



CONCORRÊNCIA INTERNACIONAL Nº 16/1999

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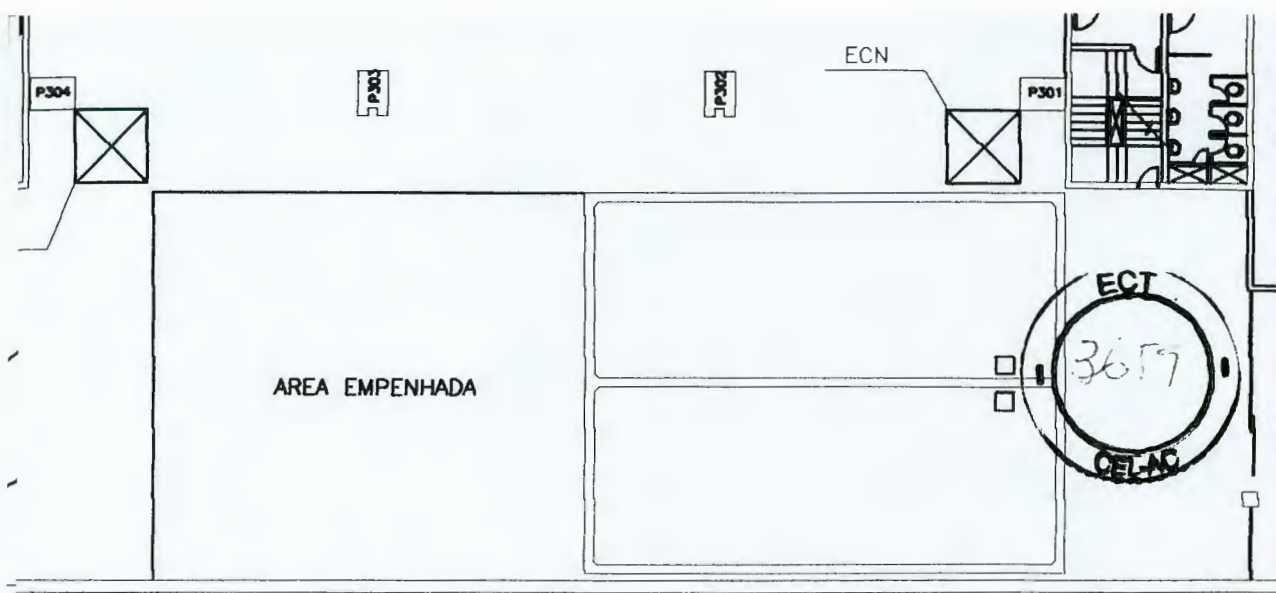
ÍNDICE DO PROCESSO

Nº	QUESITOS	FOLHA	PASTA
1	Portaria Grupo de Suporte Técnico – PRT/PR-163/97	3	1
2	Relatório REDIR 28/1998 – Aprova Sistema de Gestão	29	
3	Programa Inicial do Grupo de Suporte Técnico	38	
4	Bloqueio Orçamentário	39	
5	Relatório REDIR 40/1998. Autoriza abertura licitação.	73	
6	Portaria PRT/PR Designação da CEL.	80	
7	Edital Chancelado pelo DEJUR	296	
8	Publicação DOU Aviso de Licitação. Abertura: 07/10/99	299	
9	Publicação 1ª prorrogação. Abertura: 19/10/99	304	
10	Publicidade Internacional	308 a 323	
11	Adequação do texto do edital	324 a 341	2
12	Recibo retirada do edital	342 a 354	
13	Recibo retirada do edital	358 a 361	
14	Adequação do texto do edital	370 a 411	
15	Recibo retirada do edital	413 e 414	
16	Adequação do texto do edital	415 a 434	
17	Recibo retirada do edital	435 e 436	
18	Adequação do texto do edital	447 e 448	
19	Recibo retirada do edital	450, 452, 454, 458	
20	Publicação 2ª prorrogação. Abertura: 04/11/99	488	
21	Termo de Vistoria	494, 501	
22	Recibo retirada do edital	499, 503	
23	Esclarecimentos	508 a 543	
24	Termo de Vistoria (621 a 627, 657 a 759, 664, 667 a 670, 667 a 696.....)	703 a 708)	
25	Esclarecimentos	682	
26	Recibo retirada do edital	700	
27	Esclarecimentos	719 a 1002	3
28	Esclarecimentos (1004 a 1045, 1076 a 1081, 1087 a 1231.....)	1087 a 1231)	4
29	Publicação DOU Adiamento "Sine Die"	1233	
30	Publicação 3ª prorrogação. Abertura: 22/12/99	1237	
31	Adequação no texto do edital	1239 a 1275	
32	Esclarecimentos	1276 a 1335	5
33	Esclarecimentos	1351 a 1391	
34	Credenciamento dos representantes dos licitantes	1393 a 1411	
35	Habilitação ALSTOM	1412 a 1592	
36	Habilitação BROCKVELD	1593 a 1792	6
37	Habilitação SIEMENS	1793 a 2091	
38	Habilitação MANNESMANN	2092 a 2137	7
39	Documentação Técnica MANNESMANN	2138 a 2390	
40	Documentação Técnica ALSTOM	2391 a 2970	8/9
41	Documentação Técnica SIEMENS	2971 a 3230	9/10

Nº	QUESITOS	FOLHA	PASTA
42	Documentação Técnica BROCKVELD	3231 a 3659	10/11
43	Ata de abertura da licitação	3661	12
44	Relatório Grupo de Suporte Técnico. Avaliação Habilitação e Técnica	3682	
45	Relatório Grupo de Suporte Técnico. Avaliação Final após esclarecimentos licitantes	3722	
46	Publicação DOU. Resultado Julgamento da Habilitação	3731	
47	Recurso MANNESMANN	3760	
48	Relatório Grupo de Suporte Técnico. Avaliação Recurso	3775	
49	Relatório CEL. Julgamento do Recurso	3785	
50	Proposta Econômica ALSTOM	3855	
51	Proposta Econômica SIEMENS	3905	
52	Ata de abertura das Propostas Econômicas	3909	
53	Relatório Grupo de Suporte Técnico. Propõe Negociação de Preços	3926	
54	Proposta Econômica ALSTOM - Negociada	3963	
55	Relatório Grupo de Suporte Técnico. Avaliação Proposta Negociada ALSTOM	3966	
56	Recomendação Ergonômica. Parecer DIPO/DEPLA	3976	
57	Ata CEL. Julgamento Parcial Lotes 1 e 3. Vencedor: ALSTOM.	4017	
58	Relatório REDIR 50/2000. Homologação Lotes 1 e 3.	4065	
59	Publicação DOU resultado Final Lotes 1 e 3.	4068	
60	ALSTOM. Documentação Referente mudança Razão Social	4147	13
61	Parecer DDT/DEINF a respeito da Proposta Negociada Siemens	4176	
62	Bloqueio Orçamentário Lotes 1 e 3	4183	
63	Ata CEL. Julgamento Lote 2. Vencedor: Siemens	4221	
64	Bloqueio Orçamentário Lote 2	4249	
65	Proposta Econômica Siemens – Negociada.	4249-1 a 4251	
66	Nota Técnica DEJUR/DJRAD. Aprova minuta Contrato ALSTOM	4252	
67	Contrato nº 10572/2001 – ALSTOM. Lotes 1 e 3.	4293	
68	Publicação DOU do Extrato do Contrato nº 10572/2001	4294	
69	Bloqueio Orçamentário	4306	
70	Relatório REDIR 39/2001. Homologação Lote 2. Vencedor: SIEMENS	4349	
71	Contrato nº 10835/2001 – SIEMENS. Lote 2.	4399	
72	Publicação DOU do Extrato do Contrato nº 10835/2001.	4400	



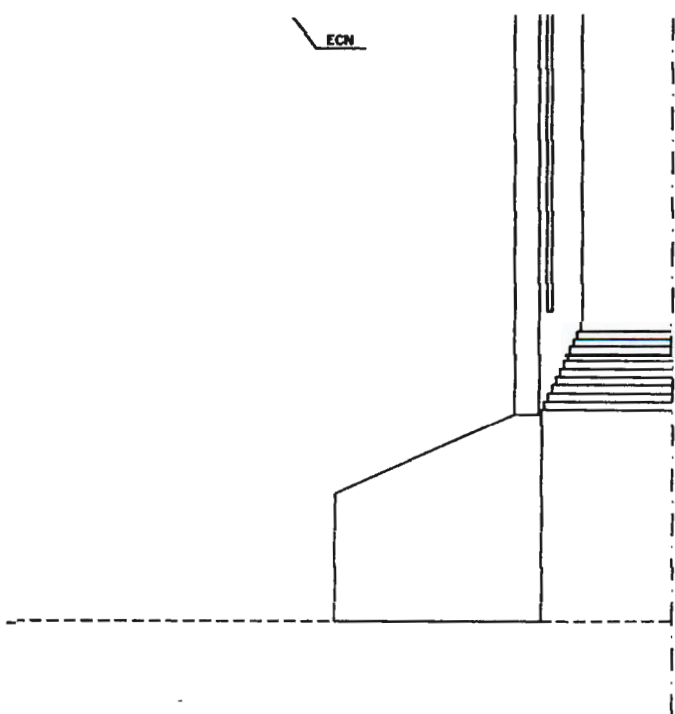
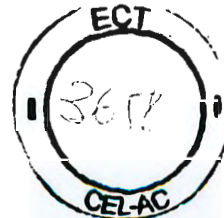
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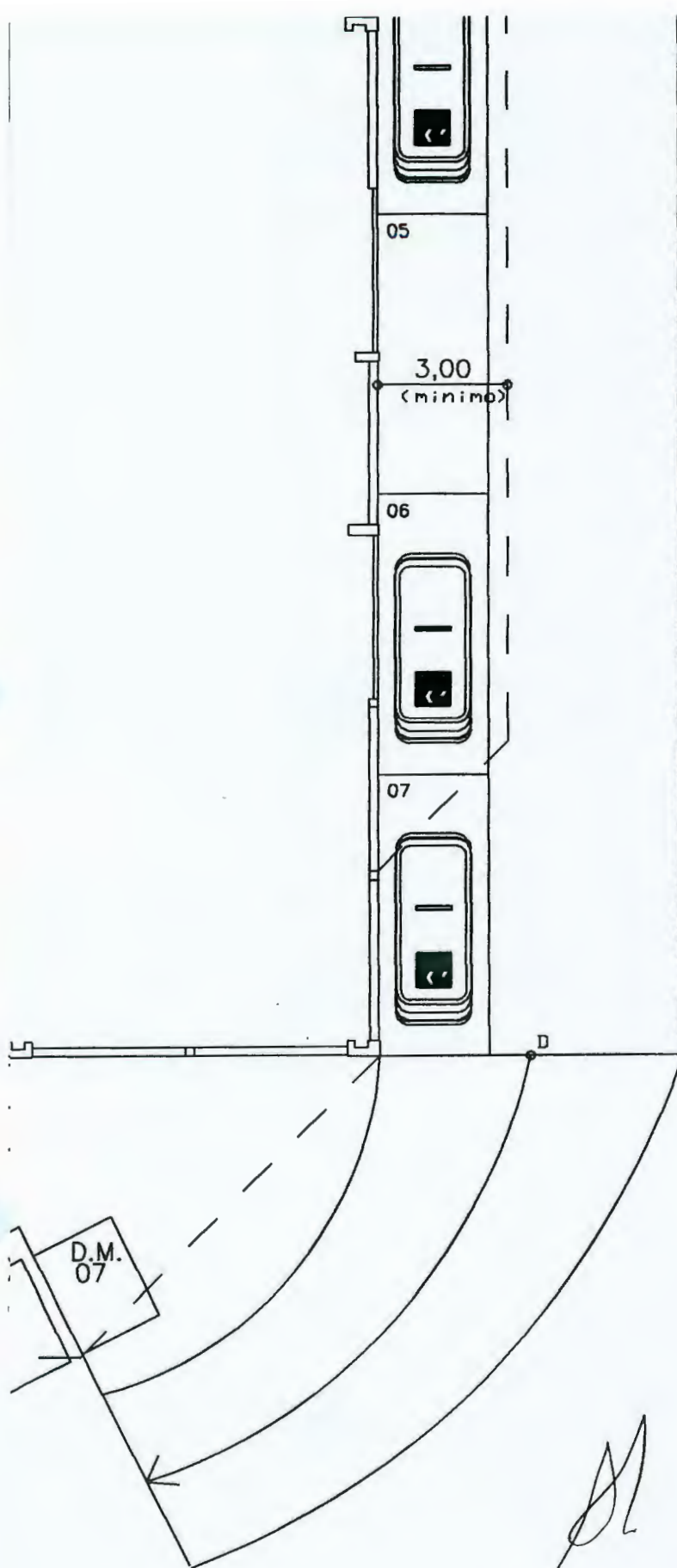
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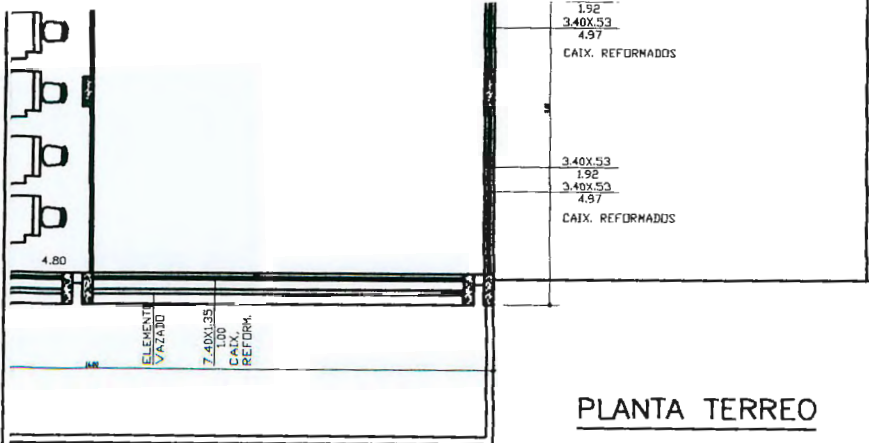
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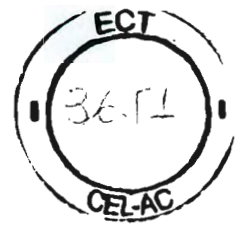
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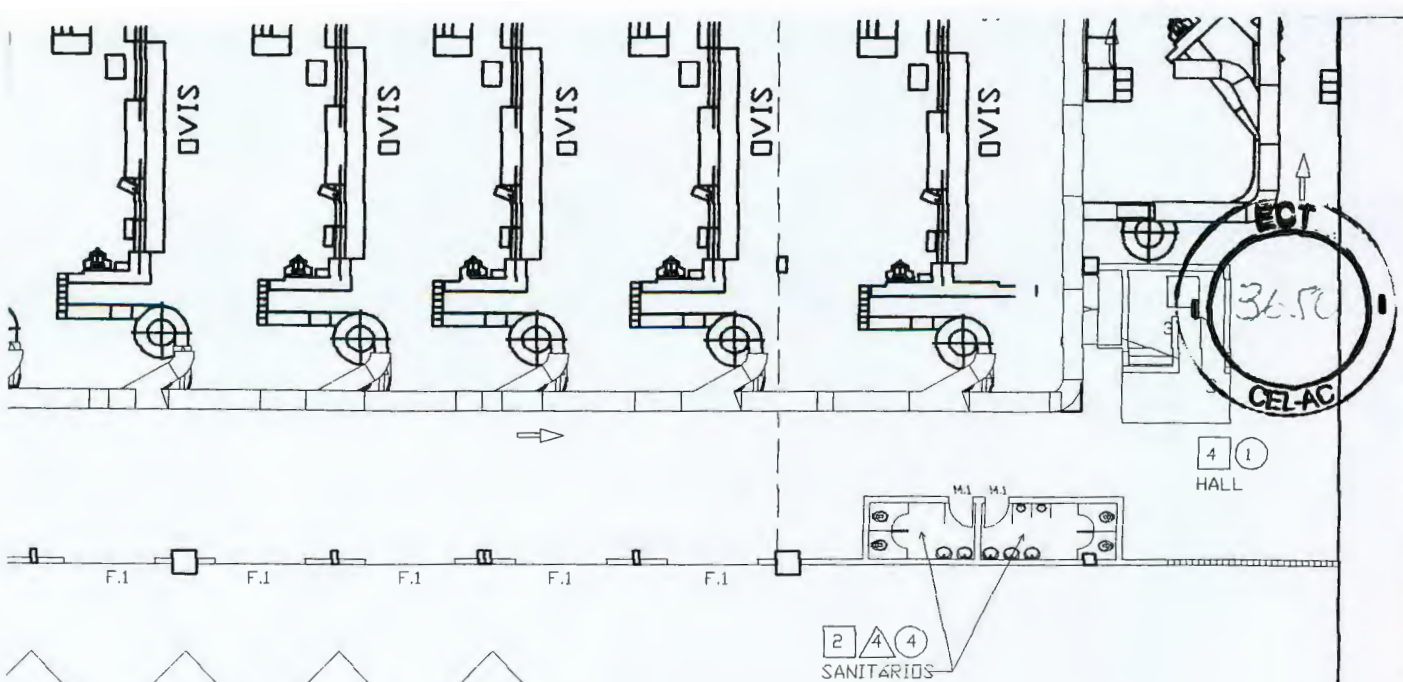
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PROJETO CORREIOS COI-13 - CAMPINAS		REV.	FOLHA 1/1	REV. 0
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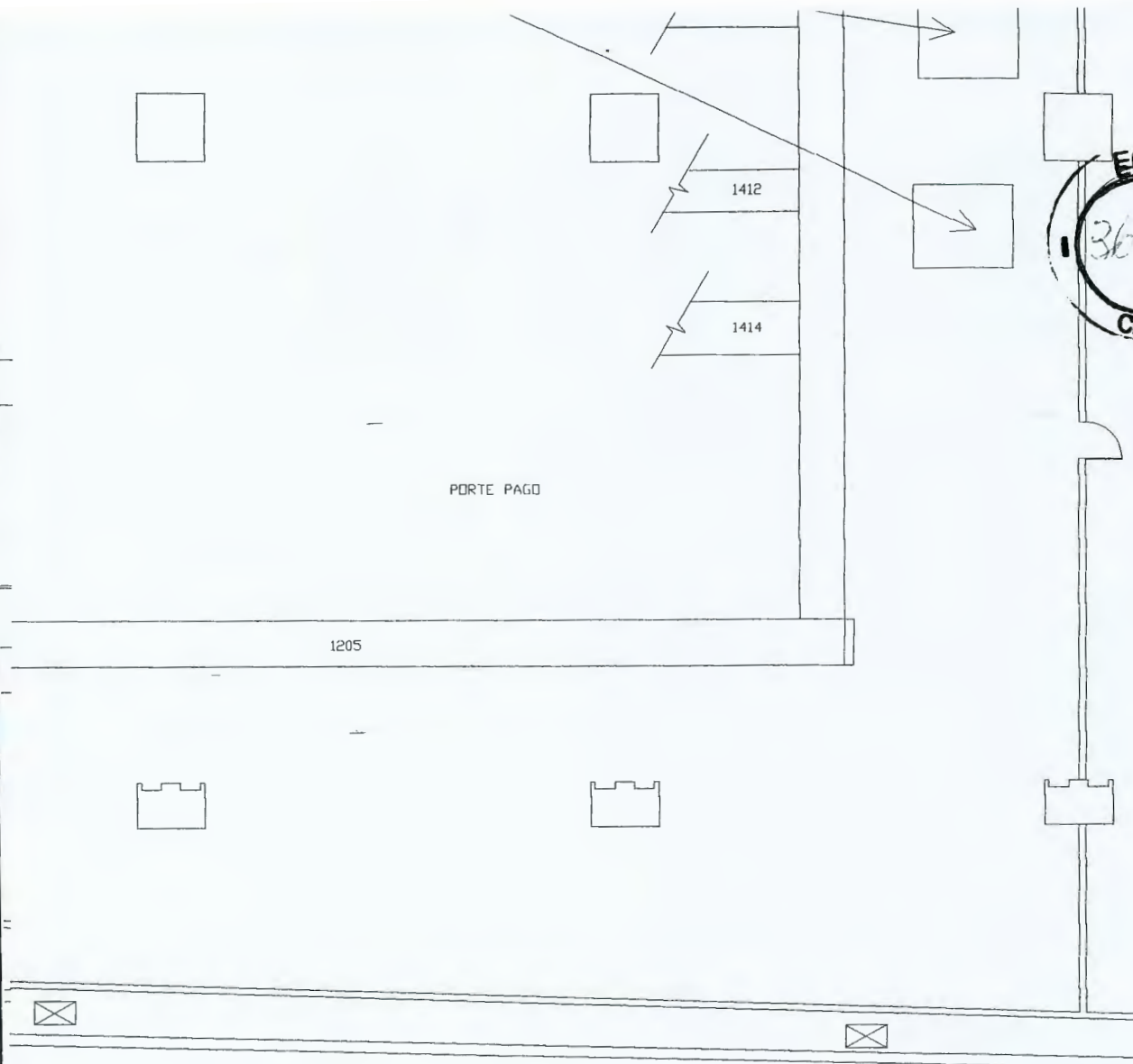
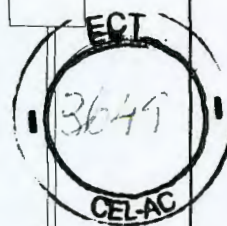
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	PROJETO CORREIOS COI-14 - RIBEIRÃO PRETO		REV.	
ESCALA 1:125	NÚMERO C-99.420-6	FOLHA 1/1	REV. 0	



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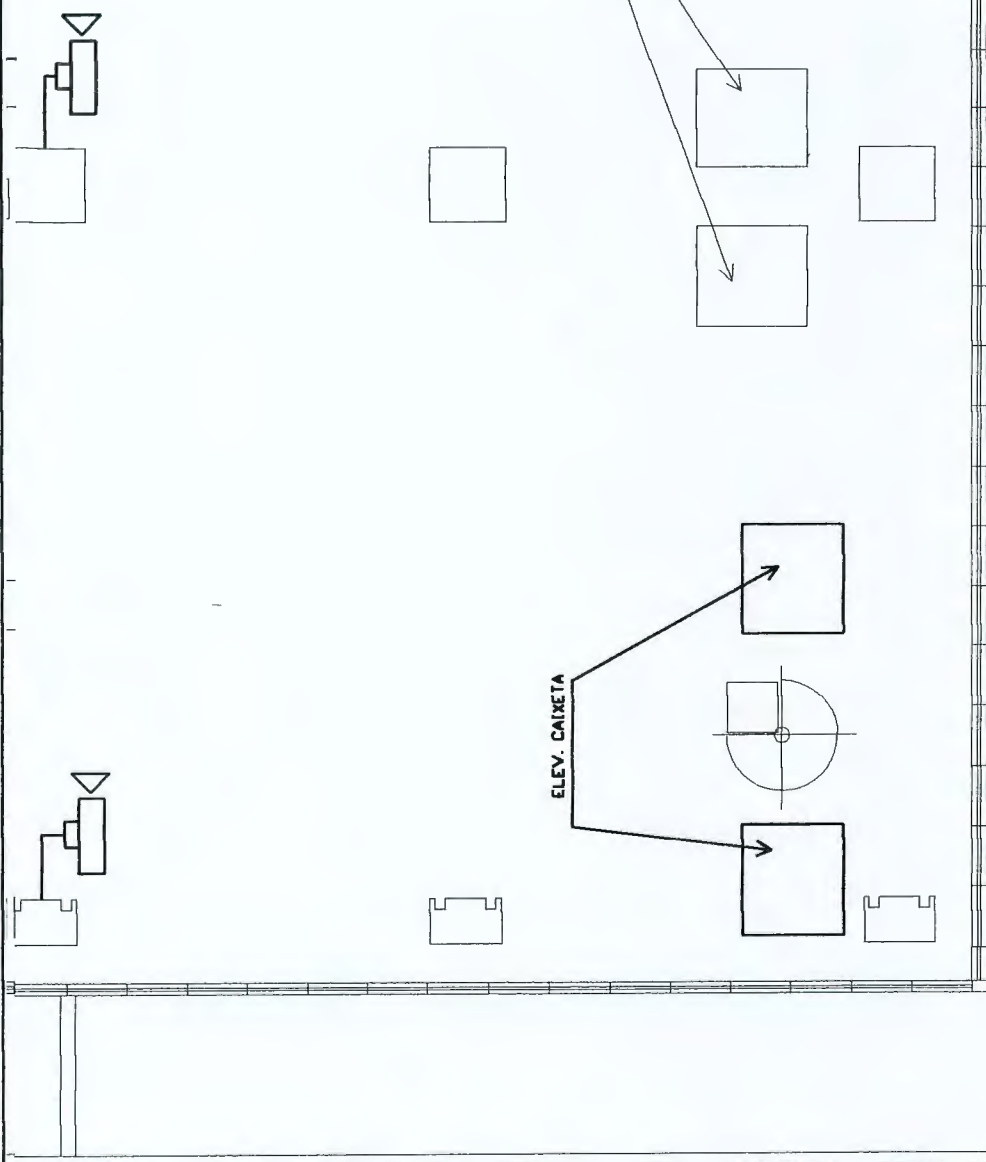
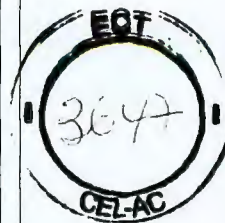
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RQS nº 03/2005 - CN -
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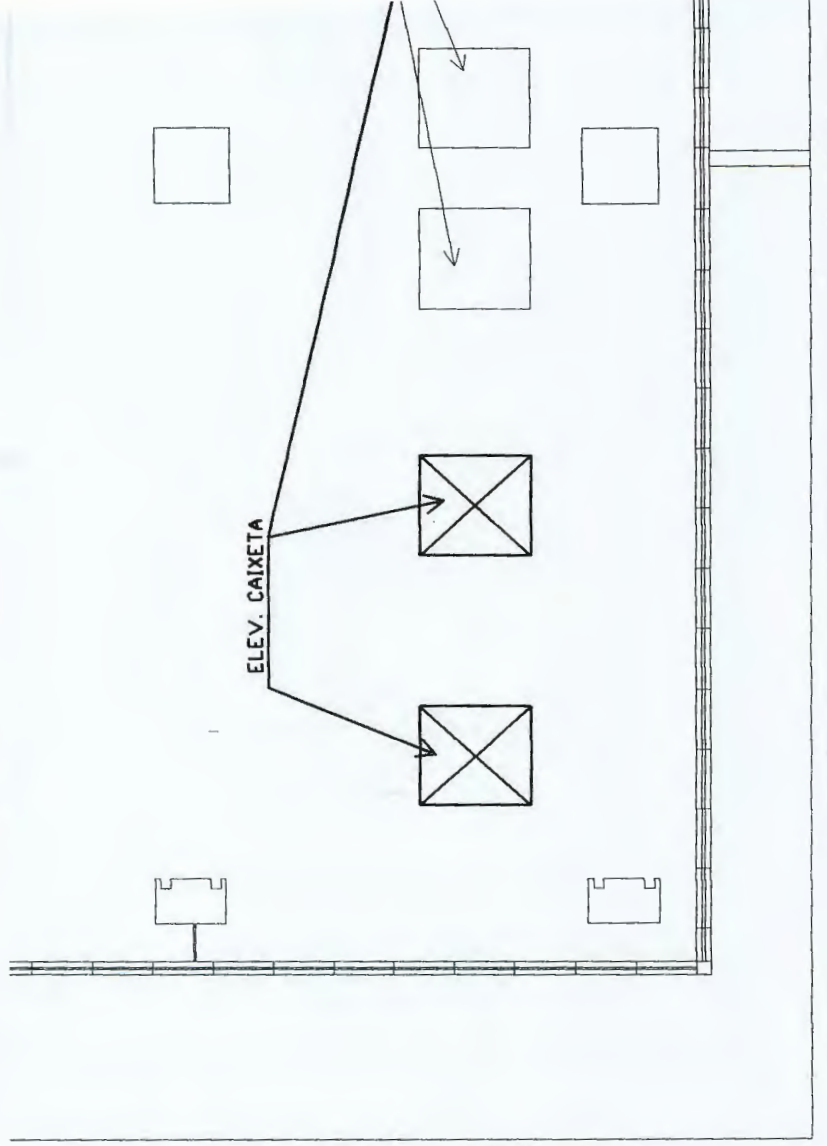
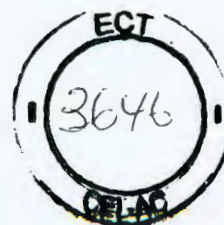
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ANEXO B - CARACTERÍSTICAS DOS EQUIPAMENTOS

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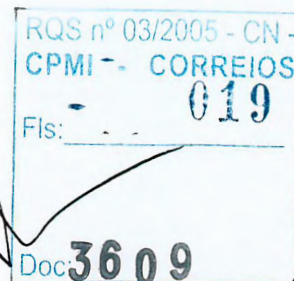
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ANEXO B - CARACTERÍSTICAS DOS EQUIPAMENTOS

A seguir apresentamos alguns elementos complementares sobre os equipamentos utilizados em nossa proposta, conforme discriminado na tabela.

EQUIPAMENTO	DOCUMENTO	Nº DE PÁGINAS
TBC-24	Manual de Campo - Procedimentos de Instalação Manutenção e Peças de Reposição	68
TBC-24	Desenho Trecho Reto Padrão - S-17-30-12000-L	01
TBC-24	Desenho Curva 90° Padrão - C-17-90R-04250	01
Portec	Proposta Técnica para Fornecimento do Equipamento Spiral Lift Conveyor	04
Portec	Proposta Técnica para Fornecimento do Equipamento Chutemaster	06
Portec	Termo de Garantia para os Equipamentos	03
Maxx	Desenho do Transportador Extensível de Correia Telescópica - TETP	01
Thomsom	Catálogos dos equipamentos de CFTV / Som	77



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Field Manual

TBC-24 Conveyor

Installation Procedures,
Maintenance, and Spare Parts

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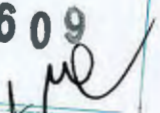
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BUSCHMAN 
A PINNACLE AUTOMATION COMPANY

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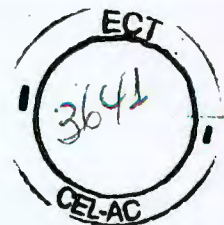


Table of Contents

Section G – Installation Procedures

Introduction	G.1
Accepting Shipment	G.1
Codes and Standards	G.2
Safety	G.2
Parts Replacement	G.3
Factory Assistance	G.3
Conveyor Installation	G.4
Preparation	G.4
Arranging Modules	G.4
Installing Modules	G.5
Installing Supports	G.7
Providing Power	G.9
Changing PLC Location	G.13
Connecting PLC Communication Harnesses	G.15
Checking Out Independent Modules – Straight & Curved	G.17

Section H – Maintenance

Introduction	H.1
Warning Signs	H.1
Safety Precautions	H.1
Parts Replacement	H.2
Factory Assistance	H.2
Scheduled Maintenance	H.3
Initial Startup & Run-In Period	H.3
Daily Inspections	H.4
Weekly Inspections	H.5
Troubleshooting	H.6
Selected Maintenance Procedures	H.10
Servicing the Motor-Control Card	H.10
Replacing Drive Rollers	H.11
Rewiring Harness Connectors	H.13



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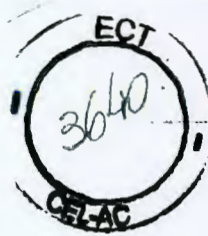


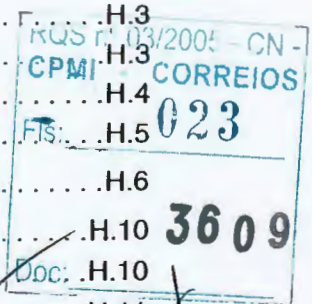
Table of Contents

Section G – Installation Procedures

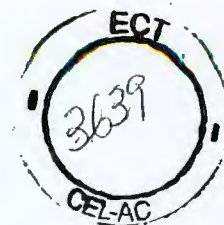
Introduction	G.1
Accepting Shipment	G.1
Codes and Standards	G.2
Safety	G.2
Parts Replacement	G.3
Factory Assistance	G.3
Conveyor Installation	G.4
Preparation	G.4
Arranging Modules	G.4
Installing Modules	G.5
Installing Supports	G.7
Providing Power	G.9
Changing PLC Location	G.13
Connecting PLC Communication Harnesses	G.15
Checking Out Independent Modules – Straight & Curved	G.17

Section H – Maintenance

Introduction	H.1
Warning Signs	H.1
Safety Precautions	H.1
Parts Replacement	H.2
Factory Assistance	H.2
Scheduled Maintenance	H.3
Initial Startup & Run-In Period	H.3
Daily Inspections	H.4
Weekly Inspections	H.5
Troubleshooting	H.6
Selected Maintenance Procedures	H.10
Servicing the Motor-Control Card	H.10
Replacing Drive Rollers	H.11
Rewiring Harness Connectors	H.13



000169



Section I – Spare Parts.

Introduction	I.1
Mechanical Components	I.2
Power & Control Components	I.9
Wiring Harnesses	I.15

RQS nº 03/2005 - CN -
CPMI - CORREIOS
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000170



TBC-24 Conveyor

CS8900 6/99

Page G.1

P/N 890218

Section G – Installation Procedures

Introduction

Accepting Shipment

Immediately upon delivery, check that all equipment received agrees with the bill of lading or carrier's freight bill.

Note

Do not sign the freight bill before checking the equipment for completeness and for damage.

Lost Shipments

Report lost shipments to the Manufacturer's Shipping Department.

Shortages or Errors

Before signing the freight bill, note any shortages or errors clearly on the freight bill. Report any shortages or errors to the Manufacturer's Customer Service Department in writing within ten (10) days after receipt of shipment.

Damaged Shipment

If shipping damage is evident upon receipt of the shipment, proceed as follows:

- Before signing the freight bill, note the extent of the damage clearly on the freight bill.
- Immediately contact the transportation carrier to request an inspection.
- Do not destroy the crating or packing materials until the carrier's agent has inspected them.
- If possible, take photographs of the damage in order to document negligence on the part of the carrier.

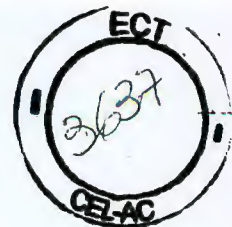
Returns

Unless authorized in writing by the Manufacturer, equipment furnished in accordance with the Manufacturer's Agreement is not returnable for any reason. If a return is authorized, please note that a restocking charge may apply. When requesting a return authorization, be sure to include the following information:

- Job number;
- Customer name;
- Contact person's name;
- Phone number of contact person;
- Part number, select number and description for each item to be returned;

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TBC-24 Conveyor

CS8900 6/99

Page G.2

P/N 890218

- Quantity;
- Reason for return;
- Condition of material; and
- Color of material.

After receiving the information, the Manufacturer will determine which items may be returned. If a request to return is approved, the Manufacturer's Customer Service Department will issue to the Purchaser (End User) a Return Goods Authorization (RGA) number. Be sure to mark the RGA number clearly and prominently on all packages returned. The Purchaser (End User) shall be liable for all freight charges.

Codes and Standards

The conveyor equipment is designed and manufactured to comply with the American National Standard Institute's *Safety Standards For Conveyors And Related Equipment* (ANSI B20.1) and with the National Electrical Code (ANSI/NFPA70).

The Purchaser or Operator shall be familiar with, and responsible for, compliance with all codes and regulations having jurisdiction regarding the installation, use, and maintenance of this equipment. Appropriate lock-out and tag-out policy and procedures shall comply with the minimum safety requirements outlined in the American National Standard Institute's current publication (ANSI Z244.1).

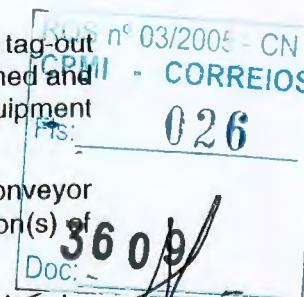
Safety

Signs and Labels

Safety signs and labels posted on or near the conveyor equipment shall not be removed, painted over, or altered at any time. All safety devices, warning lights, and alarms associated with the conveyor system should be regularly tested for proper operation and serviced as needed. If the original safety item(s) become defective or damaged, refer to the conveyor parts list(s) of bill(s)-of-materials for replacement part numbers.

Safety Precautions

- Do not turn off conveyor power source(s) and affix appropriate lockout and tag-out devices to the operating controls before servicing the equipment. Only trained and qualified personnel who are aware of the safety hazards should perform equipment adjustments or required maintenance while the conveyor is in operation.
- Observe all warning signs, lights, and alarms associated with the conveyor operation and maintenance, and be alert at all times to automatic operation(s) of adjacent equipment.
- Use extreme caution near moving conveyor parts to avoid the hazard of hands, hair, and clothing being caught.
- Do not sit on, stand on, walk, ride, or cross over or under the conveyor at any time except where suitable catwalks, gates, or bridges are provided for personnel travel.



000172

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TBC-24 Conveyor

CS8900 6/99

Page G.3

P/N 890218

- Do not attempt to repair any equipment while the conveyor is running, replace any conveyor component without appropriate replacement parts, or modify the conveyor system without prior approval by the manufacturer.
- Do not operate the conveyor until all safety guards are securely in place, all tools and objects other than product are removed from or near the conveying surfaces, and all personnel are in safe positions.
- Do not remove or modify any safety devices provided on or with the conveyor.
- Do not clear jams or reach into any unit before first turning off the equipment power sources and affixing appropriate lock-out and tag-out devices.

Parts Replacement

Spare Parts

To minimize production downtime, selected parts have been designated as "spare parts" because they are crucial for proper operation, and they are prone to failure. These parts are identified in Section I, "Spare Parts." To minimize down time, maintain a reserve stock of designated spare parts at the quantities recommended in the spare parts proposal. For further information, contact the Customer One Protection (COP) department.

Replacement Parts

Parts not designated as spare parts may be replaced if necessary. To identify parts not designated as spare parts, refer to the bills of material for the equipment provided.

Factory Assistance

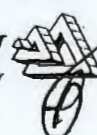
For assistance with installation, operation, or maintenance, contact Field Service.

For replacement parts, contact Customer One Protection (COP).

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TBC-24 Conveyor

CS8900 6/99

Page G.4

P/N 890218

Conveyor Installation

Preparation

Mark the conveyor centerlines on the floor using a chalk line (or equivalent method), measuring from the base lines according to the project layout drawings.

Before installing the conveyor, determine the locations for installing all power supplies required for the TBC-24 system. Note that each power supply has two power outputs, and that each power output is capable of supporting up to eight drive-rollers. Standard 10-foot straight modules have four drive rollers. The drive roller in each electrical slave module must also be included in the determination. As an example, one power supply is capable of supporting two sets of two independent straight modules, with each module containing four zones.

Each independent module is furnished with a power harness, which provides power to the module, and with a pass-through power harness, which routes power to an adjacent module. Power harnesses and pass-through power harnesses are designed to be connected in series between one module and another as necessary.

Determine which modules are to be powered by which power supply. A power supply should be located at the junction of adjacent modules. It may be located at the infeed end or at the discharge end of the group of modules that it powers, or it may be located at a middle junction of the group of modules that it powers.

Make certain that a 120 VAC electrical outlet is located within 8 feet of each power-supply location and that the each power supply can be plugged in without routing the power cord across any walkways. The use of an extension cord between an electrical outlet and a power-supply power cord is not recommended.

Arranging Modules

Each module is identified by the conveyor number, which is shown on a label affixed to the module. Though modules may appear identical, they cannot be assumed to be interchangeable. The programming of the programmable logic controller (PLC) may vary from module to module, and each PLC is assigned a unique address (see Figure G.1). Cross-check the conveyor number for each module against the project layout drawings, and arrange the modules and supports near their respective installation locations. Make certain that all components, supports, and hardware necessary for installation are present and complete.

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TBC-24 Conveyor

CS8900 6/99

Page G.5

P/N 890218

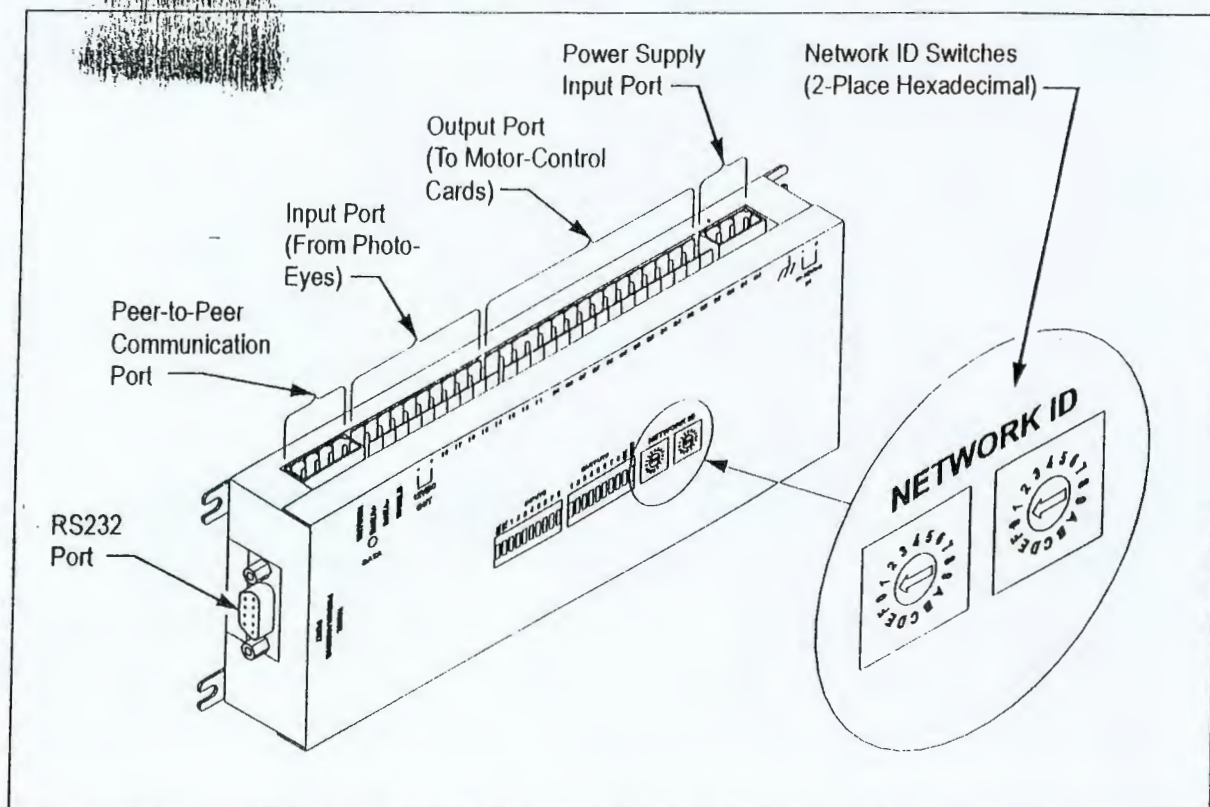


Figure G.1 – Programmable Logic Controller (PLC)

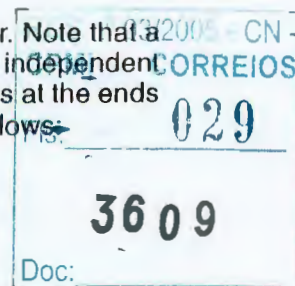
Determine the infeed end and discharge end of each module of conveyor. Note that a photo-eye is located closer to the discharge end of each zone of an independent module than to the infeed end. Note also that the gender of the connectors at the ends of the wiring harnesses extending from the ends of the module are as follows:

- Male connectors – infeed end; and
- Female connectors – discharge end.

Installing Modules

Before installing each module of conveyor, remove the shipping end caps from the module side rails. Attach all slave modules to the designated independent modules using 1/2-13 x 1" hex bolts, flat washers, lock washers and hex nuts as follows:

- Attach tall side rails together using a connector flat (part number 370118). Insert the hex nuts in the channel on the inside at the bottom of the side rail.
- Attach short side rails together using a connector angle (long angle part number 370112; short angle part number 370113). Insert the hex nuts in the channel along the underside of the side rail



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TBC-24 Conveyor

CS8900 6/99

Page G.6

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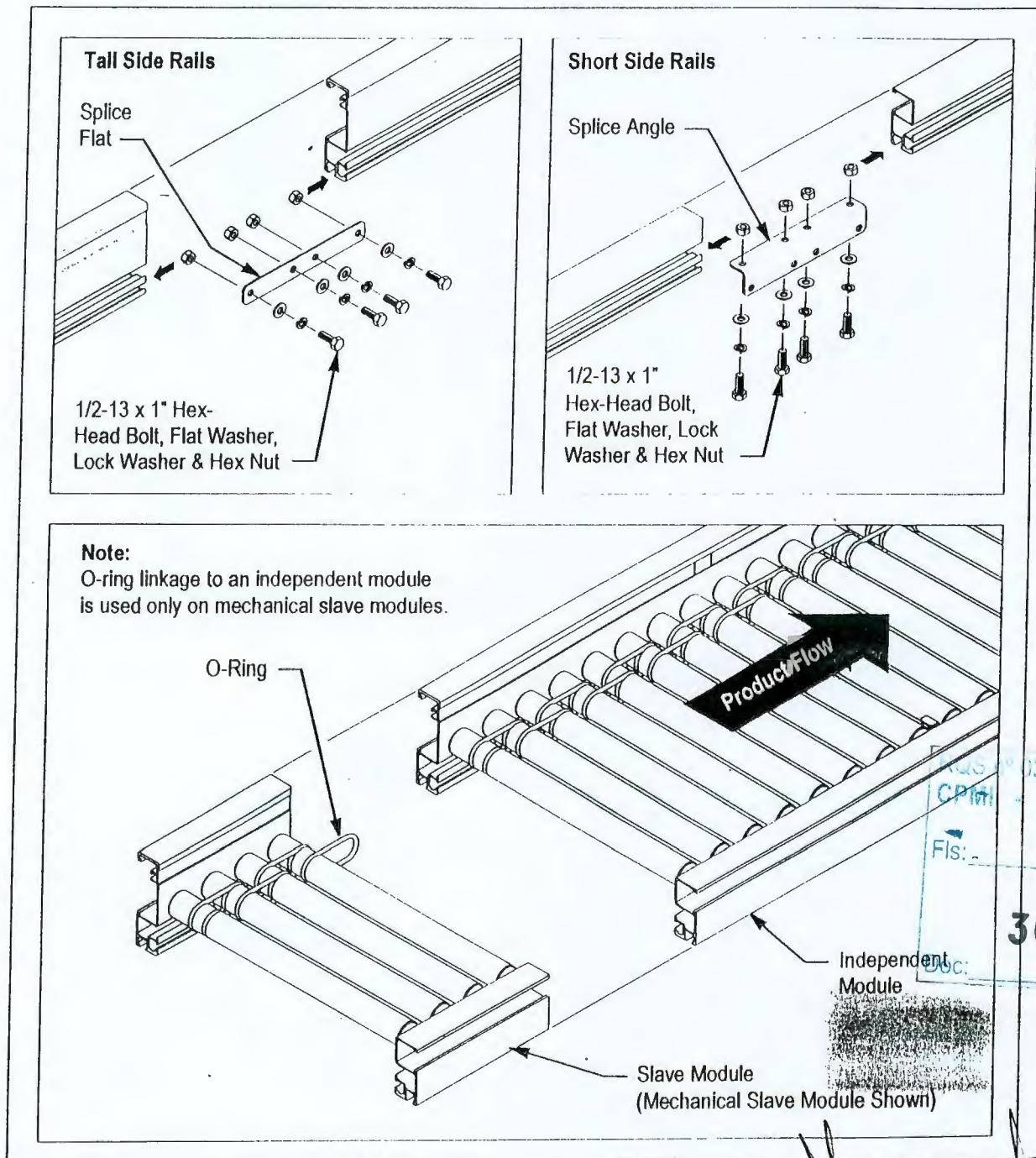


Figure G.2 – Attaching a Slave Module to an Independent Module

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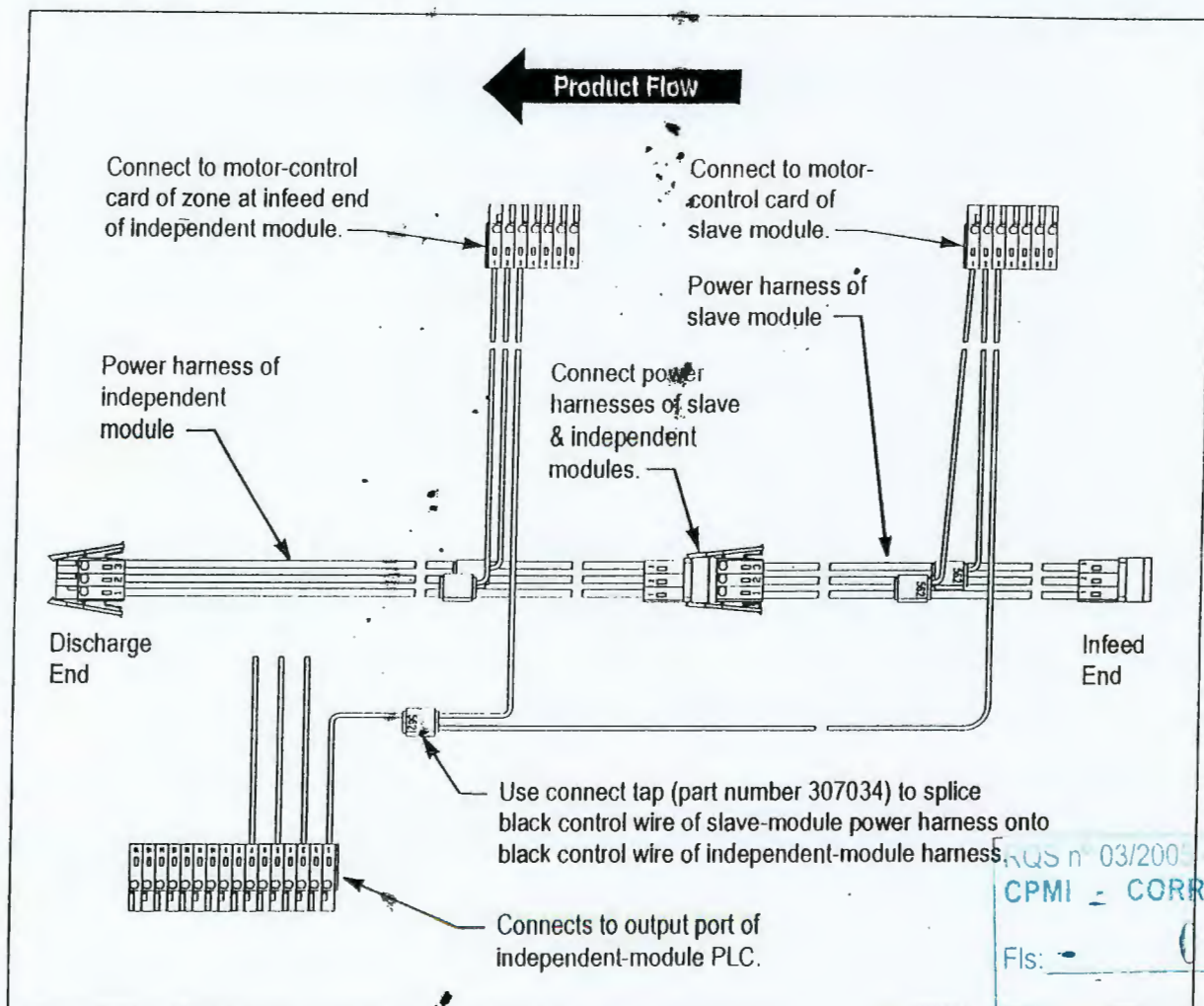


Figure G.3 — Wiring an Electrical Slave Module

Installing Supports

Attach supports to the underside of each section of conveyor using 1/2-13 x 1" hex bolts, flat washers, lock washers and hex nuts (see Figure G.4). Abut the support top to the underside of the side rail. Insert the hex nuts inside the channel along the underside of the side rail.

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TBC-24 Conveyor

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Page G.8

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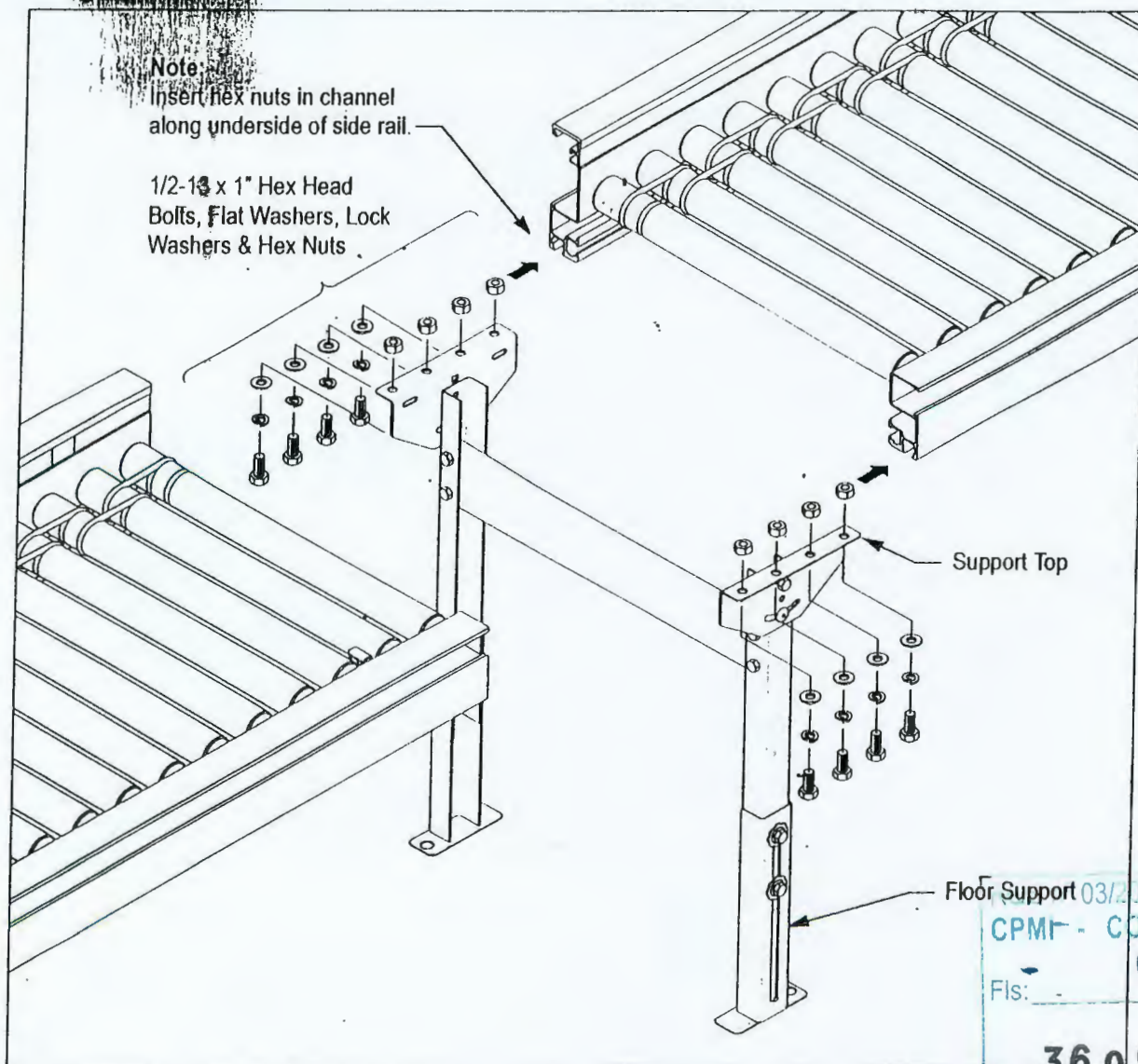


Figure G.4 – Installing a Floor Support

Place the first section of conveyor in its correct location according to the project layout drawings. Center the support feet on the chalk centerline, and anchor the support feet to the floor. For more complete information about installing supports, refer to Section G, "Installation Procedures" in the manual entitled *Floor Supports and Ceiling Hangers* (CS5310).

Locate modules sequentially according to the project layout, and anchor the support feet of the floor supports. Make certain to align each module with the adjacent module. Level the conveyor. A laser leveling method is recommended.



TBC-24 Conveyor

CS8900 6/99

Page G.9

P/N 890218

Providing Power

Note that a power supply (see Figure G.5) may be oriented in any position (right side up, upside down, on its side, etc.) without jeopardizing safety or proper operation. A power supply may be placed on the floor, mounted on a wall, to bracketry, or to the cross brace of a floor support.

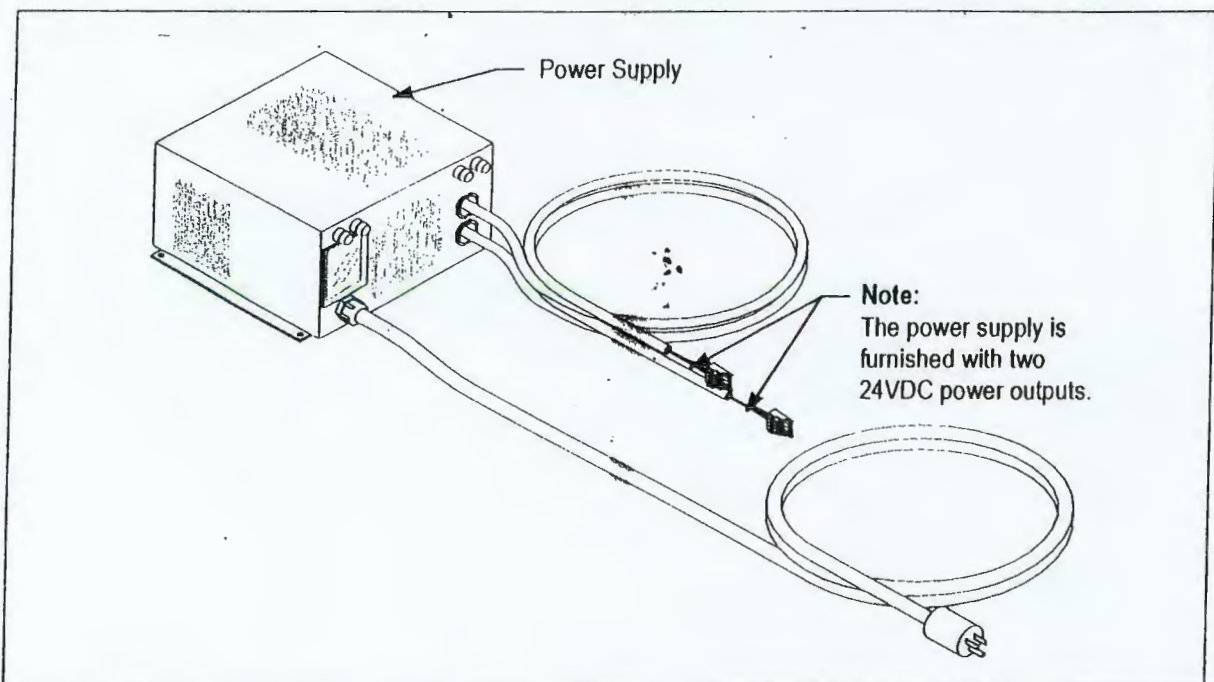


Figure G.5 – 24VDC Power Supply

Connect Power Harnesses

Connect the power harnesses (with gray, three-pin connectors) of contiguous modules together, and connect the power harness at one end to one of the power-supply outputs (see Figure G.6). Do not exceed eight drive rollers powered by a single power-supply output (maximum 16 drive rollers per power supply). Use the pass-through harnesses (with orange, three-pin connectors) of the modules closer to the power supply to provide power to a remote set of modules.

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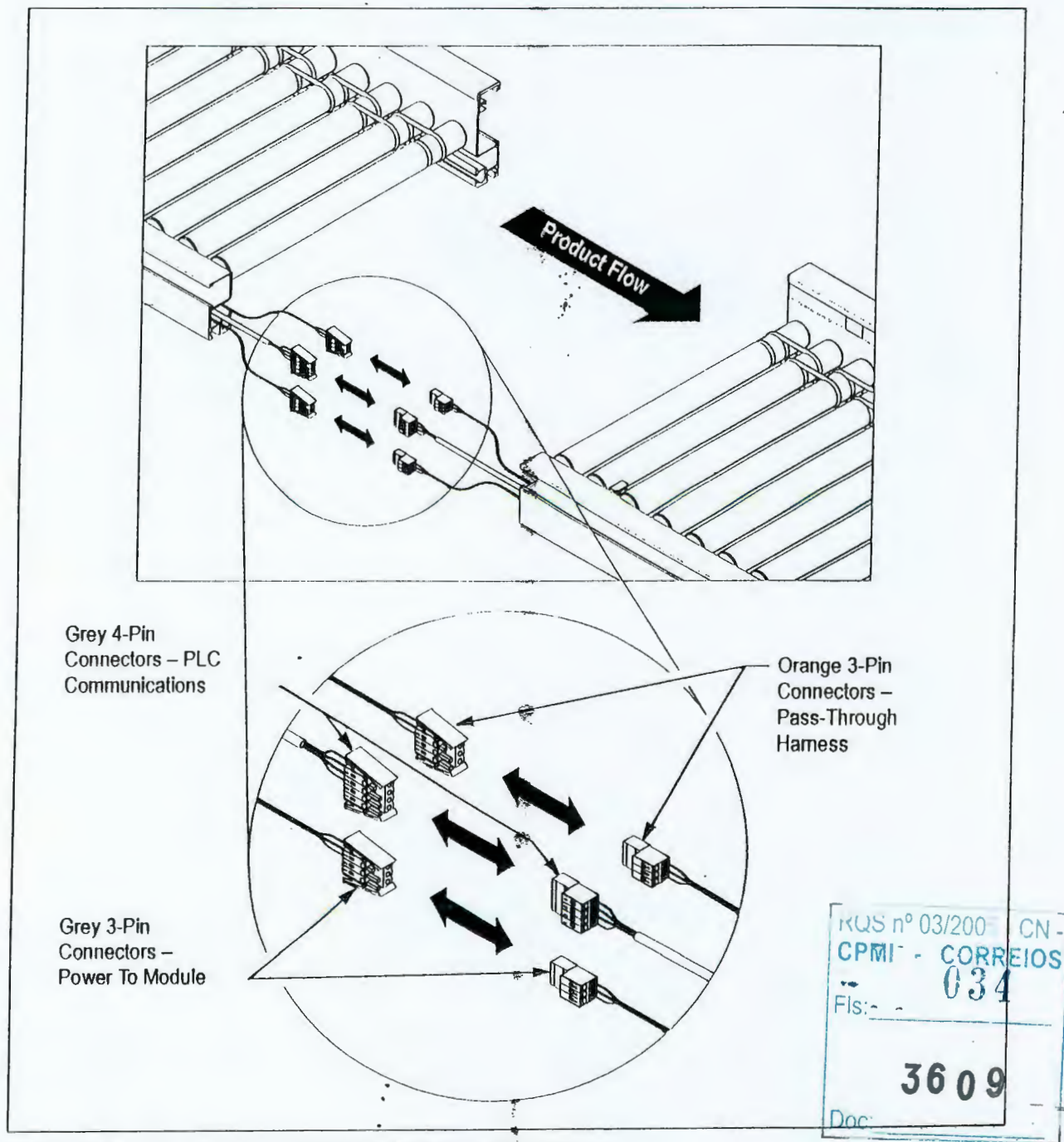
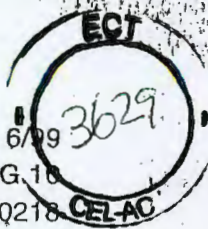


Figure G.6 – Connecting Harnesses Between Modules



TBC-24 Conveyor

CS8900 6/99

Page G.11

P/N 890218

Connect the Power Supply

A power supply may be connected either at the infeed end or at the discharge end (see Figure G.7)

Connect a power supply at the infeed end of a group of four four-zone modules as follows:

1. Locate the power supply at the infeed end and secure it as necessary.
2. Connect the power harnesses of modules 1 and 2 together.
3. Connect the power harness of module 1 to one power-supply output.
4. Connect the pass-through harnesses of modules 1 and 2 together.
5. Connect the power harnesses of modules 3 and 4 together.
6. Connect the power harness of module 3 to the pass-through power harness of module 2.
7. Connect the pass-through harness of module 1 to the second power-supply output.
8. It is not necessary to connect the pass-through harnesses of modules 3 and 4 together.
9. When all harnesses are connected, tuck all loose harness ends up behind the conveyor side rails and secure them as necessary.
10. Plug in the power-supply power cord.

Connect a power supply at the discharge end of a group of four four-zone modules as follows:

1. Replace the female connectors on the power-supply output cables with male connectors (part number 307000) (see Figure G.8).
2. Locate the power supply at the discharge end and secure it as necessary.
3. Connect the power harnesses of modules 3 and 4 together.
4. Connect the power harness of module 4 to one power-supply output.
5. Connect the power harnesses of modules 1 and 2 together.
6. Connect the pass-through harnesses of modules 3 and 4 together.
7. Connect the power harness of module 2 to the pass-through power harness of module 3.
8. Connect the pass-through harness of module 4 to the second power-supply output.
9. It is not necessary to connect the pass-through harnesses of modules 1 and 2 together.
10. When all harnesses are connected, tuck all loose harness ends up behind the conveyor side rails and secure them as necessary.
11. Plug in the power-supply power cord.

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TBC-24 Conveyor

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Page G.12

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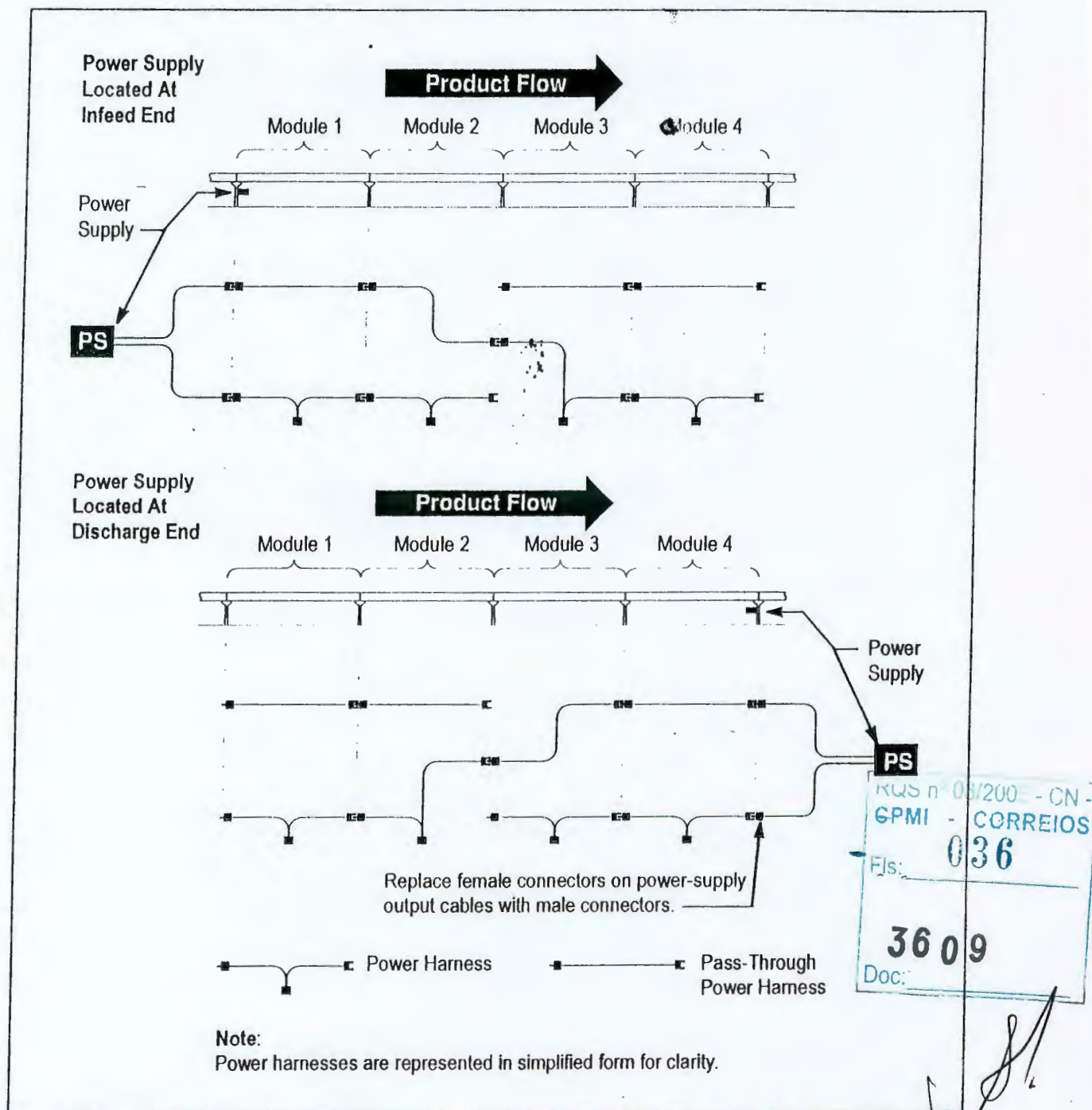
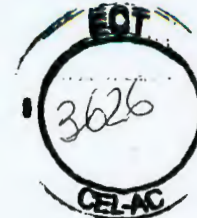


Figure G.7 – Connecting a Power Supply to a Group of Modules

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TBC-24 Conveyor

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Page G.13

P/N 890218

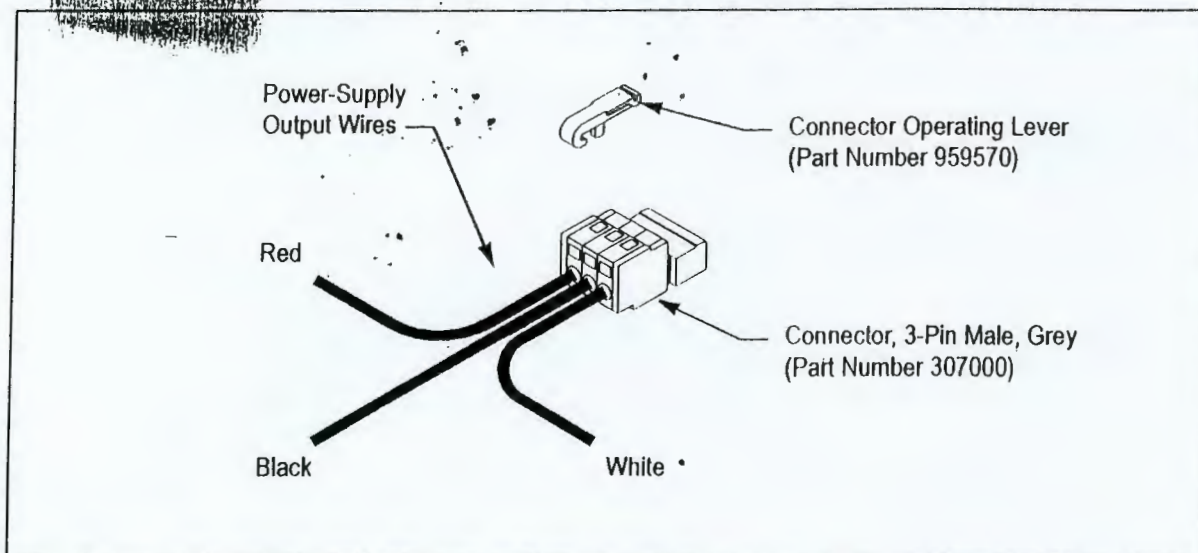


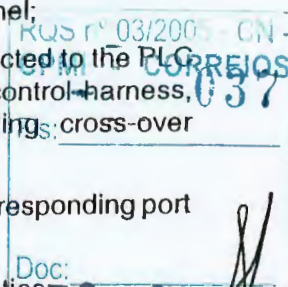
Figure G.8 – Wiring a Male Connector to a Power-Supply Output Cable

Changing PLC Location

If an independent module is furnished with the PLC on the left-hand side, and it is necessary to relocate it to the right-hand side, or vice versa, a cross-over harness must be used. A cross-over harness is a set of four wiring harnesses fastened at one end to a mounting plate, and extending across the conveyor to the PLC located on the opposite side.

Install the cross-over harness as follows (see Figure G.9):

- Mount the spreader channel to the inside of both side rails and above the PLC;
- Attach the cross-over harness mounting plate to the inside of the same side rail that contains the wiring harnesses, and adjacent to the spreader channel;
- Connect each of the four wiring harnesses that are normally connected to the PLC (power-to-module harness, photo-eye harness, output-to-motor-control harness, and peer-to-peer communication harness) to the corresponding cross-over harness connectors located on the mounting plate;
- Connect the free end of each of the cross-over harnesses to the corresponding port of the PLC; and
- Install the plastic spreader-channel cover, and secure it with cable ties.



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TBC-24 Conveyor

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Page G.14

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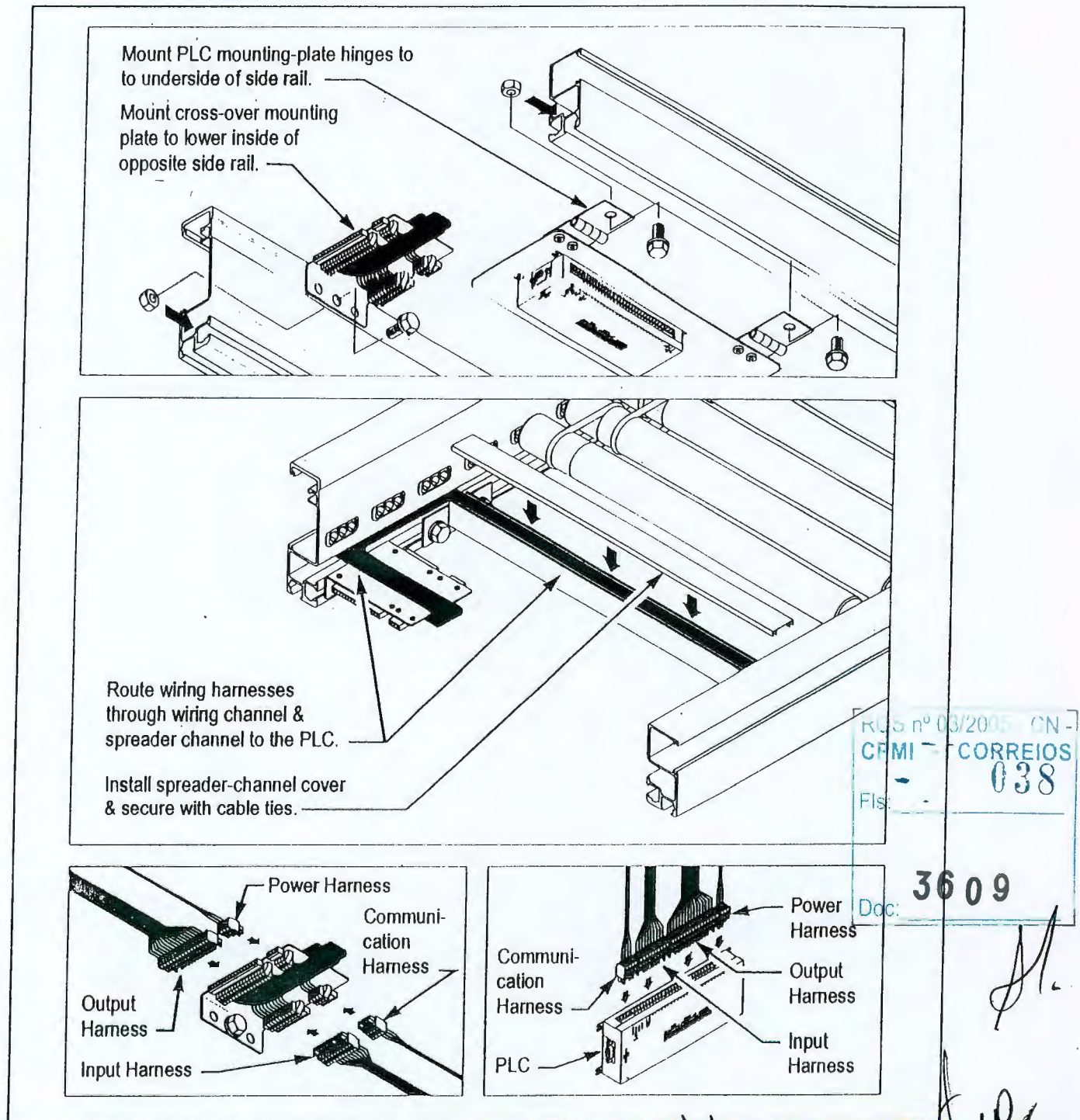
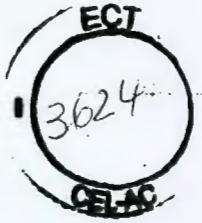


Figure G.9 - Installing a Cross-Over Harness



TBC-24 Conveyor

CS8900 6/99

Page G.15

P/N 890218

Connecting PLC Communication Harnesses

Pay special attention to the order in which PLC communication harnesses (with grey, four-pin connectors) are to be connected to the nodes throughout the system, especially at junction modules. A communication layout drawing generated for each project shows the correct arrangement of communication harnesses. Be certain to connect communication harnesses according to the layout drawing.

Caution!

Failure to connect communication harnesses according to the layout drawing may cause substantial delays in system installation.

A network of PLC communication harnesses must be connected together in a single, continuous string. Where two straight modules are abutted in-line, the PLC communication harness of one module is normally connected to the PLC communication harness of the adjacent straight module. At a junction, however, the continuity of PLC communication harnesses may proceed from the mainline conveyor, through the junction, and then return to the mainline conveyor. Special communication harnesses are typically made to accommodate such arrangements. Check the communication layout drawing to identify the part numbers and locations of all special communication harnesses.

Both terminal ends of the PLC communication network are free. In order for the network to operate properly, install the appropriate connector at each terminal end, and insert a resistor, as follows (see Figure G.10):

- At the infeed end of the network, add a female, 4-pin, grey connector.
- At the discharge end of the network, add a male, 4-pin, grey connector.
- Insert a 1/4-watt, 100-ohm resistor across pins #2 and #3 in each of the added connectors.

To open the spring clips enclosed within the connectors, use a lead-insertion tool. Insert the resistor leads as far as possible to locate the resistor directly against the connector surface. If necessary, trim the resistor leads. If necessary, wrap electrical tape over the resistor to

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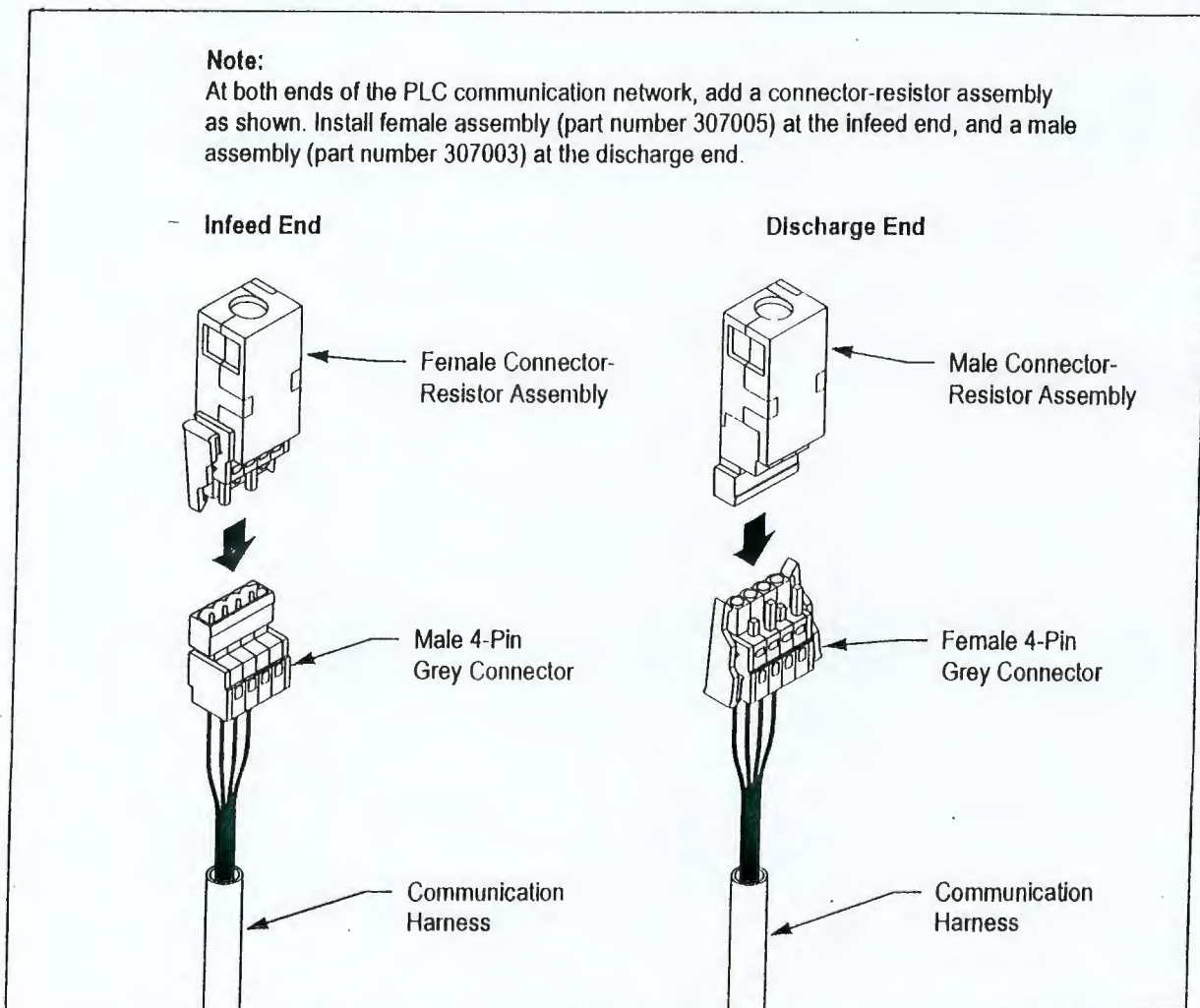


Figure G.10 -- Installing Resistors at Terminal Ends of PLC Communication Network

Repeater (Signal Booster)

A network containing more than 64 nodes requires that a repeater (signal booster) be installed. The quantity and location of each repeater will be noted on the communication layout drawing. Be certain to install the repeaters in the locations shown on the drawing.

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TBC-24 Conveyor

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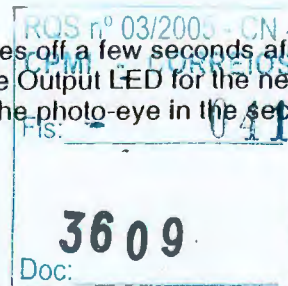
Checking Out Independent Modules – Straight & Curved

The following procedure applies to modules consisting of multiple zones in which the programmable logic controller (PLC) is programmed for ordinary, one-directional operation. Module configuration and PLC programming may vary according to project requirements. If questions about proper operation arise, consult the Controls Engineer for the project.

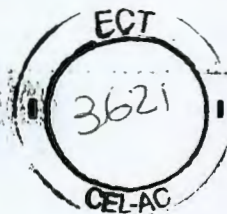
To check out independently operating modules, simulate a product moving along the conveyor. Block each of the photo-eyes in the same sequence as a product moving along the conveyor, from the infeed end of the module to the discharge end. To observe all the functions described, it may be necessary to repeat the steps several times.

Check the operation of independent modules by performing the following steps:

1. Ensure that power is applied to the system, and check that both the OK and the Run LEDs on the PLC light up.
2. Block the photo-eye in the first zone at the infeed end of the module for approximately three seconds. Then unblock the photo-eye in the first zone and block the photo-eye in the second zone (the next zone downstream) for the same duration.
3. Observe the following roller responses. Note that if a slaved module is linked to the independent zone being tested, either mechanically or electrically, the response will be the same for all rollers.
 - Rollers in a zone rotate as long as the photo-eye for that zone is blocked. Note that if the photo-eye is blocked longer than approximately four seconds, a timer in the PLC will shut off the rollers in that zone.
 - Rollers in a zone continue to rotate for a few seconds after the photo-eye for that zone becomes unblocked, and then they stop rotating.
 - The rollers in second zone (the next zone downstream) rotate and continue rotating until the photo-eye in the second zone is blocked and then unblocked.
4. Observe the PLC Input and Output LED indicator responses.
 - The Input LED for the first zone lights up and remains on as long as photo-eye is blocked.
 - The Output LEDs for the blocked zone and for the next zone downstream light up as long as the corresponding rollers are rotating.
 - The Output LED for a zone goes off when the rollers stop in that zone stop rotating.
 - The Output LED for the a zone goes off a few seconds after the photo-eye for that zone becomes unblocked. The Output LED for the next zone downstream remain lit for a few seconds after the photo-eye in the second zone is blocked and then unblocked.



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TBC-24 Conveyor

CS8900 6/99

Page G.18

P/N 890218

5. If the independent module contains additional zones, repeat steps 2 through four for the remaining zones. Test overlapping pairs in sequence. For example, after checking out zones 1 and 2; then check out zones 2 and 3; then check out zones 3 and 4; and so on.
6. After checking out the zones in one independent module, check out the pair of zones that straddle one module and the adjacent module downstream.
7. After checking out adjacent zones across modules, check out the zones within the next independent module downstream.



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TBC-24 Conveyor

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Page G.19

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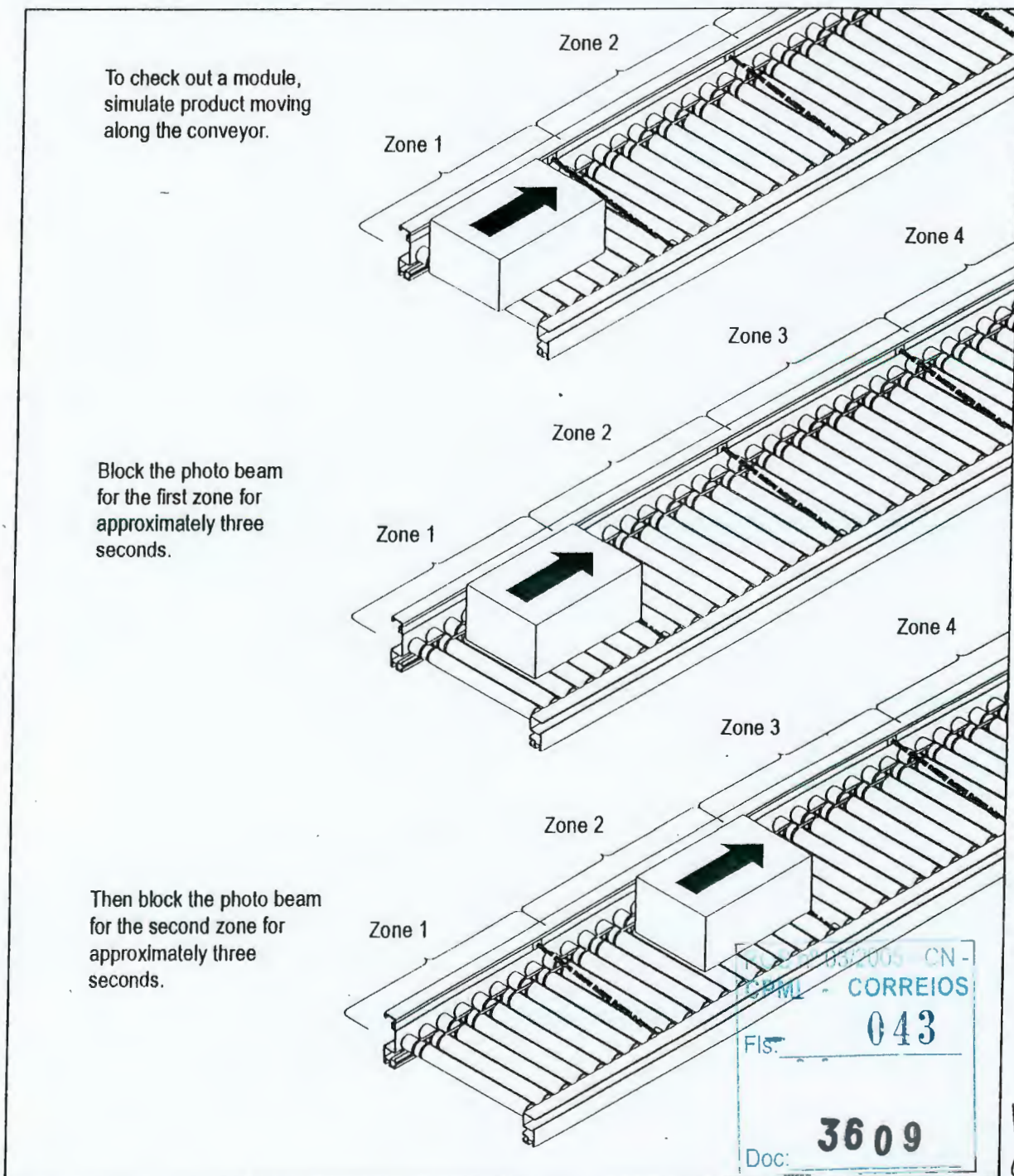


Figure G.11 - Checking Out a Module

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TBC-24 Conveyor

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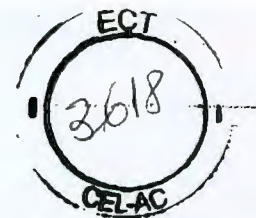
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TBC-24 Conveyor

CS8900 7/99

Page H.1

P/N 890218

Section H – Maintenance

Introduction

Warning Signs

Warning signs and labels posted on or near the conveyor equipment shall not be removed, painted over, or altered at any time. All safety devices, warning lights, and alarms associated with the conveyor system should be regularly tested for proper operation and serviced as needed. If any original safety item becomes defective or damaged, refer to the conveyor parts lists and bills-of-material for replacement part numbers.

Safety Precautions

- Turn off conveyor power sources and affix appropriate lock-out and tag-out devices to operating controls before servicing the equipment. Only trained and qualified personnel who are aware of the safety hazards should perform equipment adjustments or required maintenance while the conveyor is in operation.
- Observe all warning signs, lights, and alarms associated with the conveyor operation and maintenance, and be alert at all times to automatic operation of adjacent equipment.
- Use extreme caution near moving conveyor parts to avoid the hazard of hands, hair, and clothing being caught.
- Do not sit on, stand on, walk, ride, or cross (over or under) the conveyor at any time except where suitable catwalks, gates, or bridges are provided for personnel travel.
- Do not attempt to repair any equipment while the conveyor is running, replace any conveyor component without appropriate replacement parts, or modify the conveyor system without prior approval by the manufacturer.
- Do not operate the conveyor until all safety guards are securely in place, all tools and non-product materials are removed from or near the conveying surfaces, and all personnel are in safe positions.
- Do not remove or modify any safety devices provided on or with the conveyor.
- Do not clear jams or reach into any unit before first turning off the equipment power sources and affixing appropriate lockout and tag-out devices.
- Frequently check safety guards, warning signs, lights, and alarms, and keep them in good condition to ensure the safety of all personnel.

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Page H.2

P/N 890218

Parts Replacement

Spare Parts

To minimize production downtime, selected parts have been designated as "spare parts" because they are crucial for proper operation, and they are prone to failure. These parts are identified in Section I, "Spare Parts." To minimize down time, maintain a reserve stock of designated spare parts at the quantities recommended in the spare parts proposal. For further information, contact the Customer One Protection (COP) department.

Replacement Parts

Parts not designated as spare parts may be replaced if necessary. To identify parts not designated as spare parts, refer to the bills of material for the equipment provided.

Factory Assistance

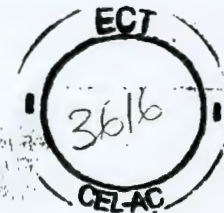
Contact Field Service for installation, operation, or maintenance assistance, or Customer One Protection (COP) for replacement parts.

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TBC-24 Conveyor

CS8900 7/99

Page H.3

P/N 890218

Scheduled Maintenance

The schedule for recommended service checks and equipment maintenance presented herein are provided as a guide (see Table H.1). These recommendations apply to typical, intermittent-duty (8 hours per day, 5 days per week) operation, above freezing temperature (40°F to 110°F). Continuous-duty operation or extreme environmental conditions may require more frequent maintenance. The ideal maintenance schedule may best be determined by performing maintenance more frequently than recommended when the combiner is first put into operation, and then lengthening the intervals based on experience. In any case, the intervals should not exceed those recommended herein.

Initial Startup & Run-In Period

Before operating the TBC-24 conveyor for the first time, make certain that the system has passed all inspections and checks associated with installation. Make certain that tools, rags and other foreign objects have been removed.

Check that all electrical connections are intact. Make certain that all safety devices are in their proper position and that all fasteners are tight.

All newly installed equipment should be inspected frequently and serviced as needed during the first 40 hours of operation. Thereafter the most appropriate maintenance program should be determined and followed.

Table H.1 – Scheduled Maintenance Summary

Interval	Components	Unusual Noises	Cleanliness	Obstructions	Tension	Physical Condition	Proper Position	Alignment	Fasteners	Operation
Daily (8 Hours)	TBC-24 System	X								X
	Photo Eyes		X	X						
Weekly (40 Hours)	O-Rings				X	X				
	Photo-Eyes									
	Rollers					X				
	General Structure					X	X		X	
	Guards & Safety Devices					X	X		X	
	Supports					X			X	



TBC-24 Conveyor

CS8900 7/99

Page H.4

P/N 890218

Daily Inspections

Conduct a walk-through inspection daily. For continuous-duty operation, conduct inspections once each shift. Become familiar with the normal behavior of the conveyor, especially with the sounds of normal operation. This familiarity will serve as an invaluable frame of reference for detecting unusual noises that may occur. Report any unusual noise or operational problems immediately, and correct any faulty conditions promptly.

Check the operation of photo-eyes. Remove any foreign objects lodged between photo-eyes, mounting brackets and other features. Wipe photo-eyes and reflective tape as necessary with a clean, soft cloth. For additional maintenance information, refer to the instructions provided by the photo-eye manufacturer.

