

AP303



MANUAL

TABLE OF CONTENTS

1 – Safety instructions	P2
2 – Products information	P5
3 – Presentation and connections	P6
4 – Choice of models	P7
5 – File creation and transfer	P8
6 – Player operation and settings	P15
7 – Programming using the timer message	P19
8 - RS232 serial link	P23
8 – Infra-red (IR) Remote control option	P26
Appendix A: Specifications	P28
Appendix B: Remote software	P29

ID-AL products are exclusively manufactured by Waves System
LA VILLE EN BOIS - 44830 BOUAYE - FRANCE
Sales and information: +33 2 40 78 22 44
E-mail : info@id-al.com
Web site: <http://www.id-al.com> and www.wsystem.com

Technical department: +33 2 40 78 22 48
support@wsystem.com

Technical support :
For a detailed list of the technical support options, we suggest you to visit our site
www.id-al.com.

Information in this manual is subject to change without notice and do not represent any commitment from Waves System. The equipment described in this manual is supplied under condition of the terms of license specifying the legal use conditions. This manual can't be reproduced or used, in whole or in part, in any form and by any mean, for other use than private, without the written permission from Waves System.

ID-AL and AP303 are trademarks of Waves System.

WARNING: DO NOT EXPOSE TO MOISTURE AND DUST!

Unplug the power cord before any intervention!

FOR YOUR SAFETY, PLEASE READ CAREFULLY THIS OPERATION MANUAL
BEFORE USING YOUR PLAYER.

1. SAFETY INSTRUCTIONS

1.1 CE marking

The CE marking is on the ID plate, at the back of the product. It means this product complies with the low voltage CE directive, according to the EN 55022 standard, and the EMC directive 61000-4-x.

1.2 Directives

- Electro-magnetic compatibility (EMC) and low voltage directive requirements are satisfied.

1.3 Overview

- The user's manual forms an integral part of the unit. It must be kept close to the unit. Precise observance of these instructions is a pre-condition to use the unit for the intended purpose and for its correct operation.

This user's manual must be passed on to any future purchaser or operator.

The staff would receive instructions concerning the correct use of the product.

- Safety for the operator as well as trouble-free operation of the unit is only ensured if use is made of original equipment parts. Moreover, use may only be made of those accessories that are specified in the technical documentation or that have been expressly approved by the manufacturer. The manufacturer cannot guarantee for the safety or proper functioning of the unit in the case where accessories or consumables are used which are not supplied by the manufacturer.

- The warranty doesn't cover damages caused by use of accessories or consumables which are not supplied by the manufacturer.

- The manufacturer only regard himself as being responsible for the equipment with regard to safety, reliability and proper functioning if assembly, re-settings, changes or modifications, extensions and repairs have been carried out by the manufacturer or a company authorized by the manufacturer and if the equipment is used in conformity with the operating instructions written in this manual.

- The MP903 player complies with the applicable technical safety standards at the date of print. All rights reserved for electrical diagrams, procedures, mentioned names and equipments.

- No reproduction, in whole or in part, without the written permission from Waves System.

1.4 General safety instructions

This equipment left our facilities in perfect conditions of operation. In order to maintain these conditions, for safety and to avoid any risk of injury, the user must imperatively follow the safety instructions and read the 'Warning!' notes in this manual.

This equipment, manufactured by Waves System, has been so designed that any danger is virtually excluded provided it is used according to its purpose. However, for safety reasons, we are obliged to point out the following measures:

- When operating this appliance, observe all local rules and enforced regulations!
The homologation shall be invalid if any modification or alteration is made on the appliance. Operating modified appliances may lead to a penal suit. In the interest of the safety of work, the manager and the operator will be responsible for respecting the instructions.
- Retain all packing material in case the device must be shipped. Take care that it does not fall into the hands of children. Only the original packing guarantees optimal safety of the appliance during transport. Should it be necessary to ship the product during the guarantee period, Waves System will not accept claims for damage arising during the transport from using incorrect packing material!
- This product is dedicated to broadcasting music. It may only be operated by trained or knowledgeable personnel who can handle the device correctly.
- Before every use, the operator must check the functional safety and the condition of the appliance.
- The operator must be knowledgeable in the operation of the appliance.
- This device must not be used in places with potential explosion risk. Moreover, it must not be used in an environment favouring combustion neither in a wet or excessively hot or cold place.

1.5 Safety instructions against risks pertaining to electrical current

- The appliance must be connected to a grounded AC power outlet or a correctly wired CEE AC outlet.
- Before connecting the appliance, verify that the power supply voltage and frequency match the specifications indicated on the appliance.
- Before powering, check that the appliance and the cables are not damaged. Damaged cables and connections must be immediately replaced.
- Never leave power cords enter in contact with other cables! Handle the power cord and all the cables connected to a power supply with extreme care.
- Always connect the power supply last. Check that the power switch is 'off' before connecting the appliance to mains supply. The mains outlet must be accessible after installation.
- Check the appliance and its power cord from time to time.
Unplug the power supply if you don't use the appliance anymore or for maintenance.
- Always grasp only the plug on the power supply cord. Never pull the cable to unplug.
- Power supply, repairs and maintenance must be done by qualified personnel.
- Do not switch the appliance on and off in short intervals, as this may reduce its life, especially concerning the hard disk.

1.6 - Conditions of use :

- This product has been designed for indoor use only.
- If the device has been exposed to drastic temperature fluctuation (e.g. after transportation), do not switch it on immediately. The arising condensation water might damage your device. Leave the device switched off until it has reached room temperature.
- Do not shake the device. Avoid brute force when installing or operating the device.
- When choosing the installation-spot, please make sure that the device is not exposed to extreme heat, moisture or dust. There should not be any cables lying around, for your own safety and that of bystanders.

2. PRODUCT INFORMATION

2.1 Correct usage

The AP303 player is designed for automatically broadcasting music or audio files.

Correct usage implies observation of the instructions in this manual as well as observing the requirements concerning installation.

