase with the input source.

INVERTED means that the output signal is phase reversed versus the input source.

3.2 MISC.

MISC.	──	INPUT NAMES
		FRONT PANEL
		REMOTE CONTROL
		POWER-UP SETTINGS
		FACTORY CONFIG.
		ABOUT

The **MISC.** menu gives access to several additional settings, adjusments and information.

3.2.1 INPUT NAMES.

INPUT NAMES	──	A ANALOG: ANALOG
		B SPDIF : SPDIF 1
		C SPDIF : SPDIF 2
		D SPDIF : SPDIF 3
		E TOS : TOS
		F AES : AES

The **INPUT NAMES** menu gives the possibility to select another name out of a list or to create a customized name for each input.

To select a name out of a list, press the function key below the indication **LST**. By using the up and down arrow keys select a corresponding name and press the center key to confirm.

If a name needs to be introduced directly, press the center key for the corresponding input, use the up and down arrow keys for selecting a character, move to the next character space by pressing the right arrow key etc. Once the name introduced, press the center key to confirm. Maximum 10 characters (a "space" is considered as a character) can be entered.

SUGGESTION: To spare time, an almost corresponding name can be selected out of the list and be edited after.

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The following table shows the list of names directly available:

AES	C SPDIF	INPUT B	OPTICAL	TUNER 2
ANALOG	DAT	INPUT C	RCA	TV
A RCA	D RCA	INPUT D	SACD	VCR
AUX	D SPDIF	INPUT E	SACD 1	VCR 1
AUX 1	DVD	INPUT F	SACD 2	VCR 2
AUX 2	DVD 1	INPUT G	SPDIF	XLR
A XLR	DVD 2	LD	TAPE	
B RCA	E OPTICAL	LD 1	TAPE 1	
B SPDIF	E TOSLINK	LD 2	TAPE 2	
CD 1	F AES	ND	TOSLINK	
CD 2	F XLR	NAGRA D	TUNER	
C RCA	INPUT A	NAGRA V	TUNER 1	

3.2.2 FRONT PANEL.

```
FRONT PANEL ──── LCD ──────── BLANKING    : OFF
                   │
                   │           BACKLIGHT   : 85 %
                   │
                   │           CONTRAST    : 70 %
                   │
                 LEDS ──────── BLANKING    : OFF
                 CORRECTION: NONE  INTENSITY   : 80 %
                               MODULO MODE : ROW
                               MODULO SENSE: DIG
```
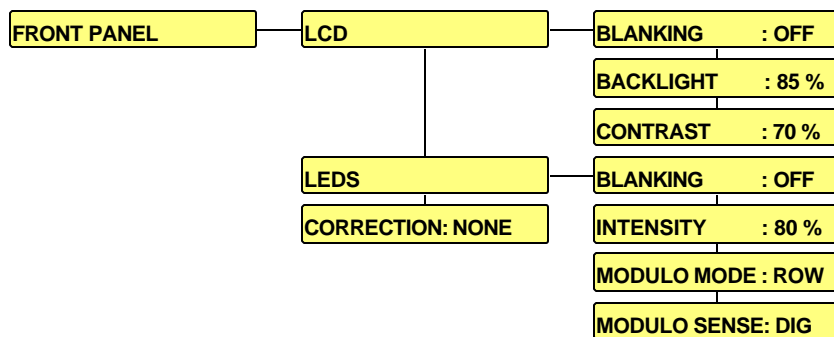
The **FRONT PANEL** menu gives access to adjust several parameters concerning the LCD display and the LEDS.

The **LCD** display can be set to **BLANKING ON** or **OFF**. If it is set to ON and in the mean time any key was pressed, the backlight of the display turns OFF after 3 seconds. If any key is pressed, it turns on again for 3 seconds.

The **BACKLIGHT** intensity can be adjusted in a range from 20 to 100 %.

The **CONTRAST** can be adjusted in a range from 30 to 100 %.

The **LEDS** can be set to **BLANKING ON** or **OFF**. If it is set to ON and in the mean time any key was pressed, all led's will turn OFF after 3 seconds.. If any key is pressed they turn ON again for 3 seconds. The LED's on the main panel cannot be blanked.

The brightness **INTENSITY** can be adjusted in a range of 20 to 100 %.