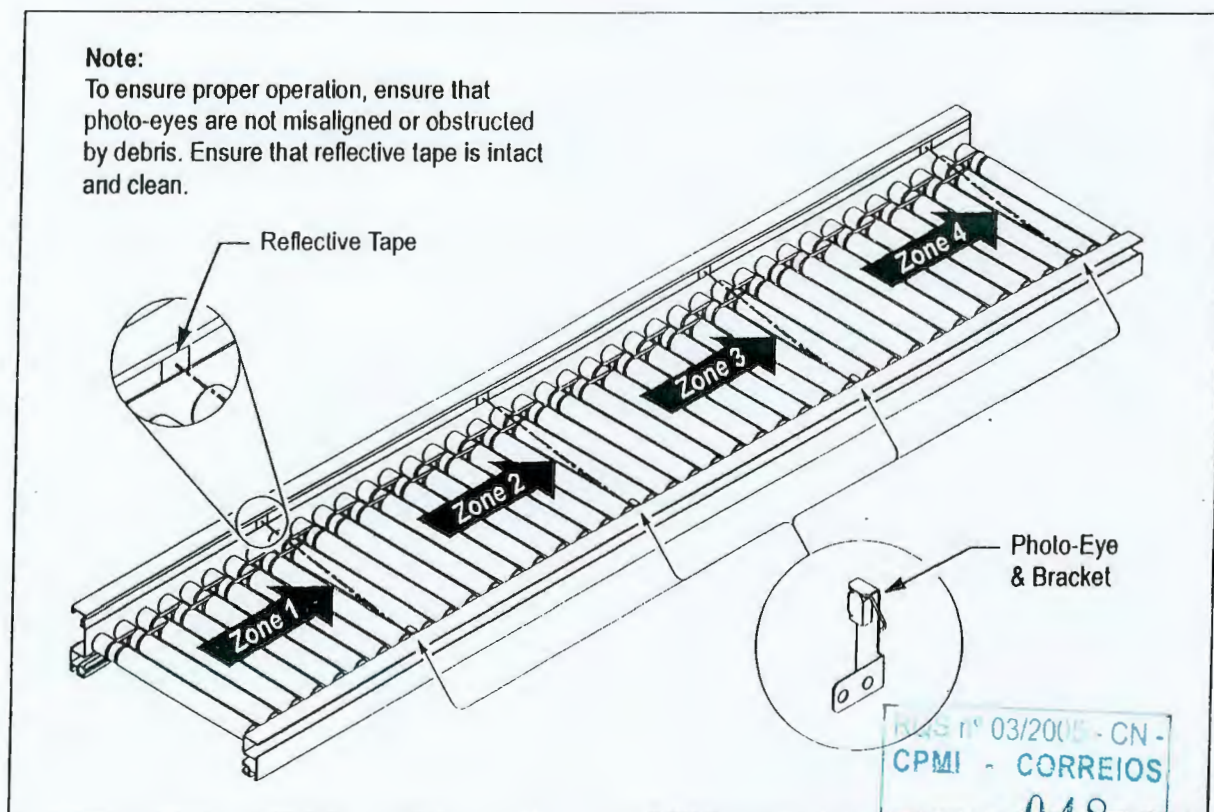
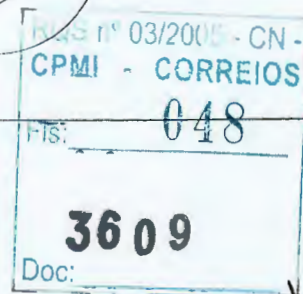


Figure H.1 – Photo-Eyes & Reflective Tape



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TBC-24 Conveyor

CS8900 7/99

Page H.5

P/N 890218

Weekly Inspections

Check the physical condition and tension of the O-rings. O-rings should be clear (transparent) and pliable, but not loose. If an O-ring is "milky" in color, its surface is scuffed and worn, and it may need to be replaced. Also check O-rings by pressing against them. If an O-ring is not pliable, or if it is loose, replace it.

Check rollers for proper operation. If rollers move erratically, or if roller axles rattle in isolator inserts, inspect to determine the cause, and take corrective action accordingly. If the rattling is due to worn isolator inserts, replace the inserts. To determine whether rollers are operating at the proper speed, use a tachometer.

Check the general structure of the conveyor is sound. Make certain that the supports are stable and secure and that all guards and safety devices are in good condition.

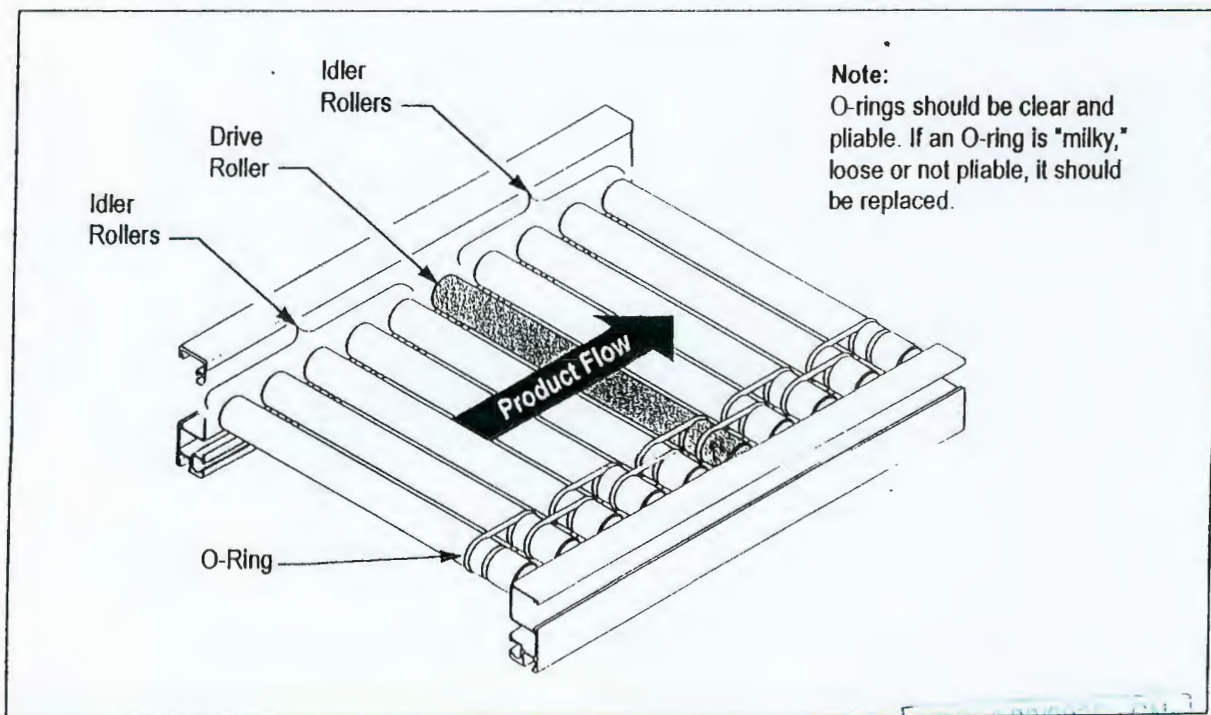


Figure H.2 - Checking O-Rings

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TBC-24 Conveyor

CS8900 7/99

Page H.6

P/N 890218

Troubleshooting

Troubleshooting for straight modules is outlined in Table H.2. Refer to Figure H.14 and Figure H.15.

Table H.2 – Troubleshooting

Problem	Possible Causes	Corrective Action
The PLC OK & RUN LEDs do not light up when power is applied.	No 24 VDC input to the PLC. The PLC is defective.	1. Ensure that the PLC power-input connector is connected firmly. 2. Check for 24 VDC between pins 1(+) and 2(-) on the 24 VDC input jack to the PLC. • If 24 VDC is present, replace the PLC. • If 24 VDC is not present, proceed to step 4. 3. Check the power source for proper output and connections. • If power-source connections are incorrect, repair or replace the power source. • If power-source connections are correct, check all wiring harnesses and connectors between the power source and the PLC. 4. Repair or replace the connector as required.
Rollers do not rotate in the zone with the blocked photo-eye or in next zone downstream. PLC input and output LEDs do not light up.	The photo-eye is defective. Wiring between the photo-eye and the PLC is defective. The PLC is defective.	1. Check that the photo-eye light is on. • If the photo-eye light is not on, perform step 2. • If the photo-eye is on, proceed to step 3. 2. Using a multimeter, check for 12 VDC between pins 9(+) and 10(-) on PLC input connector. • If voltage is not present, replace the PLC. • If voltage is present, check for 12 VDC between pins 2(+) and 3(-) on the photo-eye connector. If voltage is present, replace the photo-eye. If voltage is not present, repair the wiring between the PLC and the photo-eye.

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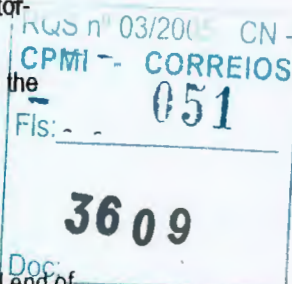
TBC-24 Conveyor

CS8900 7/99

Page H.7

P/N 890218

Problem	Possible Causes	Corrective Action
		- Check for 12 VDC between pins 1(+) and 3(-) on the photo-eye connector. - If voltage is present, replace the photo-eye. - If voltage is not present, proceed to step 4. - Check for 12 VDC between PLC pin 10(-) and input pins 1, 2, 3, or 4(+), depending on which zone is defective. - If voltage is present, replace the PLC. - If voltage is not present, repair the wiring between the PLC and the photo-eye.
Rollers in a zone with the photo-eye blocked do not rotate. Rollers in the downstream zone rotate. All PLC indicator lights have correct indication.	Defective wiring between the motor-control card and the PLC. Defective wiring between the power supply and the motor-control card. Defective PLC. Defective motor control card for the affected zone. Defective drive rollers.	- Check whether the green LED on the motor-control card is on. - If the green LED is not on, proceed to step 2. - If the green LED is on, proceed to step 3. - Remove power from the motor-control card, and check the motor-control card fuse. - If the fuse is blown, proceed to step 3. - If the fuse is not blown, proceed to step 4. - Disconnect the drive-motor connector from the motor-control card. Replace the motor-control fuse and apply power to motor-control card. - If the motor-control fuse blows, replace the motor-control card. - If the motor-control fuse does not blow, replace the drive roller. - Check for 24 VDC between pins 1(+) and 2(-). - If voltage is present, proceed to step 5. - If voltage is not present, repair defective wiring between the power input connector at the infeed end of the conveyor and the motor-control card connector. - Check for a low (sink) between PLC output connector pin 1 of the PLC 24 VDC power input connector and pin 1, 3, 5, or 7, as applicable. - If low output is present, proceed to step 6. - If voltage is not present, replace the PLC.



000197



TBC-24 Conveyor

CS8900 7/99

Page H.8

P/N 890218

Problem	Possible Causes	Corrective Action
		- Check for low (sink) output between motor-control card connector pins 3 and 2. - If low (sink) output is present, proceed to step 7. - If low (sink) output is not present, repair the defective wiring harness between the PLC input connector and the motor-control card connector. - Temporarily replace the motor-control card with a motor-control card known to be good. - If the drive roller rotates, replace the defective motor-control card. - If the drive roller does not rotate, replace the defective drive roller.
Rollers in the zone with the blocked photo-eye do rotate, but rollers in the next zone downstream do not rotate. The next zone downstream is in the same module as the zone with the blocked photo-eye.	Defective wiring, defective PLC. Defective motor-control card. Defective drive roller.	Perform a checkout of the affected zone.
Rollers in the zone with the blocked photo-eye do rotate, but rollers in the next zone downstream do not rotate. The next zone downstream is in the adjacent module.	Defective data cable. Defective wiring. Defective PLC. Defective motor-control card. Defective drive roller.	- Check all connectors between the data inputs to both PLCs. If all connections are intact, proceed to step 2. - Check cable continuity. - If continuity is incorrect, repair or replace as necessary. - If continuity is correct, perform a checkout of the affected zone.



000193



TBC-24 Conveyor

CS8900 7/99

Page H.9

P/N 890218

Problem	Possible Causes	Corrective Action
Rollers in a zone rotate too slowly.	Defective bearings in an idler roller. Defective drive roller. Voltage regulator on motor-control card set too low.	1. Use a tachometer to check roller speed. Remove the O-rings between the drive roller and the adjacent idler rollers and check the speed of the drive roller alone. • If the drive roller operates at the proper speed, check the idler rollers, and replace any idler roller that has defective bearings. • If the drive roller operates too slowly, increase the setting of the voltage regulator on the motor-control card. If the problem persists, recheck using a motor-control card known to be good. If the problem persists, replace the drive roller.

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TBC-24 Conveyor

CS8900 7/99

Page H.10

P/N 890218

Selected Maintenance Procedures

Servicing the Motor-Control Card

Each motor-control card is furnished with a five-amp fuse located within the rectangular recess in the card housing (see Figure H.3). To replace the fuse, pry out the old fuse gently with a flat screwdriver, and snap in the replacement.

The motor-control card has two light-emitting diodes (LEDs), one green and the other red. When the green LED is lit, it indicates that the power is "On." When the red LED is lit, it indicates an output error.

The motor-control card is furnished with two DIP switches, identified as "1" and "2," and with a voltage regulator. Setting DIP switch #1 to "On" enables the voltage regulator. The voltage regulator adjusts the operating speed of the drive roller. Drive-roller speed is set at the factory, and adjustment is normally not necessary. Setting DIP switch #1 to "Off" disables the voltage regulator. Toggling DIP switch #2 between "On" and "Off" alternates the direction of drive-roller rotation.

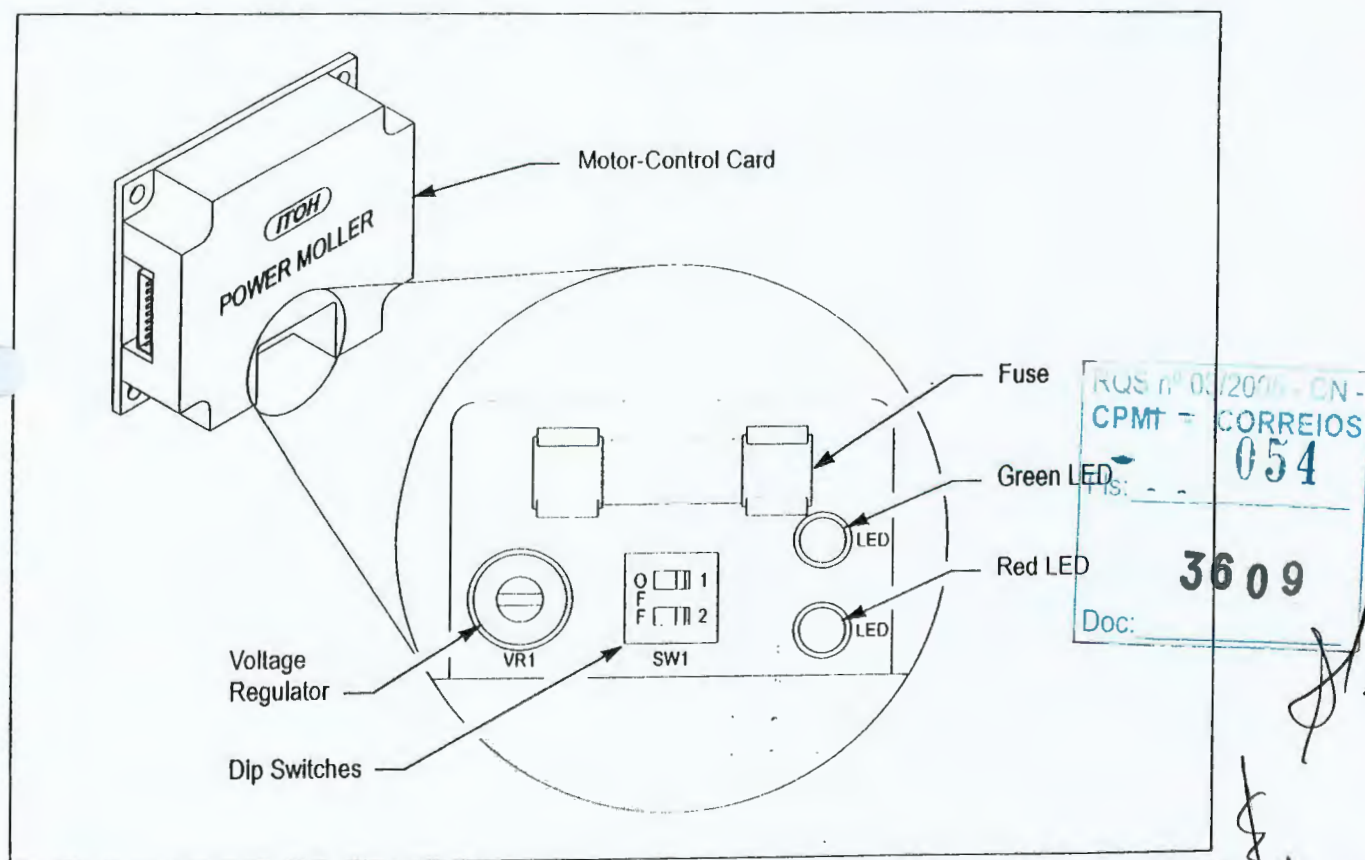


Figure H.3 – Motor-Control Card



TBC-24 Conveyor

CS8900 7/99

Page H.11

P/N 890218

Replacing Drive Rollers

If necessary, a drive roller may be replaced easily (see Figure H.4 and Figure H.5).

To remove the old drive roller, unplug the power cable from the motor-control card. Remove the power cable from the cable clip, and gently pull the power cable out through the hex hole in the isolator insert. At the end of the roller opposite the power cable, depress the spring-loaded axle and lift the end out of the isolator insert and above the conveyor side rail. Remove the O-rings linking the drive roller to the adjacent idler rollers. Withdraw the roller end with the power cable from the isolator insert. To keep the wiring to the connector intact, draw the cable through the hex hole in the isolator insert gently.

To install a new drive roller, insert the power cable, connector first, through the center hex hole in the isolator insert. (If the rollers are to be skewed, one of the side hex holes may be used instead.) When handling the power cable, take care not to disconnect any of the wires from the connector. Guide the roller axle into the isolator insert. Install the O-rings connected to the adjacent idler rollers. At the end of the roller opposite the power cable, depress the spring-loaded axle and guide the axle into the isolator insert. Route the power cable through the side hole closer to the cable clip, and connect the power-cable connector into the output port of the motor-control card. Be certain to secure the power cable in the cable clip adjacent to the roller.

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TBC-24 Conveyor

CS8900 7/99

Page H.12

P/N 890218

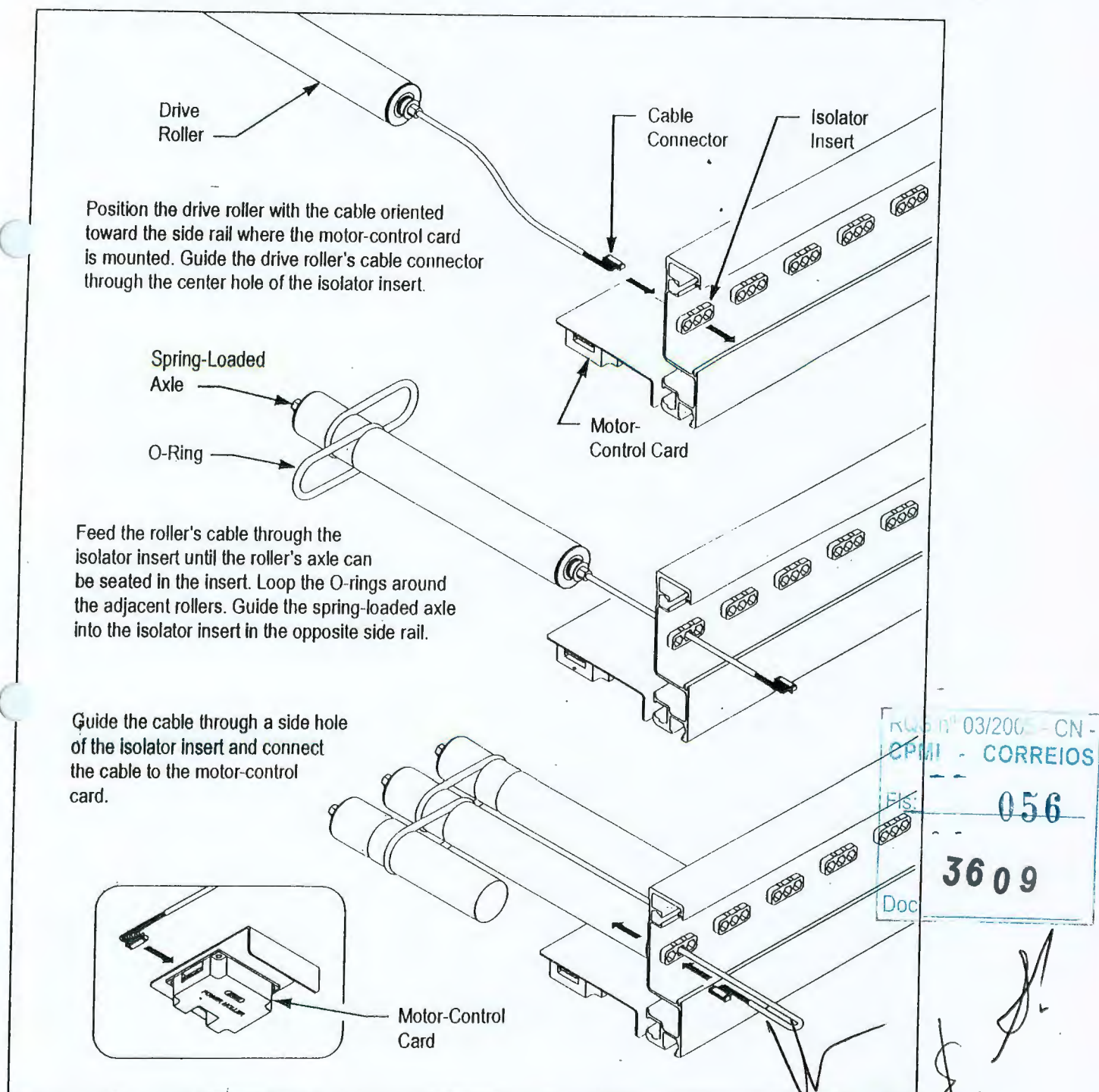


Figure H.4 – Installing A Drive Roller

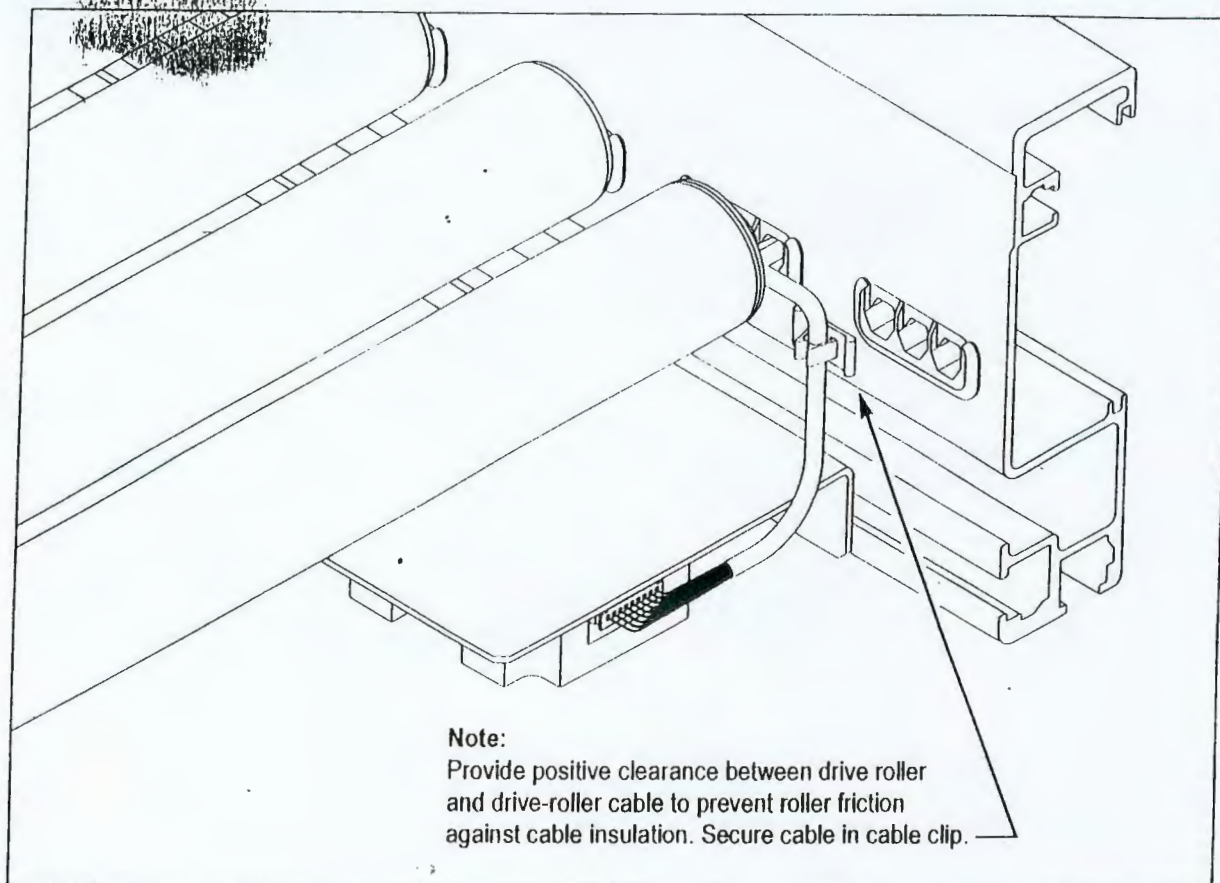


TBC-24 Conveyor

CS8900 7/99

Page H.13

P/N 890218



Note:
Provide positive clearance between drive roller and drive-roller cable to prevent roller friction against cable insulation. Secure cable in cable clip.

Figure H.5 – Securing the Drive-Roller Cable

Rewiring Harness Connectors

If a connector must be replaced, it will be necessary to wire the new connector. Diagrams are provided for the four principal wiring harnesses used in the TBC-24.

- Power Harness (see Figure H.6),
- Pass-Through Power Harness (see Figure H.7),
- Communication Harness (see Figure H.8), and
- Photo-Eye Harness (see Figure H.9)

The diagrams show which wire color is to be routed to each pin of the connectors. Exact configurations of some harnesses vary according to the quantity of zones. Illustrations of complete harnesses are shown in Section I, "Spare Parts."

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TBC-24 Conveyor

CS8900 7/99

Page H.15

P/N 890218

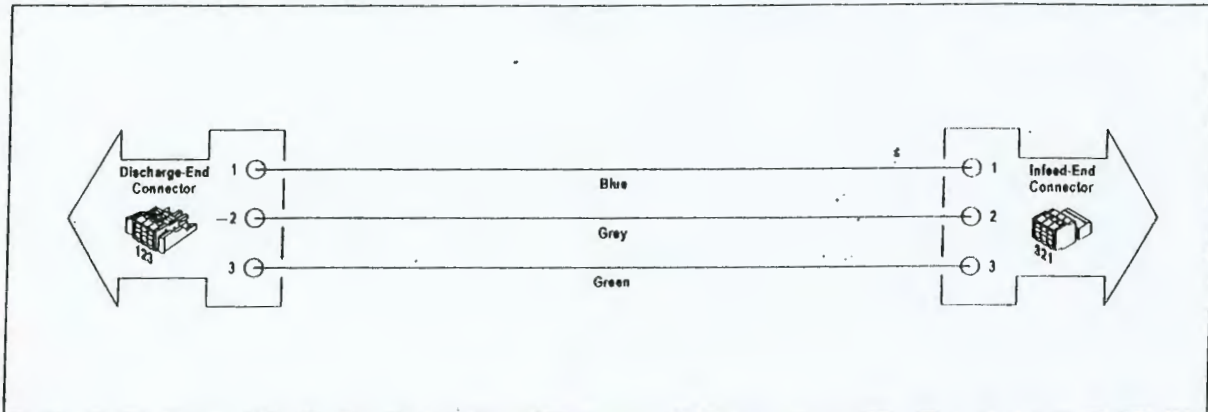


Figure H.7 – Wiring Connectors on a Pass-Through Power Harness

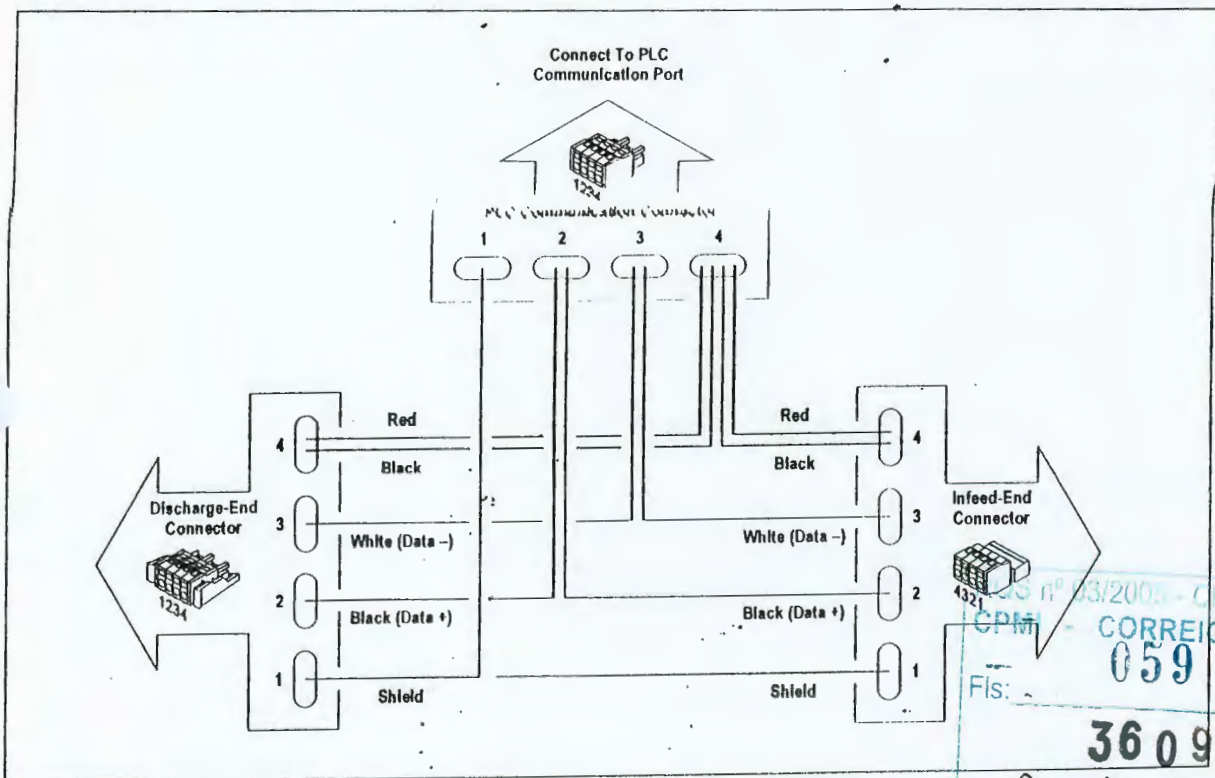


Figure H.8 – Wiring Connectors on a PLC Communication Harness

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TBC-24 Conveyor

CS8900 7/99

Page H.16

P/N 890218

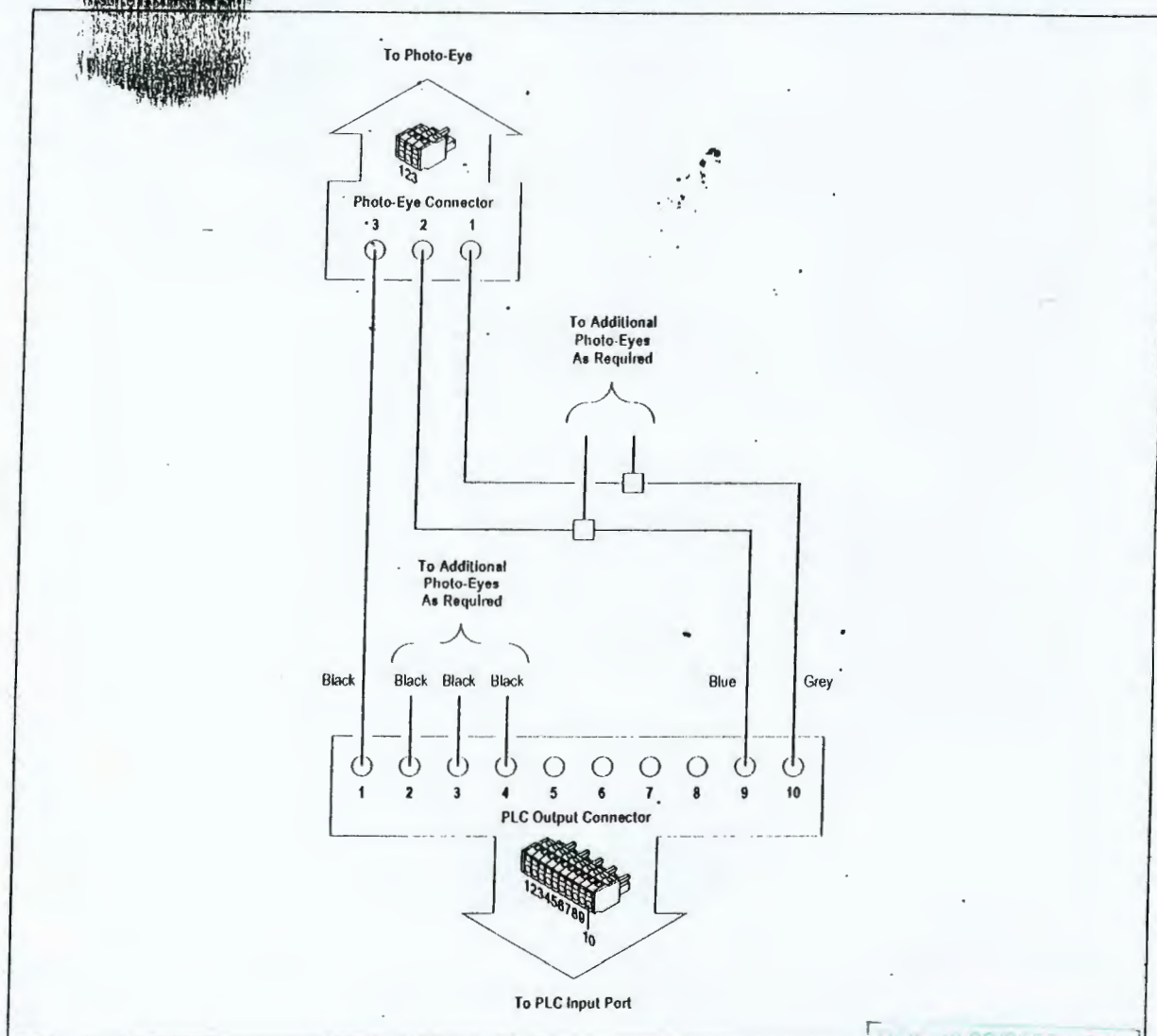


Figure H.9 – Wiring Connectors on a Photo-Eye Harness

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TBC-24 Conveyor

CS8900 6/99

Page 1.1

P/N 890218

Section I – Spare Parts

Introduction

Selected parts have been designated as "spare parts" because they are crucial for proper operation, and they are subjected to wear. To minimize down time, maintain a reserve stock of designated spare parts at the quantities recommended in the spare parts proposal. For further information, contact the Customer One Protection (COP) department. Be certain to replenish spare-part stock as spare parts are used.

In addition to spare parts, the illustrations that follow show many related parts that are not classified as "spare parts." Callouts are keyed to tables that follow the illustrations. The tables list part numbers and descriptions and indicate whether each part is classified as a spare part.

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TBC-24 Conveyor

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Page 1.2

P/N 890218

Mechanical Components

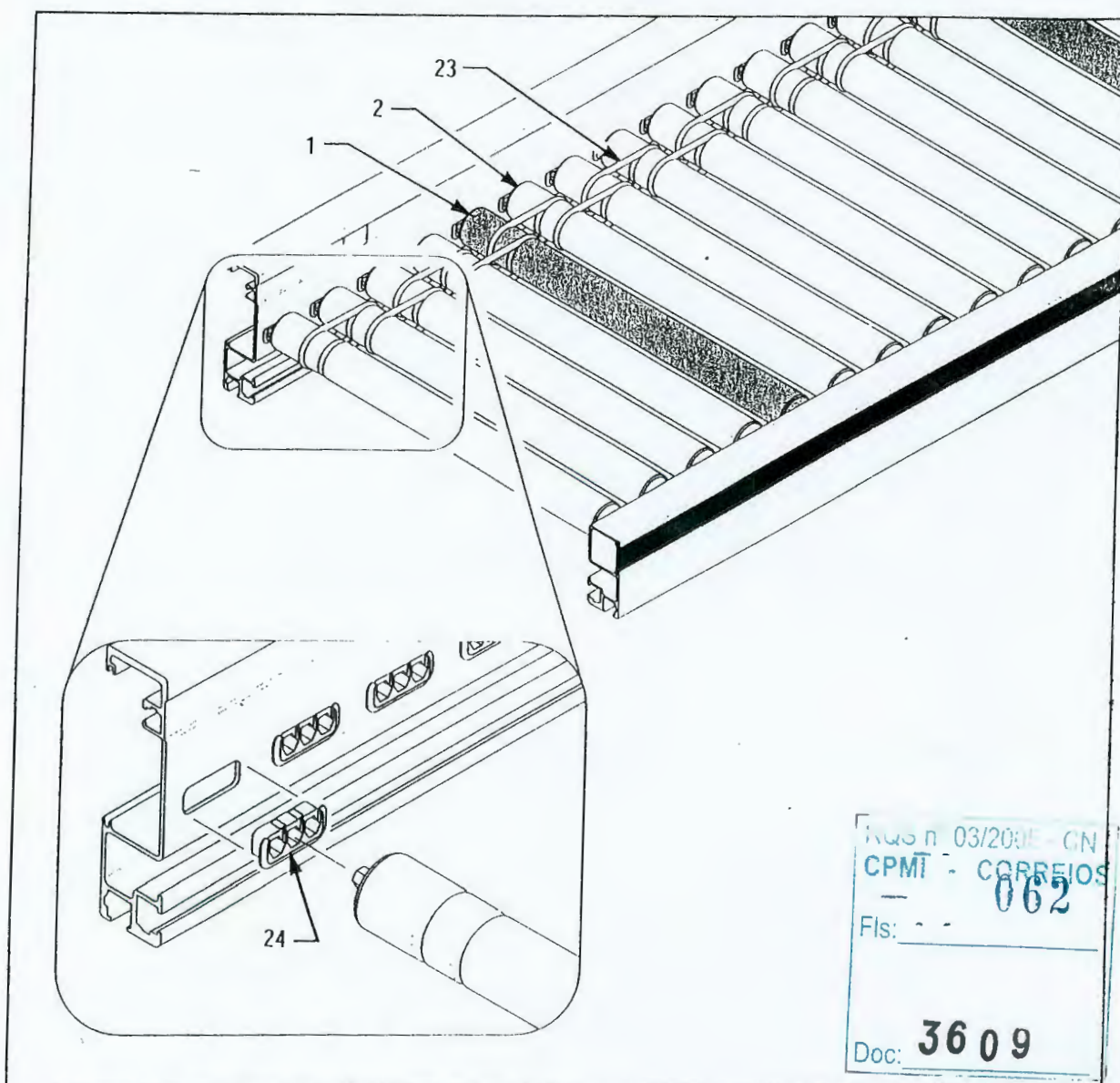


Figure I.1 – Drive & Idler Rollers – Straight Modules

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TBC-24 Conveyor

CS8900 6/99

Page 1.3

P/N 890218

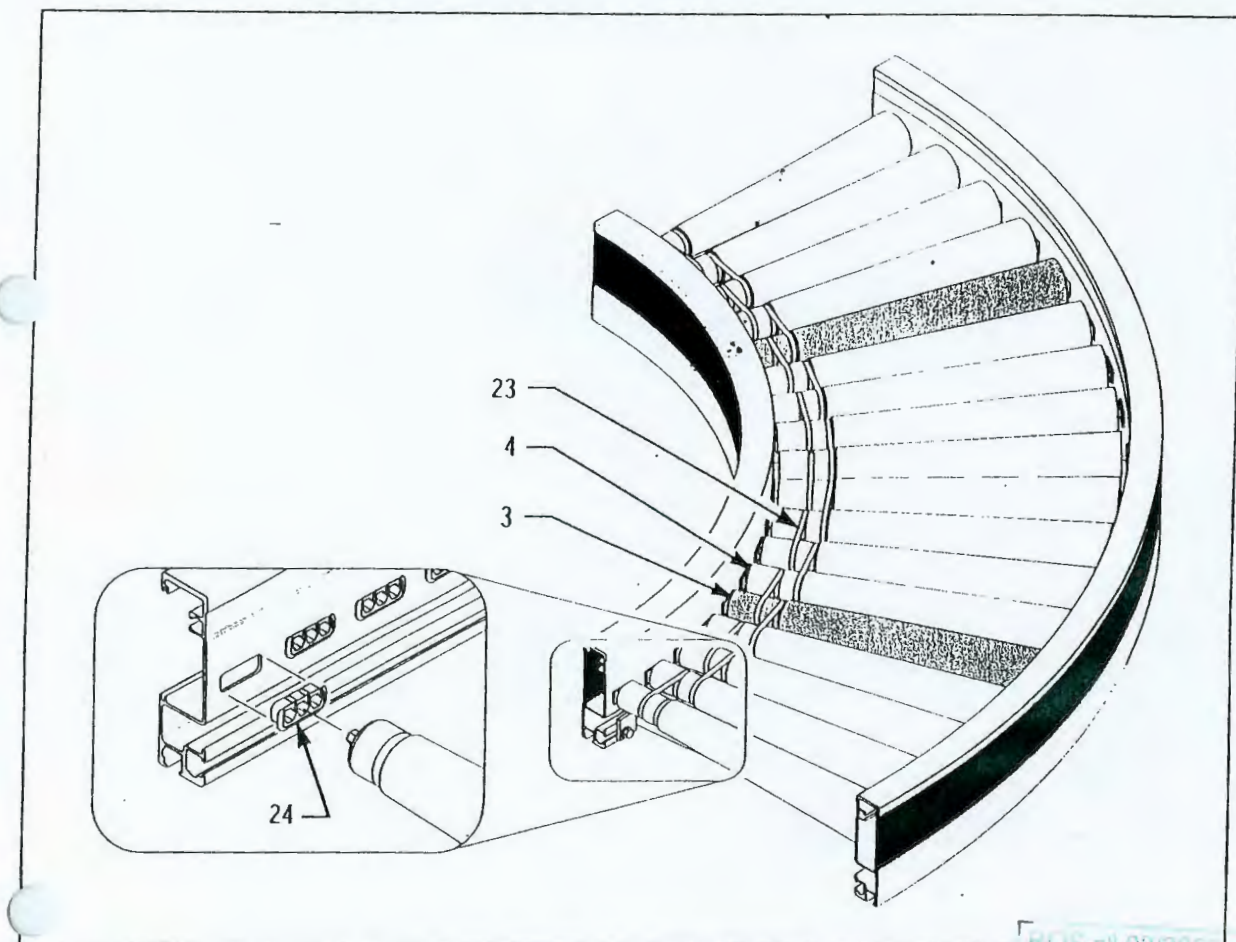


Figure 1.2 – Drive & Idler Rollers – Curved Modules (90° Curve Shown)

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TBC-24 Conveyor

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Page I.4

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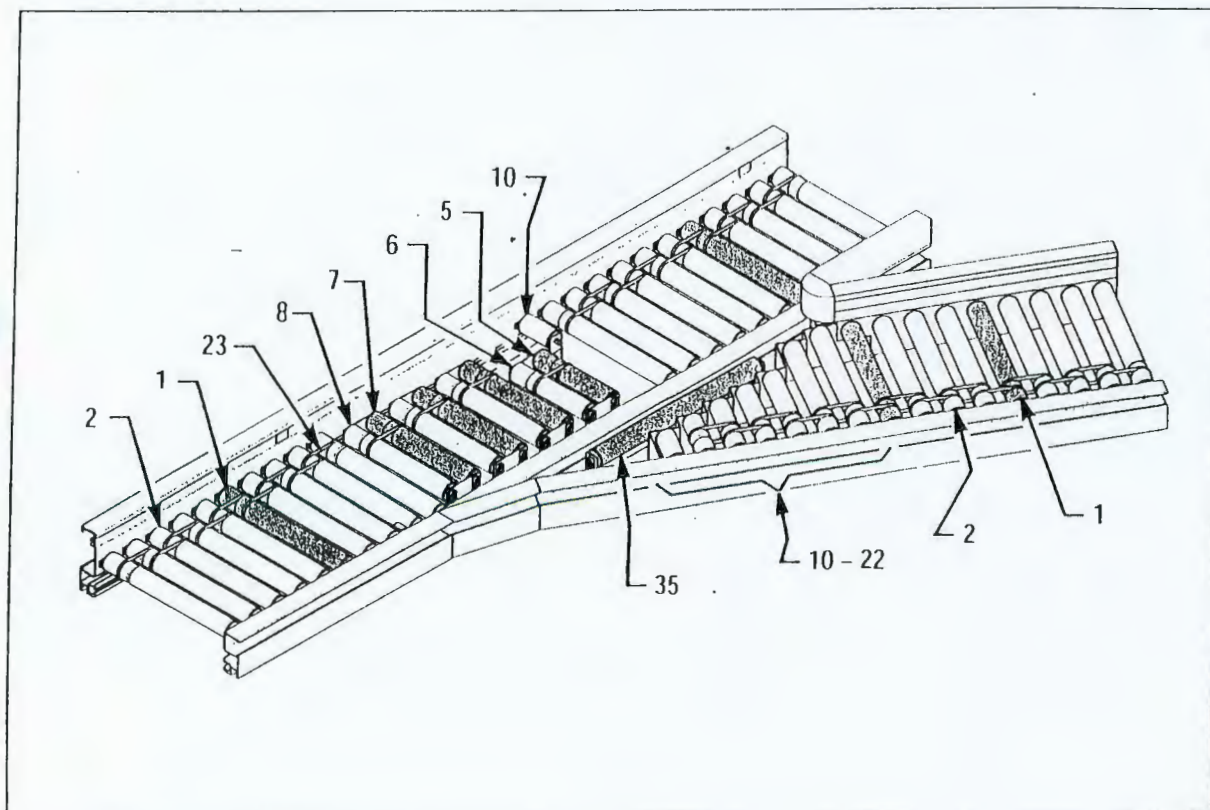


Figure I.3 – Drive & Idler Rollers – Divert Module

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TBC-24 Conveyor

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Page 1.5

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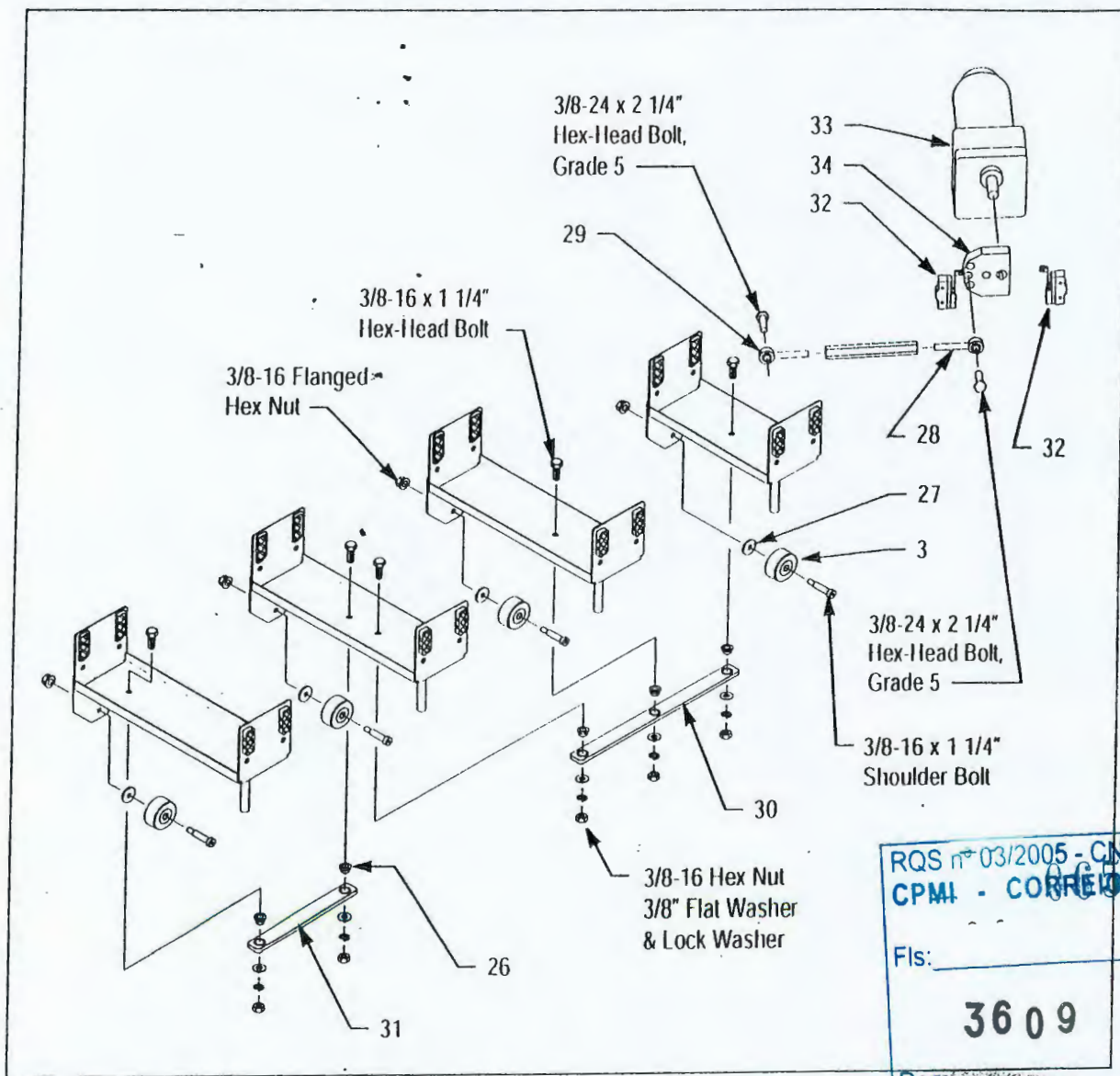


Figure I.4 - Divert Module - Swivel Mechanism (Shown With Rollers Removed)

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TBC-24 Conveyor

CS8900 6/99

Page I.6

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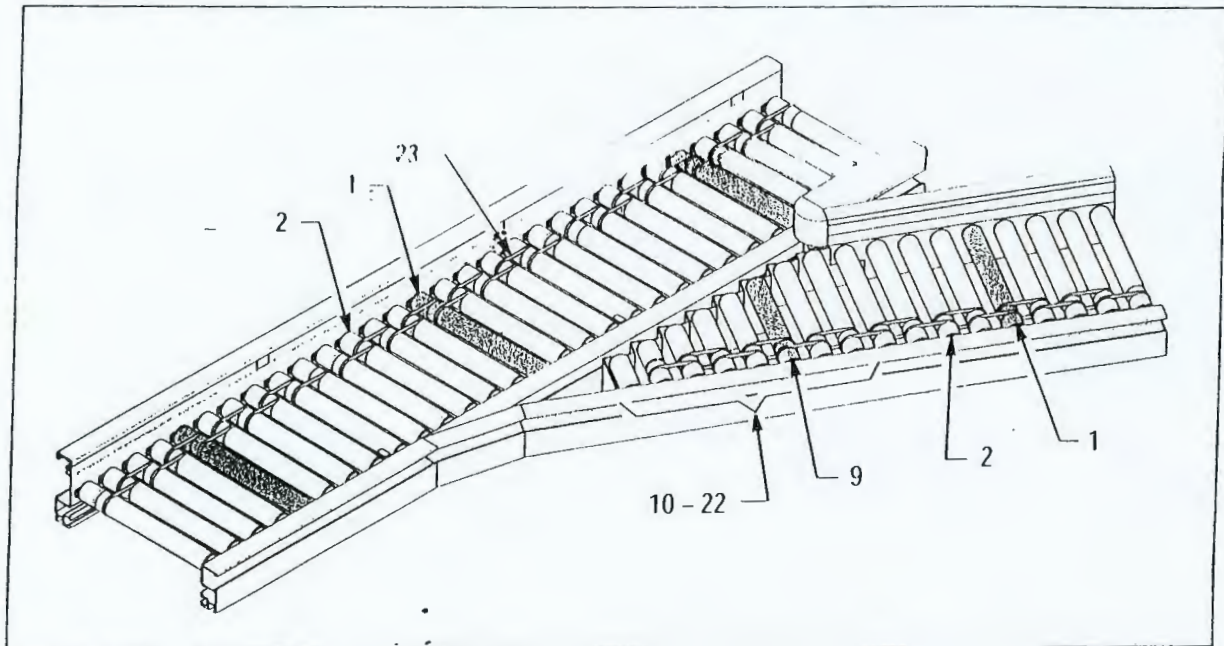


Figure I.5 - Merge Module

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TBC-24 Conveyor

CS8900 6/99

Page 1.7

P/N 890218

Table B.1 – Width-Related Parts

Key	Description	Spare Part	Conveyor Width (Dimension "W" in Inches)					
			16	17	22	28	30	34
1	Drive Roller, Straight Module	Yes	499236	499231	499237	499238	499232	499239
2	Idler Roller, G196AB, Straight Module	Yes	499206	499200	499207	499203	499203	499208
3	Drive Roller, Tapered, 196AH	Yes	499465	499466	499467	499468	—	499469
4	Idler Roller, Tapered, G304AB, BV-G2	Yes	502086	502087	502088	502090	—	502092
5	Drive Roller, Divert Swivel Assembly, 196AB09, 750IT-G0	Yes	—	499434	—	—	—	—
6	Idler Roller, Divert Swivel Assembly, G196AB9, 750-BU-GS-G2	Yes	—	499441	—	—	—	—
7	Drive Roller, Divert Swivel Assembly, 196AB, 13.250-G2	Yes	—	499428	—	—	—	—
8	Idler Roller, Divert Swivel Assembly, G196AB13.250-BU-GS	Yes	—	499444	—	—	—	—
9	Drive Roller, Merge Transition, 196AB, 17 7/8" Long, G2	Yes	—	—	499237	—	—	—

Table B.2 – Transition Idler Rollers – Divert & Merge Modules

Key	Description	Spare Part	Part Number
10	Roller, G196AB, 4" Long, BU-GS-G1	Yes	499461
11	Roller, G196AB, 4" Long, BU-GS-G1	Yes	499408
12	Roller, G196AB, 5 3/4" Long, BU-GS-G2	Yes	499405
13	Roller, G196AB, 7 1/2" Long, BU-GS-G2	Yes	499406
14	Roller, G196AB, 9 3/16" Long, BU-GS-G2	Yes	499401
15	Roller, G196AB, 9 3/16" Long, BU-GS	Yes	499405
16	Roller, G196AB, 11" Long, BU-GS-G2	Yes	499404
17	Roller, G196AB, 12 5/8" Long, BU-GS-G2	Yes	499403
18	Roller, G196AB, 14 3/8" Long, BU-GS-G2	Yes	499402
19	Roller, G196AB, 16 1/2" Long, BU-GS-G2	Yes	499200
20	Roller, G196AB, 17 7/8" Long, BU-GS-G2	Yes	499409
21	Roller, G196AB, 19 5/8" Long, BU-GS-G2	Yes	499410
22	Roller, G196AB, 21 1/2" Long, BU-GS-G2	Yes	499207

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TBC-24 Conveyor

CS8900 6/99

Page 1.8

P/N 890218

Table B.3 – Parts Not Related To Width

Key	Description	Spare Part	Part Number
23	O-Ring, 1/4" Urethane Cord, 83A R25A	Yes	000045
24	Roller Isolator Insert, 24B 250	Yes	499230
25	Wheel, Divert Pivot Assembly	Yes	340440
26	Bushing, Bronze, Flanged, .377" x .502" x .37" Long	Yes	350923
27	Bushing, Bronze, Flanged, .502" x .753" x .50"	Yes	350922
28	Rod End With Ball Bearing, Right-Hand Thread	Yes	210228
29	Rod End With Ball Bearing, Left-Hand Thread	Yes	210231
30	Linkage Assembly, Pivot Frame, 17" Wide Divert	No	467479
31	Linkage Assembly, Rear Pivot	No	467480
32	Limit Switch, Omron,	Yes	888730
33	Motor With Gear Reducer, Baldor, .11 HP, 24V, 35 RPM	Yes	331430
34	Motor Crank	Yes	467461

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TBC-24 Conveyor

CS8900 6/99

Page I.9

P/N 890218

Power & Control Components

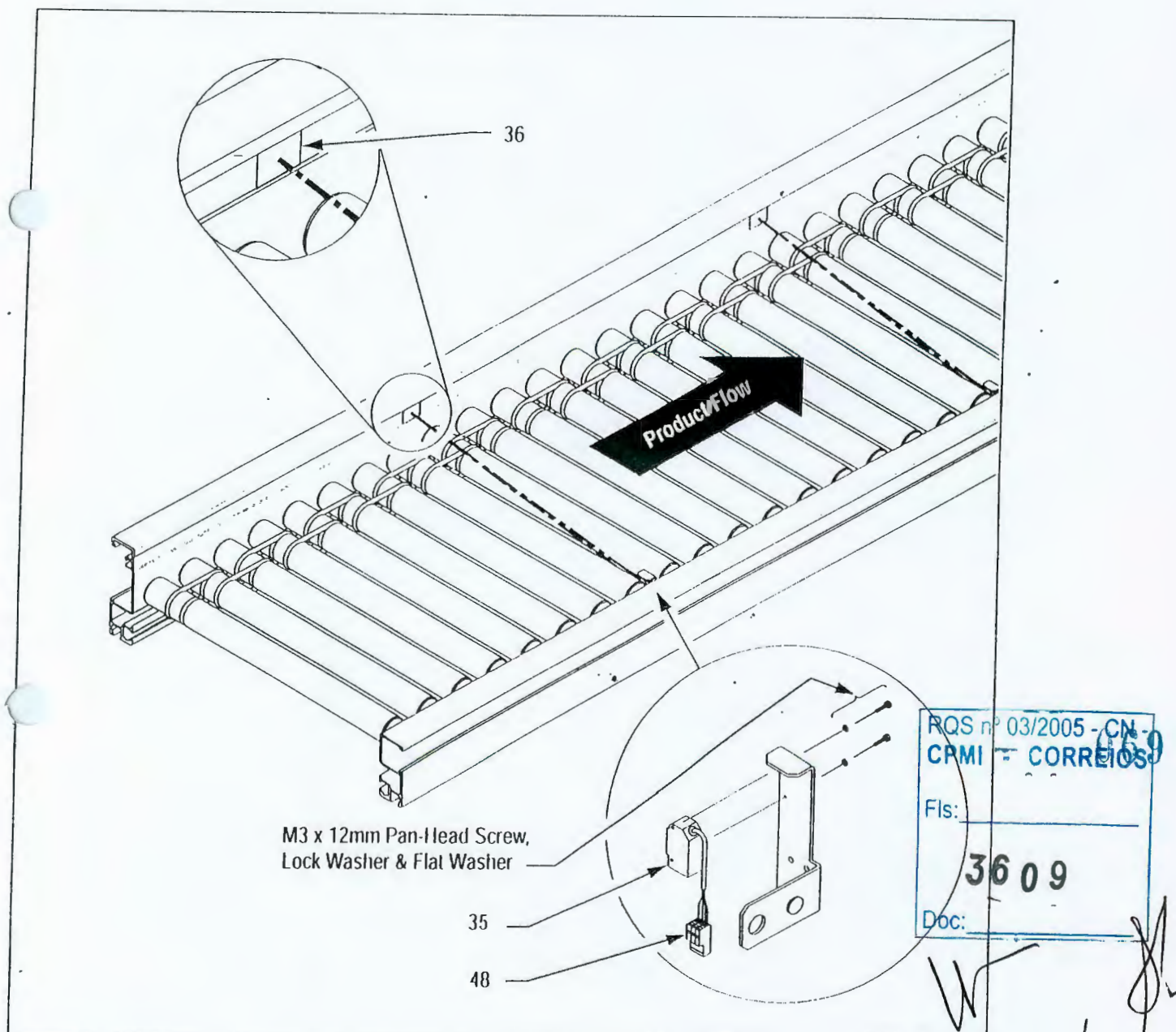


Figure I.6 – Photo-Eyes & Reflective Tape (All Independent Modules)

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TBC-24 Conveyor

CS8900 6/99

Page I.10

P/N 890218

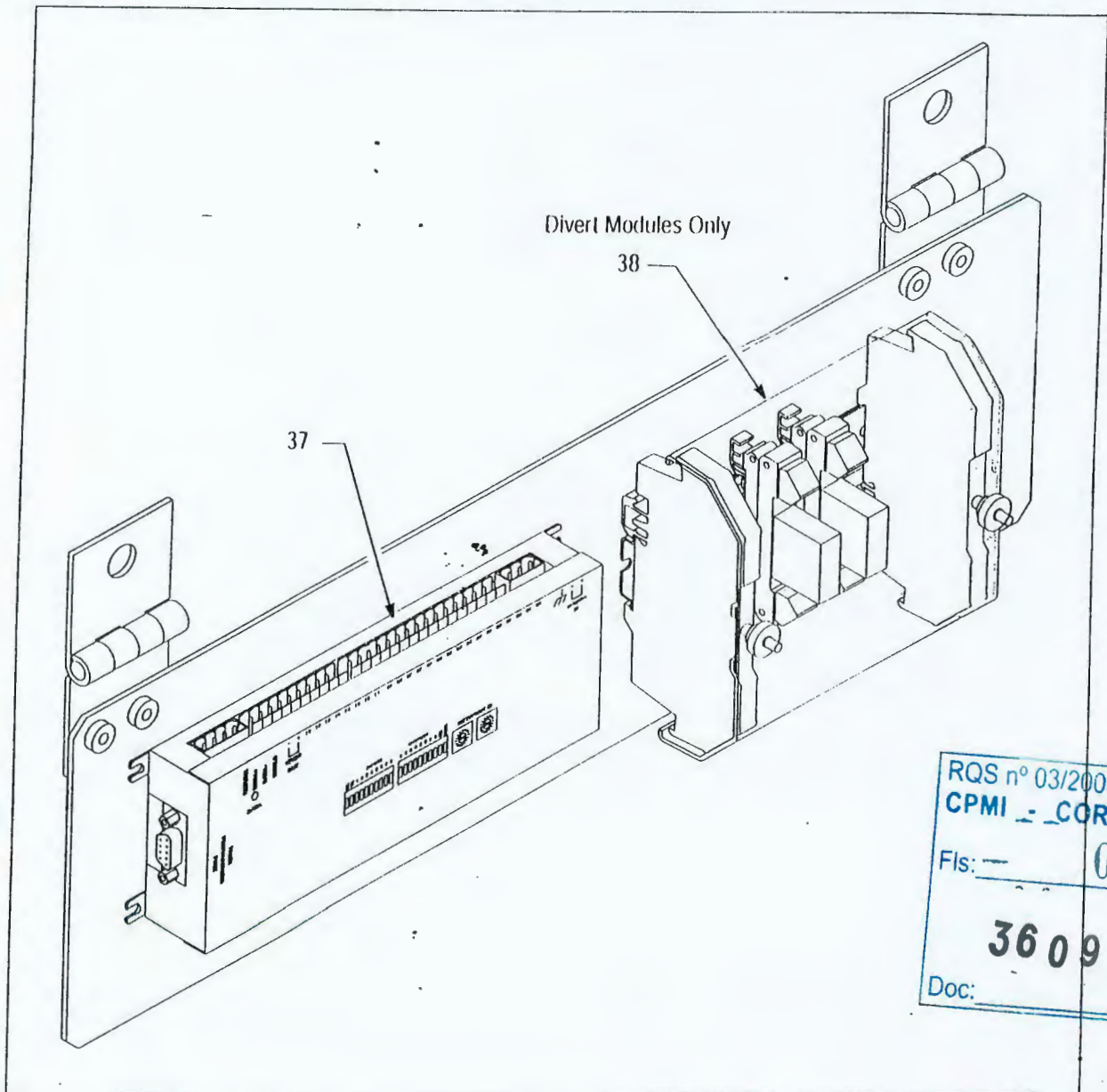


Figure I.7 – Programmable Logic Controller (PLC) – Independent Modules

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TBC-24 Conveyor

CS8900 6/99
Page I.11
P/N 890218

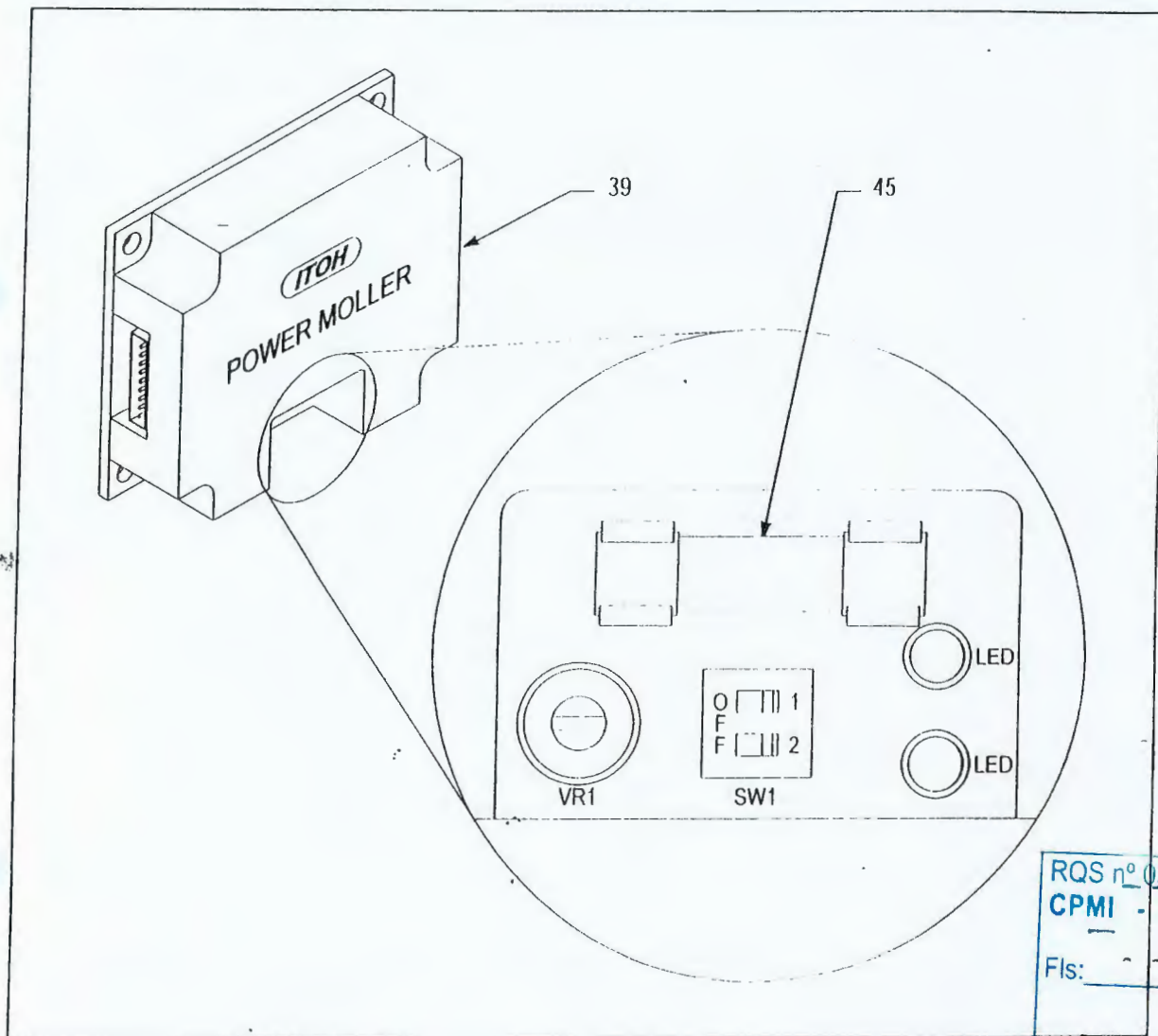


Figure I.8 – Motor Control Card – All Modules With Drive Rollers

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TBC-24 Conveyor

CS8900 6/99

Page I.12

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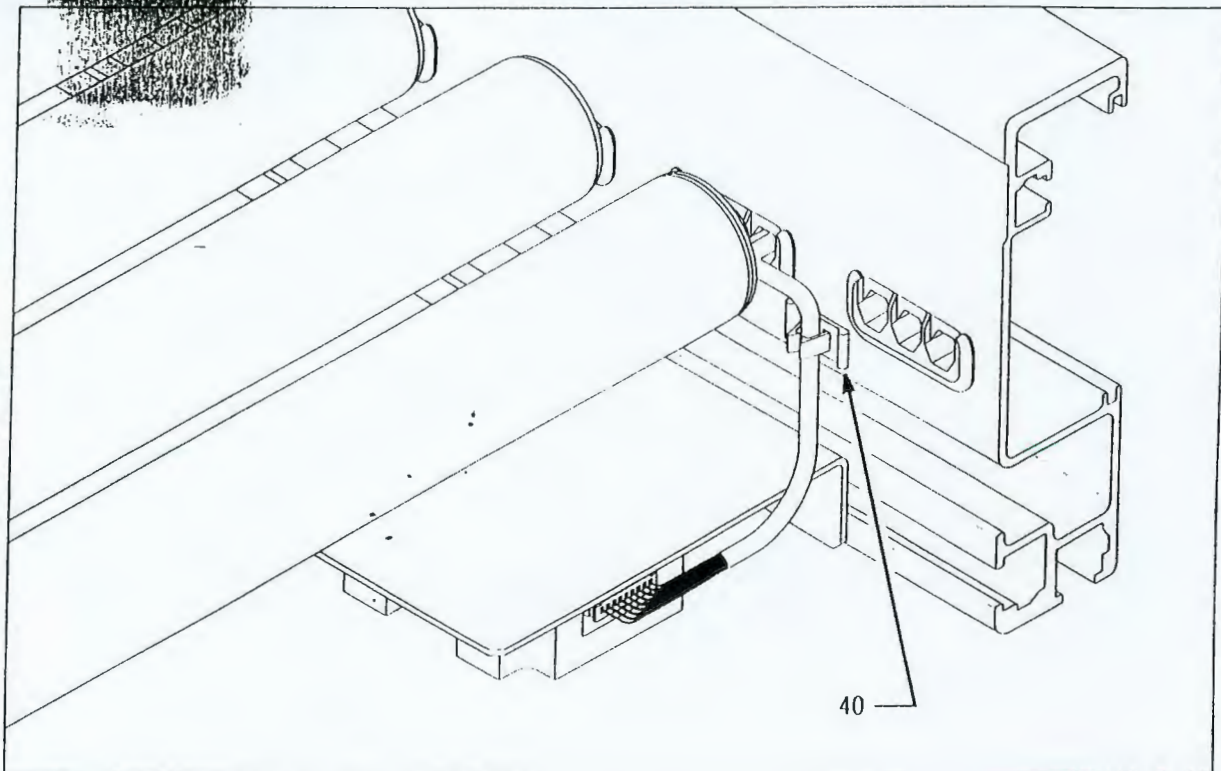


Figure H.9 – Wire Retaining Clip

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TBC-24 Conveyor

CS8900 6/99

Page I.13

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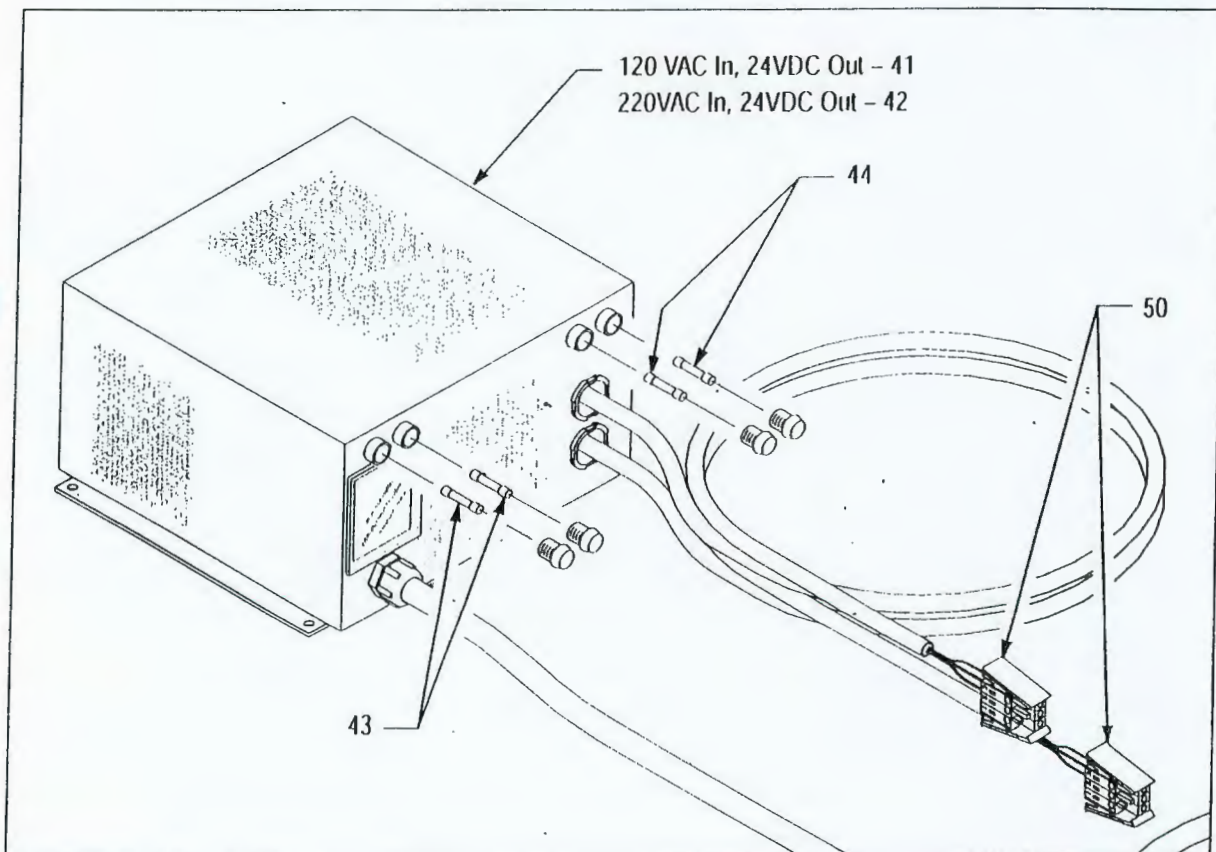


Figure I.10 - Power Supply

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TBC-24 Conveyor

CS8900 6/99

Page I.14

P/N 890218

Table B.4 ~ Electrical & Control Components

Key	Description	Spare Part	Part Number
35	Photo-Eye, Retroreflective, 12-24V, Omron	Yes	301421
36	Reflective Tape, Per Foot	Yes	301415
37	Programmable Logic Controller (PLC), Horner HE200PLC300	Yes	301401
38	PLC Relay Module, 2-Relay, Includes Enclosure With Cover	Yes	301433
39	Drive Motor Control Card	Yes	301420
40	Wire Retaining Clip	Yes	221516
41	Power Supply, 120VAC In, 24VDC Out	Yes	303022
42	Power Supply, 220VAC In, 24VDC Out	Yes	303023
43	Fuse, 10 Amp, 1/4" Diameter x 1 1/4" Long	Yes	309972
44	Fuse, 15 Amp, 1/4" Diameter x 1 1/4" Long	Yes	309973
45	Fuse, 5 Amp, 5mm Diameter x 20mm Long	Yes	309971

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TBC-24 Conveyor

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Page I.15

P/N 890218

Wiring Harnesses

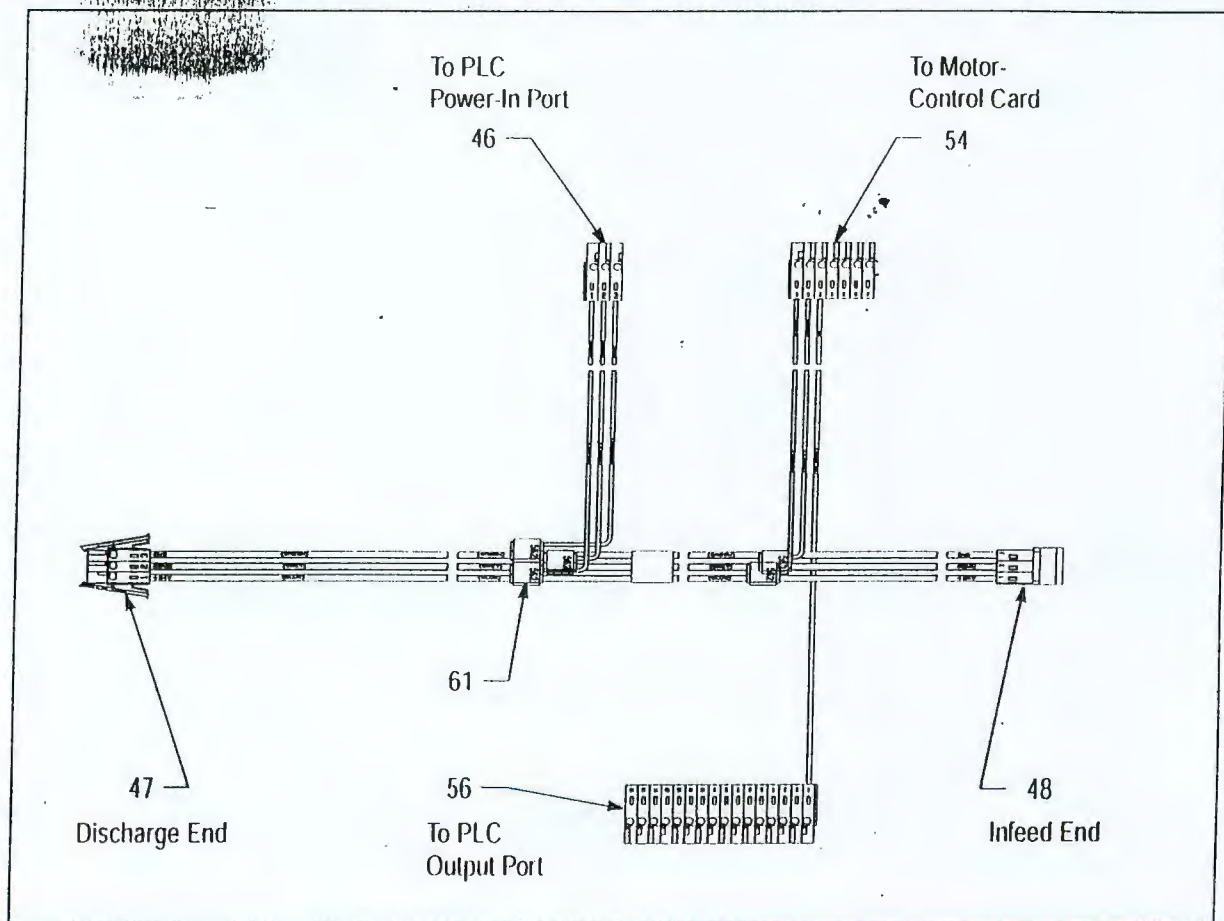


Figure I.11 – Power Harness – 1-Zone

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TBC-24 Conveyor

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Page I.16

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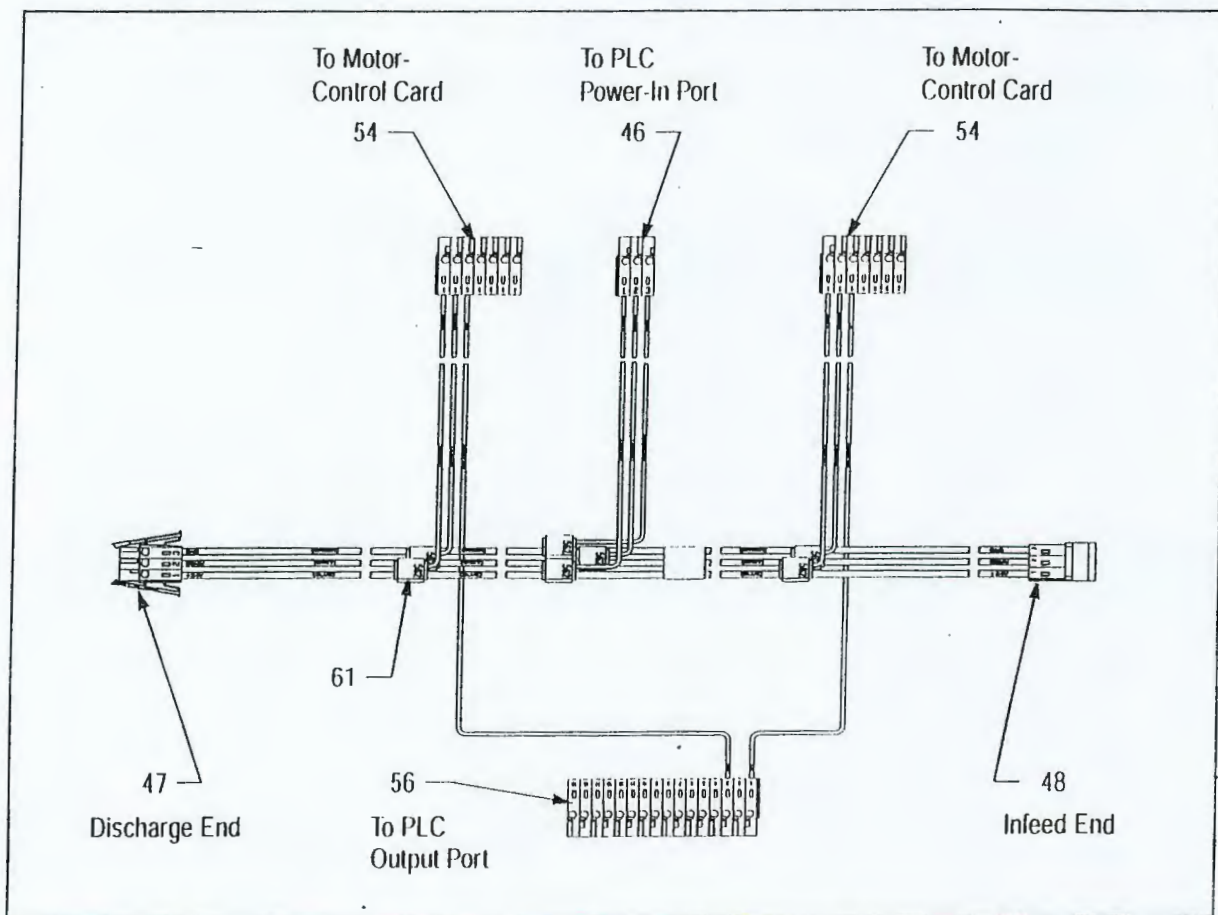


Figure I.12 – Power Harness – 2-Zone

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TBC-24 Conveyor

CS8900 6/99

Page I.17

P/N 890218

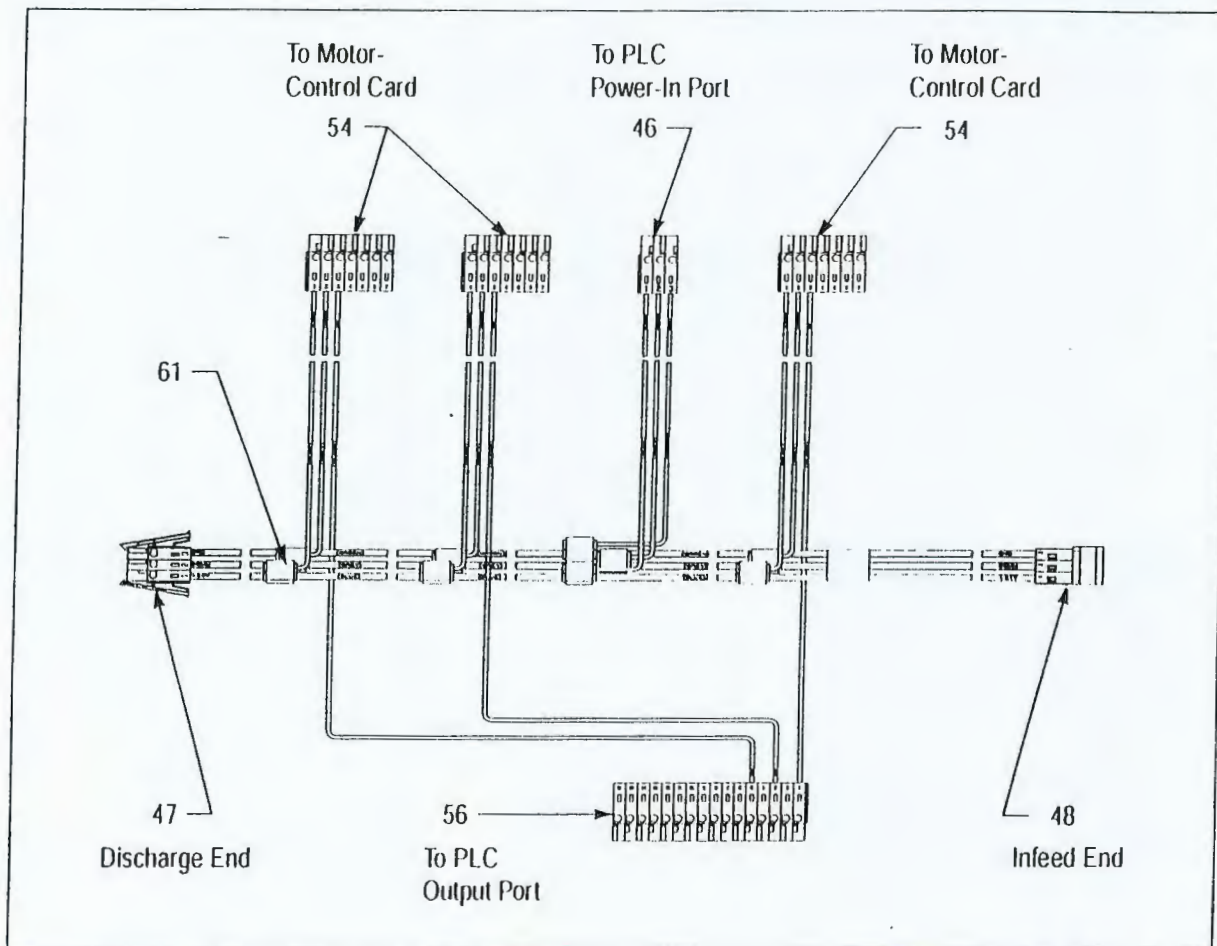


Figure I.13 – Power Harness – 3-Zone

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TBC-24 Conveyor

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Page I.18

P/N 890218

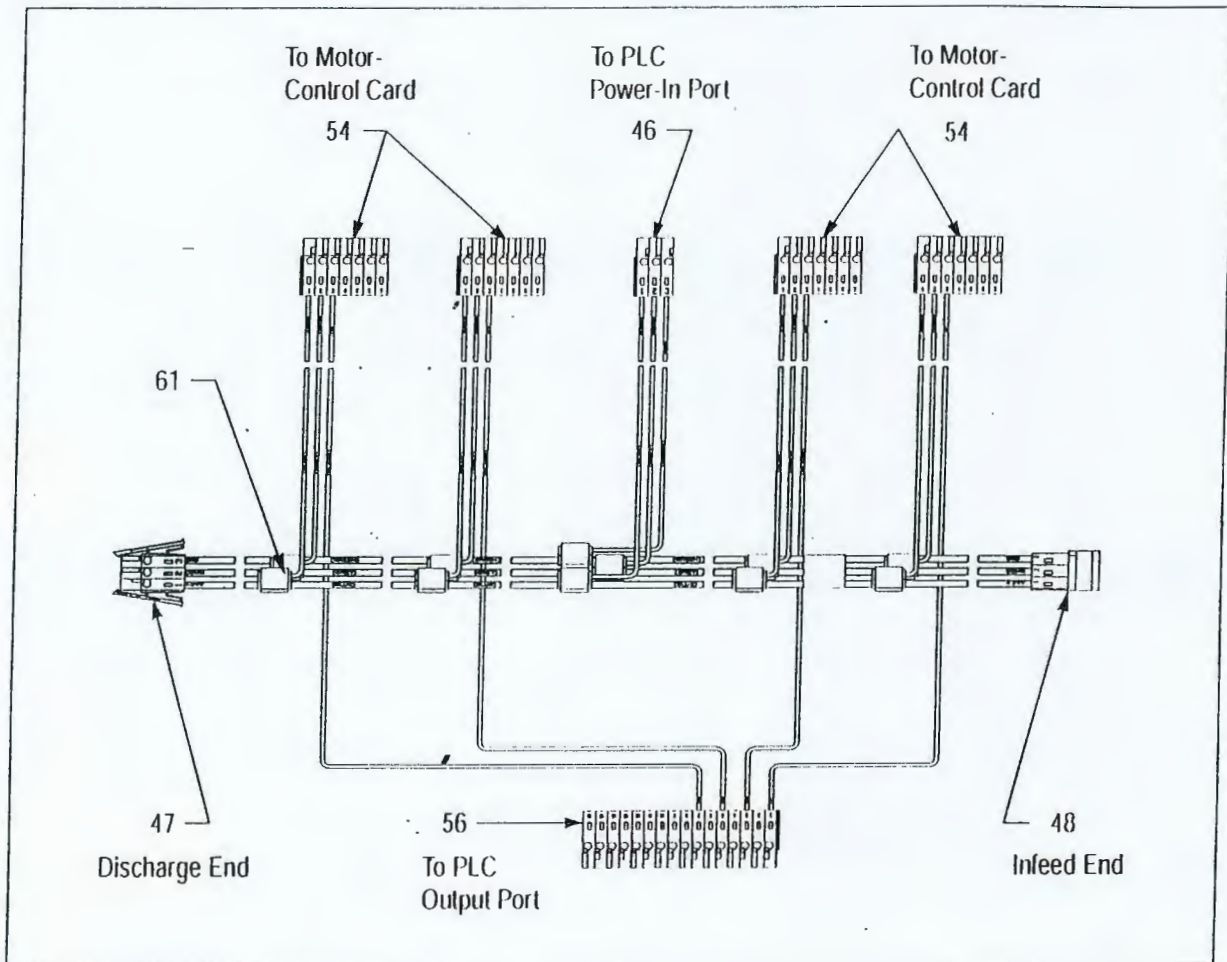


Figure I.14 – Power Harness – 4-Zone

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TBC-24 Conveyor

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Page I.19

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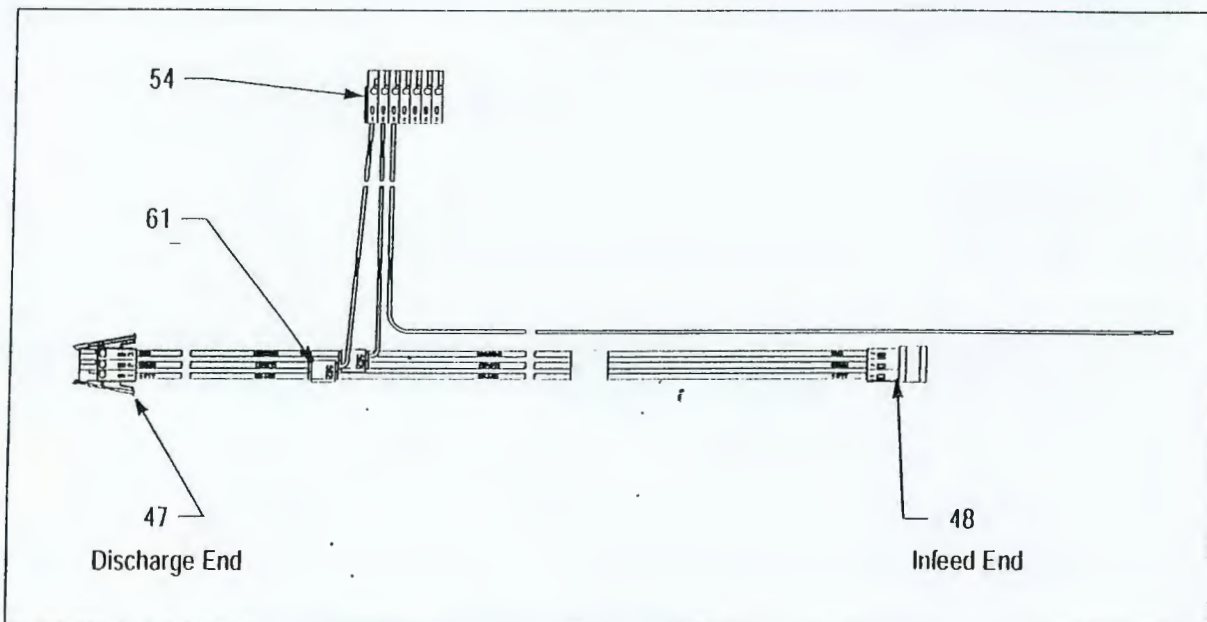


