Conceiving, Planning and Development in scientific electronics

Barpa
USER MANUAL

Rel. 01.00.0001
(Product Code : Barpa)

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

Printed in Italy

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

GUARANTEE

IPSES warrants to the end-user in accordance with the following provisions that its branded hardware products, purchased by the end-user from IPSES company or an authorized IPSES distributor will be free from defects in materials, workmanship and design affecting normal use, for a period of one year as of the original purchase date. Products for which proper claims are made will, at IPSES's option, be repaired or replaced at IPSES's expense[1].

Exclusions

This Guarantee does not apply to defects resulting from: improper or inadequate installation, use or maintenance; actions or modifications by unauthorized third parties or the end-user; accidental or wilful damage or normal wear and tear.

Making a claim

Claims must be made by contacting IPSES office within the guarantee period.

Please, contact:

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) Italy

Tel. (+39) 02/9906845 - Fax (+39) 02/700403170

http://www.ipses.com - e-mail support@ipses.com

Limitation and Statutory Rights

IPSES makes no other warranty, guarantee or like statement other than as explicitly stated above and this Guarantee is given in place of all other guarantees whatsoever, to the fullest extent permitted by law. In the absence of applicable legislation, this Guarantee will be the end-user's sole and exclusive remedy against IPSES.

General Provisions

IPSES makes no express warranties or conditions beyond those stated in this warranty statement. IPSES disclaims all other warranties and conditions, express or implied, including without limitation implied warranties and conditions of merchantability and fitness for a particular purpose.

IPSES's responsibility for malfunctions and defects in hardware is limited to repair and replacement as set forth in this warranty statement.

IPSES does not accept liability beyond the remedies set forth in this warranty statement or liability for incidental or consequential damages, including without limitation any liability for products not being available for use or for lost data or software.

[1] With the exclusion of shipping costs for and from IPSES's development office.

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

WARNING!
ELECTRICAL DEVICES COULD DAMAGE EQUIPMENT OR PROPERTY OR CAUSE PERSONAL INJURY

This guide contains instructions and technical features of the Barpa.
Read with attention before attempting to install.
It is the responsibility of the technician to undertake all the safety rules provided by the law during the installation and the use of this device.
For any information which is not contained in this guide, please contact:

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) Italy
Tel. (+39) 02/9906845 - Fax (+39) 02/700403170
http://www.ipses.com - e-mail info@ipses.com

TABLE OF CONTENTS

REVISION HISTORY 6
DESCRIPTION 7
INSTALLATION (START-UP/CONFIGURATION) 9
CONNECTIONS 10
MAINTAINANCE 11
TECHNICAL FEATURES 11
PRODUCT CODE 12
CONTACTS 13
SUPPORT INFORMATION 14
PROBLEM REPORT 14
ENGINEERING PROBLEM REPORT 15

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

REVISION HISTORY

Product revision history

Revision / Date	Change description	Author
01.00.0000 Giugno, 2005	First version released	Pizzocolo G.
01.01.0000 Ottobre, 2007	Second version released	Pizzocolo G.

Manual revision history

Revision / Date	Change description	Author
01.00.0000 19 february, 2008	First version Released	Barbera D.
01.00.0001 October 2009	Update contacts, other minor changes	Mancuso C.

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

DESCRIPTION

Barpa is a low noise preamplifier to be used in all applications needing velocity and low noise, as fotomultiplier, electron multipliers and other devices for *photon counting* and *ion counting*.

Barpa has a typical input resistance of 50 ohm which represents the current impulse load of the detector which is connected to.

Thanks to its small dimensions and its light weight, Barpa can be directly put onto the detector; by this way the wake signal would not be spread around link cable.

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

Front

BNC input connector

Rear

Power cable

BNC output connector

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

INSTALLATION (START-UP/CONFIGURATION)

Barpa has two BNC coaxial connectors and a power cable (2 meters long) ending with a DB9 connector.
The male BNC coaxial connector must be placed the closest to the output device (the signal of which will be amplified), while the female BNC will give the amplified signal by a normal 50 ohm coaxial cable.

