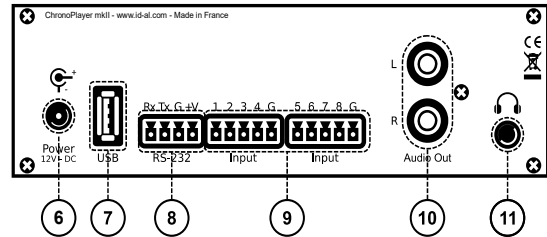
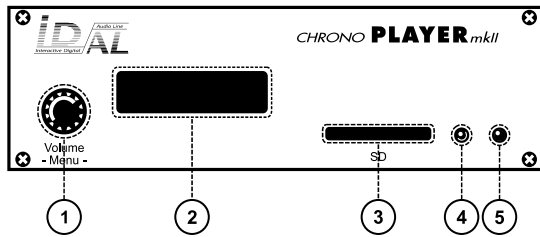


ID-AL ChronoPlayer mkII

Quick Start Guide V1.1

1 Introduction



- 1 Clickable knob (volume, playback control and setting menu)
- 2 Backlit LCD display – 2 × 16 characters
- 3 SD card slot
- 4 Infrared sensor
- 5 Status LED
- 6 External DC power supply chassis socket
- 7 USB Host 2.0 for USB flash drive, type-A receptacle
- 8 RS-232 serial link and power supply output, pluggable terminal block
- 9 8 opto-isolated input contacts, pluggable terminal block
- 10 Line-level stereo audio output, RCA connectors
- 11 Headphone stereo audio output, standard 3.5 mm (TRS) jack

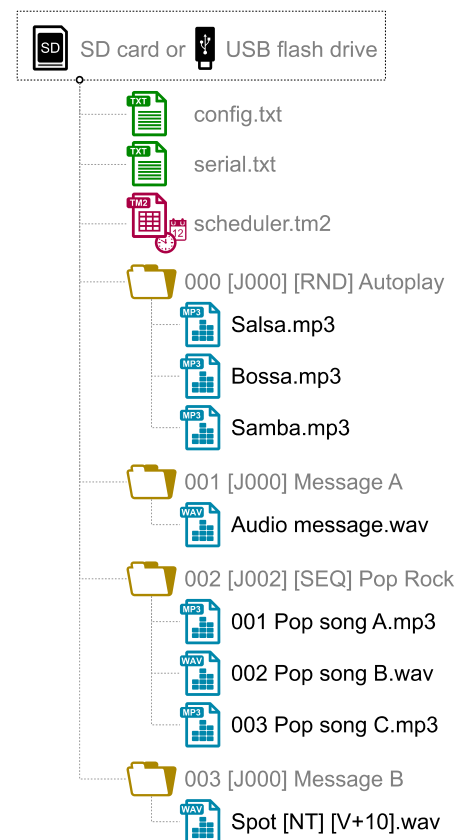
The ChronoPlayer mkII makes it possible to play WAV or MP3 audio files stored locally (SD card or USB flash drive), through programming (with the file organization or a Scheduler timetable), or interactively (with the input contacts or the RS-232 serial link). The player is provided with a mains adapter and an infrared remote control.

This guide explains how to quickly start the player up for a first use. See the user guide, the software, the examples, etc. on the support page of the ChronoPlayer mkII on www.id-al.com.

2 Preparation of the Storage Device

Choose a quality SD/SDHC card or USB flash drive, and format it using FAT32. Store on it the configuration files and the audio contents according to the organization demanded by the player, an example of which is given opposite. Do not use special or accented characters.

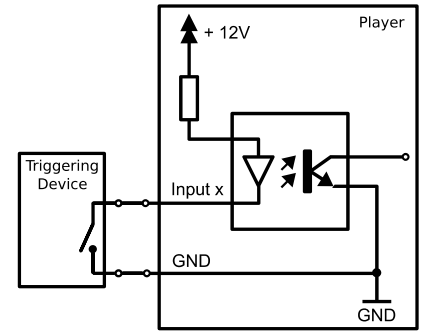
- Files at the root of the storage device:
 - `config.txt` (optional): configuration file of the player. See the chapter Configuration File.
 - `serial.txt` (optional): file defining the serial frames to send. See the chapter RS-232 Serial Link.
 - `.tm2` file (optional): timestamped programming file to generate with our Scheduler software.
- Organization of the folders at the root:
 - No subfolders allowed.
 - Naming: `xxx [TAG1] [TAG2] Name`
 - `xxx`: folder no. from 000 to 999 used by the commands. The AutoPlay feature uses the 000 folder.
 - `[TAGx]` (optional): tags controlling the playback. See the chapter Folder and File Tags.
 - `Name` (optional): folder name (free).
- Organization of the audio files in the folders:
 - Format: WAV or MP3.
 - Naming: `xxx [TAG1] [TAG2] Name.ext`
 - `xxx`: file no. from 001 to 999 defining the playback order in sequential mode. Optional and unused in random mode.
 - `[TAGx]` (optional): tags controlling the playback. See the chapter Folder and File Tags.
 - `Name` (optional): filename (free).
 - `ext`: `wav` or `mp3` extension.