Figure I.15 – Power Harness – Electrical Slave Module

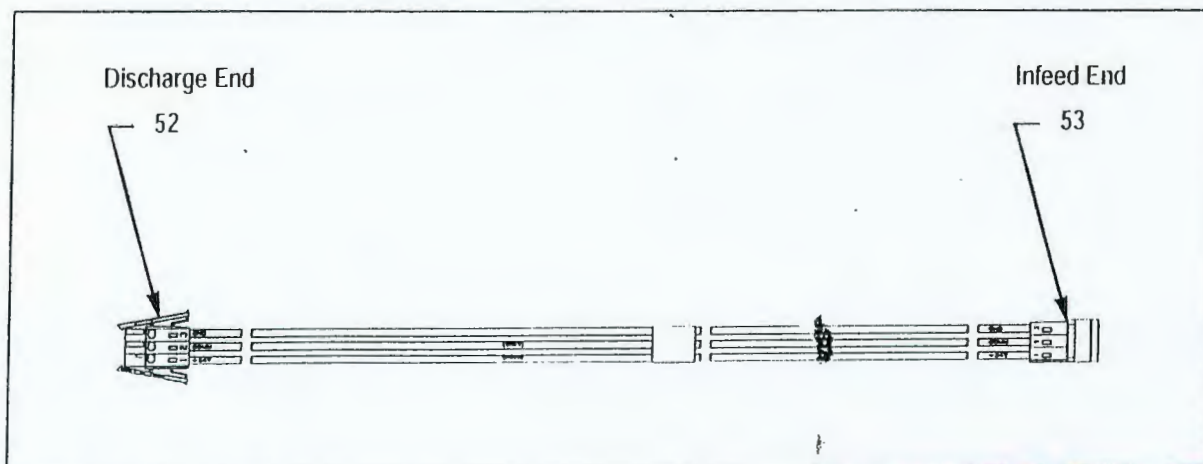


Figure I.16 – Pass-Through Power Harness

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TBC-24 Conveyor

CS8900 6/99

Page 1.20

P/N 890218

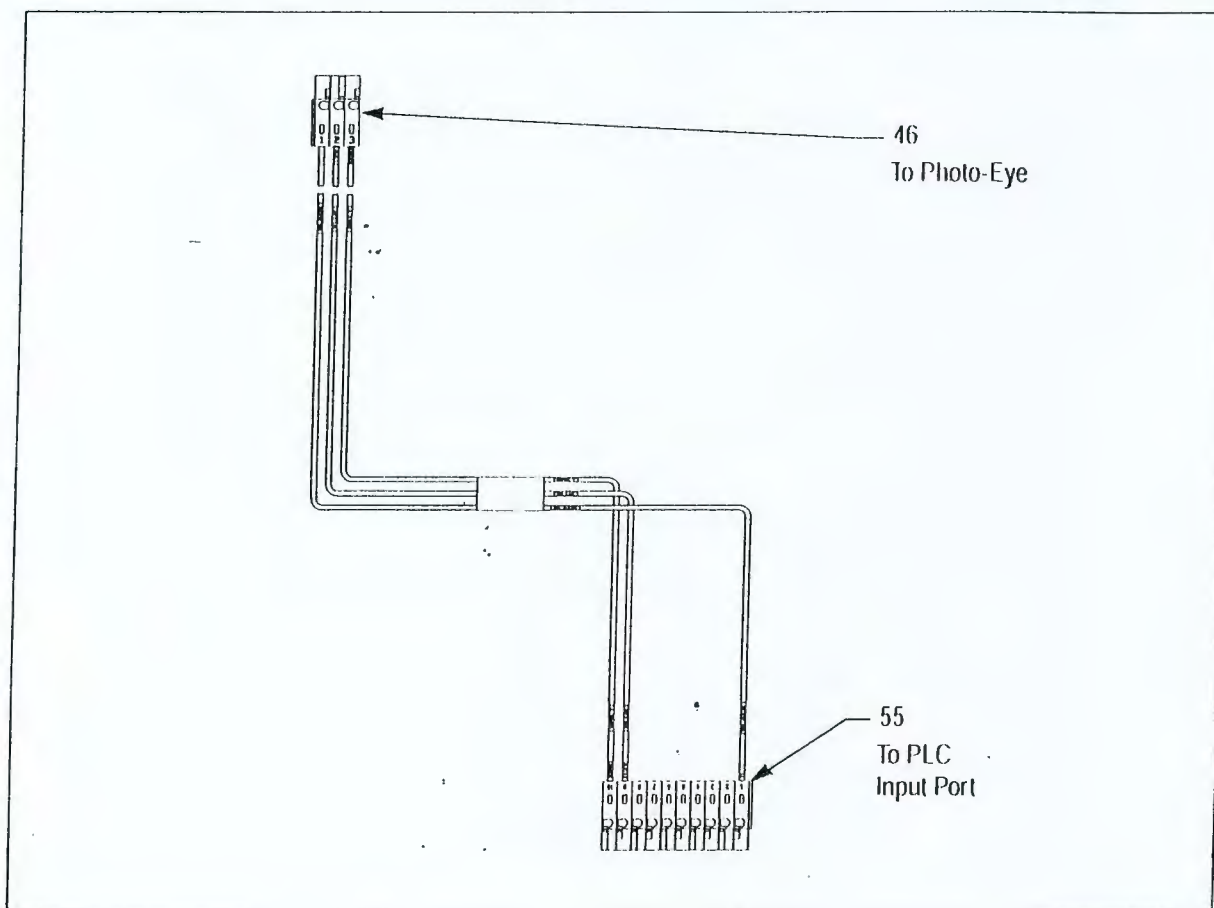


Figure I.17 – Photo-Eye Harness – 1-Zone

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TBC-24 Conveyor

CS8900 6/99

Page I.21

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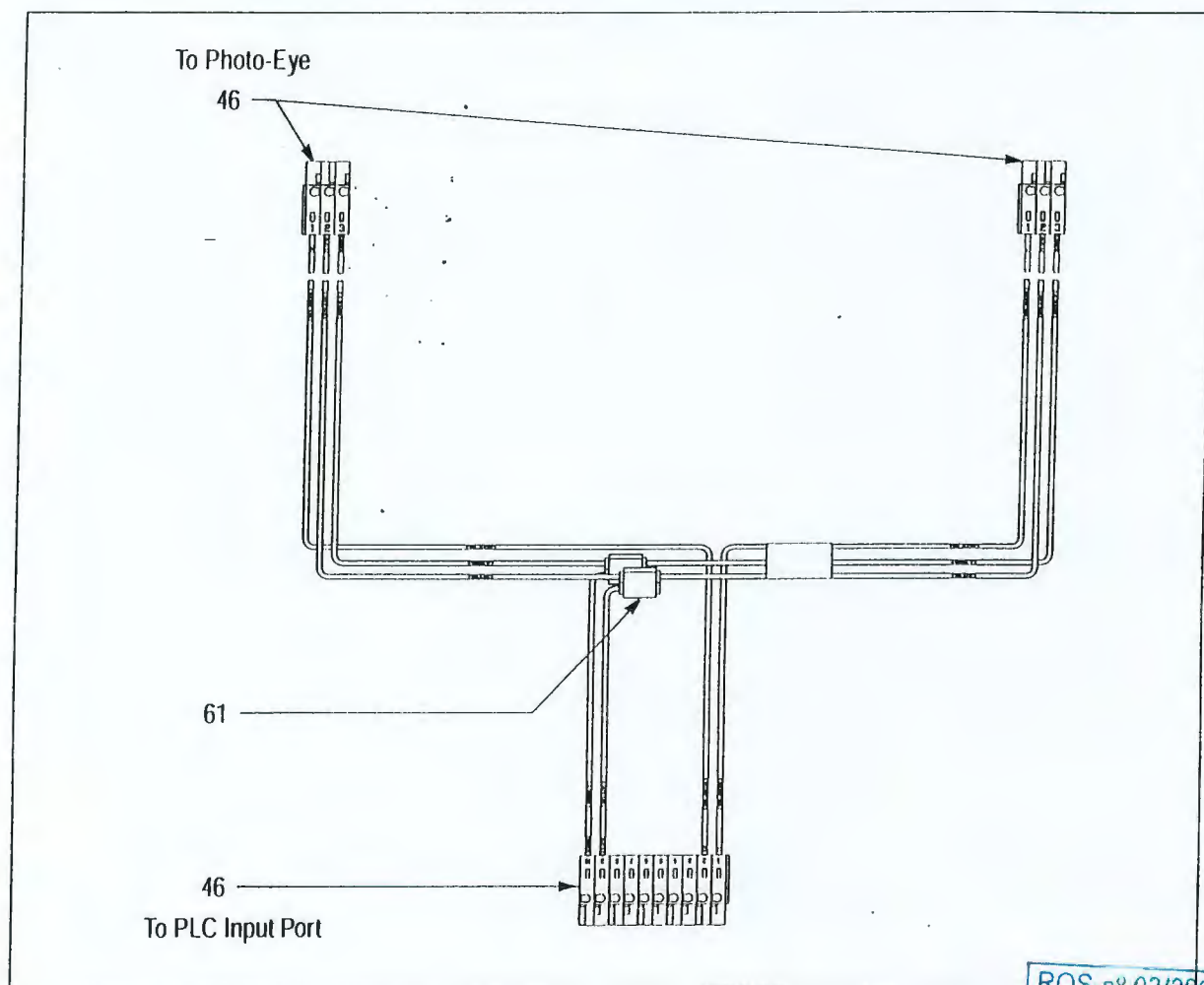


Figure I.18 – Photo-Eye Harness – 2 Zone

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TBC-24 Conveyor

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6/99

Page 1.22

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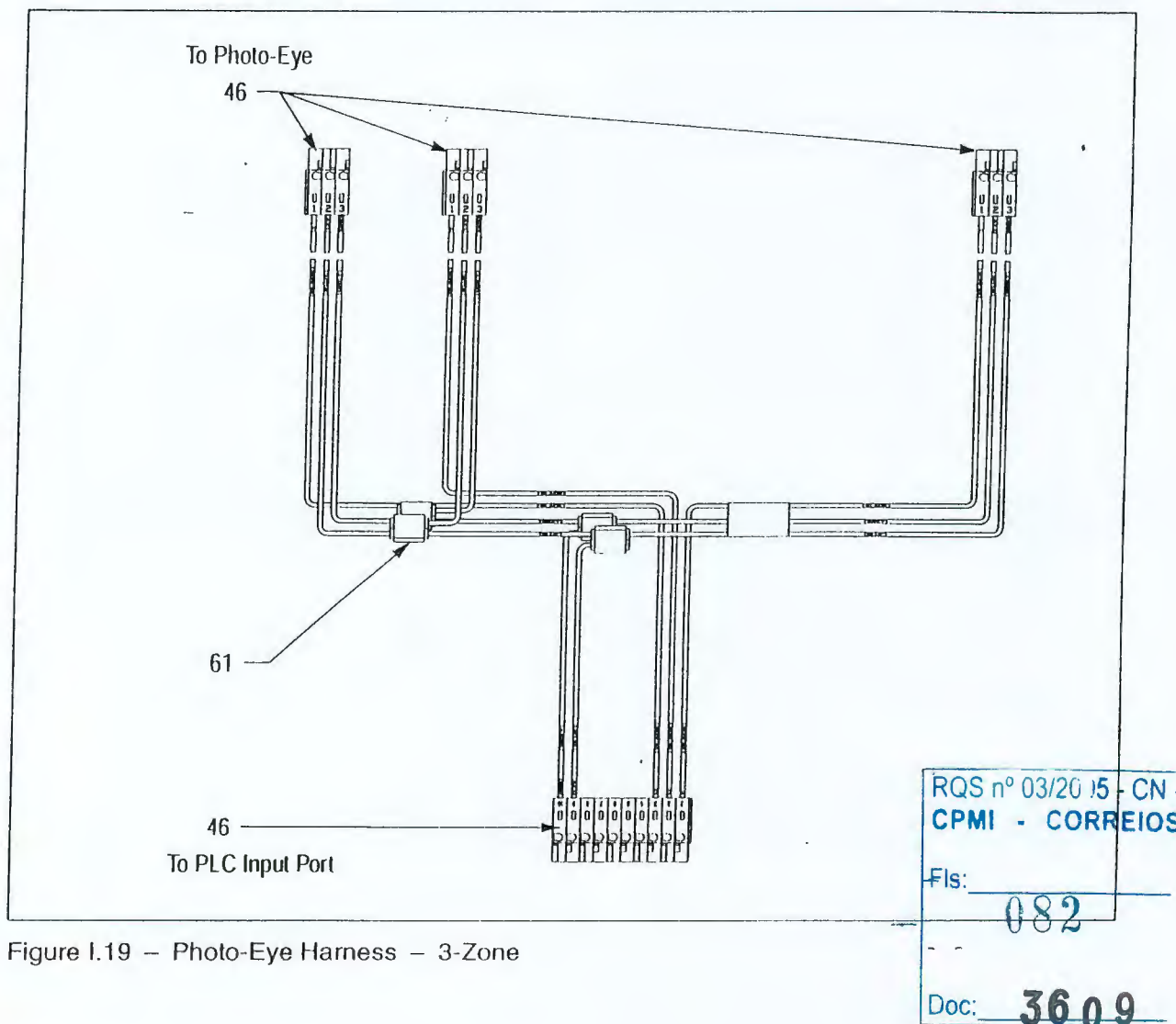


Figure I.19 – Photo-Eye Harness – 3-Zone

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TBC-24 Conveyor

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Page I.23

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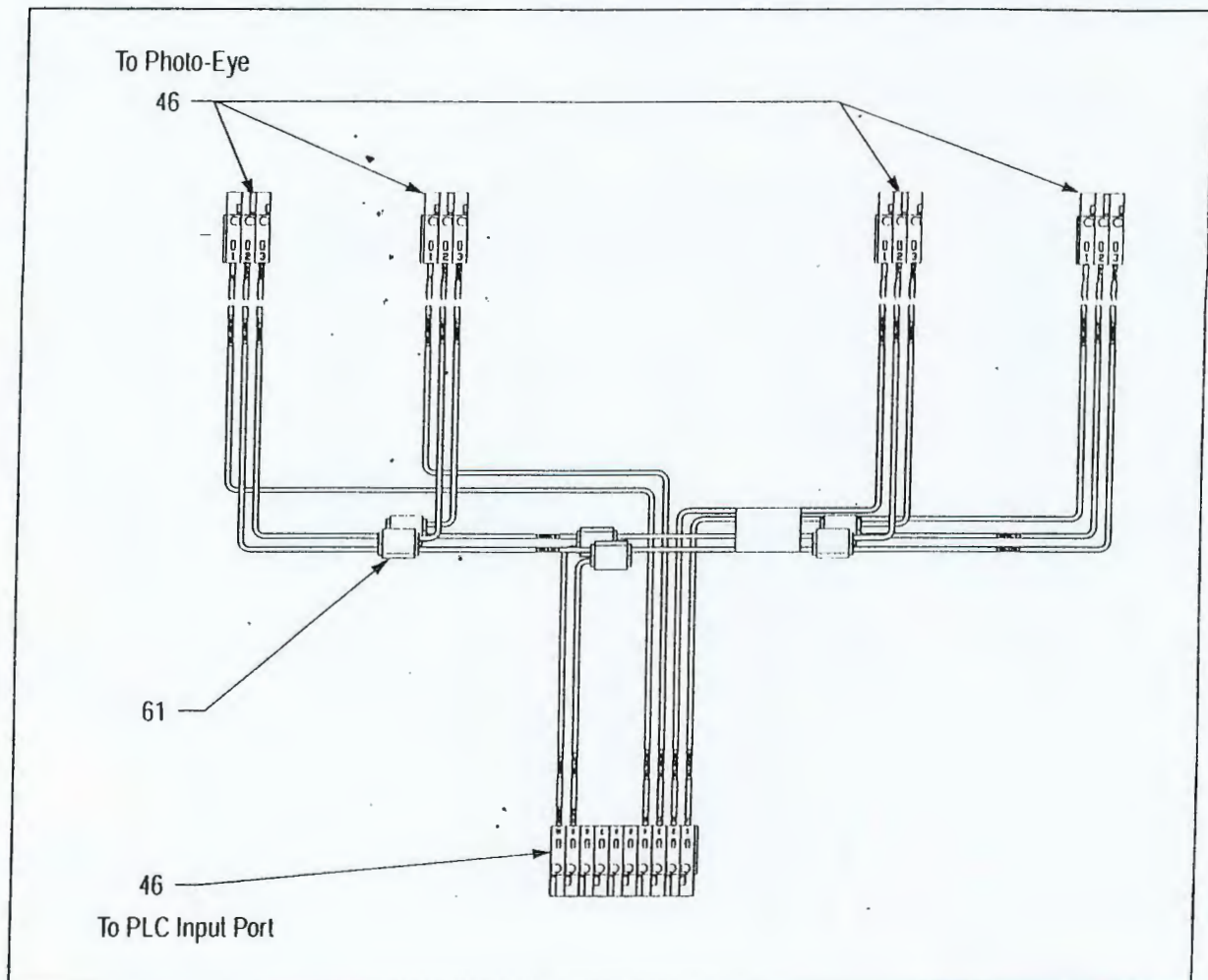


Figure I.20 - Photo-Eye Harness - 4-Zone

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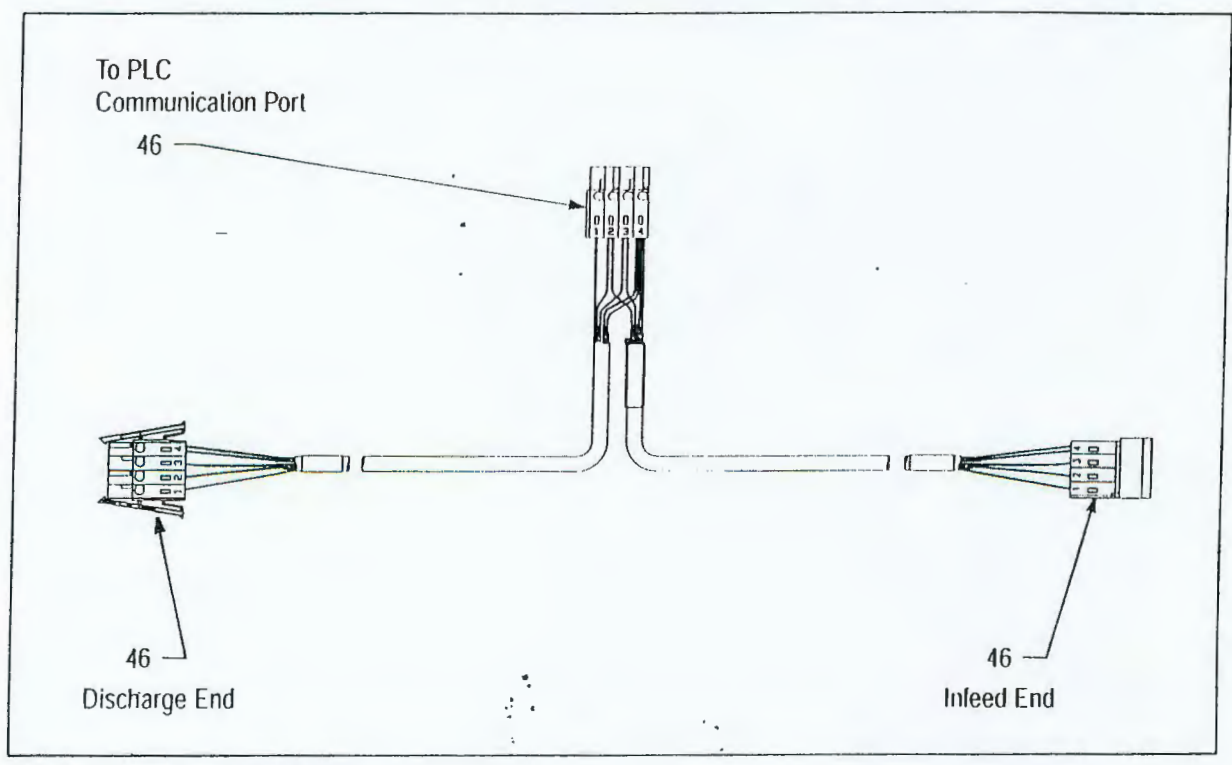


Figure I.21 – Communication Harness

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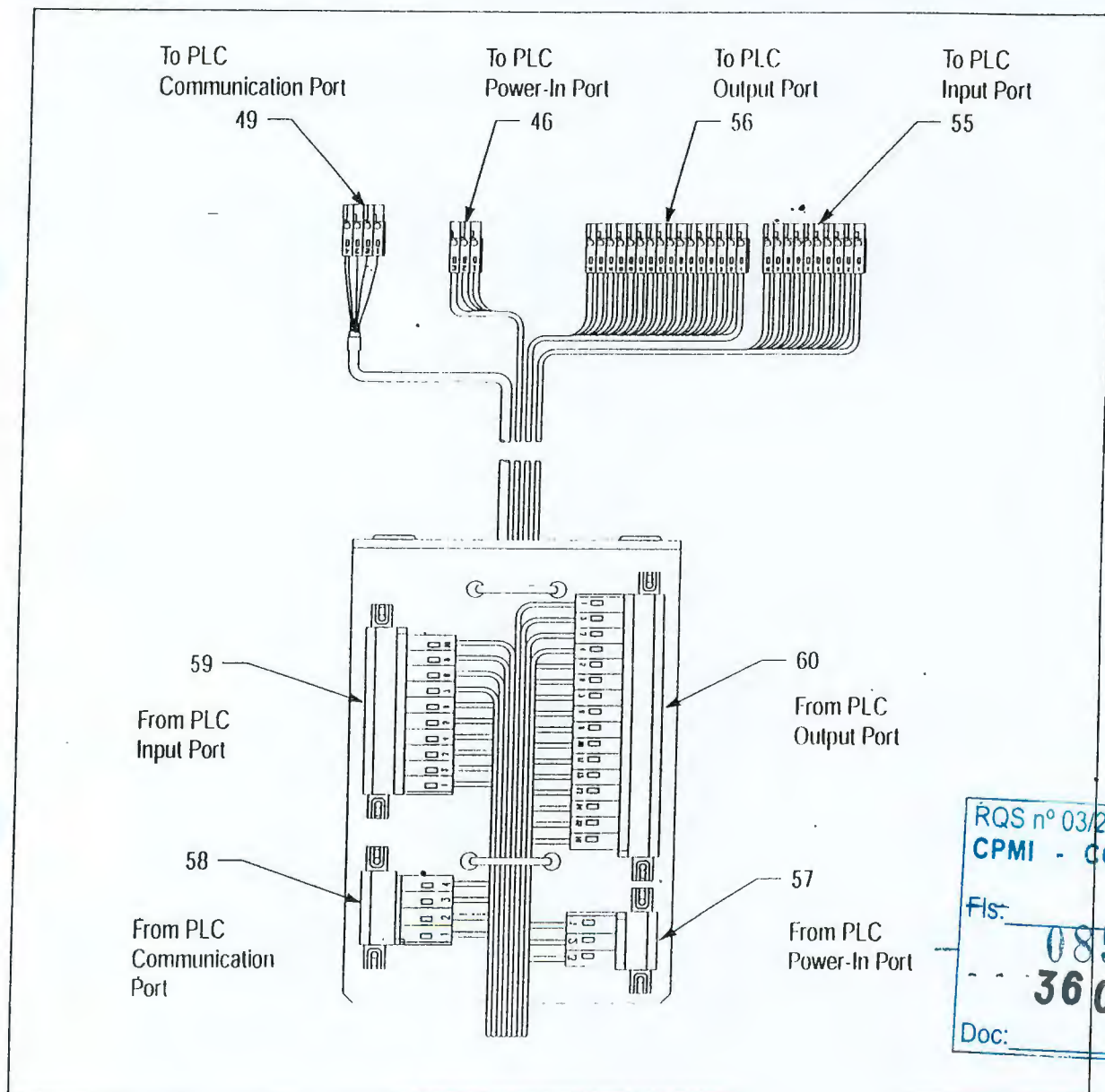


Figure I.22 - Cross-Over Harness Assembly

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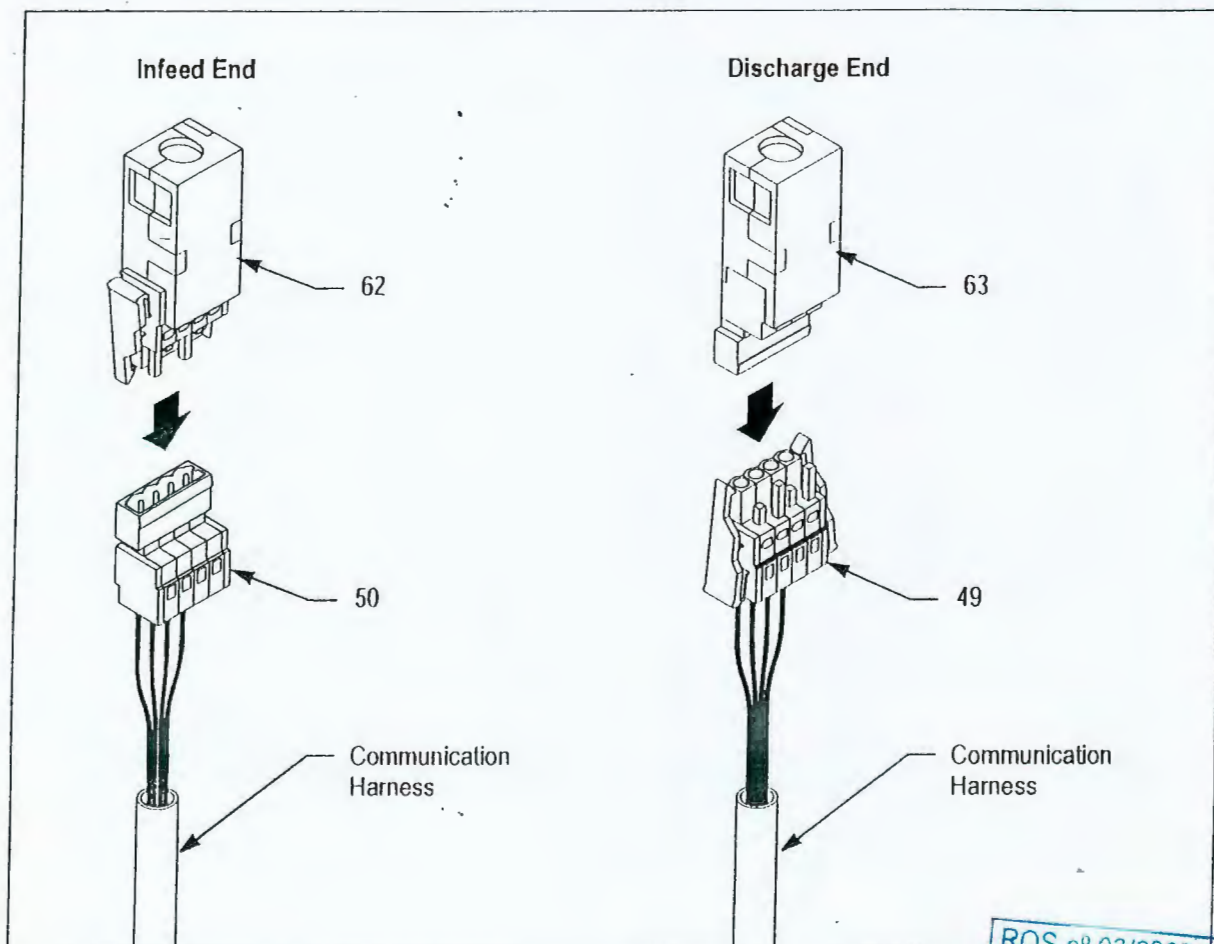


Figure G.23 – Terminal Ends of PLC Communication Network

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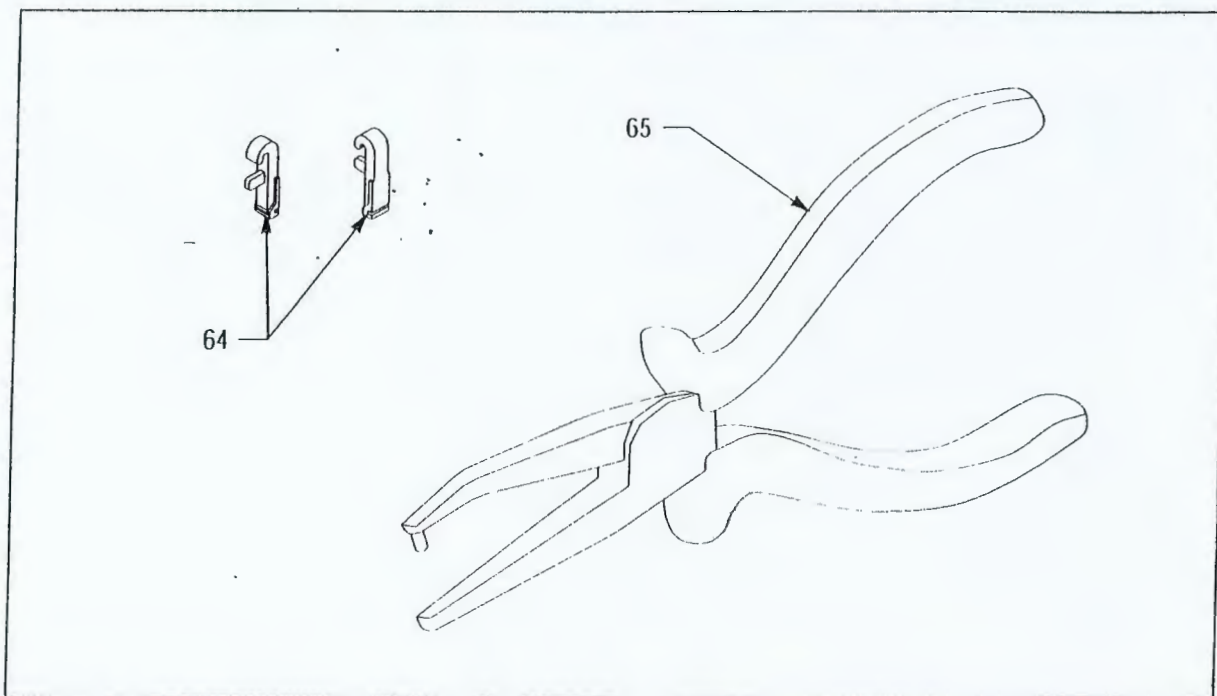


Figure G.24 – Connector Operating Pliers

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Page 1.28

P/N 890218

Key	Description	Spare Part	Part Number
46	Connector, .197 Spacing, Female 3-Pin, Grey	Yes	307001
47	Connector, .197 Spacing, Female 3-Pin Locking, Grey	Yes	307002
48	Connector, .197 Spacing, Male 3-Pin, Grey	Yes	307000
49	Connector, .197 Spacing, Female, 4-Pin, Grey	Yes	307004
50	Connector, .197 Spacing, Female 4-Pin Locking, Grey	Yes	307005
51	Connector, .197 Spacing, Male 4-Pin, Grey	Yes	307003
52	Connector, .200 Spacing, Female 3-Pin Locking, Orange	Yes	307010
53	Connector, .200 Spacing, Male 3-Pin, Orange	Yes	307009
54	Connector, .197 Spacing, Female 7-Pin, Grey	Yes	307006
55	Connector, .197 Spacing, Female 10-Pin, Grey	Yes	307007
56	Connector, .197 Spacing, Female 16-Pin, Grey	Yes	307008
57	Connector, .197 Spacing, Male, 3-Pin, Grey, Fixed	Yes	307011
58	Connector, .197 Spacing, Male, 4-Pin, Grey, Fixed	Yes	307012
59	Connector, .197 Spacing, Male, 10-Pin, Grey, Fixed	Yes	307013
60	Connector, .197 Spacing, Male, 16-Pin, Grey, Fixed	Yes	307014
61	Connect (Splice) Tap, 12-14 AWG, 3M #562	Yes	307034
62	End Resistor Plug, Female, 4-Pin, .197 Spacing	Yes	307005
63	End Resistor Plug, Male, 4-Pin, .197 Spacing	Yes	307003
64	Connector Operating Lever, With Cage Clamp	Yes	959570
65	Connector Operating Pliers, With Cage Clamp	No	959571

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BUSCHMAN
A Pinnacle Automation Company



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MODULE ASSY., L/H

17" BF X 120" LG., FOUR 30" ZONES

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Material Handling and Storage Systems
ST. LOUIS, MISSOURI CINCINNATI, OHIO, U.S.A.



DRAWN BY
I.C. DILLARD

APPD. BY

CHECKED BY

SCALE

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DATE

06/01/98

DRAWING NUMBER

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Material Handling and Storage Systems

ST. LOUIS, MISSOURI CINCINNATI, OHIO, U.S.A.



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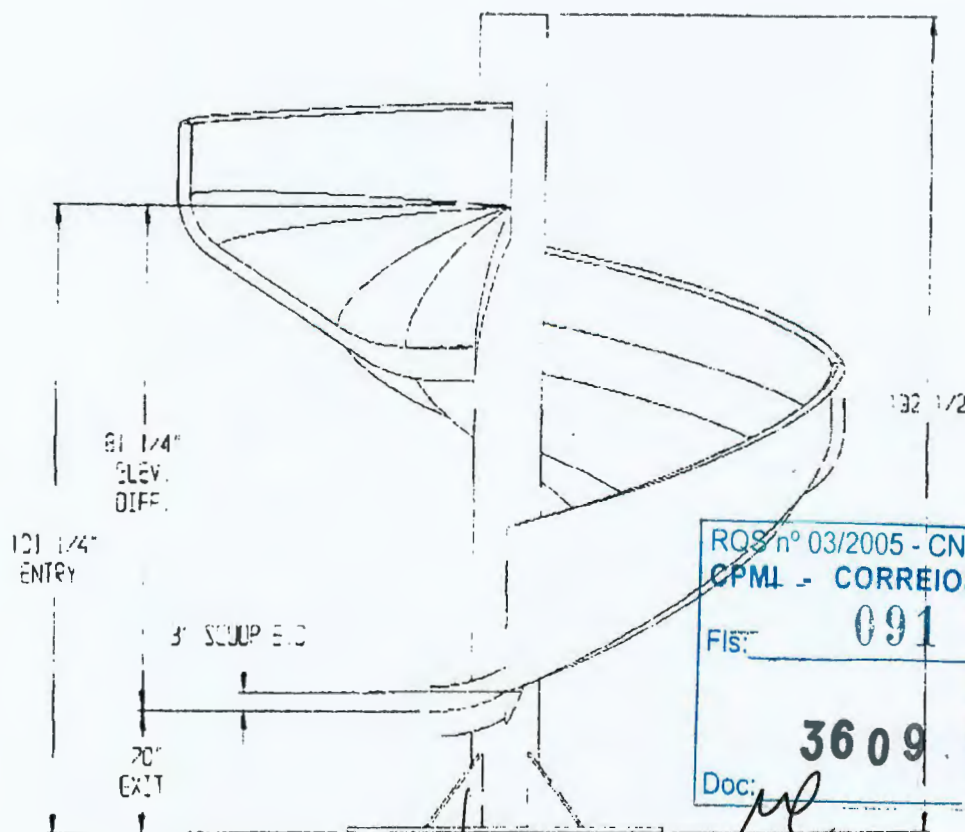
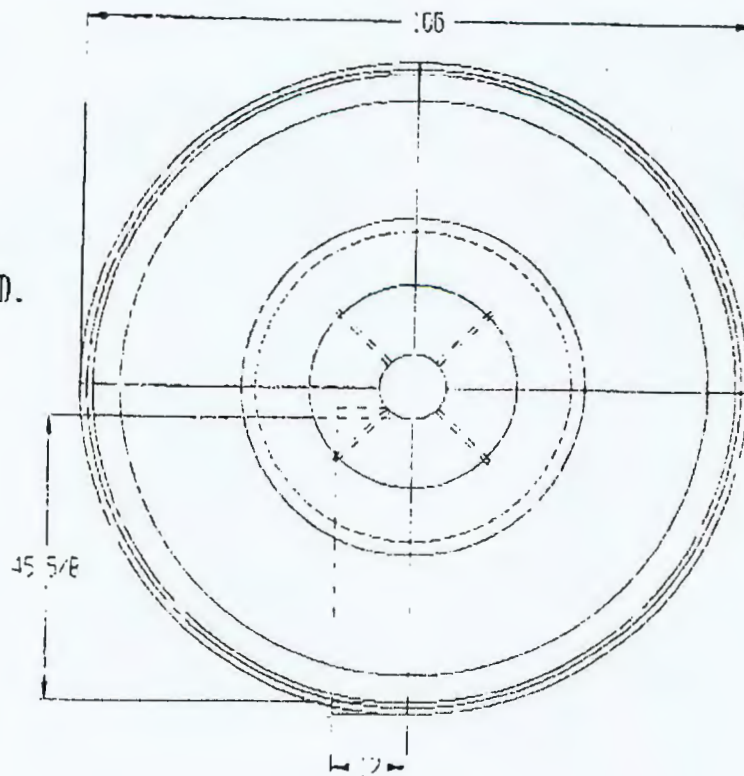
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1 of 1

CM-51 360°
RIGHT HAND DECLINE
C-1 CONFIG.

ENTRY TRANSITION - 22" E.D.
90° PROFILES - 18 3/4" E.D.
EXIT TRANSITION - 18 3/4" E.D.
EXIT SCOOP - 3" E.D.



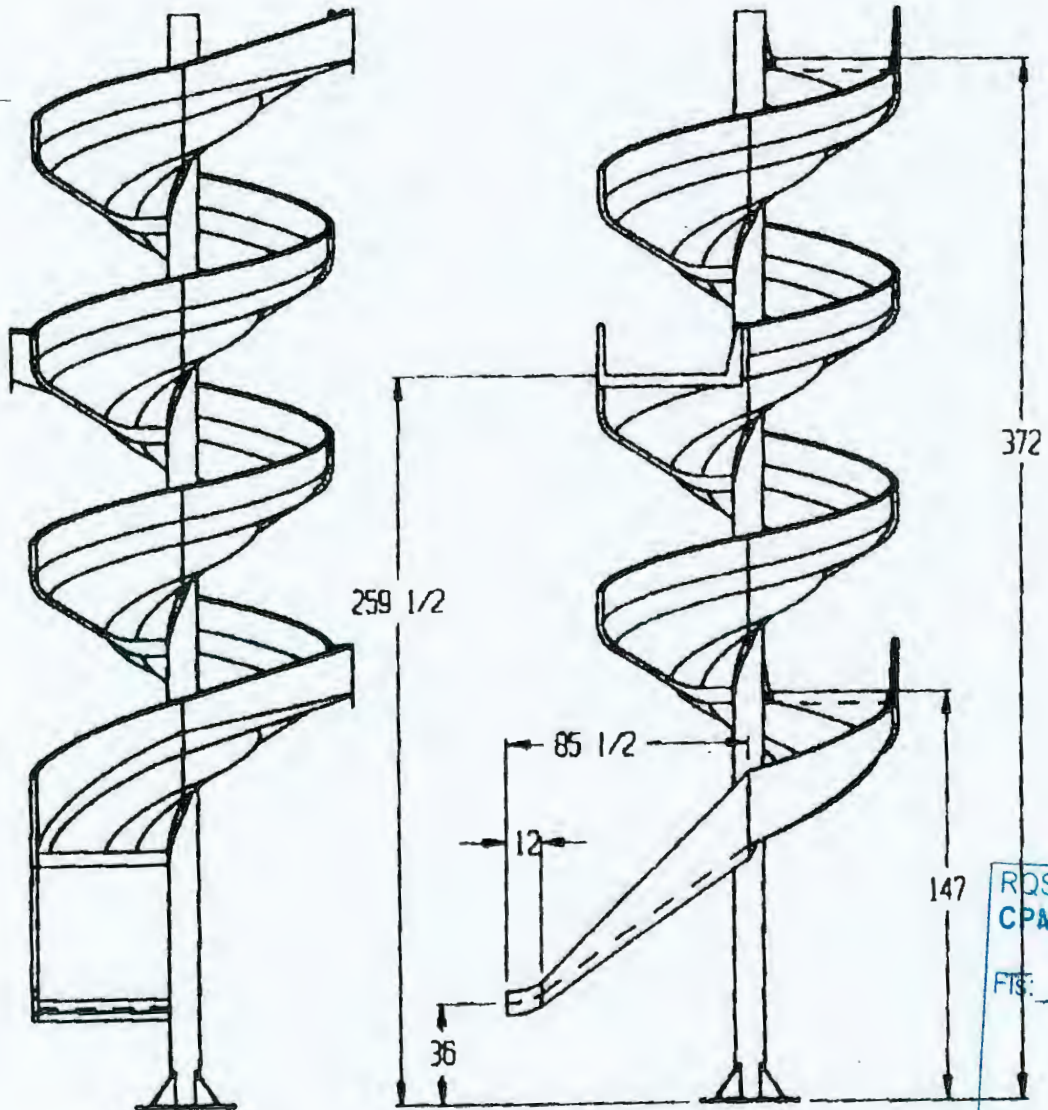
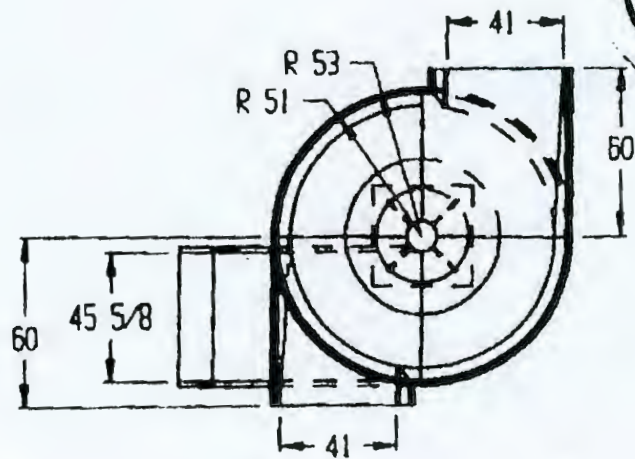
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REFERENCE ONLY

CM-51 SP-1170°
C-2 CONFIG.
RIGHT HAND DECLINE

- (3) ENTRY MULTI ENTRY
- (1) ENTRY MULTI ENTRY ENCLOSURE
- (10) 90° RH PROFILES
- (1) STEEL EXIT SLIDE
- (1) EXIT SCOOP
- (1) 10 3/4 DOM POLE 388"



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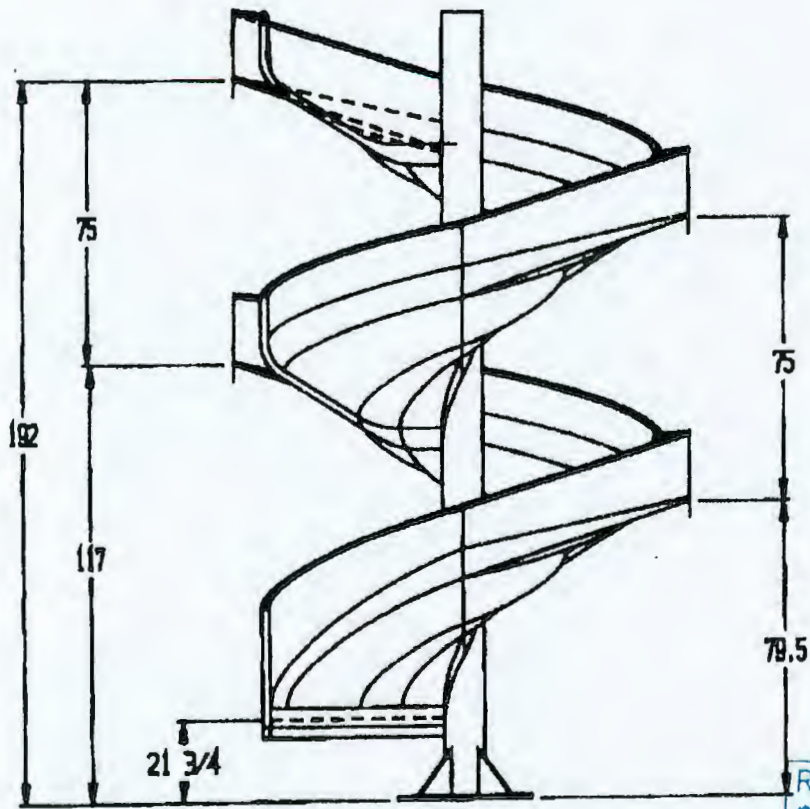
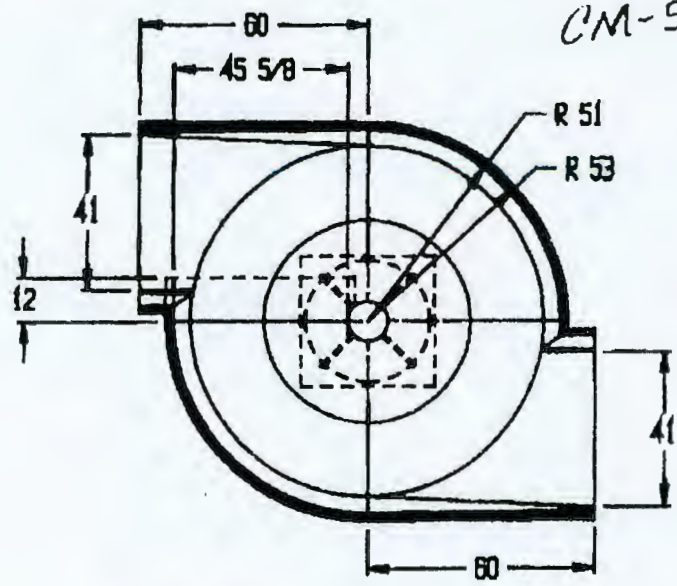
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CM-51 SP-540



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C-1 INCLINE

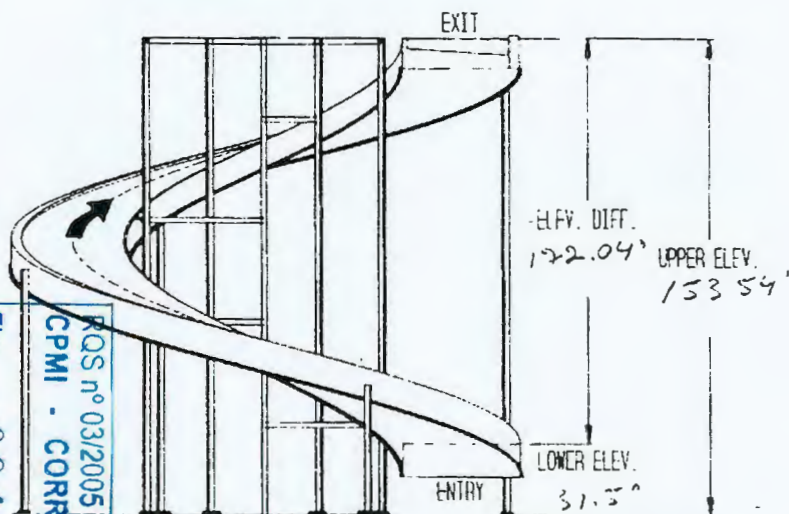
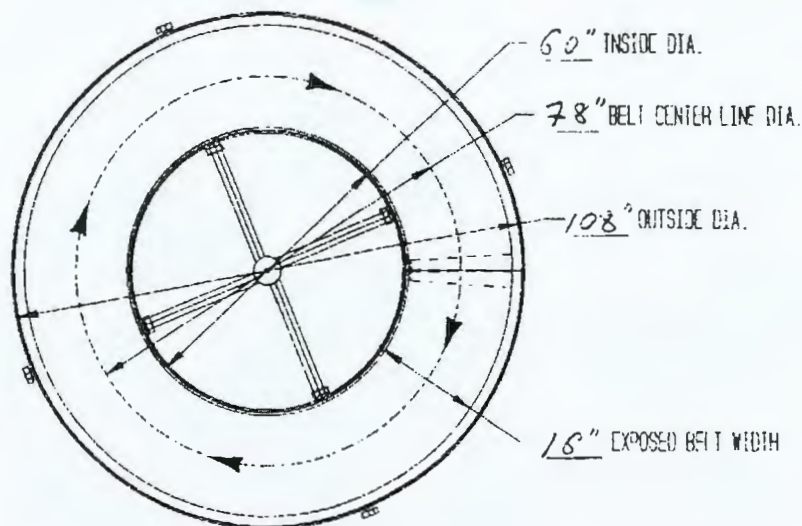


FIG. 094
3609
RQS n° 03/2005 - CN -
CPMI - CORREIOS

Angle at Centerline 16.84°
Belt Speed 100 FPM
Type of Belt ROUGH TOP - 13 ELT
Side Guards 10"
Bottom Pan

Model A 3015-SP-720
Mounting Configuration C-1 Incline
Elevation Differential 122.04"

CONSTRUCTION FEATURES

Belt
Standard belting in widths of 8 to 48 inches, black rough-top with steel clipper lacing.

Frame Construction

Depending on size, slider bed is deep box construction in 14, 12, or heavier gauge steel. End rolls are formed from 14 gauge steel, tapered and sprocket driven by single strand #50 sidebow roller chain with special attachments to the belt. The support superstructure will be fabricated as necessary to meet the individual needs of each application requirement.

Sideguards

Available as a standard option in 6", 12", 18" or 24" heights in 14 gauge steel, rolled to contour with 1" flange top, angle out.

Paint

Standard paint is machinery air dry enamel. Other colors and epoxy available on optional basis.

Drive Specifications

Motor-reducer drives or customized drive arrangements can be furnished to meet your requirements. Flomaster normally provides the motor-reducer drive with controls furnished by others.

Speed

The speed of a Flomaster SPIRAL-LIFT® is normally measured at the center line radius of the belt. This speed should be equal to that of the in-feed conveyor. Certain conveyor loadings of closely spaced cartons dictate a speed measured at the inside radius of the belt to avoid parcel contact on turn. This condition should be noted.

Application Specials

Flomaster can build the SPIRAL-LIFT® to meet your special application requirements. Special radius and elevation designs are available to fit existing openings.



PORTEC

Portec, Inc. 1983

Flomaster® Division

P.O. Box 589
Royal Gorge Industrial Park
Canon City, Colorado 81215-0589
Telephone 719 275-7471
Telex 45-0688
FAX 719-269 3750

CUSTOMER:

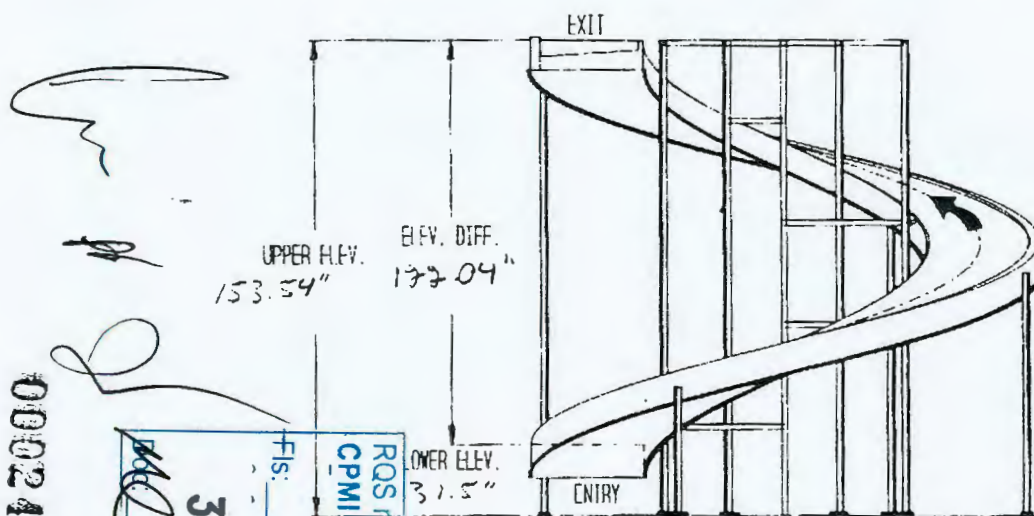
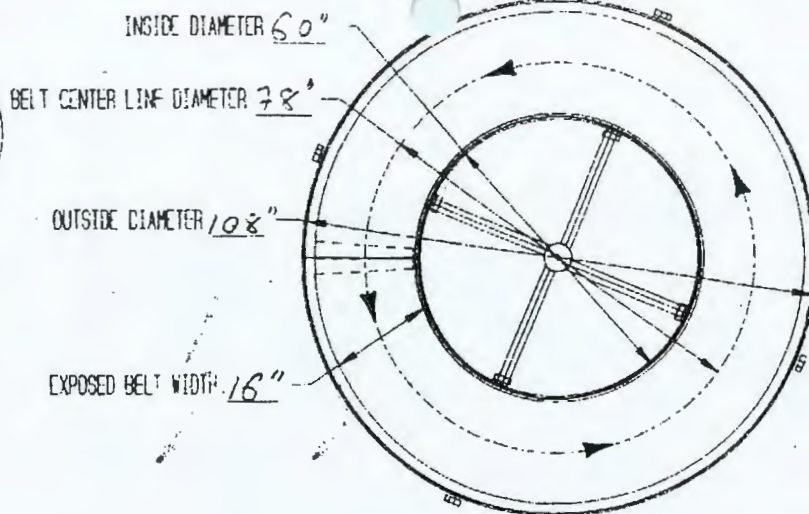
QTY. REQ. D. 2 EA. FLOMASTER SPIRAL-LIFT®
SIZE A 3015-SP-720
DATE 10/20/99 BY JFS
REF. POSTAL
SCALE: NONE DRAWING NO. PD-29 I

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CC-1 INCLINE



Angle at Centerline 15.54
 Belt Speed 100 FPM
 Type of Belt 120LGN TOP BELT
 Side Guards 10"
 Bottom Pan

Model A 3015-SP-720
 Mounting Configuration CC-1 Incline
 Elevation Differential 172.04"

CONSTRUCTION FEATURES

Belt

Standard belting in widths of 8 to 48 inches, black rough-top with steel clipper lacing.

Frame Construction

Depending on size, slider bed is deep box construction in 14, 12, or heavier gauge steel. End rolls are formed from 14 gauge steel, tapered and sprocket driven by single strand #50 sidebow roller chain with special attachments to the belt. The support superstructure will be fabricated as necessary to meet the individual needs of each application requirement.

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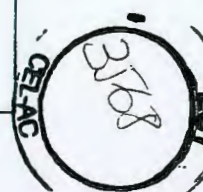
Flomaster[®] Division

P.O. Box 589
 Royal Gorge Industrial Park
 Canon City, Colorado 81215-0589
 Telephone 719 275-7471
 Telex 45-0688
 FAX 719 269-3750

CUSTOMER:

QTY. REQ. D. 2 EA. FLOMASTER SPIRAL-LIFT[®]
 SIZE A 3015-SP-720
 DATE 10/20/99 BY JFS
 REF. POSTAL
 SCALE: NONE DRAWING NO. PD-35 I

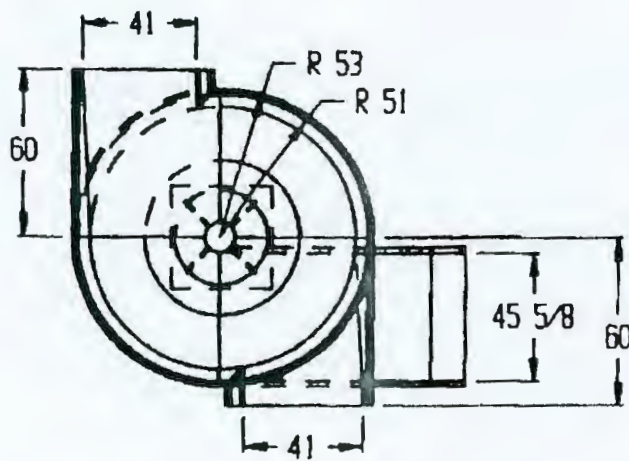
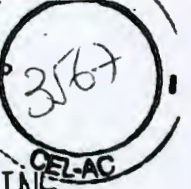
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CM-51 SP-1170

CC-2 CONFIG.

LEFT HAND DECLINE



(3) ENTRY MULTI ENTRY

(1) ENTRY MULTI ENTRY ENCLOSURE

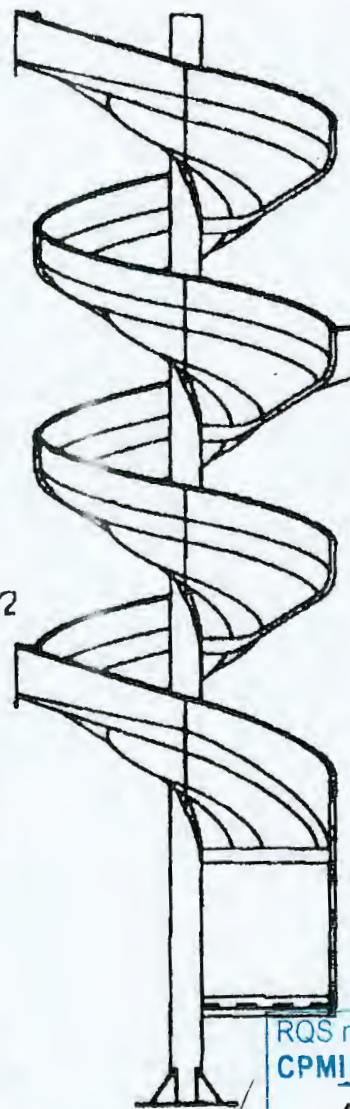
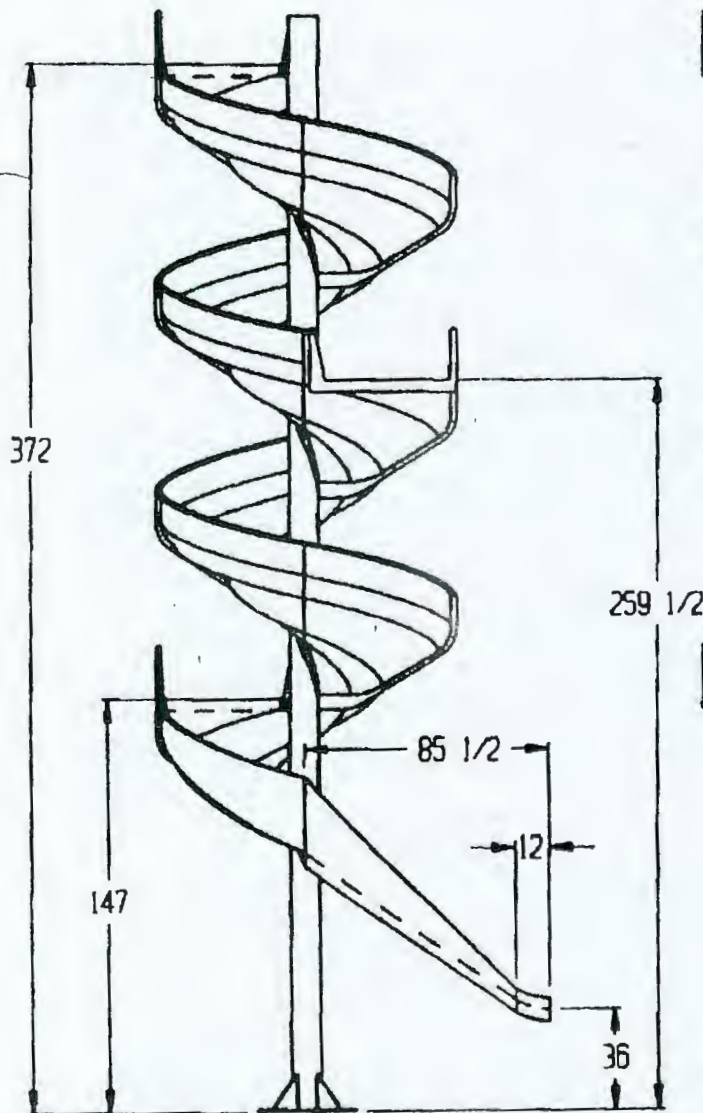
(10) 90° LH PROFILES

(1) STEEL EXIT SLIDE

(1) EXIT SCOOP

(1) 10 3/4 ODM POLE 388"

REFERENCE ONLY



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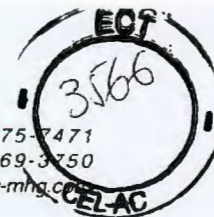


PORTEC

**Materials Handling Group
Flomaster® Division**

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Fax: 719 269-3750
portec@portec-mhg.com



PORTEC CHUTEMASTER® CM-35 FIBERGLASS SPIRAL CHUTE

General Description

The spiral chute consists of reinforced 90° fiberglass modules assembled to a center pole support. Product is fed into the chute at the top and is transported to the bottom which has a swoop module for transitioning the product to a horizontal take away conveyor.

Fiberglass Chute

- Dimensions: 74"(1880 mm) overall diameter of the chute excluding the outside enclosure; elevation drop per 90° profile module is 15.75"(400 mm) and 22"(559 mm) per entry transition module.
- Shape: each fiberglass profile module is shaped to help control the speed of descending product and allow the smooth free flow of product down the chute.
- Fiberglass pieces are produced using the "hand lay-up" technique for stiffness, strength, toughness, and uniformity of thickness. "Chopper-gun" method of construction is not acceptable.
- The gel coat used on the running surface of the chute shall be ASTM D635 approved and self-extinguishing. The gel coat shall have a highly abrasion resistant filler and an ultraviolet stabilizer. Gel coat shall be applied to the underside of the chute to provide a smoother surface.
- The polyester resin shall be rated ASTM E84 Class 1 flamespread. Resin shall be tinted to match gel coat color. Resin may be filled up to 20% with approved filler material to achieve lower flamespread and lower shrinkage. Resin catalyst shall be to the manufacturer's specification.
- The fiberglass reinforcement shall be laminations (layers) of fiberglass consisting of 4 layers of 1 5 oz. glassmat, 2 layers of 24 oz. woven, and 1 layer of glassmat strip on bolt flanges.

Center Steel Support Pole with Base

- Pole consists of 10" nominal mechanical steel tubing.
- Base plate consists of 36"(914.4 mm) nominal square x 1"(25.4 mm) plate with 45° x 3/4"(19.1 mm) plate gussets.
- Steel pole cap with 2"(50.8 mm) O.D. lifting eyebolt.
- Pole, base, and cap painted with air dry enamel paint.

Entry and Exit Slides

- Slides composed of 12-gauge steel with fiberglass sliding surface.

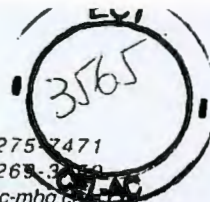
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PORTEC



PORTEC CHUTEMASTER® CM-51 FIBERGLASS SPIRAL CHUTE

General Description

The spiral chute consists of reinforced 90° fiberglass modules assembled to a center pole support. Product is fed into the chute at the top and is transported to the bottom which has a swoop module for transitioning the product to a horizontal take away conveyor.

Fiberglass Chute

- Dimensions: 106"(2692 mm) overall diameter of the chute excluding the outside enclosure; elevation drop per 90° profile module is 18.75"(476 mm) and 22"(559 mm) per entry transition module.
- Shape: each fiberglass profile module is shaped to help control the speed of descending product and allow the smooth free flow of product down the chute.
- Fiberglass pieces are produced using the "hand lay-up" technique for stiffness, strength, toughness, and uniformity of thickness. "Chopper-gun" method of construction is not acceptable.
- The gel coat used on the running surface of the chute shall be ASTM D635 approved and self-extinguishing. The gel coat shall have a highly abrasion resistant filler and an ultraviolet stabilizer. Gel coat shall be applied to the underside of the chute to provide a smoother surface.
- The polyester resin shall be rated ASTM E84 Class 1 flamespread. Resin shall be tinted to match gel coat color. Resin may be filled up to 20% with approved filler material to achieve lower flamespread and lower shrinkage. Resin catalyst shall be to the manufacturer's specification.
- The fiberglass reinforcement shall be laminations (layers) of fiberglass consisting of 4 layers of 1.5 oz. glassmat, 2 layers of 24 oz. woven, and 1 layer of glassmat strip on bolt flanges.

Center Steel Support Pole with Base

- Pole consists of 10"(254 mm) nominal mechanical steel tubing.
- Base plate consists of 36"(914 mm) nominal square x 1"(25.4 mm) plate with 45° x ¾"(19.1 mm) plate gussets.
- Steel pole cap with 2"(50.8 mm) O.D. lifting eyebolt.
- Pole, base, and cap painted with air dry enamel paint.

Entry and Exit Slides

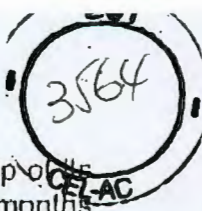
- Slides composed of 12-gauge steel with fiberglass sliding surface.

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WARRANTY – BRAZILIAN POSTAL PROJECT



PORTEC INC., FLOMASTER® DIVISION warrants the material and workmanship of its manufactured products, with exceptions noted below, for a period of 24 months beginning one month from the date of shipment from FLOMASTER DIVISION'S factory, according to recorded serial numbers.

Within the period noted above, any material or workmanship showing defects will be repaired or replaced, provided FLOMASTER DIVISION is given written notice within 30 days after failure, and a willingness is expressed to submit the product to FLOMASTER DIVISION, and if FLOMASTER DIVISION authorizes the return of the product, the product is returned. Warranty parts are supplied F.O.B. FLOMASTER DIVISION'S factory and unless express agreement is made by FLOMASTER DIVISION the purchaser shall bear expense of installation. FLOMASTER DIVISION reserves the right at any time to supervise or install any part of replacement, or supervise adjustment incident to satisfactory operation of equipment.

Unauthorized returns, modifications, additions or variations, from procedures and information contained in FLOMASTER DIVISION'S Owner's Manuals, and Product Data Bulletins, or any misuse, negligence, accident, product jam, or loading beyond rated capacity invalidates this warranty.

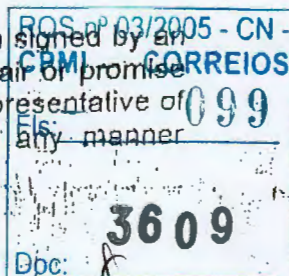
Exceptions:

1. Because of varying operating conditions, all belting supplied will necessarily be subject to manufacturer's warranty, rather than that of FLOMASTER DIVISION. *
2. In case of motor or reducer failure, please contact the nearest Authorized Representative of the manufacturer. This warranty is void if motor or reducer is tampered with or disassembled by other than the Authorized Representative. *
3. FLOMASTER DIVISION further reserves the right to void its warranty where final destination and specific application are withheld; product is improperly installed or maintained by others; product is improperly protected against hazards and adverse environmental conditions during storage prior to or during installation; and/or product is used for applications other than indicated upon placement of order.

*The FLOMASTER DIVISION will assist in the handling of warranty claims with such manufacturers to the end that satisfactory performance may be obtained.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER WRITTEN, ORAL, OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE). UNDER NO CIRCUMSTANCES SHALL THE FLOMASTER DIVISION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

The foregoing warranty cannot be changed except by written authorization signed by an authorized FLOMASTER DIVISION representative, and no attempt to repair or promise to repair or improve FLOMASTER DIVISION PRODUCTS by any other representative of the FLOMASTER DIVISION shall change or extend said warranty in any manner whatsoever.



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WARRANTY - BRAZILIAN POSTAL PROJECT

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PORTEC INC., FLOMASTER DIVISION warrants the material and workmanship of its manufactured products, with exceptions noted below, for a period of 24 months beginning one month from the date of shipment from FLOMASTER DIVISION'S factory, according to recorded serial numbers.

Within the period noted above, any material or workmanship showing defects will be repaired or replaced, provided FLOMASTER DIVISION is given written notice within 30 days after failure, and a willingness is expressed to submit the product to FLOMASTER DIVISION, and if FLOMASTER DIVISION authorizes the return of the product, the product is returned. Warranty parts are supplied F.O.B. FLOMASTER DIVISION'S factory and unless express agreement is made by FLOMASTER DIVISION the purchaser shall bear expense of installation. FLOMASTER DIVISION reserves the right at any time to supervise or install any part of replacement, or supervise adjustment incident to satisfactory operation of equipment.

Unauthorized returns, modifications, additions or variations, from procedures and information contained in FLOMASTER DIVISION'S Owner's Manuals, and Product Data Bulletins, or any misuse, negligence, accident, product jam, or loading beyond rated capacity invalidates this warranty.

Exceptions:

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*The FLOMASTER DIVISION will assist in the handling of warranty claims with such manufacturers to the end that satisfactory performance may be obtained.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER WRITTEN, ORAL, OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE). UNDER NO CIRCUMSTANCES SHALL THE FLOMASTER DIVISION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

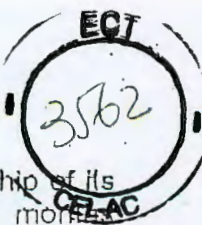
The foregoing warranty cannot be changed except by written authorization signed by an authorized FLOMASTER DIVISION representative, and no attempt to repair or promise to repair or improve FLOMASTER DIVISION PRODUCTS by any other representative of the FLOMASTER DIVISION shall change or extend said warranty in any manner whatsoever.

12/17/1999

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WARRANTY - BRAZILIAN POSTAL PROJECT



PORTEC INC., FLOMASTER® DIVISION warrants the material and workmanship of its manufactured products, with exceptions noted below, for a period of 24 months beginning one month from the date of shipment from FLOMASTER DIVISION'S factory, according to recorded serial numbers.

Within the period noted above, any material or workmanship showing defects will be repaired or replaced, provided FLOMASTER DIVISION is given written notice within 30 days after failure, and a willingness is expressed to submit the product to FLOMASTER DIVISION, and if FLOMASTER DIVISION authorizes the return of the product, the product is returned. Warranty parts are supplied F.O.B. FLOMASTER DIVISION'S factory and unless express agreement is made by FLOMASTER DIVISION the purchaser shall bear expense of installation. FLOMASTER DIVISION reserves the right at any time to supervise or install any part of replacement, or supervise adjustment incident to satisfactory operation of equipment.

Unauthorized returns, modifications, additions or variations, from procedures and information contained in FLOMASTER DIVISION'S Owner's Manuals and Product Data Bulletins, or any misuse, negligence, accident, product jam, or loading beyond rated capacity invalidates this warranty.

Exceptions:

1. Because of varying operating conditions, all belting supplied will necessarily be subject to manufacturer's warranty, rather than that of FLOMASTER DIVISION. *
2. In case of motor or reducer failure, please contact the nearest Authorized Representative of the manufacturer. This warranty is void if motor or reducer is tampered with or disassembled by other than the Authorized Representative. *
3. FLOMASTER DIVISION further reserves the right to void its warranty where final destination and specific application are withheld; product is improperly installed or maintained by others; product is improperly protected against hazards and adverse environmental conditions during storage prior to or during installation; and/or product is used for applications other than indicated upon placement of order.

*The FLOMASTER DIVISION will assist in the handling of warranty claims with such manufacturers to the end that satisfactory performance may be obtained.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ALL OTHER WARRANTIES WHETHER WRITTEN, ORAL, OR IMPLIED (INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PURPOSE). UNDER NO CIRCUMSTANCES SHALL THE FLOMASTER DIVISION BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES.

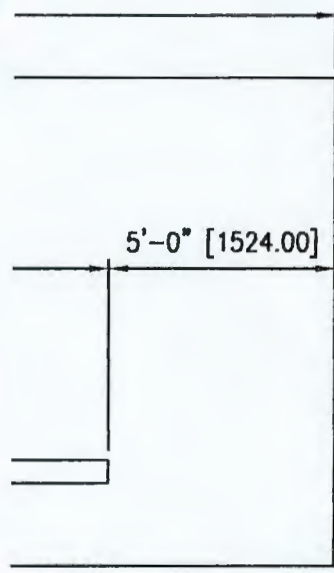
The foregoing warranty cannot be changed except by written authorization signed by an authorized FLOMASTER DIVISION representative, and no attempt to repair or promise to repair or improve FLOMASTER DIVISION PRODUCTS by any other representative of the FLOMASTER DIVISION shall change or extend said warranty in any manner whatsoever.

12/17/1999

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2. ALL FOLLETS ARE ORIGINATED FOR BEST FITTING.
3. THE BOOM EXTENSION SYSTEM INCORPORATES A FRICTION CLUTCH DESIGNED TO SLIP UPON OVER TORQUING DUE TO OBSTRUCTIONS, AS WELL AS BOTH MECHANICAL AND ELECTRICAL STOPS AT EITHER END



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ITEM	DESCRIPTION		QTY.	MATERIAL	NOTES	
DRAWN	L.S.	BROCKVELD EQUIPAMENTOS MAXXREACH MR-3-23/63 MANUAL TRAVERSE/SNOUT			MAXX MATERIAL HANDLING	
DATE	29 OCT 99					
SCALE	NTS					
CHECKED					DRAWING NUMBER	REV
					99-113-1	0



PRODUCT SPECIFICATION



MX4000SVR Multiplexer Server

MICROPROCESSOR-BASED SWITCHER/CONTROLLER

Product Features

- Inputs for Four KBD4000 Keyboards for Control by More than One Operator
- Eight MX4000 Genex™ Multiplexer Inputs for Control of up to 128 Cameras
- Four Monitor Outputs
- Programming Menus for Server Setup
- Looping Video Outputs to Connect Additional Monitors or Equipment

The **MX4000SVR** Genex™ Multiplexer Server expands the flexibility of your multiplexer system so that as many as four operators can share control of the system.

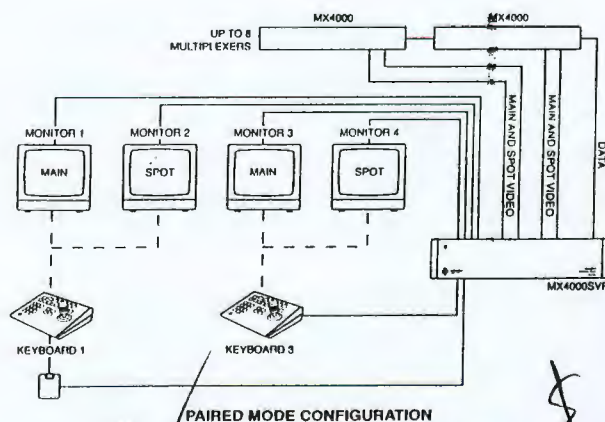
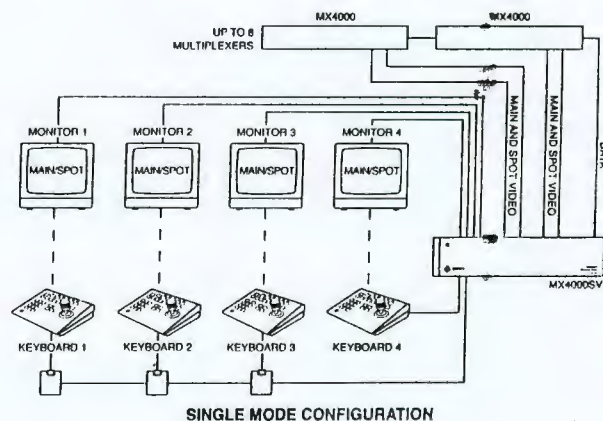
Up to eight MX4000 Genex™ Multiplexers can be connected to the server, which can be controlled from as many as four keyboards. Up to 72 cameras can be controlled with 9-channel multiplexers or 128 cameras with 16-channel multiplexers.

The server has two video inputs for each multiplexer – one from the main monitor and one from the spot monitor. The server can route the main or spot monitor output from any of the eight multiplexers to any of the server's four monitor outputs.

The server can operate in single mode (one keyboard controls one monitor) or paired mode (one keyboard controls two monitors).

Looping outputs are available for sending the video inputs from each multiplexer to additional monitors or other equipment such as a matrix switcher.

On-screen menus allow programming of multiplexer titles, keyboard and monitor operation, and multiplexer sequencing.





TECHNICAL SPECIFICATIONS



MODELS

MX4000SVR	Genex™ Server; integrates up to eight MX4000 Series Multiplexers into a single system, NTSC standard, 120 VAC, 60 Hz
MX4000SVR-X	Same as MX4000SVR except PAL standard, 230 VAC, 50 Hz

VIDEO INPUTS

Number of Inputs	16
Type	75-ohm unbalanced terminating or looping; jumper selectable
Level	1 Vp-p
Connector Type	Panel-mount BNC

VIDEO OUTPUTS

Number	4 (maximum)
Type	75-ohm unbalanced
Level	1 Vp-p
Video Fail Detection	
Type	Vertical sync detector
Action	Switch to back up sync generator
Connector Type	Panel-mount BNC

VIDEO SPECIFICATIONS

Bandwidth	17 MHz
Frequency	
Response	Flat to 8 MHz, ± 1.0 dB to 12 MHz
Gain	Unity (± 1 dB)
Differential Gain	2% typical
Differential Phase	0.2° typical
Tilt	0.5% typical
Signal to Noise	-55 dB (peak to peak vs. RMS noise)
DC Output	Zero volts
Cross talk	-50 dB typical at 3.58 MHz

CHARACTER GENERATOR

Display	White with black border
Program Menus	Raster background with white characters

KEYBOARD INTERFACE

Number of Ports	2 (Remote and Local)
Number of Independent Keyboards	4
Baud Rate	9600
Connector Type	RJ-45 8-pin modular (female)

POWER SUPPLY

Input Voltage	120 VAC, 50/60 Hz or 230 VAC, 50 Hz
Power Consumption	10 watts
Ambient Operating Temperature	20° to 120° F (-7° to 49° C)
Humidity	10% - 90% non-condensing

GENERAL

Dimensions	
With rack ears	3.50"H x 19.00"W x 11.25"D (8.89 cm x 48.26 cm x 28.58 cm)
Without rack ears	3.50"H x 17.00"W x 11.25"D (8.89 cm x 43.18 cm x 28.58 cm)
Mounting	Factory configured for EIA rack mount (2 RUs); rack ears can be removed for wall mount or free standing applications
Weight	9.3 lb (4.21 kg) approximate
Construction	20-gauge aluminum

OPTIONAL ACCESSORIES

KBDKIT	Remote keyboard wiring kit with RJ-45 wall block and 120 VAC to 12 VAC transformer. Required if using Remote Keyboard Port on multiplexer server or if extending Local Keyboard Port beyond 25 feet. Maximum distance of 4,000 feet (1,219 m) to last keyboard in daisy chain. Use shielded twisted pairs such as Belden 9843 or equivalent that meets RS485 standards. (One kit for each keyboard required.)
KBDKIT-X	Same as KBDKIT except 230 VAC to 12 VAC transformer

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PRODUCT SPECIFICATION

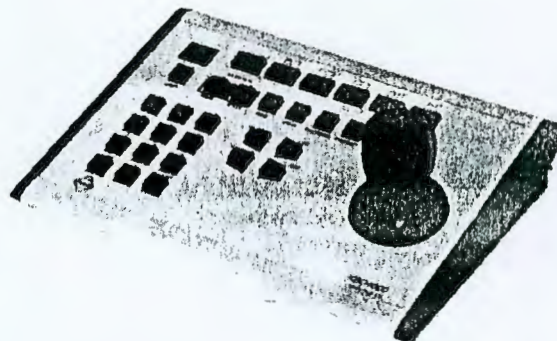


KBD4000 Multiplexer Keyboard

FULL FUNCTION, FIXED/VARIABLE-SPEED, PTZ CONTROL

Product Features

- Select up to 256 Cameras from One Keyboard Connected to a String of MX4000 Genex™ Multiplexers
- Select up to 128 Cameras from a Maximum of Four Keyboards through an MX4000SVR Genex™ Multiplexer Server
- Joystick for Fixed-Speed and Variable-Speed Control of Pan/Tilt Units
- Preset Position and Pattern Control
- Main and Spot Monitor Control
- Digital Zoom Control on Main Monitor
- Auxiliary Operation



The **KBD4000** Keyboard is a full function keyboard controller for the MX4000 Genex™ Multiplexer and the MX4000SVR Genex™ Multiplexer Server.

There are two modes of operation – multiplexer mode and multiplexer server mode – depending on whether the keyboard is connected to a multiplexer or to a server.

In the multiplexer mode, a single keyboard interfaces up to 16 multiplexers that are daisy-chained together. With 9-channel multiplexers, the keyboard can control up to 144 cameras; with 16-channel multiplexers, up to 256 cameras can be controlled.

In the multiplexer server mode, up to four keyboards can be connected to a server, which interfaces up to eight multiplexers. Up to 72 cameras can be controlled with 9-channel multiplexers or 128 cameras with 16-channel multiplexers.

In addition to performing all the control functions that can be done from the front panel of the multiplexer, the keyboard also features a three-axis joystick and additional keys for full control of fixed-speed and variable-speed pan, tilt, and lens functions.

Under control of the keyboard, cameras can be viewed on the main and spot monitor outputs of the multiplexer. On the main monitor, select full screen or multiple screen (4, 9 or 16) images or

picture-in-picture display. Get a closer look with the 2X and 4X zoom feature. Use the spot monitor for control of pan/tilt and zoom functions, and to operate presets, auxiliaries, and patterns. The spot monitor shows a full screen view only and does not have the zoom feature.

When used with a Genex™ multiplexer, the **KBD4000** keyboard is capable of Coaxitron® control of pan, tilt, and lens functions, including setting and calling presets and patterns. (SEE NOTE ON BACK PAGE)

The keyboard provides two methods of camera addressing. One method allows selection of cameras by entering the multiplexer unit ID (1-16) followed by the desired camera ID (1-16). The second method allows selection of cameras by entering an incremental camera number (unit 1 = cameras 1-16, unit 2 = cameras 17-32, etc.).

The keyboard is supplied with a 25-foot (7.6 m) data cable with RJ-45 connectors for connecting the keyboard to a multiplexer or to the Local Keyboard Port of a server. One keyboard can be connected to a multiplexer or the Local Keyboard Port of a server. Three additional keyboards can be connected to the Remote Keyboard(s) Port of a server. Multiple keyboards may not be connected without a server (MX4000SVR). If using the Remote Keyboard(s) Port, a remote keyboard wiring kit (KBDKIT/KBDKIT-X) is required for each keyboard.

000251



TECHNICAL SPECIFICATIONS



MODEL

KBD4000

Full function keyboard controller for use with Genex™ multiplexer and server

ELECTRICAL

Input Voltage

12 VAC or ± 12 VDC

Power Consumption

1 watt

KEYBOARD COMMUNICATION

Keyboard Interface

RS485 (25-foot flat cable supplied)

Connector Type

RJ-45 8-pin modular (female)

MECHANICAL

Keyboard Keypad
Joystick

Mechanical

Three-axis, vector solving, with twisting, return-to-center head
Two red seven-segment LEDs

Digital Display

Main/Spot

Monitor Indicators

Two green LEDs

GENERAL

Ambient Operating

Temperature

20° to 120°F (-7° to 49°C)

Humidity

10% - 90% non-condensing

Dimensions

9.50" W x 7.125" L x 2.25" H
(24.13 cm x 18.10 cm x 5.72 cm)

Weight

2.5 lb (1.12 kg)

Shipping Weight

4 lb (1.81 kg)

OPTIONAL ACCESSORIES

KBDKIT

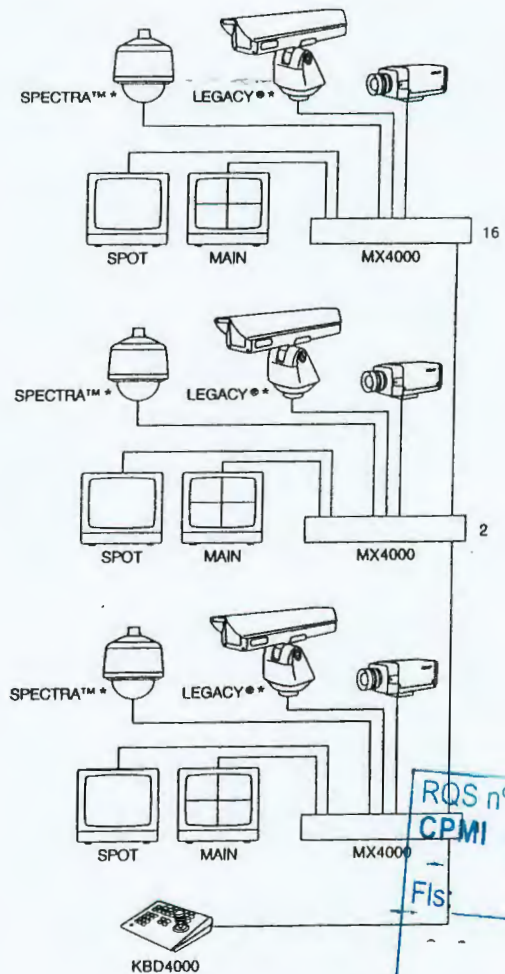
Remote keyboard wiring kit with RJ-45 wall block and 120 VAC to 12 VAC transformer. Required if using Remote Keyboard Port on multiplexer server or if extending Local Keyboard Port beyond 25 feet. Maximum distance of 4,000 feet (1,219 m) to last keyboard in daisy chain. Use shielded twisted pairs such as Belden 9843 or equivalent that meets RS485 standards. (One kit for each keyboard required.)

KBDKIT-X

Same as KBDKIT except 230 VAC to 12 VAC transformer

Note: When used with 15-bit standard Coaxitron® receivers (such as the CX9000 Series, the PT7700, and the ED25/27/28/29), the KBD4000 supports all pan, tilt, and lens functions, and AUX on/off. The keyboard will not set or call presets or support preset scanning.

When used with 32-bit extended Coaxitron® receivers, such as Intercept®, Spectra™, and LRD41C21/LRD41C22 Series, the KBD4000 supports all the functions above, including the setting and calling of presets and patterns. It will not support programming of labels for presets or patterns. If labels for presets or patterns are required, they would need to be programmed with a different control, such as the MPT9500.



MULTIPLEXER MODE

* INCLUDES BUILT-IN RECEIVER/DRIVER FOR CONTROL OF PAN/TILT/LENS FUNCTIONS. OTHER PAN/TILT UNITS MAY REQUIRE SEPARATE RECEIVER/DRIVER.

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PRODUCT SPECIFICATION



Genex™ Series Multiplexer

COLOR, DUPLEX

CE



Product Features

- Full Duplex Operation
- Simultaneous Viewing of Up to 16 Cameras While Recording or Playing Tapes
- Advanced Digital Video Processing, Including Advanced Image Resizing and Digital Filtering. Provides High Quality Multi-Camera and Zoom Displays
- Looping Inputs (Programmable for 75 or Hi-Z)
- Multi-Camera Display Modes – PIP (2), Quod (4), Nine (9) and Sixteen (16) Camera Displays
- Advanced Activity Detection – Programmable Detection Mask and Sensitivity Levels for Each Camera
- Four VCR Compatibility Modes – Standard, Auto Tracking, VCR Matching and Custom
- Playback of Other Manufacturers' Tapes
- Menu Programming for Quick, Easy Setup
- On-Screen Alphanumeric Display – 12 Character Camera Titles, Time, Date, and Alarm
- Three Independent Monitor Outputs
 - Main Output – Full-Screen Call-up, Multi-Camera Displays, VCR Playback and Sequencing
 - Spot Monitor Output – Full-Screen Call-up, Sequencing, Activity and Alarms
 - AUX Monitor Output – Full-Screen Sequencing, Activity and Alarms
- Alarm Handling – Priority or Exclusive Alarm Recording and Display
- Compatible with S-VHS VCRs and Monitors (Main Output)
- Remote Control via RS485 Communications Port
- Pan/Tilt and Lens Control via Coaxitron® (see note on back)

The **Genex™** high performance, color duplex multiplexer utilizes the latest in digital video processing technology, providing high-quality recordings and outstanding multi-camera displays.

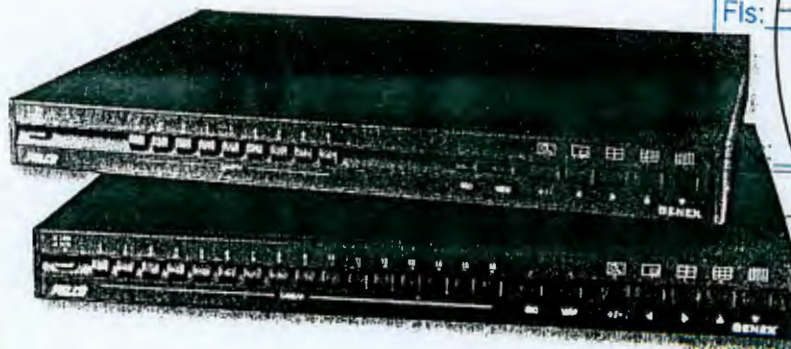
Available in 9- or 16-channel versions, **Genex™** can multiplex up to 9 or 16 cameras for recording on a single VCR. During recording and playback any camera may be viewed independently or combined in a multi-camera display.

Unlike most multiplexers, **Genex™** contains a powerful resizing engine which uses patented technology to provide broadcast quality, image resizing for both multi-camera and zoom displays. This technology allows **Genex™** to provide higher quality images with less aliasing.

Genex™ allows live or recorded cameras to be displayed full-screen or combined with others in a picture-in-picture, quad, nine, or sixteen camera display. Cameras may also be displayed sequentially in either full-screen or multi-camera format. An adjustable zoom mode provides full control of digital magnification of any camera for closer examination.

An advanced activity detector can prioritize cameras for faster recording and display independent of record or playback speeds. Two additional monitor outputs (Spot and AUX) can be used to display full-screen cameras manually, sequentially, or as a result of alarms and activity detection.

Genex™ is easy to use, offers intuitive push-button controls for operation and password-protected on-screen menus for easy system setup.



MX4009CD (TOP)
MX4016CD (BOTTOM)



000253

DataFAX Documents

SPEC: 21920

MANUAL: 219206

A&E: CONSULT FACTORY

C1920/REVISED 11-98



TECHNICAL SPECIFICATIONS



MODELS

MX4009CD	9-channel, color duplex multiplexer, NTSC, 120 VAC, 60 Hz
MX4009CD-X	9-channel, color duplex multiplexer, PAL, 230 VAC, 50 Hz
MX4016CD	16-channel, color duplex multiplexer, NTSC, 120 VAC, 60 Hz
MX4016CD-X	16-channel, color duplex multiplexer, PAL, 230 VAC, 50 Hz

VIDEO

Input Level	1 Vp-p, composite
NTSC	525 lines, 60 fields/second
PAL	625 lines, 50 fields/second
Digital Image	768(H) x 512(V) pixels full screen
	1536 bytes horizontal memory
	26 MB display image memory
	8-bit luminance, 256 shades of gray
	8-bit chrominance, over 16 million colors
Format	CCIR 601 4:2:2
Sampling Rate	13.5 MHz
Geometric Error	Less than 1 percent, all modes
Resizing	Multi-element horizontal and vertical finite impulse response
Analog Processing	
Bandwidth	20 MHz
Differential Phase	Less than 2 degrees
Differential Gain	Less than 2 percent
Character Generator	Programmable, bit mapped

ELECTRICAL

Operating Voltage	120 VAC (+15/-30%), 50/60 Hz or 230 VAC (+15/-30%), 50/60 Hz
Power	Less than 25 watts
Video Inputs	Nine or sixteen
	BNC, looping with programmable termination, 75 ohms Hi-Z
Monitor Outputs	Three
Main	BNC, 75 ohms
	4-pin mini-DIN, YC output (S-VHS)
Spot	BNC, 75 ohms
AUX	BNC, 75 ohms
VCR Inputs	One
VCR In	BNC, composite, 75 ohms
	4-pin mini-DIN, YC input (S-VHS)

VCR Outputs

One
BNC, composite, 75 ohms
4-pin mini-DIN, YC output (S-VHS)
Sixteen individually programmable for NO or NC
One Form-C relay, 0.5 A continuous, 1.0 A momentary

Alarm Inputs

Alarm Output

GENERAL

Operating Temperature	32 to 122°F (0 to 50°C)
Relative Humidity	90% non-condensing
Desktop Dimensions	1.75"H x 17.2"W x 12.2"D (4.45 x 43.69 x 30.99 cm)
Rack Mount Dimensions	1.75"H x 19"W x 12.2"D (4.45 x 48.26 x 30.99 cm) (Rock ears and screws provided with desktop models for conversion.)
Unit Weight	10 lb (4.53 kg) approximate
Shipping Weight	14 lb (6.34 kg) approximate

CERTIFICATIONS

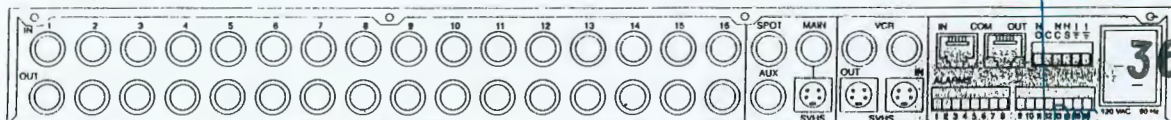
◆ CE compliant (all models)

OPTIONAL ACCESSORIES

KBD4000	Remote control keyboard. Provides remote control of multiple MX4000 series multiplexers via RS485. Includes pan, tilt and lens control functions for Coaxitron® control.*
MX4000SVR	Multiplexer server, 120 VAC, 60 Hz, for use with NTSC and RS-170 format multiplexers. Provides centralized control of up to 8 multiplexers by one or more operators.
MX4000SVR-X	Same as MX4000SVR except 230 VAC, 50 Hz, for use with PAL and CCIR format multiplexers.

*Note: When used with 15-bit (standard) Coaxitron® receivers such as the CX9000 Series, the PT7700, and the ED25/27/28/29, the KBD4000 supports all pan, tilt and lens functions and AUX on/off. It will not set or call presets, or support preset scan. When used with the 32-bit extended Coaxitron® receivers such as Interact® Spectra and LRD41C21/LRD41C22 Series, the KBD4000 will support all of the functions above, including set and call presets and patterns. It will not support programming of preset or pattern labels. If labels for presets or patterns are required, they would need to be programmed with a different control such as the MPT9500.

MX4016CD



MX4009CD



Indicates change or addition since last revision.

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000254



PRODUCT SPECIFICATION



CX9000 Series Receiver/Driver

COAXITRON® COMPATIBLE

CE

LISTED

Product Features

- Coaxitron Compatibility
- Pan/Tilt and Camera Power
- Zoom Lens Control (Zoom, Iris, And Focus With Adjustable Speed — Speed Not Remote Controllable)
- An Open Collector Transistor Latching Output For Auxiliary Functions (Outdoor Units Only)
- 32 Preset Models Available or Auto Random Scan Capability Using A9000
- NTSC or PAL Video
- Test Local Control Capability

The Coaxitron® **CX9000 Series** Receiver/Driver operates on the principle of transferring control information and video on the same line. A train of pulses containing control data is superimposed on the vertical blanking interval of the video signal. This transmitted train of control information can originate from a variety of Pelco transmitter systems, including the CM6700, CM8500, CM9500, CM9760, MPT9500 and standard Coaxitron controllers. (The CM9760 is interfaced using the CM9760-CXT Coaxitron Translator.)

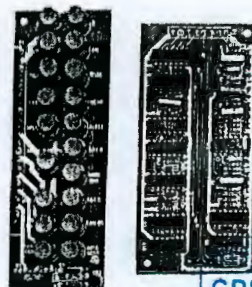
Standard features include pan/tilt control, camera power, zoom lens control (zoom, iris, and focus with adjustable speed — speed not remote controllable), and an open collector transistor (latching) output for use in manual override of an automatic iris control.

The **CX9000 Series** Receiver/Driver is compatible with Coaxitron control systems utilizing standard 15-bit command protocols. Auto random scan capability (using A9000) or preset positioning (using preset models) is available but not at the same time.

Also available is the Test Local Control (CX900TLC) module which allows on-site testing of system functions. Just plug the TLC module into the connector on the receiver/driver and you're ready to test the system functions. The TLC module operates on +10 VDC supplied by the receiver/driver and controls these functions: iris open/iris close, focus near/focus far, zoom telephoto/zoom wide, tilt up/tilt down, pan left/pan right, automatic iris operation with manual override (using A1701), and auto & manual scan.



CX9024RX RECEIVER



OPTIONAL
CX900TLC PLUG-IN TEST MODULE
(LEFT) AND A9000 AUTO/RANDOM
SCAN PLUG-IN MODULE (RIGHT)

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CPML - CORREIOS

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3609
Doc:

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DataFAX Documents

SPEC: 2554

MANUAL: 25546

A&E: CONSULT FACTORY

C554/REVISED 11-98

263

COAXITRON®



TECHNICAL SPECIFICATIONS



MODELS

Outdoor

CX9024RX	Coaxitron outdoor receiver for 24 VAC pan/tilts with power supply for pan/tilt, zoom lens, 24 VAC camera power.
CX9024RX/220	120 VAC input Same as CX9024RX except 230 VAC input
CX9024RX-12V	Same as CX9024RX except 12 VDC camera power
CX9024RX-12V220	Discontinued
CX9024RX-PP*	Same as CX9024RX except with preset option
CX9024RX-PP220*	Same as CX9024RX-PP except 230 VAC input
CX9115RX	Coaxitron receiver (outdoor) for 120 VAC pan/tilts with power supply for pan/tilt, zoom lens, 120 VAC camera power. 120 VAC input
CX9115RX-PP*	Same as CX9115RX except with preset option
CX9220RX	Coaxitron receiver (outdoor) for 230 VAC pan/tilts with power supply for pan/tilt, zoom lens, 230 VAC camera power. 230 VAC input
CX9220RX-PP*	Same as CX9220RX except with preset option
CX9224RX	Same as CX9024RX except 24 VAC input
CX9224RX-PP	Discontinued
Indoor	
CX9024RXI	Same as CX9024RX except for indoor use
CX9024RXI/220	Discontinued
CX9024RXI-12V	Same as CX9024RXI except 12 VDC camera power
CX9024RXI-12220	Discontinued
CX9024RXI-PP*	Same as CX9024RXI except with preset option
CX9024RXI-PP/22	Discontinued
CX9115RXI	Same as CX9115RX except for indoor use
CX9115RXI-PP*	Same as CX9115RXI except with preset option
CX9220RXI	Same as CX9220RX except for indoor use
CX9220RXI-PP*	Same as CX9220RXI except with preset option
CX9224RXI	Same as CX9224RX except for indoor use
CX9224RXI-12V	Same as CX9224RXI except with 12 VDC camera power
CX9224RXI-PP*	Same as CX9224RXI except with preset option

* Receivers with preset option (PP) are for use with Coaxitron Matrix CM6700, CM8500, and CM9500 Series controls only.