2.2 Incorrect usage

Any other use beyond this is considered as incorrect usage. The manufacturer will not be liable for any damage resulting from incorrect usage. The operator carries all risks.

2.3 CONTENTS

MP3 player AP303

Power supply block

USB A/B link cable

User manual

2.4 INSTALLATION

The apparatus must be set up in a dry and dust-free room.

Do not install the player too close to a wall. To avoid overheating, the ventilation holes must be kept clear and an air circulation gap must be left above the unit.

2.5 ELECTRICAL CONNECTION

Before use, compare mains voltage with that specified on model plate.

3. INSTALLATION

1 POWER SUPPLY

Connect the power supply block on this connector. The AP303 accepts voltages between 7 and 28 Volts. The consumption will vary depending on the extension cards installed in the player.



2 RS 232 serial link

This link has two functions:

1 – Updating your player's software.

New features could be released in the future and, to obtain them, you'll be able to download new firmware versions from our site: www.id-al.com.

2 –Remote controlling your player through this RS232 link

You can send commands to your AP303 from a computer, an external remote control or an automated system.

3 Compact flash memory card slot

Insert a Compact flash type memory card in this slot. The AP303 only accepts cards of a minimum capacity of 64 Mo. Be careful to insert the card straight without forcing it in.

4 USB link

Connect the player and your computer with the USB cable. You can use a PC or an Apple MAC. This link allows you to transfer, rename, delete and move all your files from any file management software. The player's memory card is recognized as an external hard disk by the computer.

4. CHOICE OF MODELS



Base Version :

- Stereo output on RCA at line level
- Low impedance stereo output on jack 6.35 (headphones, telephone line)



Version 8 inputs / 4 outputs on relays :

- Stereo output at line level on pluggable terminal block
- 8 Inputs on dry contacts (expandable to 255)
- 4 Outputs on static relays (200mA / 60V)
- Control LED for the 4 outputs



Version 8 inputs / 16 outputs on relays* :

- Stereo output at line level on pluggable terminal block
- 8 Inputs on dry contacts (expandable to 255) - Pluggable terminal block
- 16 Outputs on power relays. Pluggable terminal block. 2 groups of 8 relays - Max current per group : 6A/100V, per relay : 5A/100



Version 8 inputs / DMX input and output* :

- Stereo output at line level on pluggable terminal block
 - 8 Inputs on dry contacts (expandable to 255) - Pluggable terminal block
 - 255 output DMX channels on pluggable terminal block
 - Player controllable by DMX input control (512 configurable channels) on pluggable terminal block
- The player then becomes a music, jingle or message box controlled by any DMX piece of equipment. 255 programs and volume controls are available
- The AP303 can be used as an interface PC - DMX thanks to its real time simulation abilities






* Includes the show control function

5. FILES CREATION AND TRANSFER

5.1 USB transfer

The AP303 has a fast USB interface to manage the player's hard disk from a computer. When the player is connected to a PC or a MAC, its memory card is seen as an external hard disk with the same management options than an internal one. You may use any type of file management software like Windows Explorer or else.

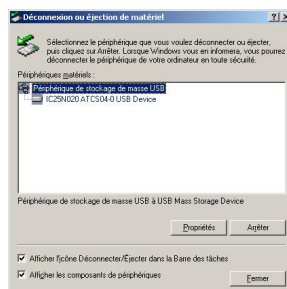
USB mode:

- 1 – If the player is currently playing, press Stop. 
- 2 – Press the Option button 
- 3 – Press  or  to scroll menus until the **USB TRANSFERT** option appears.
- 4 – Press  to confirm the option. **MODE USB**
- 5 - Connect the USB cable to your PC if not already done.
- 6 - Under Windows 2000, XP or MAC OS 9/X, the Compact Flash card is immediately detected by your system. It becomes usable as data hard disk with all the desired transfer, delete or move possibilities.



You can click on the small icon in the lower right corner of your screen to check if the driver is present. A window would open with the names of the different USB devices connected. You would see the player's memory card.

Note: Under Windows 98SE, you'll need to install a specific driver, downloadable on our site: www.id-al.com.



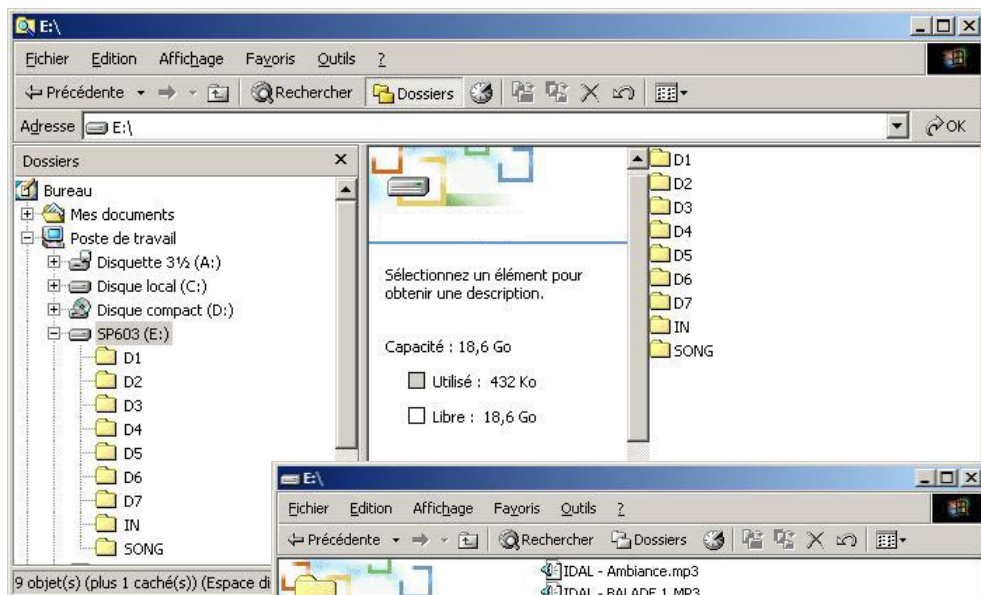
Transfer example using Windows Explorer:

- 1 - Open Windows Explorer (Windows file manager)
- 2 – Search MP3 files on your hard disk or CD ROM or any other media.
- 3 – Select the files to be copied and transfer them in one of the SP603 player's directories.