3 Connection of the Inputs

The 8 inputs are used to generate events. Triggering devices can be connected to these inputs (e.g.: push-button, presence sensor, relay, PLC, SensoPad). These devices must behave like open or closed contacts between an input and the ground of the player, the activation being triggered by a closed contact. The activation states (0 for open or 1 for closed) of all the inputs are combined to form a binary code identifying the generated event:

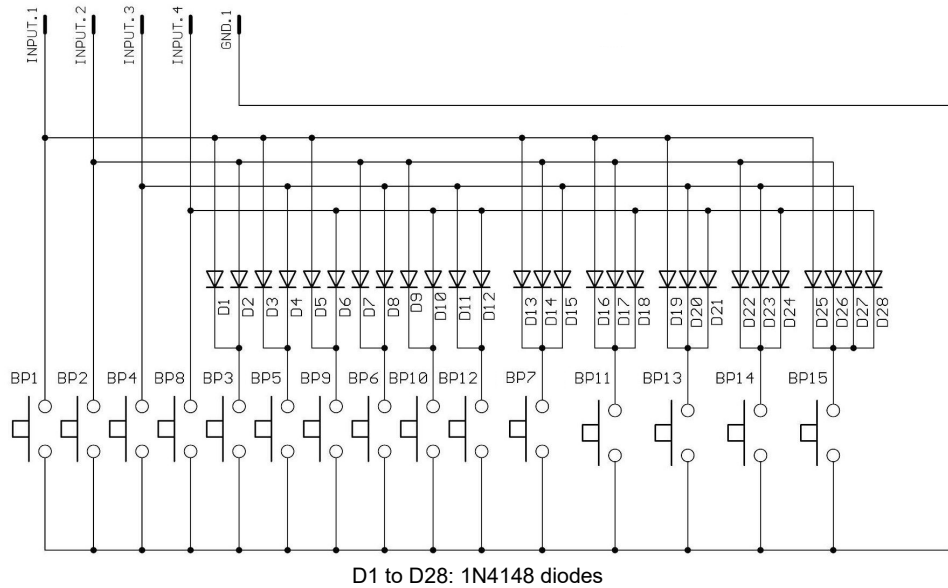
$$xxx\ combination = Input_1 + Input_2 \times 2 + Input_3 \times 4 + Input_4 \times 8 + Input_5 \times 16 + Input_6 \times 32 + Input_7 \times 64 + Input_8 \times 128$$



A command is assigned to each event. By default, the `INPUTxxx` event resulting from the `xxx` combination value of the inputs is associated with the launch of the playback of the `xxx` folder. The `config.txt` file allows to change the commands assigned to the first 15 combinations.

Up to 8 combinations (001, 002, 004, 008, 016, 032, 064, 128), the triggering devices can be directly connected to the inputs. Beyond, a circuit based on diodes can be used:

Button	Event
BP1	INPUT001
BP2	INPUT002
BP3	INPUT003
BP4	INPUT004
BP5	INPUT005
BP6	INPUT006
BP7	INPUT007
BP8	INPUT008
BP9	INPUT009
BP10	INPUT010
BP11	INPUT011
BP12	INPUT012
BP13	INPUT013
BP14	INPUT014
BP15	INPUT015



15 push-buttons mapped to 4 inputs

4 First Startup

1. Make sure that the player is off (mains adapter unplugged).
2. Connect the audio output (line level).
3. Connect the inputs according to the needs. See the chapter Connection of the Inputs.
4. Connect the RS-232 serial link if needed.
5. Insert the prepared storage device. See the chapter Preparation of the Storage Device.
6. Turn the player on by plugging the mains adapter.
7. Follow the instructions of the user interface on the front panel in order to configure the time zone, the date, and the time for the Scheduler feature. See the chapter User Interface.
8. The player is operational.

5 User Interface

The user can interact with the player thanks to the LCD display and the `Volume/-Menu-` clickable knob on the front panel:

<p>Player status:</p> <ul style="list-style-type: none"> • Rotation: volume control. • Click: toggle PLAY/STOP. • Long push (> 3 s): setup menu. 	<p>Volume control:</p> <ul style="list-style-type: none"> • Rotation: volume control. • Click: back to the status display. 	<p>Setup menu: time zone, date, and time:</p> <ul style="list-style-type: none"> • Rotation: selection. • Click: validation.