ELECTRICAL

Input Voltage:	120 VAC, 60 Hz (strappable for 230 VAC, 50 Hz)
Power Consumption	
Receiver	5 vA (120 VAC or 24 VAC)
Pan/Tilt Supply	140 vA Max. (120 VAC) 50 vA Max. (24 VAC)
Lens Supply	0-4 vA Max.
Camera Supply	15 vA (typical)
Control Method	15-pulse train (pulse width modulated) superimposed on the video signal during the vertical blanking interval by the control transmitter. Pulse train occupies one (1) TV line period.

Indicates change or addition since last revision.

Pulse Amplitude

Connectors

Input Video Level

System Bandwidth

Fuse Protection

Power Cord

Operating Distance

Cable Type

RG59U

RG6

RG11

RG15

Approximately 1 Vp-p added to video signal, 333 kHz nominal

Two BNC connectors for video input and output

One 37-pin AMP CPC for control output (mate supplied)

1 Vp-p nominal; 2 Vp-p maximum at less than 75 percent APL; 1.5 Vp-p maximum at 90 percent APL

Less than 2 dB down at 10 MHz (exclusive of cable)

3 AG type

3-wire grounded #18 AWG

Cable distances are approximate according to cable type used. 75 ohm coax required.

	Distance	Distance Using EA2000
750 ft (228 m)	3,000 ft (914 m)	
1,500 ft (457 m)	4,500 ft (1371 m)	
1,800 ft (548 m)	6,000 ft (1828 m)	
—	8,000 ft (2438 m)	

GENERAL

Operating Temperature -4° to +140 °F (-20° C to +60° C)

Environment

Indoor (RXI models)

Outdoor (All Other Models)

Unit Weight

6 lb (2.72 kg)

Shipping Weight

8 lb (3.63 kg)

Construction & Finish

Outdoor Models

Dark gray fiberglass

Indoor Models

Alodine Aluminum

Latching

Outdoor Models

Two latches (accommodates padlocks; not supplied)

Dimensions

Outdoor Models

11.62"L x 9.44"W x 4.32"H
(29.51cm x 23.98cm x 10.97cm)

Indoor Models:

11.25"L x 7.87"W x 4.18"H
(28.58cm x 19.99cm x 10.62cm)

CERTIFICATIONS/RATINGS

- ◆ CE compliant (CX9024RX/220 and CX9024RX-PP220 only)
- ◆ UL Listing: Standard 2044 (except 230 VAC models)
- ◆ NEMA 1 (RXI models); NEMA 4X (all other models)

OPTIONAL ACCESSORIES

A9000

Auto/random scan plug-in module for (plugs into mother board)

AUX2000

Auxiliary function control box for use with receiver. Enables the logic level AUX1-4 signals from the receiver to control devices such as motor operated gates, lights, etc. (Factory installation recommended. Consult factory for field installation.)

AUX9000

Auxiliary function wiring harness. Required for use with AUX2000 and all indoor receivers (supplied with outdoor receivers).

CM9760-CXT

Coaxitron Translator; used to interface the CM9760 matrix control with CX9000 Series receiver/driver

CX900TLC

Receiver plug-in module for testing control functions

EA2000

Half-duplex equalizing amplifier. (See C632 spec)

HKRX024

Heater kit for 24 VAC outdoor receivers. 40 watts. Allows operation to -40°F (-40°C).

HKRX115

Same as HKRX024 except for use with 120 VAC outdoor receivers.

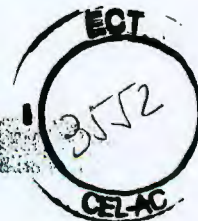
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Handwritten notes and stamps: 'MR', '000256', and a large signature.



PRODUCT SPECIFICATION



SS20/SS22, SS2000 Series Dome 14-INCH, INDOOR, PENDANT MOUNT



Product Features

- Indoor Applications
- Suspended from Ceiling or Wall
- 14-inch Diameter Black Opaque Bubble with Smoked Viewing Window; Optional Chrome Bubble Available
- Can be Ordered as a Dome Only or Dome with Integral Pre-Wired Pan/Tilt
- 360° Pan Rotation (SL) and/or Preset Positioning (PP) Available



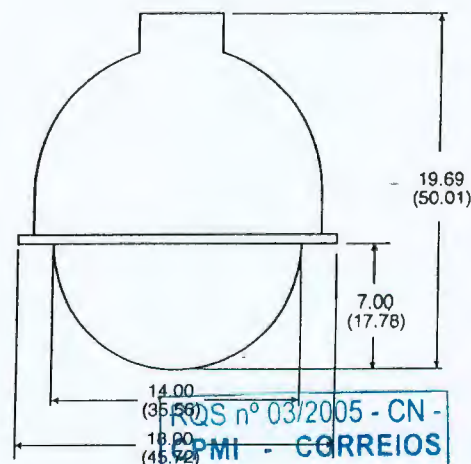
The **SS2000 Series** is a full sphere, discreet surveillance dome designed to be suspended from a ceiling or wall.

The **SS2000** has an acrylic black opaque bubble with smoked viewing window which effectively camouflages the camera and lens without compromising the quality of the video picture. An optional chrome bubble is available in limited models.

This dome has been engineered for ease of installation, serviceability, and relocation. The acrylic bubble quickly and easily detaches from the upper dome for convenient access to the camera and pan/tilt.

Available models include dome with fixed camera mount (**SS20**) or system packages which include a standard pan/tilt (**SS2000**) with optional 360 degree pan rotation (**SS2000-SL**) and/or preset positioning (**SS2000-PP** or **SS2000SL-PP**). Domes with integral pan/tilt are pre-wired for all system functions and supplied with a pigtail connector which reduces installation time.

The use of standard manufactured components increases the reliability and serviceability of the system.



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS.
ALL OTHERS ARE INCHES.

14-INCH, INDOOR, PENDANT

6 DOME ENCLOSURE



TECHNICAL SPECIFICATIONS



MODELS

SS20	Full sphere discreet surveillance dome with fixed camera mount and black opaque acrylic bubble with smoked viewing window (1 f-stop light loss)
SS2000	Full sphere discreet surveillance dome with high speed integral pan/tilt and black opaque acrylic bubble with smoked viewing window (1 f-stop light loss)
SS2000-PP	Same as SS2000 except pan/tilt has preset positioning (PP) option.
SS2000-SL	Same as SS2000 except pan/tilt is capable of 360° continuous pan rotation.
SS2000SL-PP	Same as SS2000-PP with additional 360° continuous pan rotation option.
SS22	Same as SS20 except supplied with chrome bubble (2 f-stop light loss)
SS2002-SL	Same as SS2000-SL except supplied with chrome bubble (2 f-stop light loss)

Note: All models with PP are compatible with Coaxitron Matrix, System 6700, 8500 or 9500 controls and preset receiver only.

MECHANICAL

Pan	Movement in horizontal plane:
0-355°	(Models SS2000, SS2000-PP)
360°	(Models SS2000-SL, SS2000SL-PP, and SS2002-SL)
Pan Speed	24°/second ±1°
Tilt	-90° movement from horizontal plane
Tilt Speed	12°/sec ±.5°
Maximum Load	10 lb (4.5 kg)
Gearing	Chain and direct drive
Bearings	Pan - Heavy duty ball bearing and Oilite bronze bushing
	Tilt - Oilite bronze bushing
Braking	Friction
Duty Cycle	50% duty cycle; 30 minute rating

ELECTRICAL

Input Voltage	24 VAC required for pan/tilt
Running Current	Pan - .31 amp (7.4 vA)
	Tilt - .38 amp (9.12 vA)
Connectors	Pan/Tilt- Amp CPC type (mate supplied)
	Video - BNC
	Lens - Hirschmann MAB6100
Camera Power	Spade lugs
Motors	Two-phase induction type, instantaneous reversing
Limit Switches	5 amp, external adjustment (pan & tilt)
Conductor	
Requirements	As listed, plus coax cable:

	Pan/Tilt	Lens	AC	Total
SS2000, SS2000-SL	5 plus ground	4	2	12
SS2000-PP	9 plus ground	6	2	18
SS2000SL-PP	10 plus ground	6	2	19
Cable Distances	(all models)			
	12/18/19 Cond.	13/19/20 Cond.*		
20 Awg	130 ft (39.62 m)	185 ft (56.38 m)		
18 Awg	205 ft (62.48 m)	290 ft (88.39 m)		
16 Awg	326 ft (79.36 m)	461 ft (140.51 m)		

*Using 2 conductor common.

Note: Cable distances are based on a 10% cable loss with both motors running.

Indicates change or addition since last revision.

GENERAL

Maximum Camera and Lens Size	(including BNC) 12.5" L x 4.5" W x 3.25" H (31.75 cm x 11.43 cm x 8.25 cm)
Construction	
Upper dome	Black, U.L. 94HB rated ABS plastic
Lower dome	Acrylic hemisphere with distortion-free viewing window; mounts into upper dome with velcro fasteners and complete assembly is driven by pan/tilt
Environment	Indoor; 32° to 120°F (0° to 48.89°C)
Dimensions	See dimension drawing on front page
Weight	Unit Shipping
Model SS20	7 lb (3.15 kg) 16 lb (7.3 kg)
All other models	15 lb (6.80 kg) 24 lb (10.87 kg)

CERTIFICATIONS/RATINGS

- ◆ UL listed to Standard 2044
- ◆ NEMA 1

RECOMMENDED MOUNTS

IDM4018	Wall mount. Max. load 75 lb (33.97 kg). (See C203 spec)
IWM-BK	Wall mount. Max load 75 lb (33.97 kg). (See C203 spec)
MRWA*	Wall mount adapter. (See C234 spec)
MRCA*	Ceiling mount adapter. (See C234 spec)

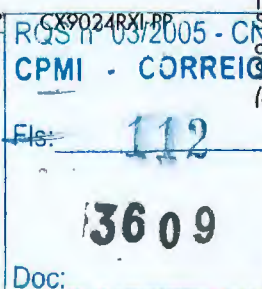
*A suitable length of 1.5-inch NPT threaded pipe is needed for mounting.

RECOMMENDED CONTROLS AND ACCESSORIES

A9000	Auto/random scan module for Coaxitron receivers (plug-in module). (See C550 spec)
Coaxitron Matrix	Coaxitron Matrix System 6700, 8500 or 9500 controls. See individual spec sheets (C523, C501 and C500) for information.
CX900TLC	System test and receiver manual control board for Coaxitron receivers (plug-in module). (See C550 spec)
MPTAZ24DT	Desktop pan/tilt and zoom lens control with auto/random scan for 24 VAC pan/tilts. (See C528 spec)
MPT9000CZ	Coaxitron desktop pan/tilt and zoom lens transmitter/control. Use with CX9024RXI receiver. (See C550 spec)

RECOMMENDED RECEIVERS

CX9024RXI	Coaxitron receiver for 24 VAC pan/tilts with power supply for pan/tilt, zoom lens, 24 VAC camera power. (See C554 spec)
CX9024RXI-PP	Same as CX9024RXI except with preset option (PP) for pan/tilt and lens (use with SS2000-PP and SS2000SL-PP only). (See C554 spec)

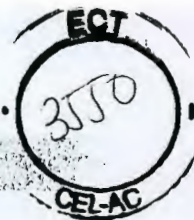


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PRODUCT SPECIFICATION



13VD/13VV Series Vari-Focal Lenses

1/3-INCH FORMAT, AUTO IRIS

CE

Product Features

- "CS" Mount
- For use with 1/3-Inch Format Cameras
- Auto Iris, Manual Focus and Zoom
- High Resolution Power in Compact Body

Pelco's **13VD**** and **13VV** Series** of 1/3" vari-focal lenses offers versatile and flexible packages in one lens. Each DC drive auto-iris lens in this series covers a range of focal lengths. Use these lenses to get the exact view needed instead of "almost-the-right-view". Appropriate for indoor and outdoor lighting situations, the **13VD Series** lenses will fit all CS-mount cameras requiring DC drive auto-iris lenses. The **13VV Series** video drive auto-iris lenses (3 to 8 mm and 2.5 to 6 mm only) are appropriate for cameras requiring these types of lenses. All **13VD** and **13VV Series** lenses are pre-connectorized with a standard 4-pin plug for ease-of-installation and convenience.

The 2.5 to 6 mm vari-focal covers the ultra-wide to wide angle focal lengths. The aspheric construction of this lens equates to optimized, crisper images at all focal lengths with f1.4-f360 performance.

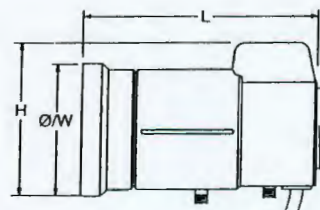
The 3 to 8 mm f1.4 auto-iris vari-focal lens is the best choice for a truly general purpose lens for dynamic lighting situations. Focal lengths from wide to medium telephoto makes this a very versatile lens in a compact package.

The 3.5 to 8 mm vari-focal lens is a very affordable, general purpose lens ideally suited to dynamic lighting conditions found in outdoor applications. The auto iris is a direct-drive type which is remotely operated from a controller. The lens responds to either a VS or V input signal. It features a manually adjustable focal length which allows a viewing range from wide angle to medium telephoto. This lens is not equipped with adjustment ring locking screws.

The unique 5 to 40 mm DC drive auto-iris vari-focal lens covers a wide range of focal lengths from medium-wide to full telephoto in a package that's only 2-3/4" long! All this with a relative aperture of f1.6 to f360.



13VD5-40



	H	ØW	L
13VD2.5-6	CONSULT FACTORY		
13VD3-8	1.74 (44.20)	1.44 (36.58)	2.13 (54.10)
13VD3.5-8	2.13 (54.10)	0.90 (22.80)	1.87 (45.50)
13VD5-40	1.95 (49.53)	1.66 (42.16)	2.85 (72.39)
13VV2.5-6	CONSULT FACTORY		
13VV3-8	1.95 (49.53)	1.44 (36.58)	2.11 (53.59)

NOTE: VALUES IN PARENTHESES ARE MILLIMETERS; ALL OTHERS ARE INCHES.

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DataFAX Documents SPEC: 2758

MANUAL: 27586, 27466

A&E: CONSULT FACTORY

C758/REVISED 10-98



TECHNICAL SPECIFICATIONS



MODELS

	13VD2.5-6	13VD3-8	13VD3.5-8	13VD5-40
Type	Vari-Focal	Vari-Focal	Vari-Focal	Vari-Focal
Format Size	1/3-inch	1/3-inch	1/3-inch	1/3-inch
Mount Type	CS	CS	CS	CS
Focal Length	2.5~6 mm	3~8 mm	3.5~8 mm	5~40 mm
Zoom Ratio	2.4X	2.7X	2.3X	8X
Relative Aperture (F)	1.4~125	1.4~360	1.4~90	1.6~360
Operation				
Iris	Auto Iris (Direct Drive)	Auto Iris (Direct Drive)	Auto Iris (Direct Drive)	Auto Iris (Direct Drive)
Focus	Manual	Manual	Manual	Manual
Zoom	Manual	Manual	Manual	Manual
Angle of View				
Diagonal	56.8°~133.3°	26.5°~68.8°	40.8°~88°	8.8°~66.9°
Horizontal	45.6°~107.6°	35.3°~93.4°	33°~71.4°	6.5°~53.6°
Vertical	34.2°~80.9°	44.1°~118.7°	25.2°~54.8°	4.8°~40.2°
Minimum Object Distance	0.2 m	0.2 m	0.3 m	Consult factory
Back Focal Length	8.72~14.24 mm	8.75~22.84 mm	8.762 mm	10~14.3 mm
Filter Size (mm)	Consult factory	NIL	N/A	40.5P0.5
Dimensions	See drawing on front	See drawing on front	See drawing on front	See drawing on front
Unit Weight	Consult factory	.22 lb (.10 kg)	.16 lb (.07 kg)	.30 lb (.14 kg)
Shipping Weight	Consult factory	1 lb (0.45 kg)	1 lb (0.45 kg)	1 lb (0.45 kg)
	13VV2.5-6	13VV3-8		
Type	Vari-Focal	Vari-Focal		
Format Size	1/3-inch	1/3-inch		
Mount Type	CS	CS		
Focal Length	2.5~6 mm	3~8 mm		
Zoom Ratio	2.4X	2.7X		
Relative Aperture (F)	1.4~125	1.4~360		
Operation				
Iris	Auto Iris (Video Drive)	Auto Iris (Video Drive)		
Focus	Manual	Manual		
Zoom	Manual	Manual		
Angle of View				
Diagonal	56.8°~133.3°	26.5°~68.8°		
Horizontal	45.6°~107.6°	35.3°~93.4°		
Vertical	34.2°~80.9°	44.1°~118.7°		
Minimum Object Distance	0.2 m	0.2 m		
Back Focal Length	8.72~14.24 mm	8.75~22.84 mm		
Filter Size (mm)	Consult factory	NIL		
Dimensions	See drawing on front	See drawing on front		
Unit Weight	Consult factory	.22 lb (.10 kg)		
Shipping Weight	1 lb (0.45 kg)	1 lb (0.45 kg)		

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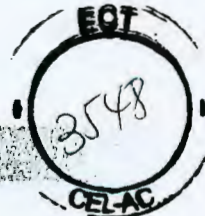
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PRODUCT SPECIFICATION



13ZD*X* Series Motorized Zoom Lenses

1/3-INCH FORMAT, AUTO IRIS (DIRECT DRIVE)

Product Features

- "CS" Mount
- For use with 1/3-Inch Format Cameras
- Auto Iris (Direct Drive, No Amplifier), Motorized Focus and Zoom (with or without Presets)
- High Resolution Power in Compact Body

Pelco's 1/3" **13ZD*X* Series** of lenses all feature motorized zoom, focus and DC drive auto-iris. All lenses are CS-mount. A factory installed 4-pin auto-iris connector is standard, and zoom and focus functions are pre-connectorized with a 6-pin Hirschmann connector or 9-pin amp CPC connector (Preset Position versions) for ease of installation and convenience.

Six focal length ranges are available in this series. Preset-positioning versions are available for all models.

13ZD6X6(P)

The focal lengths of this DC drive auto-iris 6X lens range from 6 to 36 mm. This lens is an aspherical design which gives it a relative aperture of f0.95 for difficult low-light applications. This is a compact and high performance design.

13ZD6X8(P)

The focal lengths of this 8X f1.4 lens range from 6 to 48 mm. This economical lens is a good choice for a general purpose zoom application where a DC drive auto-iris is desirable or required.

13ZD6X10(P)

The focal lengths of this 10X f1.6 lens range from 6 to 60 mm. This product is a good general purpose lens for applications requiring more zoom.

13ZD6X15(P)

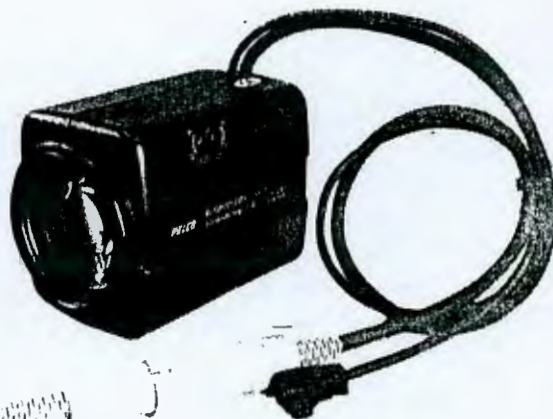
This DC drive auto-iris lens is a good choice for longer range applications. The focal lengths of this 15X f1.6 lens range from 6 to 90 mm. The 90 mm focal length of this lens gives a 16 foot wide field of view at 100 yards.

13ZD5.6X20(P)

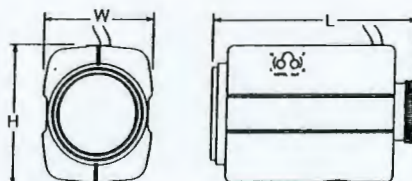
The focal lengths of this 20X f1.6 lens range from 5.6 to 112 mm. This unique lens has a very wide range of focal lengths from wide angle to full telephoto. This gives a 12 foot wide field of view at 100 yards while still giving a 257 foot view at the widest setting. This makes for a versatile DC drive auto iris lens.

13ZD5.5X30(P)

The focal lengths of this 30X f1.8 lens range from 5.5 to 165 mm. This lens has the greatest field of view range from 9 to 261 feet wide at 100 yards when focusing from telephoto to wide angle.



13ZD5.6X20



	H	W	L
13ZD6X6(P)	3.15 (80.01)	2.57 (65.28)	3.47 (88.14)
13ZD6X8(P)	3.15 (80.01)	2.57 (65.28)	4.23 (107.44)
13ZD6X10(P)	3.15 (80.01)	2.73 (69.34)	4.77 (121.16)
13ZD6X15(P)	3.15 (80.01)	2.73 (69.34)	4.77 (121.16)
13ZD5.6X20(P)	3.15 (80.01)	2.73 (69.34)	4.84 (122.94)
13ZD5.5X30(P)	3.15 (80.01)	3.43 (87.00)	6.57 (167.00)

NOTE: ALL MEASUREMENTS ARE WITH LENSES FULLY EXTENDED, OR "FOCUS NEAR" MODE. VALUES IN PARENTHESES ARE MILLIMETERS; ALL OTHERS ARE INCHES.

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TECHNICAL SPECIFICATIONS



MODELS

	13ZD6X6(P)	13ZD6X8(P)	13ZD6X10(P)	13ZD6X15(P)
Type	Motorized Zoom	Motorized Zoom	Motorized Zoom	Motorized Zoom
Format Size	1/3-inch	1/3-inch	1/3-inch	1/3-inch
Mount Type	CS	CS	CS	CS
Focal Length	6~36mm	6~48 mm	6~60 mm	6~90 mm
Zoom Ratio	6X	8X	10X	15X
Relative Aperture (F)	0.95~360	1.4~360	1.6~360	1.6~360
Operation				
Iris	Auto Iris (Direct Drive)	Auto Iris (Direct Drive)	Auto Iris (Direct Drive)	Auto Iris (Direct Drive)
Focus	Motorized*	Motorized*	Motorized*	Motorized*
Zoom	Motorized*	Motorized*	Motorized*	Motorized*
Angle of View				
Diagonal	9.7°~53.7°	7.3°~54.4°	5.8°~54.3°	3.9°~54.3°
Horizontal	7.8°~43.7°	5.8°~44.2°	4.7°~44.2°	3.1°~44.2°
Vertical	5.9°~33.0°	4.4°~33.5°	3.5°~33.5°	2.4°~33.5°
Minimum Object Distance	1.0m	1.0 m	1.0 m	1.0 m
Back Focal Length	8.66mm	10.10 mm	9.55 mm	9.55 mm
Filter Size (mm)	46P0.75	46P0.75	52P0.75	52P0.75
Dimensions	See drawing on front	See drawing on front	See drawing on front	See drawing on front
Unit Weight	.88 lb (.40 kg)	.92 lb (.42 kg)	1.19 lb (.54 kg)	1.43 lb (.65 kg)
Shipping Weight	2 lb (.90 kg)	2 lb (.90 kg)	3 lb (1.36 kg)	3 lb (1.36 kg)

	13ZD5.6X20(P)	13ZD5.5X30(P)
Type	Motorized Zoom	Motorized Zoom
Format Size	1/3-inch	1/3-inch
Mount Type	CS	CS
Focal Length	5.6~112 mm	5.5~165 mm
Zoom Ratio	20X	30X
Relative Aperture (F)	1.6~360	1.8~360
Operation		
Iris	Auto Iris (Direct Drive)	Auto Iris (Direct Drive)
Focus	Motorized*	Motorized*
Zoom	Motorized*	Motorized*
Angle of View		
Diagonal	3.2°~59.4°	2.1°~58.7°
Horizontal	2.6°~47.6°	1.7°~47.6°
Vertical	1.9°~35.7°	1.3°~33.9°
Minimum Object Distance	1.5 m	1.8 m
Back Focal Length	8.97 mm	15.5 mm
Filter Size (mm)	55P0.75	72P0.75
Dimensions	See drawing on front	See drawing on front
Unit Weight	1.23 lb (.56 kg)	Consult factory
Shipping Weight	3 lb (1.36 kg)	3 lb (1.36 kg)

*Model numbers with "P" suffix are motorized with preset capability.

Indicates change or addition since last revision.

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3609
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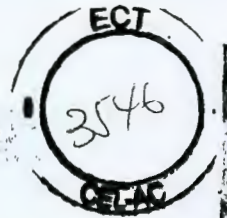
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PRODUCT SPECIFICATION



CC3300 Series CCD Color Cameras

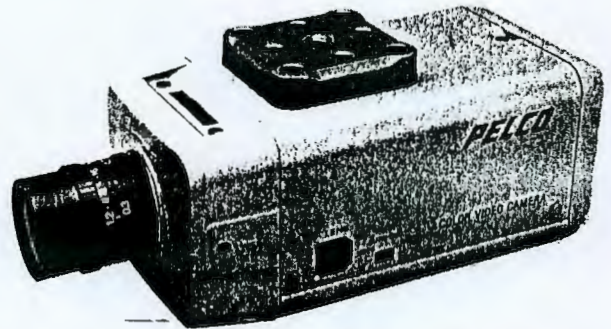
1/3-INCH, STANDARD RESOLUTION, 330 TVL

CE

UL LISTED

Product Features

- "C/CS" Lens Mount
- Standard Resolution
- CCD-IRIS (Electronic Shutter)
- Turbo AGC Function
- Backlight Compensation
- Auto Tracing White Balance
- 1/3-Inch Format CCD Imager
- Horizontal Resolution 330 TVL
- For use With DC or Video Type Auto Iris Lenses
- Integral Isolation Transformer



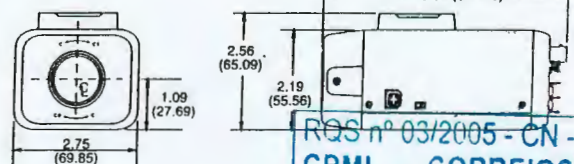
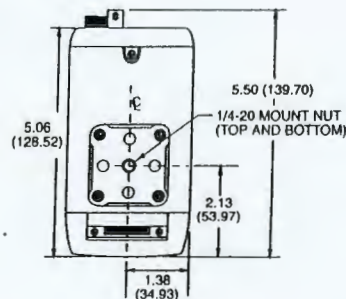
(LENS NOT SUPPLIED WITH CAMERA)

The **CC3300 Series** are compact and lightweight, 1/3-inch image format, color CCD cameras featuring contemporary styling and easily accessible rear panel controls.

The **CC3300 Series** has been designed specifically for surveillance and monitoring applications where lighting is minimal. Only 1.0 lux is required for clear image acquisition. The **CC3300 Series** produces pictures with sufficient contrast to allow for good object recognition.

Primary features include backlight compensation, Turbo AGC for high sensitivity, CCD iris (electronic shutter), line lock function, automatic tracing white balance, 4-pin auto iris connector for use with video or DC type auto iris lenses, and a double cam C/CS head which eliminates the need for C-mount adapters.

In addition, lower power consumption and a wide environmental operating range make the **CC3300 Series** an excellent choice for demanding surveillance and monitoring applications.



NOTE: VALUES IN PARENTHESES ARE IN MILLIMETERS;
ALL OTHERS ARE IN INCHES.

RQS nº 03/2005 - CN -
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Doc: 000263

DataFAX Documents SPEC: 2732

MANUAL: 219006

A&E: CONSULT FACTORY

C732/REVISED 9-90



TECHNICAL SPECIFICATIONS

MODELS

CC3300-2	1/3-inch Standard resolution, color CCD camera, 24 VAC, 60 Hz, NTSC/EIA
CC3300-2X	1/3-inch Standard resolution, color CCD camera, 24 VAC, 50 Hz, PAL/CCIR
CC3300-3	1/3-inch Standard resolution, color CCD camera, 230 VAC, 50 Hz, PAL/CCIR

GENERAL

Image Device	1/3-inch Interline transfer CCD
Picture Elements	510 (H) x 492 (V)
CC3300-2	
CC3300-2X,	500 (H) x 582 (V)
CC3300-3	3.3mm (H) x 4.4mm (V)
Sensing Area	525 lines, 2:1 interlace
Scanning System	AC line lock
Sync System	330 TV lines
Horizontal Resolution	0.9 lux (f1.2, Turbo AGC ON)
Minimum Illumination	
CCD Iris	
CC3300-2	1/60 to 1/100,000 second
CC3300-2X,	
CC3300-3	1/50 to 1/100,000 second
CCD Iris Control	ON/OFF switchable
Signal-to-Noise Ratio	52 dB (AGC Off, Weight On)
Automatic Gain Control	ON/OFF/Turbo switchable
White Balance	ATW only
Phase Control	V-phase control ($\pm 90^\circ$)
Backlight Compensation	ON/OFF Selectable
Video Out	1.0 Vp-p, 75 Ω , sync negative, BNC type
Acceptable Lens Mass	2.2 lb (1 kg) maximum
Lens Type	Video/DC servo switchable

ELECTRICAL

Power Requirements	
CC3300-2	24 VAC, 60 Hz (screw terminals)
CC3300-2X	24 VAC, 50 Hz (screw terminals)
CC3300-3	220-240 VAC, 50 Hz
Power Consumption	
CC3300-2,	
CC3300-2X	3.5W (approximately)
CC3300-3	4.0W (approximately)
Connectors	
CC3300-2,	
CC3300-2CX	Video Out (BNC)
	Lens (4-pin)
	GND terminal
	AC 24V terminals
	Video Out (BNC)
	Lens (4-pin)
CC3300-3	

MECHANICAL

Lens Mount	C/CS mount (adjustable)
Camera Mount	Removable mounting plate fits either top or bottom of camera housing; uses 1/4-inch UNC-20 screw

ENVIRONMENTAL

Operating Temperature	14°F to 122°F (-10°C to 50°C)
Storage Temperature	-40°F to 140°F (-40°C to 60°C)
Humidity	20 to 90% (non-condensing)
Shock resistance	70G

PHYSICAL

Construction	Aluminum case
Finish	Neutral gray
Dimensions	See dimension drawing on front
Weight	Unit Shipping
CC3300-2,	
CC3300-2X	1 lb 2 oz. (.51 kg) 2 lb (.90 kg)
CC3300-3	1 lb 6 oz. (.62 kg) 2 lb (.90 kg)

CERTIFICATIONS

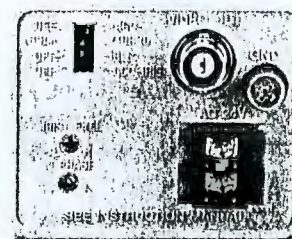
- ◆ CE compliant (CC3300-2X, CC3300-3)
- ◆ UL listed (CC3300-2)

ACCESSORIES

Supplied Accessories	Lens mount cap 4-pin plug for auto iris lens
----------------------	---

POWER SUPPLIES

TF1000	Power supply for 24 VAC cameras, 10 vA
TF2000	Power supply for 24 VAC cameras, 20 vA
TF3000	Power supply for 24 VAC cameras, 30 vA
TF9000	Power supply for 24 VAC cameras, 50 vA



CC3300-2 REAR VIEW



CC3300-3 REAR VIEW

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000264



PRODUCT SPECIFICATION



PMC21A Monitor

21-INCH COLOR, HIGH RESOLUTION

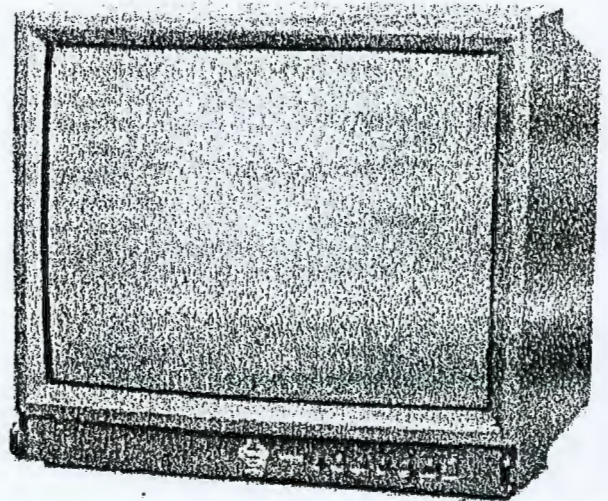
CE



LISTED

Product Features

- High Resolution
- 100% Steel Housing
- Front Panel Controls
- 110-240 VAC Input
- Built-in Speaker
- Video and Audio Input and Output
- S-VHS Input for Separate Y-C Signals
- Digital Comb Filter for Significantly Improved Picture Quality
- Automatic Color Switching System (PAL/NTSC)
- Front Handles Facilitate Rack Mounting



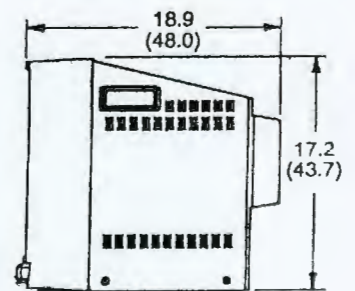
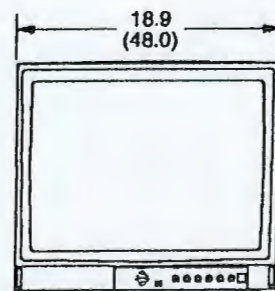
The **PMC21A** is a high-resolution color video monitor that can be used in desktop applications or rack mounted using the optional bezel, which is a standard accessory included with each monitor. The monitor comes with handles on the lower front which facilitate ease of handling when installing in a rack and occupies 11 rack units when mounted in a standard 19-inch rack or console.

The **PMC21A** supports both NTSC and PAL video, as well as 120 VAC and 230 VAC input power. For your convenience, the unit is supplied with two grounded power cords: one for 120 VAC and a "Euro"-style one for 230 VAC. An automatic switching system makes all the necessary changes for adapting to the required formats. Manual selection is not required.

In addition, the **PMC21A** features audio input and output. The monitor's S-VHS, high-resolution video (minimum 420 horizontal lines at center), and digital comb filter add to the superior picture quality features of the product.

This monitor works very well in both large and small applications.

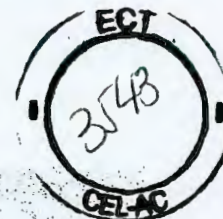
RQS n° 03/2005 - CN -
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NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES.

000265

W. J. Me



TECHNICAL SPECIFICATIONS

MODELS

PMC21A

Color monitor, 21-inch (53.34 cm) picture display, 110-240 VAC, 50/60 Hz, NTSC or PAL, auto select; supplied with 120 VAC and 230 VAC line cords

MOUNTING

This monitor can be rack mounted using the optional rack bezel supplied with monitor. Rack bezel fits snugly around monitor cabinet, with face of monitor protruding approximate 4.8 inches (12.2 cm) from front of rack. When rack mounted, this monitor occupies 11 rack unit spaces.

Make certain the console is capable of supporting the full weight of the monitor and will not become unbalanced or unstable when monitor is racked.

ELECTRICAL

Input Voltage	110-240 VAC, 50/60 Hz
Power Consumption	70 watts
Horizontal Resolution	420 lines (center) 300 lines (corners)
Picture Tube	21 inches (53.34 cm) measured diagonally
Viewable Picture Size	20.5 inches (52.07 cm) measured diagonally
Input Signal	Composite video, negative sync: Y: 1.0 V _{p-p} C: 0.286 V _{p-p}
Terminals	
Video Input Level/Impedance	1.0 V _{p-p} /75 ohms
Video Output Level/Impedance	1.0 V _{p-p} /75 ohms
Audio Input Level/Impedance	0.3 V _{rms} /25K ohms (over)
Audio Output Level/Impedance	0.3 V _{rms} /4.7K ohms (under)
Subcarrier Frequency	3.579549 MHz ±200 Hz
Sync Range	4.433619 MHz ±200 Hz at room temperature
High Voltage	25 ±1.2 kV

GENERAL

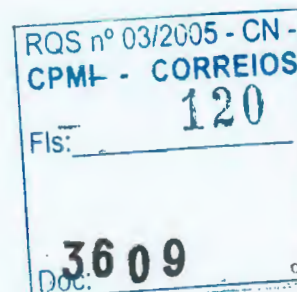
Connectors	
Video Input/Output	BNC
S-VHS Input	4-pin mini DIN
Audio Input/Output	RCA
AC Power Cord	Unit is supplied with two grounded power cords; one for 120 VAC and a "Euro"-style one for 230 VAC
Construction	Steel cabinet
Finish	Black with black bezel around screen
Dimensions	See dimension drawing on front
Unit Weight	52 lb (23.6 kg)
Shipping Weight	62 lb (28.1 kg) approximate

ENVIRONMENTAL

Operating Temperature	32° to 106°F (0° to 41°C)
Humidity	10% to 95% (non-condensing)

CERTIFICATIONS

- ◆ CE compliant
- ◆ cUL, UL listed



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000265



PRODUCT SPECIFICATION



IDM4018 and IWM Series Mount WALL MOUNT, DOME

CE

Product Features

- Constructed of Aluminum (IDM4018) and Cast Aluminum (IWM Series)
- Includes Cable Feedthrough Hole
- Supports up to 75 Pounds (34 kg)
- Mounts Directly to Vertical Load-Bearing Surface for Wall Mount Applications
- Can be used with PP4348 Parapet Mount, PA402 Pole Mount, or CM400 Corner Mount
- For use with Spectra® Pendant Domes; IDM4018 can also be used with Other Pendant Style Domes using 1.5-inch NPT Threaded Pipe for Mounting
- IWM24 Series Includes Integral 24 VAC, 100 vA Transformer for use with Spectra® Series Domes

The **IDM4018** and **IWM Series** wall mounts are designed primarily for use with Spectra® Series pendant domes, however, the **IDM4018** can also be used with other pendant style dome enclosures that utilize 1.5-inch NPT pipe for mounting.

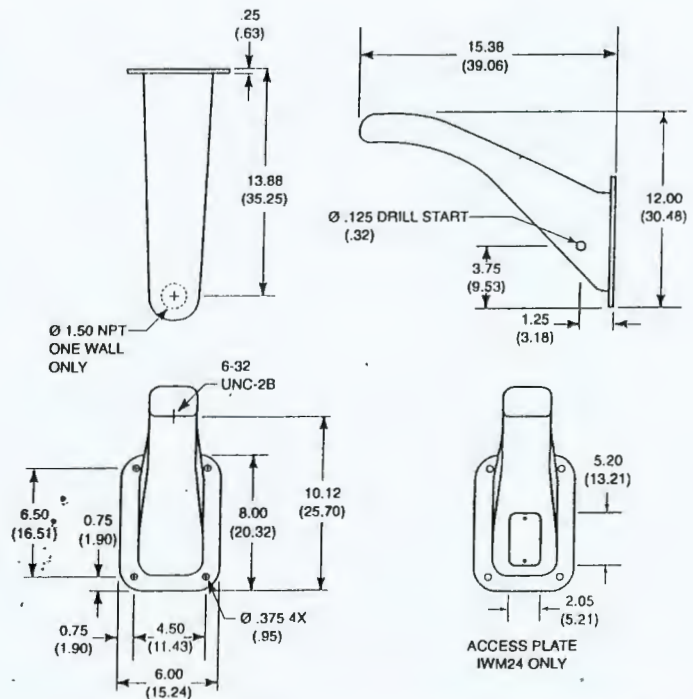
The **IDM4018** is constructed of aluminum and has a gray polyester powder coat finish. The **IWM Series** is constructed of cast aluminum and is available in a black, gray, or white finish. The **IWM24 Series** is available in black or gray and includes an integral 24 VAC, 100 vA transformer. Input power (120 or 230 VAC, 50/60 Hz) is selectable via an internal slide switch which is easily accessible through a front access cover plate. Input wiring can enter the arm from openings in the mounting plate or flexible metal conduit fittings may be installed on each side of the mount. All mounts are designed to support up to 75 pounds (34 kg).

A 3.5-inch length of 1.5-inch NPT threaded pipe is supplied for attaching the dome to the mount. (Threaded pipe not needed for Spectra® Series as dome includes threaded pipe fitting.)

These mounts can be attached directly to any vertical load-bearing surface. In addition, they can also be used with the PP4348 parapet mount, the PA402 pole mount, or the CM400 corner mount for other mounting configurations.



IWM-BK



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES

IWM SERIES DIMENSION DRAWING

RQS n° 03/2005 - CN.
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121

Fls: 1

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Doc:

DataFAX Documents

SPEC: 2203

MANUAL: 22036/22886

A&E CONSULT FACTORY

C203/REVISED 11-98

000267

220



TECHNICAL SPECIFICATIONS



MODELS

IDM4018	Wall mount with removable front end cap and feedthrough capabilities for use with Spectra® Series pendant domes and other pendant style domes using 1.5-inch NPT threaded pipe for mounting.
IWM-BK	Wall mount with cable feedthrough for use with Spectra® Series pendant domes. Black finish.
IWM-GY	Same as IWM-BK except gray finish.
IWM-WT	Same as IWM-BK except white finish.
IWM24-BK	Wall mount with cable feedthrough for use with Spectra® Series pendant domes. Includes integral 24 VAC, 100 vA transformer. Black finish.
IWM24-GY	Same as IWM24-BK except gray finish.

Finish

IDM4018	Gray
IWM-BK	Black
IWM-GY	Gray
IWM-WT	White
IWM24-BK	Black
IWM24-GY	Gray

Environment

Indoor/outdoor

Dimensions

See dimension drawings

Weight

	Unit	Shipping
IDM4018	4 lb 2 oz. (1.87 kg)	5 lb (2.26 kg)
IWM Series	5 lb (2.26 kg)	7 lb (3.17 kg)
IWM24 Series	8.5 lb (3.86 kg)	11 lb (4.98 kg)

CERTIFICATIONS/RATINGS

- ◆ CE compliant (IWM24-BK and IWM24-GY only)
- ◆ NEMA 4 (IWM24-BK and IWM24-GY only)

ELECTRICAL

(IWM24 Series Only)

Input Power	120/230 VAC, 50/60 Hz, switchable via an internal slide switch
Output Power	24 VAC, 100 vA transformer
Fuse	One 1.6 A, 120 VAC, fast acting One 500 mA, 230 VAC, fast acting

GENERAL

Suggested Mounting Method

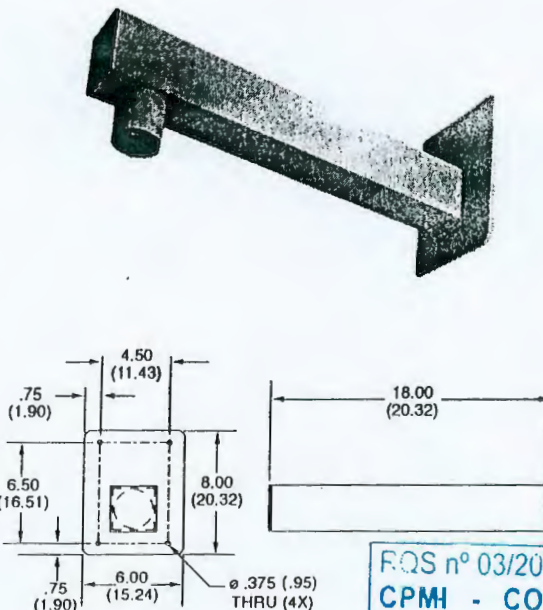
IDM4018	Secure with four 5/16-inch fasteners (not supplied) suitable for the mounting surface
IWM Series	Secure with four 3/8-inch fasteners (not supplied) suitable for the mounting surface
Dome Mounting	3.5-inch length of 1.5-inch NPT threaded pipe supplied with all except IWM24 Series. (Note: Some domes may require an additional length of pipe depending on the type of mount selected.)

Cable Entry
IDM4018 and
IWM Series
IWM24 Series

One cable hole on mounting plate
Two cable holes on mounting plate; can accommodate 1/2-inch (1.27 cm) conduit fittings or PG13.5 liquid-tight gland fittings. Two 3/4-inch (1.91 cm) conduit openings can be drilled on side of mount arm for flexible metal conduit connectors

Maximum Load Construction

IDM4018	5052H32 Aluminum
IWM Series	Cast aluminum
IWM24 Series	Cast aluminum



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS;
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IDM4018 DIMENSION DRAWING



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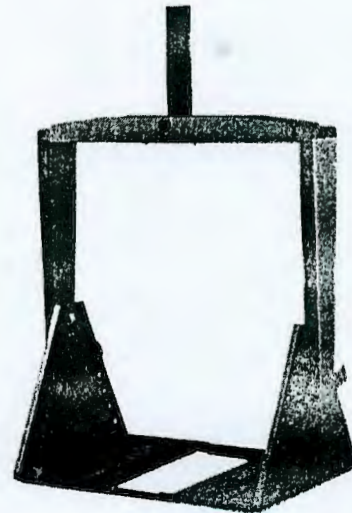
PRODUCT SPECIFICATION



MR4050 Mount CEILING/WALL MOUNT, MONITOR

Product Features

- Ceiling or Wall Mounting
- Accommodates Monitors 19 to 31 Inches (49-79 cm) Wide
- Supports up to 150 Pounds (68 kg)
- Tilt Angle Adjustable in Increments of ± 20 Degrees and ± 40 Degrees
- Replaces MR4000 Monitor Mount; Features Include Safety Straps and Fully Braced Monitor Support Pan



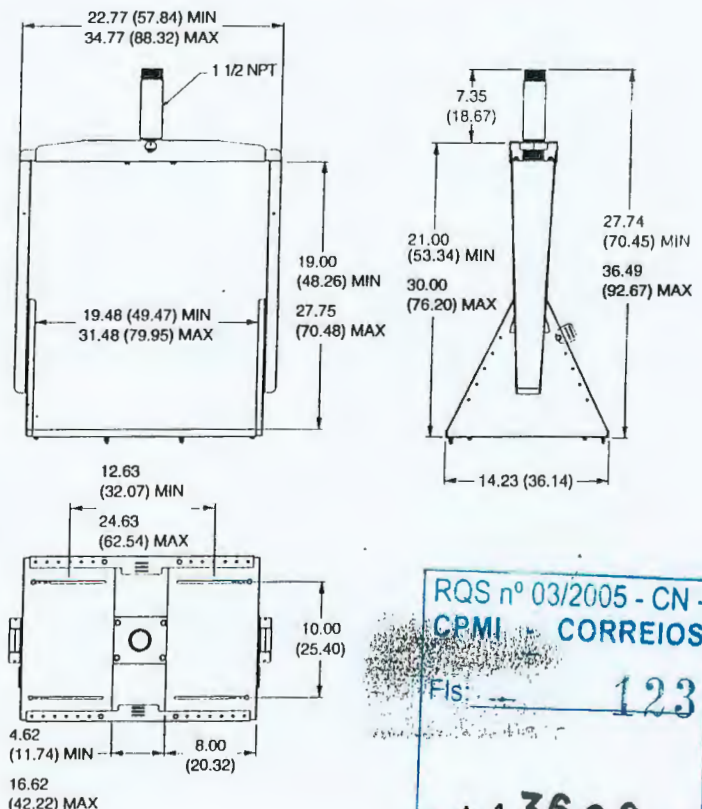
(Mounting straps not shown)

The **MR4050** Monitor Mount is designed to safely mount a monitor from either a ceiling or a wall. It can be used in security systems, educational institutions, churches, hospitals, and other applications requiring overhead monitor mounting and positioning.

The **MR4050** will accept monitors from 19 to 31 inches (49-79 cm) wide and features safety straps and a fully braced monitor support pan. The safety straps wrap around the sides and back of the monitor to seat and stabilize the monitor in the support pan, thus minimizing monitor movement. The tilt angle for the monitor support pan is adjustable in increments of ± 20 degrees and ± 40 degrees. Cosmetic covers conceal locking bolts in the side arm brackets.

The **MR4050** will safely support monitors weighing up to 150 pounds (68 kg).

An 8-inch (20.32 cm) section of 1.5-inch NPT threaded pipe is furnished with the mount to allow for either ceiling or wall mounting. Two optional adapters are available: the MRCA for ceiling mounting and the MRWA for wall mounting.



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES.

DataFAX Documents

SPEC: 2236

MANUAL: 22366

A&E: CONSULT FACTORY

C236/NEW 7-98

241

000269



TECHNICAL SPECIFICATIONS

MODEL

MR4050

Universal monitor mount; fits monitors from 19 to 31 inches (49 to 79 cm) wide

RELATED PRODUCTS

MRCA

Ceiling mount adapter for ceiling mounting (uses four 5/16-inch diameter fasteners, not supplied). (See C234 spec)

MRWA

Wall mount adapter for wall mounting (uses a minimum of six 5/16-inch diameter fasteners, not supplied). (See C234 spec)

Note: The mounting surface must be able to support the total weight of the monitor and the mount.

GENERAL

Tilt Angle

Adjustable increments of ± 20 degrees or ± 40 degrees

Maximum Load

150 lb (68 kg)

Dimensions

See dimension drawing on front page

Construction

Steel

Finish

Black polyester powder coat

Environment

Indoor only

Weight

Unit

27.40 lb (12.43 kg)

Shipping

31 lb (14.06 kg)



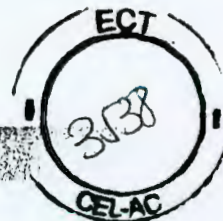
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000270



PRODUCT SPECIFICATION



MRCA/MRWA Mount

CEILING/WALL MOUNT, PENDANT DOMES AND MONITORS



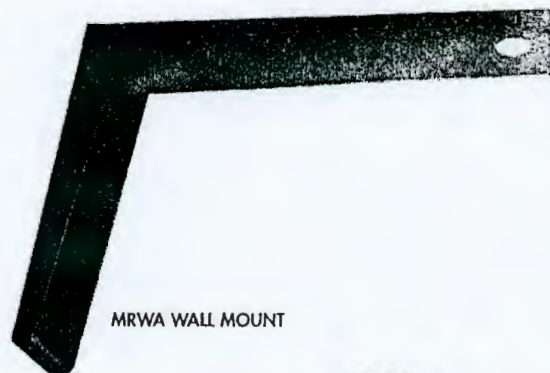
Product Features

- Ceiling or Wall Mounting
- Black Polyester Powder Coat Finish
- For use with Full Sphere Pendant Style Domes and Monitor Mounts utilizing 1.5-inch NPT Threaded Pipe for Mounting

The **MRCA** and **MRWA** mounts are designed for use with full sphere pendant mount domes and monitor mounts which utilize a suitable length of 1.5-inch NPT threaded pipe for mounting. The **MRCA** is for use in ceiling mounting applications and the **MRWA** is for wall mounting applications.

The **MRCA** and **MRWA** are compatible with Pelco SS20/SS2000, Spectra® Series, DF5-PB/DF5-PG, and PDF8 pendant style domes and MR3000/MR3050/MR4050 monitor mounts.

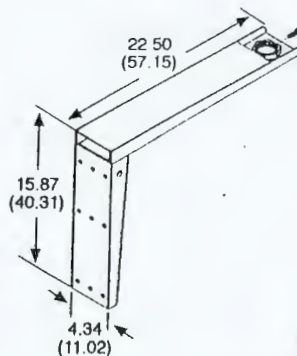
The **MRCA** and **MRWA** are constructed of steel and have a black polyester powder coat finish. These mounts are for indoor use only.



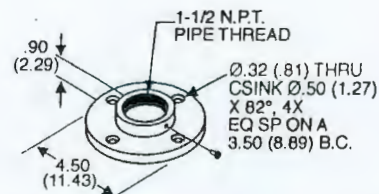
MRWA WALL MOUNT



MRCA CEILING MOUNT



MRWA DIMENSION DRAWING



NOTE: VALUES IN PARENTHESES ARE CENTIMETERS; ALL OTHERS ARE INCHES.

MRCA DIMENSION DRAWING

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TECHNICAL SPECIFICATIONS



MODELS

MRCA	Ceiling mount for full sphere pendant style domes and monitor mounts which utilize 1-1/2" NPT threaded pipe for mounting
MRWA	Wall mount for full sphere pendant style domes and monitor mounts which utilize 1-1/2" NPT threaded pipe for mounting

GENERAL

Dome/Monitor Mounting	Suitable length of 1-1/2" NPT threaded pipe required (not supplied with mount)
Mounting Method	
MRCA	Four 5/16-inch diameter fasteners, not supplied
MRWA	Minimum of six 5/16-inch diameter fasteners, not supplied
Construction	Steel
Finish	Black polyester powder coat
Unit Weight	
MRCA	1.22 lb (0.55 kg)
MRWA	11.35 lb (5.15 kg)
Shipping Weight	
MRCA	2 lb (.9 kg)
MRWA	13 lb (5.88 kg)

CERTIFICATIONS

- ◆ UL listed to Standard 2044

Indicates change or addition since last revision.

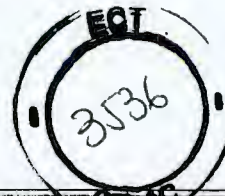
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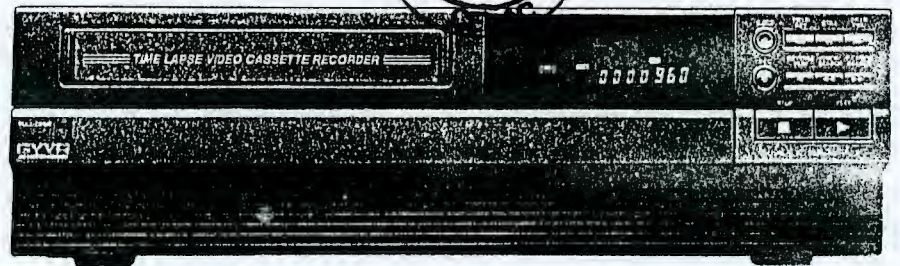
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000272

GYJR™



TLC2100 Time-Lapse VCR



- Record up to 40 days (960 hours) on one VHS cassette
- Field advance one field at a time, forward and reverse
- Selectable azimuth playback
- 13 record/playback speeds
Reverse play, fast scan, freeze field
- Enhanced audio recording up to 24 hours
- Direct drive, low-maintenance mechanism
- Bordered characters on time/date generator
- New split time/date display
- Alarm memory
- 400 lines horizontal resolution B&W
- One-shot recording with repeater
- Electronic security lockout
- Self-cleaning heads
- 6 events per day - 7 days a week timer
- Camera switcher pulse - programmable
- System code
- Alarm index search
- Improved on-screen display - format selectable
- Programmable timer output

The fully featured TLC2100 is a versatile time-lapse video recorder. It is capable of viewing individual fields one at a time, both forward and reverse. Because of its compatibility with most VHS tape recordings, the TLC2100 is a logical choice for growing CCTV installations that include several types of VHS-recorded formats.

Offering 13 record/playback speeds, the TLC2100 is equipped for record-cycle selection in speeds ranging from 2 to 960 hours (40 full days). Audio recording and playback functions in 2-, 18-, and 24-hour modes. High-speed forward and reverse scan allows quick review at up to nine times normal playback speed.

Built-in alarm response takes advantage of the TLC2100's faster load time. The recorder has four heads with a full-load transport, permitting response time within approximately 1.5 seconds. Alarm response can be programmed to record activity in all recording speeds. Alarm memory is protected from power failures by a 720-hour (30 days) backup system.

The TLC2100 is built on a sturdy industrial chassis to withstand shock and vibration. It is equipped with recycle record defeat as a standard feature, for use in applications where automatic rewind and rerecording is not desired. Tamper-resistant electronic security lockout prevents unauthorized access to the recorder.

Sharp borders on time/date characters improve their visibility on both dark and light backgrounds.

RQS nº 03/2005 - CN -
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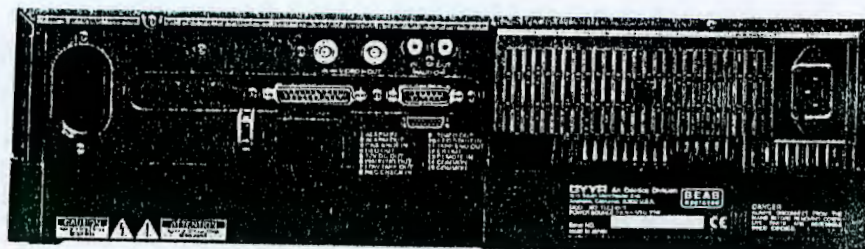
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3609

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Time-Lapse Video Recording Systems High Density Time-Lapse VCRs Digital Multiplexers Quads
FastTrans™ Video Transmission System Remote Site Management Systems Digital Video Motion Detectors
Digital Recording Systems Text Inserters CCTV Accessories Videotape Rack Mounts Call Gyyr today

**Beyond
the Box**



SPECIFICATIONS

TLC2100

GENERAL

Tape cassette Standard 2-hour 1/2" VHS T-120 or T-130 Gyr tape
Video recording system 4 rotary heads, helical scan
Luminance: FM recording
Color: rotary phase, converted
subcarrier direct recording, self-cleaning heads

Selectable speeds for record/playback 2, 18, 24, 48, 72, 120, 180, 240, 360, 480, 600, 720, 960, 00 hours

Hi-speed video scan 2 hour x3, or x5, or x7, or x9

Still/fast-forward time 2.5 minutes average

Recycle display Rewind, stop
Rerecord, even if alarm
Rerecord, stop if alarm

Timer 6 events per day - 7 days a week with the timer-output feature and tape-speed changes

Camera switcher pulse 0-99 fields normal recording
0-99 fields alarm recording

One-shot recording 2, 4, 6, or 8 field
1x to 128x repeater

PHYSICAL

Dimensions 17.1" w x 14.4" D x 5.2" H
(43.6 cm x 36.6 cm x 13.3 cm)

Weight 15.4 lb (7 kg)

Operating temperature 41°F to 104°F (5°C to 40°C)

ELECTRICAL

Power 120 VAC, 60 Hz
22 W operating mode

ALARM COMMAND

By contact closure

Recording rate All recorder speeds

Alarm durations 15 seconds, 30 seconds, 1 minute, 3 minutes, 5 minutes, or manual

Alarm Index Searches to each alarm on playback

TIME/DATE GENERATOR

Character

Height 14 scan lines

Position Adjustable top to bottom; left to right

Color Black/white selectable

Daylight-saving setting 2 button push

Display

Date line mm-dd-yy, mmm-dd-yy, dd-mm-yy
dd-mmm-yy, yy-mm-dd, yy-mmm-dd,
yy-dd-mm, yy-dd-mmm

Time line power loss, weekday, alarm count
Hour, minutes, seconds, AM/PM,
or 24-hour clock, record speed,
timer "on", security lock

Text line 24 Alphanumeric characters

Format 12-hour (AM/PM) or 24-hour clock

Battery-backup time 720 hours minimum

VIDEO

Signal format EIA Standard: 525 lines, 60 fields,
NTSC color (color, black/white
auto select)

Input 1.0 V p-p 75 Ω unbalanced

Output 1.0 V p-p 75 Ω unbalanced

Horizontal resolution 400 lines - monochrome
240 lines - color

Signal-to-noise Greater than 45 dB

AUDIO

Input -7.8 dBm, 50 K Ω impedance
unbalanced

Output -7.8 dBm, 600 Ω impedance
unbalanced

Frequency response ± 3 dB, 100 Hz to 10 kHz (2-hour speed)

Record/playback speed 2-, 18-, 24-hour record
2, A18, A24 playback

CONNECTORS

Video in BNC

Video out BNC

Audio in Line: RCA phono jack

Audio out Line: RCA phono jack

External interface DB15 connector; alarm in/out,
one shot in, rec out, low tape out, warning out, rec check in,
timer out, record start in, tape end out, cam sw out, remote in

OPTIONS

Remote control for VCR, Rack-mount kit

ACCESSORIES SUPPLIED

Instruction manual

Quick-disconnect external connector assembly, Model SP-13A

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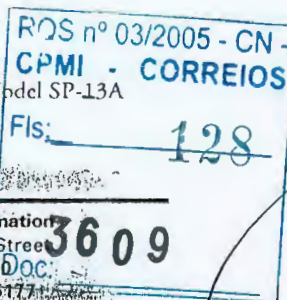
*800# only available from USA and Canada

GYR™

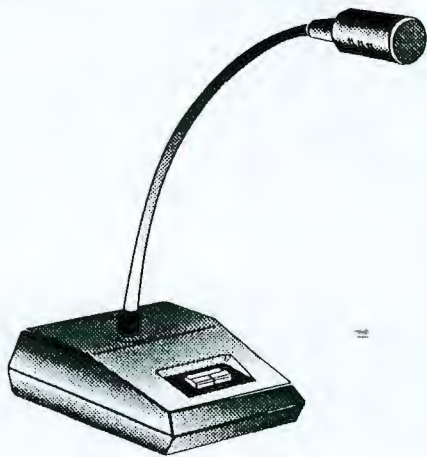


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GC 1021

**PUPITRE MICROPHONE
CARILLON**

**MICROPHONE
CONSOLE WITH CHIME**

I - DESCRIPTION

Le GC 1021 est un pupitre microphone intégrant un carillon numérique trois tons (sol, si, ré).

Ce pupitre doit être relié à un amplificateur de la gamme BOUYER par l'intermédiaire d'un module entrée AZ 1213 pour la série Excellence. La carte AZ 233 permet d'utiliser le pupitre GC 1021 avec le préamplificateur AP 1010 ou la gamme d'amplificateur-préamplificateurs du type AS xxx.

Le module AZ 1213 assure l'alimentation du pupitre et la liaison flottante 0 dB du signal.

Sur le pupitre deux touches permettent d'effectuer un appel microphone en le faisant précéder ou non par le carillon. Le pupitre permet de télécommander la carte de priorité AZ 1229.

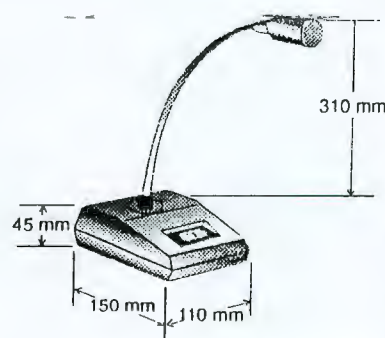
I - DESCRIPTION

The GC 1021 is a microphone console incorporating a digital 3 note chime (G,B,D).

This console must be connected to a BOUYER amplifier (Excellence series) via input module AZ 1213. The AZ 233 board permit the use of GC 1021 console mic with AP 1010 preamplifier or AS xxx mixer amplifier range.

AZ 1213 module provides the power supply for the console and the 0 dB floating connection for the signal.

Two buttons are provided on the console for making announcements over the microphone with or without a preliminary chime signal. The console also provides remote control of priority board AZ 1229.



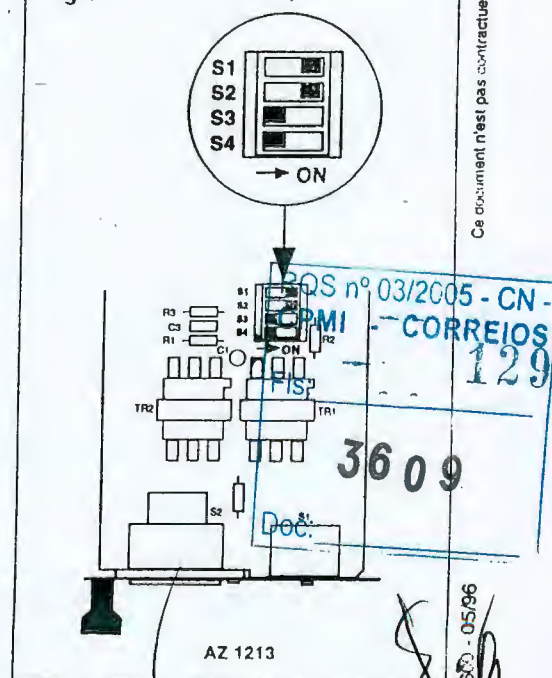
II-CARACTERISTIQUES TECHNIQUES

- **Bande passante :**
Microphone : 150 - 15 000 Hz
- **Consommation :** 38 mA
- **Sensibilité micro :** - 50 dBm
- **Niveau carillon :** réglable de +3 dB à - 9 dB par rapport au niveau micro
- **Liaison flottante :**
- 0 dBm + alimentation fantôme
- **Mémoire Eprom :** 32 K x 8
- **Dimensions :**
Socle : 150 x 110 x 45 mm
Flexible : 310 mm
- **Poids :** 0,720 kg

II - TECHNICAL SPECIFICATIONS

- **Bandwidth :**
Microphone : 150 to 15 000 Hz
- **Consumption :** 38 mA
- **Microphone Sensitivity :** - 50 dBm
- **Chime volume :** adjustable from +3dB to - 9 dB in relation to the mic. volume
- **Floating connection :**
- 0 dBm and phantom power supply
- **Eprom memory :** 32 K x 8
- **Dimensions :**
Base : 150 x 110 x 45 mm
Gooseneck : 310 mm
- **Weight :** 0.720 kg

Fig. I



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III - INSTALLATION

Insérer le module d'entrée AZ 1213 ou AZ 233 dans l'emplacement prévu sur le préamplificateur.

Dans le cas de l'AZ 1213, configurer les dip switches suivant la figure I (page 1), soit S1 et S2 sur ON et S3 et S4 sur OFF.

Raccorder la fiche DIN du GC 1021 sur l'embase DIN du module AZ 1213 ou sur l'embase DIN correspondant à l'AZ233 (série AS ... ou AP ...).

Mettre l'amplificateur sous tension, vérifier que le voyant vert du pupitre est allumé.

III - INSTALLATION

Insert module AZ 1213 or AZ 233 into the slot on the preamplifier or mixer amplifier.

Set the dip switches on module AZ 1213 as shown in figure I (page 1), with S1 and S2 ON and S3 and S4 OFF.

Connect the DIN plug on the GC 1021 to the DIN socket on module AZ 1213 or to the Din socket on AZ 233 (AS ... ou AP ... range).

Switch on the amplifier and check that the green indicator lamp on the console lights up.

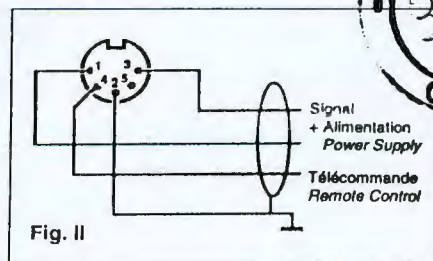


Fig. II

IV - UTILISATION

Au repos le voyant vert à droite du pupitre est allumé, le micro peut alors être utilisé en appuyant sur la touche de droite (Fig. III).

Appuyer sur la touche de gauche pour déclencher le carillon, le voyant rouge est allumé pendant la séquence.

Pour faire un appel précédé d'un carillon, maintenir la touche de gauche enfoncée, et parler quand le voyant vert est allumé.

IV - USE

When the microphone console is ready, the green indicator lamp on the right-hand side is lit. The microphone can then be used by pressing the right-hand button (Fig. III).

Pressing the left-hand button triggers the chime and the red indicator lamp lights up while it is in action.

To precede a call with the chime signal, keep the left-hand button pressed and speak when the green indicator lamp is lit.

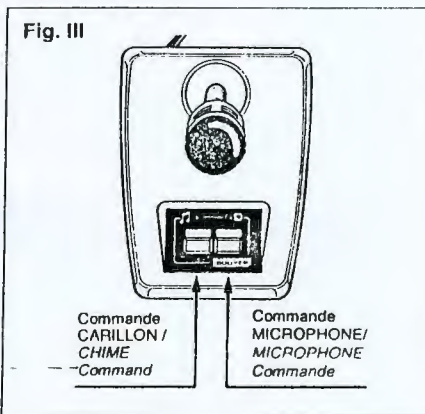


Fig. III

V - RÉGLAGE

Pour changer le niveau carillon, insérer un tournevis dans l'orifice situé sous le pupitre (Fig. IV) et ajuster en fonction du résultat désiré.

V - ADJUSTMENT

To adjust the chime volume insert a screwdriver into the opening beneath the console (Fig. IV) and adjust as required.

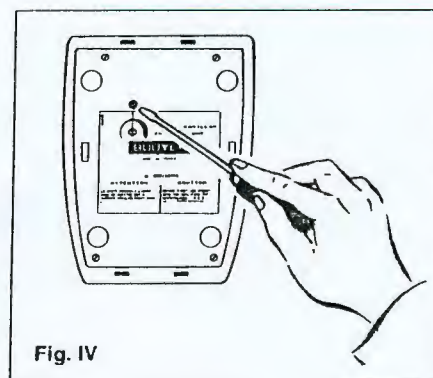
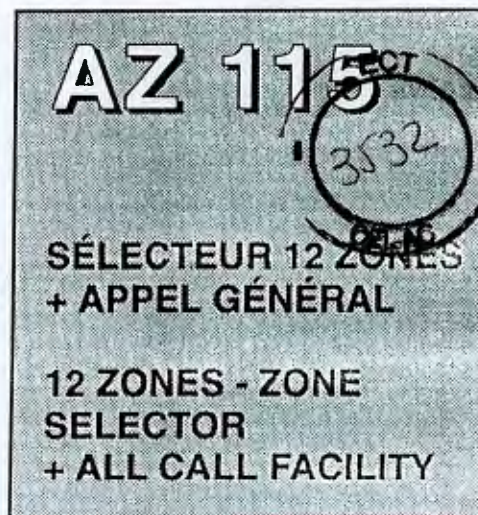
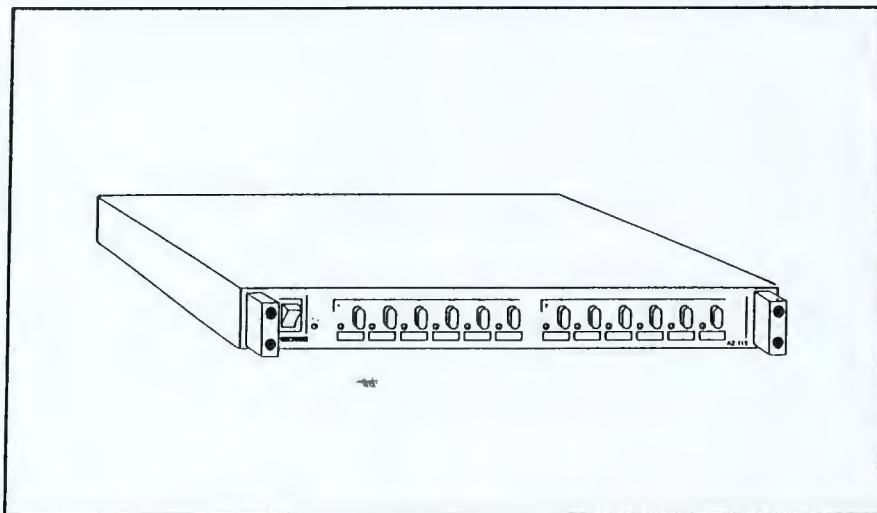


Fig. IV

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I - DESCRIPTION

L'AZ 115 est un coffret de sélection de 12 zones au format 1U 19". Il s'intercale soit entre un amplificateur et différents haut-parleurs ou entre un préamplificateur et plusieurs amplificateurs. Les zones sont activées par des contacts de télécommande raccordés aux borniers situés en face arrière.

L'AZ 115 peut être utilisé suivant deux modes définis par deux poussoirs BP1 et BP5 situés à l'intérieur de l'appareil :

- en position appuyés (position par défaut), les touches en face avant permettent d'affecter la musique aux zones correspondantes.
- en position relâchés, les touches en face avant permettent de sélectionner les zones pour une diffusion d'appel. La présélection de la musique doit alors être faite à l'intérieur de l'appareil grâce à des mini-commutateurs.

L'AZ 115 peut fonctionner avec un pupitre microphone GM 1066 (option) ou un pupitre de la famille PGM 5000 (option).

CHARACTERISTIQUES TECHNIQUES

Sélection de zones

- Nombre de zones : 12
- Puissance par zone : 100 W en ligne 100 V
- Commandes frontales par poussoirs
- Télécommandes par fermeture de boucle
- Sorties haut-parleurs : sur bornier
- Entrée parole : sur bornier
- Entrée musique : sur bornier

Alimentation

- Secteur : 230V+ terre 50/60Hz < 35VA
- Batterie : 24V 0,9A
- Téléalimentation : +24V sur borniers pour téléalimenter pupitre, par exemple

- Dimensions : 425 x 345 x 45 mm (Fig. I)
- Poids : 3,8 kg
- Montage en rack 19" : avec jeu de poignées AZ 6 (Fig. II)

I - DESCRIPTION

The AZ 115 is a 12 zones - zone selector cabinet 1U - 19". This unit is put either between an amplifier and loudspeaker or between one an preamplifier and several power amplifiers. The zones are connected by remote controlled contacts linked to the terminals located on the back side of the cabinet.

The AZ 115 may be used in two different modes, by using push buttons BP1 and BP5 placed inside the cabinet :

- In latched position, the buttons on front face allow to select the zones where music will be broadcasted.
- In unlatched position, the buttons on front face allow to select the zones where a verbal message will be broadcasted. In this case the music selection is achieved by setting microswitches inside the cabinet.

The AZ 115 may be used with a microphone console GM 1066 (6 zones + All-Call) or a PGM 50xx which may be provided separately.

II - TECHNICAL SPECIFICATIONS

Selection de zones

- Number of zones : 12
- Power per zone : 100 W in 100 V line
- Front face push buttons
- Remote control by closing contact
- Loudspeaker outputs : on terminal
- Speech input : on terminal
- Music input : on terminal

Power supply

- Mains : 230V - 50/60 Hz < 35VA
- Battery : 24V - 0.9 A

- Dimensions : 425 x 345 x 45 mm (Fig. I)
- Weight : 3.8 kg
- 19" rack mounting : with handles AZ 6 (Fig. II)

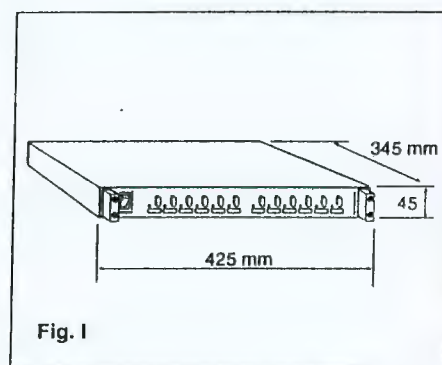


Fig. I

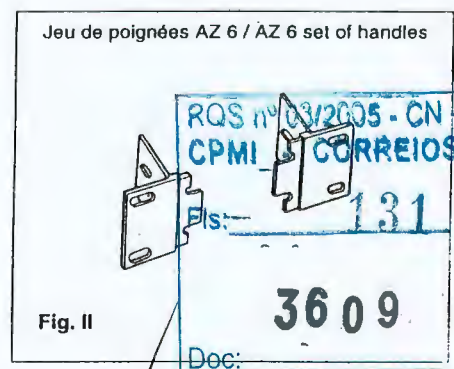


Fig. II

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III - PRESENTATION

Vue avant (Fig. III)

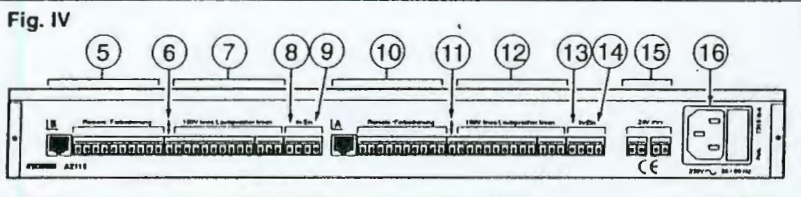
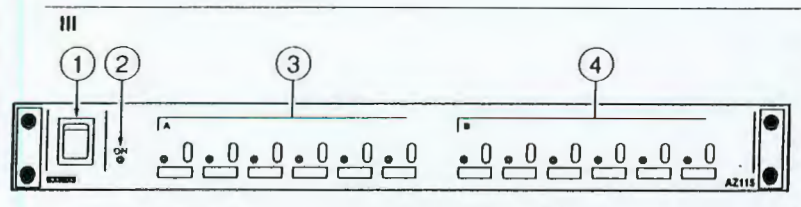
- ① - Interrupteur Marche/Arrêt
- ② - Voyant de mise sous tension
- ③ - Commande zone ou musique 1, 2... 6 (Module A)
- ④ - Commande zone ou musique 1, 2... 6 (Module B)

Vue arrière (Fig. IV)

- ⑤ - Bornier (ou RJ45) télécommande zone 1 à 6 et AG
- ⑥ - Bornier cascade entre deux AZ 115
- ⑦ - Bornier sortie 100V, zone 1 à 6
- ⑧ - Bornier entrée parole (100V)
- ⑨ - Bornier entrée musique (100V)
- ⑩ - Bornier (ou RJ45) télécommande zone 1 à 6 et AG
- ⑪ - Bornier cascade entre deux AZ 115
- ⑫ - Bornier sortie 100V, zone 1 à 6
- ⑬ - Bornier entrée parole (100V)
- ⑭ - Bornier entrée musique (100V)
- ⑮ - Bornier alimentation batterie 24V et téléalimentation
- ⑯ - Prise secteur 230V avec terre et fusible secteur

Vue intérieure et dessus (Fig. V)

- ⑰ - Mini-commutateurs de présélection musique
- ⑱ - Commutateurs BP1 et BP5
- ⑲ - Fusibles



III - PRESENTATION

Front view (Fig. III)

- ① - ON/OFF switch
- ② - Power on indicator lamp
- ③ - Music or zone selection 1, 2... 6 (Module A)
- ④ - Music or zone selection 1, 2... 6 (Module B)

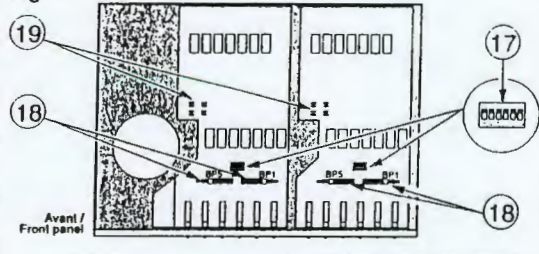
Rear view (Fig. IV)

- ⑤ - Terminal (or RJ 45) remote controlled zone 1-6 + All call
- ⑥ - Terminal to link to an other cabinet AZ 115
- ⑦ - Terminal 100V output line zone 1-6
- ⑧ - Terminal speech input (100V)
- ⑨ - Terminal music input (100 V)
- ⑩ - Terminal (or RJ 45) remote controlled zone 1-6 + All call
- ⑪ - Terminal to link to an other cabinet AZ 115
- ⑫ - Terminal 100V output line zone 1-6
- ⑬ - Terminal speech input (100V)
- ⑭ - Terminal music input (100 V)
- ⑮ - Terminal 24 V supply
- ⑯ - 230V mains plug and fuse

Internal view (Fig. V)

- ⑰ - Preselection music switches
- ⑱ - BP 1 and BP 5 push buttons
- ⑲ - Fuses

Fig. V



BP1	BP5	Commandes locales ③ et ④ / Zone selection
OFF	OFF	Commande zones / Zone selection
ON	ON	Sélection musique. Les mini-commutateurs ⑰ sur OFF Music selection. The switches ⑰ are on OFF position

IV - UTILISATION

Musique d'ambiance - Pour diffuser la musique dans une zone, mettre les mini-commutateurs respectifs sur ON (⑰ Fig. V) et sélectionner les commandes locales ③ et ④ (avec BP1 et BP5 (⑱) sur ON).

Appels - Pour sélectionner une ou plusieurs zones, appuyer sur le ou les boutons de commandes locales correspondantes avec BP1 et BP5 (⑱ sur OFF) ou mettre à 0V la télécommande respective.

NOTA - Pour utiliser un seul amplificateur Parole et Musique, il faut insérer en (⑲) (Fig. V) les fusibles livrés séparément et accorder la sortie de l'amplificateur sur l'entrée Parole. En reliant le bornier (⑥) de deux AZ 115, il est possible de réaliser un système à 24 zones.

ATTENTION :

L'appareil ne doit pas être exposé aux chutes d'eau et aux éclaboussures.

IV - USE

Background music - To broadcast music in one zone, set the switches on ON (⑰) (Fig V), or select the front face buttons ③ and ④ (with BP1 and BP5 on ON position)

Mic calls - To select one or several zones, push on one or several front face buttons (with BP1 + BP5 on OFF position) or put the dedicated remote control at 0V.

NOTA : In case only one amplifier speech/music is used, put in position (⑲) (Fig. V) the fuses which are delivered separately and connect the amplifier output to the speech input. To release a system with 24 zones, connect terminal (⑥) to AZ 115.

ATTENTION

The unit is neither water - nor splash proof.

V - MAINTENANCE

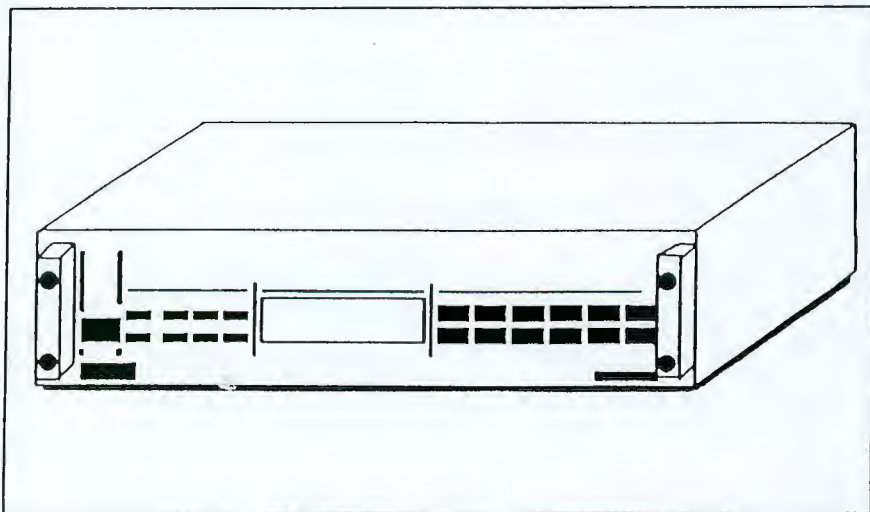
En cas de panne :

- Avant toute intervention, déconnecter la câble secteur. Après l'opération, refermer l'appareil et vérifier que le fil de terre (jaune et vert) est bien connecté.
- Vérifier l'état des fusibles et les remplacer si besoin par des fusibles de mêmes caractéristiques tel qu'indiqué sur l'appareil.
- Sinon retourner l'appareil à l'usine, ou faire appel à un réparateur professionnel.

V - MAINTENANCE

In case of failure :

- Before any manipulation, disconnect the mains cable. After manipulation, put back the cover and check that the "earth" wire (yellow + green) is connected properly.
- Check the status of the fuses and replace them if needed by fuses with the same characteristics as those indicated on the product.
- Otherwise the product has to be sent back to the factory or repaired by a recognised dealer.



I - DESCRIPTION

Le GR 2130 est un tuner PO/GO/FM synthétisé à mémoire, présenté en coffret

Les fonctions du GR 2130 sont :

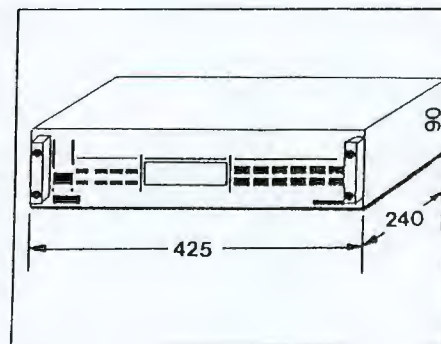
- Mémorisation de 36 stations AM (MW/LW) et FM
- Plusieurs jours de mémorisation après mise hors tension de l'appareil
- A la mise sous tension, sélection automatique de la dernière station choisie avant extinction.
- Recherche manuelle ou automatique des stations (scanner).
- Le raccordement mono se fait sur prise DIN asymétrique ou sur prise XLR symétrique, réglable.
- Le raccordement stéréo se fait sur prise RCA ou sur prise DIN.

I - DESCRIPTION

The GR 2130 is a MW/LW/FM tuner with built-in memory function, presented as a 2U unit.

The GR 2130 has the following functions:

- Stores 36 AM (MW/LW) and FM stations in the memory.
- Memory remains intact for several days after switching off power supply.
- The last station selected before switching off is reselected when the unit is switched back on.
- Manual or automatic station search function (scanner).
- Mono connection is via unbalanced DIN or balanced XLR connector adjustable.
- Stereo connection is via RCA or DIN connector.



II-CARACTERISTIQUES TECHNIQUES

SECTION FM

- **Gamme couverte** : 87,5 à 108 MHz (sauts de 50 kHz)
- **Sensibilité DIN** : Mono 1 μ V
- **Port Signal/Bruit** : mono 78 dB, stéréo 74 dB
- **Distorsion** : 0,3 % (1 kHz)
- **Bande passante** : 30 Hz à 15 kHz ± 1 dB
- **Impédance antenne** : 75 Ω

SECTION AM (PO/GO)

- **Gammes couvertes** :
PO (MW) : 531 à 1602 kHz (sauts de 9 kHz)
GO (LW) : 153 à 281 kHz (sauts de 1 kHz)
- **Sensibilité DIN** (sur cadre de réception, fourni) :
PO (MW) : 350 μ V/m
GO (LW) : 1500 μ V/m
- **Rapport Signal/Bruit** : PO:45dB, GO:45dB

DIVERS

- **Niveau de sortie** :
MONO :
XLR symétrique réglable de -15 à +10 dBm
DIN asymétrique réglable de -20 à +5 dBm
STEREO : 0 dBm
- **Alimentation** : 230V adaptable en 240V - 50/60 Hz
- **Consommation** : 10 VA
- **Dimensions** : 425 x 240 x 90 mm
- **Poids** : 3 kg

II-TECHNICAL SPECIFICATIONS

FM SYSTEM

- **Bandwidth covered** : 87.5 to 108 MHz (in 50 kHz steps)
- **DIN sensitivity** : Mono 1 μ V
- **Signal/Noise Ratio** : mono 78 dB, stereo 74 dB
- **Distortion** : 0.3 % (1 kHz)
- **Bandwidth** : 30 Hz to 15 kHz ± 1 dB
- **Aerial impedance** : 75 Ω

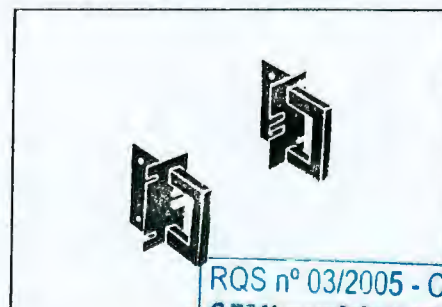
AM (MW/LW) SYSTEM

- **Bandwidth covered** :
MW : 531 to 1602 kHz (in 9 kHz steps)
LW : 153 to 281 kHz (in 1 kHz steps)
- **DIN sensitivity** (on frame aerial supplied) :
MW: 350 μ V/m
LW: 1500 μ V/m
- **Signal/Noise Ratio** : MW: 45dB, LW: 45dB

MISCELLANEOUS

- **Output level** :
MONO :
Balanced XLR, adjustable between -15 to +10dBm
Unbalanced DIN, adjustable between -20 to +5dBm
STEREO : 0 dBm
- **Power supply** : 230V adaptable to 240V - 50/60 Hz
- **Consumption** : 10 VA
- **Dimensions** : 425 x 240 x 90 mm
- **Weight** : 3 kg

ACCESSOIRE / ACCESSORY



Jeu de poignées AZ 711 Set of 61 Handles

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III - PRESENTATION

III - PRESENTATION

Fig. I

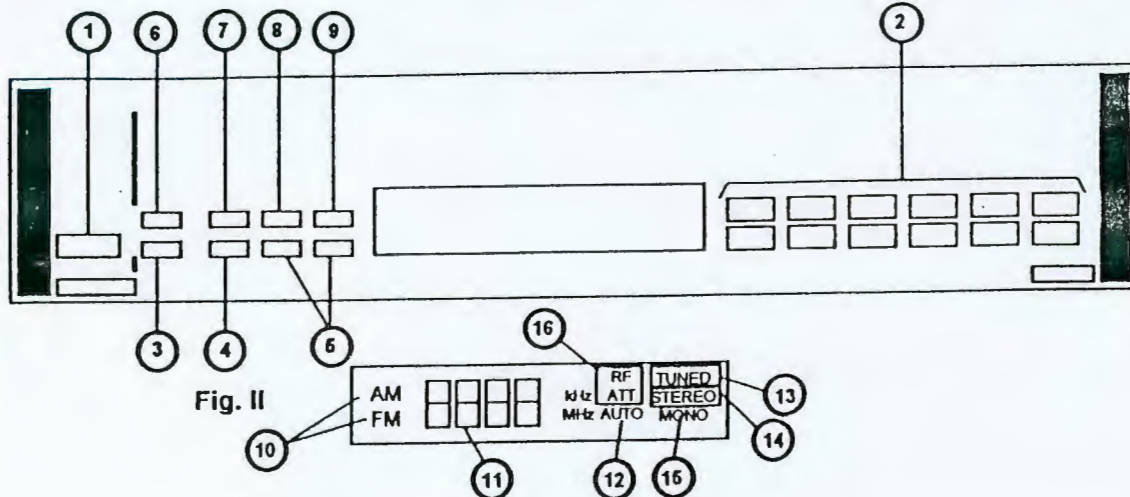
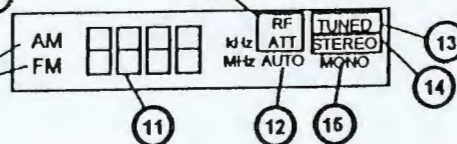


Fig. II



COMMANDES - Vue avant (Fig. I)

- ① - Interrupteur Marche/Arrêt
- ② - Touches de présélection
- ③ - Sélection MONO/STEREO
- ④ - Sélection - Mode automatique (scanner)
- Mode manuel de recherche des stations
- ⑤ - Recherche de stations
- ⑥ - Touche d'atténuateur fréquence radio (RF ATT)
- ⑦ - Touche de mémorisation
- ⑧ - Sélection FM
- ⑨ - Sélection PO/GO (MW/LW)

CONTROLS - Front view (Fig. I)

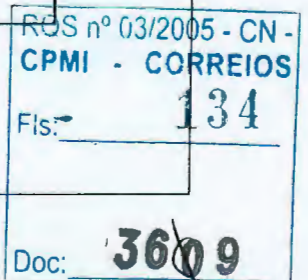
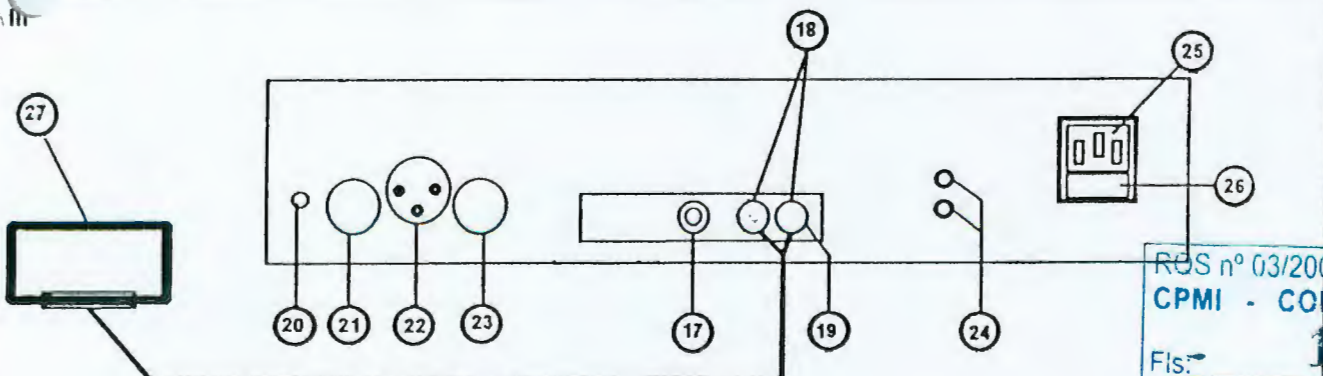
- ① - ON/OFF switch
- ② - Preselection keys
- ③ - MONO/STEREO select
- ④ - Selection - Automatic mode (scanner)
- Manual station search
- ⑤ - Station search
- ⑥ - Radio frequency mute (RF ATT)
- ⑦ - Store key
- ⑧ - FM selector
- ⑨ - MW/LW selector

AFFICHEUR (Fig. II)

- ⑩ - Affichage de la bande de fréquence
- ⑪ - Affichage de fréquence
- ⑫ - Témoin de recherche automatique de stations
- ⑬ - Témoin d'accord
- ⑭ - Témoin de réception Stéréo (FM)
- ⑮ - Témoin de réception Mono (FM)
- ⑯ - Témoin d'atténuation de fréquence radio

DISPLAY (Fig. II)

- ⑩ - Frequency band display
- ⑪ - Frequency display
- ⑫ - Automatic station search lamp
- ⑬ - Tuning lamp
- ⑭ - Stereo reception lamp (FM)
- ⑮ - Mono reception lamp (FM)
- ⑯ - Radio frequency mute lamp



FACE ARRIERE (Fig. III)

- ⑰ - Prise Antenne FM (75 Ω)
- ⑱ - Bornier Antenne AM (Cadre)
- ⑲ - Borne Antenne AM (Filaire)
- ⑳ - Ajustage du niveau de sortie Mono

REAR PANEL (Fig. III)

- ⑰ - FM aerial connector (75 Ω)
- ⑱ - AM frame aerial terminal
- ⑲ - AM wire aerial terminal
- ⑳ - Mono output level control

- ②1 - Sortie Mono "DIN"
- ②2 - Sortie Mono "XLR" symétrique
- ②3 - Sortie Stéréo "DIN"
- ②4 - Sortie Stéréo "RCA"
- ②5 - Prise Secteur
- ②6 - Fusible T 63 mA avec fusible de rechange
- ②7 - Antenne Cadre AM (MW, LW)

- ②1 - Mono "DIN" output
- ②2 - Balanced "XLR" mono output
- ②3 - "DIN" stereo output
- ②4 - "RCA" stereo output
- ②5 - Mains connector
- ②6 - T 63 mA Fuse with spare fuse
- ②7 - Frame antenna AM (MW/LW)



IV - INSTALLATION

ATTENTION: Cet appareil ne doit pas être exposé aux chutes d'eau ni aux éclaboussures.

- Vérifier que l'appareil n'est pas relié au secteur.
- Vérifier que le secteur fait 230V, 50 ou 60Hz.

SORTIE LIGNE

Relier la sortie MONO ②1 "DIN" ou ②2 "XLR" ou STEREO ②3 "DIN" du **GR 2130** à l'entrée AUX de votre amplificateur.

Un ajustable ②0 permet de modifier le niveau de sortie MONO :
 -15 à +10 dBm sur prise "XLR".
 -20 à +5 dBm sur prise "XLR".

FM

Raccorder une antenne FM extérieure sur la prise ①7 à l'aide d'un câble coaxial de 75Ω type télévision.

AM

ANTENNE - Relier une antenne filaire (extérieure) à la borne ①9.

CADRE - A défaut d'antenne extérieure, l'antenne-cadre fournie avec l'appareil, donne une réception satisfaisante dans la plupart des cas.

- 1 - Brancher les fils du cadre sur les bornes ①8 Fig. III
- 2 - Fixer le cadre contre un mur, là où vous pouvez obtenir une bonne réception.

SECTEUR

- 1 - Vérifier que l'appareil n'est pas relié au secteur
- 2 - Que le secteur est bien en 230V
- 3 - L'appareil est adaptable en 240V en suivant les indications de la Fig. IV

IV - INSTALLATION

CAUTION: This unit should be protected from rain and accidental contact with water.

- Check that the unit is not connected to the mains.
- Check that the power supplied is 230 V, 50 or 60 Hz.

LINE OUTPUT

Connect the MONO ②1 "DIN" or ②2 "XLR" or STEREO ②3 "DIN" output of the **GR 2130** to the AUX input of your amplifier.