Precautions:

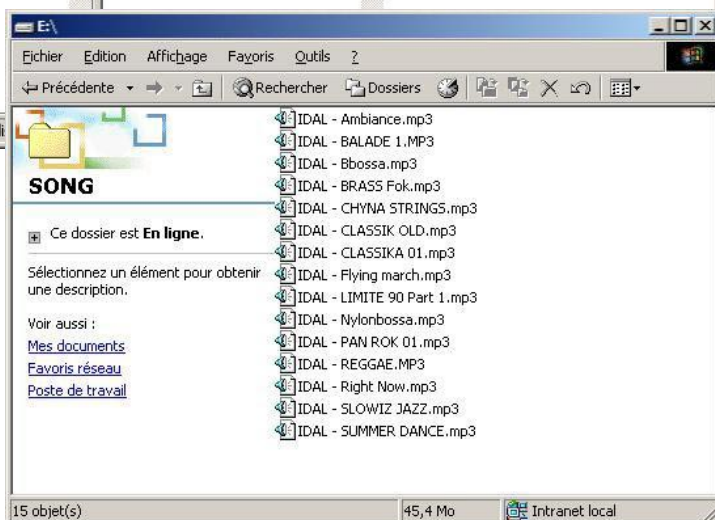
- Do not save files at the root of the player's memory card. They won't be seen and could disorder other files reading,
- Imposed directories must have their name written in upper case letters,
- Avoid creating empty directories,
- Rigorously organize your files and directories,
- A corrupted file could cause erratic play and static noise,

4 – Search and select the files on your hard disk.



5 - Copy selected files in the directory of your choice.

6 - Switch off the player and quit the USB mode.



5.2 Directories use:

Some names are reserved for the system and must not be used. You can manually create these directories or use small utility software you'll find on our site, www.id-al.com, to automatically create all the default directories. (Description at the end of this manual).

SONG: default directory containing all your tracks. Its name must be written with uppercase (capital) letters.

Tip: This directory will serve as a "tank". You can use only this directory and place all your music inside.

IN: The "IN" directory gathers all the intervention files together. It will contain files used by the timer message, files launched from the optional inputs/outputs module, infrared commands and various external commands.

*Note : You will place in the "IN" directory all files called by the programs. Name are "Txxx.mp3"
xxx = number from 001 and 255. (see programming software chapter)*

F001 to F255: Directories called by the programs to customize music during a day. (see programming software chapter)

Warning: all imposed names must be written with upper case (capital) letters.
It is recommended to delete any unused or empty directory.

For the other directories, you may use any desired name.

We suggest you to very strictly organize your hard disk in order to quickly find your titles. You can create directories per musical genre, artist name, year, broadcasting date or any other personal organization.

Tip: You may use only one unique directory, "SONG", insert thousand of titles inside, and let the player pick up one song at a time for random playing.

Sub-directories :


With the V3 firmware, it is now possible to use sub-directories to organize the music files but they will only be read by the file transfer software in USB mode. The sub-directories will not be displayed on the LCD of the player and they will be "transparent" : you will be able to navigate amongst the music files as if sub-directories did not exist.

The use of sub-directories is highly recommended for directories which include more than 1000 files in order to reduce the searching delay between tracks.

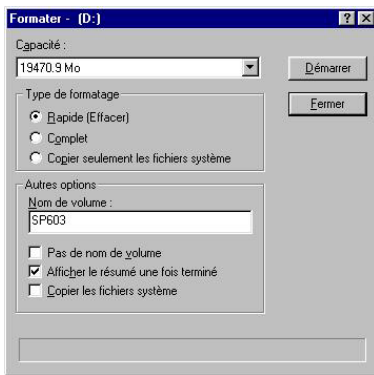


5.3 Hard disk formatting

If the installed disk is not formatted, it won't be recognized by the player and won't be able to complete its booting procedure. In this case, you must format the hard disk from your computer. If your disk is already formatted, you can skip this chapter.

Before switching on your player, press the  button and keep it pressed. Then switch on your player with the front switch. After a few seconds, you'll see this message appearing: **MODE USB** in the player's display. You can then release the button.

Connect your USB cable if it's not already done. Your computer will then detect a new device. (See point 6 in the previous paragraph)



