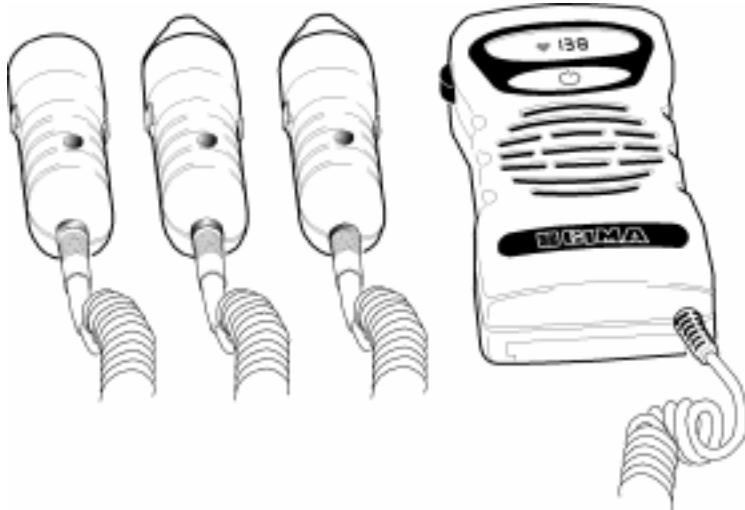




# GIMA

## POCKET DOPPLERS

REF 29502-3-5/33120-1-3



**ATTENZIONE:** Gli operatori devono leggere e capire completamente questo manuale prima di utilizzare il prodotto.

**ATTENTION:** The operators must carefully read and completely understand the present manual before using the product.

**AVIS:** Les opérateurs doivent lire et bien comprendre ce manuel avant d'utiliser le produit.

**ACHTUNG:** Die Bediener müssen vorher dieses Handbuch gelesen und verstanden haben, bevor sie das Produkt benutzen.

**ATENCIÓN:** Los operadores tienen que leer y entender completamente este manual antes de utilizar el producto.

**ATENÇÃO:** Os operadores devem ler e compreender este manual antes de usar o produto.

**ΠΡΟΣΟΧΗ:** Οι χειριστές αυτού του προϊόντος πρέπει να διαβάσουν και να καταλάβουν πλήρως τις οδηγίες αυτού του εγχειριδίου πριν από την χρήση του.



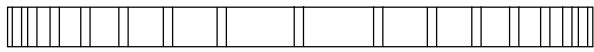
**GIMA Spa - Via Marconi, 1 - 20060 Gessate (MI) - Italia**

**ITALIA:** Tel. 199 400401 (8 linee r.a.) - Fax 199 400403

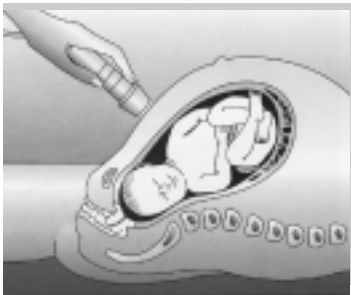
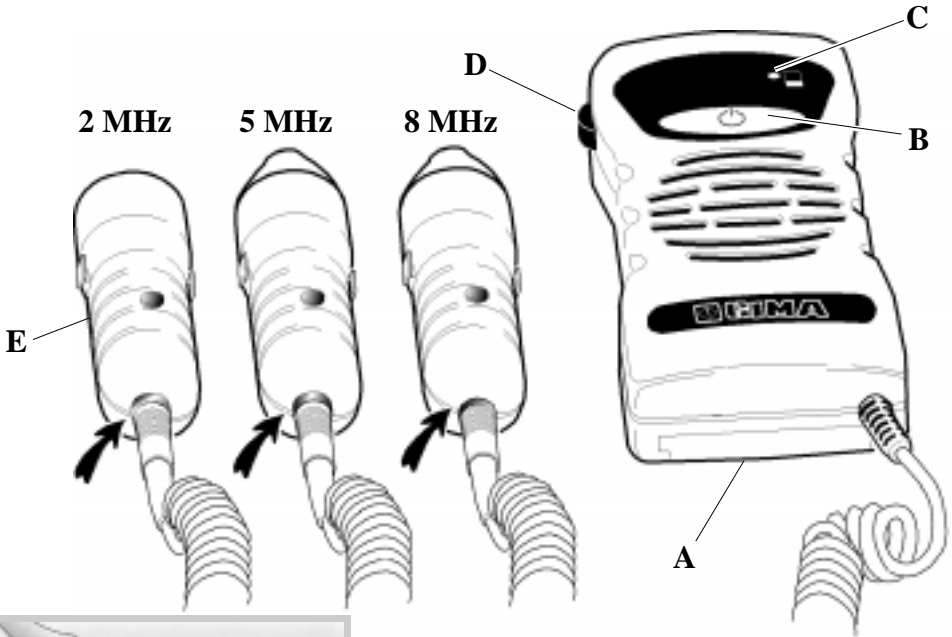
E-mail: [gima@gimaitaly.com](mailto:gima@gimaitaly.com) - [www.gimaitaly.com](http://www.gimaitaly.com)