DB9 connector, instead, must be linked to a 12V dual power supply. Pay attention to power links, because a wrong connection may cause an irreversible damage to **Barpa.**

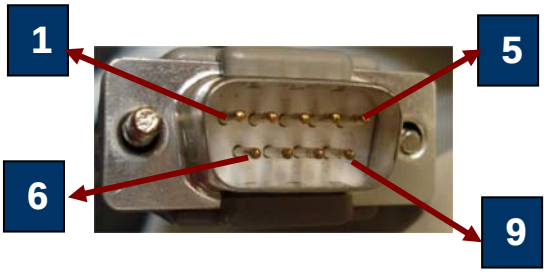
IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

CONNECTIONS

***Front BNC*:** input connector to amplify signal.

***Rear BNC*:** amplified signal output connector.

***Power DB9*:**



***Pin1*:**	**0V - GND.**
***Pin2*:**	**0V - GND.**
***Pin3*:**	not connected.
***Pin4*:**	**+12V.**
***Pin5*:**	not connected.
***Pin6*:**	not connected.
***Pin7*:**	not connected.
***Pin8*:**	not connected.
***Pin9*:**	**-12V.**
***Shield*:**	Barpa metallic case

Note: all *grounds* (both fro BNC and for power supply) and metallic *case* are linked to each other.

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

MAINTAINANCE

Barpa does not require particular attention to be maintained, because its components do not waist in time.

The only attention to keep is to control periodically cable links and if connectors are oxided, to avoid electrical characteristics variations and consequently lower performances.

TECHNICAL FEATURES

Input impedance : 50 ohm.

Input connector : Front-panel BNC.

Input equivalent noise (RMS) : 30µV nearly.

Power gain: 11, not inverting.

Band width (-3dB) : 55 MHz.

Output impedance : 50 ohm.

Output connector : Rear-panel BNC.

Power : dual, +/-12V, 10mA.

Dimensions : 51 x 51 x 31 mm (excepted connectors).

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

PRODUCT CODE

Code	Description
Barpa	Low noise preamplifier
Coax-BNC	BNC coaxial cable (to link Barpa with acquire system)

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

CONTACTS

IPSES s.r.l. conceives, projects and markets electronic and scientific instruments. The customized planning of our devices allows us to answer specific necessities for customers asking for embedded systems. **IPSES** clients enjoy access to a dedicated project engineering team, available as needed.

Our pool consists of highly competent professionals whose experience in this field is extremely strong. Thanks to constant updating and technical development, **IPSES** is a leading company, combining the dynamism of a young group into the competence and reliability of a qualified staff.

IPSES S.r.l.

Research and development office:
via Trieste, 48
20020 Cesate (MI)
Italy

tel. +39 02 99068453
fax +39 02 700403170
e-mail: info@ipses.com
http://www.ipses.com

_____

SUPPORT INFORMATION

The customer is at liberty to contact the relevant engineer at IPSES s.r.l. directly.

A call can be logged in a variety of ways:

Telephone	:	++39 02 99068453
Fax	:	++39 02 700403170
Email	:	support@ipses.com

PROBLEM REPORT

The next page is a standard template used for reporting system problems. It can be copied and send as a fax. Alternative bugs may be reported by emails, in this case please insure that the mail contains similar information as the *Engineering Problem Report* form.

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

ENGINEERING PROBLEM REPORT

Problem describer

Name			**IPSES s.r.l.** **Via Trieste, 48** **Cesate (MI)** **Italy** **Fax ++39 02/700403170** **e-mail** ***support@ipses.com***
Company			
Date	Tel.	Fax	

Product

Name	Version	Serial No.

Report Type (bug, change request or technical problem)

Major bug	☐	Urgency:	
Minor bug	☐	High	☐
Change request	☐	Medium	☐
Technical problem	☐	Low	☐

Problem Description

Reproduction of Problem

IPSES s.r.l. Action notes

Received by	Date	Report No.	Action

IPSES S.r.l. - Via Trieste, 48 - 20020 Cesate (MI) - ITALY
Tel. (+39) 02/99068453 Fax (+39) 02/700403170
http://www.ipses.com e-mail info@ipses.com

(Product Code Barpa Rel. 01.00.0001)

IPSES S.r.l.
Via Trieste, 48
20020 CESATE (MI) - ITALY
Tel. (+39) 02/99068453
Fax (+39) 02/700403170
e-mail: info@ipses.com
support@ipses.com