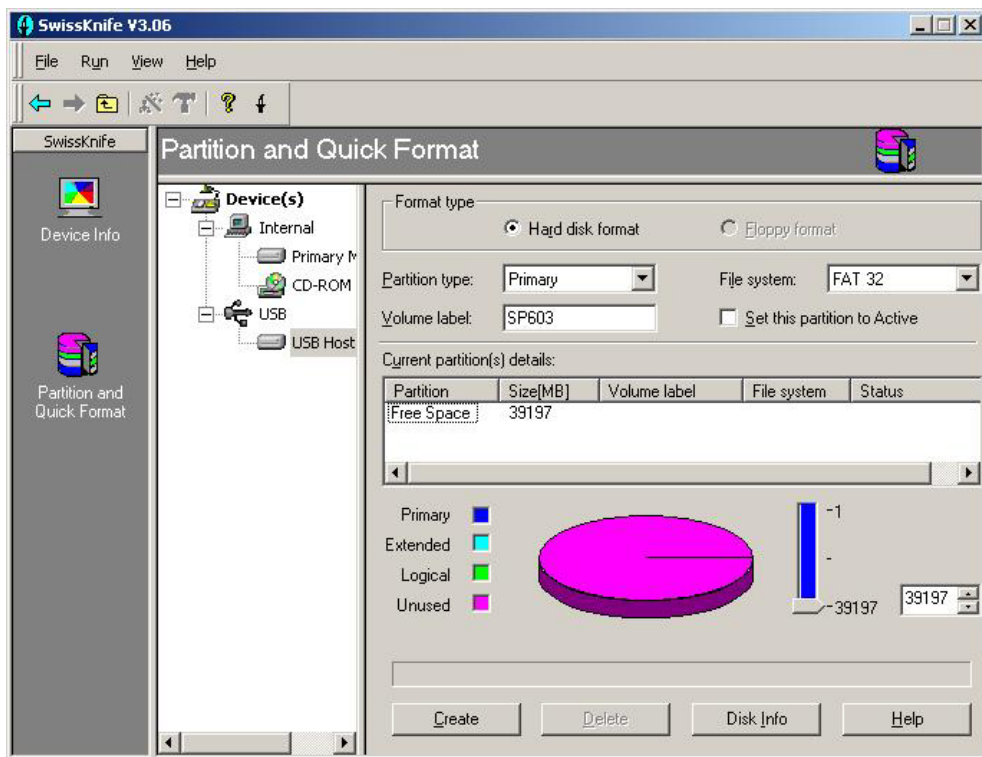
Use a hard disk management utility to create a main partition and format your hard disk in FAT32. You can use the «Format» function in Windows Explorer. Take care as it's often necessary to create a partition before being able to format the hard disk. This operation is a little bit difficult and we suggest you to use dedicated software.

Under Windows 98SE, you can use the "FDISK" software in the MSDOS windows to create a partition. Be careful, this is a delicate operation. In case of mistake, you could destroy all the data on your main hard disk.

Under Windows 2000, use the Disk manager from the Control panel. Don't hesitate to open the Windows Help menu or to be helped by a specialist.

Please note that, in Windows 2000 or XP, the disk management utility is not able to format in FAT32 a hard disk greater than 32GB.

Never use a NTFS formatting.



Choose the heading “Partition and Quick Format”. Select the player’s hard disk in the USB directory and set the parameters like here after:

- Partition type: Primary
- File System: FAT32
- Volume Label: The name you want for the disk. For example “SP603”
- Set the formatting capacity to maximum (setting at the right of the pie)

Click then on “Create” and restart your computer. Your hard disk is now ready to receive data.

5.4 How to create your own MP3 files?

To build up your music library, you can use your own Audio CD. For this, you must convert it in MP3 files in order for them to be transferred in the player. Many softwares are available to create, extract and encode sound.

The most complete and most professional is "Sound Forge from SONY/Sonic Foundry". This software has all the sound editing tools you could need.



Free CDex software

You can also use the free "CD ex" software to very simply extract and encode Audio CDs. Cdex allows to record audio tracks from Compact-Discs and save them to MP3 or WAV format. It can extract parts of tracks or convert WAV files in MP3 files. It also has the basic functions to play CD and supports the CDDb protocol (identifying your CD's tracks via Internet).

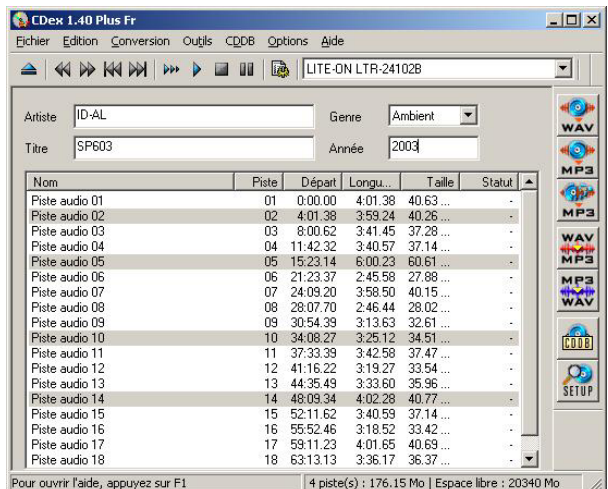
Downloadable on www.id-al.com

Quick user's guide for CDex.

1 – Launch the program and select the Option menu to configure the software.

General

You can leave all the default settings.



This has no effect on the player, as it doesn't manage ID3 tags.

- Adjust volume (normalize) if the Audio CD is incorrectly mastered (too low or too high volume). This will avoid future volume discrepancies between files.

It's a better choice to activate normalization to avoid sound level changes in your musical library.

File name

- Format: Up to your wishes, this set the format for the file and directory names that will be created starting from the CD's information. In order to know the various formats, click on the « ? » button. You can name your files as you want. Don't forget that this name will be the one displayed on the player. For a better reading comfort, avoid too long names.

CDROM

This configuration menu manages the CD player from your PC as well as the way to rip the Audio CD. If it's not correctly configured, you'll have no sound. It's a better choice not to change too much settings in this page.

Encoder

- Codec used to encode the file extracted from the CD. You have different choices and, it's up to you to choose a codec or another (depending on compression, rendering, size, loss on signal, etc).

We chose here the MP3 format.

- Select Lame MP3 Encoder (version 1.26 engine 3.91 MMX) or higher, still the best MP3 encoder (up to today) with a good operational speed and rendering final quality.

- Encoding options:

Bitrate: Applied bit rate or interval, depending of the encoding type. We suggest a value of 128 (minimal and maximal). You can choose other values to match the desired sound quality. The player can read any file from 8kBd to 320kBd. 128 kBd allows a compression factor of 10 (it means

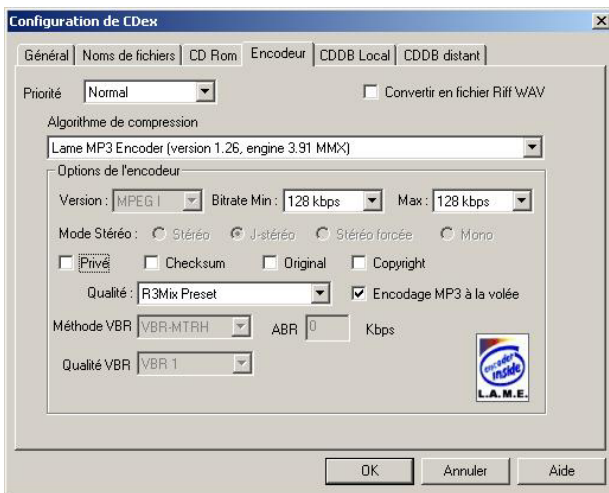
the file size will be 10 times smaller on the disk) without noticeable quality loss.

