

Instruction Manual

PC Interface Kits



Description	Item Number
Desktop PC Interface Kit	D372-18-100
PCMCIA Laptop PC Interface Kit	D372-17-000



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Associated publications

Publication title	Publication number
Vacuum pump and vacuum system safety	P300-20-000

1 Introduction

1.1 Scope and definitions

This manual provides installation, operation and maintenance instructions for the Edwards PC Interface Kits. You must use the PC Interface Kits as specified in the manual.

Read this manual before you install and operate the PC Interface Kits. Important safety information is highlighted as WARNING and CAUTION instructions; you must obey these instructions. The use of WARNINGS and CAUTIONS is defined below.



WARNING

Warnings are given where failure to observe the instruction could result in injury or death to people.

CAUTION

Cautions are given where failure to observe the instruction could result in damage to the equipment, associated equipment and process

The following IEC warning labels appear on the pump:



Warning - refer to accompanying documentation.



Warning - Edwards offer European customers a recycling service.

The units used throughout this manual conform to the SI international system of units of measurement.

1.2 Description

Install a PC Interface Kit on your PC (personal computer) to allow your PC to communicate with a BOC Edwards networkable system or with a BOC Edwards network, when you want to use the BOC Edwards SEM (Single Equipment Monitor) or FabWorks software on your PC to monitor and to control the operation of one or more networkable systems.

BOC Edwards networkable systems include dry pumping systems and abatement systems.

Two types of PC Interface Kit are available:

- The Desktop PC Interface Kit has a PCLTA (PC LonTalk Adaptor) card, designed to be installed inside your desktop PC.
- The PCMCIA Laptop PC Interface Kit has a PCC-10 PCMCIA (PC Memory Card International Association) card, designed to be fitted to the PCMCIA port of your laptop PC.

1.3 Networkable system and network connections

Refer to [Figure 1](#) which shows a schematic diagram of the electrical connections of the PC Interface Kit to a networkable system or to a network. You can use one of the following methods to connect the PC Interface Kit:

- Connect the PC Interface Kit directly to a networkable system, as shown in detail A.
- Connect the PC Interface Kit to a network, through a PC network connection, as shown in details B and C.
- Connect the PC Interface Kit to a network, through a Network Interface Module (NIM), as shown in details D and E.

1.4 PCLTA (Desktop PC Interface Kit)

The PCLTA is a circuit board designed to be installed inside a desktop PC, and to be connected to the ISA bus of the PC.

1.5 PCMCIA card (PCMCIA Laptop PC Interface Kit)

The PCMCIA card is supplied with the following:

- A TP78 adaptor module, which you will connect to the PCMCIA card.
- An XLR adaptor cable, to connect the adaptor module to a networkable system or a PC network connection.
- SEM (Single Equipment Monitor) software.

2 Technical Data

Table 1 - PCLTA Card (Desktop PC Interface Kit) Technical Data

Card type	PCI
Card designation	PCLTA-20/TP-78 LonTalk Adaptor
Operating frequency	10 MHz

Table 2 - PCMCIA Card (PCMCIA Laptop PC Interface Kit) Technical Data

Card type	PCMCIA type II
Card designation	PCC-10 Protocol Analyzer
Operating frequency	10 MHz