6 Reference

6.1 Folder and File Tags

Tag	Folder	File	Parameter			Description
			Min	Max	Default	
[Jxxx]	•	•	000	999		Jump to the <code>xxx</code> folder at the end of the playback.
[RET]	•					Return to the previous folder at the end of the playback.
[RND] [SEQ]	•				[RND]	Random or sequential folder playback mode.
[V+xx] [V-xx]	•	•	00	64	00	Relative volume of the folder or of the file.
[NT]	•	•				Block all the commands from the inputs, and the folder change commands from the RS-232 link and the Scheduler.
[RSxxx]	•	•	001	999		Send the <code>#xxx</code> RS-232 frame from the <code>serial.txt</code> file.
[WHL]	•					Play the folder while the assigned input combination remains activated.
[NXTxxx]	•		001	999		Play the next <code>xxx</code> audio files each time the folder is played.

6.2 Configuration File

The `config.txt` configuration file is a raw text file placed at the root of the storage device. Each line can define a parameter of the player according to the following table:

Parameter Definition	Valid Values	Default Value	Description
#ID:xxx	001 to 127	001	RS-232 ID of the player.
#VOLUME:xx	00 to 64	Last used value	Volume of the player on startup.
#RS_MONITORING:x	0: no monitoring 1: "Daisy Chain" mode 2: "Monitoring" mode 3: "Advanced Monitoring" mode	0	Monitoring mode of the RS-232 serial link.
#BOOT:xxx	000 to 999	000	Folder to play on startup.
#INPUTxx:cmd	xx: 01 to 15 cmd: see the commands table	FOLDER0xx	Commands assigned to the input contact combinations.
#BUTTONx:cmd	x: 1 or 2 cmd: see the commands table	BUTTON1:VOLUME_MINUS BUTTON2:VOLUME_PLUS	Commands assigned to the special buttons of the infrared remote control.
#BAUDRATE:xxxxx	9600, 19200, 38400	19200	Baud rate of the RS-232 serial port.

Command	Parameter		Description
	Min	Max	
PLAY			Play the last played file.
STOP			Stop the playback.
NEXT_TRACK, PREV_TRACK			Play the next/previous file of the current folder.
NEXT_FOLD, PREV_FOLD			Play the next/previous folder.
FOLDERxxx	000	999	Play the xxx folder.
VOLUME_PLUS, VOLUME_MINUS			Increase/decrease the volume by one step.
RSxxx	001	999	Send the #xxx RS-232 frame from the serial.txt file.

6.3 RS-232 Serial Link

This link allows the player to receive commands, to send arbitrary frames, and to send status information. By default, it is configured as follows (can be changed with config.txt):

Baud Rate (bauds)	Start Bit(s)	Data Bit(s)	Parity Bit(s)	Stop Bit(s)	Handshake
19200	1	8	0	1	None

The reception protocol is based on a 3-byte frame: "Status", "Command", and "Data":

Status	Description	Command	Description	Data	Description
80h	All the players.	01h, 11h, 21h, 31h, 41h, 51h, 61h, and 71h	Jump to a folder in a bank of 128 folders. command = bank × 10h + 1	00h to 7Fh	Number of the folder in the bank.
81h to FFh	Only the player with the ID from 001 to 127.	02h	Playback and volume control.	01h	Play the last played file.
				02h	Stop the playback.
				03h	Play the next file of the current folder.
				04h	Play the previous file of the current folder.
				06h	Play the next folder.
03h	Volume control.	07h	Play the previous folder.		
		09h	Increase the volume of a step		
		0Ah	Decrease the volume of a step		
		00h to 40h	Volume value.		

Arbitrary frames can be sent with the [RSxxx] tag and the inputs. These frames must be defined in the serial.txt file at the root of the storage device, as #xxx:tt tt tt..., with one definition per line (e.g.: #002:98 75 21 35 45 B2).

The monitoring protocol is structured like the reception protocol. The status byte has the same meaning. This protocol sends the following command and data bytes, according to the mode selected by the config.txt file:

Mode	Description	Command	Data	Description
0	No monitoring	The player only sends the frames from the serial.txt file.		
1	Daisy Chain	The player forwards everything it receives.		
2	Monitoring	00h	00h	Player ready. Sent at power-on.
			03h	Start of playback.
			04h	End of playback.
3	Advanced Monitoring	00h	00h	Player ready. Sent at power-on.
			03h	Start of playback.
			04h	End of playback.
			01h	Stopped.
			02h	Playing.
				Sent upon event.
				Sent every 250 ms, except if the player is unavailable because of some issue.

6.4 Firmware Update

Start the player with a CHRONO.bin firmware file placed at the root of an SD card formatted using FAT32.