- Flag: Private - Checksum - Original - Copyright

Avoid changing these parameters.

- Quality: Encoding output quality, or preset selection. R3Mix Preset is a good compromise.

- Méthode VBR: VBR method. Avoid this encoding type.



CDDB

CDDB is an Audio CD database. When you insert a CD in the CD player, the CD ID is scanned and after a query to a CDDB server on internet, the player will receive information about the artist, the album and the tracks titles. With this function, you don't have to enter names with your keyboard.

2 - Validate your options and insert an Audio CD

Insert an Audio CD in the CD player. Immediately, CDex will connect to local CDDB in search of the Audio CD. If this Audio CD is unknown, the player will search information in the internet CDDB if you're connected to internet. You can then skip to the next phase.

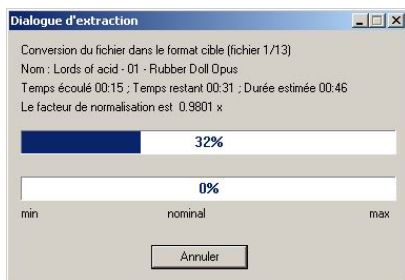
3 – CD ripping

It's time now for CD ripping. Select all the desired tracks. Click on the second icon in the right raw track(s)->MPEG , or select the menu "Conversion => Extract CD tracks in MPEG format. You can also extract only a part of the CD.

Ripping will be done in two steps.

A - Extraction

CDex will search music on the Audio CD and will save it in a temporary directory. Progress is shown in a status bar.



B - Encoding

As for extraction, CDex then encodes the extracted files you chose, one by one, in MP3 format.

Depending on CD, player (and its extraction speed) and of course your computer performances, full ripping of your Audio CD will take more or less time. Generally, a full CD is extracted and encoded in 10 to 15 minutes.

4 – Retrieve MP3 files in the destination folder and transfer them in your player.

Note: You can download Sound Forge demo version or a full version of CDex on our site: www.id-al.com

6 – PLAYER OPERATION AND SETTINGS

The SP603 player can be considered as a kind of juke-box able to contain hundred hours of music. Its operation is quite similar to a CD player's operation.

Basic functions are simple and intuitive.

6.1 Stop mode (no play)



Goes back to the root directory



Validates the selected directory



1 - Previous directory if at the root
2 - Previous song if in a directory



1 - Next directory if at the root
2 - Next song if in a directory



Display MP3 file characteristics



Previous directory if in a directory



Next directory if in a directory



Recalls Option menu (see later point 6.3).

6.2 Play mode



Play / Pause



Stop



Previous song



Next song





Next directory



Previous directory



Volume and tone settings. Press several times to scroll parameters.

Press then  and  to increase or decrease the value for the selected parameter.

Volume : 0dB (maximum) to -71dB (minimum) - Step : 1dB

Tone (treble and bass) : +15dB (maximum) to -15dB (minimum) - Step : 1dB



No function

6.3 Option menu



Opens option menu. The option menu can't be opened in play mode.



and



Changes option.



and



Changes option's parameter.



Validate some functions

AUTOPLAY :

ON - At power on, the player automatically enters play mode, using the last directory played.

OFF - At power on, the player is in standby mode.

MODE :

RND - Random mode. Your tracks are randomly played.

SEQ - Sequential mode. Your tracks are played according to their transfer order.

REP - Repeat mode. The selected file is played in loop.

SN - Single mode. The selected file is played once then a new command is awaited.

R5232 :

ON - Allows firmware updates and external command reception (computer, automated system, remote control).

OFF - No transfer can be made via this link.

TIMER M56 :

ON - Allows the player to use the programs (see programming software chapter)

OFF - No programs

TIME :

Date and time setting.

TRANSFER USB :

To enter USB mode in order to manage the memory card from your computer. You have to switch off your player to exit USB mode.


HD INFO :

Display the hard disk information. (capacity, format ...)

PASSWORD

ON - Password is activated

OFF - Password is deactivated

To change password, press the  key and "NEW PSWD" will be displayed. Select now your combination, pressing 4 keys of your choice.


In some cases, you may want to protect your programming or forbid unauthorized users to copy or edit your musical contents. You can protect this Option menu with a password you can customize and change at will. Password is made of a 4 keys combination to enter in a precise order from the 8 keys of the keyboard.

RETAIN YOUR PASSWORD.

When you exit the Option menu, your password is activated and you must now enter it to access the Option menu.

What to do if you lost your password?

There is no way to recover a password. The only solution is a complete reset of the player. In this case, you'll lose all your programming and settings. This initialization doesn't affect data stored on the hard disk.

To reset the player and retrieve the factory settings, you must first switch off the player. Press and keep pressed the key  then switch on the player. The "Reset Factory" message is displayed. Release the key and wait several minutes. Your player will then be ready to operate with its factory configuration and the password will be erased.

Tip: To be sure that nobody could copy your data, think to lock the "RS232" link in "OFF" position. So, even with an external remote, it won't be possible to launch the USB mode and therefore to access the hard disk.

Note: in "standby" mode (no play) and after 60 seconds, current date and time are displayed. A dot at the left of the time digits means that timer is active.