**INTERNATIONAL:** Tel. ++39 02 951020209 - Fax ++39 02 95304706

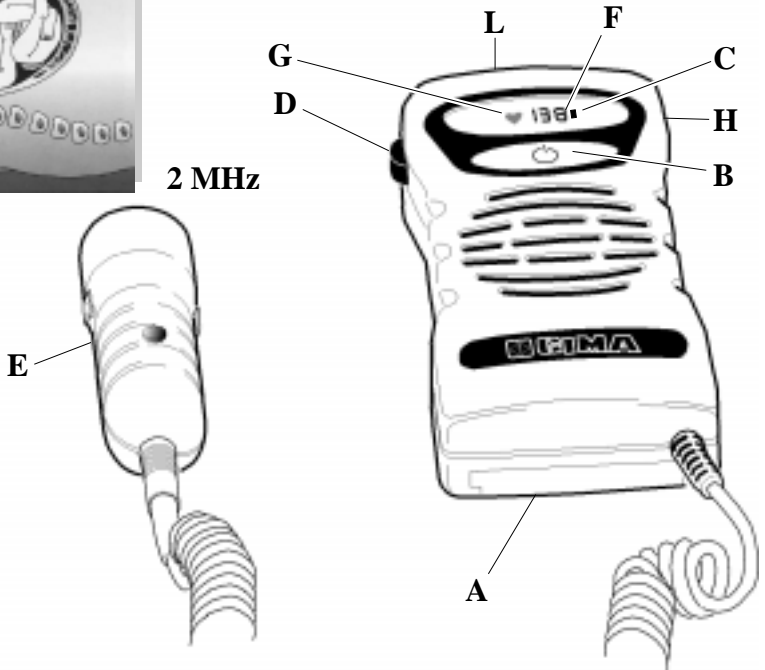
E-mail: [export@gimaitaly.com](mailto:export@gimaitaly.com) - [www.gimaitaly.com](http://www.gimaitaly.com)

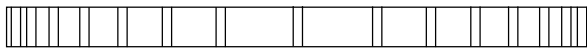


**G2002 - V2000 - V2005**



**D2003 - D2005**





## GARANZIA

Ci congratuliamo con Voi per aver acquistato un nostro prodotto.

Questo prodotto risponde ai criteri più esigenti di selezione dei materiali di qualità di fabbricazione e di controllo finale. La garanzia è valida per il tempo di 12 mesi dalla data di fornitura GIMA.

Durante il periodo di validità della garanzia si provvederà alla riparazione e/o sostituzione gratuita di tutte le parti difettose per cause di fabbricazione ben accertate, con esclusione delle spese di mano d'opera, trasferta, spese di trasporto, di imballaggio, ecc. Sono quindi esclusi dalla garanzia i componenti soggetti ad usura come le parti in caucciù o PVC, sonde doppler, sensori SpO<sub>2</sub>, lampadine, batterie, elettrodi, manipoli, guarnizioni, resistenze ed altri ancora.

Nessun risarcimento potrà essere richiesto per il fermo dell'apparecchiatura.

Inoltre la sostituzione o riparazione effettuata durante il periodo della garanzia non hanno l'effetto di prolungare la durata della garanzia.



*La garanzia non è valida in caso di: riparazione effettuata da personale non autorizzato o con pezzi di ricambio non omologati da GIMA, avarie o vizi causati da negligenza, botte, uso anormale dell'apparecchio o errori di installazione.*

La garanzia decade se il numero di matricola risulta asportato, cancellato o alterato.

I prodotti ritenuti difettosi devono essere resi solo e soltanto al rivenditore presso il quale è avvenuto l'acquisto. Spedizioni a noi inviate direttamente verranno respinte.

## INTRODUCTION



The GIMA G2002, D2003 and D2005 are Pocket Doppler fetal heart detectors designed to suit the needs of the General Practitioner or Midwife for routine antenatal heart rate detection.

The G2002 is a dedicated fetal heart detector with integral 2 MHz transducer (red ring) and audio presentation of the fetal signal.