The **MODULO MODE** can be set to **ROW**, **DOT** or **OFF**. When set to **ROW**, the more sound level at the input, the more **LEDS** are turning ON. When set to **DOT**, only one LED is moving on the modulometer scale. When set to **OFF**, no LEDS on the modulometer will turn ON.
The **MODULO SENSE** menu gives the possibility to select the source signal for the modulometers. When set to **DIG**, the modulometers are showing the present digital

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input level. When set to **ANA**, the modulometers are showing the present analog output level.

If the **CORRECTION** menu is set to **NONE**, the brightness of the LEDS as well as the backlight of the display is not influenced by the ambient light sources. If it is set to **AMBIENT**, the less light, the lower the LED brightness and the more backlight on the display. A sensor on the front panel detects the ambient light source.

3.2.3 REMOTE CONTROL.

| REMOTE CONTROL	ID MAIN : 1
	ID TRIM : 2
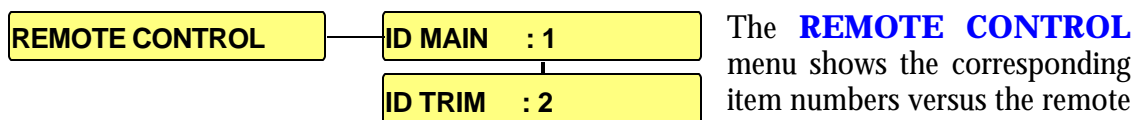
The **REMOTE CONTROL** menu shows the corresponding item numbers versus the remote control unit. The numbers shown on this drawing corresponds to the factory settings. If needed each of them can be individually modified.
Note that the remote control unit has a selection between minimum 1 and maximum 6.

3.2.4 POWER-UP SETTINGS.

| POWER-UP SETTINGS	MAIN LEVEL : LAST
	TRIM LEVEL : RESET
	INPUT : LAST
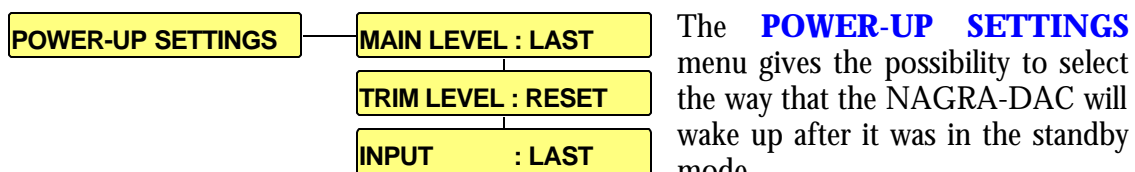
The **POWER-UP SETTINGS** menu gives the possibility to select the way that the NAGRA-DAC will wake up after it was in the standby mode.

The **MAIN LEVEL** menu: When **LAST** was selected, the NAGRA DAC will wake up with the same main level as before standby. The other possibility is to set a value between 0 and –80 dB.

The **TRIM LEVEL** menu: When **LAST** was selected, the NAGRA DAC will wake up with the same trim level as before standby. When **RESET** was selected, the NAGRA DAC will reset all the trim values. The trim values are the actual positions of each level and balance adjustment for all channels.

The **INPUT** menu: When **LAST** was selected, the NAGRA-DAC will wake up with the last known input selection. Otherwise, it is possible to select a fix input between **ANALOG**, **SPDIF 1** to **3**, **TOS** or **AES**.

3.2.5 FACTORY CONFIG.

FACTORY CONFIG.	RESET TO DEFAULT ?	NO
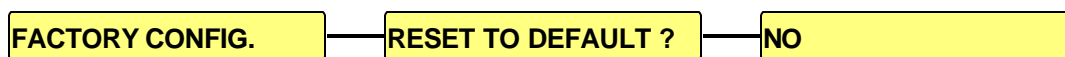
The **FACTORY CONFIG.** menu permits to set the NAGRA DAC back to the standard factory settings. In this case, everything that was stored also in the templates will be lost. The standard factory settings are corresponding to the full menu tree in this manual.

3.2.6 ABOUT.

ABOUT	DSP SOFTWARE: V X.X
	uP SOFTWARE : V X.X
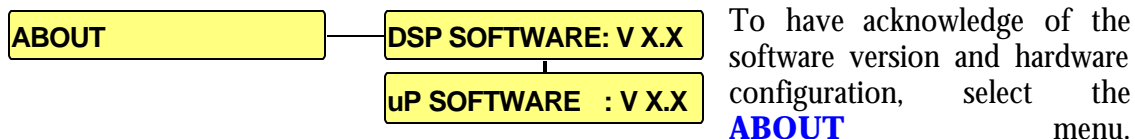
To have acknowledge of the software version and hardware configuration, select the **ABOUT** menu.