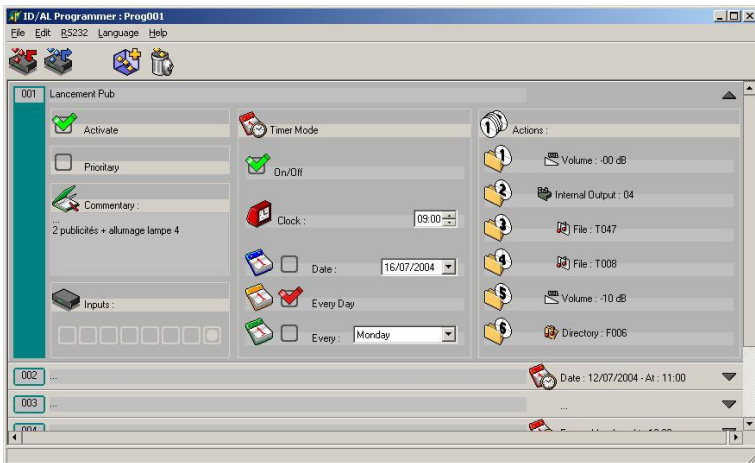
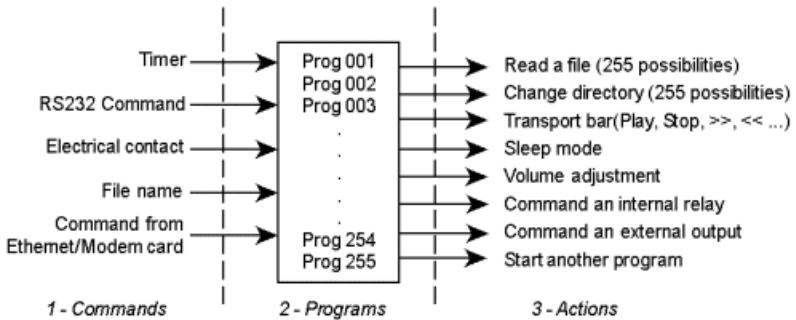
7 - Programming software

The kernel of the programming system is now the “program block “ which includes extended controlling functions for the player itself but also management facilities for external events.

255 programs are available to send numerous orders to the player, each of which is able to execute up to 6 actions.

To better understand the programming system, consider it in 3 blocs :

- 1- Commands / instructions
- 2- Programs
- 3- Actions



7.1 – COMMANDS AND INSTRUCTIONS

A program can be started by various commands or instructions.

- A - Time
- B - Electrical contact on an input of the I/O extension module
- C - Information received from a computer, remote control, Plc... through the serial RS232 link
- D - Program number included in a MP3 file name
- E - Command sent by the optional Ethernet/Modem card

7.1-A - Starting up of a program on timer

The player includes a real time internal clock indicating both the time and the date.

It is therefore possible to start up a hourly program in 3 modes :

- Only once at any given day and time.

For example on 31 December 2050 at 23:00. (the player can be programmed until 2099).

- Every week , on the same day and at the same time.

For example every Monday at 8:00AM.

- Everyday at the same time.

For example everyday at 12:00.



Each program can have priority or not.

Priority mode : the current musical broadcast is interrupted and the audio message(s) is/are broadcast.

Non priority mode : the player waits for the end of the current file before broadcasting the message(s).

Note : when the programmed actions only concern volume modification or output management, the current file is not interrupted, regardless of the mode selected

7.1-B - Starting up of a program by electrical contact

If the I/O extension card is present, an electrical contact on one of the inputs can start a program. The binary value of the input will start up the corresponding program number. A light signal indicates the binary value of the contacts in relation to the program number.



8 independent inputs or a combination of these 8 inputs can be controlled this way to obtain 255 control possibilities corresponding to 255 programs.

Application examples :

museums, commercial entertainment, local radio stations, shops, game parks... Buttons can be associated to audio messages broadcasting advertisements, music, guided tour information relating to works of art, multilingual information...

Safety information

In public places , various detectors (light, temperature, door contact...) can trigger security or warning messages.

Note : the ID-AL player is not a security device (in relation to current regulations)

7.1-C - Starting up of a program by information sent through the RS232 link

Such information may be transmitted at any time by a computer, a remote control, a PLC.... to launch one of the 255 programs. A control protocol is available, for development purposes. Please contact Waves System for further details.

7.1-D - Starting up of a program by its number included in a file name

The MP3 files are either stored on a HDD, on a compact flash or a CD. A program number can be inserted in the MP3 file name. The given program is then automatically started when the file is read.

File name examples :

Queen - Bohemian Rhapsody [034].mp3

Pink Floyd - The wall [126].mp3

ID-AL promotional message [239].mp3

Format :

xxxxxxxx [yyy].mp3

xxx : the usual file name - 250 digits maximum.

yyy : 3 numbers inside brackets. Number between 001 and 255.

The program number inside brackets must be inserted at the end of the file name.

Example of use :

a - Change of lighting in relation to musical style (an I/O extension module must be present)

When creating the music files, include a program number in each file name :

All the files playing "disco" music will include [001]

All the files playing "rock" music will include [002]

All the files playing "ambient " music will include [003]

You then create 3 programs to action the relays - cut and close.

When the music files are read, the associated programs are started. The relays close and cut as commanded by the program and the lighting automatically changes with the music style.

Sound and light show

Plan the various scenes and displays and name each one using a program number. The changes of sets and lights will automatically be controlled by the player when the appropriate files are read.

Using the same principle in a shop window, the spot lamps can be switched on and off in relation to specific commentary files. No intervention needed.

7.1-E - Starting up of a program by a command sent by ethernet/internet

Takes control of the MP3 player through the internet and starts any program remotely.

Using a remote computer or just an internet navigator, you can launch an audio message, activate a program... for one or several units connected to the network.

7.2 - The programs

The V3 version provides 255 independent programs. Each program can be started by one of the commands described above. Different commands can trigger the same program. For example, program [xxx] can be started by a timer program as well as by a code on the RS232 link. All combinations are possible.