The D2003 adds digital fetal heart rate detection and rate display to the G2002 and is supplied with an integral 2 MHz transducer. The built in loudspeaker provides audio presentation of the fetal signal and the fetal heart rate (FHR) is displayed on the LCD display. The D2003 also has an RS232 data port for the transfer of data to a PC to review the fetal heart rate traces. **The equipment D2005 features the same characteristics as D2003, but it is equipped with an immersion probe.**

The GIMA V2000 series of Pocket Dopplers are a family of vascular flow detectors designed to suit the needs of the General Practitioner or Vascular specialist for routine flow detection. They include two analogue waveform output for connection to a vascular probe at your choice (5 or 8 MHz) or to a gynaecological probe (2 MHz).

The model V2005 is equipped with 5 MHz fixed probe.

The instrument is supplied complete with the following:

Doppler Instrument with integral transducer (G2002, D2003, V2005)

Operating instructions. Doppler size coupling gel. Soft carry case.

The following symbols have been used on the instrument and are defined according to BS EN60601-1-1990



Type B equipment



Consult accompanying documents



93/42/CEE Council directive conformity

Name of manufacturer, owner of CE mark is

0120 printed on the unit.



Before using your Pocket Doppler for the first time, please read these operating instructions carefully. We remind you that the use of this product is reserved to medical personnel only.

### **CONTROLS AND INDICATORS G2002-V2000-V2005**

Dopplers G2002-V2000-V2005 are supplied with an alkaline battery 9 V. To insert or change the battery, slide off the battery cover (A) and withdraw the battery and connector. Carefully remove the battery from the connector and snap the new battery into position taking care to ensure correct orientation. Place the battery and connector back into the battery compartment and refit the battery cover.

To switch on the doppler press the switch located on the front of the doppler unit (B).

The doppler will stay on for approximately 5 minutes or until the on/off switch is pressed again.

With the unit on, the volume can be adjusted by the rotary volume control on the edge of the unit, (D).

The fetal heart signal is detected using the 2MHz fetal transducer (E).

A Yellow LED (C) indicates the condition of the battery, when illuminated constantly, battery replacement is recommended. The LED will flash momentarily when the unit is first turned on.

### **CONTROLS AND INDICATORS D2003/D2005**

The D2003/D2005 operates in a similar manner to the G2002. The unit is turned on by pressing the on / off control (B), the system micro-controller monitors the detected signal and turns the unit off when no signal has been detected for approximately the last 2 minutes.

The LCD displays battery condition and fetal heart rate (F). A battery icon (C) is displayed when the battery requires changing. The fetal pulse icon (G) flashes at approximately the same rate as the detected fetal heart.

Serial RS232 connection can be made by attaching the optional serial link cable to socket (H) - contact supplier for further details.

### **FETAL HEART DETECTION**

The G2002 / D2003 / D2005 can be used to detect the beating fetal heart from approximately the 10th week of gestation, though this will vary between patients.

Apply a liberal amount of coupling gel to the area just above the symphysis pubis and position the transducer (E) face flat against the abdomen. Tilt the transducer slowly until the fetal heart is heard in the loudspeaker or headset (in early pregnancy the headset helps to eliminate ambient noise making it easier to detect the weaker signals).

Later on in pregnancy the best signals are generally found higher up the abdomen. The same procedure should be adopted as above.

Avoid sliding the transducer over the abdomen as this results in an increase in the background noise and makes it more difficult to detect the fetal heart sounds.

### **PLACENTA AND UMBILICAL CORD**

The G2002 / D2003 / D2005 may be used to locate the position of the placenta, thus aiding in the early diagnosis of placenta praevia or eliminating placental site where amniocentesis is to be performed.

The sound from the placenta is an indistinct swishing, caused by bloodflow in many vessels. There is no distinct beat pattern to the sound. The vessels of the umbilical cord give rise to a higher pitched sound than the normal fetal heart, with pulsations at the fetal rate.

### **VASCULAR BLOOD FLOW DETECTION**

Doppler V2000 can be used to survey the blood flow both in surface blood vessels and in the deepest arteries by means of two probes, 5 MHz (green ring) and 8MHz (grey ring).

Doppler V2005 has the same applications, but it is equipped with fixed 5 MHz probe.

To obtain the best signal, apply a liberal amount of coupling gel to the area of the vein or artery under



investigation. Tilt the transducer at approximately 45 degrees to the vessel. Arteries give a high pitched pulsatile sound with veins giving a sound like a roaring wind. The optional headset helps to eliminate ambient noise, making it easier to detect the weaker signals.

