

# Ultra Low Power Audio Recorder Module

## GPAR12B

An ultra low power audio recorder with RS232 serial control, studio audio quality and precision time reference.

The GPAR12B audio recorder and playback module is a high quality product intended for use by OEMs. It offers substantially better audio quality and battery life compared to regular recorder modules due to its use of high quality audio components and our unique REAF filing system.

As per other GPAR recorder modules, the GPAR12B achieves true 16-bit mono or stereo recording from either a line-level (96dB) or mic-level (93dB) source. It is designed for use with small electret capsules (e.g. Knowles) and can drive headphones or interface to other devices at line-level.

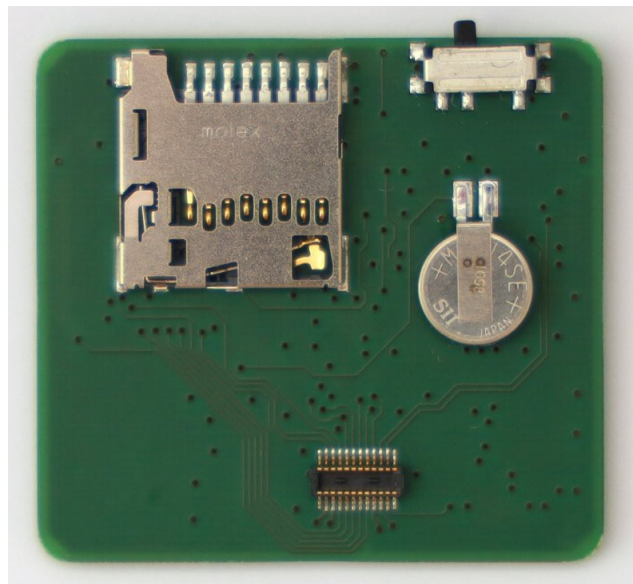
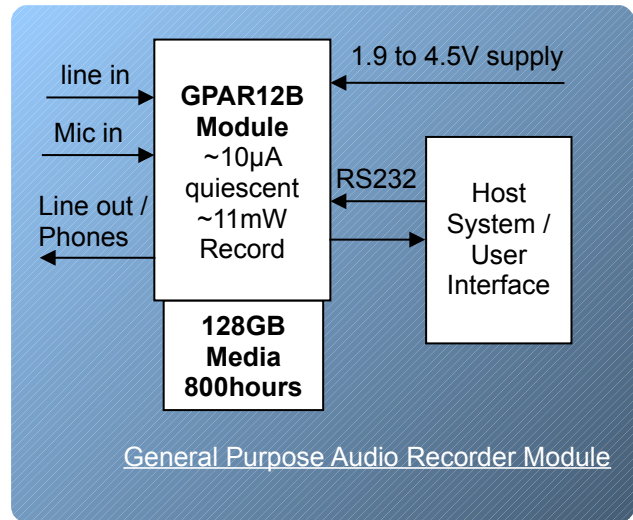
Two control interfaces are provided, switch-contact and serial. Using the switch-contact interface, the module can be used as a stand-alone recorder with just the addition of a power source, microphone and switch. Using the logic-level RS232 serial port interface, the module can be integrated with a host system such as a microcontroller.

### Features

- ◆ Studio Quality Recording in REAF format
- ◆ 128GByte+ media supported
- ◆ Precision 1.5ppm Battery Backed RTC
- ◆ 44.1kHz Stereo sampling (adjustable)
- ◆ Very low jitter sample clock
- ◆ Low-Noise Stereo Mic. Preamp
- ◆ Sub-second Recording Latency
- ◆ Flexible Control Interface
- ◆ 9600 BAUD RS232 Serial Port
- ◆ For 2 x Alkaline or 1 x Lithium
- ◆ Simple Serial Control Protocol
- ◆ Globally Unique ID for Inventory Control
- ◆ On/Off record slide-switch (optional)
- ◆ Lower noise preamp option (12A)

### Applications

- ◆ Stand-Alone Audio Recorders
- ◆ Point of sale equipment
- ◆ Scientific Applications
- ◆ Multi-Channel Recording



### Specifications

Unless stated otherwise: Supply Voltage = 2.5V, Sampling = 16 bit / 22.05kHz mono, source = Line, Media = Samsung 64GB EVO (TLC Flash), Temperature = 20°C, Headphones disabled. Backup battery fully charged, LEDs disabled.

Dimensions (mm)	30.8 x 33.3 x 3.5
Serial Control Port	3.3V Inv. RS-232
Record Time 22.05kHz Mono	800h (128GB)
Supply Voltage Range	1.9 to 4.5V
Power Consumption (Line)	11mW
Power Consumption (Mic)	13mW
Supply Current (Standby)	10µA
Dynamic Range (LINE input)	96dB(A)
Dynamic Range (MIC input)	93dB(A)
Maximum Input Level (Line)	+4 dBu
Maximum Input Level (Mic)	-20 dBu
Maximum Input Level (Mic+)	-26 dBu
Preamp Noise Input Referred	< 2µV RMS
Low Noise Mic. Bias Output	1.6V @ 1mA
Standby to recording latency	<1s
Time retention without power	> 6 Months

Note. Specifications are subject to change without notice.