

Hand-wind audio player

SABER Educational Tool



Summary of the content:

Hand-wind audio player. Powered by internal rechargeable batteries. Batteries can be recharged by turning the handle and can also run from different power sources.

Picked up by your computer as an external hard drive. Thus easy to load.

Store 22 hours of sound on the built-in chip.

Optional security pack provides protection for pre-loaded content.

Options for storing additional sound.

Size	:	18 x 12 x 5 cm
Price	:	R349.90 (RSA) R306.93 (Int)
Product Number	:	GNM0009
MP3 sound tracks available in	:	21 different languages (Good News, Look, Listen & Live, Living Christ commentaries, Songs - see Products for more detailed information)

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DIRECT ORDERS

SHARECALLS: 0860 26 33 42 or 0860 BMEDIA or order@bmedia.co.za

E-mail inquiries about languages, countries and content: gnm@bmedia.co.za

NEED DETAIL SPECIFICATIONS?

SABER Summarised Specifications:

* The Global Recordings Network (GRN) SABER player has a 1GB memory, which is enough to store up to 20 hours of high quality MP3s, or even more if a lower quality, more highly compressed MP3 format is used.

* There is a slot for an SD memory card of up to 2GB capacity. This will cater for longer programs - even whole Bibles at a lower quality. It can also help organize material, for example to put a different language on each card. The Saber however does not come with a SD memory card - they must be

purchased separately if required.

* The SABER player is powered by internal rechargeable batteries, which have several hours of playing time. The batteries can be recharged by turning the handle, and it will take about 1 minute of winding to recharge for every 4 minutes of playing. The batteries can also be recharged from an external power source, such as a solar panel or an AC/DC adapter. These external power devices can be purchased from GNM.

Extras:

There are several **optional** add-ons to the SABER:

- 1. Security Pack (Lock pack):** This kit includes tamper-proof screws to hinder the opening of the case and side panel, plus special locked firmware to prevent change of content through the USB port or SD memory card. One of the “selling points” of other SABER players such as the Proclaimer and the MegaVoice is that the messages on them cannot be changed by the users. The Saber deliberately uses a more open approach, but if customers want to prevent their users from modifying the machine, then the Security pack will achieve that for them. Each Security Pack has enough screws to secure 50 Saber SABER players.
- 2. Battery Pack:** Holds 4 “D” cells to power the Saber and recharge the internal battery. This is similar but not identical to the battery pack for the Messenger SABER player - the two battery packs are NOT interchangeable.
- 3. DC-DC Car Battery Converter Cable:** Allows the Saber to be powered from a 12 volt power supply such as a car battery.

The cable has a "cigarette lighter" plug at one end and 2.1mm DC power plug at the other. Also included is a battery clamp for connecting directly to the terminals of a car battery.
- 4. AC Adapter:** Enables the Saber to be powered and recharged from 110v-240v mains power. It includes interchangeable power sockets so they will work in most countries. Note that these AC Adapters are not yet in stock, but they should be available in the near future.
- 5. 2GB SD Memory card:** Doubles the SABER’s playing capacity, and allows content to be easily exchanged.
- 6. Maintenance Pack:** This kit contains a range of spare parts including replacement belts, screws, side covers and other parts, plus documentation and software. It’s a good idea to get a Maintenance Pack with every box of Sabers. Unlike the Messenger SABER player, the Saber does not have any spare parts inside it.

7. **Solar Panel:** Allows the Saber to be recharged from sunlight, or even strong fluorescent lights. We sourced a good solar panel that has its own rechargeable battery, so the panel can be charged from sunlight during the day, and then recharge the Saber at any time.

Detailed specification:

Key features of the **SABER** player are as follows:

- MP3/WMA chip based
- Sufficient audio volume for an audience of 50 people in a closed area
- Removable, industry standard flash card
- Battery powered with integral hand crank dynamo and separate DC power supply for recharge
- User Controls – On/Off, Volume control, Next File, Previous File, Next Folder, Fast Forward, Fast Rewind.
- Rugged, sealed watertight case.