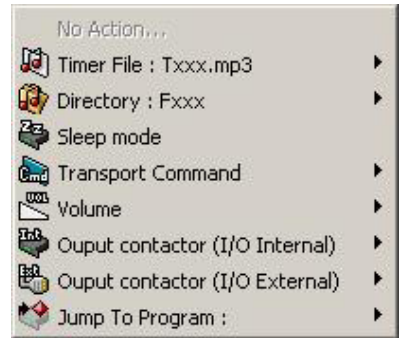
Note : a current program cannot be interrupted by another program. If a program was launched during another, it would simply be ignored.

7.3 - The actions

Each program can link up to 6 actions.

An action is an instruction given to the player to be executed. There are several types of actions ; some do not affect the current sound broadcast others will modify it.

The following types of actions are available with the V3 firmware :



Read a specific audio message file

The window displays the 255 files available

The message files must be stored in the "IN" directory and start with the letter "T" followed by 3 numbers.

Example : T005.mp3 - It is possible to name the file after the code - Example : T005 welcome message.mp3

T001	T033	T065	T097	T129
T002	T034	T066	T098	T130
T003	T035	T067	T099	T131
T004	T036	T068	T100	T132
T005	T037	T069	T101	T133
T006	T038	T070	T102	T134
T007	T039	T071	T103	T135
T008	T040	T072	T104	T136
T009	T041	T073	T105	T137
T010	T042	T074	T106	T138
T011	T043	T075	T107	T139
T012	T044	T076	T108	T140
T013	T045	T077	T109	T141
T014	T046	T078	T110	T142
T015	T047	T079	T111	T143
T016	T048	T080	T112	T144
T017	T049	T081	T113	T145
T018	T050	T082	T114	T146
T019	T051	T083	T115	T147

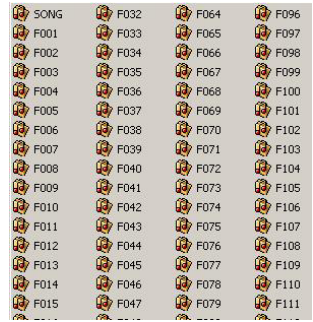
Change of directory

255 directories are available to store the various musical styles.

The directory names must be formatted as follows :
F followed by 3 numbers.

Example : F007

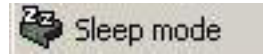
Note : It is not possible to command other actions after a change of directory. This action must be the last one of a program.



Switch to sleep mode

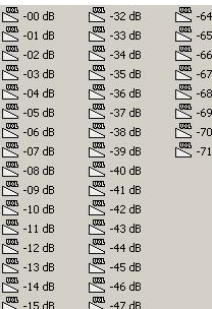
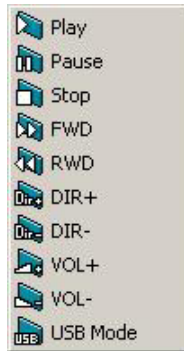
The player stops reading and goes into sleep mode. The hard disk stops turning and the player waits for a new command.

Note : it is not possible to link up other actions after switching the player into sleep mode.



Functions from the transport bar

- Play
- Stop
- FWD : next track
- RWD : previous track
- DIR+ : next directory
- DIR- : previous directory
- VOL+ : volume + 1dB
- VOL- : volume - 1dB
- USB mode : Switch to USB mode



Volume adjustment

Choose the required volume value from the list
00 dB = maximum volume
-71 dB = minimum volume

Internal relay Output

An I/O extension module must be present in the player

In the window, select the relay(s) you wish to activate.

Note : the module 3 extension card includes 4 separate output relays. To activate only one relay, the decimal value must be interpreted as a binary value.

All relays OFF : Output 00

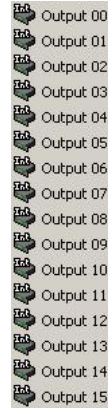
Relay 1 : Output 01

Relay 2 : Output 02

Relay 3 : Output 04

Relay 4 : Output 08

All relays ON : Output 15

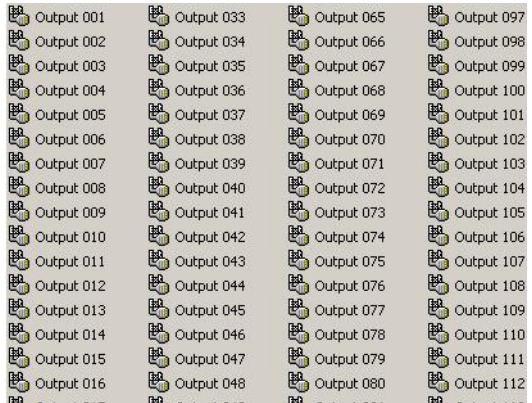


External relay output

An extension module must be present on the RS232 serial port.

In the window, select the relay(s) you wish to activate.

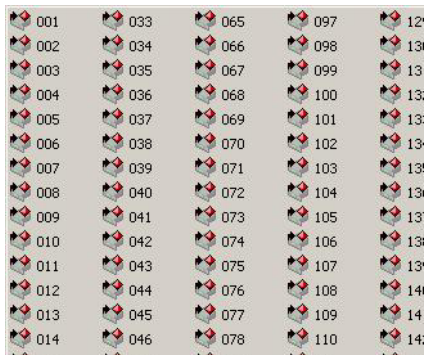
For a proportional command (gradation in 0-10 V or DMX command for example), enter the associated value between 000 and 255.



Program number

If 6 actions are not sufficient, several programs can be linked up. In this case, just select a different program number.

The 2 programs will run successively and 11 actions will then be available. There is no limit to the number of programs you can link up.