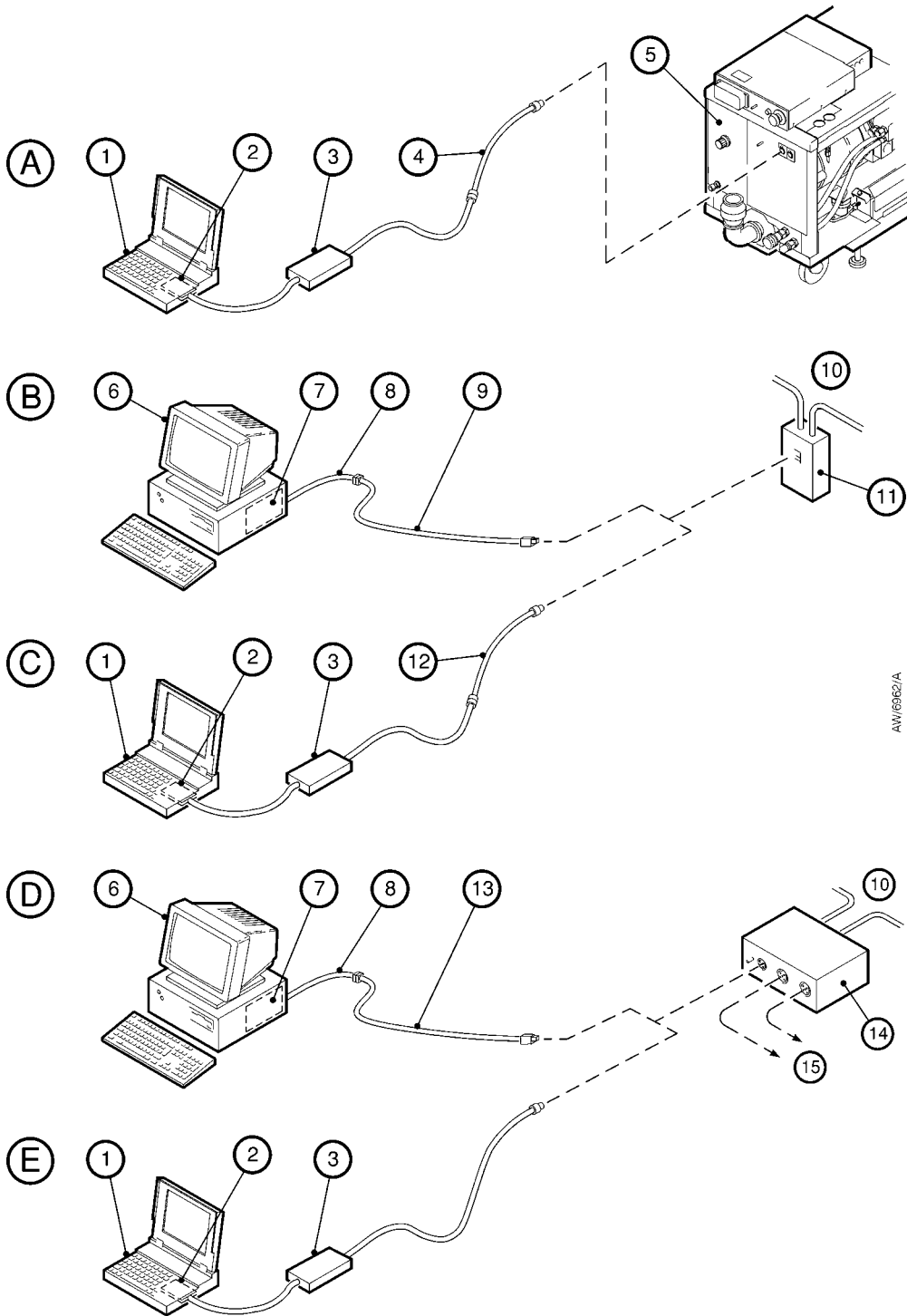
- A Connect a PCMCIA Laptop PC Interface Kit to a networkable system
- B Connect a Desktop PC Interface Kit to a network through a PC network connection
- C Connect a PCMCIA Laptop PC Interface Kit to a network through a PC network connection
- D Connect a Desktop PC Interface Kit to a network through a NIM (Network Interface Module)
- E Connect a PCMCIA Laptop PC Interface Kit to a network through a NIM (Network Interface Module)

1. Laptop PC
2. PCMCIA card
3. TP78 adaptor module
4. XLR adaptor cable (3-way XLR - 4-way XLR)
5. Networkable system
6. Desktop PC
7. PCLTA card
8. PCLTA to RJ45 adaptor cable
9. PC Connection cable (RJ45 - RJ45) †
10. Network cables *
11. PC network connection *
12. PC Connection Cable (3-way XLR - RJ45)
13. Interface Module Connection Cable (RJ45 - 3-way XLR) †
14. Network Interface Module (NIM) *
15. To networkable systems (through 4-way XLR connectors)

* For illustration purposes only.

† Available as an accessory: see [Section 7.3](#).

Figure 1 - Schematic Diagram of the PC Interface Kit Electrical Connections



3 Installation

3.1 Unpack and inspect

Remove all packing materials and check the PC Interface Kit. If the PC Interface Kit is damaged, notify your supplier and the carrier in writing within three days; state the Item Number of the PC Interface Kit together with your order number and your supplier's invoice number. Do not use the PC Interface Kit if it is damaged.