A level control screw ②0 allows to modify the MONO output level :
 -15 to +10 dBm on "XLR" connector.
 -20 to +5 dBm on "DIN" connector.

FM

Connect an external FM aerial to connector ①7 using a television-type 75Ω coaxial cable.

AM

AERIAL - Connect an external wire aerial to terminal ①9.

FRAME - If no external aerial is available, the frame aerial supplied with the unit gives satisfactory reception under most conditions.

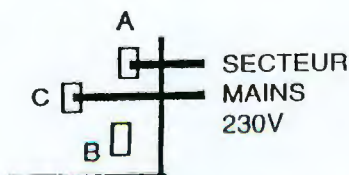
- 1 - Connect the frame aerial wires to terminals ①8 (Fig. III)
- 2 - Fasten the frame vertically against a wall where reception is satisfactory.

MAINS

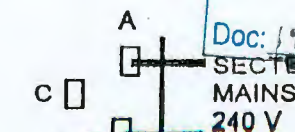
- 1 - Check that the units is not connected to the mains
- 2 - Check that the power supplied is 230V
- 3 - The unit can be adapted to 240V by following the instructions in Fig. IV.

Fig. IV

Câblage/Wiring 230V



Câblage/Wiring 240 V



RQS n° 03/2005 - CN - CPMI - CORREIOS
 Fls. 135

Doc: 3609

000281

V - UTILISATION

Mettre l'appareil sous tension au moyen de l'interrupteur (1) (Fig I).
L'afficheur doit s'allumer.

RECHERCHE DES STATIONS

• MANUELLE

- 1 - Presser la touche AUTO/MANUAL (4).
(AUTO sur l'afficheur doit s'éteindre).
- 2 - Presser les touches (8) ou (9) pour choisir la bande de réception FM/PO/GO.
- 3 - Utiliser les touches "TUNING" (5) pour chercher la station désirée.

L'afficheur indique la bande de fréquence AM/FM (10) reçue et l'accord (TUNED) (13).

• AUTOMATIQUE (SCANNER)

- 1 - Presser la touche AUTO/MANUAL (4).
(AUTO sur l'afficheur doit s'allumer).
- 2 - Presser les touches (8) ou (9) pour choisir la bande de réception FM/PO/GO.
- 3 - Le scanner balaye la bande complète dans le sens sélectionné par les touches - et + (5) et s'arrête automatiquement sur les stations suffisamment puissantes.

L'afficheur indique la bande de fréquence AM/FM (10) reçue et l'accord (TUNED) (13).

NOTA

En FM STEREO un silencieux élimine le souffle entre les stations. Si la station est trop faible pour une bonne réception stéréo, presser la touche AUTO MONO (3) (le témoin MONO sur l'afficheur s'allume).

ATTENUATEUR DE FREQUENCE RADIO (RF ATT)

Appuyer sur la touche (6) lors de la réception d'une station forte (uniquement en FM) afin de réduire la distorsion du son (le témoin "RF ATT" (16) s'allume).

NOTA

Le réglage de cette touche est stocké en mémoire pour chaque station.

STATIONS PREREGLEES

La mémorisation des stations est maintenue tant que l'appareil est relié au secteur.
Si le cordon d'alimentation est débranché, la mémorisation est conservée pendant plusieurs jours.

Le GR 2130 permet de mémoriser 36 stations en 3 gammes de présélection.

L'accès aux 3 gammes se fait par pressions successives sur les touches de présélection (2).

Exemple :

- 1 - Accorder la station désirée (TUNED Allumé).
- 2 - Appuyer sur la touche MEMORY (7), l'afficheur clignote environ 5 secondes.
- 3 - Pendant que l'affichage clignote, presser sur l'une des touches de présélection 1 à 12 (2).
Presser 2 fois sur la touche (2), pour les présélections de 13 à 24.
Presser 3 fois sur la touche (2), pour les présélections de 25 à 36.

V - UTILISATION

Turn on the power supply using switch (1) (Fig I).
The display should light up.



STATION SEARCH

• MANUAL

- 1 - Press AUTO/MANUAL key (4) (AUTO should disappear from the display).
- 2 - Press key (8) or (9) to select the desired waveband (FM, MW or LW).
- 3 - Use the TUNING keys (5) to find the desired station.

The display indicates the AM/FM band frequency (10) received together with the (TUNED) message (13).

• AUTOMATIC (SCANNER)

- 1 - Press AUTO/MANUAL key (4) (AUTO should light up on the display).
- 2 - Press keys (8) or (9) to select the desired waveband (FM, MW or LW).
- 3 - The scanner sweeps the entire band in the direction selected by the - and + keys (5), automatically stopping whenever a sufficiently strong signal is received.

The display indicates the AM/FM band frequency (10) received together with the (TUNED) message (13).

NOTE

In FM STEREO mode, a silencer eliminates the hiss between stations. If the station signal is too weak to give good stereo reception, press the AUTO MONO key (3). The MONO message on the display should light up.

MUTE RADIO FREQUENCY (RF ATT)

Press button (6) during the reception of a strong station (only in FM mode), in view to reduce the distortion of the sound (the "RF ATT" (16) lights up).

NOTE

The setting of this function is stored for each station.

PRESET STATIONS

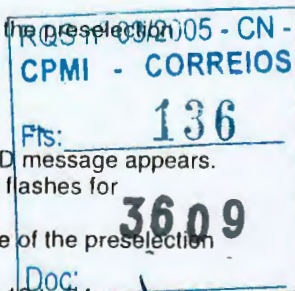
Storage of stations in the memory is maintained as long as the unit is connected to the mains.
If the mains cable is unplugged, storage is maintained for several days.

The GR 2130 can store 36 stations in 3 preselection blocks.

The 3 blocks are selected by pressing the preselection keys (2).

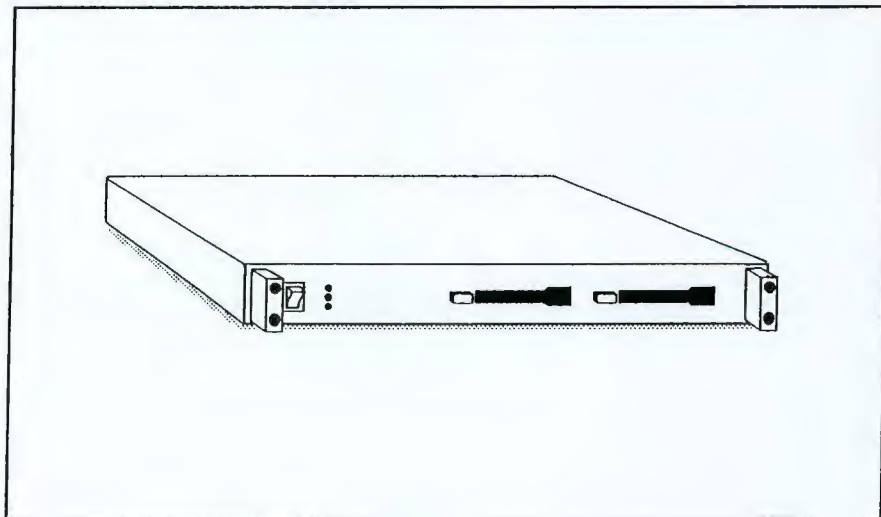
Example :

- 1 - Tune to the desired station - the TUNED message appears.
- 2 - Press MEMORY key (7) - the display flashes for approximately 5 seconds.
- 3 - While the display is flashing, press one of the preselection keys 1 to 12 (2).
Press key (2) twice for preselections 13 to 24.
Press key (2) three times for preselections 25 to 36.



000282

GR 2130



GE 265

DOUBLE LECTEUR DE CASSETTE AUTOREVERSE

DOUBLE DECK AUTO-REVERSE CASSETTE PLAYER

I - DESCRIPTION

Le GE 265 est un double lecteur de cassette monophonique autoreverse permettant la diffusion ininterrompue de musique d'ambiance.

Ce lecteur fonctionne uniquement avec des cassettes standard stéréo 2 pistes, disponibles dans le commerce.

De taille compacte, le GE 265 se présente sous la forme d'un coffret 1 U.

Il est idéal pour une utilisation dans les restaurants, cafés, hôtels, bureaux, musées et autres lieux d'attractions...

I - DESCRIPTION

The GE 265 is an double deck auto-reverse cassette player allowing background music broadcasting.

This cassette player can only use standard tapes available on the market.

The GZ 265 is low space consuming as it is made in a 1 U high cabinet.

It is ideal to be used in restaurants, pubs, hotels, offices, museums and other public areas...

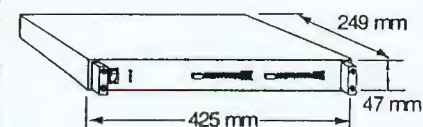


Fig. I

II-CARACTERISTIQUES TECHNIQUES

LECTEUR DE CASSETTE

- Lecture autoreverse automatique
- Inversion de sens automatique en fin de bande
- Commutation automatique du lecteur A sur le lecteur B
- Ejection manuelle par poussoir
- Vitesse de défilement4,75 cm/s +3% -2%
- Pleurage et scintillement< 0,35%
- Bande passante.....63 Hz à 10 kHz ± 3 dB
- Sortie ligne mono0 dBm/600 Ω
- Rapport signal/bruit> 45 dB (non pondéré)
- Température de fonctionnement ..0 à 40°C

DIVERS

- Alimentation230V + terre 50/60 Hz
- Consommation max5 VA
- Dimensions (Fig. I)....425 x 249 x 47 mm
- Poids.....2,9 kg

CASSETTE PLAYER

- Automatic auto-reverse player
- Auto-reverse at end of tape
- Automatic switch over from player A to player B
- Manual eject with push-button
- Tape speed4.75 cm/s +3% -2%
- Wow and flutter< 0,35%
- Bandwidth.....63 Hz at 10 kHz ± 3 dB
- Mono line output.....0 dBm/600 Ω
- Signal/noise ratio.....> 45 dB
- Operating temperature0 to 40°C

MISCELLANEOUS

- Power supply230V + earth 50/60 Hz
- Max consumption5 VA
- Dimensions (Fig. I)....425 x 249 x 47 mm
- Weight.....2.9 kg

RQS n° 03/2005 - CN -
CPMI - CORREIOS

Fls: 137

3609

Doc:

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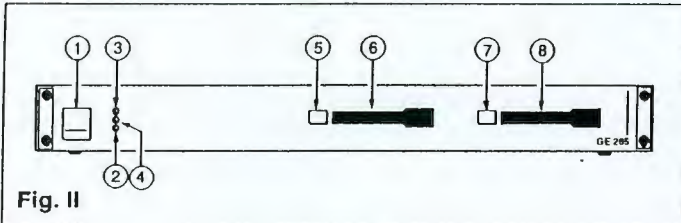
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E-mail : bouyer@bouyer-audio.com • http://www.bouyer-audio.com

III - PRESENTATION

VUE AVANT (Fig. II)

- ① - Interrupteur marche/arrêt
- ② - Témoin marche/arrêt
- ③ - Témoin lecteur A
- ④ - Témoin lecteur B
- ⑤ - Touche d'éjection (lecteur A)
- ⑥ - Logement de cassette (lecteur A)
- ⑦ - Touche d'éjection (lecteur B)
- ⑧ - Logement de cassette (lecteur B)



VUE ARRIERE (Fig. III)

- ⑨ - Sortie 0 dBm
- ⑩ - Prise secteur 230V avec terre
- ⑪ - Fusible

IV - INSTALLATION



ATTENTION :

L'appareil ne doit pas être exposé aux chutes d'eau et aux éclaboussures

Brancher le câble secteur livré avec l'appareil sur la prise ⑩ (Fig. III) et l'autre extrémité sur une prise secteur 230V avec terre. Relier la sortie du GE 265 à un amplificateur.

Le GE 265 doit être placé dans un endroit suffisamment aéré; ne pas poser directement dessus tout objet (livre, carton...) qui empêcherait le refroidissement du coffret.

V - UTILISATION

Mettre en service l'appareil à l'aide de l'interrupteur ① (Fig. II). Le témoin marche/arrêt ② s'allume ainsi que le témoin A ou B si une cassette est engagée.

Lors de l'introduction d'une cassette A ou B, le témoin correspondant s'allume. Le lecteur de cassette lit continuellement les 2 pistes monophoniques jusqu'à éjection de la cassette.

Si les deux logements ⑥ et ⑧ des cassettes A et B sont occupés à la mise sous tension, le lecteur A ou B lit toutes les pistes de la cassette puis s'arrêtera.

A ce moment-là, l'autre lecteur se mettra en marche et lira à son tour toutes les pistes de la cassette, puis il s'arrêtera et ainsi de suite.

Le changement de sens du défilement est automatique.

Si on éjecte une cassette d'un lecteur, l'autre fonctionnera comme un lecteur seul en continu.

Si les deux logements de cassettes sont inoccupés à la mise sous tension, lors de l'introduction d'une cassette dans leur logement respectif, le premier lecteur qui recevra une cassette se mettra en fonctionnement.

NOTA : Il est inutile d'éjecter la ou les cassettes à l'arrêt de l'appareil, les galets presseurs et la tête de lecture n'étant plus en contact avec la cassette.

Il est conseillé de nettoyer la tête de lecture à l'aide d'une cassette de nettoyage ou d'un coton tige imbibé d'alcool.

VI - MAINTENANCE



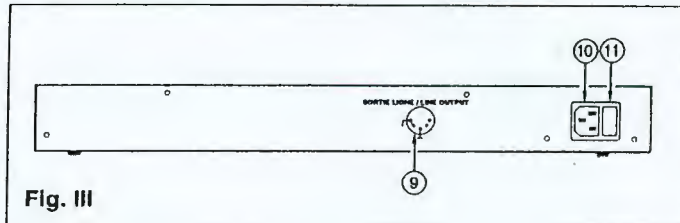
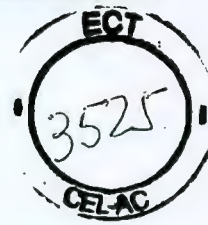
En cas de panne :

- Vérifier l'état du fusible et le remplacer si besoin par un fusible de mêmes caractéristiques tel qu'indiqué sur l'appareil.
- Sinon retourner l'appareil à l'usine, ou faire appel à un réparateur professionnel.

III - PRESENTATION

FRONT FACE (Fig. II)

- ① - ON/OFF button
- ② - ON/OFF indicator
- ③ - Player A indicator
- ④ - Player B indicator
- ⑤ - Eject button (player A)
- ⑥ - Cassette (player A)
- ⑦ - Eject button (player B)
- ⑧ - Cassette (player B)



REAR SIDE (Fig. III)

- ⑨ - 0 dBm output
- ⑩ - 230V mains plug with earth
- ⑪ - Fuse

IV - INSTALLATION



ATTENTION

The unit is neither water - nor splash proof.

Connect the power supply cable, supplied with the GE 265, to plug ⑩ (Fig. III) and the other side to the 230V mains plug. Link also the output of the GE 265 to one amplifier.

The GE 65 unit will be set in a sufficiently ventilated place; do not put anything on its top panel (book, boxes...) so that cooling of the housing is efficient.

V - USE

By using button ① (Fig. II), you put ON the GE 265.

The ON/OFF indicator ② is ON, as well as the indicator of cassette player A or B, when a cassette has been introduced in one of these decks.

When a cassette is introduced, the indicator of A or B is ON. The cassette player reads no-stop the 2 monophonic sides until the cassette is ejected.

In the case cassettes ⑥ and ⑧ have been introduced in players A and B, the player A or B reads both sides of the cassette and then stops.

After that, the second player starts to read the 2 sides and then will stop. The first tape starts again.

The reverse to the other side is done automatically.

In case one cassette is ejected, the other cassette will continue to read one side after the other.

When the GE 265 is put ON, and no cassettes are introduced in the players, the first player which will receive a cassette will start the reading.

NOTA : It is useless to eject the cassettes when the GE 265 is on OFF position, will the reading heads are no more in contact with the cassettes.

We suggest to clean the reading heads on a regular basis.

VI - MAINTENANCE



In case of failure :

- Check the status of the fuse and replace them if needed by fuse with the same characteristics as those indicated on the product.
- Otherwise the product has to be sent back to the factory or repaired by a recognised dealer.

000234

GE 265

Complément de la notice du GD 2199

PROTOCOLE LIAISON SERIE RS 232 DU GD 2199



Ce document n'est pas contractuel; toute modification pourra intervenir sans préavis

- Vitesse : 2400 Bauds.
- Format : 10 bits (1 bit start = 0 et 1 bit stop = 1)
- Pas de bit de parité
- Tous les codes suivis de la lettre D sont en décimal.

• Câblage DB 25 :

- | | |
|---|-------------------------|
| 1 | écran |
| 2 | réception du GD 2199 |
| 3 | transmission du GD 2199 |
| 4 | masse |

ORDRE DE DIFFUSION D'UN MESSAGE

- envoi du code diffusion = 68D
- attente 60 ms
- envoi du N° message à diffuser + 100D (de 101D à 199D)
(ex : envoyer le code 105D pour le message 5. Le message est diffusé)
- réception du code fin à la fin de la diffusion = 84D

ARRÊT DE DIFFUSION D'UN MESSAGE COMMANDÉ PAR LIAISON SÉRIE

- envoi du code arrêt = 65D

ARRÊT PRIORITAIRE (arrête le public address ou la diffusion d'un message en cours)

- envoi du code STOP prioritaire = 70D
- attente 1 ms
- réception du code "attente commande" = 80D

EFFACEMENT D'UN MESSAGE

- envoi du code effacement = 69D
- attente 60 ms
- envoi du N° du message + 100D (de 101D à 199D)
- attente 60 ms
- envoi du code effacement = 69D
- réception du code fin en fin d'effacement = 84D

ENREGISTREMENT LIGNE

- envoi du code enregistrement ligne = 82D
- attente 60 ms
- envoi du N° de message + 100D (de 101D à 199D)
- réception du code fin = 84D si message existe
- envoi de la modulation
- réception du code fin = 84D si plus de mémoire disponible
- arrêt de la modulation
- envoi du code arrêt = 65D

RGS n° 03/2005 - CN -
CPMI - CORREIOS
139
Fls: _____
3609
Doc: _____

NOTA

Si un code inconnu est reçu par le GD 2199, il retourne le code 85D.
Si le code correspondant à un N° de message est inférieur à 101 ou supérieur à 199, le GD 2199 retourne le code 85D.
Si le GD 2199 ne reçoit pas de code de N° de message dans le 1/4 de seconde qui suit un ordre de diffusion, d'effacement ou d'enregistrement, il retourne le code 85D.

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000285

Code 855 107 - 07/92

Complementary leaflet for GD 2199

GD 2199 PROTOCOL LINK RS 232



- Speed : 2400 Bauds.
- Format : 10 bits (1 bit start = 0 et 1 bit stop = 1)
- No parity bit
- All codes followed by the letter D are in decimals.

• SUD D 25 :

- | | |
|---|-------------------------|
| 1 | shield |
| 2 | reception of GD 2199 |
| 3 | transmission of GD 2199 |
| 4 | earthing |

MESSAGE BROADCASTING COMMAND

- send of the broadcasting code = 68D
- wait 60 ms
- send the number of the message to be broadcasted + 100D (from 101D to 199D)
(i.e. : send code 105D for message number 5. The message is broadcasted)
- reception of END code at the end of the broadcasting = 84D

STOP MESSAGE BROADCASTING

- send STOP code = 65D

PRIORITY STOP (stops P.A. through mike console or the message being broadcasted.)

- To be used in case of safety message broadcasting.
- send priority STOP code = 70D
- wait 1 ms
- reception code WAIT FOR COMMAND = 80D

MESSAGE ERASE

- send ERASE code = 69D
- wait 60 ms
- send the number of the message to be broadcasted + 100D (from 101D to 199D)
- wait 60 ms
- send ERASE code = 84D
- reception of END code at the end of erasing = 84D

LINE RECORDING

- send RECORDING code = 82D
- wait 60 ms
- send the number of the message to be recorded + 100D (from 101D to 199D)
- reception of END code = 84D if existing message
- feed modulation in line input
- reception of END code = 84D if no memory available anymore
- stop modulation in line input
- send STOP code = 65D

PLEASE NOTE

If an unknown code is received by the GD 2199, it goes back to code 85D.
If the code corresponding to a message number is lower than 101 or above 199, the GD 2199 goes back to code 85D.
If the GD 2199 doesn't receive any message number code after 1/4 second following a broadcasting or erasing or recording ease, it goes back to code 85D.

RQS n° 03/2005 - CN
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3609

000236

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Tél : (33) 93 20 93 00 - Fax : (33) 93 20 08 96 - Télex : 461419 F

This document is not binding. We reserve the right to modify descriptions and specifications without notice.

VUE INTERIEURE (Fig. VII)

- 34 - Emplacements cartes mémoires
- 35 - Commutateurs : sélection durée (D2,D1)
- 36 - Commutateurs : sélection pour affichage en français, en anglais, en allemand, ou en italien (L2,L1)

* Insertion des cartes mémoires (Fig. VII)
 • Enlever le dessus de l'appareil.
 • Insérer la ou les cartes mémoires en suivant l'ordre représenté sur le fond (Fig. VII). Veiller à ce que tous les contacts soient bien engagés.

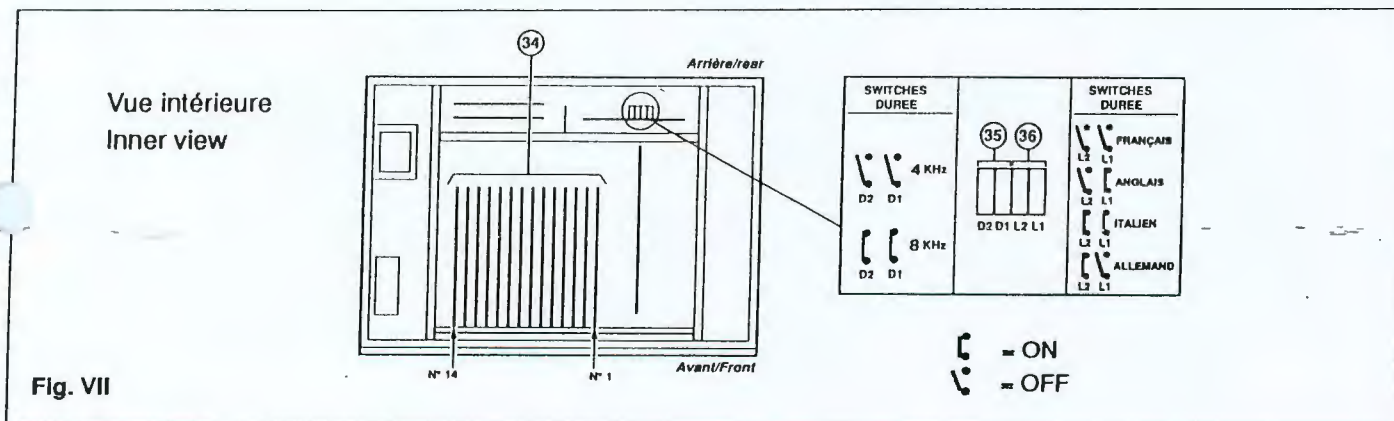
* Switches (Fig. VII)
 • Positionner les switches de durée et de langue (français, anglais, allemand, italien) suivant la figure VII.
 • Refermer le dessus et mettre l'appareil sous tension.

INNER VIEW (Fig. VII)

- 34 - Memory boards locations
- 35 - Switches: duration select (D2,D1)
- 36 - Switches: select display in English, French, German or Italian (L2,L1)

* Inserting memory boards (Fig. VII)
 • Remove the cover from the unit.
 • Insert the memory boards in the order shown on the base (Fig. VII). Check that all contacts are OK.

* Switches (Fig. VII)
 • Position the duration and language switches (French, English, German or Italian) as shown in figure VII.
 • Close the unit and switch on again.



V - UTILISATION

1 / ATTENTE COMMANDE

A la mise sous tension, le GD 2199 vous indique qu'il est en attente d'une commande, il vous indique également le temps mémoire total disponible dans l'appareil.

A tout moment, il suffit de presser la touche "STOP" (19) pour revenir au mode "ATTENTE COMMANDE"

2 / ENREGISTREMENT

2-1 Enregistrement à partir du micro GZ 54

• Brancher le pupitre micro sur l'entrée micro (4) Fig. I. Ne rien brancher sur l'entrée ligne (3) Fig. I.

• Presser la touche enregistrement "RECORD" (8).

Le GD 2199 propose le premier numéro de message disponible. Si ce numéro ne convient pas, le changer en composant le numéro sur le pavé numérique (7).

• Appuyer sur le poussoir (22) du pupitre micro "GZ 54" pour commencer l'enregistrement.

• L'enregistrement se termine quand le poussoir du pupitre micro est relâché, ou lorsque la totalité du temps mémoire disponible a été utilisée.

2-2 Enregistrement à partir de l'entrée ligne

• Brancher l'ensemble source sur l'entrée ligne en face avant (3) Fig. I. Ne rien brancher sur l'entrée micro.

• Presser la touche enregistrement "RECORD" (8).

Le GD 2199 propose le premier numéro de message disponible. Si ce numéro ne convient pas, le changer en composant le numéro sur le pavé numérique (7).

• Appuyer une nouvelle fois sur enregistrement "RECORD" (8) pour commencer l'enregistrement.

• L'enregistrement se termine lorsque l'on presse la touche "STOP" (19) ou lorsque la totalité du temps mémoire disponible a été utilisée.

V - USE

1 / AWAIT COMMAND

On power up, the GD 2199 indicates that it is awaiting a command. It also indicates the total memory space available.

The operator can return to AWAIT COMMAND mode at any time by pressing STOP (19).

2 / RECORDING

2-1 Recording using the mike GZ 54

• Connect the mike console to the mike input (4) Fig. I. Connect nothing to the line input (3) Fig. I.

• Press the "RECORD" key (8).

The GD 2199 displays the number of the first message available. If this is not the message required, change it by entering the number on numeric keypad (7).

• Press button (22) of mike console to start recording.

• Recording stops when the mike button is released or when the total memory time available has been used up.

2-2 Recording using the line input

• Connect the source assembly to the line input (3) Fig. I on the front panel. Nothing should be connected to the mike input.

• Press the "RECORD" key (8).

The GD 2199 displays the number of the first message available. If this is not the message required, change it by entering the number on numeric keypad (7).

• Press "RECORD" (8) again to start recording.

• Recording stops when the "STOP" (19) button is released or when the total memory time available has been used up.

2-3 Contrôle des messages enregistrés

- Presser la touche "LIST" (9)

Les numéros des messages enregistrés s'affichent 5 par 5, par ordre croissant, par intervalle de 10 secondes ou à chaque pression de la touche "LIST". Pour revenir au mode ATTENTE COMMANDE, presser la touche "STOP" (19).

2-4 Ecoute des messages (pupitre micro GZ 54)

- Presser la touche "MONITOR" (10)
- Composer le numéro du message à écouter sur le clavier numérique (7).
- Presser le poussoir du pupitre micro (22) (Fig. III), le message est audible par le haut-parleur (21).

2-5 Effacement d'un message

- Presser la touche effacement "DELETE" (11) (Fig. II).
- Composer le numéro à effacer sur le clavier numérique (7)
- Confirmer l'effacement du message en pressant sur "DELETE" (11).
- Confirmer à nouveau en appuyant sur "DELETE" (11).

3 / SEQUENCE

3-1 Programmation de la séquence

Une séquence de 24 messages maximum peut être programmée, avec répétition d'un message autant de fois que nécessaire.

- Presser la touche "PROGRAM" (12) pour entrer dans le mode de programmation de séquence.
- Composer le numéro du premier message de la séquence.
- Confirmer en pressant la touche "PROGRAM" (12).
- Entrer le numéro du 2^{ème} message de la séquence.
- Confirmer en pressant la touche "PROGRAM" (12).
- Répéter l'opération jusqu'au 24^{ème} message si nécessaire.
- Presser la touche "STOP" (19), pour sortir du mode programmation séquence.

ATTENTION :

Si vous tentez de programmer un message qui n'a pas été enregistré, l'appareil vous indiquera "message inexistant".

Dans ce cas 2 solutions se présentent :

- Presser sur "STOP" (19) pour sortir du mode de programmation
- Presser sur "PROGRAM" (12) pour continuer la programmation à l'endroit où vous vous étiez arrêté.

Si vous tentez de programmer une séquence supérieure à 24 messages, le GD 2199 indique "dépassement séquence". Dans ce cas presser la touche "STOP" (19) pour revenir au mode "Attente Commande".

3-2 Contrôle de la séquence

- Presser la touche "LIST" (13)
- Les numéros des messages programmés défilent 4 par 4, suivant l'ordre dans lequel ils ont été programmés, par intervalle de 10 secondes ou à chaque pression de la touche "LIST" (13).
- En fin de séquence, le GD 2199 affiche le message "Fin de contrôle".
- Presser la touche "STOP" (19) pour sortir du mode "Contrôle séquence".

3-3 Inhibition d'un message dans la séquence

Il est possible d'inhiber un numéro de message. Ce message ne sera pas diffusé, on passera directement au message suivant. Le message n'est pas effacé de la mémoire, il est effacé de la séquence et apparaît sur l'afficheur entre parenthèses. Si dans la même séquence le même message est répété plusieurs fois, il sera à chaque fois inhibé.

- Appuyer sur la touche "INHIB" (14) Fig. II
- Entrer le numéro du message à inhiber.
- Valider en appuyant sur "INHIB" (14).

2-3 Checking recorded messages

- Press the "LIST" key (9)

The numbers of the recorded messages are displayed 5 at a time in ascending order at 10-second intervals or each time LIST is pressed. Press "STOP" (19) to return to Awaiting Command mode.

2-4 Monitoring the messages (mike console GZ 54)

- Press the "MONITOR" key (10)
- Enter the number of the message required on the numeric keyboard (7).
- Press the mike console button (22) (Fig. III). The message is heard on the loudspeaker (21).

2-5 Erasing a message

- Press the "DELETE" key (11) (Fig. II).
- Enter the number to be deleted on numeric keypad (7)
- Confirm deletion of the message by pressing "DELETE" (11)
- Confirm again by pressing "DELETE" (11).

3 / SEQUENCE

3-1 Programming the sequence

A sequence of maximum 24 messages can be programmed with repetition of a message as many times as required.

- Press the "PROGRAM" key (12) to go to sequence program mode.
- Enter the number of the first message in the sequence.
- Confirm by press "PROGRAM" (12).
- Enter the number of the 2nd message in the sequence.
- Confirm by pressing "PROGRAM" (12).
- Repeat operation up to 24 times if necessary.
- Press "STOP" key (19) to leave sequence programming mode.

NOTE:

If an attempt is made to program a message that has not been recorded, the system displays "message non-existent".

In this situation, 2 solutions are possible:

- Press "STOP" (19) to leave programming mode.
- Press "PROGRAM" (12) to continue programming at the point it was discontinued.

If an attempt is made to program more than 24 messages, the GD 2199 indicates "sequence overrun". In this situation, press "STOP" (19) to return to "AWAIT COMMAND" mode.

3-2 Sequence Check

- Press "LIST" key (13)
- The numbers of the programmed messages are scrolled in groups of 4, in the order in which they were programmed at 10-second intervals or each time "LIST" (13) is pressed.
- At the end of the sequence, the GD 2199 displays the message "End Check".
- Press "STOP" (19) to leave "Sequence Check" mode.

3-3 Inhibiting a message in the sequence

It is possible to inhibit a message number. The message can no longer be broadcast and the system goes directly to the next message. The message is not deleted from the memory, but is simply removed from the sequence and appears on the display in parentheses. If in the same sequence a message is repeated several times, the repeats will all be inhibited.

- Press "INHIB" key (14) Fig. II
- Enter the number of the message to be inhibited.
- Confirm by pressing "INHIB" (14).

3-4 Restaurer un message

Un numéro de message inhibé peut être restauré. Toutes les parenthèses sur l'afficheur disparaîtront lors du contrôle de la séquence. Le message sera rétabli dans la séquence, et sera diffusé.

- Presser la touche rétablissement "RESTORE" (15).
- Entrer le numéro du message à rétablir.
- Valider en pressant sur "RESTORE" (15).

3-5 Réglage du timing de la séquence

Une temporisation peut être réglée entre chaque message de la séquence. Cette temporisation varie de 00 mn 00 s à 99 mn 59 s et reste la même entre chaque message.

- Presser sur "TIMER" (16) Fig. II
- Entrer les minutes de 00 à 99
- Valider en appuyant sur "TIMER" (16)
- Entrer les secondes de 00 à 59
- Valider en appuyant sur "TIMER" (16)
- Presser sur "STOP" (19) pour sortir du mode timing.

Vous pouvez vérifier la temporisation en pressant la touche "TIMER" (16). Le GD 2199 affiche la temporisation mémorisée. Si elle convient, presser la touche "STOP" (19) pour revenir en "ATTENTE COMMANDE". Si elle ne vous convient pas, reprendre la procédure décrite ci-dessus.

3-6 Répétition de la séquence

- Presser la touche "REPEAT" (17), l'afficheur indique "Diffusion avec répétition". La séquence sera diffusée continuellement.
- Appuyer sur "STOP" (19) pour revenir au mode "ATTENTE COMMANDE".
- Presser une nouvelle fois sur "REPEAT" (17) pour revenir en mode diffusion sans répétition.
- La touche "REPEAT" (17) fonctionne donc comme une bascule ON/OFF pour valider ou non la répétition de la séquence.

4 / DIFFUSION

4-1 Diffusion automatique à la mise sous tension

Pour permettre au GD 2199 de diffuser la séquence automatiquement à la mise sous tension, brancher un strap entre la borne 16 et la masse du bornier arrière.

4-2 Diffusion des messages à partir du clavier

- Presser la touche "DIFFUSION" (18).
- Entrer le numéro du message à diffuser. Le message sera diffusé au moment de la confirmation par une seconde pression sur la touche "DIFFUSION" (18).
- Presser "STOP" (19) pour sortir du mode de diffusion.

4-3 Diffusion de la séquence à partir du clavier

- Presser la touche "DIFFUSION" (18). Presser une 2^{ème} fois sur la touche "DIFFUSION" (18) pour lancer la séquence.
- Pour arrêter la diffusion de la séquence, appuyer sur la touche "STOP" (19).

4-4 Diffusion des messages par télécommande

Les 14 premiers messages peuvent être télécommandés par contact sec, grâce au bornier (24) en face arrière (voir Fig. VI page 5). Les bornes 1 à 14 correspondent au même numéro de message. La diffusion se fait par fermeture fugitive de contact.

4-5 Diffusion de la séquence par télécommande

Le déclenchement de la séquence peut être commandé par fermeture fugitive de contact entre la borne 16 et la masse du bornier arrière (voir Fig. VI).

- Pour arrêter la diffusion de la séquence, appuyer sur la touche "STOP" (19).

3-4 Restoring a message

An inhibited message number can be restored. All the parentheses on the display disappear during the sequence. The message is replaced in the sequence before being broadcast.

- Press the "RESTORE" key (15).
- Enter the number of the message to be restored.
- Press "RESTORE" (15) to confirm.

3-5 Adjusting sequence timing

The time-delay between the messages of a sequence can be adjusted. This time-delay varies between 00 mn 00 s and 99 mn 59 s and remains the same between all messages.

- Press "TIMER" key (16) Fig. II
- Enter the minutes from 00 to 99
- Press "TIMER" (16) to confirm.
- Enter the seconds from 00 to 59.
- Press "TIMER" (16) to confirm.
- Press "STOP" (19) to leave timing mode.

The time-delay can be checked by pressing "TIMER" (16). The GD 2199 displays the stored time-delay. If correct, press "STOP" (19) to return to "AWAIT COMMAND". If incorrect, repeat the procedure described above.

3-6 Sequence Repetition

- Press "REPEAT" key (17). The display shows "Broadcast with Repetition". The sequence is broadcast continuously.
- Press "STOP" (19) to return to AWAIT COMMAND mode.
- Press "REPEAT" (17) again to return to broadcast without repetition mode.
- "REPEAT" (17) operates like an ON/OFF switch which confirms or not the repetition of the sequence.

4 / BROADCAST

4-1 Automatic Broadcast on Power Up

If the GD 2199 is to broadcast automatically on power up, connect a bootstrap between terminal 16 and the ground of the rear terminal.

4-2 Message Broadcasting from the Keyboard

- Press the "BROADCAST" key (18).
- Enter the number of the message to be broadcasted. The message is broadcasted as soon as the "BROADCAST" (18) key is pressed a second time.
- Press "STOP" (19) to leave broadcast mode.

4-3 Sequence Broadcasting from the Keyboard

- Press "BROADCAST" (18) key. Press "BROADCAST" (18) a 2nd time to launch the sequence.
- Press "STOP" (19) to halt broadcasting of the sequence.

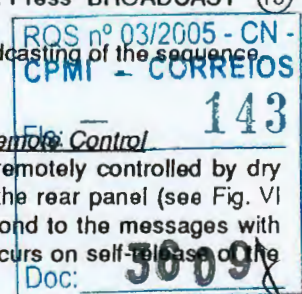
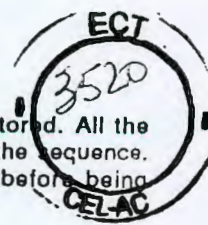
4-4 Message Broadcasting by Remote Control

The first 14 messages may be remotely controlled by dry contact on terminal strip (24) on the rear panel (see Fig. VI page 5). Terminals 1 to 14 correspond to the messages with the same number. Broadcasting occurs on self-release of the contact.

4-5 Sequence Broadcasting by Remote Control

The sequence can be triggered on self-release of the contact between terminal 16 and the ground of the rear terminal (see Fig. VI).

- Press "STOP" (19) to halt broadcast of the sequence.



Doc: 3009

5 / MESSAGE DE SECURITE "EMERGENCY"

5-1 Enregistrement

- Presser la touche "EMERG" (6) Fig.II pendant 3 secondes environ pour accéder au message de sécurité. L'afficheur indique "Accès au message de sécurité".
- Appuyer sur "RECORD" (8) pour enregistrer le message. Suivre la procédure indiquée au chapitre 2-1 et 2-2. L'afficheur vous indique qu'il enregistre le message n°99 (numéro réservé au message de sécurité).
- Presser sur "STOP" (19) pour sortir du mode enregistrement message de sécurité.

5-2 Effacement

- Appuyer sur "EMERG" (6) pendant 3 secondes, l'afficheur indique "accès au message de sécurité".
- Presser sur "DELETE" (11) pour effacer le message de sécurité. Suivre la procédure décrite au chapitre 2-5 page 6. Le GD 2199 vous indique qu'il efface le message numéro 99.
- Presser sur "STOP" (19) pour sortir du mode effacement message de sécurité.

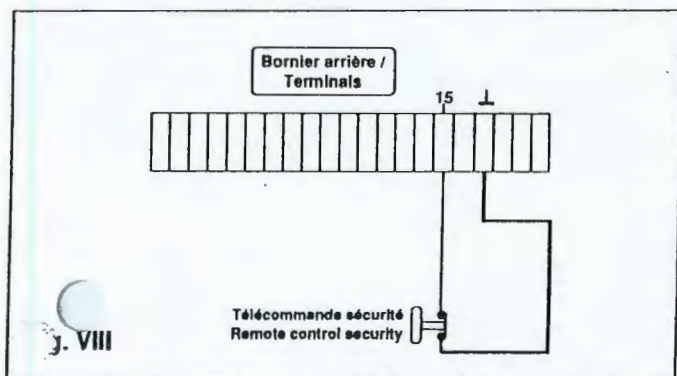
5-3 Protection du message de sécurité

Si l'on tente d'accéder au message n°99 par le clavier, que ce soit pour l'effacer ou l'enregistrer, le GD 2199 indiquera "message protégé".

5-4 Diffusion du message de sécurité

Le message de sécurité peut être diffusé à partir du clavier en suivant la procédure décrite dans le chapitre 4-2 page 7.

Le message de sécurité peut être diffusé par télécommande par l'ouverture d'un contact entre la borne numéro 15 et la masse, voir Fig.VIII.



5 / EMERGENCY MESSAGE

5-1 Recording

- Press "EMERG" (6) Fig.II for approximately 3 seconds to access the emergency message. The message "Access Emergency Message" is displayed.
- Press "RECORD" (8) to record the message. Follow the procedure described in 2-1 and 2-2. The display indicates that it is recording message number 99 (the number reserved for emergency messages).
- Press "STOP" (19) to leave record emergency message mode.

5-2 Delete

- Press "EMERG" (6) for 3 seconds. The display indicates "access to emergency message".
- Press "DELETE" (11) to erase the emergency message. Follow the procedure described in 2-5 page 6. The GD 2199 indicates that it is deleting message number 99.
- Press "STOP" (19) to leave delete emergency message mode.

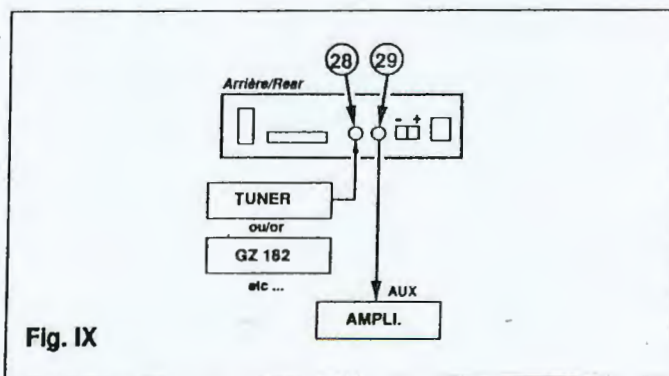
5-3 Protection of Emergency Messages

If an attempt is made to access message number 99 from the keyboard, whether to delete or record, the GD 2199 indicates "Message protected".

5-4 Broadcasting the Emergency Message

The emergency message can be broadcast using the keyboard as described in chapter 4-2 page 7.

The emergency message can be broadcast by remote control by opening a contact between terminal number 15 and the ground, see Fig.VIII.



ENTREE (MUSIC) Face arrière

Le GD 2199 est équipé d'une entrée musique (28) Fig. IV et Fig. IX. Cette entrée est en service en l'absence de diffusion de messages. Lors de la diffusion d'un message, le niveau de l'entrée "music" est progressivement atténué puis rétabli à la fin du message.

PUBLIC ADDRESS

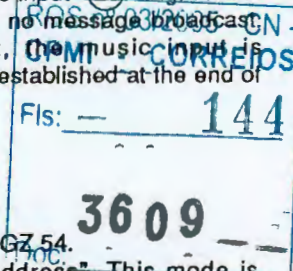
- Se placer en mode "ATTENTE COMMANDE".
- Appuyer sur le poussoir du pupitre micro GZ 54. Le GD 2199 affiche "Public address". Vous restez dans ce mode tant que le poussoir du pupitre micro est enfoncé. Vous pouvez faire votre annonce, recherche de personnes, etc..., en direct au micro.
- Relâcher le poussoir du micro, le GD 2199 revient en mode ATTENTE COMMANDE.

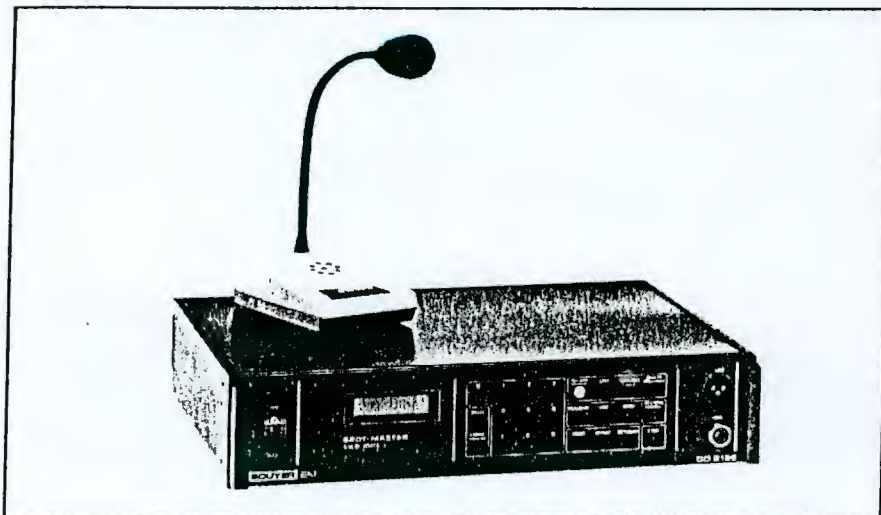
INPUT (MUSIC) Rear panel

The GD 2199 is fitted with a music input (28) Fig. IV and Fig. IX. This input is used if there is no message broadcast. When a message is broadcast, the music input is progressively attenuated and then reestablished at the end of the message.

PUBLIC ADDRESS

- Select AWAIT COMMAND mode.
- Press the button on mike console GZ 54. The GD 2199 displays "Public address". This mode is retained for as long as the push-button is held down. Announcements such as paging etc. can be made directly into the mike.
- Release the mike push-button. The GD 2199 returns to AWAIT COMMAND mode.





GD 2199

**LECTEUR
ENREGISTREUR
NUMERIQUE A RAM**

**DIGITAL PLAYER/
RECORDER
WITH RAM**

I - DESCRIPTION

Le Spot Master GD 2199 est un lecteur/enregistreur de messages numérisés stockés sur mémoires statiques sauvegardées. L'appareil est livré avec une carte mémoire (réf. GZ 2108) et peut en recevoir jusqu'à 14.

98 messages de durée variable peuvent être enregistrés, plus un message de sécurité. La diffusion est commandée par le clavier, par télécommande (bornier arrière) ou par liaison RS 232. Une séquence de 1 à 24 messages peut être programmée.

Un afficheur LCD éclairé, avec texte en français, anglais, allemand ou italien (au choix de l'utilisateur), facilite l'exploitation de l'appareil.

Le GD 2199 se présente sous la forme d'un coffret 2U, compatible avec la gamme BOUYER, pouvant se monter en rack 19" avec l'accessoire optionnel AZ 7. Un pupitre microphone / haut-parleur de contrôle GZ 54 est livré avec l'appareil.

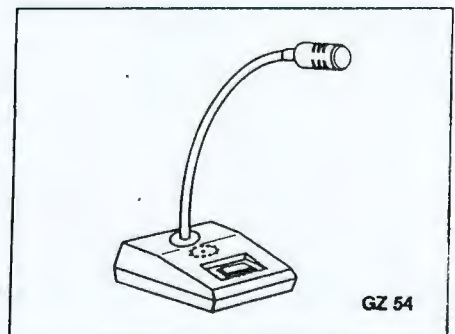
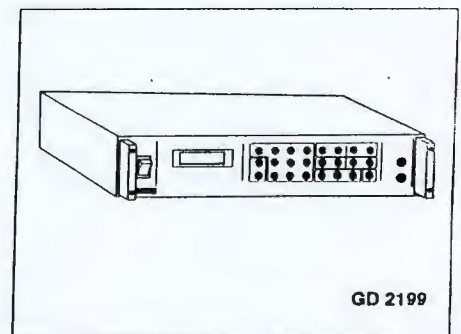
I - DESCRIPTION

The Spot Master GD 2199 is a play/record system for messages stored on backed-up static memories. The system is supplied with one storage memory board (ref. GZ 2108) and can accept up to 14.

98 messages of variable length can be recorded, in addition to an emergency message. Broadcasting is controlled either from a keyboard, by remote control connected to the rear terminal strip or via RS 232 link. A sequence of 1 to 24 messages can be programmed.

An LCD display in French, English, German or Italian, as required, makes the system easy to operate.

The GD 2199 is supplied as a 2U unit that is compatible with the BOUYER range. The system can be mounted in a 19" rack together with optional accessory AZ 7. The unit is supplied complete with a microphone console/monitoring speaker GZ 54.



II - CARACTERISTIQUES TECHNIQUES

II - TECHNICAL SPECIFICATIONS

- Entrée ligne 0 dBm : 10 kΩ
- Sortie ligne symétrique 0 dBm : 300 Ω
- Distorsion inférieure à 1 %
- Bruit résiduel en sortie, entrée court circuit : -90 dBm
- Bande passante : 50 Hz - 8 kHz
- Alimentation 230V 50/60Hz Fus: T160 mA
- Alimentation batterie : 24V continu (Normes CEI mini 21,6 V maxi 31,2 V Fus. : F 1,5 A)
- Consommation max : 18 VA
- Dimensions : 425 x 310 x 90 mm
- Poids (emballé) : 6 kg

- 0 dBm line input: 10 kΩ
- 0 dBm symmetrical line output: 300 Ω
- Distortion less than 1 %
- Residual output noise, short circuit on input: -90 dBm
- Bandwidth: 50 Hz - 8 kHz
- Power supply 230V 50/60Hz Fuse: T160 mA
- Battery power supply: 24V dc (IEC standard min.: 21.6 V max.: 31.2 V Fuse: F 1.5 A)
- Maximum consumption: 18 VA
- Dimensions: 425 x 310 x 90 mm
- Weight (packed): 6 kg

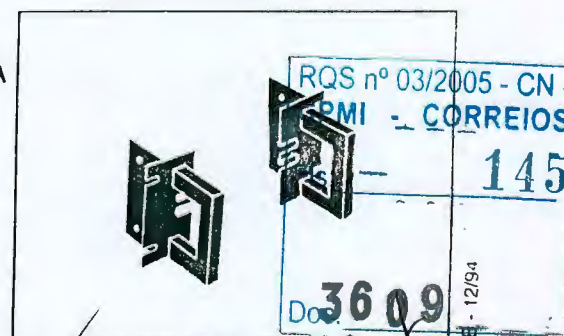
PUPITRE MICRO GZ 54 :

- Microphone électret unidirectionnel
- Longueur flexible : 285 mm
- Longueur cordon : 1,2 m
- Dimensions du socle : 150 x 110 x 45 mm
- Poids (emballé) : 0,8 kg

MICROPHONE CONSOLE GZ 54:

- Unidirectional electret microphone
- Gooseneck length: 285 mm
- Cable length: 1.2 m
- Dimensions of base: 150x110x45 mm
- Weight (packed): 0.8 kg

ACCESSOIRE / ACCESSORY



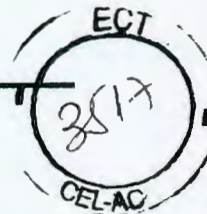
Jeu de poignées / Handles set AZ 7

000291

BOUYER
E.A.I.

Siège Social : BOUYER - 480, avenue de Paris - BP 220 - F - 82002 MONTAUBAN CEDEX - FRANCE
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Tél : (33) 93 20 93 00 - Fax : (33) 93 20 08 96 - Téléc : 461419 F



II - PRESENTATION

Vue avant (Fig. I)

- 1 - Interrupteur Marche/Arrêt
- 2 - Afficheur multifonctions
- 3 - Entrée enregistrement Ligne (XLR femelle)
- 4 - Entrée enregistrement Micro (DIN)

Commandes (Fig. II)

- 5 - Accès à la liaison RS 232 (voir notice complément ci-jointe)
- 6 - "EMERG" - Accès au message de sécurité
- 7 - Clavier numérique
- 8 - "RECORD" - Enregistrement
- 9 - "LIST" - Affichage de la liste des messages enregistrés
- 10 - "MONITOR" - Contrôle auditif des messages (GZ 54)
- 11 - "DELETE" - Effacement
- 12 - "PROGRAM" - Programmation de la séquence
- 13 - "LIST" - Affichage de la séquence
- 14 - "INHIB" - Inhibition d'un message de la séquence
- 15 - "RESTORE" - Restauration d'un message de la séquence
- 16 - "TIMER" - Minuterie de cadencement
- 17 - "REPEAT" - Répétition des messages
- 18 - "DIFFUSION" - Diffusion des messages et de la séquence
- 19 - "STOP" - Arrêt diffusion

Z Pupitre microphone (Fig. III)

- 20 - Microphone monté sur flexible
- 21 - Haut-parleur de contrôle
- 22 - Touche télécommande / public adress

GZ 54
Pupitre micro / Mic console

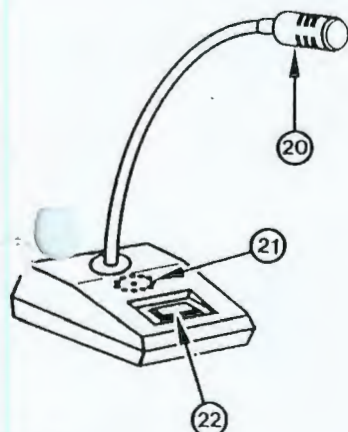


Fig. III

III - PRESENTATION

Front view (Fig. I)

- 1 - ON/OFF switch
- 2 - Multifunctional display
- 3 - Line record input (XLR female)
- 4 - Mike record input (DIN)

Commands (Fig. II)

- 5 - RS 232 link access (see complementary leaflets attached)
- 6 - "EMERG" - Access to emergency message
- 7 - Numeric keypad
- 8 - "RECORD" - Recording
- 9 - "LIST" - Display of list of recorded messages
- 10 - "MONITOR" - Monitoring of recorded messages (GZ 54)
- 11 - "DELETE" - Erase
- 12 - "PROGRAM" - Sequence programming
- 13 - "LIST" - Sequence display
- 14 - "INHIB" - Inhibit one message in the sequence
- 15 - "RESTORE" - Restore message to the sequence
- 16 - "TIMER" - Timing clock
- 17 - "REPEAT" - Message repetition
- 18 - "DIFFUSION" - Broadcast messages in the sequence
- 19 - "STOP" - Stop broadcast

GZ 54 - Microphone console (Fig. III)

- 20 - Microphone mounted on gooseneck
- 21 - Monitor loudspeaker
- 22 - Remote control / public address push-button

↓ Face avant / Front panel

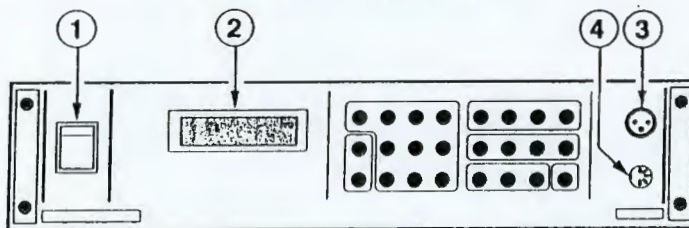


Fig. I

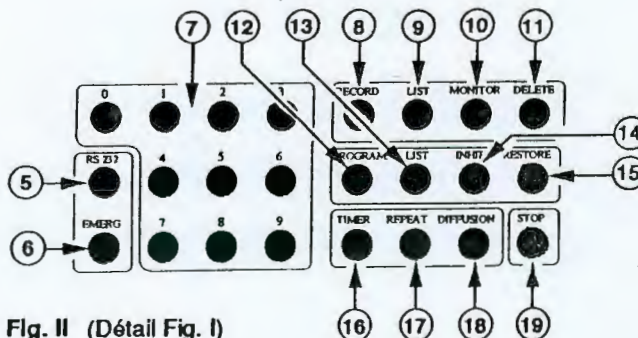


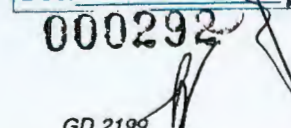
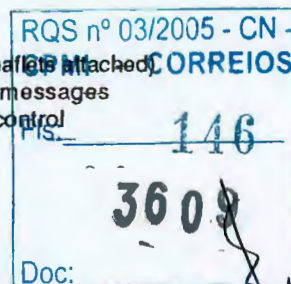
Fig. II (Détail Fig. I)

arrière (Fig. IV)

- Cache, emplacement RS 232 (voir notice ci-jointe)
- Borne 1 à 14 : télécommande des 14 premiers messages
- Borne 15 : télécommande du message de sécurité
- Borne 16 : télécommande de la séquence
- Sortie diffusion pour télécommande
- Entrée musique (XLR femelle)
- Sortie ligne (XLR mâle)
- Bornier alimentation batterie 24 V continu
- Fusible batterie 1,5 A
- Prise secteur 220 V
- Fusible T 160 mA avec fusible de rechange

Rear panel (Fig. IV)

- 23 - Location RS 232 cover (see complementary leaflets attached)
- 24 - Terminals 1 to 14: remote control of 1st 14 messages
- 25 - Terminal 15: emergency message remote control
- 26 - Terminal 16: sequence remote control
- 27 - Broadcast output for remote control
- 28 - Music input (XLR female)
- 29 - Line output (XLR male)
- 30 - Terminal for 24 V dc battery power supply
- 31 - 1.5 A battery fuse
- 32 - 220 V mains connector
- 33 - T 160 mA fuse with spare fuse



GD 2199

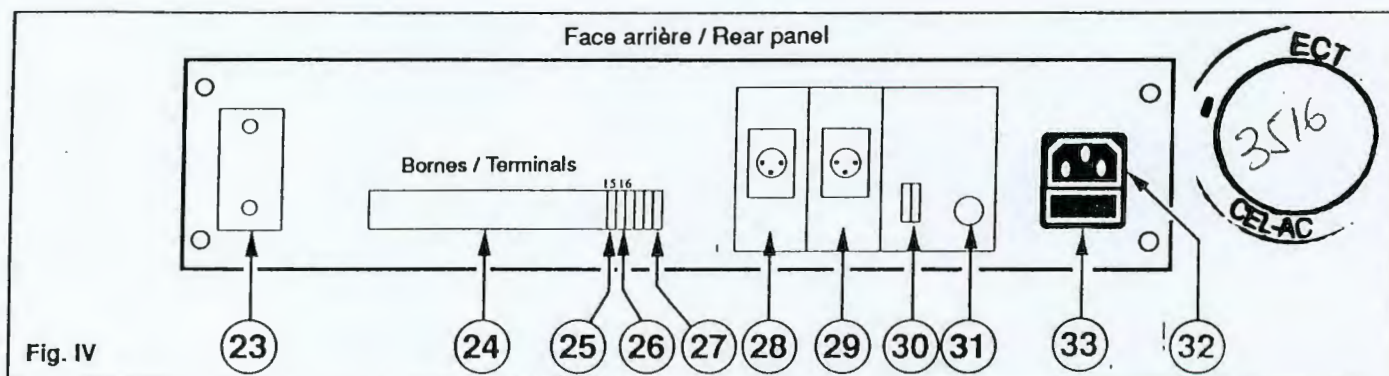


Fig. IV

CAPACITE MEMOIRE

Modularité :

Le GD 2199 peut recevoir de 1 à 14 cartes mémoires. Chaque carte donne une capacité en temps d'enregistrement. Ce temps varie selon la qualité d'enregistrement que l'on a sélectionnée.

Le tableau ci-dessous donne le temps disponible en fonction de la qualité (bande passante restituée) sélectionnée.

2 fréquences sont directement disponibles, 4 et 8 kHz par switches (35) Fig. VII.

MEMORY CAPACITY

Modularity:

The GD 2199 can accept 1 to 14 memory boards. Each board gives a time capacity that varies with the recording quality selected.

The table below gives the time available in terms of quality (restored bandwidth) selected.

2 frequencies, 4 and 8 kHz, are directly available using the switches (35) Fig. VII.

Bande passante restituée Restored bandwidth	Durée disponible par carte Time available per board	Durée totale maxi avec 14 cartes Total duration with 14 boards
14 kHz*	26 s	6 mn 04 s
8 kHz	43 s	10 mn 08 s
4 kHz	87 s	20 mn 16 s

* Fréquence disponible à la commande à la place de 8 kHz.
Les cartes sont disponibles séparément (réf. GZ 2108).

* Frequency available to order instead of 8 kHz.
PCBs are available individually (ref. GZ 2108).

FONCTIONS PRINCIPALES

ENREGISTREMENT

- 98 messages de durée variable peuvent être enregistrés. La durée totale est fonction du nombre de cartes mémoires installées.
- Durée mini des messages : 0,6 s
- Repérage des messages par numéro de 01 à 98.
- Enregistrement : - à partir du pupitre micro GZ 54
- à partir de l'entrée ligne (face avant)

EFFACEMENT

- Les messages peuvent être effacés et remplacés par d'autres messages de durées différentes.
- Le Spot Master gère d'une manière optimale tout l'espace mémoire et indique le temps disponible.

CONTROLE

- Contrôle par défilement sur l'afficheur des numéros des messages enregistrés.

MONITORING

- Ecoute des messages enregistrés par le haut-parleur du pupitre micro GZ 54.

SEQUENCES

- Possibilité de programmer une séquence de 24 messages maximum.
- Répétition possible des messages dans la séquence.
- Inhibition provisoire d'un message (toujours présent en mémoire)
- "Timing" temporisation réglable de 0 à 99 mn 59 s entre chaque message de la séquence.
- Répétition possible de la séquence.

MAIN FUNCTIONS

RECORDING

- 98 messages of variable length can be recorded. The total duration depends on the number of memory boards installed.
- Minimum message duration: 0.6 s
- Messages identified by numbers from 01 to 98.
- Recording: - from microphone console GZ 54
- from line input (front panel)

ERASING

- Messages may be erased and replaced with other messages of a different length.
- The Spot Master provides optimum management of memory capacity while indicating the time available.

CHECKING

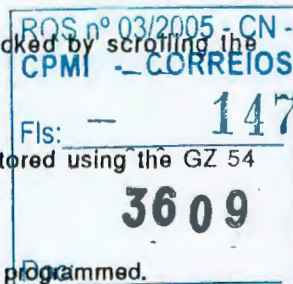
- Recorded messages can be checked by scrolling the identification numbers on the display.

MONITORING

- Recorded messages can be monitored using the GZ 54 loudspeaker.

SEQUENCES

- A maximum of 24 messages can be programmed.
- Possibility of the messages to be repeated in the sequence.
- A message can be temporarily inhibited (message remains present in the memory)
- Timing can be adjusted between 0 and 99 mn 59 s between messages in the sequence.
- Possibility of a sequence to be repeated



MESSAGE DE SECURITE

- Le **GD 2199** offre la possibilité d'un message de sécurité protégé par touche spécifique au clavier, et télécommandable via le bornier arrière.

DIFFUSION

- Par sélection au clavier du numéro de message.
- Des 14 premiers messages par télécommande.
- Du message de sécurité par télécommande
- De séquence par le clavier.
- De séquence par télécommande
- Des messages, du message de sécurité ou de la séquence par la liaison série RS 232.

PUBLIC ADDRESS

- Par appui sur la touche du micro GZ 54 quand l'appareil est en attente de commande.

AFFICHEUR

- LCD, 2 x 16 caractères, éclairé.
- Indication des numéros de messages, de la fonction en cours, des messages inhibés, de la durée mémoire disponible.
- Messages en français, allemand, anglais, italien selon la position des switches à l'intérieur de l'appareil.

IV - INSTALLATION

**ATTENTION : Cet appareil ne doit pas être exposé
aux chutes d'eau ni aux éclaboussures.**

BRANCHEMENTS (Fig. V et VI)

- Vérifier que l'appareil n'est pas relié au secteur.
- Vérifier que le secteur est bien 230 V, 50 ou 60 Hz.
- Relier la sortie (29) en face arrière à l'entrée AUX de votre amplificateur (Fig. V).
- Relier une source musicale (tuner, lecteur cassettes, compact-disc, etc...) à l'entrée (28) en face arrière du GD 2199 (Fig. V).
- Relier les câbles de télécommandes sur les bornes (24) (25) (26) (27) (Fig. VI).
- Relier le pupitre micro (GZ 54) sur la prise micro (4) (en face avant) ou une source musicale à enregistrement sur l'ent (3) (en face avant). Ne jamais brancher les deux simultanément en face avant (Fig. V).

BATTERIE 24 V

- Vérifier que l'interrupteur ① est en position "OFF", que la tension nominale de la batterie est bien 24 V
- En respectant la polarité, raccorder le cordon batterie au bornier 30 Fig. V.
- En cas de coupure secteur, le **GD 2199** est automatiquement alimenté par la batterie.

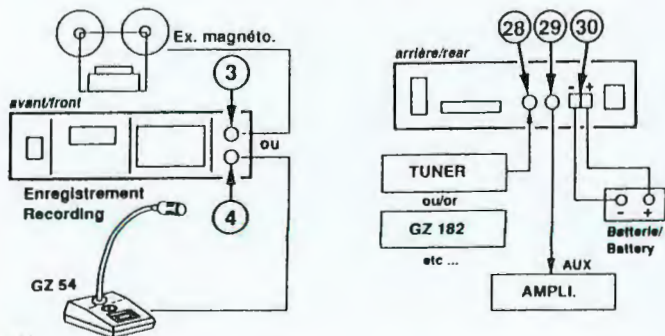


Fig. V

EMERGENCY MESSAGE

- With the **GD 2199**, an emergency message can be protected by means of a special key on the keyboard and remotely controlled using the rear terminal strip.

BROADCASTING

- The message number is selected via the keyboard from
- First 14 messages by remote selection.
- Emergency message by remote control.
- Sequence via the keyboard.
- Sequence by remote control.
- Messages, safety message or the sequence via serial link RS 232.

PUBLIC ADDRESS

- Press key on GZ 54 mike when the system is awaiting a command.

DISPLAY

- LCD, 2 x 16 characters, back lighted.
- Indicates message numbers, current function, inhibited messages, memory time available.
- Messages displayed in French, English, German or Italian depending on the setting of the internal switches.

IV - INSTALLATION

WARNING : This unit is neither water- nor splash-proof.

CONNECTIONS (Fig. V and VI)

- **Ensure that the unit is not connected to the mains.**
- Check that the mains supply is 230 V, 50 or 60 Hz.
- Connect output (29) on the front panel to the AUX input of the amplifier (Fig. V).
- Connect a music source (radio, cassette, C.D. player etc.) to input (29) on the front panel of the GD 2199 (Fig. V).
- Connect remote control cables to terminals (24) (25) (26) (27) (Fig. VI).
- Connect the mike console (GZ 54) to mike connector (4) on the front panel or a recording music source to input (3) on front panel. **Never connect the two inputs simultaneously on the front panel at the same time (Fig. V).**

24 V BATTERY

- Check that switch ① is in the OFF position and that the battery has a nominal voltage of 24 V.
- Connect the battery cable to terminal ③0 Fig. V, ensuring that the positive and negative polarities are correct.
- * The GD 2199 is automatically powered by the battery in the event of a power cut.

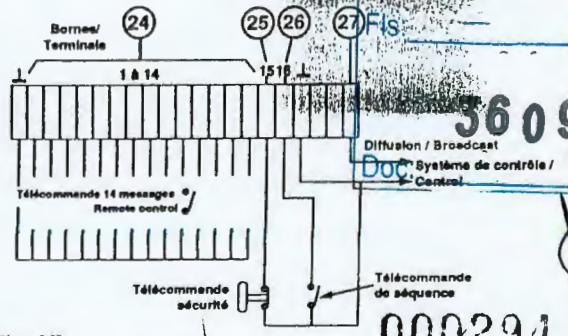
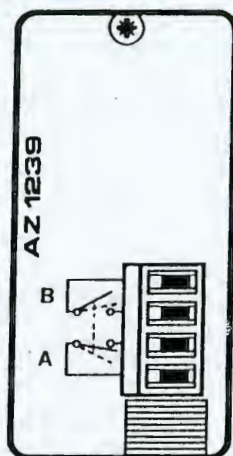


Fig. VI

BOUYER

AZ 1239

**AZ 1239**
MODULE PRIORITÉ
PRIORITY MODULE

Série EXCELLENCE/EXCELLENCE line

I - PRESENTATION

Le module AZ 1239 permet d'exercer les fonctions télécommandes et priorités sur les entrées des préamplificateurs de la Série Excellence (PR 1106, PA 1050, PA 1100, PA 1150).

Deux contacts permettent une commande annexe à partir de la télécommande de l'une des entrées du préamplificateur. Les télécommandes sont obtenues par bouclage des broches 4 et 2 sur la prise DIN de chaque module d'entrée (ex: AZ 1210).

En option, un connecteur extérieur permet un accès direct aux télécommandes.

I - PRESENTATION

The AZ 1239 module is used to operate the remote control and priority functions on the inputs of the preamplifiers in the Excellence Line (PR 1106, PA 1050, PA 1100, PA 1150).

Two contacts allow an auxiliary control from the remote control of one of the preamplifier inputs. Remote control is obtained by looping together pins 4 and 2 of the DIN connector of each input module (e.g. AZ 1210).

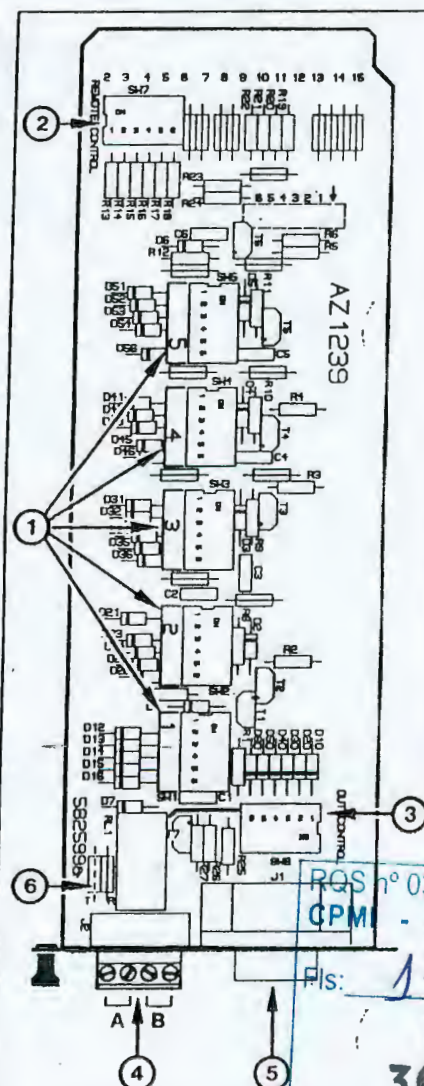
An external connector allowing direct access to the remote controls is available as an option.

CARACTERISTIQUES TECHNIQUES

- **Télécommandes :**
 - pour être active :
résistance de bouclage < 1 kΩ
 - pour être inactive :
résistance de bouclage > 4,7 kΩ
- **Contacts "OUT CONTROL" :**
 - 60 VA max
 - I max : 1,25 A
 - V max : 125 V
 - Isolement contact/bobine : 1000 V AC
- **Consommation :** de 0 à 45 mA
- **Dimensions (L x P x H) :**
15 x 205 x 74 mm
- **Poids :** 0,120 kg

II - TECHNICAL SPECIFICATIONS

- **Remote controls:**
 - to activate:
loop resistance < 1 kΩ
 - to inactivate:
loop resistance > 4.7 kΩ
- **"OUT CONTROL" contacts:**
 - 60 VA max.
 - I max: 1.25 A
 - V max: 125 V
 - Winding/contact insulation: 1000 VAC
- **Current consumption:** from 0 to 45 mA
- **Dimensions (W x D x H):**
15 x 205 x 74 mm
- **Weight:** 0.120 kg



- ① 5 groupes de 6 micro commutateurs "Programme priorités" / 5 groups of 6 micro-switches for priority programming
- ② 1 groupe de 6 micro commutateurs "REMOTE CONTROL" / 1 group of 6 "REMOTE CONTROL" micro-switches
- ③ 1 groupe de 6 micro commutateurs "OUT CONTROL" / 1 group of 6 "OUT CONTROL" micro-switches
- ④ Bornier à vis pour contact "OUT CONTROL" / Screw terminal strip for "OUT CONTROL" contact
- ⑤ Connecteur (Option) / Connector (option)
- ⑥ Strap pour contact A / Strap for contact A Fig. 1

Code 595 860 - 03/93

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CE-AC
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 Fls: 148 A

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III - INSTALLATION - FONCTIONNEMENT

Lorsqu'un préamplificateur est muni d'une carte AZ 1239, les modules d'entrée ne fonctionnent que sur l'ordre de leur télécommande.

Avant d'installer le module AZ 1239 dans le logement sérigraphié "priorité" du préamplificateur, configurer le module selon vos besoins.

PROGRAMMATION DES PRIORITÉS

Chacune des entrées peut être prioritaire sur une ou plusieurs autres, sauf l'entrée n°6 qui peut être télécommandée mais reste non prioritaire : cette entrée sera donc toujours au dernier rang de priorité.

Si une entrée "x" est prioritaire sur une entrée "y", alors quand l'entrée "x" est télécommandée, elle est validée et l'entrée "y" est inhibée.

Attention : l'inhibition peut être partielle ou totale selon la position du micro commutateur S1 du module de l'entrée "y", s'agit d'un AZ 1210, AZ 1211, AZ 1212 ou AZ 1213.

Pour programmer les priorités, utiliser les 5 groupes de 6 micro commutateurs (① Fig. I et Fig. II).

Pour rendre l'entrée n°2 prioritaire sur l'entrée n°1, il suffit de positionner sur "ON" le micro commutateur 1 du groupe de l'entrée n°2 (Fig. II).

III - INSTALLATION - OPERATION

When a preamplifier is equipped with an AZ 1239, the input modules operate only by an order from their remote control.

Before installing the AZ 1239 module in the position marked "priorité" on the preamplifier, shape the module according to your needs.

PROGRAMMING PRIORITIES

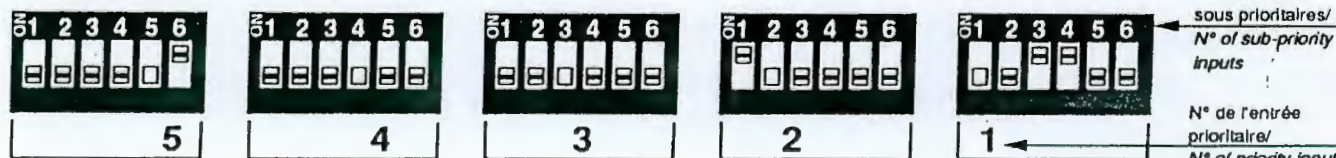
Each of the inputs can have priority over one or several others, except input no. 6, which can be used by remote control but remains a non-priority: this input will thus always have the lowest priority level.

If an input "x" has priority over an input "y", when input "x" is remotely controlled, it is active and input "y" is inactive.

Careful: the inactivity can be partial or total depending on the position of micro-switch S1 on input module "y", if it is an AZ 1210, AZ 1211, AZ 1212 or AZ 1213.

To program priorities, use the 5 groups of 6 micro-switches (① Fig. I and Fig. II).

To make input n°2 have priority over input n°1, set micro-switch 1 of input group n°2 to "ON" (Fig. II).



Dans l'exemple ci-dessus (Fig. II) :

- l'entrée n°1 est prioritaire sur les entrées n°3 et n°4
- l'entrée n°2 est prioritaire sur l'entrée n°1
- l'entrée n°5 est prioritaire sur l'entrée n°6

Il est possible de programmer 2 ou plusieurs entrées (sauf l'entrée n°6) réciproquement prioritaires.

Exemple : l'entrée n°1 est prioritaire sur les entrées n°2 et n°3, l'entrée n°2 est prioritaire sur les entrées n°1 et n°3, l'entrée n°3 est prioritaire sur les entrées n°1 et n°2.

Dans cette configuration la priorité revient à la première entrée télécommandée.

FONCTION "REMOTE CONTROL"

Lorsqu'une entrée est connectée à une source qui n'a pas de télécommande (ex: lecteur de cassette ou lecteur de disque compact) et que l'on est en présence du module AZ1239, l'entrée ne fonctionne pas.

Pour la valider, mettre en position "ON" le numéro correspondant du micro commutateur "REMOTE CONTROL" (② Fig. I). Celui-ci remplace la télécommande.

Attention ! Dans ce cas la télécommande est permanente ; l'entrée ainsi télécommandée ne devra pas être programmée "prioritaire".

In the above example (Fig. II):

- input n°1 has priority over input n°3 and 4
- input n°2 has priority over input n°1
- input n°5 has priority over input n°6

It is possible to program 2 or more inputs (except input n°6) to have mutual priority.

Example: input n°1 has priority over input n°2 and 3, input n°2 has priority over input n°1 and 3, and input n°3 has priority over input n°1 and 2.

In this configuration priority is given to the first input to be remotely operated.

"REMOTE CONTROL" FUNCTION

When an input is connected to a source that has no remote control (e.g. cassette or compact disc player) and module AZ 1239 is present, the input is inactive.

To operate it, place the corresponding number of the "REMOTE CONTROL" micro-switch to "ON" (② Fig. I). This switch replaces the remote control.

Careful: In this case the operation is permanent; an input set up this way must not be programmed "priority".

FONCTION "OUT CONTROL"

Cette fonction permet de commander un équipement annexe et elle répond à la télécommande de l'une ou de plusieurs entrées.

Le choix des entrées se fait par le groupe de 6 micro commutateurs "OUT CONTROL" (③ Fig. I). Lorsque cette commande est activée, 2 contacts sont délivrés par le bornier à vis (④ Fig. I).

Contact B = contact travail

Contact A = contact repos (peut devenir contact travail en déplaçant le strap sur le pointillé - ⑥ Fig. I).

"OUT CONTROL" FUNCTION

This function is used to control an auxiliary piece of equipment and it responds to the remote control of one or several inputs.

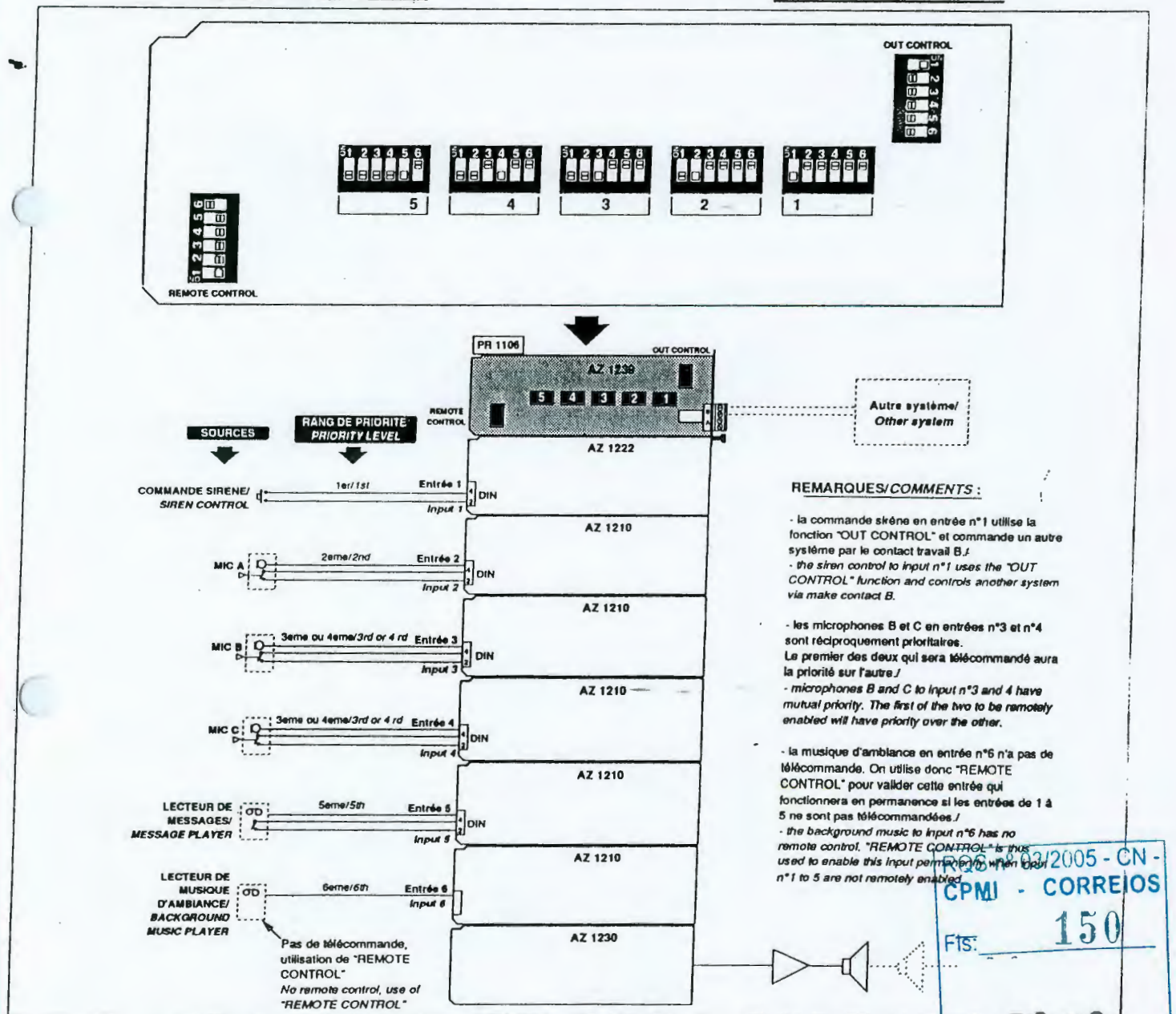
The choice of inputs is made via the group of 6 "OUT CONTROL" micro-switches (③ Fig. I). When this control is enabled, 2 contacts are delivered by the screw terminal strip (④ Fig. I).

Contact B = make contact

Contact A = break contact (can resume contact by moving the strap on the dots - ⑥ Fig. I).

EXEMPLE D'APPLICATION

APPLICATION EXAMPLE



CONNECTEUR D'ACCES DIRECT À LA TÉLÉCOMMANDE (EN OPTION)

Ce connecteur (⑤ Fig. I) permet de télécommander directement les modules contenus dans les logements n°1 à n°6 du PR 1106 et n°1 à n°4 des PA 1050, PA 1100 et PA 1150.

Ces modules peuvent être des entrées (ex: AZ 1210) ou des sorties (AZ 1230, AZ 1231, AZ 1232).

Pour le câblage du connecteur, voir le schéma page 4.

DIRECT REMOTE CONTROL ACCESS CONNECTOR (OPTIONAL)

This connector (⑤ Fig. I) is used for direct remote control of the modules contained in position n°1 to 6 of the PR 1106 and position n°1 to 4 of the PA 1050, PA 1100 and PA 1150.

These can be input modules (e.g. AZ 1210) or output modules (AZ 1230, AZ 1231, AZ 1232).

For connector wiring, see schematic page 4.



NUMERO DES CONTACTS CORRESPONDANTS AUX ENTREES /
CONTACT NUMBERS CORRESPOND TO INPUT NUMBERS
CONTACT 9 - 0V

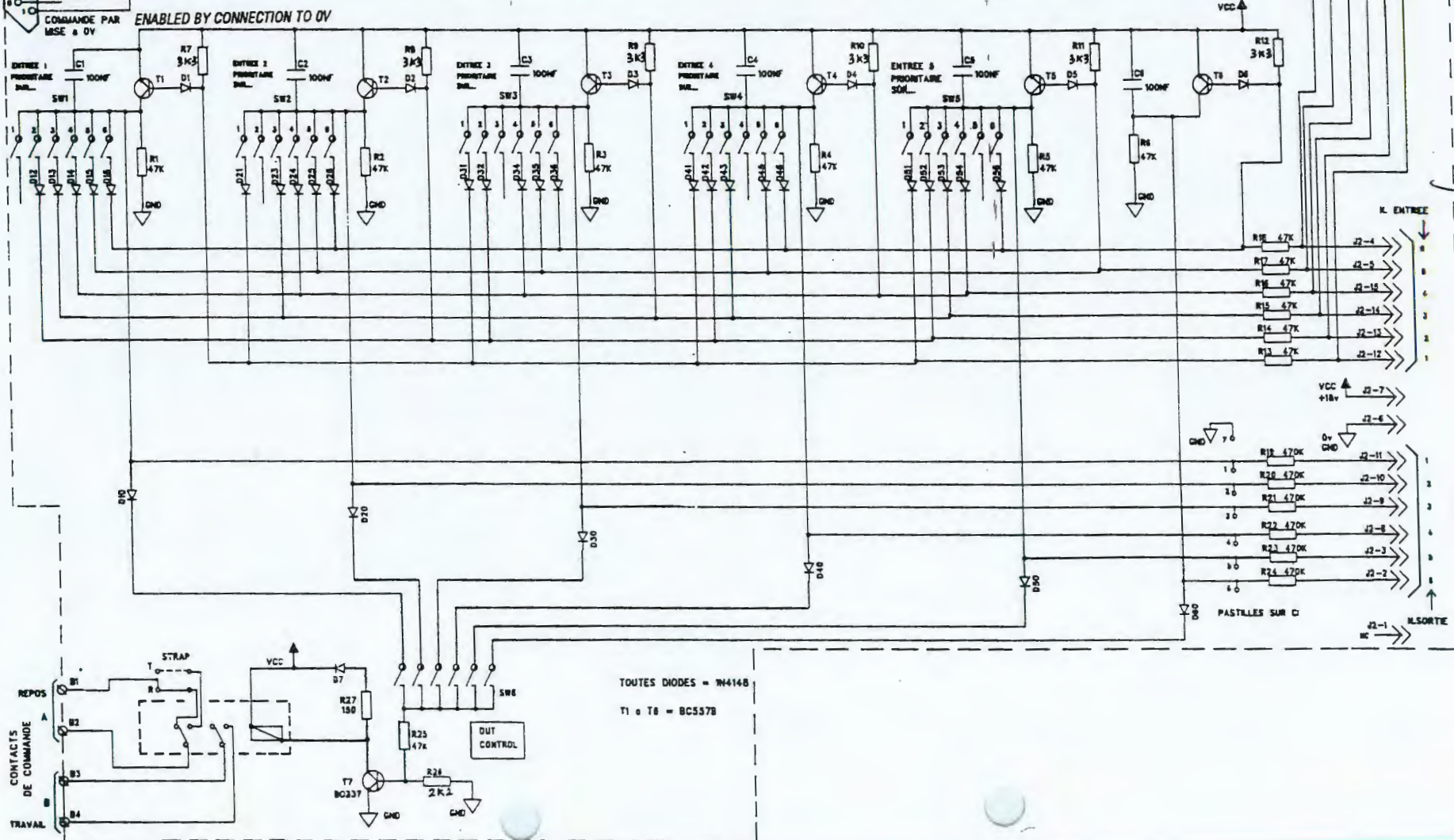
SCHEMA AZ1239

CI:177035/A

CE:582599/A

CONNECTEUR D'ACCES AUX TELECOMMANDES (en option) /
OPTIONAL REMOTE CONTROL ACCESS CONNECTOR

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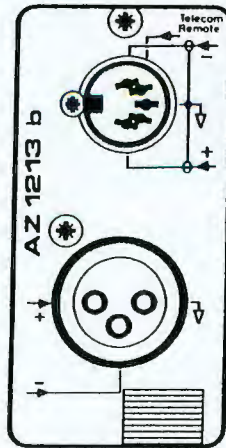
AZ 1239 / 00

AZ 1239

BOUYER

BOUYER

AZ 1213



AZ 1213

**MODULE ENTREE LIGNE
SUR TRANSFORMATEUR
AVEC DETECTION DE
MODULATION**
**LINE INPUT MODULE
ON TRANSFORMER WITH
MODULATION DETECTION**

Série EXCELLENCE / EXCELLENCE line

I - DESCRIPTION

L'AZ 1213 est un module entrée ligne sur transfo acceptant des niveaux maximaux de 0 dBm (S3 sur OFF) ou +12 dBm (S3 sur ON).

Le switch S1 permet de couper (position ON) ou atténuer le signal quand le module est utilisé avec un module priorité.

S2 met en circuit une alimentation 17 V pour téléalimenter un pupitre carillon GC 1021.

S4 sur ON permet d'obtenir une impédance d'entrée de 600 Ω.

Le potentiomètre P1 règle la sensibilité de détection de modulation qui agit en parallèle avec la télécommande externe (broche 4 de la prise DIN).

I - DESCRIPTION

The AZ 1213 is a line input module mounted on a transformer that receives signals with a nominal level of 0 dBm (S3 OFF) or +12 dBm (S3 ON).

Switch S1 is used to cut (when ON) or attenuate the signal when the module is used with a priority module.

S2 turns on a 17 V power supply for remote energizing of chime deck GC 1021.

When S4 is ON, the input impedance is 600 Ω.

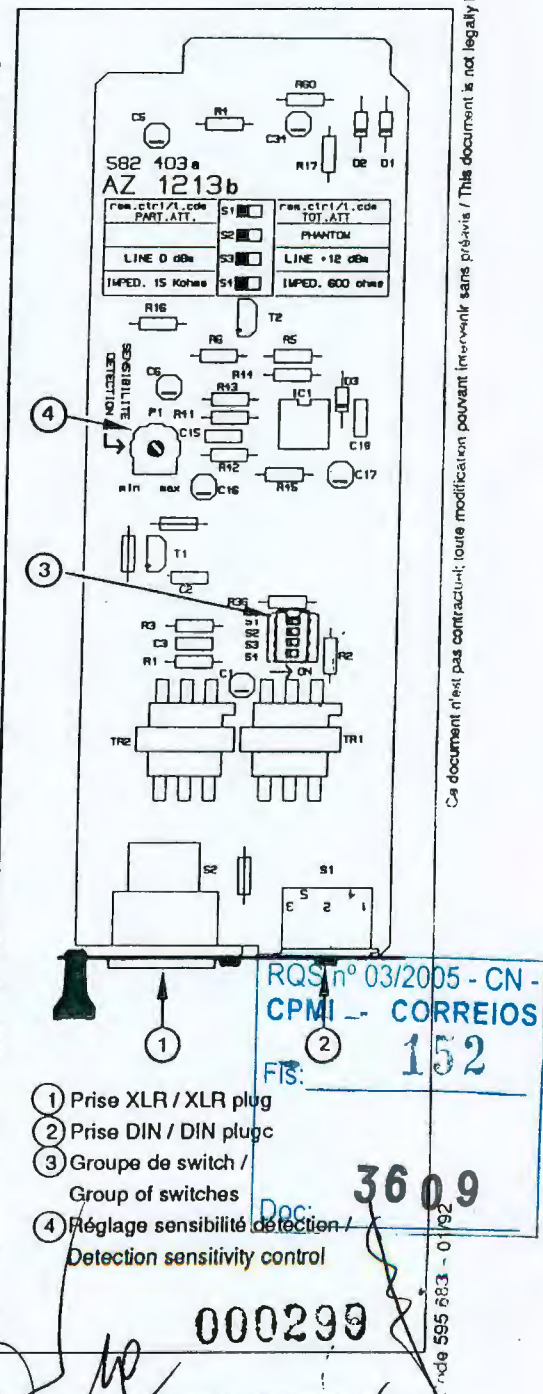
Potentiometer P1 adjusts the sensitivity of modulation detection which operates in parallel with external remote control (pin 4 of DIN connector).

II - CARACTERISTIQUES TECHNIQUES

- Sensibilité entrée : 0 dBm (Sym) ou +12 dBm (Sym) si S3 sur "ON"
- Impédance entrée : 15 kΩ ou 600 Ω si S4 sur "ON"
- Bande passante (-3 dB) : 50 Hz à 30 kHz
- Distorsion : 0,1 %
- Rapport S/B : ≥ 90 dB
- Alimentation disponible : 17 V ≤ 100 mA
- Consommation : 9 mA
- Dimensions (LxPxH) : 35 x 205 x 74 mm
- Poids : 130 g

II - TECHNICAL SPECIFICATIONS

- Input sensitivity : 0 dBm (Balanced) or +12 dBm (Balanced) if S3 "ON"
- Input Impedance : 15 kΩ or 600 Ω if S4 "ON"
- Frequency response (-3 dB) : 50 Hz- 30 kHz
- Distortion : 0.1 %
- Signal/Noise Ratio : ≥ 90 dB
- Available power : 17 V ≤ 100 mA
- Consumption : 9 mA
- Dimensions (LxWxH) : 35 x 205 x 74 mm
- Weight : 130 g



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FTS: 152

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1. Prise XLR / XLR plug
2. Prise DIN / DIN plug

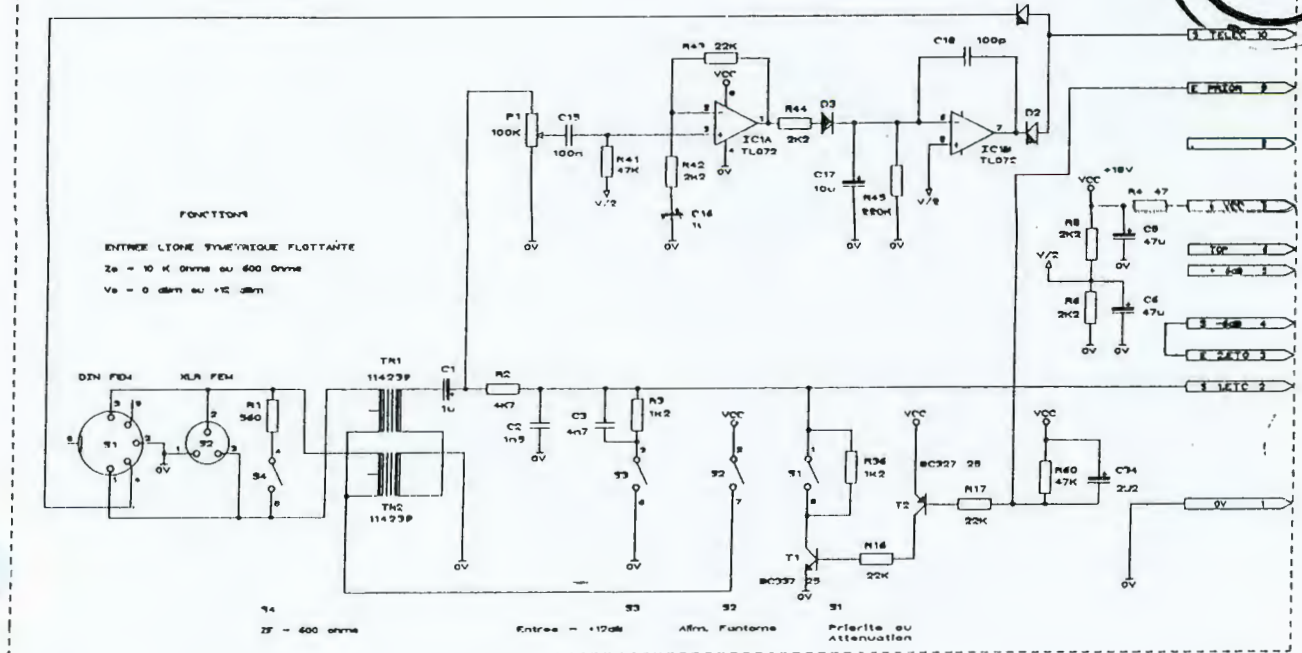
3. Groupe de switch / Group of switches

4. Réglage sensibilité détection / Detection sensitivity control

582 403 a

D1 D2 D3 - 944148
Condensateurs - 25V

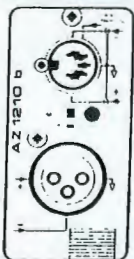
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CIRCUIT IMPRIMÉ 77403 a

AZ 1213 b / 00

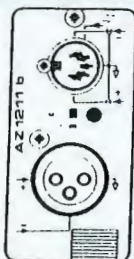
MODULES ENFICHABLES / PLUG-IN MODULES



AZ 1210 b

Module d'entrée universelle / Universal input module

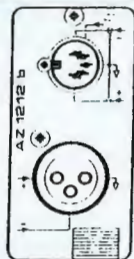
- MIC: -63 dBm
- Z = 1,2 KΩ
- B.P./BW: 60 - 22 000 Hz
- AUX: -10 dBm
- Z = 22 KΩ Asym/Unbalanced
- Z = 44 KΩ Sym/Balanced
- Ligne/Line: 0 dBm
- Max +22 dBm
- B.P./BW: 30 - 22 000 Hz
- Filtre/Filter PHAIP: 300Hz
- P.B.L.P.: 10 000 Hz
- Alim. fantôme/Phantom power supply



AZ 1211 b

Module d'entrée universelle avec détection de modulation / Universal input module with modulation detection

- Idem AZ 1210 plus détection de modulation réglable sur la carte / Same as AZ 1210 plus adjustable modulation detection on the board



AZ 1212 b

Module d'entrée micro sur transfo / Microphone input module on transformer

- 63 dBm
- Z = 1,2 KΩ
- B.P./BW: 40 - 22 000 Hz
- Alim. fantôme/Phantom power supply
- Filtre/Filter PHAIP: 300 Hz
- P.B.L.P.: 9 KHz



AZ 1214

Module d'entrée micro-gong / Microphone gong input module

- MIC: -56 dBm
- Z = 1,2 KΩ
- Carillon/Chime: 2 tons/Tones



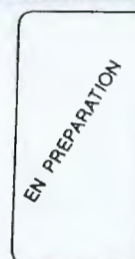
AZ 1215 b

Module interface téléphone / Telephone interface module



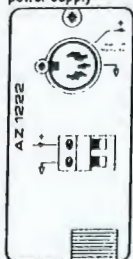
AZ 1220

Module obturateur / Blanking module



AZ 1221

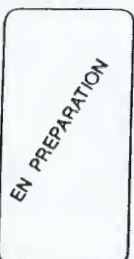
Module lecteur enregistreur numérique / Digital recorder/reader module



AZ 1222

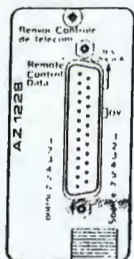
Module alerte/Alarm module

- Commande par contact normalement ouvert ou fermé / Controlled by normally open or normally closed contacts
- 7 sirènes différentes: évacuation, pompiers, barrage, hulu, bip-bip, 77 différents: sirènes: évacuation, feu, barrage, warble, beep, etc.
- Module prioritaire/Priority



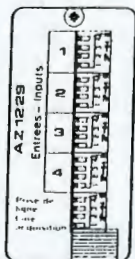
AZ 1223

Module tuner FM / Tuner FM module



AZ 1228

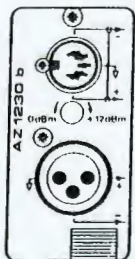
Module accès priorité / Priority access module



AZ 1229

Module priorité / Priority module

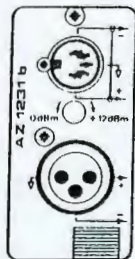
- 4 voies avec prise de ligne / 4 channels with line connection



AZ 1230 b

Module sortie / Output module

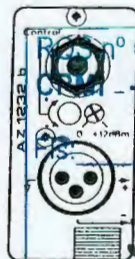
- 0/+12 dBm Sym/balanced
- 6/+6 dBm Asym/unbalanced
- Z = 600 Ω



AZ 1231 b

Module sortie sur transfo / Output module on transformer

- 0/+12 dBm
- Z = 600 Ω



AZ 1232 b

Module sortie contrôle HP / Output module loudspeaker module

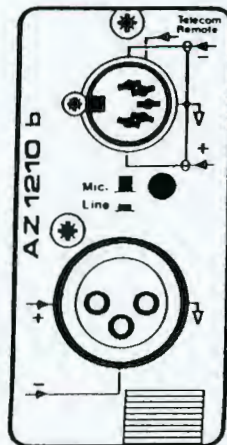
03/2005 - CN - CORREIOS

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000300

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BOUYER
AZ 1210



AZ 1210

3609

**MODULE D'ENTREE
UNIVERSELLE**
UNIVERSAL INPUT MODULE

Série EXCELLENCE/ EXCELLENCE line

I - DESCRIPTION

L'AZ 1210 est un module entrée acceptant les niveaux MIC, AUX et LINE.