It also usual for the V2000 to be used in association with a pressure cuff and sphygmomanometer to indicate the location and extent of arterial occlusion in the form of ankle/brachial pressure index and segmental pressures.

Due to the variation of leg blood pressure over a wide range with the systemic pressure, the actual values are less useful than the pressure index, which relates the ankle pressure to the pressure obtained at the brachial artery. Using the V2000 to measure both pressures will ensure compatibility. In cases where patients have peripheral arterial disease using the V2000, due to its high sensitivity, can be the only technique suitable for the measurement of leg blood pressure.

Pressure Index =  $\frac{\text{Ankle systolic pressure}}{\text{Brachial systolic pressure}}$

Normal - ankle systolic pressure > brachial pressure.

Normal pressure index >1

Abnormal pressure index <1

### **CARE OF YOUR GIMA DOPPLER**

After each use carefully wipe excess coupling gel from the transducer with a soft tissue. Never use alcohol or any other solvent to clean any part of the Pocket Doppler, as these may cause damage. If cleaning becomes necessary wipe the Pocket Doppler with a damp cloth moistened with a mild detergent.

The transducer face is very delicate and may be damaged by dropping.

Always clip the transducer in its holder when not in use.

### **SIMPLE FAULT FINDING**

In the unlikely event of instrument failure, the following simple checks may be made before contacting your supplier for further advice.

Turn the volume control to maximum.

Turn the unit on and observe the Battery Low indicator, if it does not illuminate, replace the battery and try again.

If the Battery Low indicator remains on, replace the battery and try again.

If the Battery Low indicator illuminates and then goes out (normal operation) stroke the transducer face. If no audio signal is heard in the loudspeaker consult your supplier.

When contacting your supplier with a problem please have available the instrument type and serial number. The serial number can be found inside the battery compartment.

### **EMISSIONS**

Care has been taken through the design and manufacturing processes to minimise the EM emissions that may be produced by this equipment. However, in the unlikely event that the unit causes an EM disturbance to adjacent equipment, we suggest that the procedure is carried out 'out of range' of the affected equipment.

### **IMMUNITY**

If the user has any doubt regarding the unit's EM immunity during routine operation, we suggest that the source of EM disturbance is identified and its emissions reduced.

If the user has any doubt regarding the identification and resolution of adverse EM conditions, they may contact the following to seek advice

### **SERVICE**

A service manual for this equipment, which includes circuit diagrams, parts lists and test procedures, is available and may be purchased from your supplier or directly from GIMA Spa.



## SPECIFICATIONS

<b>Ultrasound</b>	<b>GIMA G2002 Code 29502</b>	<b>GIMA D2003/D2005 Code 29503 - 29505</b>	<b>GIMA V2000 Code 33123</b>
<b>Frequency:</b>	2MHz continuous wave	2MHz continuous wave	2MHz, 5 Mhz or 8 Mhz continuous wave selected at time of purchase
<b>Transducer:</b>	2 crystal narrow beam	2 crystal narrow beam	2 crystal narrow beam
<b>Output Power:</b>	< 15mW/cm <sup>2</sup> SATA	< 15mW/cm <sup>2</sup> SATA	< 50mW/cm <sup>2</sup> SATA
<b>Audio Response:</b>	300Hz-1KHz	300Hz-1KHz	300Hz-4KHz
<b>Fetal Heart Rate:</b>		Multipoint real time Autocorrelator	
<b>Unit Controls</b>			
<b>Keys:</b>	1 Key (on/off)	1 Key (on/off)	1 Key (on/off)
<b>Controls:</b>	rotary volume	rotary volume	rotary volume
<b>Indicators:</b>	Yellow battery low LED	3 digit FHR LCD display, Battery low icon and FHR pulse icon	Yellow battery low LED
<b>Power Supply</b>			
<b>Battery:</b>	9V alkaline manganese	9V alkaline manganese	9V alkaline manganese
<b>Expected battery life:</b>	> 9 hours of use	> 6 hours of use	> 9 hours of use
<b>Output</b>			
<b>Headset connector (L):</b>	audio output to optional	audio output to optional	audio output to optional
<b>Serial:</b>		RS232 interface	
<b>Enclosure</b>			
<b>Material:</b>	ABS/Norile	ABS/Norile	ABS/Norile
<b>Size:</b>	150mm by 75mm	150mm by 75mm	150mm by 75mm
<b>Weight:</b>	350gms typical	350gms typical	350gms typical
	Class 1 Type B	Class 1 Type B	Class 1 Type B
<b>Safety</b>	60601-1IEC	60601-1IEC	60601-1IEC

## GUARANTEE

Thank you for having acquired our product.