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Technical Data

Weight and dimensions
6.8kg, without optional output
transformers
L= 430mm, H= 110mm, D= 390mm

Digital signal processor
Sharc ADSP 21065L Analog Devices

D to A converter
AD1853 Analog Devices

Digital input sampling frequency range
From 32 kHz up to 96 kHz

Digital input formats
Coaxial SPDIF
Optical EIAJ RC-5720
AES bus

Digital input impedance
SPDIF 75 Ohms ± 1%
AES 110 Ohms ± 1%

Digital input connectors
Coaxial RCA (CINCH)
Optical TOSLINK
AES XLR

Analog input formats
Selectable symmetrical or asymmetrical

Analog input impedance
100 kOhms ± 1%

Analog input connectors
Coaxial RCA (CINCH)
XLR

Maximum analog input level
2.2 Vrms

Analog input frequency response
20 Hz –20 kHz ± 0.5dB

Analog to digital converter
24 bits 48 kHz delta Sigma Burr Brown,
PCM1804DB

Analog output connectors
Coaxial RCA (CINCH)
XLR

Analog output formats
Selectable symmetrical or asymmetrical
Optional symmetrical floating outputs
(transformers by pair of 2 channels)

Analog output level
From 0.775 to 6.2 V for 0 dB on the
modulometer.

Analog output impedance
50 Ohms nominal

**Analog output frequency response
(digital in 96 kHz)**
10 Hz –25 kHz ± 0.5dB

Analog output THD
Less than 0.02 %

Analog output crosstalk
Greater than 105 dB at 1kHz

Main analog output volume control
Steps of 0.5dB from –80 to 0 dB

Trim analog output volume control
Steps of 0.5 dB from –9 to +9 dB

Balance control
Steps of 0.5 dB

Total analog inputs
1 stereo pair

Total digital inputs
1 AES
3 SPDIF
1 TOSLINK

Total analog outputs
2 balanced, 2 unbalanced

Communication port
RS232 standard

Remote control
Infrared based (common remote control
as for MPA and PL-L)

Operating temperature range
15 – 35 °C

AC supply voltage
94 – 132V, 188- 264V

AC supply frequency range
44- 66 Hz

AC power consumption
On 8.2 W, Standby 2 W

DECLARATION DE CONFORMITE
DECLARATION OF CONFORMITY

CE

FABRICANT: **NAGRA - KUDELSKI, 1033 Cheseaux SUISSE**
MANUFACTURER: *NAGRA-KUDELSKI, 1033 CHESEAUX, SWITZERLAND*

APPAREIL :   **DAC & RCU**
MODEL: ***DAC & RCU***

NORMES GENERIQUES APPLICABLES :
APPLICABLE GENERIC NORMS:

champ électrique rayonné 30 MHz - 1000 MHz, EN 55022 Cl. B

radiated electromagnetic field 30 MHz - 1000 MHz, EN 55022 Cl. B

perturbations conduites sur secteur 150kHz - 30 MHz, EN 55022 Cl. B

disturbance voltage on mains terminal 150kHz - 30 MHz, EN 55022 Cl. B

immunité aux décharges électrostatiques, EN 61000-4-2

immunity to electrostatic discharges, EN 61000-4-2

immunité aux champs électromagnétiques, EN 61000-4-3

immunity to electromagnetic fields, EN 61000-4-3

immunité aux ondes de choc, EN 61000-4-5 level 2 (1000V)

immunity to surge, EN 61000-4-5 level 2 (1000V)

immunité aux transitoires électriques rapides en salve sur ligne secteur, EN 61000-4-4 level 2 (1000V)

immunity to burst on mains line, EN 61000-4-4 level 2 (1000V)

immunité aux transitoires électriques rapides en salve sur lignes de signal, EN 61000-4-4 level 1 (500V)

immunity to burst on signal lines, EN 61000-4-4 level 1 (500V)

Par la présente nous déclarons l'équipement conforme aux exigences de protection de la Directive européenne 89/336/CEE relative à la compatibilité électromagnétique pour environnement commercial et l'industrie légère.

We hereby declare that the equipment conforms to the requirements of the European guidelines 89/336/CEE referring to the electromagnetic compatibility for commerce and light industry.

Cheseaux   2ème trimestre 2003