La commutation MIC / LIGNE est effectuée par le bouton-poussoir accessible en façade.

Le switch S1 permet de couper ou d'atténuer le signal quand le module est utilisé avec un module priorité.

Le switch S2 permet de diminuer la sensibilité en micro ou ligne de 10 dBm. Les switch S3 et S4 mis sur ON forment un filtre "Parole".

En position micro, une alimentation fantôme est disponible en permanence (norme DIN 45596)

I - DESCRIPTION

The AZ 1210 is an input module that accepts MIC, AUX and LINE level signals.

A push-button on the front panel is used for switching between MIC and LINE.

Switch S1 is used to cut or attenuate the signal when the module is used with a priority module.

Switch S2 reduces the sensitivity of the microphone or line to 10 dBm. Switches S3 and S4 are set to ON to activate the voice filter.

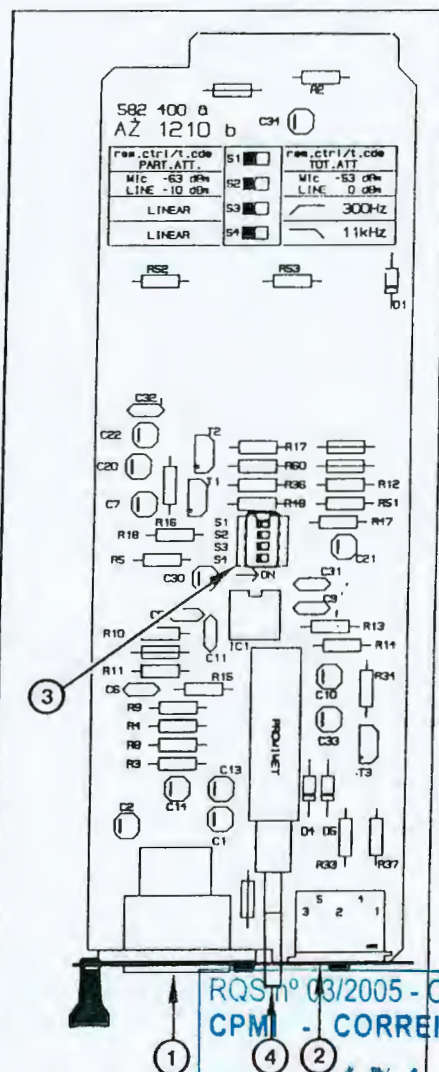
When set to MIC, a phantom power supply is available continuously (DIN 45596).

II - CARACTERISTIQUES TECHNIQUES

- **Sensibilité d'entrée :**
MIC : - 63 dBm (Sym.)
AUX : - 10 dBm (Asym.)
LIGNE : 0 dBm (Sym.) + 22 dBm max
- **Impédance d'entrée :**
MIC : 1,2 KΩ
AUX : 22 KΩ
LIGNE : 44 KΩ
- **Bande passante (-3 dB) :**
MIC : 60 Hz à 22 KHz
AUX : 30 Hz à 22 KHz
LIGNE : 30 Hz à 22 KHz
- **Filtre passe bas :** 10 KHz (-3 dB)
- **Filtre passe haut :** 300 Hz (-3 dB)
- **Distorsion :**
MIC : 0,1 %
AUX : 0,05 %
LIGNE : 0,05 %
- **Rapport S/B :**
MIC : ≥ 60 dB
AUX : ≥ 90 dB
LIGNE : ≥ 90 dB
- **Consommation :** 15 mA
- **Dimensions (LxPxH) :** 35 x 205 x 74 mm
- **Poids :** 110 g

II - TECHNICAL SPECIFICATIONS

- **Input sensitivity :**
MIC : - 63 dBm (Balanced)
AUX : - 10 dBm (Unbalanced)
LINE : 0 dBm (Balanced) + 22 dBm max
- **Input impedance :**
MIC : 1,2 KΩ
AUX : 22 KΩ
LINE : 44 KΩ
- **Frequency response (-3 dB) :**
MIC : 60 Hz - 22 KHz
AUX : 30 Hz - 22 KHz
LINE : 30 Hz - 22 KHz
- **Low pass filter :** 10 KHz (-3 dB)
- **High pass filter :** 300 Hz (-3 dB)
- **Distortion :**
MIC : 0,1 %
AUX : 0,05 %
LINE : 0,05 %
- **Signal/Noise Ratio :**
MIC : ≥ 60 dB
AUX : ≥ 90 dB
LINE : ≥ 90 dB
- **Consumption :** 15 mA
- **Dimensions (LxWxH) :** 35 x 205 x 74 mm
- **Weight :** 110 g



RQS n° 03/2005 - CN -
CPMI - CORREIOS

Fils: 154

3609

① Prise XLR / XLR plug

② Prise DIN / DIN plug

③ Groupe de switch / group of switch

④ Commutateur MIC/LIGNE / MIC/LINE switch

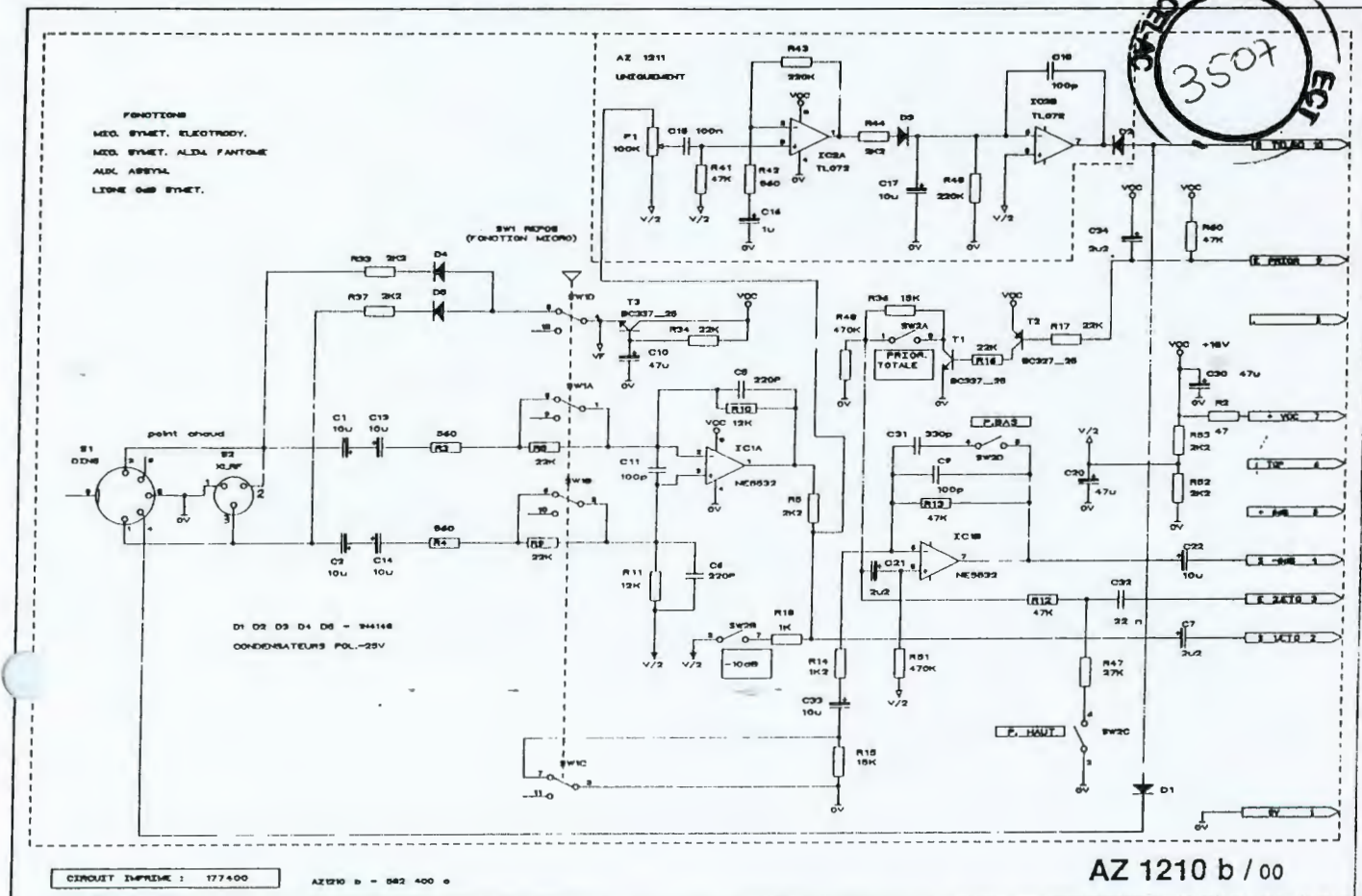
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Code 595 704 - 05/92

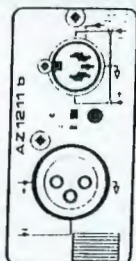
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MODULES ENFICHABLES / PLUG-IN MODULES



AZ 1211 b

Module d'entrée universelle avec détection de modulation
 Universal input module with modulation detection

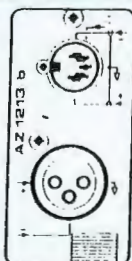
- Avec AZ 1210 plus détection de modulation réglable sur la carte
- Same as AZ 1210 plus adjustable modulation detection on the board



AZ 1212 b

Module d'entrée micro sur transfo / Microphone input module on transformer

- 63 dBm
- Z = 1,2 KΩ
- B.P./B.W. : 40 - 22 000 Hz
- Alim. fantôme/Phantom power supply
- Filtre/Filter P.H./HP : 300 Hz
- P.B./LP : 9 KHz



AZ 1213 b

Module d'entrée ligne sur transfo avec détection de modulation / Line input module on transformer with modulation detection

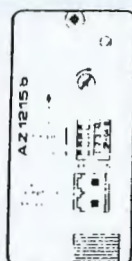
- 0 dBm ou/ou + 12 dBm
- Alim. fantôme/Phantom power supply
- Z = 15 KΩ ou/ou 600 Ω
- B.P./B.W. : 50 Hz - 30 000 Hz



AZ 1214

Module d'entrée micro-gong / Microphone gong input module

- MIC : - 56 dBm
- Z : 1,2 KΩ
- Carillon/Chime : 2 tons/tones



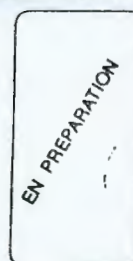
AZ 1215

Module interface téléphone / Telephone interface module



AZ 1220

Module obturateur / Blanking module



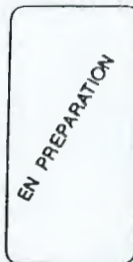
AZ 1221

Module lecteur enregistreur numérique / Digital recorder/reader module



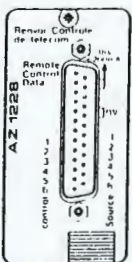
AZ 1222

Module alerte/Alarm module
 • Commande par contact normalement ouvert ou fermé / Controlled by normally open or normally closed contacts
 • 7 sirènes différentes : évacuation, pompier, barrage, hulu, bip-bip... / 7 different sirens : evacuation, fire, barrier, warble, beep, etc...
 • Module prioritaire/Priority



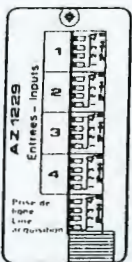
AZ 1223

Module tuner FM / Tuner FM module



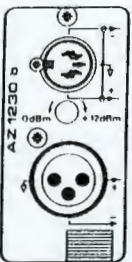
AZ 1228

Module accès priorité / Priority access module



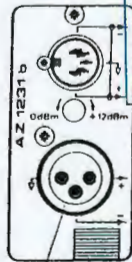
AZ 1229

Module priorité / Priority module
 • 4 voies avec prise de ligne / 4 channels with line connection



AZ 1230 b

Module sortie / Output module
 • 0/+ 12 dBm Syn/balanced
 • -6/+ 6 dBm Asyn/unbalanced
 • Z = 600 Ω



AZ 1231 b

Module sortie sur transfo / Output module on transformer

- 0/+ 12 dBm
- Z = 600 Ω



AZ 1232 b

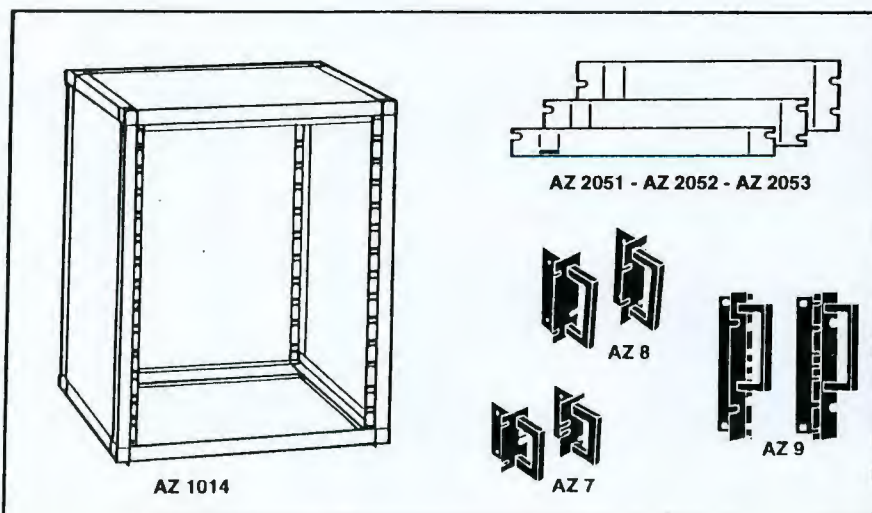
Module sortie + contrôle HP / Output module + loudspeaker module

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Fils: 155

Doc:

000302



AZ 1014 AZ 2001
AZ 1015 AZ 2003
AZ 1016 AZ 6
AZ 2051 AZ 7
AZ 2052 AZ 8
AZ 2053 AZ 9

BAIE 14U 19"
et ACCESSOIRES
14U, 19" RACK
and ACCESSORIES

3506

I - DESCRIPTION

L'**AZ 1014** est une baie destinée à recevoir des appareils électroniques au standard jusqu'à 14 unités de haut.

De construction très robuste, elle est constituée d'un bâti en profilé d'aluminium, de deux panneaux latéraux et un dessus en acier zingué et revêtus de peinture époxy, assurant une excellente protection sous tout climat.

Les accessoires suivants permettent de constituer un système compact de sonorisation au format 19", à partir d'appareils de la gamme BOUYER.

AZ 1015 : panneau arrière pour **AZ 1014** livrée avec visserie de fixation.

AZ 1016 : 5 jeux de glissières pour 5 appareils livrés avec visserie de fixation et de mise en baie.

AZ 6, AZ 7, AZ 8, AZ 9 : jeu de poignées de mise en baie pour appareils au format 1U, 2U, 3U, 4U respectivement.

AZ 2051, AZ 2052, AZ 2053 : faces avant vierges (hauteur 1U, 2U et 3U respectivement) permettant de fermer la façade d'une baie comportant moins de 14U d'équipement avec une finition assortie au matériel BOUYER (livré avec visserie de mise en baie).

AZ 2001, AZ 2003 : coffrets vides 1/2U 19" destinés à compléter la baie lors de l'utilisation d'un amplificateur série Excellence de type AR 1050, AR 1100 ou AR 1150.

L'ensemble de la visserie de mise en baie est en acier inoxydable.

I - DESCRIPTION

The **AZ 1014** is a 19" rack for electronic equipment, with 14 units of height available.

Its very sturdy construction is made of a frame of custom aluminium profiles, two side panels and a top panel made of epoxy-coated galvanized steel, ensuring excellent all-weather protection.

The range of accessories allows to build a compact sound system, in 19" format, from various units in the BOUYER range :

AZ 1015 : back panel for **AZ 1014** rack

AZ 1016 : set of support runners for 5 units delivered with screws for runners and units.

AZ 6, AZ 7, AZ 8, AZ 9 : sets of adaptors with handles to fit units in **AZ 1014** (height : 1U, 2U, 3U, 4U respectively).

AZ 2051, AZ 2052, AZ 2053 : empty front panels for racks equipped with less than 14U of equipment (height : 1U, 2U and 3U respectively). They allow to close the front of the rack and give a good match to BOUYER front panels (delivered with mounting screws).

AZ 2001, AZ 2003 : empty cabinets for 1/2U-19" are used to complete the rack when using an amplifier from Excellence range like AR 1050, AR 1100 or AR 1150.

All the visible mounting screws and washers are stainless steel.

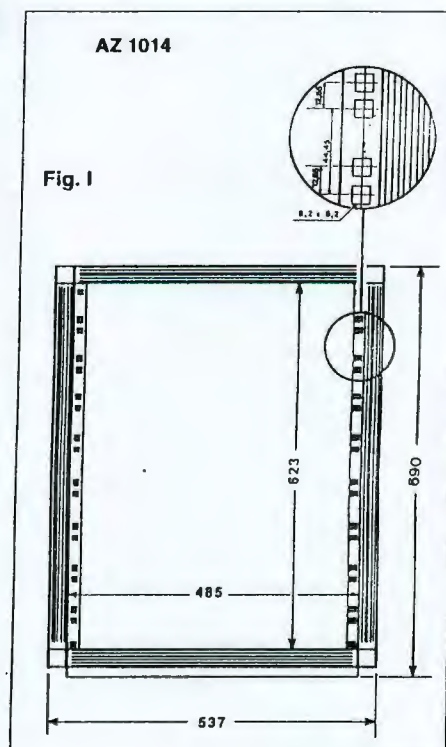


Fig. I

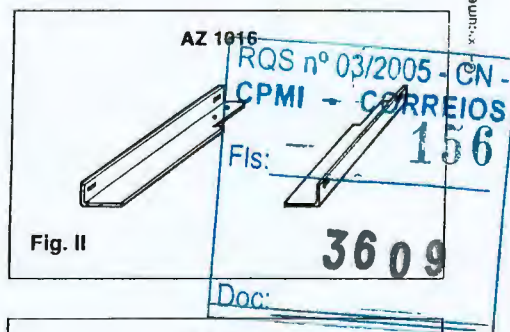


Fig. II

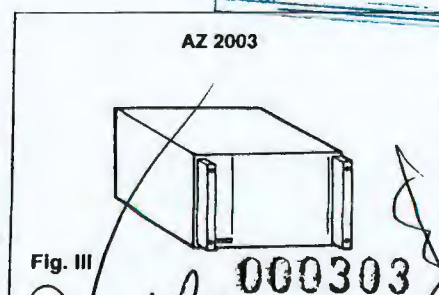


Fig. III

II - CARACTERISTIQUES TECHNIQUES

- **AZ 1014** : 537 x 537 x 690 mm - 13 kg (Fig. I)
- **AZ 1015** : 533 x 483 mm (12 U) - 2,7 kg
- **AZ 1016** : 7,3 kg - 5 jeux de fixation
- **AZ 2001** : 212 x 44 x 325mm (1U) - 1,5 kg
- **AZ 2003** : 212 x 133 x 325mm (3U) - 1,9 kg
- **AZ 2051** : 483 x 44 x 15mm (1U) - 0,35 kg
- **AZ 2052** : 483 x 88 x 15mm (2U) - 0,65 kg
- **AZ 2053** : 483 x 133 x 15mm (3U) - 1 kg
- **AZ 6** : 1 U - 0,06 kg
- **AZ 7** : 2 U - 0,35 kg
- **AZ 8** : 3 U - 0,50 kg
- **AZ 9** : 4 U - 0,60 kg

II - TECHNICAL SPECIFICATIONS

- **AZ 1014** : 537 x 537 x 690 mm - 13 kg (Fig. I)
- **AZ 1015** : 533 x 483 mm (12 U) - 2,7 kg
- **AZ 1016** : 7,3 kg for 5 units
- **AZ 2001** : 212 x 44 x 325mm (1U) - 1,5 kg
- **AZ 2003** : 212 x 133 x 325mm (3U) - 1,9 kg
- **AZ 2051** : 483 x 44 x 15mm (1U) - 0,35 kg
- **AZ 2052** : 483 x 88 x 15mm (2U) - 0,65 kg
- **AZ 2053** : 483 x 133 x 15mm (3U) - 1 kg
- **AZ 6** : 1 U - 0,06 kg
- **AZ 7** : 2 U - 0,35 kg
- **AZ 8** : 3 U - 0,50 kg
- **AZ 9** : 4 U - 0,60 kg

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III - INSTRUCTIONS DE MONTAGE

MONTAGE DES GLISSIERES AZ 1016

Choisir soigneusement l'emplacement respectif des appareils dans la baie :

- en haut les appareils devant être réglés fréquemment
- en bas les appareils les plus lourds et ceux dégageant peu de chaleur
- les appareils au format 1 U n'ont pas besoin de glissières

Après avoir déterminé l'emplacement des glissières, insérer les écrous-cage de fixation sur les profilés en les présentant sur leur face intérieure (Fig. IV).

Après avoir déterminé l'emplacement des glissières, insérer les écrous-cage de fixation sur les profilés en les présentant sur leur face intérieure et en respectant le sens (Fig. V). Les glissières vont par paire.

Fixer les glissières à l'aide des vis et des rondelles inoxydables fournies.

MISE EN BAIE DES APPAREILS

Les appareils doivent être équipés des jeux de poignées AZ 6, AZ 7, AZ 8 ou AZ 9 (consulter la notice correspondante à l'appareil).

Après avoir déterminé la position des points de fixation des appareils, insérer les écrous-cage par l'intérieur de la baie sur la partie perforée du profilé (Fig. VI).

Enlever le dessous des appareils, sauf pour les appareils à ventilation forcée, puis mettre en place sur les glissières à l'aide des vis et des rondelles inoxydables.

Dans le cas d'un montage en rack d'un amplificateur type AR 1050, AR 1100 ou AR 1150, le kit de jumelage AZ 2030 est nécessaire pour assembler un coffret vide AZ 2003 (3U) à un appareil. (Consulter la notice correspondante à l'amplificateur).

FIXATION DES FACADES AVANT VIERGES

Si les appareils installés ne complètent la baie, il est possible d'ajouter des façades avant vierges AZ 2051, AZ 2052 ou AZ 2053 pour obtenir une présentation parfaite de la baie. Les façades avant vierges fixent avec les écrous-cages, vis et rondelles inoxydables (Fig. VI).

FIXATION DE LA FACE ARRIERE AZ 1015

Après avoir câblé l'installation, il est possible de fermer l'arrière de la baie avec le panneau AZ 1015 (Fig. VII). Il faut laisser le même espace vide en haut et en bas de la baie (1U) pour le passage des câbles et la ventilation. Il est préférable de ne pas utiliser le panneau AZ 1015 si la baie comporte plusieurs appareils à ventilation forcée.

III - MOUNTING INSTRUCTIONS

MOUNTING AZ 1016 SUPPORT RUNNERS

Carefully choose the position of the different units in the rack :

- units with everyday adjustments near the top
- heavy units and units emitting little heat near the bottom
- 1 U units do not need support runners.

Having determined the position of support runners, insert the square-nuts in the aluminium profiles as in Fig. IV.

Having determined the position of support runners, insert the square-nuts in the aluminium profiles as in Fig. V respecting the direction. Runners work by pair.

Fix the runners with the screw and the stainless washers supplied.

MOUNTING UNITS IN THE RACK

Other units should be fitted with AZ 6, AZ 7, AZ 8 or AZ 9 adaptor kits (see unit's manual).

Having determined the position of the unit's fastening points, insert the square nuts in the aluminium profiles as in Fig. VI.

Remove the bottom of the unit's casing, except for forced ventilation products. The unit may then be put in place on the runners and be fastened by stainless steel screws and washers.

When mounting in a rack an AR 1050, AR 1100 or AR 1150 amplifier, the coupling kit AZ 2030 is necessary to join an empty cabinet AZ 2003 (3U) with an other product. (See corresponding instruction booklet).

MOUNTING EMPTY FRONT PANELS

If the different units do not fill up the 14 units of space it is possible to give the rack a clean finishing touch with AZ 2051, AZ 2052 or AZ 2053 panels, which are fastened with square nuts, stainless steel screws and washers (see Fig. VI).

MOUNTING THE BACK PANEL AZ 1015

After the whole system has been connected, it is possible to close the back of the rack with the AZ 1015 panel (Fig. VII). The same interval (1 U) should be left on top and bottom of the rack for cables and ventilation. The AZ 1015 panel should not be used if the rack includes several units with fans.

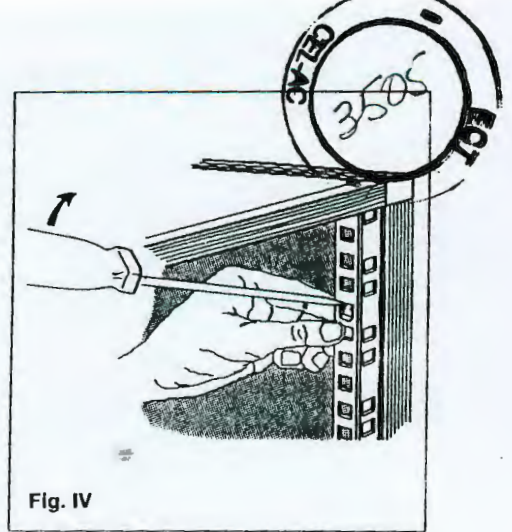


Fig. IV

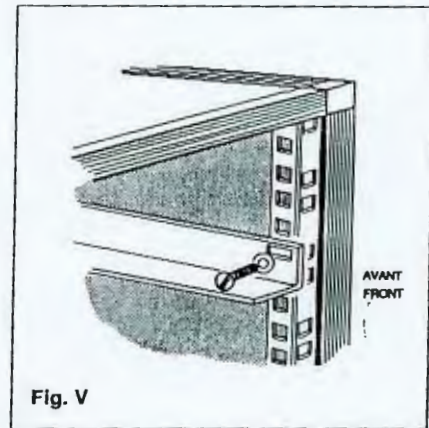


Fig. V

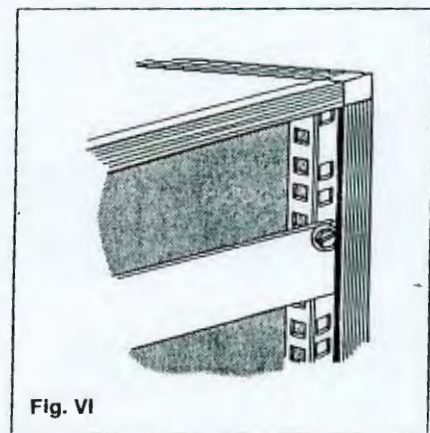


Fig. VI

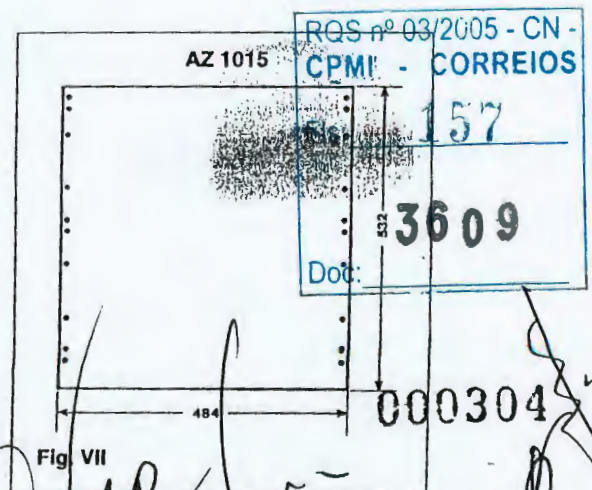
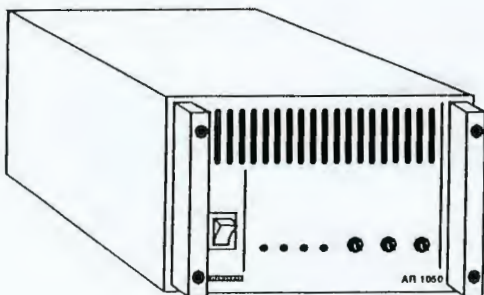


Fig. VII



AR 1050
AR 1100
AR 1150

AMPLIFICATEURS
50 W - 100 W - 150 W

AMPLIFIERS
50 W - 100 W - 150 W

Série EXCELLENCE / EXCELLENCE line

I - DESCRIPTION

Les AR 1050, AR 1100 et AR 1150 sont des amplificateurs de 50W, 100W et 150W monophoniques, utilisables sur secteur ou sur batterie pour les applications de sécurité.

Leurs dimensions, demi format 19", permettent d'assembler deux appareils côte à côte pour un encombrement réduit.

Ces appareils sont dotés de correcteurs de tonalité et des témoins lumineux nécessaires à une utilisation optimale.

I - DESCRIPTION

AR 1050, AR 1100 and AR 1150 are 50 W, 100 W and 150 W mono booster amplifiers which are powered by the mains or by battery for use in safety applications.

They are built in 19" half format; two units can be assembled side-by-side, taking up less space.

These units have the tone correctors and light indicators required for optimal use.

II - CARACTERISTIQUES TECHNIQUES

II - TECHNICAL SPECIFICATIONS

	AR 1050	AR 1100	AR 1150
• Puissance de sortie / Output power	50W RMS	100W RMS	150W RMS
• Distorsion / Distortion	< 1 %		
Bande passante (- 3 dB) / Frequency response	65-20 000 Hz		
Rapport signal/bruit / Signal/noise ratio	≥ 80 dB non pondéré / unweighted		
• Tonalité / Tone control	± 8 dB à/at 100 Hz ± 8 dB à/at 10 KHz		
• Entrée / Input	0 dBm symétrique 10 KΩ (Transfo) / Input balanced 0 dBm 10 kΩ		
• Sortie bas niveau / Low-level output	0 dBm symétrique/parallèle à l'entrée / balanced/parallel at input		
• Sorties / Outputs			
Basse impédance/Low impedance	4 Ω	4 Ω	4 Ω
Haute impédance/High impedance	50 V (50 Ω) 70 V (100 Ω) 100 V (200 Ω)	50 V (25 Ω) 70 V (50 Ω) 100 V (100 Ω)	50 V (16 Ω) 70 V (32 Ω) 100 V (66 Ω)
• Alimentation secteur / Mains power supply	230 V ~ 50/60 Hz avec terre / with earth		
• Alimentation batterie / Battery power supply	Utilisable entre 20 et 32 V - Puissance nominale à 28,8 V (Batterie chargée) Can be used between 20 and 32V - Nominal power: 28,8V (Charged battery)		
• Consommation / Consumption			
Secteur/Mains	110 VA	200 VA	300 VA
Batterie / Battery	2,7 A	5,5 A	10 A
• Dimensions (LxPxH) / (LxWxH)	212 x 325 x 135 mm		
• Poids / Weight	7,3 Kg	8,5 Kg	9,3 Kg
• Rack	1/2 19" - 3 U		

BOUYER

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Code 595 795 - 04/97

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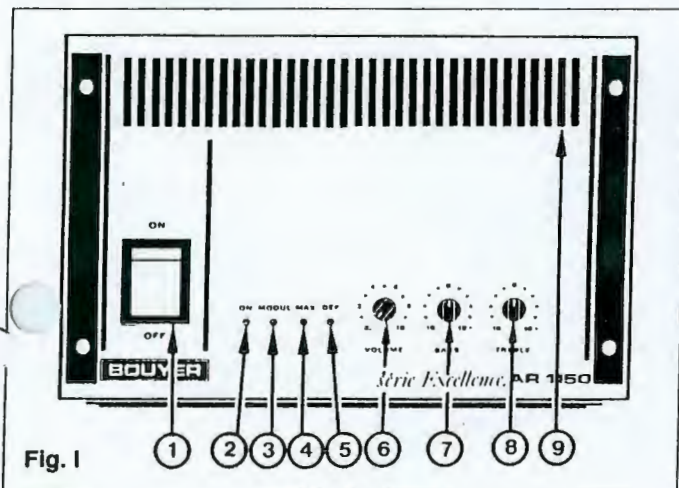
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158

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III - PRESENTATION

A l'avant (Fig. I)

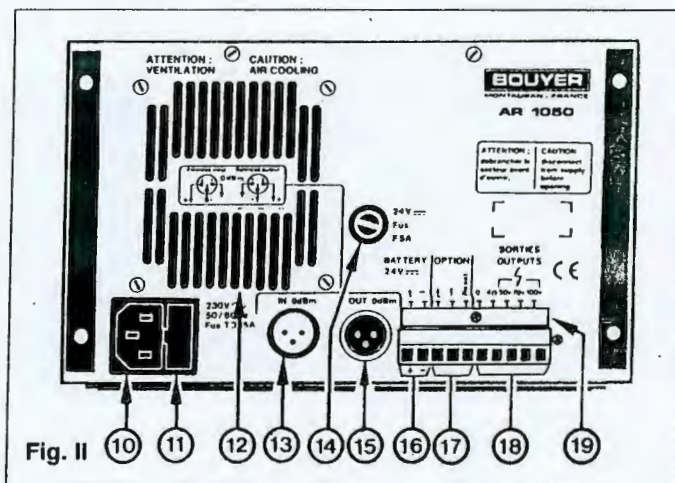
- ① - Interrupteur "Marche / Arrêt"
- ② - Témoin lumineux de mise sous tension
- ③ - Témoin lumineux de modulation
- ④ - Témoin lumineux d'écrêtage
- ⑤ - Témoin lumineux de température excessive
- ⑥ - Réglage de volume
- ⑦ - Réglage de tonalité grave
- ⑧ - Réglage de tonalité aiguë
- ⑨ - Grille de ventilation



III - PRESENTATION

Front panel (Fig. I)

- ① - ON/OFF switch
- ② - ON indicator lamp
- ③ - Modulation indicator lamp
- ④ - Crest limitation indicator lamp
- ⑤ - Overheat indicator lamp
- ⑥ - General volume control
- ⑦ - Bass tone control
- ⑧ - Treble tone control
- ⑨ - Ventilation grille



A l'arrière (Fig. II)

- ⑩ - Prise secteur 230V avec terre
- ⑪ - Fusible (5 x 20) secteur
- ⑫ - Grille de ventilation
- ⑬ - Entrée XLR symétrique 0 dBm
- ⑭ - Fusible (6 x 35) batterie
- ⑮ - Sortie XLR symétrique 0 dBm (parallèle à l'entrée)
- ⑯ - Bornes + et - d'alimentation batterie
- ⑰ - Bornes d'information de défaut (option)
- ⑱ - Sorties de puissance
- ⑲ - Verrouillage du connecteur

Rear panel (Fig. II)

- ⑩ - Mains plug 230V with earth
- ⑪ - Mains supply fuse (5 x 20)
- ⑫ - Ventilation grille
- ⑬ - Balanced XLR input, 0 dBm
- ⑭ - Battery fuse (6 x 35)
- ⑮ - Balanced XLR output, 0 dBm (parallel at input)
- ⑯ - + and - battery power supply terminals
- ⑰ - Information default terminals (optional)
- ⑱ - Power outputs
- ⑲ - Connector lock

IV - INSTALLATION



ATTENTION :

L'appareil ne doit pas être exposé aux chutes d'eau et aux éclaboussures

• Branchement secteur

L'appareil est livré pour un fonctionnement en 230V avec terre.

• Branchement batterie 24 V

Raccorder les bornes + et - à la batterie avec des conducteurs de section $\geq 2 \text{ mm}^2$. En présence de la tension secteur, une tension de charge de la batterie est disponible en ⑯.

• Branchement source de modulation

Raccorder la source de modulation à la prise XLR femelle (entrée symétrique sur transfo). Un signal de sortie identique est disponible sur la prise XLR mâle.

• Branchement des haut-parleurs

Raccorder la sortie HP appropriée de l'amplificateur à la ligne des haut-parleurs. Fixer le bornier au moyen de la pièce de verrouillage ⑲ (Fig. II).



ATTENTION

The unit is neither water - nor splash proof.

• Mains Connection

The unit is supplied for use with 230V with earth.

• 24 V Battery Connection

Connect the + and - terminals to the battery by means of a $\geq 2 \text{ mm}^2$ cross-section lead. When the mains supply is switched on, a battery load voltage is available on ⑯.

• Modulation source connection

The modulation source is connected on the female XLR socket (balanced input on the transformer). An identical output signal is available on the male XLR plug.

• Loudspeaker connection

Connect the appropriate loudspeaker output on the amplifier to the loudspeaker line. Fasten terminals with the connector lock ⑲ (Fig. II).

RQS n° 03/2005 - C
CPMI - CORREIC

Fils: 159

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V - ASSEMBLAGE 2 APPAREILS

Accoler les deux appareils et desserrer les butées avant et arrière ① (Fig. III) fixées par des vis cruciformes.

Glisser les 4 pièces de jumelage ② AZ2030 suivant le croquis (Fig. IV). (2 pièces à l'avant et 2 à l'arrière). Serrer les vis.

VI - MONTAGE EN RACK

Pour monter l'appareil en rack 19", après avoir assemblé deux appareils, démonter les butées et les caches latéraux. Remplacer les caches latéraux par les poignées fournies dans le kit AZ8 (Fig. V).

VII - UTILISATION

Après branchements et avant la mise sous tension, tourner le volume en position "0". Mettre l'appareil sous tension à l'aide de l'interrupteur ① (Fig. I). Le témoin ② de mise sous tension s'allume. Ajuster le niveau sonore et la tonalité en fonction de l'utilisation désirée.

La puissance maximale est obtenue par un signal d'entrée de 0 dB, volume position "8" tout en maintenant une réserve de gain de 2 dB au-delà de cette position.



En cas d'utilisations avec d'autres appareils reliés à la terre, il est conseillé d'ouvrir l'épingle SW3 située sur la carte (582 327c pour AR 1150, 582371b pour AR1100 et 582 376b pour AR 1050) pour éviter des ronflements dus aux boucles de masse.

L'inhibition des réglages de tonalité est possible en fermant les épingles SW1 et SW2 de la carte principale (582327c pour AR1150 - 582 327c pour AR 1100 - 582 376b pour AR1050).



ATTENTION :
Avant toute intervention, déconnecter le câble secteur. Après l'intervention, refermer l'appareil et vérifier que le fil de terre (jaune et vert) est bien connecté.

V - ASSEMBLY OF 2 DEVICES

Slide the two devices together and loosen the front and rear stops ① (Fig. III) which are fastened by Pozidriv screws. Slide the 4 coupling pieces ② AZ 2030 as shown in the drawing (Fig. IV). (2 pieces in front and 2 in the rear). Tighten the screws.

VI - RACK MOUNTING

Once assembled, two devices can be mounted on a 19" rack. Remove the stops and the lateral covers. Replace the lateral covers with the handles supplied in kit AZ 8 (Fig. V).

VII - USE

After connection, but before switching on, adjust the volume to "0". Switch the device on using the ON/OFF switch ① (Fig. I). The ON indicator LED ② lights up. Adjust the volume and the tone to the desired level.

Maximum power is obtained using a 0 dB input signal (volume set to "8") while maintaining a 2 dB gain reserve above this position.



For use with earthed equipment, switch SW3 on board (582 327c for AR 1150, 582 371b for AR 1100, 582 376b for AR 1050) should be opened to avoid hum due to ground loops.

Adjustment of the tone control can be limited by closing switches SW1 and SW2 on the main board (582 327c for AR1150 - 582 327c for AR 1100 - 582 376b for AR 1050).



ATTENTION :
Before any manipulation, disconnect the mains cable. After manipulation, put back the cover and check that the "earth" wire (yellow + green) is connected properly.

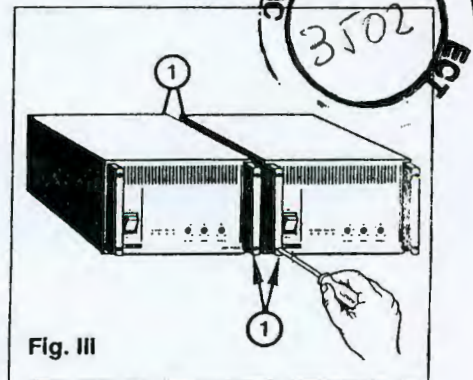


Fig. III

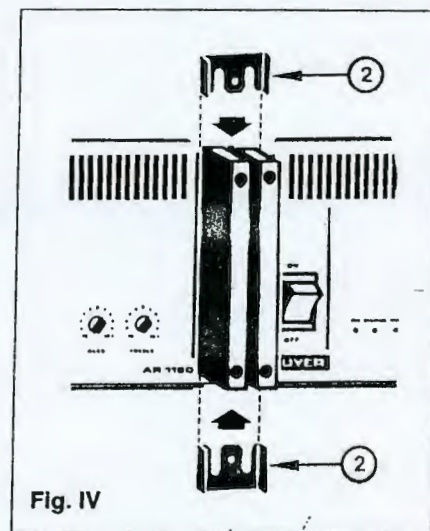


Fig. IV

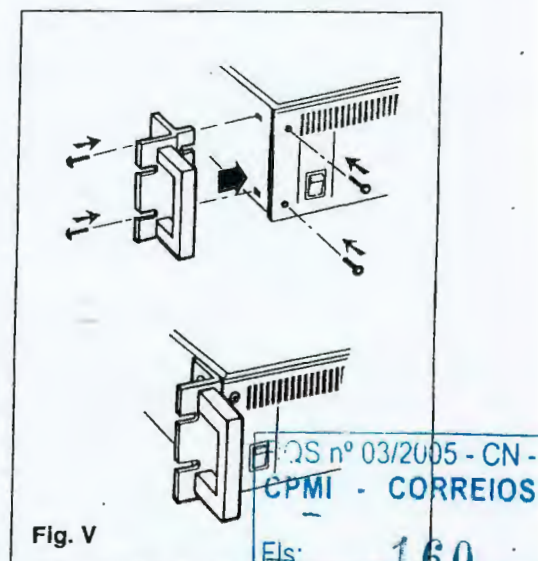


Fig. V

VIII - MAINTENANCE



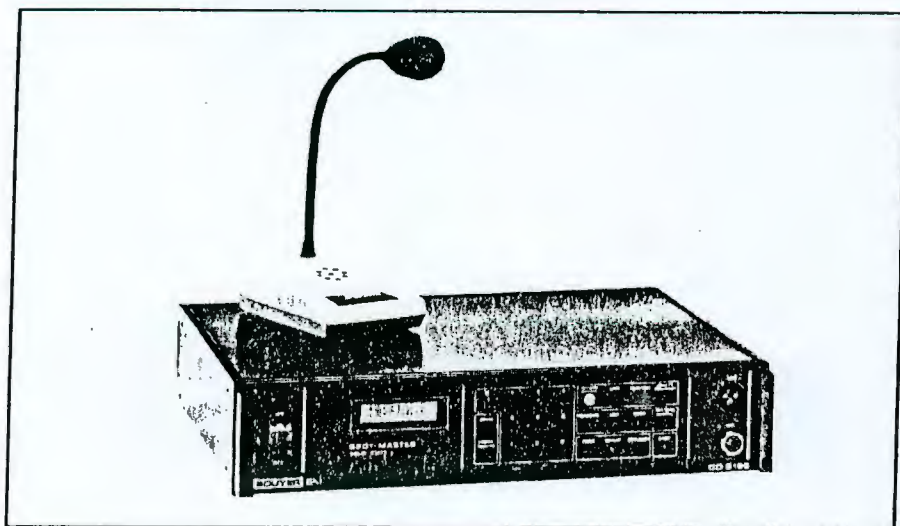
En cas de panne :

- Vérifier l'état des fusibles et les remplacer si besoin par des fusibles de mêmes caractéristiques tel qu'indiqué sur l'appareil.
- Attendre que l'appareil refroidisse pour s'assurer que la panne n'est pas due à la protection thermique.
- Sinon retourner l'appareil à l'usine, ou faire appel à un réparateur professionnel.



In case of failure :

- Check the status of the fuses and replace them **needed by fuses with the same characteristics as those indicated on the product.**
- Wait until the product has cooled off, to be sure that the failure is not caused by the thermal relay.
- Otherwise the product has to be sent back to the factory or repaired by a recognised dealer.



GD 2199

LECTEUR ENREGISTREUR NUMERIQUE A RAM

DIGITAL PLAYER/ RECORDER WITH RAM

I - DESCRIPTION

Le Spot Master GD 2199 est un lecteur/enregistreur de messages numérisés stockés sur mémoires statiques sauvegardées. L'appareil est livré avec une mémoire (réf. GZ 2108) et peut en recevoir jusqu'à 14.

98 messages de durée variable peuvent être enregistrés, plus un message de sécurité. La diffusion est commandée par le clavier, par télécommande (bornier arrière) ou par liaison RS 232. Une séquence de 1 à 24 messages peut être programmée.

Un afficheur LCD éclairé, avec texte en français, anglais, allemand ou italien (au choix de l'utilisateur), facilite l'exploitation de l'appareil.

Le GD 2199 se présente sous la forme d'un coffret 2U, compatible avec la gamme BOUYER, pouvant se monter en rack 19" avec l'accessoire optionnel AZ 7. Un pupitre microphone / haut-parleur de contrôle GZ 54 est livré avec l'appareil.

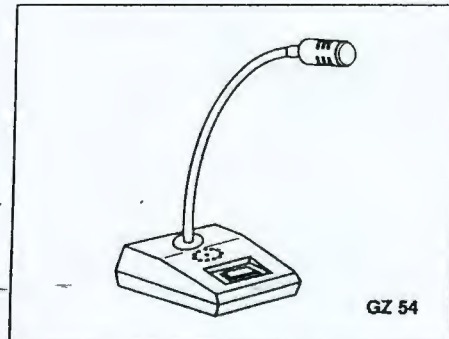
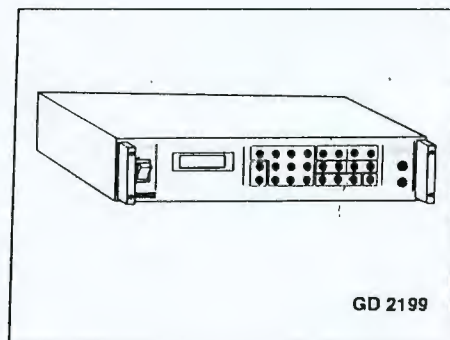
I - DESCRIPTION

The Spot Master GD 2199 is a play/record system for messages stored on backed-up static memories. The system is supplied with one storage memory board (ref. GZ 2108) and can accept up to 14.

98 messages of variable length can be recorded, in addition to an emergency message. Broadcasting is controlled either from a keyboard, by remote control connected to the rear terminal strip or via RS 232 link. A sequence of 1 to 24 messages can be programmed.

An LCD display in French, English, German or Italian, as required, makes the system easy to operate.

The GD 2199 is supplied as a 2U unit that is compatible with the BOUYER range. The system can be mounted in a 19" rack together with optional accessory AZ 7. The unit is supplied complete with a microphone console/monitoring speaker GZ 54.



II - CARACTERISTIQUES TECHNIQUES

- Entrée ligne 0 dBm : 10 kΩ
- Sortie ligne symétrique 0 dBm : 300 Ω
- Distorsion inférieure à 1 %
- Bruit résiduel en sortie, entrée court circuit : -90 dBm
- Bande passante : 50 Hz - 8 kHz
- Alimentation 230V 50/60Hz Fus: T160 mA
- Alimentation batterie : 24V continu (Normes CEI mini 21,6 V maxi 31,2 V Fus. : F 1,5 A)
- Consommation max : 18 VA
- Dimensions : 425 x 310 x 90 mm
- Poids (emballé) : 6 kg

PUPITRE MICRO GZ 54 :

- Microphone électret unidirectionnel
- Longueur flexible : 285 mm
- Longueur cordon : 1,2 m
- Dimensions du socle : 150 x 110 x 45 mm
- Poids (emballé) : 0,8 kg

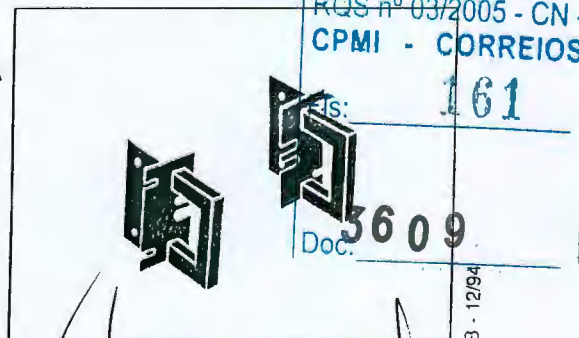
II - TECHNICAL SPECIFICATIONS

- 0 dBm line input: 10 kΩ
- 0 dBm symmetrical line output: 300 Ω
- Distortion less than 1 %
- Residual output noise, short circuit on input: -90 dBm
- Bandwidth: 50 Hz - 8 kHz
- Power supply 230V 50/60Hz Fuse: T160 mA
- Battery power supply: 24V dc (IEC standard min.: 21.6 V max.: 31.2 V Fuse: F 1.5 A)
- Maximum consumption: 18 VA
- Dimensions: 425 x 310 x 90 mm
- Weight (packed): 6 kg

MICROPHONE CONSOLE GZ 54:

- Unidirectional electret microphone
- Gooseneck length: 285 mm
- Cable length: 1.2 m
- Dimensions of base: 150x110x45 mm
- Weight (packed): 0.8 kg

ACCESSOIRE / ACCESSORY



Jeu de poignées / Handles set AZ 7

000308

BOUYER
E.A.I.

Siège Social : BOUYER - 480, avenue de Paris - BP 220 - F - 82002 MONTAUBAN CEDEX - FRANCE
Tél : (33) 63 21 30 00 - Fax : (33) 63 03 08 26 - Téléc : 33 0722 F

Usine : BOUYER EAI - 331, avenue du Dr Julien Lefebvre - 06270 VILLENEUVE LOUBET - FRANCE
Tél : (33) 93 20 93 00 - Fax : (33) 93 20 08 96 - Téléc : 46 1419 F

III - PRESENTATION

Vue avant (Fig. I)

- 1 - Interrupteur Marche/Arrêt
- 2 - Afficheur multifonctions
- 3 - Entrée enregistrement Ligne (XLR femelle)
- 4 - Entrée enregistrement Micro (DIN)

Commandes (Fig. II)

- 5 - Accès à la liaison RS 232 (voir notice complément ci-jointe)
- 6 - "EMERG" - Accès au message de sécurité
- 7 - Clavier numérique
- 8 - "RECORD" - Enregistrement
- 9 - "LIST" - Affichage de la liste des messages enregistrés
- 10 - "MONITOR" - Contrôle auditif des messages (GZ 54)
- 11 - "DELETE" - Effacement
- 12 - "PROGRAM" - Programmation de la séquence
- 13 - "LIST" - Affichage de la séquence
- 14 - "INHIB" - Inhibition d'un message de la séquence
- 15 - "RESTORE" - Restauration d'un message de la séquence
- 16 - "TIMER" - Minuterie de cadencement
- 17 - "REPEAT" - Répétition des messages
- 18 - "DIFFUSION" - Diffusion des messages et de la séquence
- 19 - "STOP" - Arrêt diffusion

54 - Pupitre microphone (Fig. III)

- 20 - Microphone monté sur flexible
- 21 - Haut-parleur de contrôle
- 22 - Touche télécommande / public adress

III - PRESENTATION

Front view (Fig. I)

- 1 - ON/OFF switch
- 2 - Multifunctional display
- 3 - Line record input (XLR female)
- 4 - Mike record input (DIN)

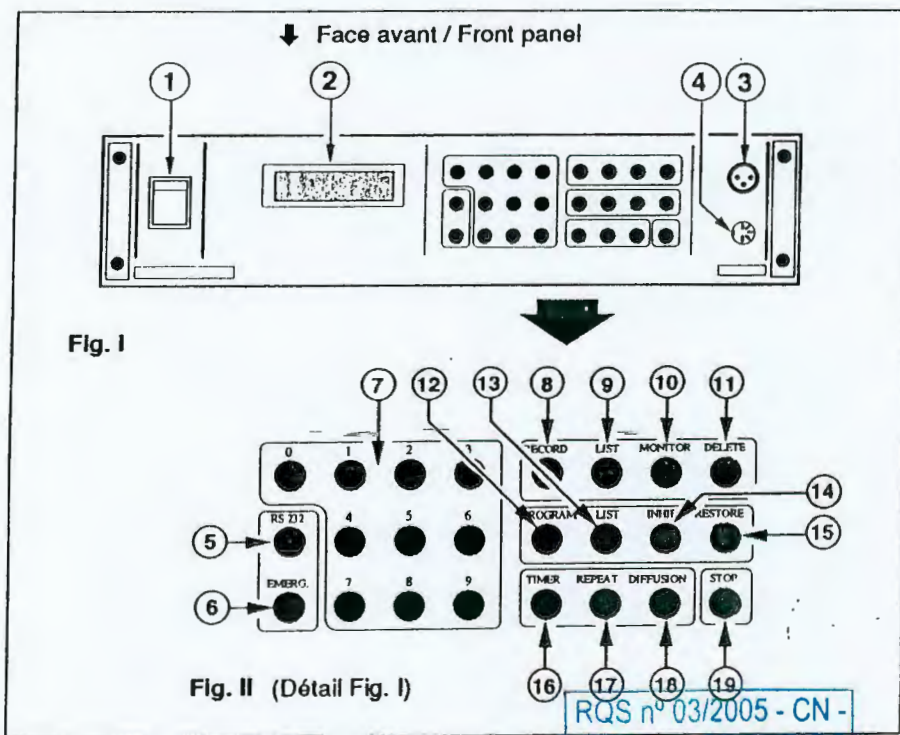
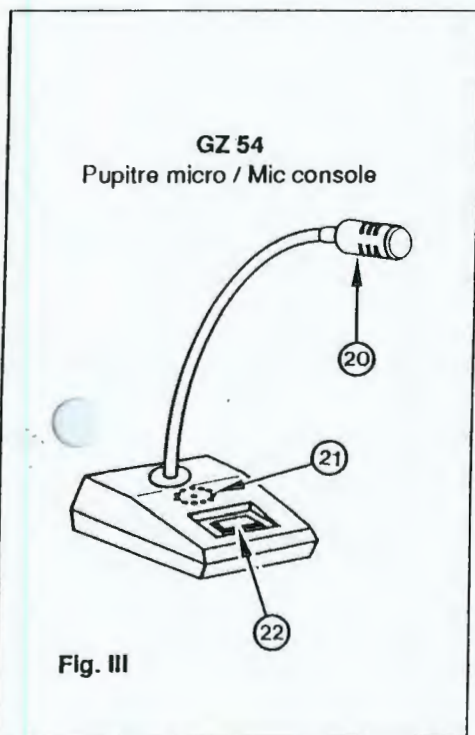


Commands (Fig. II)

- 5 - RS 232 link access (see complementary leaflets attached)
- 6 - "EMERG" - Access to emergency message
- 7 - Numeric keypad
- 8 - "RECORD" - Recording
- 9 - "LIST" - Display of list of recorded messages
- 10 - "MONITOR" - Monitoring of recorded messages (GZ 54)
- 11 - "DELETE" - Erase
- 12 - "PROGRAM" - Sequence programming
- 13 - "LIST" - Sequence display
- 14 - "INHIB" - Inhibit one message in the sequence
- 15 - "RESTORE" - Restore message to the sequence
- 16 - "TIMER" - Timing clock
- 17 - "REPEAT" - Message repetition
- 18 - "DIFFUSION" - Broadcast messages in the sequence
- 19 - "STOP" - Stop broadcast

GZ 54 - Microphone console (Fig. III)

- 20 - Microphone mounted on gooseneck
- 21 - Monitor loudspeaker
- 22 - Remote control / public address push-button



Vue arrière (Fig. IV)

- 23 - Cache, emplacement RS 232 (voir notice ci-jointe)
- 24 - Borne 1 à 14 : télécommande des 14 premiers messages
- 25 - Borne 15 : télécommande du message de sécurité
- 26 - Borne 16 : télécommande de la séquence
- 27 - Sortie diffusion pour télécommande
- 28 - Entrée musique (XLR femelle)
- 29 - Sortie ligne (XLR mâle)
- 30 - Bornier alimentation batterie 24 V continu
- 31 - Fusible batterie 1,5 A
- 32 - Prise secteur 220 V
- 33 - Fusible T 160 mA avec fusible de rechange

Rear panel (Fig. IV)

- 23 - Location RS 232 cover (see complementary leaflets attached)
- 24 - Terminals 1 to 14: remote control of 1st 14 messages
- 25 - Terminal 15: emergency message remote control
- 26 - Terminal 16: sequence remote control
- 27 - Broadcast output for remote control
- 28 - Music input (XLR female)
- 29 - Line output (XLR male)
- 30 - Terminal for 24 V dc battery power supply
- 31 - 1.5 A battery fuse
- 32 - 220 V mains connector
- 33 - T 160 mA fuse with spare fuse

RQS n° 03/2005 - CN -
CPMI - CORREIOS

Fis: 162
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2-3 Contrôle des messages enregistrés

- Presser la touche "LIST" (9)

Les numéros des messages enregistrés s'affichent 5 par 5, par ordre croissant, par intervalle de 10 secondes ou à chaque pression de la touche "LIST". Pour revenir au mode ATTENTE COMMANDE, presser la touche "STOP" (19).

2-4 Ecoute des messages (pupitre micro GZ 54)

- Presser la touche "MONITOR" (10)
- Composer le numéro du message à écouter sur le clavier numérique (7).
- Presser le poussoir du pupitre micro (22) (Fig. III), le message est audible par le haut-parleur (21).

2-5 Effacement d'un message

- Presser la touche effacement "DELETE" (11) (Fig. II).
- Composer le numéro à effacer sur le clavier numérique (7)
- Confirmer l'effacement du message en pressant sur "DELETE" (11).
- Confirmer à nouveau en appuyant sur "DELETE" (11).

3 / SEQUENCE

3-1 Programmation de la séquence

Une séquence de 24 messages maximum peut être programmée, avec répétition d'un message autant de fois que nécessaire.

- Presser la touche "PROGRAM" (12) pour entrer dans le mode de programmation de séquence.
- Composer le numéro du premier message de la séquence.
- Confirmer en pressant la touche "PROGRAM" (12).
- Entrer le numéro du 2^{ème} message de la séquence.
- Confirmer en pressant la touche "PROGRAM" (12).
- Répéter l'opération jusqu'au 24^{ème} message si nécessaire.
- Presser la touche "STOP" (19), pour sortir du mode programmation séquence.

ATTENTION:

Si vous tentez de programmer un message qui n'a pas été enregistré, l'appareil vous indiquera "message inexistant".

Dans ce cas 2 solutions se présentent :

- Presser sur "STOP" (19) pour sortir du mode de programmation
- Presser sur "PROGRAM" (12) pour continuer la programmation à l'endroit où vous vous étiez arrêté.

Si vous tentez de programmer une séquence supérieure à 24 messages, le GD 2199 indique "dépassement séquence". Dans ce cas presser la touche "STOP" (19) pour revenir au mode "Attente Commande".

3-2 Contrôle de la séquence

- Presser la touche "LIST" (13)
- Les numéros des messages programmés défilent 4 par 4, suivant l'ordre dans lequel ils ont été programmés, par intervalle de 10 secondes ou à chaque pression de la touche "LIST" (13).
- En fin de séquence, le GD 2199 affiche le message "Fin contrôle".
- Presser la touche "STOP" (19) pour sortir du mode contrôle séquence.

3-3 Inhibition d'un message dans la séquence

Il est possible d'inhiber un numéro de message. Ce message ne sera pas diffusé, on passera directement au message suivant. Le message n'est pas effacé de la mémoire, il est effacé de la séquence et apparaît sur l'afficheur entre parenthèses. Si dans la même séquence le même message est répété plusieurs fois, il sera à chaque fois inhibé. Appuyer sur la touche "INHIB" (14) Fig. II Entrer le numéro du message à inhiber. Valider en appuyant sur "INHIB" (14).

2-3 Checking recorded messages

- Press the "LIST" key (9)

The numbers of the recorded messages are displayed 5 at a time in ascending order at 10-second intervals or each time LIST is pressed. Press "STOP" (19) to return to AWAIT COMMAND mode.

2-4 Monitoring the messages (mike console GZ 54)

- Press the "MONITOR" key (10)
- Enter the number of the message required on the numeric keyboard (7).
- Press the mike console button (22) (Fig. III). The message is heard on the loudspeaker (21).

2-5 Erasing a message

- Press the "DELETE" key (11) (Fig. II).
- Enter the number to be deleted on numeric keypad (7)
- Confirm deletion of the message by pressing "DELETE" (11)
- Confirm again by pressing "DELETE" (11).

3 / SEQUENCE

3-1 Programming the sequence

A sequence of maximum 24 messages can be programmed with repetition of a message as many times as required.

- Press the "PROGRAM" key (12) to go to sequence program mode.
- Enter the number of the first message in the sequence.
- Confirm by press "PROGRAM" (12).
- Enter the number of the 2nd message in the sequence.
- Confirm by pressing "PROGRAM" (12).
- Repeat operation up to 24 times if necessary.
- Press "STOP" key (19) to leave sequence programming mode.

NOTE:

If an attempt is made to program a message that has not been recorded, the system displays "message non-existent".

In this situation, 2 solutions are possible:

- Press "STOP" (19) to leave programming mode.
- Press "PROGRAM" (12) to continue programming at the point it was discontinued.

If an attempt is made to program more than 24 messages, the GD 2199 indicates "sequence overrun". In this situation, press "STOP" (19) to return to "AWAIT COMMAND" mode.

3-2 Sequence Check

- Press "LIST" key (13)
- The numbers of the programmed messages are scrolled in groups of 4, in the order in which they were programmed at 10-second intervals or each time "LIST" (13) is pressed.

At the end of the sequence, the GD 2199 displays the message "End Check".

- Press "STOP" (19) to leave "Sequence Check" mode.

3-3 Inhibiting a message in the sequence

It is possible to inhibit a message number. The message can no longer be broadcast and the system goes directly to the next message. The message is not deleted from the memory, but is simply removed from the sequence and appears on the display in parentheses. If in the same sequence a message is repeated several times, the repeats will all be inhibited.

- Press "INHIB" key (14) Fig. II
- Enter the number of the message to be inhibited.
- Confirm by pressing "INHIB" (14).

VUE INTERIEURE (Fig. VII)

- 34 - Emplacements cartes mémoires
- 35 - Commutateurs : sélection durée (D2,D1)
- 36 - Commutateurs : sélection pour affichage en français, en anglais, en allemand, ou en italien (L2,L1)

* Insertion des cartes mémoires (Fig. VII)

- Enlever le dessus de l'appareil.
- Insérer la ou les cartes mémoires en suivant l'ordre représenté sur le fond (Fig. VII). Veiller à ce que tous les contacts soient bien engagés.

* Switches (Fig. VII)

- Positionner les switches de durée et de langue (français, anglais, allemand, italien) suivant la figure VII.
- Refermer le dessus et mettre l'appareil sous tension.

INNER VIEW (Fig. VII)

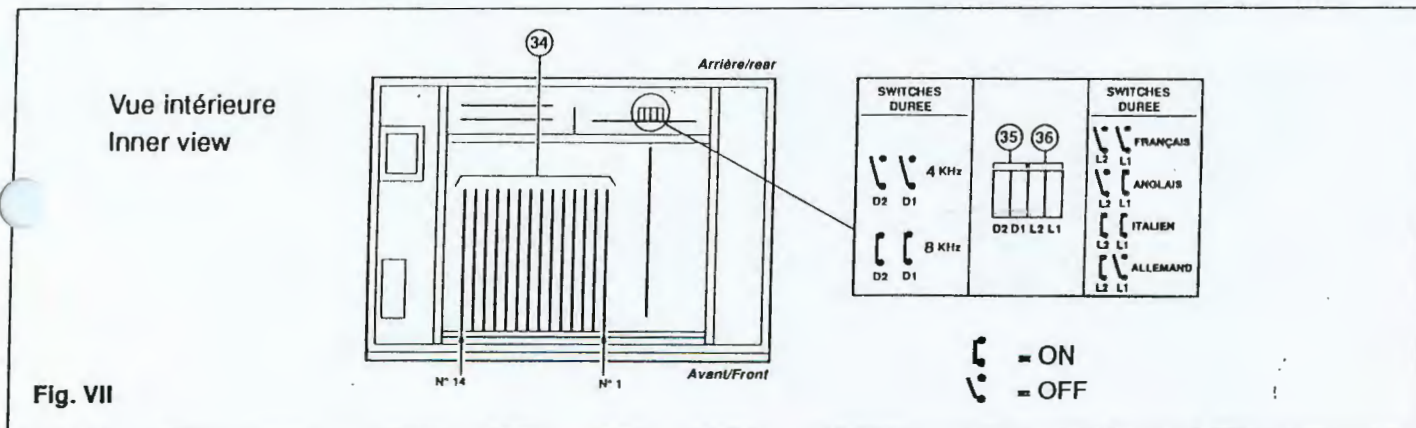
- 34 - Memory boards locations
- 35 - Switches: duration select (D2,D1)
- 36 - Switches: select display in English, French, German or Italian (L2,L1)

* Inserting memory boards (Fig. VII)

- Remove the cover from the unit.
- Insert the memory boards in the order shown on the base (Fig. VII). Check that all contacts are OK.

* Switches (Fig. VII)

- Position the duration and language switches (French, English, German or Italian) as shown in figure VII.
- Close the unit and switch on again.



V - UTILISATION

1 / ATTENTE COMMANDE

A la mise sous tension, le GD 2199 vous indique qu'il est en attente d'une commande, il vous indique également le temps mémoire total disponible dans l'appareil.

A tout moment, il suffit de presser la touche "STOP" (19) pour revenir au mode "ATTENTE COMMANDE"

2 / ENREGISTREMENT

1 Enregistrement à partir du micro GZ 54

- Brancher le pupitre micro sur l'entrée micro (4) Fig. I. Ne rien brancher sur l'entrée ligne (3) Fig. I.

- Presser la touche enregistrement "RECORD" (8).

Le GD 2199 propose le premier numéro de message disponible. Si ce numéro ne convient pas, le changer en composant le numéro sur le pavé numérique (7).

- Appuyer sur le poussoir (22) du pupitre micro "GZ 54" pour commencer l'enregistrement.

L'enregistrement se termine quand le poussoir du pupitre micro est relâché, ou lorsque la totalité du temps mémoire disponible a été utilisée.

2-2 Enregistrement à partir de l'entrée ligne

- Brancher l'ensemble source sur l'entrée ligne en face avant (3) Fig. I. Ne rien brancher sur l'entrée micro.

- Presser la touche enregistrement "RECORD" (8).

Le GD 2199 propose le premier numéro de message disponible. Si ce numéro ne convient pas, le changer en composant le numéro sur le pavé numérique (7).

- Appuyer une nouvelle fois sur enregistrement "RECORD" (8) pour commencer l'enregistrement.

L'enregistrement se termine lorsque l'on presse la touche "STOP" (19) ou lorsque la totalité du temps mémoire disponible a été utilisée.

V - USE

1 / AWAIT COMMAND

On power up, the GD 2199 indicates that it is awaiting a command. It also indicates the total memory space available.

The operator can return to AWAIT COMMAND mode at any time by pressing STOP (19).

2 / RECORDING

2-1 Recording using the mike GZ 54

- Connect the mike console to the mike input (4) Fig. I. Connect nothing to the line input (3) Fig. I.

- Press the "RECORD" key (8).

The GD 2199 displays the number of the first message available. If this is not the message required, change it by entering the number on numeric keypad (7).

- Press button (22) of mike console GZ 54 to begin recording.

Recording stops when the mike button is released or when the total memory time available has been used up.

2-2 Recording using the line input

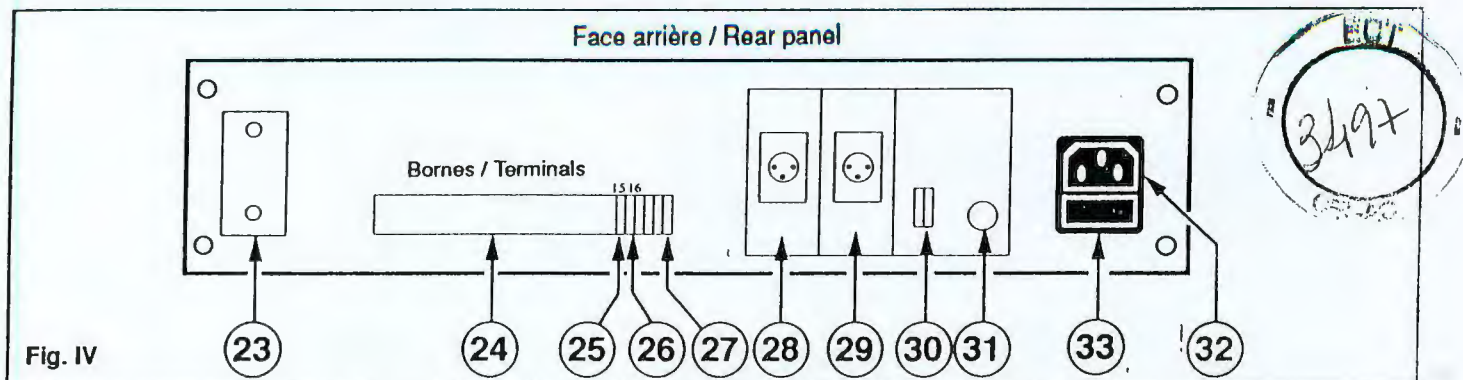
- Connect the source assembly to the line input (3) Fig. I on the front panel. Nothing should be connected to the mike input.

- Press the "RECORD" key (8).

The GD 2199 displays the number of the first message available. If this is not the message required, change it by entering the number on numeric keypad (7).

- Press "RECORD" (8) again to start recording.

Recording stops when the "STOP" (19) button is released or when the total memory time available has been used up.



CAPACITE MEMOIRE

Modularité :

Le GD 2199 peut recevoir de 1 à 14 cartes mémoires. Chaque carte donne une capacité en temps d'enregistrement. Ce temps varie selon la qualité d'enregistrement que l'on a sélectionnée.

Le tableau ci-dessous donne le temps disponible en fonction de la qualité (bande passante restituée) sélectionnée.

2 fréquences sont directement disponibles, 4 et 8 kHz par switches (35) Fig. VII.

MEMORY CAPACITY

Modularity:

The GD 2199 can accept 1 to 14 memory boards. Each board gives a time capacity that varies with the recording quality selected.

The table below gives the time available in terms of quality (restored bandwidth) selected.

2 frequencies, 4 and 8 kHz, are directly available using the switches (35) Fig. VII.

Bande passante restituée Restored bandwidth	Durée disponible par carte Time available per board	Durée totale maxi avec 14 cartes Total duration with 14 boards
14 kHz*	26 s	6 mn 04 s
8 kHz	43 s	10 mn 08 s
4 kHz	87 s	20 mn 16 s

* Fréquence disponible à la commande à la place de 8 kHz.
Les cartes sont disponibles séparément (réf. GZ 2108).

* Frequency available to order instead of 8 kHz.
PCBs are available individually (ref. GZ 2108).

FONCTIONS PRINCIPALES

ENREGISTREMENT

• 98 messages de durée variable peuvent être enregistrés. La durée totale est fonction du nombre de cartes mémoires installées.

• Durée mini des messages : 0,6 s

• Repérage des messages par numéro de 01 à 98.

• Enregistrement : - à partir du pupitre micro GZ 54

- à partir de l'entrée ligne (face avant)

EFFACEMENT

• Les messages peuvent être effacés et remplacés par d'autres messages de durées différentes.

• Le Spot Master gère d'une manière optimale tout l'espace mémoire et indique le temps disponible.

CONTROLE

• Contrôle par défilement sur l'afficheur des numéros des messages enregistrés.

MONITORING

• Ecoute des messages enregistrés par le haut-parleur du pupitre micro GZ 54.

SEQUENCES

• Possibilité de programmer une séquence de 24 messages maximum.

• Répétition possible des messages dans la séquence.

• Inhibition provisoire d'un message (toujours présent en mémoire)

• "Timing" temporisation réglable de 0 à 99 mn 59 s entre chaque message de la séquence.

• Répétition possible de la séquence.

MAIN FUNCTIONS

RECORDING

• 98 messages of variable length can be recorded. The total duration depends on the number of memory boards installed.

• Minimum message duration: 0.6 s

• Messages identified by numbers from 01 to 98.

• Recording: - from microphone console GZ 54

- from line input (front panel)

ERASING

• Messages may be erased and replaced with other messages of a different length.

• The Spot Master provides optimum management of memory capacity while indicating the time available.

CHECKING

• Recorded messages can be checked by scrolling the identification numbers on the display.

MONITORING

• Recorded messages can be monitored using the GZ 54 loudspeaker.

SEQUENCES

• A maximum of 24 messages can be programmed.

• Possibility of the messages to be repeated in the sequence.

• A message can be temporarily inhibited (message remains present in the memory)

• Timing can be adjusted between 0 and 99 mn 59 s between messages in the sequence.

• Possibility of a sequence to be repeated.

RQS n° 03/2005 - CN -
CPMI - CORREIOS

165

3609

000312

MESSAGE DE SECURITE

Le GD 2199 offre la possibilité d'un message de sécurité protégé par touche spécifique au clavier, et télécommandable via le bornier arrière.

DIFFUSION

Par sélection au clavier du numéro de message.
Des 14 premiers messages par télécommande.
Du message de sécurité par télécommande
De séquence par le clavier.
De séquence par télécommande
Des messages, du message de sécurité ou de la séquence ar la liaison série RS 232.

PUBLIC ADDRESS

Par appui sur la touche du micro GZ 54 quand l'appareil est en attente de commande.

FFICHEUR

LCD, 2 x 16 caractères, éclairé.
Indication des numéros de messages, de la fonction en cours, des messages inhibés, de la durée mémoire disponible.
Messages en français, allemand, anglais, italien selon la position des switches à l'intérieur de l'appareil.

INSTALLATION

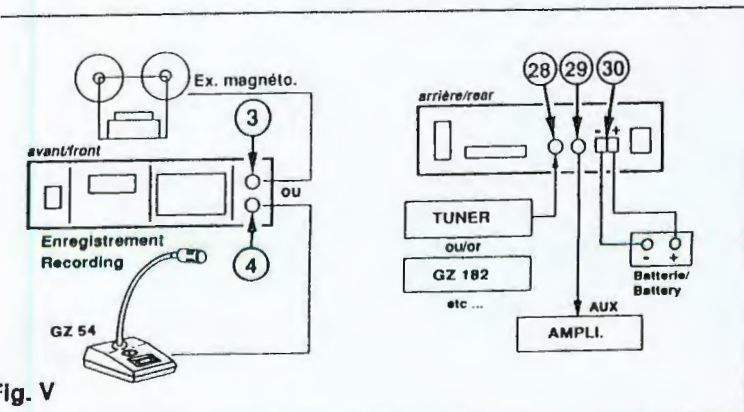
ATTENTION : Cet appareil ne doit pas être exposé aux chutes d'eau ni aux éclaboussures.

BRANCHEMENTS (Fig. V et VI)

Vérifier que l'appareil n'est pas relié au secteur.
Vérifier que le secteur est bien 230 V, 50 ou 60 Hz.
Relier la sortie (29) en face arrière à l'entrée AUX de votre amplificateur (Fig. V).
Relier une source musicale (tuner, lecteur cassettes, compact disc, etc...) à l'entrée (28) en face arrière du GD 2199 (Fig. V).
Relier les câbles de télécommandes sur les bornes (24) (25) (26) (27) (Fig. VI).
Relier le pupitre micro (GZ 54) sur la prise micro (4) (en face avant) ou une source musicale à enregistrement sur cassette (3) (en face avant). Ne jamais brancher les deux entrées simultanément en face avant (Fig. V).

BATTERIE 24 V

Vérifier que l'interrupteur (1) est en position "OFF", que la tension nominale de la batterie est bien 24 V.
En respectant la polarité, raccorder le cordon batterie au bornier (30) Fig. V.
En cas de coupure secteur, le GD 2199 est automatiquement alimenté par la batterie.



EMERGENCY MESSAGE

• With the GD 2199, an emergency message can be protected by means of a special key on the keyboard and remotely controlled using the rear terminal strip.

BROADCASTING

• The message number is selected via the keyboard from:
• First 14 messages by remote selection.
• Emergency message by remote control.
• Sequence via the keyboard.
• Sequence by remote control.
• Messages, safety message or the sequence via serial link RS 232.

PUBLIC ADDRESS

• Press key on GZ 54 mike when the system is awaiting a command.

DISPLAY

• LCD, 2 x 16 characters, back lighted.
• Indicates message numbers, current function, inhibited messages, memory time available.
• Messages displayed in French, English, German or Italian depending on the setting of the internal switches.

INSTALLATION

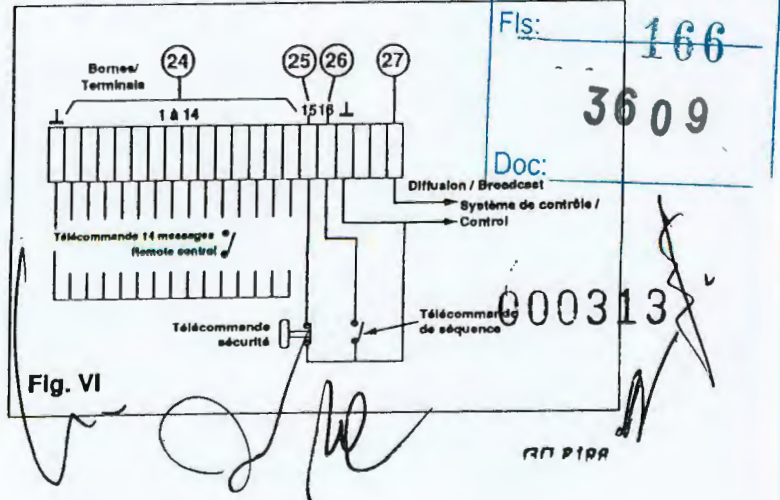
WARNING : This unit is neither water- nor splash-proof.

CONNECTIONS (Fig. V and VI)

• Ensure that the unit is not connected to the mains.
• Check that the mains supply is 230 V, 50 or 60 Hz.
• Connect output (29) on the front panel to the AUX input of the amplifier (Fig. V).
• Connect a music source (radio, cassette, C.D. player etc.) to input (28) on the front panel of the GD 2199 (Fig. V).
• Connect remote control cables to terminals (24) (25) (26) (27) (Fig. VI).
• Connect the mike console (GZ 54) to mike connector (4) on the front panel or a recording music source to input (3) on front panel. Never connect the two inputs simultaneously on the front panel at the same time (Fig. V).

24 V BATTERY

• Check that switch (1) is in the OFF position and that the battery has a nominal voltage of 24 V.
• Connect the battery cable to terminal (30) Fig. V, ensuring that the positive and negative polarities are correct.
• The GD 2199 is automatically powered by the battery in the event of a power cut.



Complément de la notice du GD 2199

PROTOCOLE LIAISON SERIE RS 232 DU GD 2199



- Vitesse : 2400 Bauds.
- Format : 10 bits (1 bit start = 0 et 1 bit stop = 1)
- Pas de bit de parité
- Tous les codes suivis de la lettre D sont en décimal.

• Câblage DB 25 :

- | | |
|---|-------------------------|
| 1 | écran |
| 2 | réception du GD 2199 |
| 3 | transmission du GD 2199 |
| 4 | masse |

Ce document n'est pas contractuel; toute modification peut intervenir sans préavis

ORDRE DE DIFFUSION D'UN MESSAGE

- envoi du code diffusion = 68D
- attente 60 ms
- envoi du N° message à diffuser + 100D (de 101D à 199D)
(ex : envoyer le code 105D pour le message 5. Le message est diffusé)
- réception du code fin à la fin de la diffusion = 84D

ARRÊT DE DIFFUSION D'UN MESSAGE COMMANDÉ PAR LIAISON SÉRIE

- envoi du code arrêt = 65D

ARRÊT PRIORITAIRE (arrête le public address ou la diffusion d'un message en cours)

- envoi du code STOP prioritaire = 70D
- attente 1 ms
- réception du code "attente commande" = 80D

EFFACEMENT D'UN MESSAGE

- envoi du code effacement = 69D
- attente 60 ms
- envoi du N° du message + 100D (de 101D à 199D)
- attente 60 ms
- envoi du code effacement = 69D
- réception du code fin en fin d'effacement = 84D

ENREGISTREMENT LIGNE

- envoi du code enregistrement ligne = 82D
- attente 60 ms
- envoi du N° de message + 100D (de 101D à 199D)
- réception du code fin = 84D si message existe
- envoi de la modulation
- réception du code fin = 84D si plus de mémoire disponible
- arrêt de la modulation
- envoi du code arrêt = 65D

ROS n° 03/2005 - CN -
CORREIOS

Fis: 36 097

NOTA

Si un code inconnu est reçu par le GD 2199, il retourne le code 85D.

Si le code correspondant à un N° de message est inférieur à 101 ou supérieur à 199, le GD 2199 retourne le code 85D.

Si le GD 2199 ne reçoit pas de code de N° de message dans le 1/4 de seconde qui suit un ordre de diffusion, d'effacement ou d'enregistrement, il retourne le code 85D.

000314

BOUYER

E.A.I.

Siège Social : BOUYER - 480, avenue de Paris - BP 220 - F - 82002 MONTAUBAN CEDEX - FRANCE
Tél : (33) 63 21 30 00 - Fax : (33) 63 03 08 26 - Télex : 520722

Usine : BOUYER EAI - 331, avenue du Dr Julien Lefebvre - 06270 VILLENEUVE LOUBET - FRANCE
Tél : (33) 93 20 93 00 - Fax : (33) 93 20 08 96 - Télex : 461419 F

Cote 855 107 - 07/92

Complementary leaflet for GD 2199

GD 2199
PROTOCOL
LINK RS 232

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- Speed : 2400 Bauds.
- Format : 10 bits (1 bit start = 0 et 1 bit stop = 1)
- No parity bit
- All codes followed by the letter D are in decimals.

• SUD D 25 :

- 1 shield
- 2 reception of GD 2199
- 3 transmission of GD 2199
- 4 earthing

SAGE BROADCASTING COMMAND

- send of the broadcasting code = 68D
- wait 60 ms
- send the number of the message to be broadcasted + 100D (from 101D to 199D)
(i.e. : send code 105D for message number 5. The message is broadcasted)
- reception of END code at the end of the broadcasting = 84D

STOP MESSAGE BROADCASTING

- send STOP code = 65D

PRIORITY STOP (stops P.A. through mike console or the message being broadcasted)

- To be used in case of safety message broadcasting.
- send priority STOP code = 70D
- wait 1 ms
- reception code WAIT FOR COMMAND = 80D

MESSAGE ERASE

- send ERASE code = 69D
- wait 60 ms
- send the number of the message to be broadcasted + 100D (from 101D to 199D)
- wait 60 ms
- send ERASE code = 84D
- reception of END code at the end of erasing = 84D

LINE RECORDING

- send RECORDING code = 82D
- wait 60 ms
- send the number of the message to be recorded + 100D (from 101D to 199D)
- reception of END code = 84D if existing message
- feed modulation in line input
- reception of END code = 84D if no memory available anymore
- stop modulation in line input
- send STOP code = 65D

ROS n° 03/2005 - CN -
CPMI - CORREIOS
Fls: 168
3609
Doc:

PLEASE NOTE

If an unknown code is received by the GD 2199, it goes back to code 85D.
If the code corresponding to a message number is lower than 101 or above 199, the GD 2199 goes back to code 85D.
If the GD 2199 doesn't receive any message number code after 1/4 second following a broadcasting or erasing or recording ease, it goes back to code 85D.

000315

BOUYER

E.A.I.

Head office : BOUYER - 480, avenue de Paris - BP 220 - F - 82002 MONTAUBAN CEDEX - FRANCE
Tél : (33) 63 21 30 00 - Fax : (33) 63 03 08 26 - Télex : 520722 F
Plant : BOUYER EAI - 331, avenue du Dr Julien Lefebvre - 06270 VILLENEUVE LOUBET - FRANCE
Tél : (33) 93 20 93 00 - Fax : (33) 93 20 08 96 - Télex : 461419 F

Code 855 107 - 07.02

5 / MESSAGE DE SECURITE "EMERGENCY"

5-1 Enregistrement

- Presser la touche "EMERG" (6) Fig.II pendant 3 secondes environ pour accéder au message de sécurité. L'afficheur indique "Accès au message de sécurité".
- Appuyer sur "RECORD" (8) pour enregistrer le message. Suivre la procédure indiquée au chapitre 2-1 et 2-2. L'afficheur vous indique qu'il enregistre le message n°99 (numéro réservé au message de sécurité).
- Presser sur "STOP" (19) pour sortir du mode enregistrement message de sécurité.

5-2 Effacement

- Appuyer sur "EMERG" (6) pendant 3 secondes, l'afficheur indique "accès au message de sécurité".
- Presser sur "DELETE" (11) pour effacer le message de sécurité. Suivre la procédure décrite au chapitre 2-5 page 6. Le GD 2199 vous indique qu'il efface le message numéro 99.
- Presser sur "STOP" (19) pour sortir du mode effacement message de sécurité.

5-3 Protection du message de sécurité

Si l'on tente d'accéder au message n°99 par le clavier, que pour l'effacer ou l'enregistrer, le GD 2199 indiquera message protégé.

5-4 Diffusion du message de sécurité

Le message de sécurité peut être diffusé à partir du clavier en suivant la procédure décrite dans le chapitre 4-2 page 7. Le message de sécurité peut être diffusé par télécommande par l'ouverture d'un contact entre la borne numéro 15 et la masse, voir Fig.VIII.

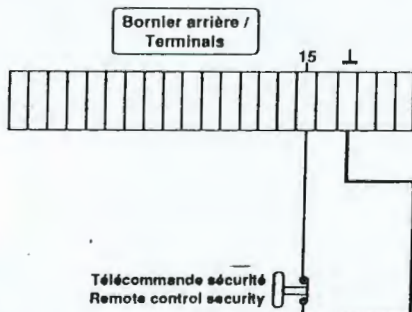


Fig. VIII

5 / EMERGENCY MESSAGE

5-1 Recording

- Press "EMERG" (6) Fig.II for approximately 3 seconds to access the emergency message. The message "Access Emergency Message" is displayed.
- Press "RECORD" (8) to record the message. Follow the procedure described in 2-1 and 2-2. The display indicates that it is recording message number 99 (the number reserved for emergency messages).
- Press "STOP" (19) to leave record emergency message mode.

5-2 Delete

- Press "EMERG" (6) for 3 seconds. The display indicates "access to emergency message".
- Press "DELETE" (11) to erase the emergency message. Follow the procedure described in 2-5 page 6. The GD 2199 indicates that it is deleting message number 99.
- Press "STOP" (19) to leave delete emergency message mode.

5-3 Protection of Emergency Messages

If an attempt is made to access message number 99 from the keyboard, whether to delete or record, the GD 2199 indicates "Message protected".

5-4 Broadcasting the Emergency Message

The emergency message can be broadcast using the keyboard as described in chapter 4-2 page 7. The emergency message can be broadcast by remote control by opening a contact between terminal number 15 and the ground, see Fig.VIII.

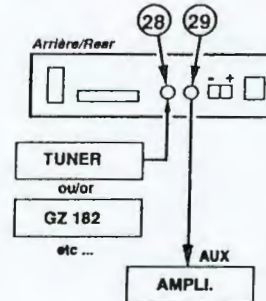


Fig. IX

ENTREE (MUSIC) Face arrière

Le GD 2199 est équipé d'une entrée musique (28) Fig. IV et Fig. IX. Cette entrée est en service en l'absence de diffusion de messages. Lors de la diffusion d'un message, le niveau de l'entrée "music" est progressivement atténué puis rétabli à la fin du message.

PUBLIC ADDRESS

- Se placer en mode "ATTENTE COMMANDE".
- Appuyer sur le poussoir du pupitre micro GZ 54. Le GD 2199 affiche "Public address". Vous restez dans ce mode tant que le poussoir du pupitre micro est enfoncé. Vous pouvez faire votre annonce, recherche de personnes, etc..., en direct au micro.
- Relâcher le poussoir du micro, le GD 2199 revient en mode ATTENTE COMMANDE.

INPUT (MUSIC) Rear panel

The GD 2199 is fitted with a music input (28) Fig. IV and Fig. IX. This input is used if there is no message broadcast. When a message is broadcast, the music input is progressively attenuated and then reestablished at the end of the message.

PUBLIC ADDRESS

- Select AWAIT COMMAND mode.
- Press the button on mike console GZ 54. The GD 2199 displays "Public address". This mode is retained for as long as the push-button is held down. Announcements such as paging etc. can be made directly into the mike.
- Release the mike push-button. The GD 2199 returns to AWAIT COMMAND mode.

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This mode is

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GD 2199

3-4 Restaurer un message

Un numéro de message inhibé peut être restauré. Toutes les parenthèses sur l'afficheur disparaîtront lors du contrôle de la séquence. Le message sera rétabli dans la séquence, et sera diffusé.

- Presser la touche rétablissement "RESTORE" (15).
- Entrer le numéro du message à rétablir.
- Valider en pressant sur "RESTORE" (15).

3-5 Réglage du timing de la séquence

Une temporisation peut être réglée entre chaque message de la séquence. Cette temporisation varie de 00 mn 00 s à 99 mn 59 s et reste la même entre chaque message.

- Presser sur "TIMER" (16) Fig. II
- Entrer les minutes de 00 à 99
- Valider en appuyant sur "TIMER" (16)
- Entrer les secondes de 00 à 59
- Valider en appuyant sur "TIMER" (16)
- Presser sur "STOP" (19) pour sortir du mode timing.

Vous pouvez vérifier la temporisation en pressant la touche "TIMER" (16). Le GD 2199 affiche la temporisation mémorisée. Si elle convient, presser la touche "STOP" (19) pour revenir en "ATTENTE COMMANDE". Si elle ne vous convient pas, reprendre la procédure décrite ci-dessus.

3-6 Répétition de la séquence

- Presser la touche "REPEAT" (17), l'afficheur indique "Diffusion avec répétition". La séquence sera diffusée continuellement.
- Appuyer sur "STOP" (19) pour revenir au mode "ATTENTE COMMANDE".
- Presser une nouvelle fois sur "REPEAT" (17) pour revenir en mode diffusion sans répétition.
- La touche "REPEAT" (17) fonctionne donc comme une bascule ON/OFF pour valider ou non la répétition de la séquence.

4 / DIFFUSION

4-1 Diffusion automatique à la mise sous tension

Pour permettre au GD 2199 de diffuser la séquence automatiquement à la mise sous tension, brancher un strap entre la borne 16 et la masse du bornier arrière.

4-2 Diffusion des messages à partir du clavier

- Presser la touche "DIFFUSION" (18).
- Entrer le numéro du message à diffuser. Le message sera diffusé au moment de la confirmation par une seconde pression sur la touche "DIFFUSION" (18).
- Presser "STOP" (19) pour sortir du mode de diffusion.

4-3 Diffusion de la séquence à partir du clavier

- Presser la touche "DIFFUSION" (18). Presser une 2^{ème} fois sur la touche "DIFFUSION" (18) pour lancer la séquence.
- Pour arrêter la diffusion de la séquence, appuyer sur la touche "STOP" (19).

4-4 Diffusion des messages par télécommande

Les 14 premiers messages peuvent être télécommandés par contact sec, grâce au bornier (24) en face arrière (voir Fig. VI page 5). Les bornes 1 à 14 correspondent au même numéro de message. La diffusion se fait par fermeture fugitive de contact.

4-5 Diffusion de la séquence par télécommande

Le déclenchement de la séquence peut être commandé par fermeture fugitive de contact entre la borne 16 et la masse du bornier arrière (voir Fig. VI).

- Pour arrêter la diffusion de la séquence, appuyer sur la touche "STOP" (19).

3-4 Restoring a message

An inhibited message number can be restored. All the parentheses on the display disappear during the sequence. The message is replaced in the sequence before being broadcast.