This product meets the most stringent requirements regarding the selection of quality manufacturing materials and also the final control. The product has a 12-month warranty, valid from the date it is delivered by GIMA.

During the guarantee period free repair and/or replacement of any defective parts due to faulty manufacture will be given, labour, postal, transport and packaging charges etc. are not included. The guarantee therefore excludes components subject to wear and tear such as parts in rubber or PVC, doppler probes, SpO<sub>2</sub> sensors, lamps, batteries, electrodes, handpieces, washers and packings, resistances, etc.

No compensation will be given for loss of use of the product.

Furthermore replacement or repairs effected during the guarantee period do not lengthen the duration of the guarantee.



*This guarantee is void in the event of: repairs effected by unauthorised persons or with spare parts not approved by GIMA, damage or defects caused by negligence, blows, abnormal use of the appliance or faulty installation.*

The guarantee will be invalidated if the registration number has been removed, cancelled or altered. Faulty appliances must be returned only to the retailer where the item was bought. Any item dispatched directly to us will be refused.



---

**Smaltimento:** Il prodotto non deve essere smaltito assieme agli altri rifiuti domestici. Gli utenti devono provvedere allo smaltimento delle apparecchiature da rottamare portandole al luogo di raccolta indicato per il riciclaggio delle apparecchiature elettriche ed elettroniche.

Per ulteriori informazioni sui luoghi di raccolta, contattare il proprio comune di residenza, il servizio di smaltimento dei rifiuti locale o il negozio presso il quale è stato acquistato il prodotto. In caso di smaltimento errato potrebbero venire applicate delle penali, in base alle leggi nazionali.

---

**Disposal:** The product must not be disposed of along with other domestic waste. The users must dispose of this equipment by bringing it to a specific recycling point for electric and electronic equipment.

For further information on recycling points contact the local authorities, the local recycling center or the shop where the product was purchased. If the equipment is not disposed of correctly, fines or penalties may be applied in accordance with the national legislation and regulations.

---

**Élimination des déchets d'EEE:** Ce produit ne doit pas être jeté avec les ordures ménagères. Les utilisateurs doivent remettre leurs appareils usagés à un point de collecte approprié pour le traitement, la valorisation, le recyclage des déchets d'EEE. Pour obtenir plus d'informations sur les points de collecte des équipements à recycler, contactez votre mairie, le service local de collecte et de traitement des déchets ou le point de vente du produit. Toute personne contrevenant aux lois nationales en matière d'élimination des déchets est passible de sanctions administratives.

---

**Entsorgung:** Das Produkt darf nicht mit dem anderen Hausmüll entsorgt werden.

Der Benutzer muss sich um die Entsorgung der zu vernichtenden Geräte kümmern, indem er sie zu einem gekennzeichneten Recyclinghof von elektrischen und elektronischen Geräten bringt.

Für weitere Informationen bezüglich der Sammelpunkte, bitten wir Sie, Ihre zuständige Gemeinde, oder den lokalen Müllentsorgungsservice oder das Fachgeschäft, bei dem Sie das Gerät erworben haben zu kontaktieren. Bei falscher Entsorgung könnten Strafen, in Bezug auf die gültigen Landesgesetze erhoben werden.

---

**Eliminación:** El producto no ha de ser eliminado junto a otros residuos domésticos.

Los usuarios tienen que ocuparse de la eliminación de los aparatos por desguazar llevándolas al lugar de recogida indicado por el reciclaje de los equipos eléctricos y electrónicos.

Para más información sobre los lugares de recogida, contactar el propio ayuntamiento de residencia, el servicio de eliminación de residuos local o la tienda en la que se compró el producto. En caso de eliminación equivocada podrían ser aplicadas multas, en base a las leyes nacionales.

---

**ΧΩΝΕΥΣΗ:** Το προϊόν δεν πρέπει να πεταχτεί μαζί με άλλα απορρίματα του σπιτιού. Οι χρήστες πρέπει να φροντίσουν για την χώνευση των συσκευών μεταφέροντάς τις σε ειδικούς τόπους διαχωρισμού για την ανακύκλωση ηλεκτρικών και ηλεκτρονικών συσκευών. Για περισσότερες πληροφορίες στους χώρους συγκέντρωσης, επικοινωνήστε με την υπηρεσία του δήμου παραμονής σας, το τμήμα χώνευσης τοπικών απορυμμάτων ή το κατάστημα από το οποίο αγοράσατε το προϊόν. Σε περίπτωση λανθασμένης χώνευσης υπάρχει κίνδυνος εφαρμογής κυρώσεων βάσει των κρατικών νόμων.

---