Check that you have received the items listed in the appropriate [Table 3](#) or [Table 4](#). If any item is missing, notify your supplier in writing within three days.

If you have a PCMCIA Laptop PC Interface Kit, check that your laptop PC has a type II PCMCIA port. If your laptop PC does not have a type II PCMCIA port, contact your supplier or BOC Edwards for advice.

If you will not use the PC Interface Kit immediately, replace any packing materials and store the PC Interface Kit in suitable conditions, as described in [Section 6.1](#).

Table 3 - Checklist of Items: Desktop PC Interface Kit

Quantity	Description	Check (✓)
1	PCLTA card	<input type="checkbox"/>
1	PCLTA to RJ45 adaptor cable	<input type="checkbox"/>
1	PC Interface to networkable system cable	<input type="checkbox"/>
1	Echelon PCLTA instructions	<input type="checkbox"/>

Table 4 - Checklist of Items: PCMCIA Laptop PC Interface Kit

Quantity	Description	Check (✓)
1	PCLMCIA card	<input type="checkbox"/>
1	TP78 adaptor module	<input type="checkbox"/>
1	XLR adaptor cable	<input type="checkbox"/>
1	Installation disk	<input type="checkbox"/>
1	PCC-10 card instruction manual	<input type="checkbox"/>
1	CD-ROM containing the SEM software, SEM instruction manual and LON drivers	<input type="checkbox"/>

3.2 Install and connect the Desktop PC Interface Kit

Note: You must install the software before you fit the PCLTA card.

You will need a PC connection cable (available as an accessory: see [Section 7.3](#)) to connect the PC Interface Kit to a network through a PC network connection.

1. Refer to [Figure 1](#), details B or D. Fit the PCLTA card (7) to the motherboard of your PC (6) as described in the Echelon PCLTA card instructions.
2. Fit the PCLTA to RJ45 adaptor cable (8) to the PCLTA card (7) as described in the Echelon PCLTA card instructions. Do not connect the other end of the cable yet.
3. To connect the PC Interface Kit to a network through a PC network connection (detail B):

- Fit the RJ45 connector on one end of a PC connection cable (9) to the RJ45 connector on the end of the PCLTA to RJ45 adaptor cable (8).
 - Fit the RJ45 connector on the other end of the PC connection cable (9) to the RJ45 connector on the PC network connection (11).
4. To connect the PC Interface Kit to a network through a Network Interface Module (detail D):
- Fit the RJ45 connector on one end of an interface module connection cable (13) to the RJ45 connector on the end of the PCLTA to RJ45 adaptor cable (8).
 - Fit the 3-way XLR connector on the end of the interface module connection cable (13) to the 3-way XLR connector on the Network Interface Module (14).

3.3 Install and connect the PCMCIA Laptop PC Interface Kit

Note: You must install the PCMCIA software before you fit the PCMCIA card.

You will need a PC connection cable (available as an accessory: see Section 7.3) to connect the PC Interface Kit to a network through a PC network connection.

1. Install the PCMCIA software on your laptop PC: refer to the PCC-10 instruction manual.
2. Install the SEM software (supplied on CD-ROM) on your laptop PC: refer to the SEM instruction manual also provided on the CD-ROM.
3. Refer to [Figure 1](#), details A, C or E. Fit the PCMCIA PC card (2) to the PCMCIA card port on your laptop PC (1): refer to the PCC-10 instruction manual and to the instruction manual(s) supplied with your laptop PC.
4. Fit the PCMCIA connector on the integral cable fitted to the TP78 adaptor module (3) to the connector on the PCMCIA PC card (2).
5. To connect the PC Interface Kit directly to a networkable system (detail A):
 - Fit the 3-way XLR connector on one end of the XLR adaptor cable (4) to the 3-way XLR connector on the integral cable fitted to the TP78 adaptor module (3).
 - Fit the 4-way XLR connector on the other end of the XLR adaptor cable (4) to one of the module connectors on the networkable system (5); if necessary, fit additional network module connector cables to extend the length of the cable.
6. To connect the PC Interface Kit to a network through a PC network connection (detail C):
 - Fit the 3-way XLR connector on one end of the PC connection cable (12) to the 3-way XLR connector on the integral cable fitted to the TP78 adaptor module (3).
 - Fit the RJ45 connector on the other end of the PC connection cable (12) to the RJ45 connector on the PC network connection (11).
7. To connect the PC Interface Kit to a network through a Network Interface Module (detail E):
 - Fit the 3-way XLR connector on the end of the integral cable fitted to the TP78 adaptor module (3) to the 3-way XLR connector on the Network Interface Module (14).