Physical Specification

- **Size:** 175 x 122 x 48 mm
- Case can be sealed against dust
- Hinged access panels in case, for flash and USB ports
- Electronics are conformally coated to prevent moisture damage
- Operator Key buttons
 - o The SABER player has have six operator buttons:
 - § On/Off
 - § Volume Up
 - § Volume Down
 - § Next File, Hold down for Fast Forward
 - § Previous File, Hold down for Fast Rewind
 - § Next Folder
 - o Operator buttons are mounted separately from the main PCB
 - The top surface of the button array is set below the surface of the front face of the SABER player, to prevent accidental usage during transport.
 - o The SABER player only uses graphics for operator buttons (no text)
 - o Key button graphics to be permanently applied
- Nominal 120mm speaker suitable for moisture exposure
- Two external sockets
 - o Stereo earphone socket (Nominal 2.5mm diameter)
 - o DC charge socket (Nominal 3.5mm diameter)

Electronics Specification

MP3/WMA SABER player Specifications

- Current design based on Atmel AT89C51SND1
- Memory - Accepts up to 2GB flash memory chip interface
- Audio Codex Support - MPEG Audio Layer 3 (MP3); Windows Media Audio (WMA)

Audio Specifications

- Current design based on TI TPA2001 1W Class D mono amplifier
- Current design uses PCM1770 D/A converter with stereo earphone amp
- Stereo out headphone

- Max headphone volume to < 84 dBA

Batteries and A/C Charging

- Batteries used: 3x AAA 650mAH minimum NiMH cells
- 100 – 240V A/C charging device with 400MA max output
- Batteries to begin charging immediately upon connection to charger

Dynamo Hand Crank

- The generator is connected to the batteries (3 x AAA NiMH) via a low forward drop schottky diode. A 5.2V zener is across the batteries to limit the voltage, in case a battery should be disconnected or otherwise fail.
- Current design based on LP2985 regulator (see Appendix B for power calculations)
- 1 minute of cranking = approximately 4 minutes of play time
- Batteries are protected from Overcharge
- Hand cranking will charge batteries whether playing or not

Indicators

- The SABER player uses one LED to indicate Power On and the need for Battery Charging
- Indicator should flash to show need for charging or shutdown in <60 sec. and flash more rapidly as time becomes less.
- Indicator is On when SABER player is On.

Firmware Specification

Overview

The Firmware provided with the SABER player includes the following functionality:

- The SABER player stops playing immediately after pressing the “Power off” button and remember the current file position.
- The SABER player will begin playing from the last location played, immediately after pressing the “Power on” button
- The SABER player has a forward sub-directory function

SABER SABER player Firmware

The SABER player firmware conforms to the following specification:

- Flash Programming
 - o The SABER player has an USB connector on the circuit board that will allow digital audio files to be loaded onto the flash memory from a PC.
 - o A MMC/Secure digital interface card is used
 - o Flash media utilizes a 2 level FAT file system (Folders & Files)
- Volume Control
 - o The SABER player volume button provides ten increments of volume control.
 - o The SABER player will remember its last volume position while in an “Off” mode and will play at this same volume position when the SABER player is next turned “On”.
 - o The SABER player adjusts volume output between speaker and earplugs so that reasonably consistent volumes exist when changing from one to the other.
- On/Off (Play/Pause)
 - o The “Off” button causes the SABER player to enter its lowest power sleep mode (known as the “Off” mode). There is a <1.5mA current draw in the “Off” mode.
 - o Pressing the “On” button while in the “Off” mode will cause the GRN SABER player to start and enter normal operation.

- o If the SABER player voltage falls below a level in which reliable operation of the processor or any other digital device cannot be assured, the GRN SABER player should automatically enter the “Off” mode.
- Charging
 - o Charging is possible whether the Saber is playing or not, from either hand crank dynamo or A/C charger
 - o Charging begins immediately whether the SABER player is “On” or “Off”
 - o Charging stops when the battery is charged or A/C is disconnected

Greetings!

Dalene Joubert

Good News Media / Goeie Nuus Media
PO Box 5 / Posbus 5
Wellington
7654, South Africa
Tel: + 27 21 864 8276
Fax / Faks: + 27 21 864 8282
Email / Epos: gnm@bmedia.co.za