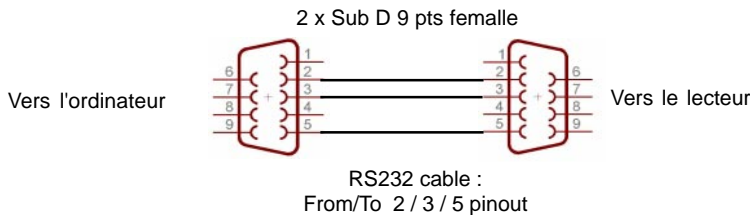
8 - RS232 SERIAL LINK

A SUB-D 9-pin connector is located at the rear of the player. It allows the SP603 player to use a standard RS232 serial link. 2 functions are associated to this link:

1 – Updating the player's firmware to add new functionalities when new developments are made. It means your MP3 player is evolutive.

2 – You can control your player with external units like remote controls, wireless or not, automated systems, software remote control on a computer or any unit able to transmit the defined protocol.

Be careful, don't use a cable with all wires connected as the other pins are used for the infrared sensor.



8.1 Firmware update

The SP603 is an evolutive product and it will have new features added in the future.

To update the firmware, you need a RS232 cable like the one in the upper illustration. Be careful, firmware update is an important procedure.

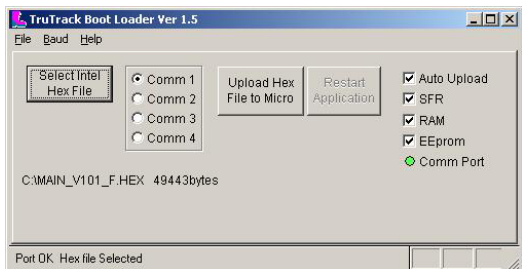
NEVER SWITCH OFF THE PLAYER BEFORE THE END OF THE TRANSFER.

- Download the "Boot Manager" software on our site, www.id-al.com
- Download the software version you need to transfer.
- Switch off the player and connect the RS232 cable.
- Launch the "Boot Manager" program and select the "xxxxx.HEX" file for the desired version.
- If "Auto Upload" is checked, transfer will start when the player is switched on, otherwise, press the "Upload HEX File to Micro" button.

At the end of the transfer, switch off the player and unplug the cable.

Your player is now ready to operate with the new version.

Note: A text file contains the detailed procedure. It is supplied with the downloadable version.



8.2 Player control

The player can be driven by an external remote control, an automated system, a computer or any other equipment able to transmit information in RS232 format with the defined protocol.

For more information, please refer to our site: www.id-al.com


To remotely drive the player from a PC, we designed a software remote control. This software is described in the appendices.

With this remote control, you can send commands to the player and remotely control it to update the musical contents or automate play according to computer managed events.

RS232 TEST.

You can make a test to check the RS232 link.

1 - Switch the player off.

2 - Press and keep pressed the key  then switch the player on.

The player will send some characters to the RS232 link. (57600 bauds, 8, N, 1)

You can easily use the "Hyper Terminal" software included in Windows to carry out the test.

APPENDIX A - Specifications

- Playback of MPEG1/2 layer 2/3 Audio (MP2 and MP3) files on memory card (64Mo up to 4Go and over).
- Continuous broadcasting, no operation required
- Bit rate: any from 8 to 320Kbits/sec and VBRs. (variable compression ratios)
- Supports short and long file names (up to 255 characters).
- Digital setting of volume, bass and treble.
- Settings backup.
- Auto-play (automatic play at power-up – switchable).
- Random, sequential, repeat or single play modes.
- 2x16 characters LCD display: file name scrolling, time, progress bar.
- Stereo line output (RCA).
- Update via USB 2.0 with PC or Mac - Win 98SE/ME/2000/XP - Mac OS 9.x and higher
- In USB mode, the player is detected as an extra hard disk, allowing any file transfer, move or delete.
- Can be used as an external backup hard disk.
- RS232 link for firmware update and remote control.
- Integrated real time clock to switch the player on/off according to a personalized schedule. 255 timer programs at disposal to broadcast advertisements, messages, jingles, to change the musical style or trigger any other action.

APPENDIX B – Remote software

You can remotely control your player with the RS232 serial link and its protocol. To do this, you can use our control software. You'll retrieve all the player's basic functions, driven by your mouse.



Use example of remote update.

You can control the player and transfer data on its hard disk from a computer, using remote control software and a phone line, internet ADSL or a distant network.

Here is the procedure:

- 1 – On your local computer and with remote control software, launch the remote software on the distant PC. Many remote control softwares are available (PC Anywhere, Ideal Administration, Bosco, PC Remote ...)
- 2 – Press the “USB” button. The player stops (if it was playing a file) then accepts the USB transfer. The hard disk can now be seen on the distant computer.
- 3 – Transfer the files from the distant computer to the player's hard disk. Almost all remote control softwares have this function.
- 4 – Once the transfer is completed, press a second time the “USB” button on the player's remote control to reset the player. A few seconds later, the player is ready to receive commands and you can enter the play mode.

Another command line utility is available to send commands to the player without launching the remote software. Please report to the Download heading on our site, www.id-al.com, to obtain additional details or to download described utilities.

Use example of an internet FTP site to automate updates.

With task management software and FTP transfer software, you can program your computer for him to automatically connect to a “FTP” site with contents (that service providers or users could regularly

I.D. AL - AP303 - Professional MP3 audio player - Manual

update – Be careful with copyrights for authors and producers).

1 - Use Windows task management or software like EZ Scheduler to plan your automatic update, doing the following tasks:

A – Program the launch of the “Remote_cmde.exe -COM1 -u” remote software in order for the player to enter the USB mode.

B – Program the launch of FTP software with automatic connection to the selected site and files downloading to the player’s hard disk. For example, CuteFtp or FTP expert 3 offers scripts to automatically retrieve files.

C – Program the launch of the “Remote_cmde.exe -COM1 -d” remote software to reset the player.

D – To start files playing after the download, you just have to program the launch of the command line: “Remote_cmde.exe -COM1 -p”

Transfer is now completed and files are ready to be broadcasted by the player, all this with no human intervention!

You’ll find “Remote_cmde.exe” software and demo versions of software on www.id-al.com



<http://www.id-al.com>

<http://www.wsystem.com>