- Press the "RESTORE" key (15).
- Enter the number of the message to be restored.
- Press "RESTORE" (15) to confirm.

3-5 Adjusting sequence timing

The time-delay between the messages of a sequence can be adjusted. This time-delay varies between 00 mn 00 s and 99 mn 59 s and remains the same between all messages.

- Press "TIMER" key (16) Fig. II
- Enter the minutes from 00 to 99
- Press "TIMER" (16) to confirm.
- Enter the seconds from 00 to 59.
- Press "TIMER" (16) to confirm.
- Press "STOP" (19) to leave timing mode.

The time-delay can be checked by pressing "TIMER" (16). The GD 2199 displays the stored time-delay. If correct, press "STOP" (19) to return to "AWAIT COMMAND". If incorrect, repeat the procedure described above.

3-6 Sequence Repetition

- Press "REPEAT" key (17). The display shows "Broadcast with Repetition". The sequence is broadcast continuously.
- Press "STOP" (19) to return to AWAIT COMMAND mode.
- Press "REPEAT" (17) again to return to broadcast without repetition mode.
- "REPEAT" (17) operates like an ON/OFF switch which confirms or not the repetition of the sequence.

4 / BROADCAST

4-1 Automatic Broadcast on Power Up

If the GD 2199 is to broadcast automatically on power up, connect a bootstrap between terminal 16 and the ground of the rear terminal.

4-2 Message Broadcasting from the Keyboard

- Press the "BROADCAST" key (18).
- Enter the number of the message to be broadcasted. The message is broadcasted as soon as the "BROADCAST" (18) key is pressed a second time.
- Press "STOP" (19) to leave broadcast mode.

4-3 Sequence Broadcasting from the Keyboard

- Press "BROADCAST" (18) key. Press "BROADCAST" (18) a 2nd time to launch the sequence.
- Press "STOP" (19) to halt broadcasting of the sequence.

4-4 Message Broadcasting by Remote Control

The first 14 messages may be remotely controlled by dry contact on terminal strip (24) on the rear panel (see Fig. VI page 5). Terminals 1 to 14 correspond to the messages with the same number. Broadcasting occurs on self-release of the contact.

4-5 Sequence Broadcasting by Remote Control

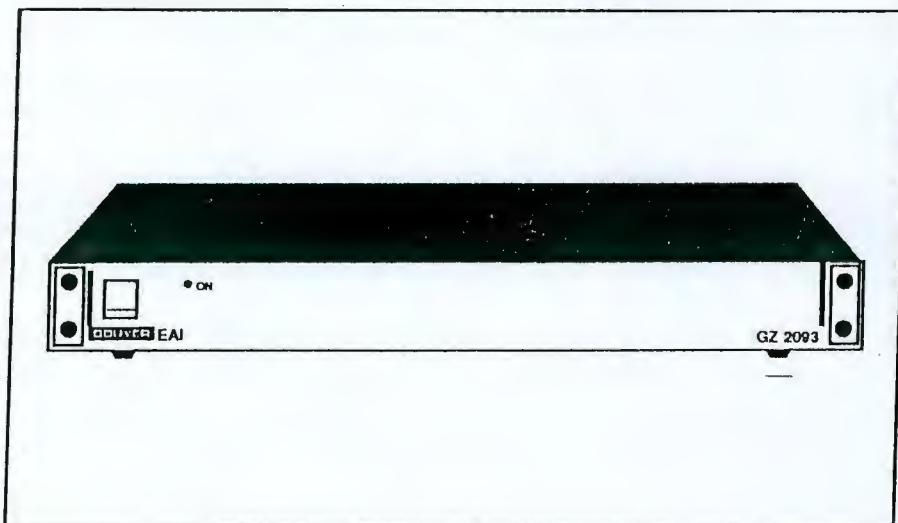
The sequence can be triggered on self-release of the contact between terminal 16 and the ground of the rear terminal (see Fig. VI).

- Press "STOP" (19) to halt broadcast of the sequence.

BOS n° 03/2005 - CN -
GD 2199 - CORREIOS
170

3609

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GZ 2093

**TÉLÉCOMMANDE
POUR
GD 2099 ET GD 2199
REMOTE CONTROL
FOR
GD 2099 AND GD 2199**

I - DESCRIPTION

Le boîtier de télécommandes GZ 2093 étend les possibilités des deux lecteurs-enregistreurs numériques GD 2099 et GD 2199. En effet, il permet d'augmenter de 24 le nombre de leurs télécommandes (qui est déjà de 14). De plus, ces coffrets sont cascadables et il est possible, au moyen de 4 GZ 2093, de télécommander les 100 messages enregistrables sur ces lecteurs.

Ces télécommandes sont (au moyen d'un microcommutateur programmable situé à l'intérieur du coffret) actives par ouverture ou fermeture de contact.

Un commutateur situé aussi à l'intérieur de l'appareil permet de sélectionner le mode de communication RS 232 ou RS 422 entre les coffrets.

Le cordon de connexion est livré avec l'appareil.

Le GZ 2093 est présenté en boîtier 1U (Fig. I) compatible avec la nouvelle gamme BOUYER (rackable avec l'accessoire 1U, réf. AZ 6 - Fig. II).

Il fonctionne sur secteur 230 V AC 50/60 Hz et sur batterie 24 V.

I - DESCRIPTION

The GZ 2093 remote control box extends the capabilities of the GD 2099 and GD 2199 digital player/recorders. It increases the number of remote controls from 14 to 24. In addition, these boxes can be connected in cascade. It is thus possible to remotely control the 100 messages recorded on these players using 4 GZ 2093s.

These remote controls are operated by opening or closing of a switch (via a programmable micro-switch located inside the box).

Another switch located inside the box is used to select either RS 232 or RS 422 as the mode of communication between the boxes.

The connecting cable is delivered with the unit.

The GZ 2093 is a 1 U box (Fig. I) compatible with the new BOUYER line (rackable with the 1U accessory, ref. AZ 6 - Fig. II).

It can be powered from 230 V AC 50/60 Hz mains power and from a 24 V battery.

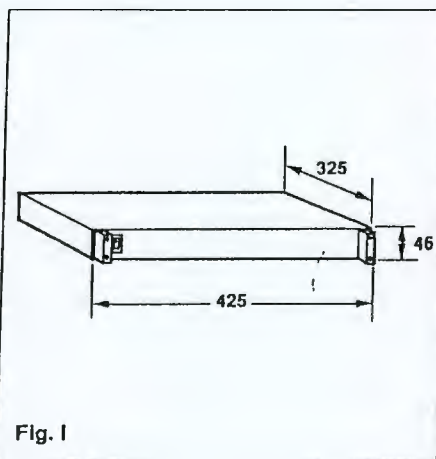


Fig. I

II-CARACTERISTIQUES TECHNIQUES

- Interconnexion par liaison RS 232 ou RS 422.
- 24 entrées pour télécommandes par ouverture ou fermeture de contact.
- Alimentation : 230V 50/60 Hz
- Fusible : T 160 mA
- Alimentation batterie : 24 V continu (normes CEI mini 21,6 V maxi 31,2 V)
- Consommation : 3 VA
- Température de fonctionnement : 0° C - 60° C
- Dimensions : 425 x 325 x 46 mm
- Poids : 2,7 kg

II - TECHNICAL SPECIFICATIONS

- Interconnection via RS 232 or RS 422 connection.
- 24 inputs can be remote controlled by opening or closing of a switch.
- Power supply: 230 V 50/60 Hz
- Fuse: T 160 mA
- Battery power supply: 24 VDC (CEI norms min. 21.6 V max. 31.2 V)
- Power consumption: 3 VA
- Operating temperature range: 0° C to 60° C
- Dimensions: 425 x 325 x 46 mm
- Weight: 2.7 kg

Accessoire / Accessory

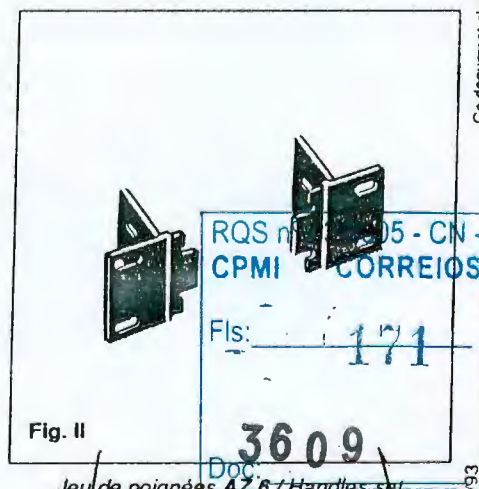


Fig. II

III - PRESENTATION

Face avant (Fig. III)

- ① - Interrupteur de Marche/Arrêt
- ② - Lampe témoin de mise sous tension

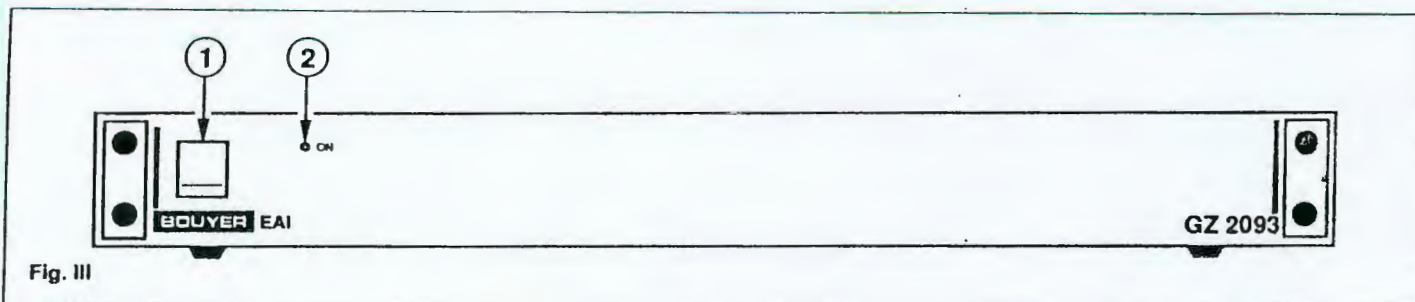


Fig. III

III - PRESENTATION

Front panel (Fig. III)

- ① - On/Off switch
- ② - Power on indicator lamp

Face arrière (Fig. IV)

- ③ - Prise secteur 230 V
- ④ - Fusible secteur T 160 mA avec fusible de rechange
- ⑤ - Fusible batterie 1,6 A
- ⑥ - Bornier alimentation 24 V
- ⑦ - 24 entrées de télécommandes et 24 borniers de masse
- ⑧ - Embase DB 25 de sortie
- ⑨ - Embase DB 25 d'entrée

Rear panel (Fig. IV)

- ③ - 230 V mains power connector
- ④ - T 160 mA mains fuse with spare fuse
- ⑤ - 1.6 A battery fuse
- ⑥ - 24 V supply connector
- ⑦ - 24 remote control inputs and 24 ground terminals
- ⑧ - DB 25 output connector
- ⑨ - DB 25 input connector

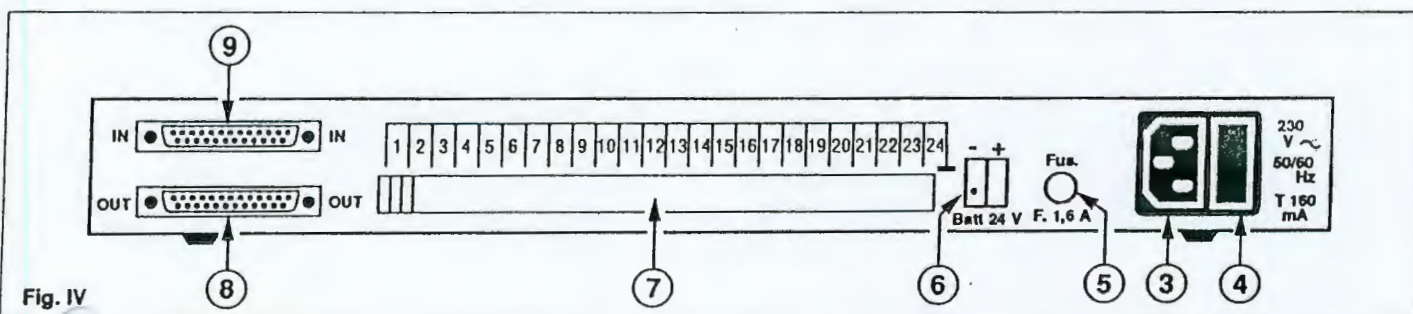


Fig. IV

IV - INSTALLATION

Vérifier que l'interrupteur ① (Fig. III) est en position OFF et que la tension nominale de la batterie est bien de 24 V.

En respectant la polarité, raccorder le cordon batterie au bornier arrière ⑥ (Fig. IV). Raccorder le cordon secteur à l'embase ③ (Fig. IV). Relier le connecteur ⑧ du GZ 2093 au connecteur RS 232 du lecteur enregistreur au moyen du câble à 25 conducteurs fourni.

L'appareil est livré dans la configuration suivante :

- Liaison RS 232
- Télécommandes par fermeture de contact

Pour modifier cette configuration :

Vérifier que l'appareil n'est pas relié au secteur et l'interrupteur ① (Fig. III) est en position OFF. Enlever le dessus de l'appareil et modifier la position des commutateurs en fonction de la configuration désirée (Fig. V).

IV - INSTALLATION

Check that switch ① (Fig. III) is in the OFF position and that nominal battery voltage is truly 24 V.

With use a careful attention, connect battery cable to rear terminal ⑥ (Fig. IV). Connect mains cord to connector ③ (Fig. IV). Connect connector ⑧ of GZ 2093 to the RS 232 connector of the player/recorder using the 25 conductor cable supplied.

The unit is delivered in the following configuration:

- RS 232 interface
- Remote controls by contact closing

To change this configuration:

Check that the unit is not connected to the mains and that switch ① (Fig. III) is in the OFF position. Remove top from unit and change the position of the switches according to the desired configuration (Fig. V).

Commutateur **a** (Fig. V) en position ON pour télécommandes par ouverture de contact (fermées au repos).

Commutateur **b** (Fig. V) en position RS 422 pour liaison RS 422 entre le GZ 2093 et le lecteur-enregistreur numérique.

Ce type de liaison est nécessaire si les distances entre les appareils sont supérieures à 10 mètres.

Dans ce cas, il faut s'assurer que le lecteur-enregistreur fonctionne aussi sur ce type de liaison.

Si plusieurs GZ 2093 sont câblés en cascade, ils doivent tous être configurés sur le même type de liaison série, ainsi que le lecteur-enregistreur numérique.

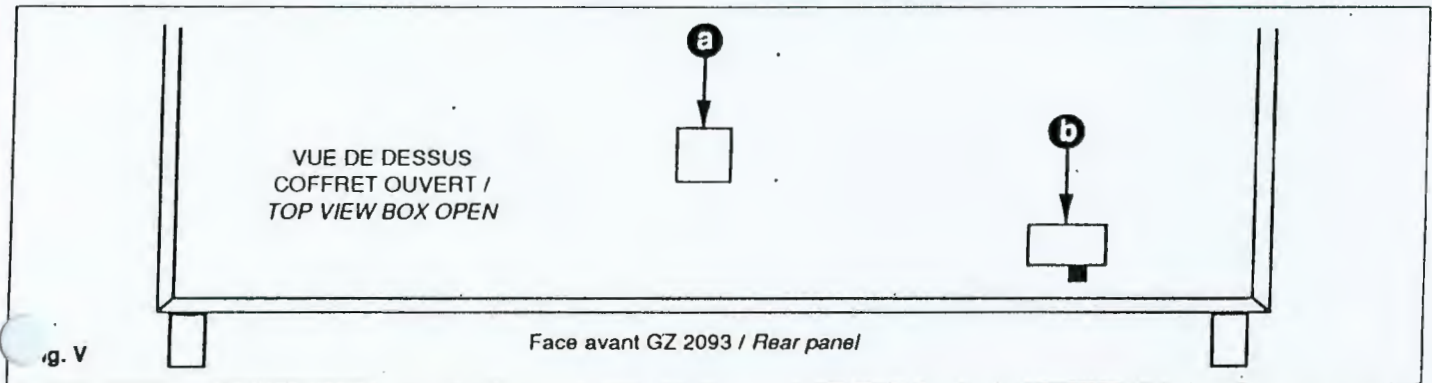
Switch **a** (Fig. V) to the ON position for remote controls by using the opening switch (closed for inactivity).

Switch **b** (Fig. V) to the RS 422 position for RS 422 to be connected between the GZ 2093 and the digital player/recorder.

This type of connection is necessary if the distance between the units are greater than 10 meters.

In this case, be sure that the player/recorder can also be operated with this type of connection.

If several GZ 2093s are connected in cascade, they must all be configured to the same type of serial connection, as well as the digital player/recorder.



V - UTILISATION

Mettre l'appareil sous tension au moyen de l'interrupteur de Marche/Arrêt ① (Fig. III).

Le témoin lumineux ② (Fig. III) doit s'allumer : l'appareil est bien sous tension.

Vérifier que tous les messages pouvant être télécommandés soient bien enregistrés sur le lecteur numérique.

La fermeture d'un contact de télécommande (ou l'ouverture, suivant la configuration) doit provoquer la diffusion du message correspondant. Le message n°15 correspond à la télécommande n°1 du GZ 2093. Il faut tenir compte des 14 télécommandes qui sont déjà présentes sur les GD 2199 et GD 2099 et numéroter les messages à partir du numéro suivant (n°15) pour le 1er boîtier de télécommande.

Si plusieurs télécommandes GZ 2093 sont en cascade :

- Pour le coffret 1 les messages vont du n°15 au n°38
- Pour le coffret 2 les messages vont du n°39 au n°62
- Pour le coffret 3 les messages vont du n°63 au n°86
- Pour le coffret 4 les messages vont du n°87 au n°98 (Fig. VI).

V - USE

Turn on unit via On/Off switch ① (Fig. III).

The indicator lamp ② (Fig. III) must light, indicating that the unit is on.

Check that all messages to be remotely controlled are recorded on the digital player.

The closing of a remote control contact (or the opening, depending on the configuration) must result in the broadcast of the corresponding message. Message no. 15 corresponds to remote control n°1 of the GZ 2093. The 14 remote controls already present on the GD 2199 and GD 2099 must be taken into account and messages must be numbered starting from the next number (no. 15) for the first remote control box.

If several GZ 2093 remote controls are connected in cascade:

- for box 1 messages are numbered from no. 15 to no. 38
- for box 2 messages are numbered from no. 39 to no. 62
- for box 3 messages are numbered from no. 63 to no. 86
- for box 4 messages are numbered from no. 87 to no. 98 (Fig. VI).

CABLAGE VU DE L'ARRIERE DES APPAREILS / CABLING VIEWED FROM REAR OF UNITS

Nappe 25 fils /
25 conductor cable

Nappe 25 fils /
25 conductor cable

Nappe 25 fils /
25 conductor cable

Nappe 25 fils /
25 conductor cable

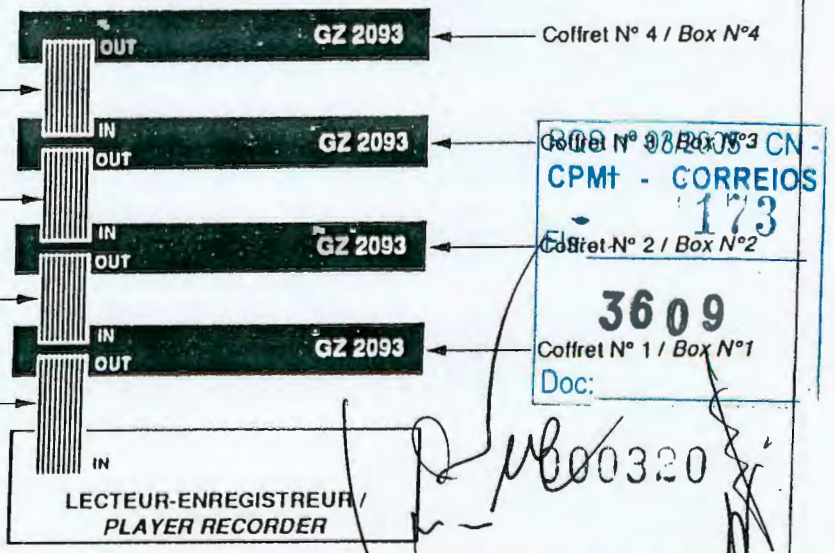
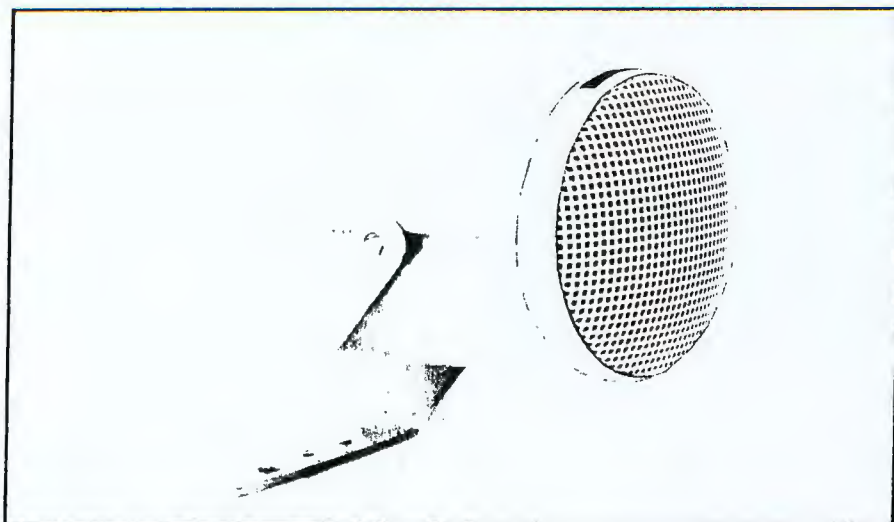


Fig. VI



RB 36'

3487

CEI-AC

**HAUT-PARLEUR
"MINI-PROJEKSON"**

**"MINI-PROJEKSON"
LOUDSPEAKER**

I - DESCRIPTION

Le Projekson RB 36 est un haut-parleur cylindrique dont le principe enceinte close à deux volumes offre l'avantage de disposer d'une puissance élevée dans un volume réduit.

La directivité exceptionnelle et son excellente courbe de réponse en font le haut-parleur idéal dans une grande diversité d'utilisations, aussi bien en recherche de personnes qu'en diffusion de musique d'ambiance dans les usines, gares, stades, aéroports, supermarchés, immeubles municipaux, piscine, etc...

I - DESCRIPTION

The Projekson RB 36 is a cylindrical loudspeaker offering powerful operation in compact form thanks to its two-volume enclosure.

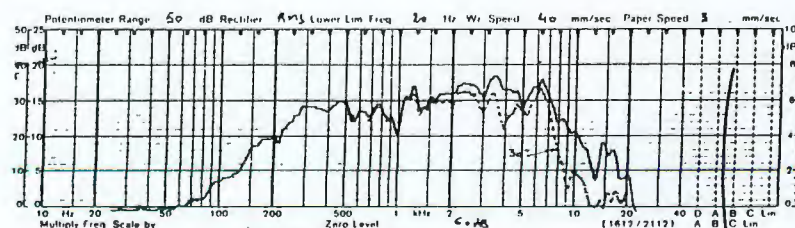
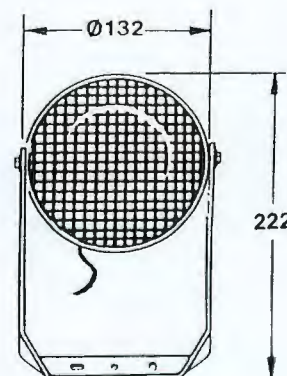
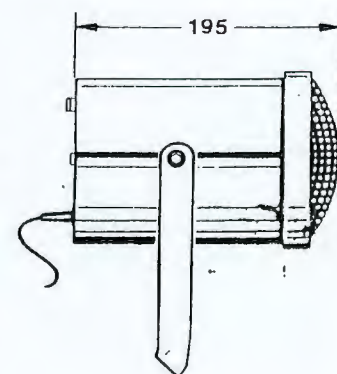
Exceptional directivity and an excellent response curve make the Projekson the ideal loudspeaker for numerous uses : paging, broadcasting background music in factories, stations, stadiums, airports, supermarkets, public buildings, swimming pools, etc...

II-CARACTERISTIQUES TECHNIQUES

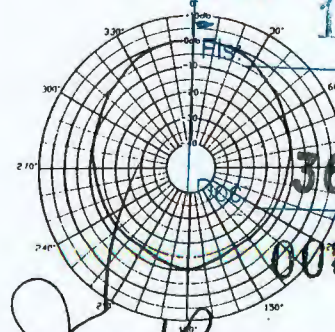
- Bande passante : 250 - 10 000 Hz
- Sensibilité (1 W à 1 m) : 92 dB
- Niveau sonore maximum (à 1 m) : 99 dB
- Puissance d'utilisation en ligne 100 V : 5 / 2,5 / 1,2 W
- Impédance sur transformateur : 2 000 / 4 000 / 8 000 Ω
- Impédance directe : 4 Ω
- Puissance efficace maximum : 5 W
- Angle d'ouverture à -6 dB : 90°
- Dimensions : $\varnothing$ 135 x 195 mm
- Poids : 1,8 kg

II - TECHNICAL SPECIFICATIONS

- Frequency response : 250 - 10 000 Hz
- Sensitivity (1 W at 1 m) : 92 dB
- Maximum sound level (at 1 m) : 99 dB
- Nominal power on 100 V line : 5 / 2.5 / 1.2 W
- Transformer impedance : 2 000 / 4 000 / 8 000 Ω
- Nominal impedance : 4 Ω
- Maximum nominal power : 5 W
- Coverage angle at -6 dB : 90°
- Dimensions : $\varnothing$ 135 x 195 mm
- Weight : 1.8 kg



Courbe de réponse
Frequency response



Courbe de directivité BF (A) / Polar response

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III - PRESENTATION

RB 36 est composé d'un corps cylindrique de plastique (ABS) de grande résistance, d'un haut-parleur de 12 cm, protégé par une grille métallique, un transformateur et une fourche de fixation.

La forme originale de sa fourche est spécialement étudiée pour une fixation rapide, sans démontage de l'ensemble.

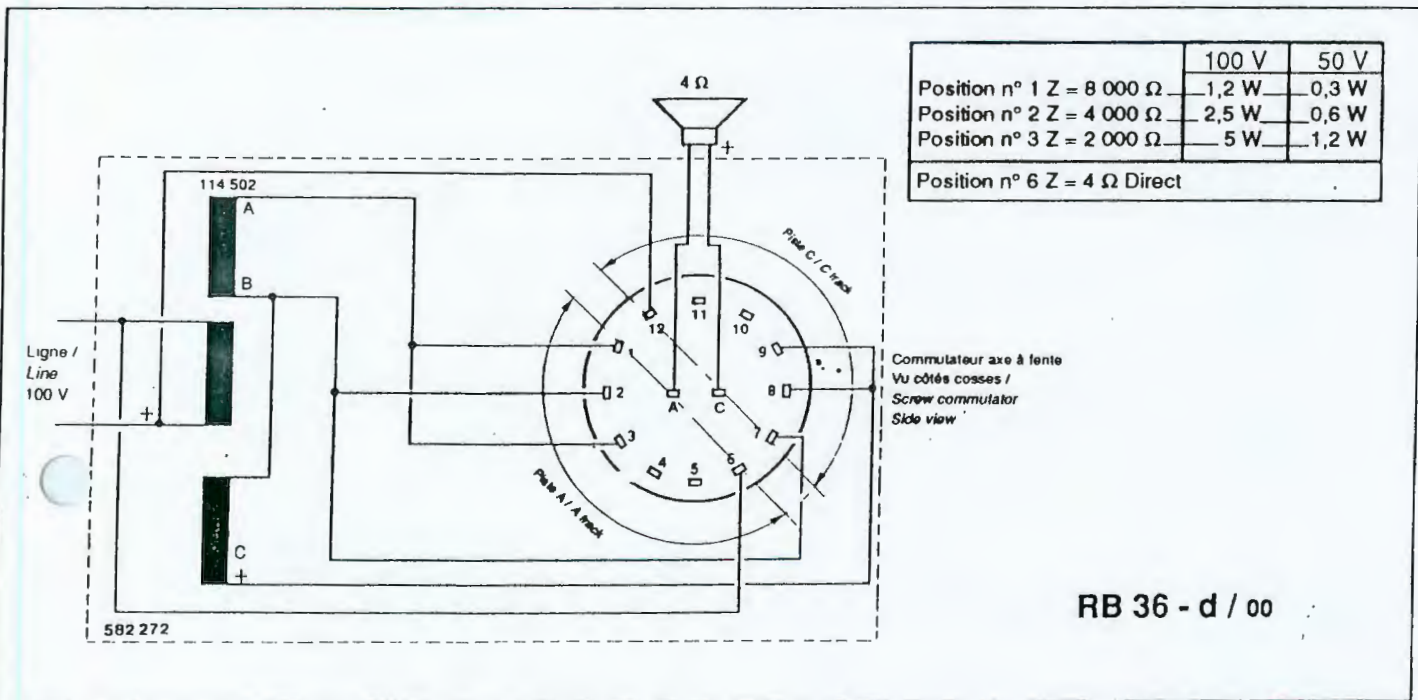
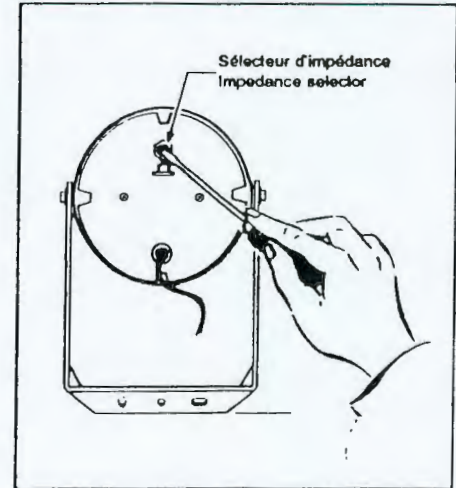
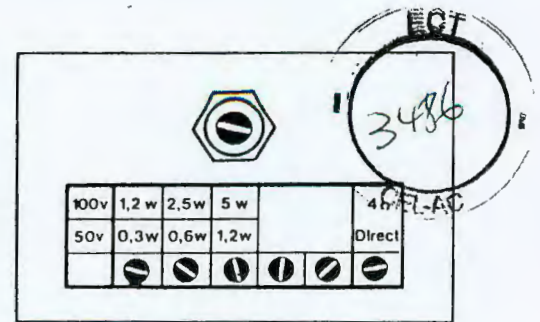
Le transformateur de type "optiself" autorise un choix de trois puissances en ligne 100 V, tout en conservant les qualités de reproduction et la sécurité de charge de ligne, grâce à son type de commutation au secondaire.

III - PRESENTATION

The RB 36 has a high-resistance plastic (ABS) cylindrical body, a 12 cm loudspeaker protected by a metal grille, a transformer and a mounting fork.

The fork has been specially designed to enable rapid mounting without taking the system apart.

The "optiself" type transformer offers a choice of three tapings on a 100 V line, whilst retaining quality of reproduction and line load safety by switching to the secondary current.



RQS n° 03/2005 - CN -
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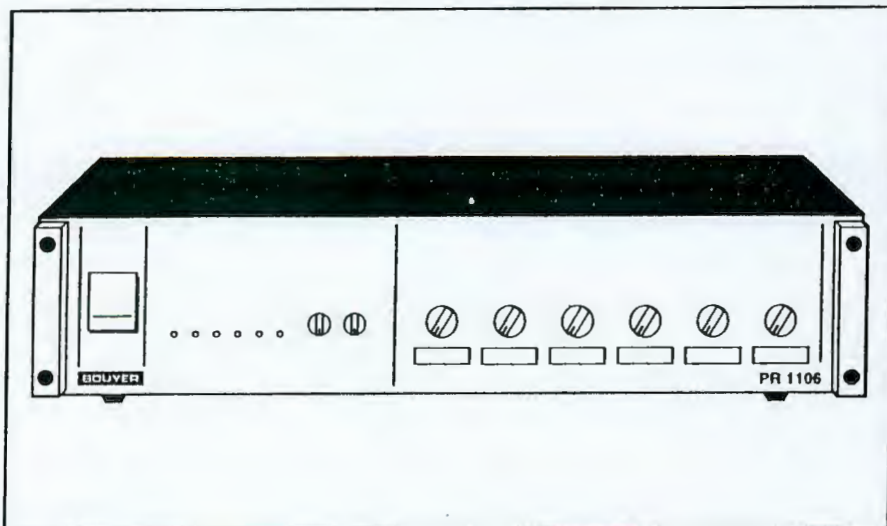
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RB 36



PR 1106



**PREAMPLIFICATEUR
6 ENTREES**

**6 WAY MODULAR
PREAMPLIFIER**

Série EXCELLENCE/EXCELLENCE line

I - DESCRIPTION

Le PR 1106 est un préamplificateur modulaire monophonique 6 voies fonctionnant en mélange ou en régime prioritaire.

Il est utilisable sur secteur ou sur batterie 24V pour les applications de sécurité.

Sa conception modulaire permet de multiples configurations (de 1 à 6 entrées, de 1 à 6 sorties).

Il est doté de correcteurs de tonalité et d'indicateurs de niveaux nécessaires à une utilisation professionnelle.

I - DESCRIPTION

PR 1106 is a modular 6-channel mono preamplifier which can operate in mixer or priority mode.

It can be used with the mains supply or with a 24-V battery.

Its modular design makes a wide range of configurations possible (from 1 to 6 inputs and from 1 to 6 outputs).

It has tone correction and level indicator lamps as required for professional use.

II - CARACTERISTIQUES TECHNIQUES

- Entrées : 6, modulaires
- ex : avec entrée AZ 1210, Sortie AZ 1230

	MIC	AUX
Rapport S/B	≥ - 60 dB	≥ - 85 dB
Bande passante	65 - 20 kHz	30 - 20 kHz
Distorsion	≤ 0,1 %	≤ 0,05 %

- Tonalité : - 10 / + 10 dB 100 Hz
- 10 / + 10 dB 10 KHz
- Sortie : 1, modulaire (chaque emplacement d'entrée 1 à 6 peut recevoir un module de sortie en fonction de l'application souhaitée)

Alimentation :

- Secteur : 230 V ± 10 % < 20 VA
- Batterie : 24 V < 0,7 A
- Utilisation entre 20 et 32 V
- Caractéristiques nominales pour 28,8 V

- Dimensions (L x P x H) : 425 x 325 x 92 mm (19" 2U)
- Poids net (sans module) : 5,9 Kg
- Rack 19", 2 U

II - TECHNICAL SPECIFICATIONS

- Inputs: 6, modular
- example: with input AZ 1210, output AZ 1230

	MIC	AUX
Signal/noise ratio	≥ - 60 dB	≥ - 85 dB
Bandwidth	65 - 20 kHz	30 - 20 kHz
Distortion	≤ 0,1 %	≤ 0,05 %

- Tone control : - 10 / + 10 dB 100 Hz
- 10 / + 10 dB 10 KHz
- Output: 1, modular (each input emplacement from 1 to 6 can take an output module for the application desired).

Power supply :

- Mains : 230 V ± 10 % < 20 VA
- Battery : 24 V < 0,7 A
- Can be used between 20 and 32 V
- Nominal characteristics for 28.8 V

- Dimensions (L x W x H) : 425 x 325 x 92 mm (19" 2U)
- Net weight (without modules): 5.9 kg
- 19" rack mounting, 2 U

RQS n° 03/2005 - CN -
CPMI - CORREIOS

HS: - 177

3609

III - PRESENTATION

A l'avant (Fig. I)

- ① - Interrupteur "Marche/Arrêt"
- ② - Témoin lumineux de mise sous tension
- ③ - Indicateur lumineux de niveau de sortie
- ④ - Réglage de tonalité grave
- ⑤ - Réglage de tonalité aiguë
- ⑥ - Réglage de niveau des entrées

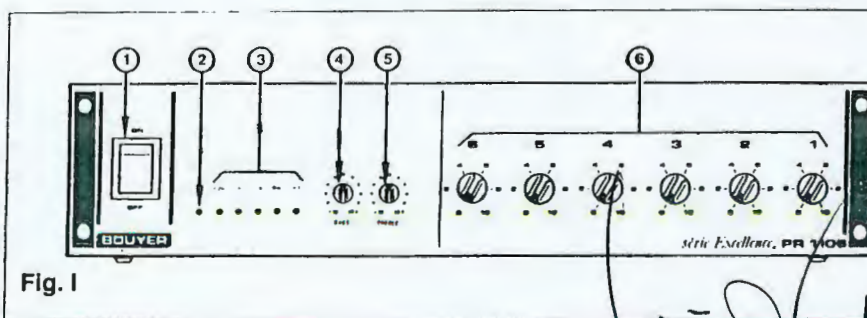


Fig. I

Front panel (Fig. I)

- ① - ON/OFF switch
- ② - ON indicator lamp
- ③ - Output level indicator lamp
- ④ - Bass tone control
- ⑤ - Treble tone control
- ⑥ - Input level control

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A l'arrière (Fig. II)

- ⑦ - Emplacement module priorité optionnel
- ⑧ - Emplacements modules entrée ou sortie
- ⑨ - Emplacement module sortie
- ⑩ - Fusible batterie : T 1 A (5 x 20)
- ⑪ - Bornier débrochable batterie
- ⑫ - Prise secteur
- ⑬ - Fusible secteur : T 100 mA (5 x 20)
- ⑭ - Verrouillage du connecteur batterie

Rear panel (Fig. II)

- ⑦ - Optional priority module emplacements
- ⑧ - Input or output module emplacements
- ⑨ - Output module emplacement
- ⑩ - Battery fuse: T 1 A (5 x 20)
- ⑪ - Pluggable battery terminal block
- ⑫ - Mains plug
- ⑬ - Mains fuse: T 100 mA (5 x 20)
- ⑭ - Battery connector lock

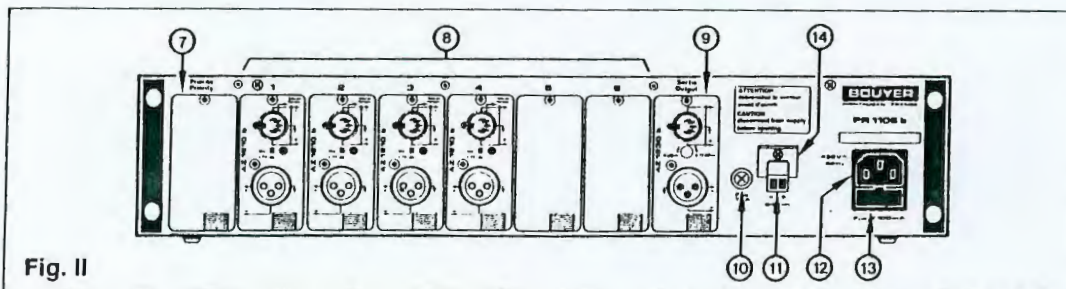


Fig. II

IV - INSTALLATION

Branchement secteur

D'origine l'appareil est livré pour un fonctionnement en 230 V.

Branchement batterie 24 V

Raccorder les bornes + et - à la batterie avec des conducteurs de section $\geq 0,75 \text{ mm}^2$

ATTENTION : L'appareil ne doit pas être exposé aux chutes d'eau et aux éclaboussures.

Branchement sources de modulation et sorties

Suivant brochage indiqué sur les modules.

Nota : les modules sorties peuvent être installés aux emplacements entrées de 1 à 6. Le réglage de volume correspondant règle alors le niveau de cette sortie.

Installation d'un système de priorité

En installant un module AZ 1229 à l'emplacement ⑦ Fig. II, les entrées 1 à 4 passent en mode priorité (voir notice AZ 1229). Les entrées 5 et 6 peuvent être mises en mélange en coupant respectivement les résistances R5 et R6 situées sur le module AZ 1229.

V - MONTAGE EN RACK

Pour monter l'appareil en rack 19", démonter les butées et les caches latéraux. Remplacer les caches latéraux par les poignées fournies dans le kit AZ 7 (Fig. III).

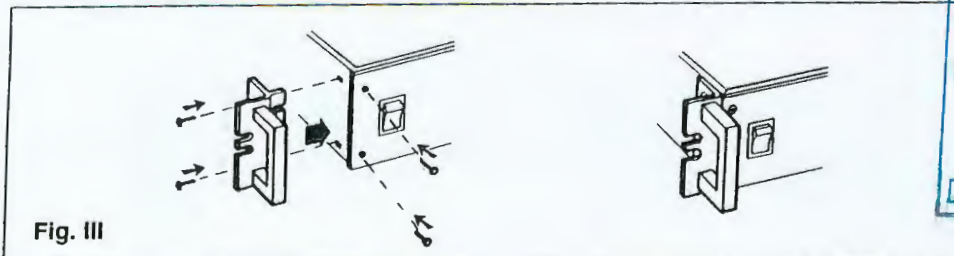


Fig. III

VI - UTILISATION

Après branchements et avant la mise sous tension, mettre les volumes en position "0"

Mettre l'appareil sous tension à l'aide de l'interrupteur ①

Le témoin ② de mise sous tension s'allume.

Ajuster les niveaux et la tonalité en fonction de l'utilisation désirée.

IV - INSTALLATION

Mains connection

The unit is supplied ready for mains operation (230 V)

24 V battery connection

Connect the + and the - terminals to the battery using $\geq 0,75 \text{ mm}^2$ conductors.

WARNING : This device must not come into contact with water

Modulation source and output connections

According to the pins on the modules.

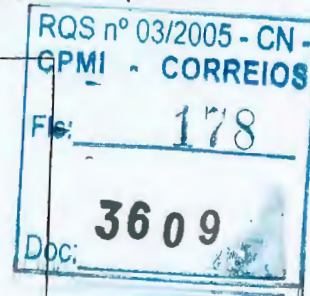
Note: output modules can be installed in input emplacements 1 to 6. The volume control will adjust the output level.

Installation of a priority system

When an AZ 1229 module is installed in emplacement ⑦ (Fig. II), inputs 1 to 6 are switched into priority mode (see AZ 1229 manual). Inputs 5 and 6 can be mixed by cutting resistors R5 and R6, respectively, on module AZ 1229.

V - RACK MOUNTING

To mount the unit in a 19" rack, remove the blocks and the side covers and replace the covers with the handles provided in the AZ 7 optional rack mounting (Fig III)



VI - USE

After connection, but before switching on, adjust volumes to "0"

Switch the device on using the ON/OFF switch ①.

The ON indicator lamp ② lights up.

Adjust levels and tone to the desired level.

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ANEXO C - TABELA DE ATENDIMENTO AOS REQUISITOS TÉCNICOS

RQS nº 03/2005 - CN -
CPMI - CORREIOS
Fls: 179
Doc: 3609

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ANEXO C - TABELA DE ATENDIMENTO AOS REQUISITOS TÉCNICOS

O item a seguir mostra uma tabela de conformidade, atestando que a Brockveld Equipamentos Industriais Ltda está de acordo com as especificações constantes do edital.

C.1) CONFORME ANEXO "A" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
A.1.	X		
A.1.1.	X		
A.1.2.	X		
A.2.	X		
A.2.1.	X		
A.2.1.1.	X		
A.2.1.2.	X		
A.2.1.3.	X		
A.2.1.4.	X		
A.2.1.5.	X		As potências serão informadas na apresentação do projeto
A.2.1.6.	X		
A.2.1.7.	X		
A.2.1.8.	X		
A.2.1.9.	X		
A.2.2.	X		

RQS nº 03/2005 - CN-
CPMI - CORREIOS
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ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
A.2.2.1.	X		
A.2.2.2.	X		
A.2.2.3.	X		
A.2.2.4.	X		
A.3.	X		
A.3.1.	X		
A.3.2.	X		
A.3.3.	X		
A.3.4.	X		
A.3.5.	X		
A.3.6.	X		
A.3.6.1.	X		
A.3.6.1.1.	X		
A.3.6.2.	X		
A.3.6.2.1.	X		
A.3.6.3.	X		
A.3.6.4.	X		
A.3.6.4.1.	X		
A.3.6.4.2.	X		
A.3.6.5.	X		
A.4.	X		
A.4.1.	X		
A.4.1.1.	X		

RQS nº 03/2005 - CN -
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ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
A.4.2.	X		
A.4.3.	X		
A.4.4.	X		
A.4.5.	X		
A.5.	X		
A.5.1.	X		
A.5.1.1.	X		
A.5.1.2.	X		
A.5.1.3.	X		
A.5.2.	X		
A.5.2.1.	X		
A.5.2.2.	X		
A.5.2.3.	X		
A.5.2.4.	X		
A.5.2.5.	X		
A.5.2.6.	X		
A.5.2.7.	X		
A.5.2.8.	X		
A.5.2.9.	X		
A.5.2.10.	X		
A.5.2.10.1.	X		
A.5.2.11.	X		
A.5.2.12.	X		

RQS nº 03/2005 - CN -
CPMI - CORREIOS
- 182
Fls: 3609
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ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
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B.7.1.	X		
B.7.1.1.	X		
B.7.1.2.	X		
B.7.1.2.1.	X		O software Promodel não realiza simulação em 3 dimensões conforme solicitado no item B.7.1.3
B.7.1.2.2.	X		
B.7.1.2.3.	X		
B.7.1.3.	X		
B.7.1.4.	X		
B.7.1.5.	X		
B.7.1.5.1.	X		
B.7.1.6.	X		
B.7.2.	X		
B.7.2.1.	X		
B.7.2.1.1.	X		
B.7.2.1.2	X		
B.7.2.1.3.	X		
B.7.2.1.4.	X		
B.7.2.1.5.	X		
B.7.2.1.5.1.	X		
B.7.2.1.5.2.	X		
B.7.2.1.5.2.1.	X		

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ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
B.7.2.1.6.	X		
B.7.2.1.7.	X		
B.7.2.1.8.	X		
B.7.2.1.9.	X		
B.7.2.1.10.	X		
B.7.2.1.11.	X		
B.7.2.2.	X		
B.7.2.2.1.	X		
B.7.2.2.2.	X		
B.7.2.2.3.	X		
B.7.2.2.3.1.	X		
B.7.2.2.4.	X		
B.7.2.2.5.	X		
B.7.2.2.6.	X		
B.7.2.3.	X		
B.7.2.3.1.	X		
B.7.2.3.2.	X		
B.7.2.3.3.	X		
B.7.2.3.3.1.	X		
B.7.2.3.4.	X		Estão sendo cotados monitores de 21"
B.7.2.3.5.	X		
B.7.2.3.5.1.	X		
B.7.2.3.6.	X		

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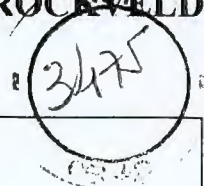
99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
B.8.2.5.	X		
B.8.3.	X		
B.9.	X		
B.9.1.	X		
B.9.2.	X		
B.9.3.	X		
B.9.4.	X		
B.9.5.	X		
B.9.6.	X		
B.9.7.	X		
B.9.8.	X		
B.9.9.	X		
B.10.	X		
B.10.1.	X		
B.10.2.	X		
B.10.3.	X		
B.10.4.	X		
B.10.5.	X		
B.10.6.	X		
B.10.7.	X		
B.10.8.	X		
B.10.9.	X		
B.11.	X		

EQS nº 03/2005 - CN -
CPMI - CORREIOS
Fls: 185
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**BROCKFIELD**99.420 Rev. 0 - Técnica
ECT 016/99

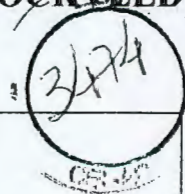
ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
B.11.1.	X		A capacidade apresentada (2.000 unitizadores / hora) está sendo atendida pelos elevadores. No entanto, esta quantidade não é real para o sistema, pois não seria absorvida pelas máquinas de triagem
B.12.	X		
B.12.1.	X		
B.12.2.	X		
B.12.3.	X		
B.12.4.	X		
B.12.5.	X		
B.12.6.	X		
B.12.7.	X		

C.3) CONFORME ANEXO "C" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.1.	X		
C.1.1.	X		
C.1.1.1.	X		
C.1.1.1.1.	X		
C.1.1.1.2.	X		
C.1.1.1.3.	X		
C.1.1.1.4.	X		

RQS nº 03/2005 - CN -
CPMI - CORREIOS
Fls: - 186
3609
Doc:

000334

**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.1.1.1.5.	X		
C.1.1.1.6.	X		
C.1.1.1.7.	X		
C.1.1.1.8.	X		
C.1.1.1.9.	X		
C.1.1.1.10.	X		
C.1.1.1.11.	X		
C.1.1.1.12.	X		
C.1.1.2.	X		
C.1.1.2.1.	X		
C.1.1.2.2.	X		
C.1.1.2.3.	X		
C.1.1.2.4.	X		
C.1.1.2.5.	X		
C.1.1.2.6.	X		
C.1.1.3.	X		
C.1.1.3.1.	X		
C.1.1.3.2.	X		
C.1.1.3.3.	X		
C.1.1.3.4.	X		
C.1.1.3.5.	X		
C.1.1.3.6.	X		
C.1.1.3.7.	X		

RQS nº 03/2005 - CN -
CPMI - CORREIOS
FIS: 187
3609
Doc:

000335

**BROCKWELD**99.420 Rev. 0 - Técnica
ECT 016/993/73
CELAS

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.1.1.4.	X		
C.1.1.4.1.	X		
C.1.1.4.2.	X		
C.1.1.4.3.	X		
C.1.1.4.4.	X		
C.1.1.4.5.	X		
C.1.1.4.6.	X		
C.1.1.4.7.	X		
C.1.2.	X		
C.1.2.1.	X		
C.1.2.1.1.	X		
C.1.2.1.2.	X		
C.1.2.1.3.	X		
C.1.2.1.4.	X		
C.1.2.1.5.	X		
C.1.2.1.6.	X		
C.1.2.1.7.	X		
C.1.2.1.8.	X		
C.1.2.1.9.	X		
C.1.2.1.10.	X		
C.1.2.1.11.	X		
C.1.2.1.11.1.	X		
C.1.2.1.11.2.	X		

RQS nº 03/2005 - CN -
CPMI - CORREIOS
Fis: 188
3609
Doc:

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**BROCHVELD**99.420 Rev. 0 - Técnica
ECT 016/993172
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ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.1.2.1.12.	X		
C.1.2.1.13.	X		
C.1.2.1.14.	X		
C.1.2.2.	X		
C.1.2.2.1.	X		
C.1.2.2.2.	X		
C.1.2.2.3.	X		
C.1.2.2.4.	X		
C.1.2.2.5.	X		
C.1.2.2.6.	X		
C.1.2.2.7.	X		
C.2.	X		
C.2.1.	X		
C.2.1.1.	X		
C.2.1.1.1.	X		
C.2.1.1.1.1.	X		
C.2.1.2.	X		
C.2.1.3.	X		
C.2.1.3.1.	X		
C.2.1.4.	X		
C.2.1.4.1.	X		
C.2.1.5.	X		
C.2.1.6.	X		

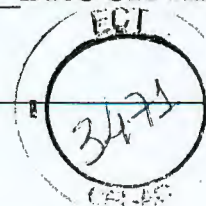
RQS nº 03/2005 - CN -
CPMI - CORREIOS

Fls: 189

3609

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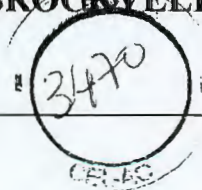
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**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.2.1.6.1.	X		
C.2.1.7.	X		
C.2.1.8.	X		
C.2.1.9.	X		
C.2.1.10.	X		
C.2.1.10.1.	X		
C.2.1.11	X		
C.2.1.11.1.	X		
C.2.1.12.	X		
C.2.1.13.	X		
C.2.1.14.	X		
C.2.1.15.	X		
C.2.1.16.	X		
C.2.1.17.	X		
C.2.1.18.	X		
C.2.1.19.	X		
C.2.2.	X		
C.2.2.1.	X		
C.2.2.2.	X		
C.2.2.2.1.	X		
C.2.2.2.2.	X		
C.2.2.3.	X		
C.2.2.4.	X		

RQS nº 03/2005 - CN -
CPMI -- CORREIOS
Fls: - 190
3609
Doc: _____

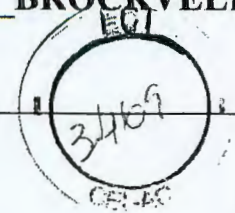
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**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.2.2.4.1.	X		
C.2.2.4.2.	X		
C.2.2.5.	X		
C.2.2.5.1.	X		
C.2.2.5.2.	X		
C.2.2.5.3.	X		
C.2.2.5.4.	X		
C.2.2.6.	X		
C.2.2.6.1.	X		
C.2.2.6.2.	X		
C.2.2.6.3.	X		
C.2.2.6.4.	X		
C.2.2.7.	X		
C.2.2.8.	X		
C.2.2.9.	X		
C.2.3.	X		
C.2.3.1.	X		
C.2.3.1.1.	X		
C.2.3.1.2.	X		
C.2.3.2.	X		
C.2.3.2.1.	X		
C.2.3.2.1.1.	X		
C.2.3.2.1.2.	X		

RQS nº 03/2005 - CN.
CPMI - CORREIOS
Fls: 191
3609
Doc: _____

000339

**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

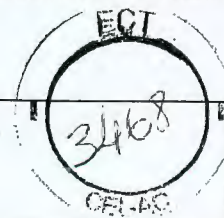
ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.2.3.2.1.3.	X		
C.2.3.2.1.4.	X		
C.2.3.2.1.5.	X		
C.2.3.2.1.6.	X		
C.2.3.2.2.	X		
C.2.3.2.2.1.	X		
C.2.3.2.2.2.	X		
C.2.3.2.2.3.	X		
C.2.3.2.3.	X		
C.2.3.2.4.	X		
C.2.3.2.4.1.	X		
C.2.3.2.4.2.	X		
C.2.3.2.5.	X		
C.2.3.3.	X		
C.2.3.3.1.	X		
C.2.3.3.2.	X		
C.2.3.3.3.	X		
C.2.3.3.4.	X		
C.2.3.3.5.	X		
C.2.3.3.6.	X		
C.2.3.3.7.	X		
C.2.3.3.8.	X		
C.2.3.3.9.	X		

RQS nº 03/2005 - CN -
CPMI - CORREIOS

Fls. 192

3609

000340

**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.2.3.3.10.	X		
C.2.3.4.	X		

C.4) CONFORME ANEXO "D" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
D.	X		

C.5) CONFORME ANEXO "E" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
E.	X		
E.1.	X		
E.2.	X		
E.3.	X		

RQS nº 03/2005 - CN -	
CPMI - CORREIOS	
Fls.:	193
Doc:	3609
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**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99**C.6) CONFORME ANEXO "F" DO EDITAL 016/99**

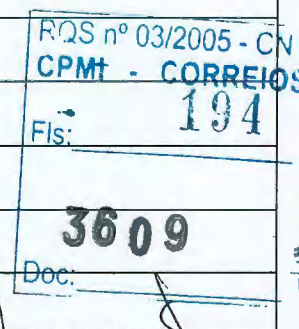
ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
F.	X		
F.1.	X		

C.7) CONFORME ANEXO "G" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
G.1.	X		
G.2.	X		
G.3.	X		

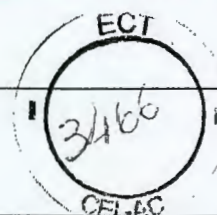
C.8) CONFORME ANEXO "H" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
H.1.	X		
H.2.	X		
H.2.1.	X		
H.2.2.	X		
H.2.3.	X		

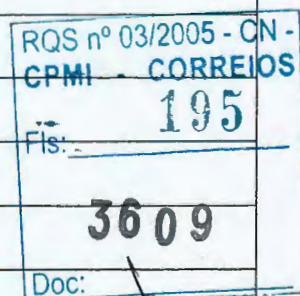


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Handwritten signatures and marks:
- A large checkmark-like signature.
- The word 'me' written in cursive.
- Other illegible scribbles and initials.

**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
C.2.3.2.1.3.	X		
C.2.3.2.1.4.	X		
C.2.3.2.1.5.	X		
C.2.3.2.1.6.	X		
C.2.3.2.2.	X		
C.2.3.2.2.1.	X		
C.2.3.2.2.2.	X		
C.2.3.2.2.3.	X		
C.2.3.2.3.	X		
C.2.3.2.4.	X		
C.2.3.2.4.1.	X		
C.2.3.2.4.2.	X		
C.2.3.2.5.	X		
C.2.3.3.	X		
C.2.3.3.1.	X		
C.2.3.3.2.	X		
C.2.3.3.3.	X		
C.2.3.3.4.	X		
C.2.3.3.5.	X		
C.2.3.3.6.	X		
C.2.3.3.7.	X		
C.2.3.3.8.	X		
C.2.3.3.9.	X		



000343

**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
J.4.1.7.	X		
J.4.1.8.	X		
J.4.2.	X		
J.4.2.1.	X		
J.4.2.2.	X		
J.4.2.3.	X		
J.4.2.4.	X		
J.4.2.5.	X		
J.4.3.	X		
J.4.3.1.	X		
J.4.3.2.	X		
J.4.3.3.	X		
J.4.3.4.	X		
J.4.3.5.	X		
J.4.3.6.	X		
J.4.3.7.	X		
J.4.3.8.	X		
J.4.3.9.	X		
J.4.4.	X		
J.4.4.1.	X		
J.4.4.2.	X		
J.4.4.3.	X		
J.4.4.4.	X		

RQS nº 03/2005 - CN-
CPMI - - CORREIOS

Fls: 196

3609
Doc:

000344



BROCKVELD

99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
J.4.4.5.	X		
J.4.5.	X		
J.4.5.1.	X		
J.4.5.2.	X		
J.4.5.3.	X		
J.4.5.4.	X		
J.4.5.5.	X		
J.4.5.6.	X		
J.4.5.5.	X		
J.4.5.6.	X		
J.4.5.6.1.	X		
J.4.5.7.	X		

C.10) CONFORME ANEXO "K" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
K.1.	X		
K.1.1.	X		
K.1.1.1.	X		
K.1.2.	X		
K.1.3.	X		

RQS nº 03/2005 - CN -
CPMI - CORREIOS
197
FIS: - -
3609
Doc: - -

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**BROCKVELD**

99.420 Rev. 0 - Técnica
ECT 016/99

C.11) CONFORME ANEXO "L" DO EDITAL 016/99

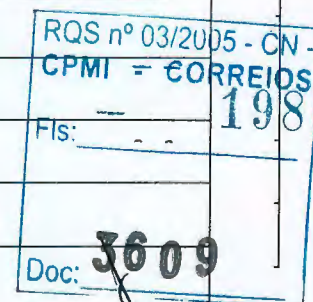
ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
L.	X		

C.12) CONFORME ANEXO "M" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
M.	X		

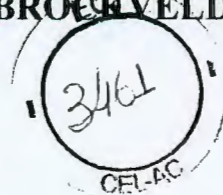
C.13) CONFORME ANEXO "N" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
N.	X		
CLÁUSULA PRIMEIRA			
CLÁUSULA SEGUNDA			
CLÁUSULA TERCEIRA			
CLÁUSULA QUARTA			
CLÁUSULA QUINTA			
CLÁUSULA SEXTA			
CLÁUSULA SÉTIMA			



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**BROUVELD**99.420 Rev. 0 - Técnica
ECT 016/99**C.14) CONFORME ANEXO "O" DO EDITAL 016/99**

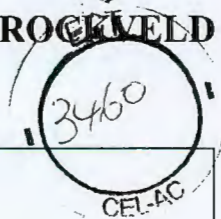
ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
O.	X		

C.15) CONFORME ANEXO "P" DO EDITAL 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
P. 1.	X		
P.2.	X		
P.2.1.	X		
P.2.1.1.	X		
P.2.1.2.	X		
P.2.2.	X		
P.2.2.1.	X		
P.2.3.	X		
P.2.3.1.	X		
P.2.3.2.	X		
P.3.	X		
P.3.1.	X		
P.3.1.1.	X		

RQS nº 03/2005 - CN -
CPMI - CORREIOS
Fls: 199
Doc: 3609

000348

**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
P.3.1.2.	X		
P.3.2.	X		
P.3.2.1.	X		
P.3.2.2.	X		
P.3.2.3.	X		
P.3.2.4.	X		
P.3.3.	X		
P.3.4.	X		
P.3.4.1	X		
P.3.4.2.	X		
P.3.4.3.	X		
P.3.4.4.	X		
P.3.4.5.	X		
P.3.4.6.	X		
P.3.4.7.	X		
P.3.4.8.	X		
P.3.5.	X		
P.3.6.	X		
P.3.7.	X		
P.3.7.1.	X		
P.3.7.2.	X		
P.3.7.3.	X		
P.3.7.4.	X		

03/2005 - CN -

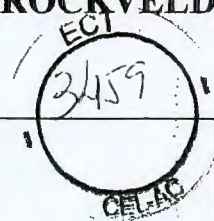
MI - CORREIOS

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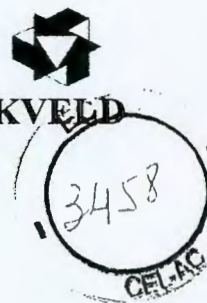
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**BROCKVELD**99.420 Rev. 0 - Técnica
ECT 016/99

ITEM	DE ACORDO		OBSERVAÇÕES
	SIM	NÃO	
P.4.	X		
P.4.1.	X		
P.4.1.1.	X		
P.4.1.2.	X		
P.4.1.3.	X		
P.4.1.4.	X		
P.4.1.5.	X		
P.4.1.6.	X		
P.4.1.7.	X		
P.4.1.8.	X		
P.5.	X		
P.5.1.	X		
P.5.2.	X		
P.5.2.1.	X		
P.5.2.2.	X		
P.5.2.3.	X		

RQS nº 03/2005 - CN -	
CPMI - CORREIOS	
Fls:	201
Doc:	3609

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ANEXO D - CATÁLOGOS

RQS nº 03/2005 - CN -	
CPMI - CORREIOS	
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Doc:	3609

000351

BUSCHMAN

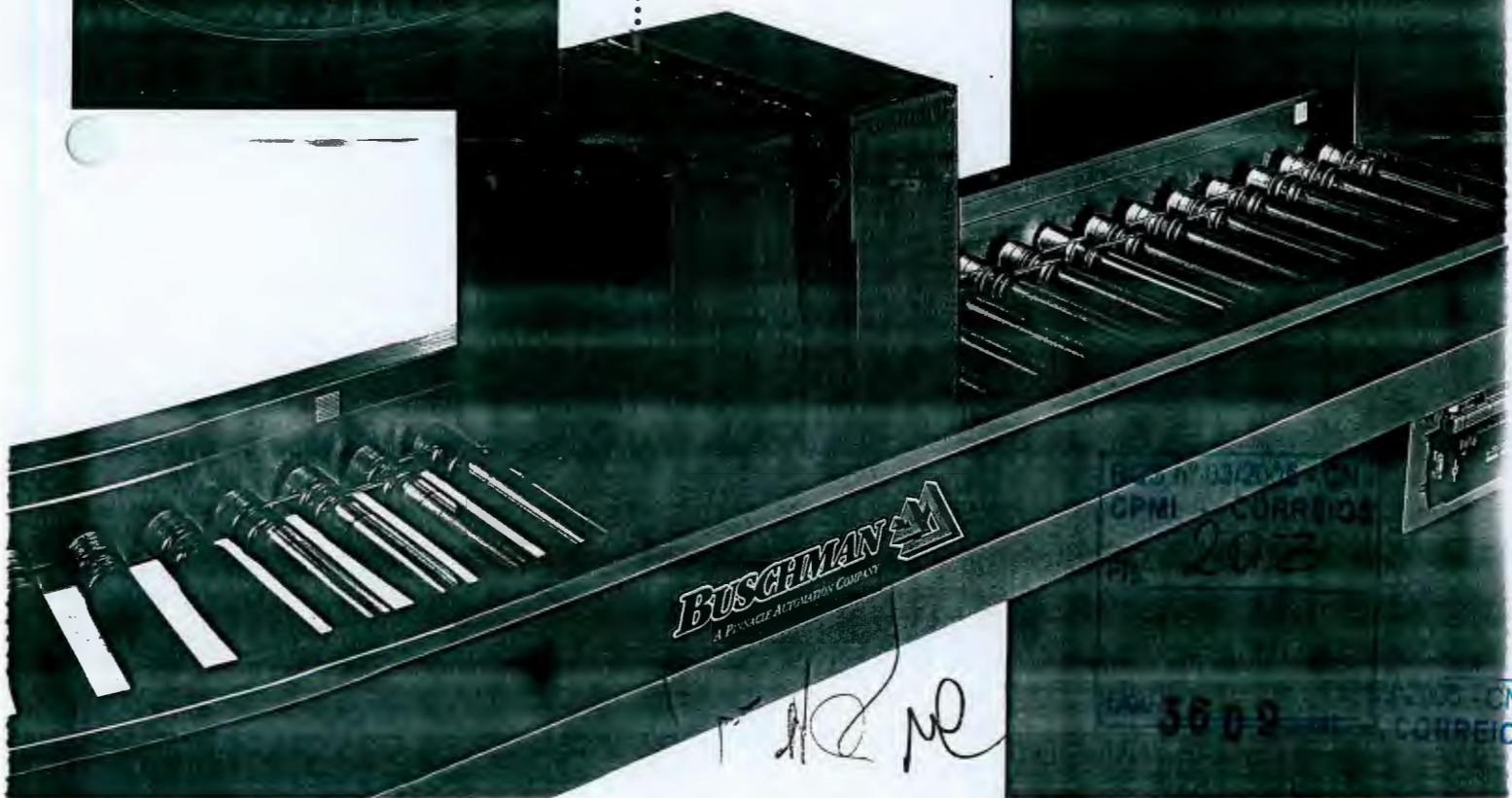
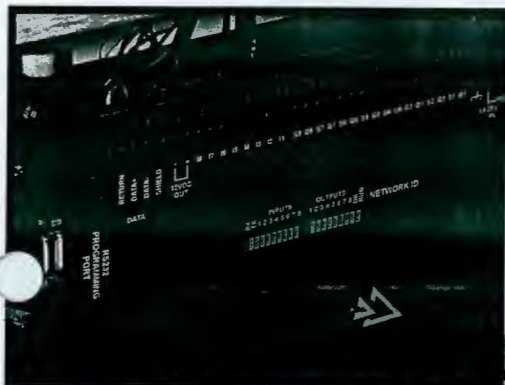
A PINNACLE AUTOMATION COMPANY



TBC-24 24 Volt Zero-Pressure Accumulation Conveyor



ROS nº 03/2005 - CN.
CPMI - CORREIOS
Fis: 203
3609
Doc:



Safety

Safety is an issue that must be a priority in the development of any product, especially in a manufacturing and distribution environment. The design team at The Buschman Company makes certain that safety is a primary consideration when engineering any of our products and the TBC-24 Conveyor System is no exception. Instead of chains, belts or pneumatics, the drive rollers utilize precision 24-volt brushless DC motors and speed reducers. The drive rollers are powered by a 24 volt power supply. Power to the idler rollers is transmitted from the drive roller by maintenance-free urethane O-rings. The 24V DC power also eliminates the need for high voltage power and control wiring and that means maximum safety for your operation.

Quietness

Noise level in a work environment can be detrimental to an employee's mental attitude not to mention their health. At the Buschman Company we have listened to customers when they have told us that noise levels of conveyor systems are one of the primary considerations in evaluating equipment design. Our engineers made this a priority as they designed and engineered the TBC-24 product line. Because the conveyor zones only operate when product is required to move, each section is at rest until a previous section releases a tote, carton, or container. In fact, the TBC-24 is so quiet that some customers have questioned whether the system is functioning because each zone operates only when moving product. Operating between 60 - 62 dba @ 1 meter ambient, the TBC-24 is one of the quietest conveyors on the market today. Compare this to some of the other machinery operating in your facility and you will really appreciate the Buschman TBC-24 product line.

Ease of Maintenance

With the simplicity of a PLC control system, you can view error condition indicators with the LED display for each I/O point. Because the system is fully programmable, you can enable independent operation of each module, reverse the direction of flow on your system through simple control logic, or change the speed of the TBC-24 conveyor system. There are no relays to control the motors providing a low cost and easily maintained conveyor system. Plug-in terminal blocks also reduce the time required for maintenance. The rollers and controls mount in a 7.5" deep extruded aluminum conveyor side frame, which provides a low profile cross section. Custom designed inserts positioned in the side frames for the roller shafts allow you to easily remove, insert or adjust the rollers for skewing packages or containers. Rollers operate only when product is moving on or off zones, reducing power consumption and minimizing wear. Your maintenance staff will be extremely impressed with the reliability and simplicity of the TBC-24 modular conveyor systems from the Buschman Company.



RQS nº 03/2005 - CN
CPMI - CORREIOS
Fls: 204
3609

BUSCHMAN
A PIVOTAL AUTOMATION COMPANY

SISTEMAS E EQUIPAMENTOS PARA SEPARAÇÃO DE PEDIDOS DO PICKING AO SORTATION



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Integrated Distribution Systems



BUSCHMAN

A PINNACLE AUTOMATION COMPANY



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Buschman—Your Systems Integration Partner

Quite simply, The Buschman Company integrates material handling hardware with the latest technology in software, communications and ergonomics to maximize distribution efficiencies and meet your operating objectives. Buschman personnel work closely with you and your project team to design and install material handling systems that maximize the contribution logistics will make to your bottom line.

Buschman is committed to forming long-term partnerships with our customers and to applying our experience and insight gained in years of working with leading companies, many among the Fortune 500. This commitment is reflected in the number of customers that return to us for their next system solution.

The Pinnacle Automation Material Handling Family

Buschman is proud to be part of one of the largest material handling companies in the world. The companies of Pinnacle Automation, Inc. possess unparalleled opportunities to combine resources to provide a truly integrated solution.

Alvey, Inc. offers over 80 years experience in conveyor and palletizing systems in the manufacturing sector. McHugh Freeman and Associates is recognized as the leader in distribution system integration and software development. White is the world's leading manufacturer of automated storage and retrieval systems for manufacturing, retail distribution and commercial offices. Busse is a prominent designer of container handling systems for the food processing and beverage industries.

Buschman—The Distribution Experts

Buschman customers include companies in all phases of product distribution – retail mass merchandising chains, general merchandise retailers, grocery chains, pharmaceutical and HBA distributors, auto parts stores, mail order and fulfillment operations, newspaper publishers and specialty retailers. The Buschman Company and our distributors understand the demands placed upon the distribution function in these individual environments and can work with you to create the material flow system best suited to your individual operations.



• **Buschman**



207
3609
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People Make The Difference

From initial concept, through design, manufacture and installation, a Buschman professional is at your service. Our sales engineers are highly skilled specialists with extensive problem solving experience in a wide range of industries and markets. They can help make decisions in pursuing material handling projects and, in many cases, help establish system objectives.

A Buschman project manager is assigned to all projects to insure proper implementation and training. These experienced individuals will "live with" your system, supervising installation and system commissioning, training the individuals responsible for system operation and insuring we are both completely satisfied. These professionals are supported by many others in our home office, so you can be assured we've got what it takes to meet your needs - and give you a competitive edge.

Situation Analysis Is The Key

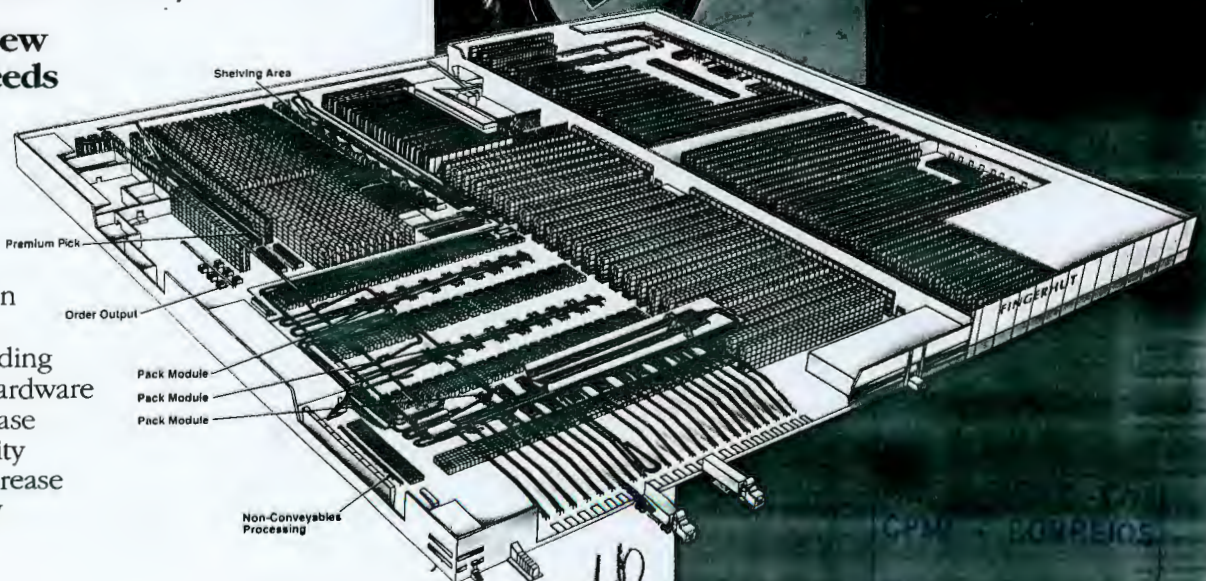
Before making any recommendations, our system design specialists will work with you to carefully analyze your entire distribution operation, identifying your current problems and determining your specific needs. We'll sit down with you and discuss statistical information, SKU capacity, merchandise flow, order size, distribution center configuration, data and information management requirements, scanning, RF capabilities and other variables. In other words, we want to understand your company's business.

Solving Your Individual Problems

After our analysis is complete, we will design a solution that assures you of maximum efficiency throughout your system. We will prepare and evaluate design concepts before mutually agreeing on the one that is best for you.

Meeting Both New And Retrofit Needs

In many instances existing facilities can be upgraded to take advantage of the latest innovations in material flow technology. Buschman has given new life to older buildings by adding equipment, control hardware and software to increase productivity and facility throughput, or to decrease storage and inventory requirements.



A Systems Integration Approach

Every Buschman product is designed to work in concert with other components of the material flow system. Carousels, pick-to-light stations, inventory management information systems and other ancillary products can be integrated with Buschman conveyors and sorters for maximum system efficiency.

In certain situations, Buschman will assume single source responsibility for the entire system, assuring our equipment will interface perfectly with your other systems.

A Commitment to Quality

From the smallest component to the largest conveyor, Buschman systems are unsurpassed in uptime performance and reliability. We've built our reputation on a constant commitment to quality in every detail, from engineering through manufacturing, installation, training, acceptance and on-going customer service. When you accept your Buschman system, you know it will deliver its promised performance.



Doc: 209
3609

Flexibility In Design

Our in-house distribution and control experts will work within any current system you may have in place, or design an entirely new system. Either way, you'll benefit from our powerful, proven software designs and our ability to customize them to meet your specific needs. The end result is a completely integrated system that gives you the tools to maximize efficiency and productivity in all aspects of your operation.

BOSS

The Buschman Company is the leader in microprocessor control applications, with a large installed base of current users. The Buschman On-Line Status System (BOSS) allows you to manage and measure the performance of the system and maintain the highest level of personnel productivity. Computer monitors provide real-time operational data and statistics, system status information, error reporting, operational control, diagnostics and more.

Management Information

Our systems can interface to your host computer providing graphics and reciprocal flow information which can be transmitted to the host. Compare forecast counts to actual counts. Perform purchase order reconciliation, labor management and manifesting accountability. Analyze work completed versus plan by area or batch. Direct pickers, loaders and palletizers to where they are needed most. There's virtually no limit to the number of ways we can help you better manage your operation.

The Systems Integration Specialists

Buschman provides a total systems package that no other company can match. You simply won't find a software developer with our hardware experience. Or a hardware manufacturer that can come close to our comprehensive knowledge of software and controls and how they benefit you in maximizing the performance of your facility.



Installation

Your system is carefully monitored by a Buschman Project Manager and Site Superintendent. Every step of the way we ensure that all objectives are met and all scheduled commitment dates are maintained.

System Training

We know our systems can only be successful if the people who run them are properly trained. We offer training programs for management, operations and maintenance personnel to ensure you achieve maximum productivity from your new system.

Customer One Protection (COP)

Our exclusive "COP" program ensures trouble-free operation of every system we sell. This post-installation program features field service by qualified engineers –

including a 24-hour service hot line – plus spare parts, operator training programs, maintenance packages and warranties.

Technical Services

Fast response to your technical needs is provided through our corporate headquarters and our strong nationwide distributor network. So no matter what the problem, we'll be there when you need us.

Online Software Support and Upgrades

For on-going system support, our software specialists can remain on-line with your facility via modem. This direct communication link assures the long-term, reliable operation of your Buschman system.



BELT

Transportation Conveyors



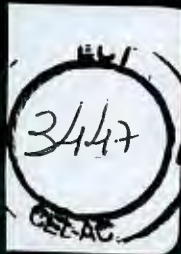
BUSCHMAN

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Buschman

Belt Conveyors help organize
and speed product flow
in a wide range of industries



Auto Parts
Chemicals
Consumer Goods
Cosmetics
Electronics
Footwear
General Merchandise
Grocery
Hardware
Mail Order
Newspaper
Pharmaceutical
Textiles
Wholesale and Retail
Distribution
Work in Process

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Doc:

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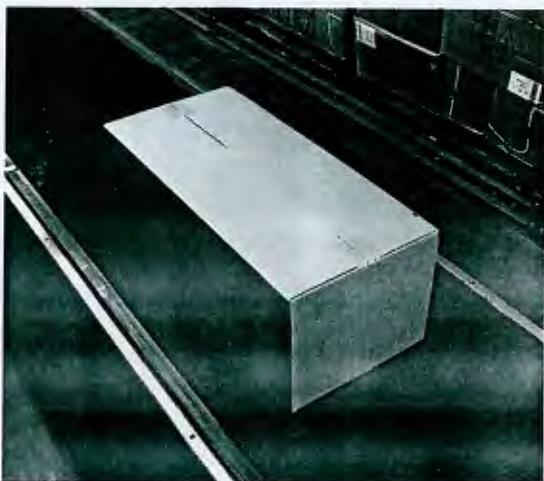
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Optional equipment to help increase productivity – Available for both Roller and Slider Bed Conveyors



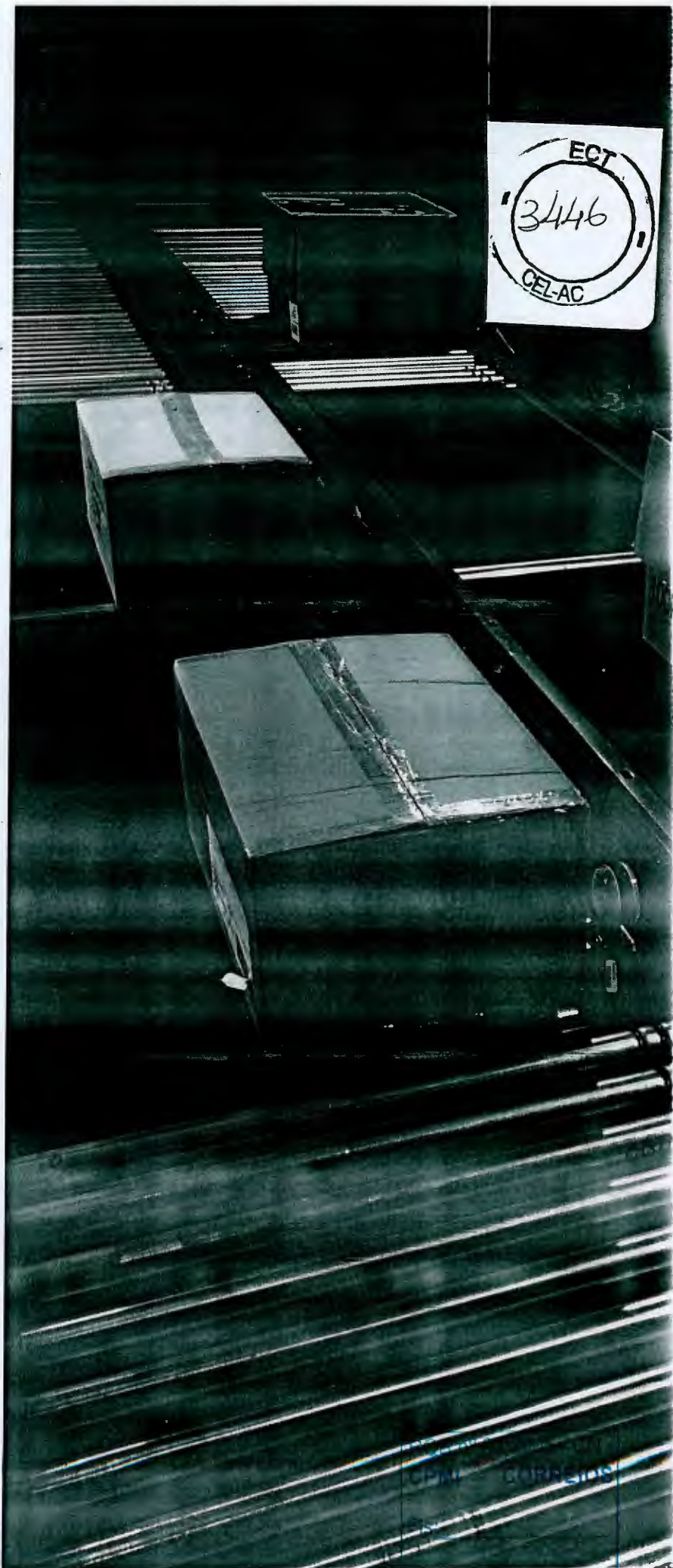
Brake belt – Controls, or holds back, the flow of product as it is released from an accumulation or other adjacent feeding conveyor.

Metering belt – Provides a gap between individual products as they are released from an adjacent accumulation conveyor.



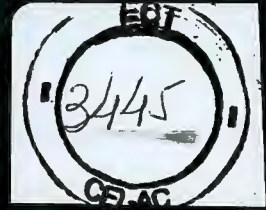
Pick Belt Frame Rails – Extra-strong frame rails designed to withstand impact-ding. Additionally, their smooth surface provides more safety for workers as cartons are placed onto the conveyor.

TECHNICAL	
Rollers	1.9" diameter - at 3" centers
Beds	16", 22", 28", 34" or 40" widths - 6-3/8" deep side frames Lengths up to 12' Roller Bed, Slider Bed or Box-Bed Power Feeders; Upper Bends
Power Transmission	PVC 100 Belting
Drives	End and Center
Minimum Height	12" to top of roller
Take-Up	Manual or Automatic, End and Center
Electrical Requirements	230/460 volts, 3 phase, 60HZ
OPERATIONAL	
Operation Modes	Transportation
Capacity	Up to 100 lbs. per linear foot
Speed	30 to 400 fpm



ACCUGLIDE PLUS™

Zero-Pressure Accumulation Conveyor



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Doc:

215
3609

Accuglide D... help

In a wide

- Auto Parts
- Chemicals
- Consumer Goods
- Cosmetics
- Electronics
- Footwear
- General Merchandise
- Grocery
- Hardware
- Mail Order
- Newspaper
- Pharmaceutical
- Textiles
- Wholesale and Retail Distribution
- Work in Progress

Decorative Lighting



acceleration for gentle handling. The continuous piece stays firmly in place, unlike individual pads that can become dislodged. The polyurethane construction provides a quiet interface between the driver chain and the carrying roller while providing years of trouble free service.

Drives through curves to give you more flexibility. A new single drive design powers both straight runs and curves up to 300 feet long.

Saves energy - Fewer drives cost less to operate.

Versatile, efficient product movement - The Accuglide Plus™ Conveyor accumulates with no gaps between items, so you get maximum density of accumulated product. Integral skewing capability lets you direct product to either side of the conveyor. It can use mechanical sensors, either standard or Light Load™ (patent pending). To handle small packages, two-inch roller centers are available as standard.

3 ways to release product - Product is accumulated in 3-foot long zones. Accuglide Plus is available with optional release modes for singulation; releasing product in sections or as a solid train. Any of these options can be applied to all or just a portion of your conveyor line.

Electric Accuglide - Ideal for handling lightweight items at high speeds. Uses reliable photo-eye control to eliminate the mechanical sensors. This enhances the quietness of the operation.

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Due to continual improvements, product specifications subject to change without notice.



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Pressure Accumulation Conveyor



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218

3609

BISCHMAN

A/C Accumulation Conveyors
help organize and speed product
flow in a wide range of industries



Auto Parts
Chemicals
Consumer Goods

Cosmetics

Electronics

Footwear

General Merchandise

Grocery

Hardware

Mail Order

Newspaper

Pharmaceutical

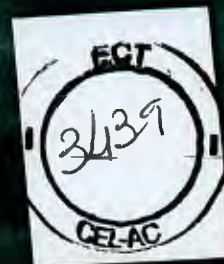
Textiles

Wholesale and Retail
Distribution

Work in Process

POWERED ROLLER

Transportation Conveyors



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Doc:

220
3609



Man

Powered Roller Conveyors
help organize and speed product
flow in a wide range of industries

Auto Parts
Chemicals
Consumer Goods
Cosmetics
Electronics
Footwear
General Merchandise
Grocery
Hardware
Mail Order
Newspaper
Pharmaceutical
Textiles
**Wholesale and Retail
Distribution**
Work in Process



individual pads that can become dislodged. The polyurethane construction provides a quiet interface between the drive chain and the carrying roller while giving you years of trouble free service.

Saves energy - Fewer drives cost less to operate.

Versatile, efficient product movement - The Accuglide Plus™ Transportation Conveyor transports a broad range of products. Integral skewing capability lets you direct product to either side of the conveyor. To handle small packages, two-inch roller centers are available as standard.

Durable - Precision-molded Delrin™ components and high-quality manufactured components provide for low maintenance and long life. Automatic chain lubrication extends the life of the chain and eliminates the need for timers and controls.

Low maintenance = high uptime - Fewer moving parts and fewer drives reduce maintenance and noise. Automatic chain lubrication and tensioning increases uptime.

Modular design allows integration of the Accuglide Plus™ Transportation Conveyor with Buschman's other standardized gravity and power conveyors.

TECHNICAL

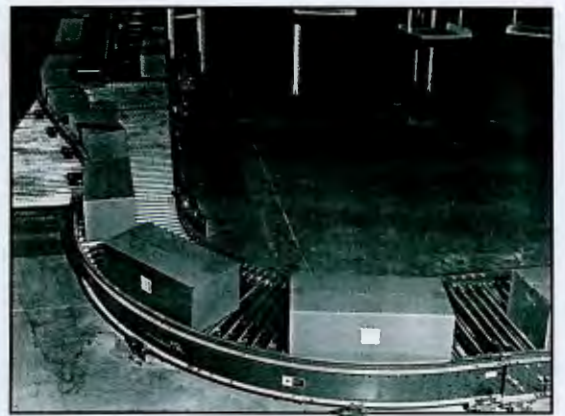
Rollers	1.9" diameter - at 2", 3", 4" or 6" centers
Beds	16", 22", 28", 34" or 40" widths - 6-3/8" deep side frames. Lengths furnished in 6', 9' and 12' sections.
Power Transmission	RC50 chain with urethane driver
Minimum Height	18" to top of roller
Take-up/Tensioning	Automatic
Electrical Requirements	230/460 volts, 3 phase, 60HZ

OPERATIONAL

Operation Modes	Transportation or Accumulation
Capacity	Up to 100 lbs. per linear foot
Speed	60 to 320 fpm
Minimum Load	Approx. 8-oz. to activate sensor
Release Modes	(1) Singulation (2) Auto Slug (3) Full Slug
Accumulation Zones	36" long
Accumulation Technique	Sensor/air valve actuation
Required Air Supply	15 psi

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Low temperature options - Cold room (20° to 40° F), freezer (0° to +20° F) and sub-zero (0° to -20° F) applications are possible.

Safety features include fully-guarded drive components. For safety and convenience an open area under the rollers allows accidentally dropped items to fall through.

Quick, easy installation with "bolt-together" components. Makes future modifications simple, too.

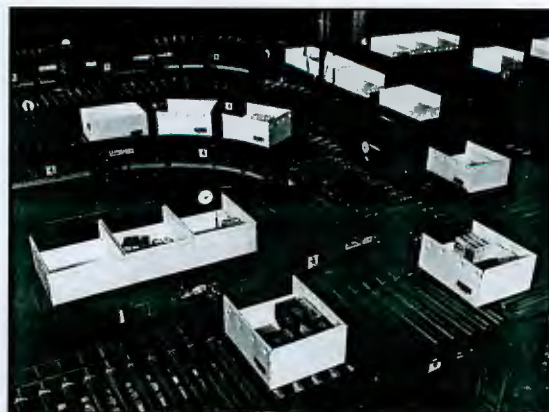
Low maintenance = high uptime - An extremely rugged traction wheel with self-lubricating sprockets helps reduce maintenance.

Modular design allows integration of the T/C Conveyor with Buschman's other standardized gravity and power conveyors.

L/C Transportation Conveyors utilize the same chain, traction wheel design and components to provide transportation capability.

TECHNICAL	
Rollers	1.9" diameter - at 2", 3", 4" or 6" centers
Bees	16", 22", 28", 34" or 40" widths - 5" deep side frames. Lengths up to 12' sections. Curves - 30°, 45°, 60°, 90° and 180° Junctions - 30°, 45° and 90°
Power Transmission	RC40 chain with urethane drive wheel treads
Minimum Height	12" to top of roller
Take-up/Tensioning	Automatic
Electrical Requirements	230/460 volts, 3 phase 50/60 Hz
OPERATIONAL	
Operation Modes	Transportation
Capacity	Up to 100 lbs. per linear foot
Speed	45 to 240 fpm

03/2005 - CN -
223
3609
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Reversible - Gives you the advantage of reversing the flow of product on any portion of the conveyor you wish.

Simple design - Independently powered rollers are driven by a urethane belt connected to a common drive shaft.

Safety features - Full length guard encloses underside of drive shaft, spools and drive belts.

Optional zero-pressure accumulation available with the addition of brakes and sensors.

Quick, easy installation with "bolt-together" components. Makes future modifications simple, too.

Drive shaft bearings sealed for life - no periodic lubrication.

Modular design allows integration of the Line Shaft Conveyor with Buschman's other standardized gravity and power conveyors.

TECHNICAL	
Rollers	1.9' diameter - at 3", 4" or 6" centers
Beds	16", 22", 28" or 34" - 5-1/2" deep side frames. Lengths furnished in 1' to 10' sections
Curves	30°, 45°, 60° and 90°
Spurs	30°, 45° RH or LH
Merge	30° RH or LH
Drive Shaft	1" diameter steel shaft full length of bed section. Delrin™ chain coupling at bed joints.
Drive Spools	2" diameter Delrin™ held in place by "snap on" retaining clips
Drive Belts	3/16" diameter urethane drive belts
Electrical Requirements	230/460 volts, 60HZ
OPERATIONAL	
Operation Modes	Transportation or zero pressure accumulation (optional)
Capacity	15 lbs. per roller, 100 lbs. per carton.
Speed	30 to 120 fpm

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224



Quietly Engineered™ – High speed roller bearings and precision sheave bearings contribute to quieter operation. Specially designed non-metallic sheaves are contoured to fit the "B" section V-Belt, providing low maintenance and long life.

Quick, easy installation with "bolt-together" components. Makes future modifications simple, too.

Low maintenance = high uptime – Long belt life is achieved with a "Dually" take-up (patent pending), which provides extra adjustment without back-bending the belt. Conductive materials, used in roller construction, eliminate static buildup. Every facet of the V-Belt design is engineered to give you the finest and most dependable product of its kind on the market.

Modular design allows integration of the V-Belt Conveyor with Buschman's other standardized gravity and power conveyors.

ROS 03/2025 - CN -
CPMI - CORREIOS
Fls: 225
3609
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TECHNICAL	
Rollers	1.9' diameter - at 2" or 3" centers
Beds	16", 22", 28", 34" or 40" widths - 10" deep side frames.
Straight Sections	Lengths 38" to 128" in 1" increments
Curves 2'-6" IR and TT	30°, 45°, 60°, 90° and 180° RH or LH
Extensions	Infeed and/or discharge extension split between infeed and discharge. Extensions offered in 1" increments
Spurs	30° or 45° RH or LH
Spur/Curve	30° spur/60° curve RH or LH 45° spur/45° curve RH or LH 90° RH or LH
Take-up	Non back bending (patent pending)
Electrical Requirements	230/460 volts, 60Hz
OPERATIONAL	
Operation Modes	Transportation
Capacity	Up to 70 lbs. per foot loads
Speed	90 to 400 fpm

SORTATION SYSTEMS AND EQUIPMENT



BUSCHMAN
A PINNACLE AUTOMATION COMPANY

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▲ **Buschman gives you great choices from a broad and versatile product line**

With Buschman, you're sure to find the right products for your distribution center. From high speed combiners that effortlessly zipper multiple conveyor lines into one, to sorters that deliver 25 - 250 cartons per minute, the Buschman product line offers the wide range you'd expect from the leader in material handling technology.

The value of versatile equipment is another Buschman advantage. The UniSORT® product line offers low to high speed feature packed sortation and gives you a choice of conveying surfaces. Conveying surfaces range from flat belt to swivel roller/wheel, tubular or flat contoured slats and are available for products that handle better on a flat carrying surface. Should your conveying needs change, the UniSORT® product line can be modified to meet future requirements.

▲ ***Quietly Engineered™***

A quieter environment, more conducive to productivity, comes with Buschman's high-speed sorters and combiners. A UHMW track under the driving chains, rather than steel, gives quieter and smoother operation. The same is true for both divert switch mechanisms and their re-entry guides, which employ specially contoured high-technology plastics, instead of metal.

▲ **Unique high-speed sortation advantages come from Buschman's control system**

• *An integrated system offering precise, high speed control*

Buschman's On-line Software Systems - BOSS™ - connects all of your sorter's input/output devices to a single computer. This control concept provides simplicity, reliability and, because there are fewer interfaces, ease of maintenance. It also gives you easy access to diagnostic and operational data.

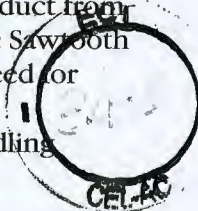
• *Higher throughput at lower equipment speeds*

BOSS™ precision control provides induction and sortation with smaller gaps between cartons. Therefore, sorters run at lower speeds yet obtain higher throughput. This, in turn, helps prolong the mechanical life of your sorter and induction equipment.

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Fls: 227
3609
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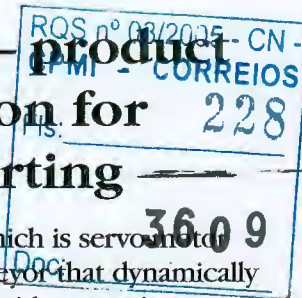


Eliminating the need for individual spurs, the Sawtooth merge moves product from multiple lines into one line. The Sawtooth take-away line eliminates the need for drives on the infeed spurs. This configuration is capable of handling 120 case feet-per-minute.



The Select-A-Line moves product from multiple lines to either of two takeaway lines. Product can be released from two accumulation lines simultaneously, therefore increasing throughput.