4 Operation

The PC Interface will operate as soon as the PC is switched on.

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5 Maintenance

5.1 Inspect the electrical connections

Do the following checks regularly when you maintain the networkable system:

- Inspect the electrical cables and check that they are not damaged and have not overheated. Repair or replace any damaged or overheated cable.
- Inspect the electrical connections and check that they are secure. Tighten any loose connections.

5.2 Communications problems

5.2.1 Fault finding

If the PC Interface Kit does not operate correctly, check the items shown in Table 5.

Table 5 - Communications Fault Finding

Check	Action
Is the PC on?	Ensure that the electrical supply to the PC is switched on and that the PC equipment is switched on.
Are the communications cables connected?	Ensure that the communications cables are correctly connected to the PC.
Is the PC configured correctly?	Ensure that the SPM software has been correctly installed and configured: refer to the SPM instruction manual. If you have installed a PCMCIA PC card, ensure that the PCC-10 software has been correctly installed and configured: refer to the PCC-10 instruction manual.
Is the LON interface driver correctly installed on the PC?	Check that the correct device driver line has been incorporated into the CONFIG.SYS file on your PC: refer to Section 5.2.2.
Are the cables too long?	Ensure that the serial communications cables are less than 10 m long. If the serial communications cables are longer than 10 m, ensure that line-drivers are correctly incorporated into the communications cables.

5.2.2 CONFIG.SYS device driver lines

If the PC Interface Kit does not operate correctly, check that the correct device driver line has been added to the CONFIG.SYS file: see Table 6.

Table 6 - CONFIG.SYS Device Driver Lines

LonTalk Adaptor	Device driver line
Echelon PCLTA	DEVICE=C:\EHV\IQSPM\LDVPCLTA.SYS
Echelon PCMCIA	DEVICE=C:\ECHELON\BIN\LDVSTUB.SYS \D:PCCLON1

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6 Storage and Disposal

6.1 Storage

Replace any protective packing materials and store the PC Interface Kit in clean dry conditions.

When required for use, install the PC Interface Kit as described in [Section 3](#).

6.2 Disposal

Dispose of the PC Interface Kit and any components safely in accordance with all local and national safety and environmental requirements.

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7 Spares and Accessories

7.1 Introduction

BOC Edwards products, spares and accessories are available from BOC Edwards companies in Belgium, Brazil, China, France, Germany, Israel, Italy, Japan, Korea, Singapore, United Kingdom, USA and a world-wide network of distributors. The majority of these centres employ service engineers who have undergone comprehensive BOC Edwards training courses.

Order spare parts and accessories from your nearest BOC Edwards company or distributor. When you order, please state for each part required:

- Model and Item Number of your equipment
- Serial number (if any)
- Item Number and description of the part

7.2 Spares

The spares for the PC Interface Kits are shown in [Table 7](#).

Table 7 - Spares

Spare	Item Number
PC Interface to networkable system cable	D372-07-590

7.3 Accessories

The accessories for the PC Interface Kits are shown in [Table 8](#).

Table 8 - Accessories

Accessory	Item Number
Network module connector cable (0.5 m)	D372-07-603
Network module connector cable (1 m)	D372-07-602
Network module connector cable (2 m)	D372-07-590
Network module connector cable (3 m)	D372-07-591
Network module connector cable (5 m)	D372-07-592
Network module connector cable (10 m)	D372-07-595
Network module connector cable (15 m)	D372-07-596
Network module connector cable (25 m)	D372-07-597
PC Connection Cable (1 m) *	D372-18-760
PC Connection Cable (1 m) †	D372-18-548
Interface Module Connection Cable	D372-15-040

* To connect a desktop PC Interface Kit to a network through a PC network connection.

† To connect a PCMCIA Laptop PC Interface Kit to a network through a PC network connection

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