Inducting - product identification for accurate sorting



The Gap Optimizer, which is servomotor driven, is a single conveyor that dynamically adjusts its speed to provide a consistent gap without impeding carton flow. It precisely delivers product to the sorter for maximum throughput efficiency.





Two divert angles ensure gentle product handling - At higher speeds (above 350 fpm), products are diverted at a 20° angle for gentlest handling; below 350 fpm, products are gently diverted at a 30° angle.

Choice of conveying surfaces - In addition to a tubular carrying surface, a contoured slat is available for products that handle better on a flat surface.

Flexibility of one or two-sided sorting - Single-sided sortation to the left or the right, dual-sided sortation with directly opposing or staggered divert lanes.

Safety features include fully-guarded drive components and detectors that interrupt power to the motor if a jam occurs.

Quick, easy installation with modular components.

Low maintenance = high uptime - Single drive and automatic chain lubrication reduce maintenance. High technology plastics help reduce friction and significantly improve the life of wear surfaces. "Works in a drawer" design allows for simple, quick replacement of a divert switch assembly, if necessary.

Sort rate - 50 to 250 cartons per minute possible (depends on product dimensions, gap between product and conveyor speed).

Loads - Diverts products weighing from one half pound up to 100 pounds.



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RQS nº 03/2005 - CN -
CPMI - CORREIOS
Fls: 229
3609
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flexibility with its modular design, but also allows an unlimited number of divert points and overall sorter lengths, because units can be linked in series. The pop-up wheel diverter units are combined with Buschman's High-Speed Sortation Belt Conveyor which provides a continuous carrying surface for accurate product tracking.

Sort line speed - operates at speeds of up to 300 feet per minute.

Single-sided sorting - diverts to either left or right.

Safety features - include fully-guarded drive components, side guides to contain product being conveyed, and detectors that interrupt power to the motor if a jam occurs.

Quick, easy installation with modular components. Makes future modifications simple, too.

Sort rate - 30 to 130 cartons per minute possible (depends on product dimensions, gap between product and conveyor speed).

Loads - Diverts products weighing from 2 up to 75 pounds.

After-Sort - moving product to shipping, palletizing or secondary sortation

Gravity Wheel Conveyor economically moves product. It is available in 30° or 45° spurs or a 90° spur/curve.

Powered Live Roller Conveyor, available in 30° or 45° spurs or a 90° spur/curve, provides smooth, dependable product movement.

Gravity Chute is an economical, reliable alternative to powered after-sort equipment.

Gravity Roller Conveyors, available in 30° or 45° spurs or a 90° spur/curve, provide a solid conveying surface and transport product economically.

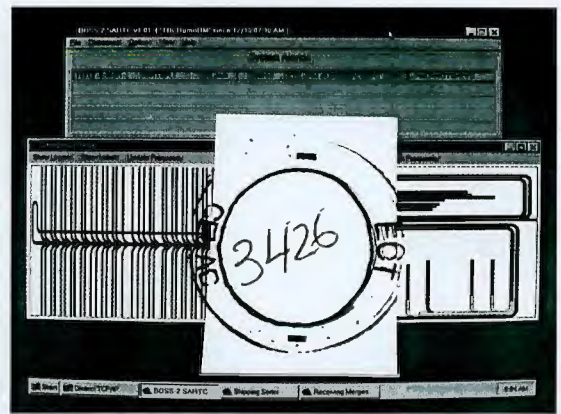
Close-Center Takeaway Conveyor is ideal for moving smaller packages.

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CONVEYOR SYSTEM CONTROLS



BUSCHMAN
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▲ **Standardized software modules provide ease-of-startup and save you time and money.**

Buschman maintains a large library of tested and proven software modules. Most new conveyor systems can use these standard modules with little or no modification, saving you time and money while giving you a reliable, well documented controls system.

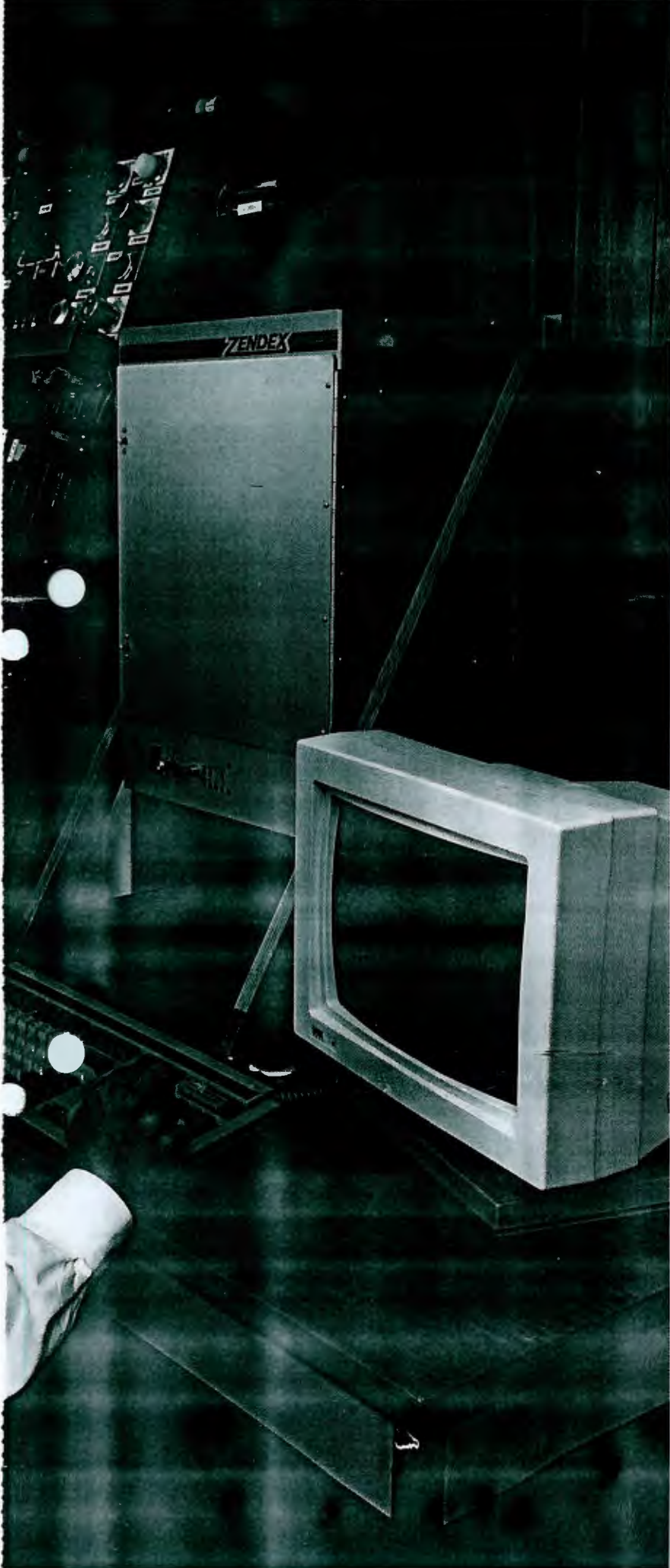
▲ **Economical customized software.**

Because your operation is unique, some software modules must be customized or edited to meet your needs. Given Buschman's experience and expertise, this is easily and quickly accomplished. To ensure ease-of-use and reliability, these customized modules use standard subroutines and formats.

▲ **Control Panels – quality-built, quality-tested.**

Buschman control panels, the "nerve center" of a conveyor system, are constructed with the highest quality materials and workmanship. Each one is thoroughly tested by a Buschman controls engineer. Only then is it delivered to you.

ROS nº 03/2005 - CN -
CPMI - CORREIOS
Fis: 232
3609
Doc: _____



Access to your system via modem

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CELAC

▲ Factory support, through a modem, is standard.

Buschman technical support can monitor and solve most problems. Also, software changes can be downloaded via the modem.

▲ Your system is always accessible, via modem, to your key personnel no matter where they are.

System operators can view system data, maintenance people can view diagnostics and managers can monitor the system.

Buschman Customer Service

COP - Customer One Protection - is a multi-faceted program designed for one purpose - your total satisfaction as our customer. Some of the benefits are:

▲ Parts

COP gives you the time-saving convenience of single-source availability for parts. You can order parts for your system whether it's 2AM or 2PM, using the BuschNet computer system.

▲ Contract Services

A variety of programs is available to help you improve operating efficiency, get the most out of your equipment and save money too! These include audits and inspections, preventive maintenance programs, and maintenance contracts. Additional benefits include reduced labor rates, priority emergency service and discounts on parts.

▲ Upgrade or modification

Need to increase the throughput of your system, reroute lines for additional processing or obtain more information from your computer display? Ask us when you need help. Our objective is to help you serve your customers with the most efficient conveyor equipment, controls and software available.

RQS nº 03/2005 - CN -
CPMI - CORREIOS
Fls: 234
Doc: 3609



Customer Protection

Our Commitment to Total Customer Satisfaction

BUSCHMAN

A PINNACLE AUTOMATION COMPANY



fls. 235
Doc. 3609



**arts — the right ones,
just when you need them**

Single-source availability – COP gives you the time-saving convenience of single-source availability for parts. If it's a piece of equipment we've installed, whether it has our name on it or not, we'll quickly supply the part. From the smallest air valve to the largest motor, one call gets the job done.

Ultra-convenient ordering via BuschNet – You can order parts for your system whether it's 2AM or 2PM, using the BuschNet computer system. Talk to your COP representative about tying into this easy-to-use, handy system.

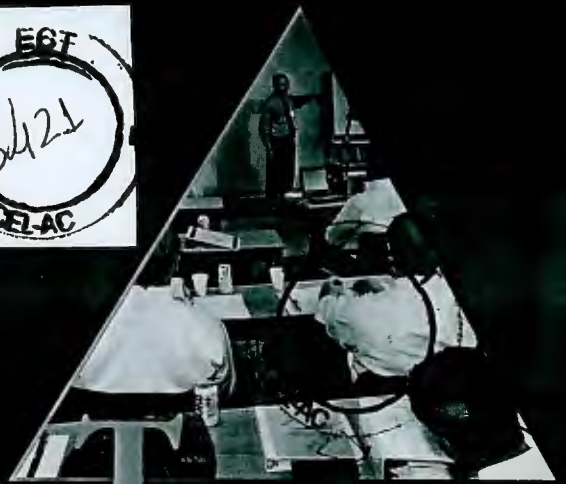
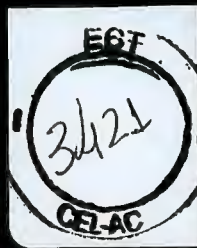
Spare parts documentation that is specific to your system – One of the benefits of the COP program is a recommended list of spare parts specific to your material handling system. Your copy of this documentation may be on paper, diskette or CD ROM, whichever works best for you. We maintain the list and keep it current, which greatly aids in communication when a part must be ordered. Your net result: time savings and increased productivity.



*We'll quickly supply the
part you need, whether it
has our name on it or not.
From the smallest air valve
to the largest motor, one
call gets the job done.*

Doc: 236

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T raining — your key to maximum productivity

Customized programs — What better place than your own facility to learn everything there is to know about your new materials handling system! This is why 90% of the COP training programs are performed at customers own locations. These programs are tailored to the system or equipment you have. They focus on aspects important to you - operations, mechanical maintenance or repair, controls maintenance or repair, system programming or specific skills training.

Your company's operational requirements are paramount in our training programs. You can select multiple daily classes, weekend classes or some other schedule to suit your particular needs. As an added service, if your personnel would be more comfortable with classes conducted in a foreign language, this is available.

Periodic seminars — Throughout the year, Buschman conducts training sessions at its headquarters on a broad range of topics, covering everything from installation to maintenance to product application. Your personnel will find these in-depth sessions excellent vehicles for updating their skills and increasing their knowledge.



Product Enhancement — what's new to help you

R&D: on the move to improve — Part of the reason Buschman is recognized as an innovative, technological leader is that we constantly work to improve the performance of our products through research and development. Additionally, as part of the Pinnacle Automation group of companies, we're teamed with one of the largest, most progressive material handling families in the world. This combination of resources works to give you the competitive advantage you need in today's marketplace.

COP helps keep you informed — When improvements are made that can be retrofitted to existing equipment, your COP representative will be happy to tell you all about them. Additionally, these material handling experts can send you pertinent product bulletins or catalogs. We'll help you get the most out of all your equipment.

© 1996 The Buschman Company

Due to continual improvements, product specifications subject to change without notice.

238
Doc: 3609

SPIRAL-LIFT[®]

CONTINUOUS • VERTICAL • UNIT • HANDLING



Spiral-Lift Applications:

- ☐ Beverages
- ☐ Printing Plants / Newspapers
- ☐ Mail Order Companies
- ☐ Distribution Centers
- ☐ Factories
- ☐ Airport Baggage Handling
- ☐ Medical Devices
- ☐ Food Processing Facilities



PORTEC
Flomaster[®] Division

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***your demanding vertical needs—the most
1 conveyor in the world! Portec Spiral-Lift!***



Beverage handling

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Product Data

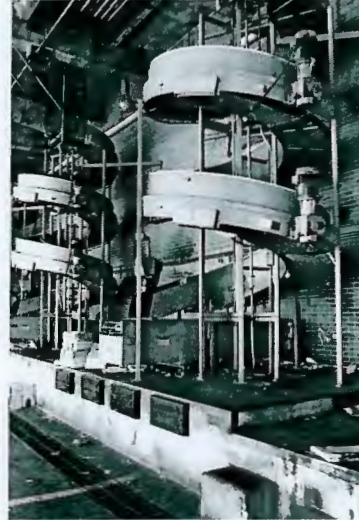
SPIRAL-PRODUCT INSTALLATIONS

Flomaster Spiral products have been rapidly received in numerous industrial, manufacturing and publishing applications. Airline terminals, warehouses, food processing plants, assembly operations and newspapers are just a few of the many types of industries which utilize Flomaster SPIRAL CURVES® and SPIRAL-LIFTS® to speed up production and bring a new level of efficiency to their operation.

PARTIAL CUSTOMER LIST

DISTRIBUTION CENTERS

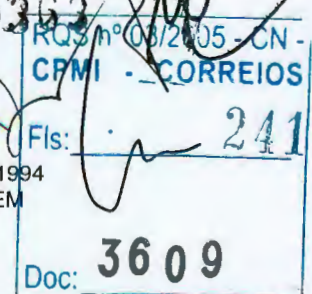
Amway Corporation - Ada, MI
 CDW Computer - North Aurora, IL
 Canadian Tire - Brampton, Ontario
 Case, J.K., Company - Memphis, TN
 Dollar General - Ardmore, OK
 Dollar General - South Boston, VA
 Famous Footwear - Sun Prairie, WI
 Fruit of the Loom - Bowling Green, KY;
 Campbellsville, KY; St. Martinsville, LA; Frankfurt, KY
 The Gap - Gallatin, TN
 Kay Bee Toys - Glendale, AZ
 Kendall Company - Franklin, KY
 K-Mart Stores - Fairless Hills, PA; Lawrence, KS;
 Sparks, NV; Corsicana, TX; Ocala, FL; Warren, OH;
 Ontario, CA; Shakopee, MN; Newnan, GA;
 Plymouth, MI; Greensboro, NC; Mantino, IL;
 Brighton, CO; Canton, MI
 L.L. Bean - Freeport, ME
 Marshall's - Bridgewater, VA
 McKesson Drugs - Memphis, TN; Tampa, FL;
 Harrison, AR
 May Company - Cleveland, OH
 McMaster Carr - Aurora, OH
 Ogden Defense Depot - Ogden, UT
 Roadway Package Systems - Jacksonville, FL;
 Denver, CO; Conover, NC; Thorofare, NJ;
 Greenville, SC; New Orleans, LA; Huber Heights, OH;
 Sun Valley, CA; Wichita Falls, TX; Sikeston, MO;
 Chickopee, MA
 Sanrio - San Francisco, CA
 Sears - Memphis, TN; Garland, TX; Warrior Run, PA;
 Delano, CA; Manteno, IL
 Southland Corp. - San Bernardino, CA
 Target Stores - Little Rock, AR
 Toys R Us - Joliet, IL; Rialto, CA
 Tracy Defense Depot - Tracy, CA
 United Parcel Service - St. Louis, MO; Bristol, VA;
 Danville, VA
 Walgreen's - Franklin Park, IL; Milwaukee, WI
 Wal-Mart - Palestine, TX; Douglas, GA; New Braunfels,
 TX; Bentonville, AR; Plainview, TX; Laurens, SC
 Western Auto - Salina, KS
 Zayre Corp. - Plant City, FL



AIRPORTS

Air Canada - JFK, NY; Toronto, Ontario
 America West - Phoenix, AZ
 American Airlines - Cleveland, OH; Phoenix, AZ;
 JFK, NY; St. Louis, MO; DFW, TX; San
 Francisco, CA; LaGuardia, NY; San Juan, PR;
 Boston, MA
 Baltimore/Washington Int'l Airport - Baltimore, MD
 Charlotte/Douglas Airport - Charlotte, NC
 Continental Airlines - Newark, NJ
 Delta Airlines - O'Hare, IL; Atlanta, GA; Salt Lake
 City, UT
 Denver International Airport - Denver, CO
 Federal Express - Memphis, TN; Newark, NJ;
 Indianapolis, IN; Seattle, WA; Washington, DC;
 Toronto, Ontario; DFW Airport, TX; Atlanta, GA
 McCarran International Airport - Las Vegas, NV
 Miami International Airport - Miami, FL
 Mitchell Field - Milwaukee, WI
 Northwest Orient Airlines - Atlanta, GA
 Pittsburgh International Airport - Pittsburgh, PA
 Port of Seattle - SeaTac Airport - Seattle, WA
 St. Louis Lambert Field - St. Louis, MO
 TWA - JFK, NY; St. Louis, MO; Philadelphia, PA
 United Airlines - Denver, CO; Los Angeles, CA;
 Chicago, IL; San Francisco, CA
 US Air - Orlando, FL; Pittsburgh, PA

NSAI Registered I.S. EN ISO 9002:1994
 QUALITY MANAGEMENT SYSTEM



ChuteMaster Applications:

- Distribution Centers
- Mail Order Companies
- Newspaper Printing Plants
- Parcel Handling
- Manufacturing
- Airport Baggage Handling
- Postal Carriers
- Food Processing Facilities



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PORTEC
Flomaster® Division

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**Portec ChuteMaster, the shortest
between two points is not a straight line.**



Materials easily slide without blockage.

PORTEC
Flomaster Division

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CURVAS MOTORIZADAS DE BANDA

FLUJO CONTINUO Y CONFIABLE



Algunas Aplicaciones de Las Curvas Motorizadas de Banda:

- | | |
|---|---|
| ☐ Distribucion | ☐ Manejo de Alimentos Y Bebidas |
| ☐ Fabricas | ☐ Manejo de Equipaje en Aerolineas |
| ☐ Bodegas / Almacenajes | ☐ Articulos Electronicos |
| ☐ Plantas de Papel Y Editoriales | |

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PORTEC
DIVISION FLOMASTER®

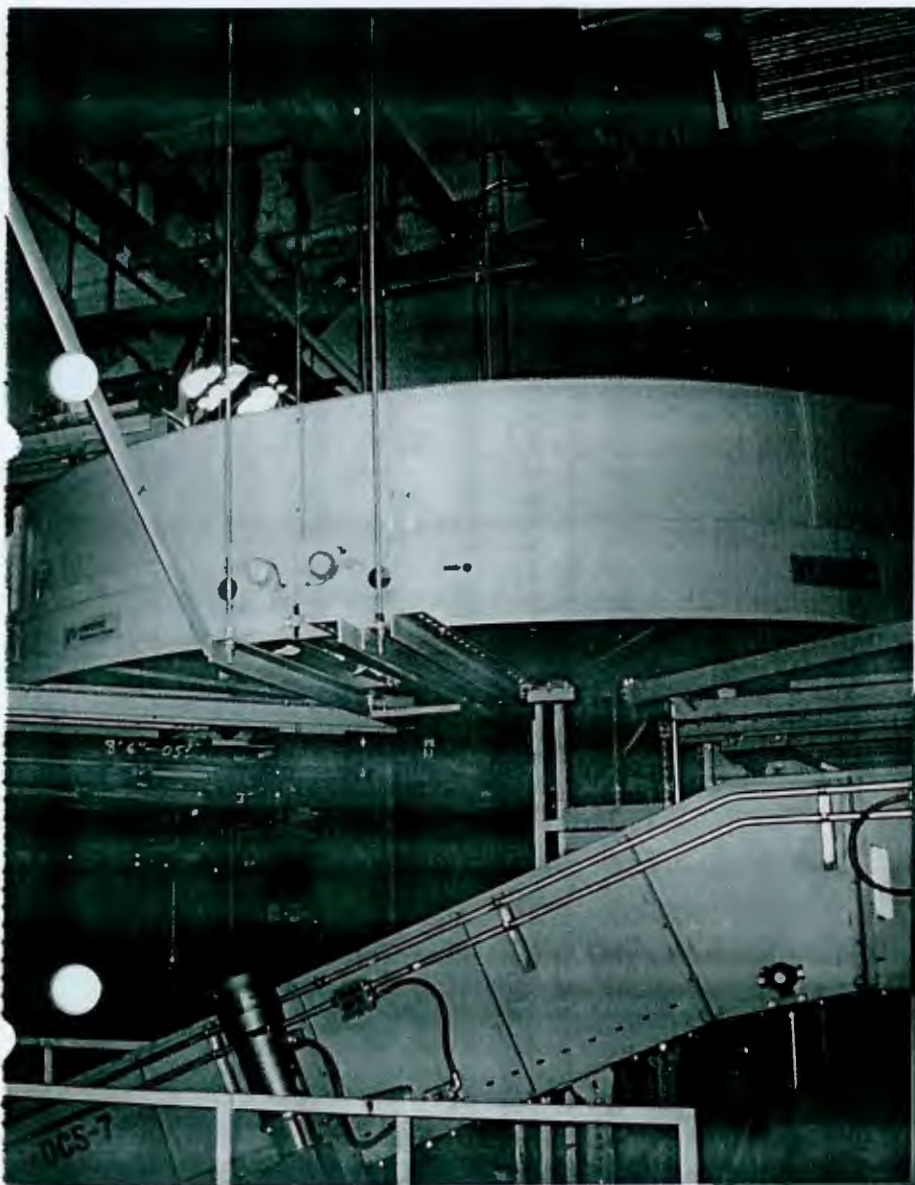
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CPMI - CORREIOS

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***El diseño y una gran confiabilidad hacen
de Banda Flomaster la Más
nivel mundial***



*Las curvas Motorizadas de Banda colgantes desde el techo,
permiten un uso eficiente del espacio en el piso debajo de estas.*

RECIBO
CORREIOS

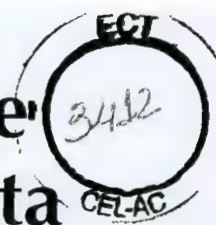
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CPMI - CORREIOS

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Nossa linha de produtos começa onde termina a correia transportadora reta



SPIRAL-LIFT® (Elevador Espiral)

Larguras de correia de 8" a 48" (203 mm a 1219 mm).

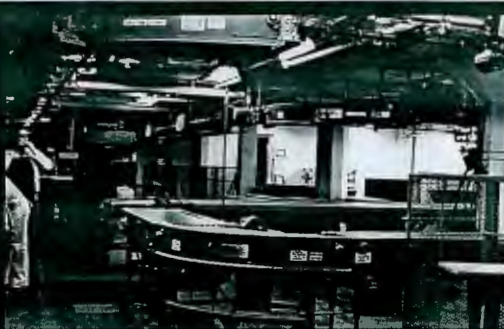
Projetado para suas necessidades específicas.

Permite o manuseio contínuo de produtos numa unidade vertical.

Nossos modelos foram aprovados pela FDA e USDA.

Foram projetados para que a mesma unidade possa manipular diferentes produtos, tamanhos e formas.

SPIRAL-LIFT - A correia transportadora vertical contínua está disponível em variedades de arcos e larguras para movimentar seu produto para cima ou baixo em um espaço restrito.



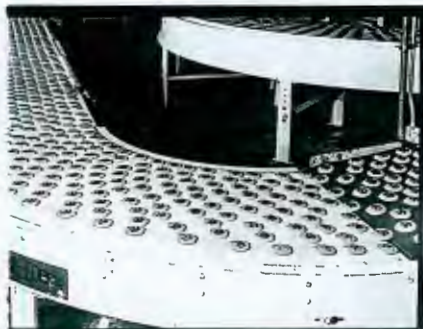
BELT POWER TURN (Curva Motorizada)

Modelos aprovados pela FDA e USDA.

Correia resistente, padrão em cor preta. Outras cores são disponíveis.

A corrente lateral é projetada especialmente para acionar as curvas PORTEC.

As **CURVAS PORTEC** têm sido utilizadas por mais de 30 anos para transportar produtos de maneira fácil e eficiente em arcos que vão de 15° até 350°, com larguras da correia de até 108" (2743 mm).



KNIFE-EDGE® (Correia em Curva)

Velocidade de até 100 pés por minuto (0.508 m/s).

São fabricadas em larguras de correia de 12" a 48" (303 mm a 1219 mm), aprovadas pela FDA.

Os rolos são segmentados desde um diâmetro de 5/8" (15.88 mm).

A capacidade de carga é de 15 lbs./pé (22.3 kg/m).

KNIFE-EDGE - Projetada para transportar produtos tão pequenos como 3/4" (19 mm) de diâmetro, em curvas de 30° até 180° e linhas retas até 50 pés (15 m) de comprimento, sem necessidade de acrescentar outros dispositivos transferidores de uma posição para outra.



ANGLE-FLO® (Transferidor Angular)

Opera silenciosamente.

Permite a transferência suave de produtos em posição angular.

Altas velocidades disponíveis.

ANGLE-FLO - Transportadores que facilitam a convergência e a separação de linhas transportadoras de maneira eficiente e fácil.



CHUTEMASTER® (Rampa Espiral)

Economiza espaço em áreas restritas.

Não necessita de manutenção.

Permite o deslissamento mesmo em condições úmidas.

A velocidade de descida é controlada devido ao projeto do perfil da rampa.

CHUTEMASTER - É uma rampa em espiral moldada em fibra de vidro que garante uma maneira segura de descer seus produtos, a um custo baixo.



PORTEC

Flomaster® Division

Post Office Box 589

Canon City, Colorado 81215-0589 U.S.A.

Telephone: (719) 275-7471

FAX: (719) 269-3750

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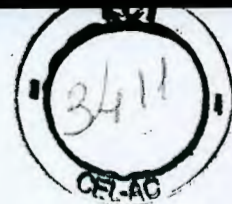


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BROCKVELD Equipamentos Industriais Ltda.

ANGLE-FLO®

MERGING • DIVERGING • OPERATIONS



**For merging or
diverging operations,
Portec has what you're
looking for...**

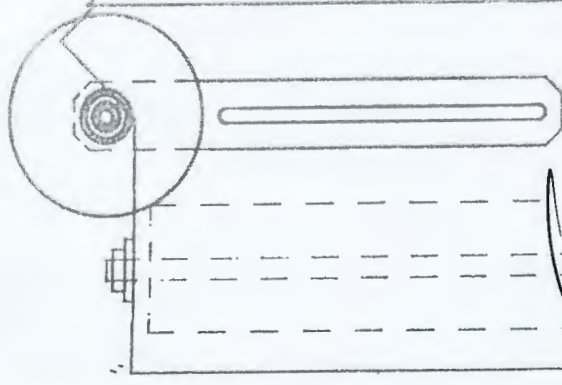
Portec Flomaster Angle-Flo Conveyors facilitate the merging or diverging of two conveyor lines in a smooth and efficient manner. This high speed single belt spur utilizes a patented low-friction air bearing to allow a continuous belt to change direction and form a high-speed angular conveying surface.

Key Features Include:

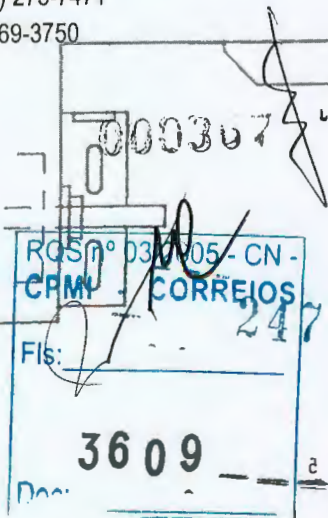
- High speeds available
- Whisper quiet operation
- Smooth positive angular transfer of products
- Simple tracking system
- Low maintenance
- Heavy duty construction
- Transfers small products

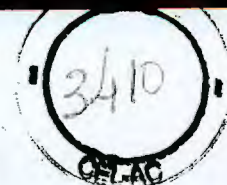
For more information call or fax
your Flomaster representative or:

Portec, Flomaster Division
P.O. Box 589
Cañon City, Colorado 81215-0589 USA
Phone: (719) 275-7471
Fax: (719) 269-3750



PORTEC
Flomaster® Division





Stealth II[®]

HI-SPEED • QUIET

POWER TURN

Remarkably quiet high speed operation

Bi-directional operation

Cylindrical end rolls for superior product transfers and orientation

Patented cam-action pinch roll drive system for smooth operation under varying load conditions

Low belt tension for long belt life

Spring-loaded tracking rollers for fast belt changes

Perfect for:

- Hi-speed package handling
- Postal sorting systems
- Packaging lines
- Printing plants
- Newspaper handling
- Product assembly

For more information call or fax your Flomaster representative or:

Portec, Flomaster Division
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PORTEC
Flomaster Division

Belt Width NB

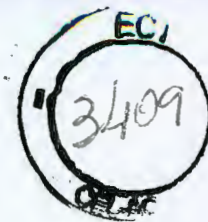
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Stealth II[®] Z TURN

INNOVATIVE • 180 DEGREE • POWER • TURN



Zero or extremely small inside radius turns with belt widths up to 72"

Bi-directional operation

Cylindrical end rolls for superior product transfers and orientation

Patented cam-action pinch roll drive system for smooth operation under varying load conditions

Low belt tension for long belt life

Spring-loaded tracking rollers for fast belt changes

Perfect for:

- Package handling
- Postal sorting systems
- Packaging lines
- Printing plants
- Newspaper handling
- Electronic assembly plants
- Anywhere you need a compact u-turn

For more information call or fax your Flomaster representative or:

Portec, Flomaster Division
P.O. Box 589
Cañon City, Colorado 81215-0589 USA
Phone: (719) 275-7471
Fax: (719) 269-3750

PORTEC
Flomaster[®] Division

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FAST TRAC™

FAST DELIVERY • VARIETY • FLEXIBILITY



When You Need A Power Turn Fast...

The Fast Trac From Portec!

Flomaster's® most popular sizes and belt widths have been selected for the FAST-TRAC program to meet a wide variety of application requirements.

All FAST-TRAC Flomaster Belt Power Turns have the following features:

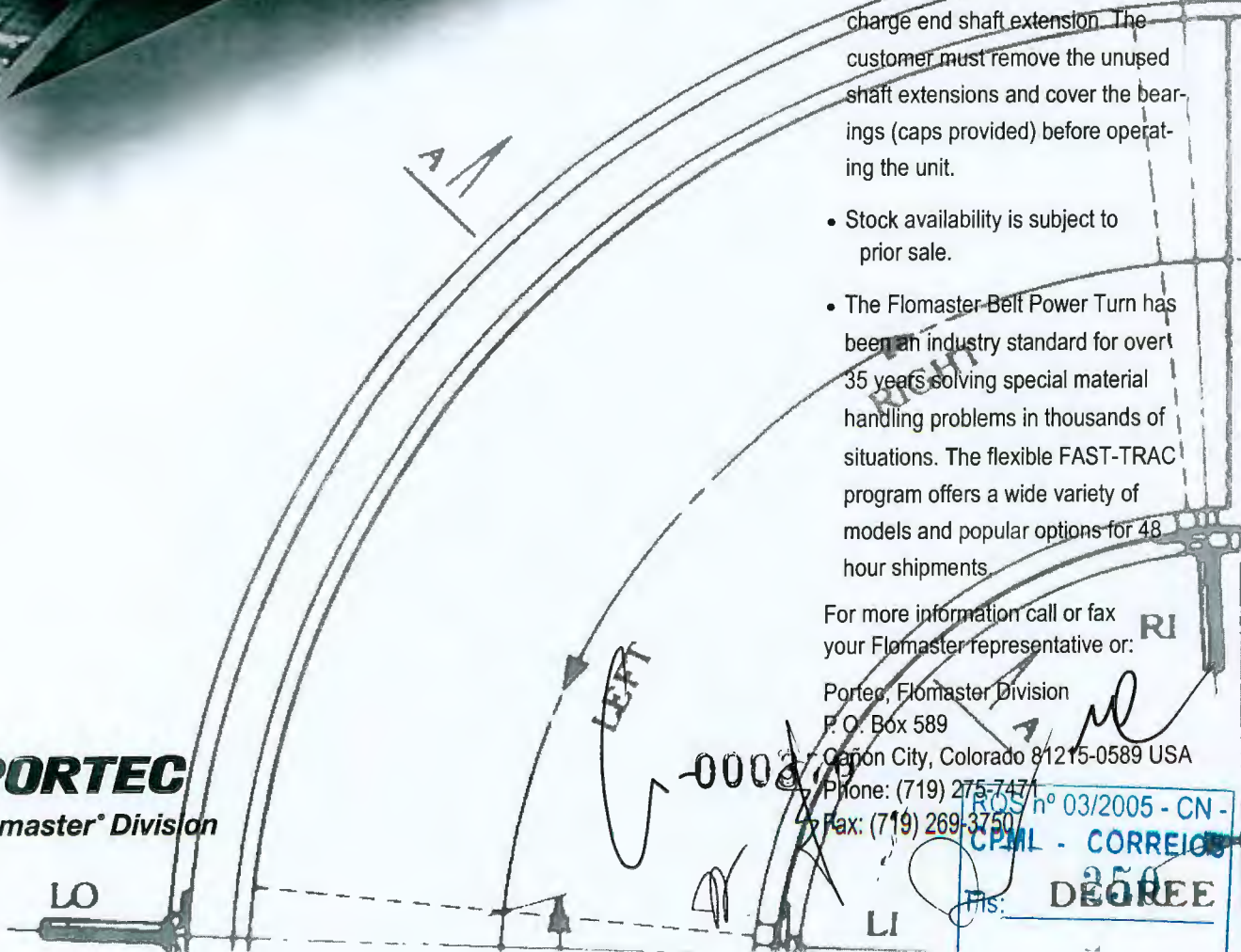
- All are 45° or 90° ARC. See MATRIX.
- All have keyed universal drive shaft extensions at all four drive locations (RO, LO, RI and LI). The Belt Power Turn should be driven from the discharge end shaft extension. The customer must remove the unused shaft extensions and cover the bearings (caps provided) before operating the unit.
- Stock availability is subject to prior sale.
- The Flomaster Belt Power Turn has been an industry standard for over 35 years solving special material handling problems in thousands of situations. The flexible FAST-TRAC program offers a wide variety of models and popular options for 48 hour shipments.

For more information call or fax your Flomaster representative or:

Portec, Flomaster Division
P.O. Box 589
Canon City, Colorado 81215-0589 USA
Phone: (719) 275-7471
Fax: (719) 269-3750

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 **PORTEC**
Flomaster® Division



L-SERIES

RELIABLE • POWER • TURNS



When You Need A Belt Power Turn...

For reliable small product conveying!

The Flomaster L-Series Belt Power Turn features a proven reliable design to facilitate the smooth transfer of small products around turns.

Uniform transfer and alignment of small products are made possible due to Flomaster's small end roll diameter and exclusive tapered end roll design. Adaptable to a wide range of applications, the L-Series Belt Power Turn is available in standard arcs of 15° to 180° and belt widths from 4 to 48 inches.

Available in complete or partial stainless steel construction to meet stringent USDA and FDA requirements. Flomaster L-Series Belt Power Turns are especially suitable for operations where sanitation is essential.

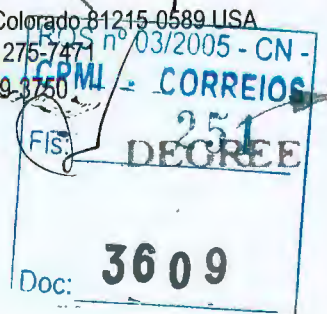
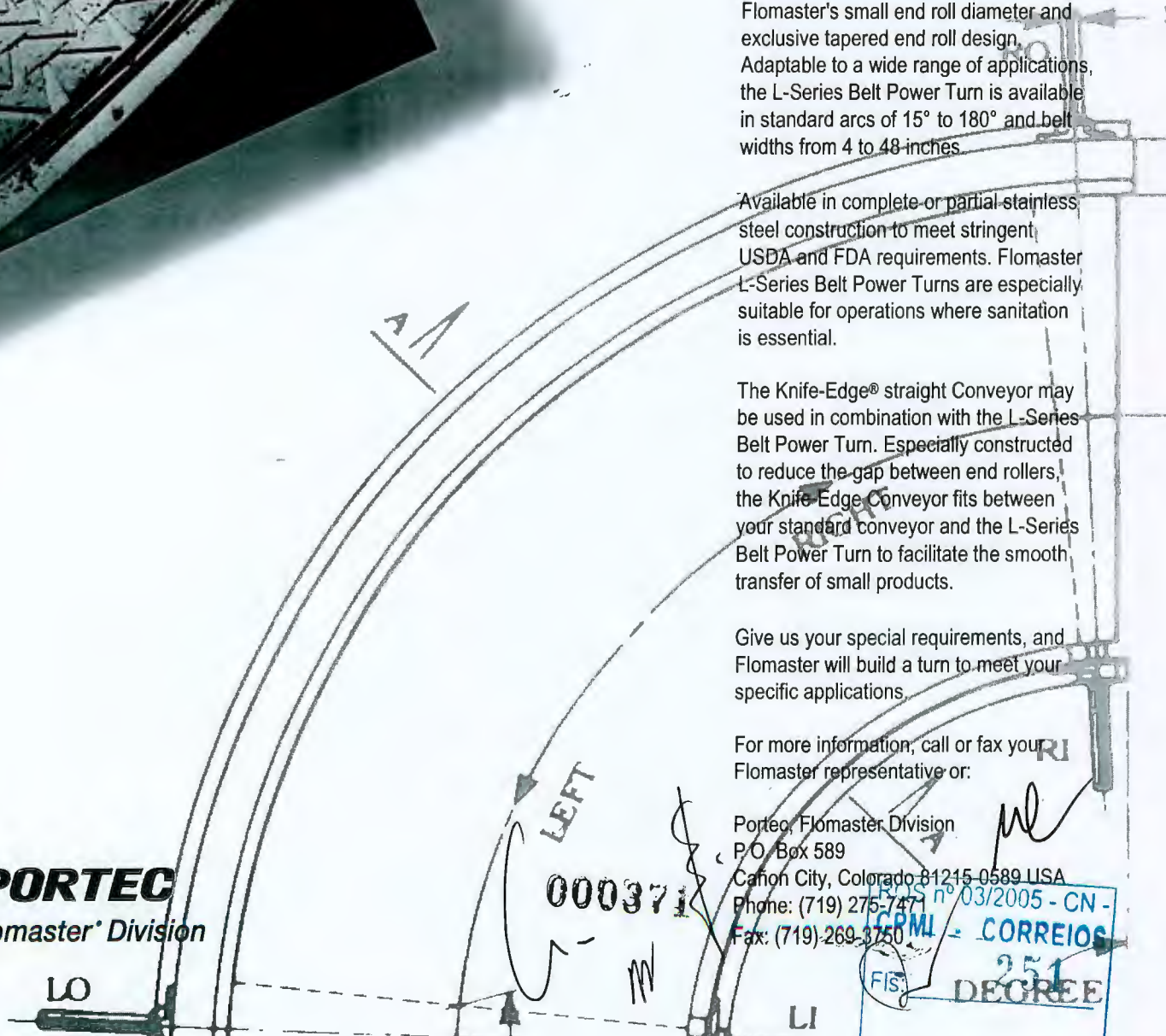
The Knife-Edge® straight Conveyor may be used in combination with the L-Series Belt Power Turn. Especially constructed to reduce the gap between end rollers, the Knife-Edge Conveyor fits between your standard conveyor and the L-Series Belt Power Turn to facilitate the smooth transfer of small products.

Give us your special requirements, and Flomaster will build a turn to meet your specific applications.

For more information, call or fax your Flomaster representative or:

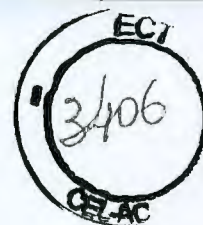
Portec, Flomaster Division
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Canon City, Colorado 81215-0589 USA
Phone: (719) 275-7471
Fax: (719) 269-3750

 **PORTEC**
Flomaster Division



KNIFE-EDGE®

POSITIVE DRIVE • SMALL PRODUCTS



**Move Small Products...
No Problem!**

The Ultimate in Small Product Handling

Flomaster's® innovative Knife-Edge power turns allow the smooth handling of small products around curves.

**All Knife-Edge Belt Power Turns
have the following features:**

- Large range of arcs
- Small fixed position end rolls, 5/8" (15.9mm) diameter
- Positive chain driven belt—no slippage from contaminants on the belt
- All steel construction
- FDA acceptable food grade belting is standard, static conductive belting is available
- Produced by the world's largest supplier of belt power turns

For more information call or fax
your Flomaster representative or:

Portec, Flomaster Division
P.O. Box 589
Cañon City, Colorado 81215-0589 USA
Phone: (719) 275-7471
Fax: (719) 269-3750

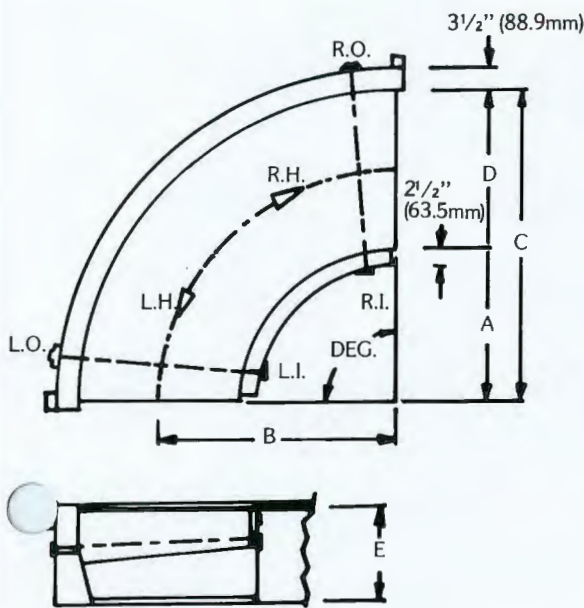
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PORTEC
Flomaster® Division

Model Numbers

Flomaster **KNIFE-EDGE**® Turn model numbers are based on the belt width and radius of the curve to the inside of the belt. Thus, Model KA-2522 has a 25"/635mm radius to the inside of the belt and a 22"/558.8mm belt width.



Construction Features

Precision Sidebow Chain

Intertec branded sidebow chain features an exclusive tapered design. This design provides uniform constant contact without backlash. Increased chain and sprocket life as well as decreased noise level are the benefits of this new precision chain.

Frame Construction

Depending on size, slider bed is deep box construction in 12 gauge steel or heavier steel. The drive rolls are formed steel, roller and sprocket-driven by single strand #50 precision sidebow roller chain with special attachments to the belt.

Drive Specifications

Motor-reduced drives or customized drive arrangements can be furnished to meet your requirements. Flomaster normally provides the motor-reducer drive with operating controls normally furnished by others.

Speed

The speed of a Flomaster **KNIFE-EDGE** Turn is specified at the center line radius of the belt. This speed should be equal to that of the in-feed conveyor. Certain conveyor loadings of closely spaced pieces dictate a speed specified at the inside radius of the belt to avoid contact on turn. This condition should be noted.

Belting

Standard FDA acceptable food-grade belting is fully vulcanized endless, and is available in widths of 10" to 48" (254-1219mm). These **KNIFE-EDGE** turns meet FDA guidelines. Static conductive belts are available for the electronics industry. Other belting options available.

Paint

Standard white, air dry enamel. Other paints available on option basis.

Model Numbers	Constant Dimensions inches/mm	A	B	D
KA-3710	C-47 / 1193.8	37/ 939.8	42/1066.8	10/ 254.0
3512	E-14 / 355.6	35/ 889.0	41/1041.4	12/ 304.8
3314	Shaft dia. 1 3/16	33/ 838.2	40/1016.0	14/ 355.6
3116	(30.2mm)	31/ 787.4	39/ 990.6	16/ 406.4
2918		29/ 736.6	38/ 965.2	18/ 457.2
2720		27/ 685.8	37/ 939.8	20/ 508.0
2522		25/ 635.0	36/ 914.4	22/ 558.8
2324		23/ 584.2	35/ 889.0	24/ 609.6
KB-4712	C-59 / 1498.6	47/1193.8	53/1346.2	12/ 304.8
4514	E-14 / 355.6	45/1143.0	52/1320.8	14/ 355.6
4316	Shaft dia. 1 3/16	43/1092.2	51/1295.4	16/ 406.4
4118	(30.2mm)	41/1041.4	50/1270.0	18/ 457.2
3920		39/ 990.6	49/1244.6	20/ 508.0
3722		37/ 939.8	48/1219.2	22/ 558.8
3524		35/ 889.0	47/1193.8	24/ 609.6
3326		33/ 838.2	46/1168.4	26/ 660.4
3128		31/ 787.4	45/1143.0	28/ 711.2
2930		29/ 736.6	44/1117.6	30/ 762.0
2732		27/ 685.8	43/1092.2	32/ 812.8
2534		25/ 635.0	42/1066.8	34/ 863.6
2336		23/ 584.2	41/1041.4	36/ 914.4
KC-7710	C-87 / 2209.8	77/1955.8	82/2082.8	10/ 254.0
7512	E-14 / 355.6	75/1905.0	81/2057.4	12/ 304.8
7314	Shaft dia. 1 3/16	73/1854.2	80/2032.0	14/ 355.6
7116	(30.2mm)	71/1803.4	79/2006.6	16/ 406.4
6918	Maximum	69/1752.6	78/1981.2	18/ 457.2
6720	arc - 120°	67/1701.8	77/1955.8	20/ 508.0
6522		65/1651.0	76/1930.4	22/ 558.8
6324		63/1600.2	75/1905.0	24/ 609.6
6126		61/1549.4	74/1879.6	26/ 660.4
5928		59/1498.6	73/1854.2	28/ 711.2
5730		57/1447.8	72/1828.8	30/ 762.0
5532		55/1397.0	71/1803.4	32/ 812.8
5334		53/1346.2	70/1778.0	34/ 863.6
5136		51/1295.4	69/1752.6	36/ 914.4
**4938	**E-16 / 406.4	49/1244.6	68/1727.2	38/ 965.2
**4740	Shaft dia. 1 7/16	47/1193.8	67/1701.8	40/1016.0
**4542	(36.5mm)	45/1143.0	66/1676.4	42/1066.8
**4344		43/1092.2	65/1651.0	44/1117.6
**4146		41/1041.4	64/1625.6	46/1168.4
**3948		39/ 990.6	63/1600.2	48/1219.2

Ordering Information

- State **Model Number** and desired **Arc** degrees (for optimum smaller product transfer, select a model having a belt width 2"/50.8mm to 4"/101.6mm wider than adjoining conveyors).
- State **Belt Travel Direction** (left hand or right hand).
- State **Drive Shaft Location**. State left outside (LO) or inside (LI) or right outside (RO) or inside (RI). The drive should be located at the discharge end of a **KNIFE-EDGE** Turn used to convey in one direction only.
- State **Belt Speed** required at belt centerline in Ft./Min. or Meters/Sec. (speeds up to 100 ft./min. or .508 meters/sec.).
- If required, specify **Sideguard Height** above the belt and **Floor Support Height** below belt surface.
- Other required information:
 - application
 - conveyed product (weight and size)
 - electrical power specifications
 - special construction required
 - special air dry enamel paint color required



SPIRAL-CURVE[®]

ELEVATION • AND • DIRECTIONAL • UNIT • HANDLING



**Getting up and around
made easy.**

The Spiral-Curve from Portec!

- Unique design accomplishes both elevation and direction differentials with a single unit
- Positive direct drive belt
- All metal construction
- Adaptable to a wide variety of configurations
- Units can be built to meet the special requirements of most any application
- Available in arcs from 15° to 209°

For more information, call or fax
your Flomaster representative or:

Portec, Flomaster Division
P.O. Box 589
Cañon City, Colorado 81215-0589 USA
Phone: (719) 275-7471
Fax: (719) 269-3750

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Nº: 254

3609

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 **PORTEC**
Flomaster[®] Division

Stealth III[®] Z TURN

INNOVATIVE • 180 DEGREE • POWER • TURN



Zero or extremely small inside radius turns with belt widths up to 72"

Bi-directional operation

Cylindrical end rolls for superior product transfers and orientation

Patented cam-action pinch roll drive system for smooth operation under varying load conditions

Low belt tension for long belt life

Spring-loaded tracking rollers for fast belt changes

Perfect for:

- Package handling
- Postal sorting systems
- Packaging lines
- Printing plants
- Newspaper handling
- Electronic assembly plants
- Anywhere you need a compact u-turn

For more information call or fax your Flomaster representative or:

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 **PORTEC**
Flomaster[®] Division

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RQS nº 03/2005	CN -
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GARCIA

Apresenta...

TRANSPORTADOR VERTICAL PARA VOLUMES EMBALADOS

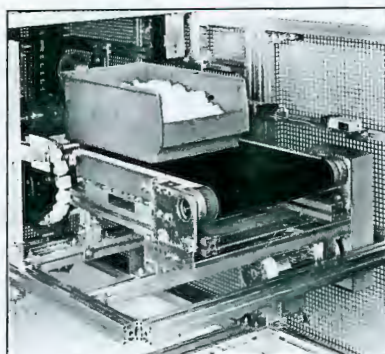
Movimento
Contínuo
Vertical e
Horizontal



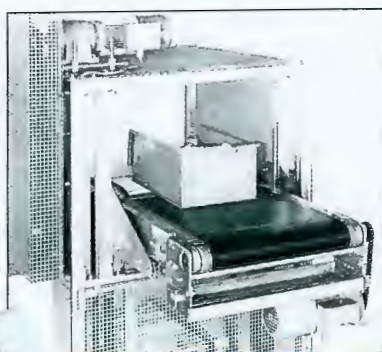
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NERAK
FÖRDERTECHNIK



Para transporte contínuo de itens de um transportador de alimentação a plataforma de içamento aguarda numa posição horizontal até o final da alimentação.



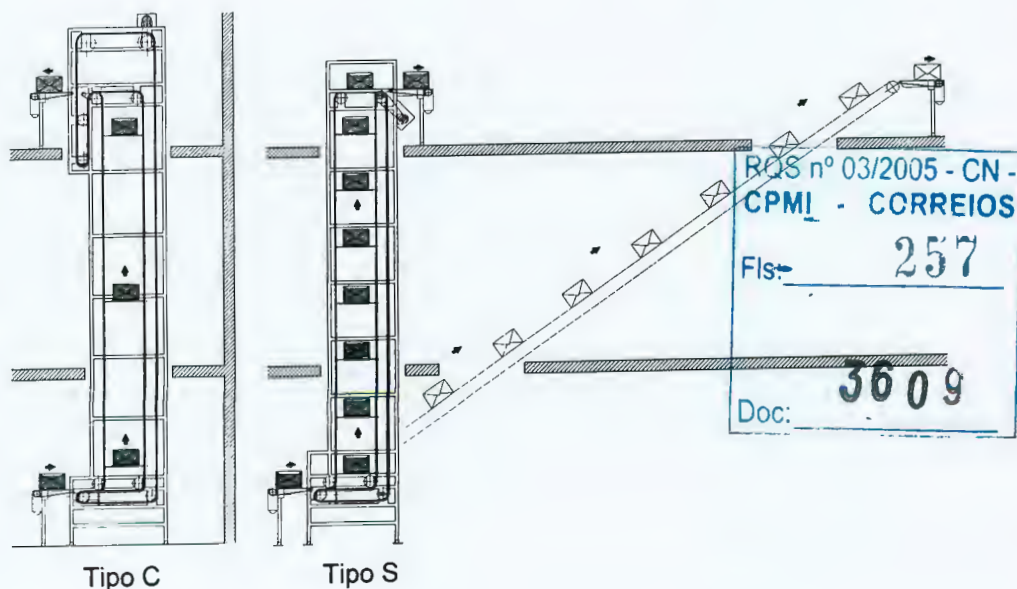
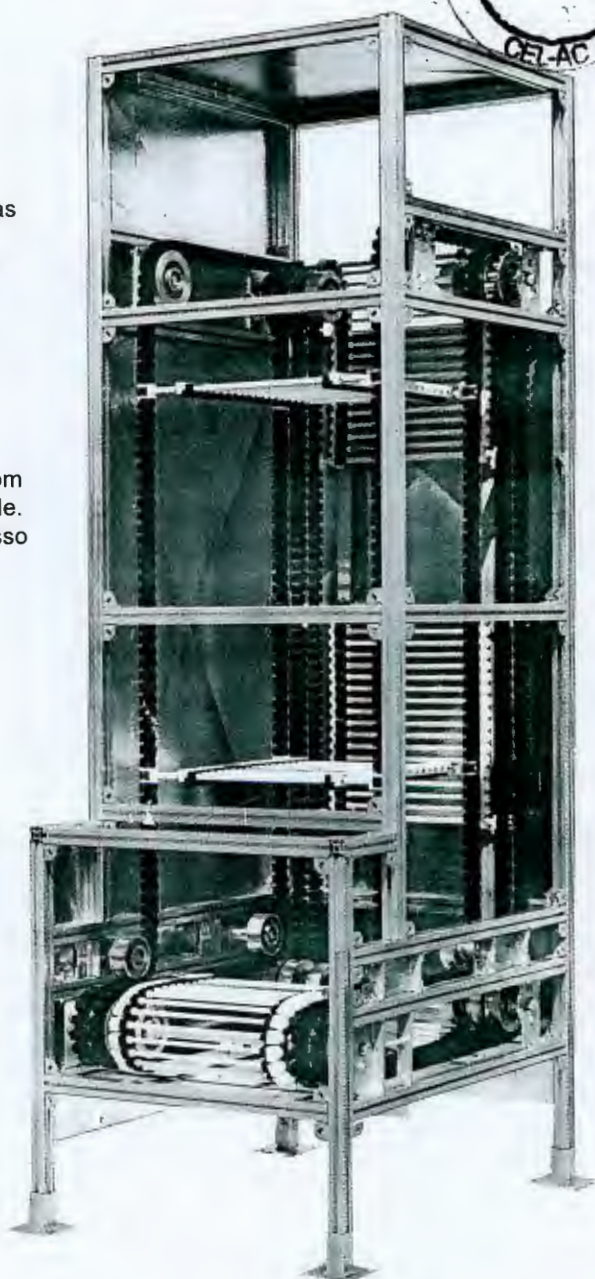
Quando os itens são transferidos do elevador vertical para transportadores de alimentação/descarga a plataforma de transporte é destacada da estrutura permitindo uma transferência suave do produto.

Os padrões dos componentes internos usados nos transportadores verticais NERAK são muito adaptáveis. Eles podem ser incluídos em projetos especiais de forma a atender requisitos particulares de instalações.

CONSTRUÇÃO

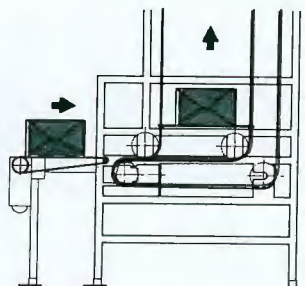
As estruturas são normalmente construídas em seção quadrada (caixa). Fabricados em aço carbono, aço inoxidável ou alumínio, dependendo das condições e requisitos operacionais.

Estas estruturas são geralmente fechadas com painéis de folha ou grade. Grandes portas de acesso são instaladas para manutenção e limpeza.

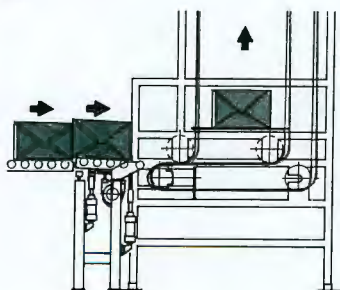




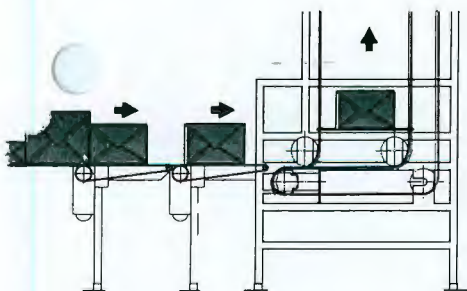
SINCRONISMO



Sincronismo de itens chegando em intervalos conhecidos.



Sincronismo de itens empilhados um atrás do outro na alimentação do transportador. Neste caso uma barreira de entrada controla o carregamento para o elevador.



Produtos de diferentes dimensões e formas que são também empilhados em linha para a entrada do elevador, são controlados por um alimentador do transportador intermediário. Este transportador opera com alta velocidade e por meio de controles variáveis, o elevador opera com a mesma velocidade quando alimentado.

CONTROLES ELÉTRICOS

As funções de operação são limitadas por um controle de pulso recebido pela caixa de controle principal.

Se requerido, o acionamento e a caixa de controle principal podem ser fornecidos conectados na caixa de ligações.

Entretanto, quando o elevador sincronizado é independente de outro equipamento, um compartimento de controle será fornecido. O controle elétrico completo com toda interligação necessária somente será fornecido em uma instalação completa.

CÁLCULO DE PERFORMANCE

Gráfico de Performance

Para calcular a distância vertical mínima entre duas plataformas "C"

Selecione a largura da plataforma B que será maior do que a largura do produto. Veja a tabela de larguras padrão de plataformas.

FH = Altura do Produto
Cmin = B + FH + 100 mm

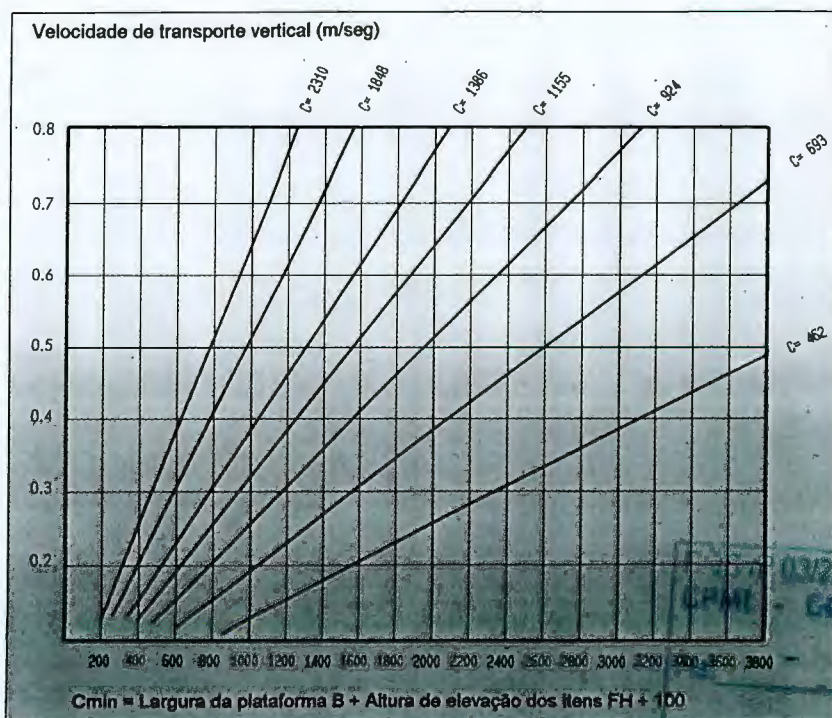
A distância deverá ser arredondada até o passo da correia dentada de borracha. Os passos são de 33 mm para carga leve e 43 mm para produtos pesados.

Divida o resultado por 33 ou 43 e vá para a próxima figura que é divisível por ambos.

v = velocidade de sincronismo do elevador vertical (metros/seg)

Portanto, o número de itens por hora = $\frac{3600 \times v}{C}$

ou plataformas por hora.



03/2005 - CN -
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258
Doc: 3609

TIPOS

	LEVE até 30 kg	MÉDIO até 100 kg	PESADO até 300 kg
Tipo	S 169/32/33	S 253/50/33	S 316/70/43
A	200 - 1000	300 - 1500	600 - 2000
	Variação de 100		
B	462, 561, 660, 759, 858 957, 1056, 1155		731, 860 989, 1118
	Variação de 33		Variação de 43
C min.	$B + FH + 100$		
D	Min. 340	Min. 500	Min. 600
E	Altura de elevação		
FL	Largura máxima do item		
FB	Profundidade máxima do item		
FH	Altura máxima do item		
I	180	260	350
J	210	250	340
K	B + 200 appr.	B + 200 appr.	B + 200 ppr.
	Dimensão exata baseada nas dimensões B e E		
L	FH + 150		
M	204	250	340
O	281	330	445

A - Profundidade da plataforma

B - Largura da plataforma

C - Distância entre plataformas

D - Altura de transferência

E - Altura de elevação

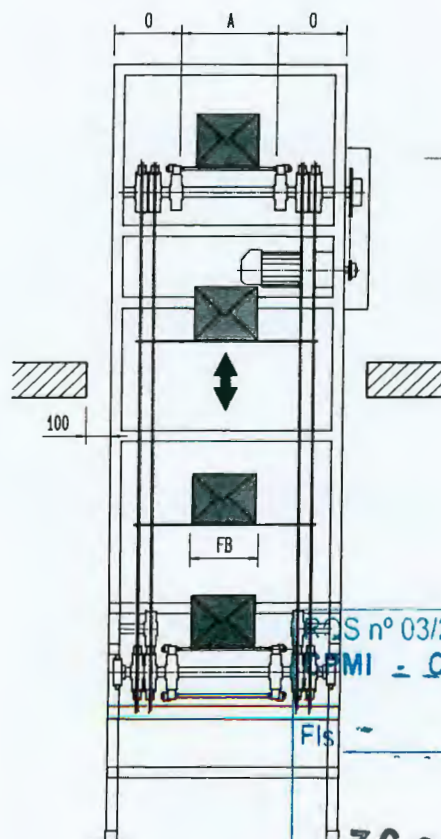
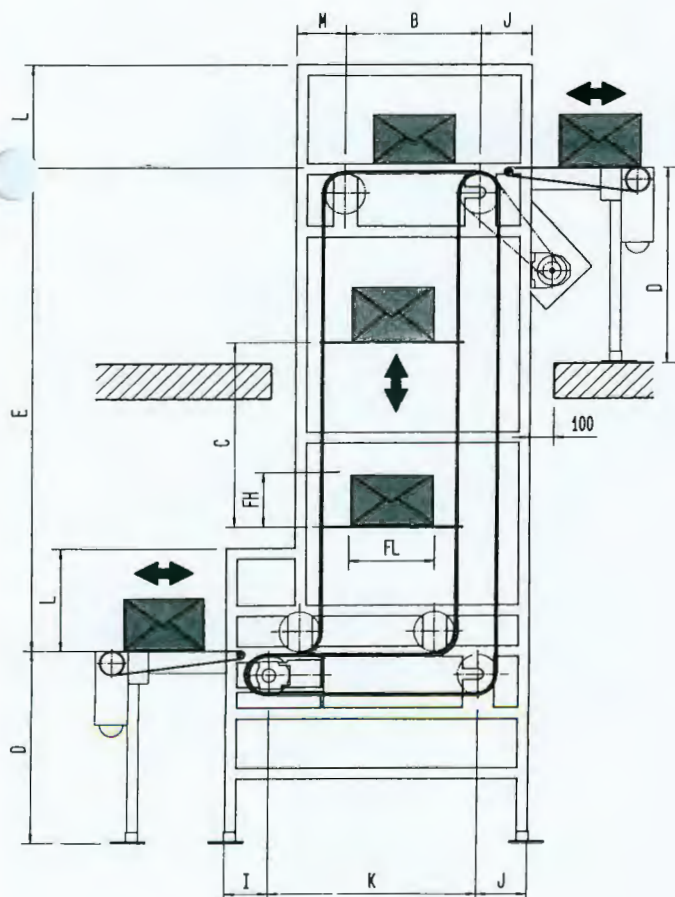
FL - Largura do item

FB - Profundidade do item

FH - Altura do item

v - Velocidade de transporte m/seg

Dimensões em mm



S nº 03/2005 - CN -
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Fls. 259
Doc. 3609



TRANSROLL®

COMPONENTES E SISTEMAS TRANSPORTADORES INDUSTRIAIS

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N E R A K

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TRANSPORTADOR CONTÍNUO PARA VOLUMES COM

Movimento Vertical e Horizontal



O projeto do transportador vertical da NERAK para movimentação vertical/horizontal pode ser adaptado a qualquer tipo de item.

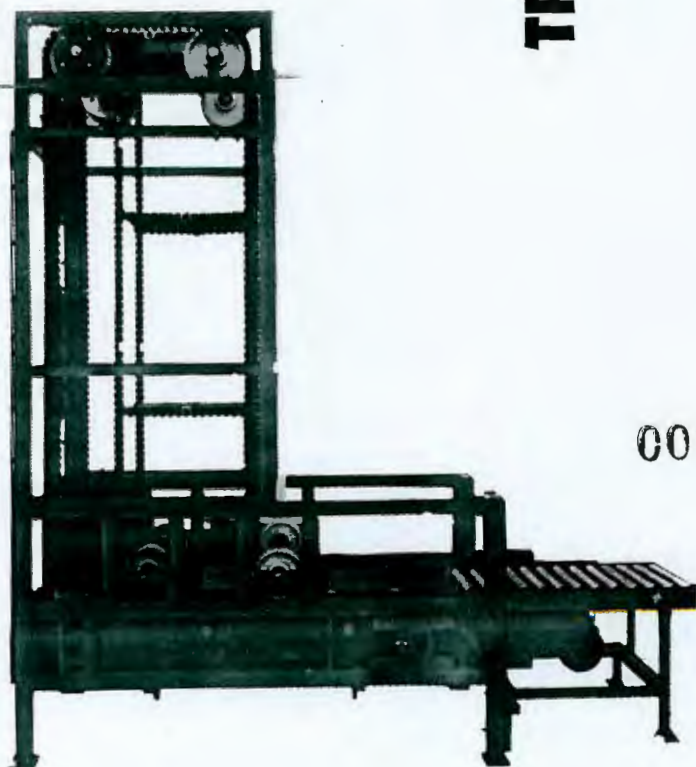
Pacotes, caixas de papelão, containers, componentes parcialmente manufaturados e produtos desembalados podem ser movimentados continuamente de forma rápida e segura.

As correntes de borracha NERAK usadas para movimentar as plataformas de carga garantem movimentos suaves e silenciosos com grande performance de qualidade.

Dependendo da forma e tamanho do produto, até 3.000 itens podem ser transportados por hora.

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RGS nº 03/2005 CN -
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QUESTIONÁRIO DE TRANSPORTADOR VERTICAL

Favor providenciar os seguintes dados a fim de possibilitar-nos a preparação de uma oferta para Transportadores Verticais.



1. Construção do Transportador

Alumínio ☐
 Aço carbono pintado ☐
 Aço carbono galvanizado ☐
 Aço inox ☐

2. Pannel de Segurança

Altura até 2.500 mm ☐
 Altura total ☐

Sem painel de segurança ☐
 Tela de aço carbono pintado ☐
 Tela de aço carbono galvanizado ☐
 Folha de aço inox ☐
 Tela de aço inox ☐

3. Dimensões e especificações

D = _____ mm E = _____ mm
 FL = _____ mm FB = _____ mm
 FH = _____ mm
 Tipo do item a ser transportado : _____
 Peso : _____ Kg

4. Capacidade

Itens / hr _____

5. Alimentação/Descarga do Transportador (Sincronizado com o elevador)

Sem facilidades adicionais ☐

São produtos empilhados na alimentação ?

Sim	Não
☐	☐

São produtos do mesmo tamanho ?

☐	☐
--------------------------	--------------------------

Necessita de correias ou roletes transportadores ?

☐	☐
--------------------------	--------------------------

Necessita de controle de entrada ?

☐	☐
--------------------------	--------------------------

Necessita de alimentação/descarga sincronizada com o elevador vertical ?

☐	☐
--------------------------	--------------------------

6. Elétricos

Sem parte elétrica ☐
 Somente fiação com caixa de ligação ☐
 Cubículo de controle completo e fiação ☐

Elétricos

Todos os controles elétricos e fiação estarão no interior do controlador principal. Se necessário os controles e motores poderão ser fornecidos com fios separados da caixa de terminal. Entretanto, onde um sistema completo i.e. alimentação/descarga do transportador e elevador vertical são fornecidas totalmente sincronizadas, as partes elétricas são fornecidas completas e somente necessitam das conexões principais.

Isto é possível somente em unidades de até 3,5 metros de altura.



FABRICANTE LICENCIADO

ENGENHARIA E SISTEMAS
 INDUSTRIAIS LTDA.

Al. Arapoema, 411 - Tamboré - Barueri - SP - CEP 06460-080.
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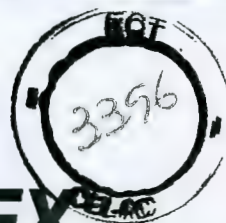
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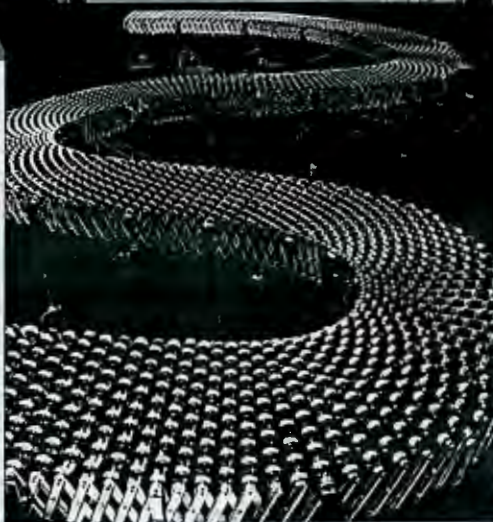
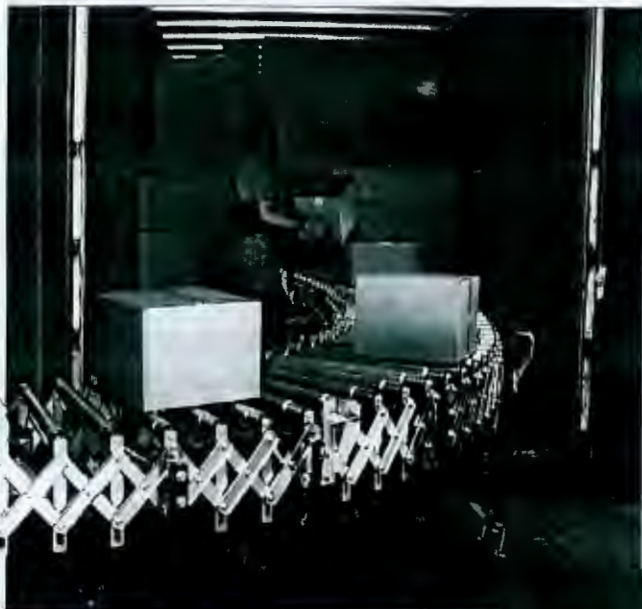
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**BEST
FLEX**



**Um novo conceito
em movimentação**



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Nós fazemos o caminho

Doc:

3609

202

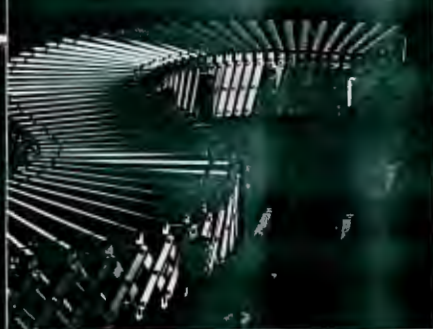


FLEXIBLE EXPANDABLE CONVEYORS



- Best Innovation
- Best Quality
- Best Service
- Best Value

**POWER/FLEX Power
Roller Conveyors**



**BEST/FLEX Gravity
Roller Conveyors**



**BEST/FLEX Gravity
Skatewheel Conveyors**



with features that set us apart from the competition.

As mentioned before, the patented structural steel support across the entire conveyor width is only available from BEST.

Heavy duty side plates, constructed of high tensile aluminum, feature a unique ribbed design for even greater strength. You can even order your conveyor with legs that remain perpendicular to the floor in both the expanded and compacted positions. This provides greater mobility, strength and stability especially during truck loading and unloading operations.

Everything from the top of the rollers to the bottom of the casters is built to last.

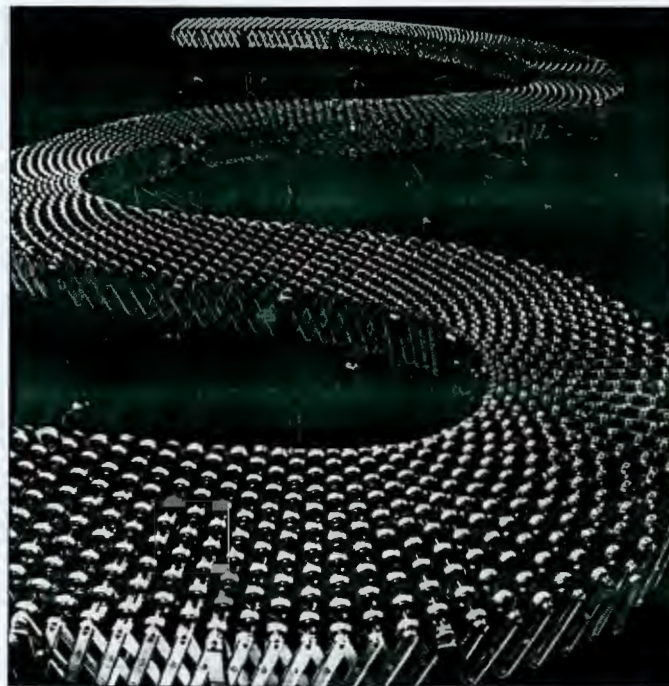
BEST SERVICE

Total Service Support is the foundation of our business. If you are already one of our valued customers you know what we mean. We don't just ship the product and hope for the best.

If you need help with your installation, we are there. You get excellent support before and after the sale from the factory and in the field. Our Sales Service Technicians have the experience and expertise to ensure a smooth

transition between your permanent conveyor and your BEST system. industry at a very competitive price. We believe this all adds up to be the BEST Value in the business, and our customers certainly agree!

BEST
EXPANDABLE CONVEYORS



BEST conveyors are portable, expandable and extremely flexible. Packages are self tracking which means they follow the conveyor path without side rails or engineered curves.



Structural Channel Steel Support across entire conveyor width assures greater strength. You can only get this design from BEST.



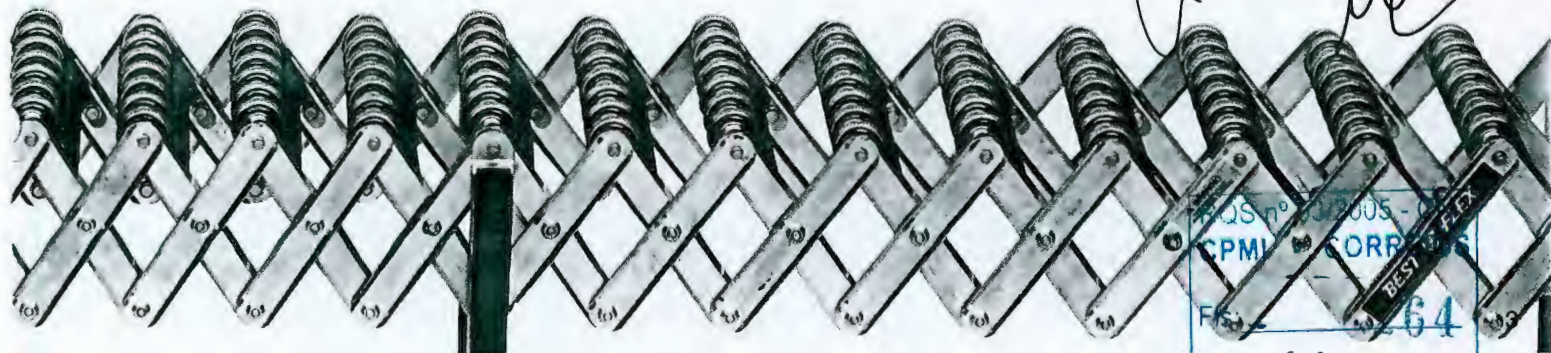
Heavy Duty Side Plates feature reinforced aluminum construction. Assembled with bolts—no rivets or clips.



Perpendicular Legs remain straight in both the expanded and compacted positions. Distributes weight directly to the floor in a vertical line for greater mobility and strength.



Expandable. With expansion ratios up to 4:1 you can store 12 feet of conveyor in a 3 foot area. This lets you save valuable floor space when the conveyor is not in use. And because it's so flexible you can position the conveyor wherever you need it.



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SHIPPING & RECEIVING AT DISTRIBUTION CENTERS

Even today's high technology automated conveyor systems in the largest distribution centers have a common problem. What do you do when your conveyor stops 12 ft short of the dock door? BEST offers the solution with expandable conveyors that continue the automation all the way into the nose of the trailer. BEST/FLEX gravity systems and POWER/FLEX power systems store out of the way under your permanent conveyors. When a truck backs up to the dock door the conveyors expand into the trailer for

faster loading and unloading with fewer workers. Every installation is unique. We work out all of the problems to make sure there is a smooth transition between your permanent conveyors and your BEST system. Switches at both ends of the POWER/FLEX conveyor control carton flow. You can even place a switch on the BEST conveyor to control a "pop-up" roller on your fixed conveyor.

RECEIVING AT THE STORE LEVEL

If you need to unload a trailer

but you do not have a loading dock, BEST offers the perfect solution. BEST/FLEX gravity conveyor systems



SuperOptics enable POWER/FLEX to function as a true accumulating conveyor. You can also use SuperOptics to perform an indexing function to electronically adjust the space between cartons for easier handling and bar code reading. SuperOptics also serves as an electronic package stop to prevent cartons from falling off the end of the conveyor. When the carton is removed from the conveyor, the rollers are activated to bring the next carton into position. See pages 10 and 11 for a more detailed explanation.



can be ordered with perpendicular legs that reach the trailer bed to move material into your store quickly and easily.

Call us today and we will tailor a system to fit your specific needs.

POWERTRAX

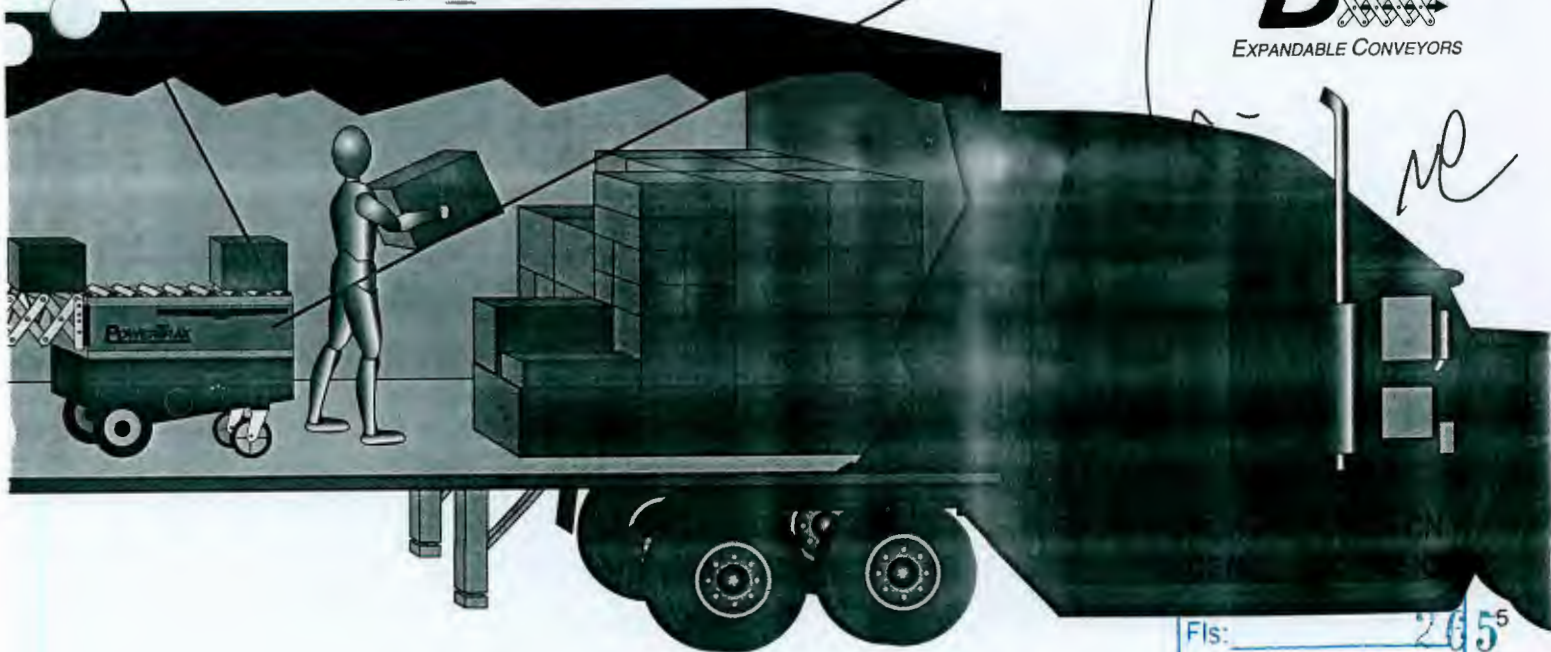
Model Number	Roller length	Chassis Width	Chassis Length
PT 24	225/8"	333/4"	421/2"
PT 30	281/2"	391/4"	421/2"



PowerTrax lets you electronically power your conveyors in and out of trailers for faster, easier, safer loading and unloading. The chassis is all-bolted 10 gauge steel. A strong positive traction running gear pulls the 12" tires for easy travel over dock levelers. Recommended for truck loading/unloading systems over 36 feet. No special wiring. Operates on 110 volts. Available with powered roller bed or gravity impact bed.

BEST

EXPANDABLE CONVEYORS



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OPTIONS



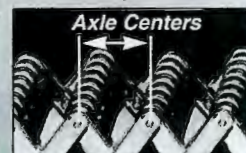
Package Stop. Stops cartons at the end of conveyor and folds down easily when not in use.



Impact Support Section. Built into conveyor—not an add on. Offers extra support to handle punishing conditions.



Leg or Axle Connect Brackets. Easily connects two or more conveyors.



Axle Centers. Optional 3" and 4" axle centers are available for small package applications.



Skaterwheels. Available in steel or polyolefin.



Side Rails. Prevents cartons from skewing off in accumulation applications.



Perpendicular Legs. Distributes weight vertically for added mobility and strength.



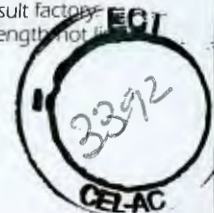
6" Swivel Casters. For easier rolling over uneven surfaces. Adds 1 1/2" to conveyor height.

Model Number	Capacity Per Lineal Ft.	Width	Standard Lengths Compacted to Expanded	Adjustable Conveyor Height*	Leg Sets Per Unit	Skate Wheels Per Axle	Approx. Shipping Weight
B/F200-18-8	200 lbs.	18"	2' to 8'	28 1/2" to 41 1/2"	3	7	122 lbs.
B/F200-18-12	200 lbs.	18"	3' to 12'	28 1/2" to 41 1/2"	4	7	171 lbs.
B/F200-18-16	200 lbs.	18"	4' to 16'	28 1/2" to 41 1/2"	5	7	226 lbs.
B/F200-18-20	200 lbs.	18"	5' to 20'	28 1/2" to 41 1/2"	6	7	282 lbs.
B/F200-18-24	200 lbs.	18"	6' to 24'	28 1/2" to 41 1/2"	7	7	338 lbs.
B/F200-24-8	200 lbs.	24"	2' to 8'	28 1/2" to 41 1/2"	3	9	138 lbs.
B/F200-24-12	200 lbs.	24"	3' to 12'	28 1/2" to 41 1/2"	4	9	197 lbs.
B/F200-24-16	200 lbs.	24"	4' to 16'	28 1/2" to 41 1/2"	5	9	256 lbs.
B/F200-24-20	200 lbs.	24"	5' to 20'	28 1/2" to 41 1/2"	6	9	320 lbs.
B/F200-24-24	200 lbs.	24"	6' to 24'	28 1/2" to 41 1/2"	7	9	384 lbs.
B/F200-30-8	200 lbs.	30"	2' to 8'	28 1/2" to 41 1/2"	3	10	152 lbs.
B/F200-30-12	200 lbs.	30"	3' to 12'	28 1/2" to 41 1/2"	4	10	225 lbs.
B/F200-30-16	200 lbs.	30"	4' to 16'	28 1/2" to 41 1/2"	5	10	270 lbs.
B/F200-30-20	200 lbs.	30"	5' to 20'	28 1/2" to 41 1/2"	6	10	338 lbs.
B/F200-30-24	200 lbs.	30"	6' to 24'	28 1/2" to 41 1/2"	7	10	406 lbs.

*Adjustable Height: 6 inch caster option adds 1 1/2" to conveyor height to make adjustable range from 30" to 43".

Axle Centers: The distance between axle centers when the conveyor is expanded is 5". Optional 3" and 4" axle centers are available for small package applications. Optional axle centers affect compacted conveyor length. Consult factory.

Extended Lengths: BEST/FLEX 200 conveyors are available in any length. If your application requires a length not listed in the above chart, consult factory.



Model Number	Capacity Per Lineal Ft.	Width	Standard Lengths Compacted to Expanded	Adjustable Conveyor Height	Leg Sets Per Unit	Skate Wheels Per Axle	Approx. Shipping Weight
B/F300-18-8	300 lbs.	18"	2' 8" to 8'	28 1/2" to 41 1/2"	3	7	132 lbs.
B/F300-18-12	300 lbs.	18"	4' to 12'	28 1/2" to 41 1/2"	4	7	184 lbs.
B/F300-18-16	300 lbs.	18"	5' 4" to 16'	28 1/2" to 41 1/2"	5	7	245 lbs.
B/F300-18-20	300 lbs.	18"	6' 8" to 20'	28 1/2" to 41 1/2"	6	7	307 lbs.
B/F300-18-24	300 lbs.	18"	8' to 24'	28 1/2" to 41 1/2"	7	7	357 lbs.
B/F300-24-8	300 lbs.	24"	2' 8" to 8'	28 1/2" to 41 1/2"	3	9	177 lbs.
B/F300-24-12	300 lbs.	24"	4' to 12'	28 1/2" to 41 1/2"	4	9	251 lbs.
B/F300-24-16	300 lbs.	24"	5' 4" to 16'	28 1/2" to 41 1/2"	5	9	332 lbs.
B/F300-24-20	300 lbs.	24"	6' 8" to 20'	28 1/2" to 41 1/2"	6	9	415 lbs.
B/F300-24-24	300 lbs.	24"	8' to 24'	28 1/2" to 41 1/2"	7	9	498 lbs.
B/F300-30-8	300 lbs.	30"	2' 8" to 8'	28 1/2" to 41 1/2"	3	10	196 lbs.
B/F300-30-12	300 lbs.	30"	4' to 12'	28 1/2" to 41 1/2"	4	10	276 lbs.
B/F300-30-16	300 lbs.	30"	5' 4" to 16'	28 1/2" to 41 1/2"	5	10	364 lbs.
B/F300-30-20	300 lbs.	30"	6' 8" to 20'	28 1/2" to 41 1/2"	6	10	455 lbs.
B/F300-30-24	300 lbs.	30"	8' to 24'	28 1/2" to 41 1/2"	7	10	546 lbs.

*Adjustable Height: 6 inch caster option adds 1 1/2" to conveyor height to make adjustable range from 30" to 43".

Axle Centers: The distance between axle centers when the conveyor is expanded is 5". Optional 3" and 4" axle centers are available for small package applications. Optional axle centers affect compacted conveyor length. Consult factory.

Extended Lengths: BEST/FLEX 300 conveyors are available in any length. If your application requires a length not listed in the above chart, consult factory.

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OPTIONS

Model Number	Capacity Per Lineal Ft.	Width	Standard Lengths Compacted to Expanded	Adjustable Conveyor Height*	Leg Sets Per Unit	Roller Axle Centers (Extended)	Approx. Shipping Weight
B/FR-18-8	150 lbs.	18"	2' 8" to 8'	30" to 42 1/2"	3	5"	155 lbs.
B/FR-18-12	150 lbs.	18"	4' to 12'	30" to 42 1/2"	4	5"	225 lbs.
B/FR-18-16	150 lbs.	18"	5' 4" to 16'	30" to 42 1/2"	5	5"	290 lbs.
B/FR-18-20	150 lbs.	18"	6' 8" to 20'	30" to 42 1/2"	6	5"	360 lbs.
B/FR-18-24	150 lbs.	18"	8' to 24'	30" to 42 1/2"	7	5"	425 lbs.
B/FR-24-8	150 lbs.	24"	2' 8" to 8'	30" to 42 1/2"	3	5"	170 lbs.
B/FR-24-12	150 lbs.	24"	4' to 12'	30" to 42 1/2"	4	5"	240 lbs.
B/FR-24-16	150 lbs.	24"	5' 4" to 16'	30" to 42 1/2"	5	5"	305 lbs.
B/FR-24-20	150 lbs.	24"	6' 8" to 20'	30" to 42 1/2"	6	5"	375 lbs.
B/FR-24-24	150 lbs.	24"	8' to 24'	30" to 42 1/2"	7	5"	440 lbs.
B/FR-30-8	150 lbs.	30"	2' 8" to 8'	30" to 42 1/2"	3	5"	185 lbs.
B/FR-30-12	150 lbs.	30"	4' to 12'	30" to 42 1/2"	4	5"	255 lbs.
B/FR-30-16	150 lbs.	30"	5' 4" to 16'	30" to 42 1/2"	5	5"	320 lbs.
B/FR-30-20	150 lbs.	30"	6' 8" to 20'	30" to 42 1/2"	6	5"	390 lbs.
B/FR-30-24	150 lbs.	30"	8' to 24'	30" to 42 1/2"	7	5"	455 lbs.

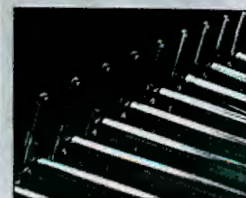
*Adjustable Height: 6 inch caster option adds 1 1/2" to conveyor height to make adjustable range from 31 1/2" to 44".

8 inch caster option adds 3 1/2" to conveyor height to make adjustable range from 33 1/2" to 46".

Axle Centers: The distance between axle centers when the conveyor is expanded is 5". Optional 3" and 4" axle centers are available for small package applications. Optional axle centers affect compacted conveyor length, consult factory.

Extended Lengths: BEST/FLEX ROLLER conveyors are available in any length. If your application requires a length not listed in the above chart, consult factory.

Impact Sections: Recommended for receiving applications, consult factory.



Side Rails. Prevents cartons from skewing off conveyor on gravity roller models only.



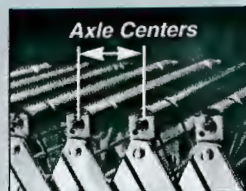
Package Stop. Stops cartons at the end of conveyor and folds down easily when not in use. Not recommended for use with accumulation models.



Leg Connect Brackets. Easily connects two or more conveyors.



SuperOptics. Enables POWER/FLEX to function as a true accumulating conveyor or an indexing conveyor. Also serves as an electronic package stop. See pages 10 & 11.



Axle Centers. Optional 3" and 4" axle centers are available for small package applications. However, they effect compacted conveyor length. Consult factory.

Model Number	Capacity Per Lineal Ft.*	Width	Standard Lengths Compacted to Expanded	Adjustable Conveyor Height**	Leg Sets Per Unit	Roller Axle Centers (Extended)	Approx. Shipping Weight
P/F(1.5)-18-12	100 lbs.	18"	4' to 12'	31 1/2" to 44 1/2"	5	5"	320 lbs.
P/F(1.5)-18-24	100 lbs.	18"	8' to 24'	31 1/2" to 44 1/2"	8	5"	635 lbs.
P/F(1.5)-18-36	100 lbs.	18"	12' to 36'	31 1/2" to 44 1/2"	11	5"	950 lbs.
P/F(1.5)-18-48	100 lbs.	18"	16' to 48'	31 1/2" to 44 1/2"	14	5"	1,265 lbs.
P/F(1.5)-24-12	100 lbs.	24"	4' to 12'	31 1/2" to 44 1/2"	5	5"	375 lbs.
P/F(1.5)-24-24	100 lbs.	24"	8' to 24'	31 1/2" to 44 1/2"	8	5"	745 lbs.
P/F(1.5)-24-36	100 lbs.	24"	12' to 36'	31 1/2" to 44 1/2"	11	5"	1,120 lbs.
P/F(1.5)-24-48	100 lbs.	24"	16' to 48'	31 1/2" to 44 1/2"	14	5"	1,490 lbs.
P/F(1.5)-30-12	100 lbs.	30"	4' to 12'	31 1/2" to 44 1/2"	5	5"	430 lbs.
P/F(1.5)-30-24	100 lbs.	30"	8' to 24'	31 1/2" to 44 1/2"	8	5"	860 lbs.
P/F(1.5)-30-36	100 lbs.	30"	12' to 36'	31 1/2" to 44 1/2"	11	5"	1,285 lbs.
P/F(1.5)-30-48	100 lbs.	30"	16' to 48'	31 1/2" to 44 1/2"	14	5"	1,715 lbs.

Drive Motor Specifications. Line speed is infinitely adjustable from 0 to 120 feet per minute ■ Multiple drive motors ■ Approximately 3 amps per 12 feet of conveyor ■ DC drive motors with 110 volts AC converter, 220 optional ■ Motor rated for continuous duty cycle ■ Stop/Start cycle: 300 times per hour ■ On/Off switches at both ends of conveyor for easy access ■ Reversible optional

*Capacity is 100lbs per lineal foot based on level conveyor. Capacity on 3° incline is 50 lbs per lineal foot.

**Adjustable Height: 8 inch caster option adds 2" to conveyor height to make adjustable range from 33 1/2" to 46 1/2".

Axle Centers: The distance between axle centers when the conveyor is expanded is 5". Optional 3" and 4" axle centers are available for small package applications. Optional axle centers affect compacted conveyor length, consult factory.

Extended Lengths: POWER/FLEX ROLLER conveyors are available in any length. If your application requires a length not listed in the above chart, consult factory.

BEST

RQS n° 03/2001 CN-
CPMI - CORREIOS
Fls: _____
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Doc: _____

Model Number	Capacity Per Lineal Ft.*	Width	Standard Lengths Compacted to Expanded	Adjustable Conveyor Height**	Leg Sets Per Unit	Roller Axle Centers (Extended)	Approx. Shipping Weight
P/F(1.9)-18-12	100 lbs.	18"	4.8' to 12'	28 1/2" to 37 1/4"	5	5"	370 lbs.
P/F(1.9)-18-24	100 lbs.	18"	9.7' to 24'	28 1/2" to 37 1/4"	8	5"	740 lbs.
P/F(1.9)-18-36	100 lbs.	18"	14.5' to 36'	28 1/2" to 37 1/4"	11	5"	1,110 lbs.
P/F(1.9)-18-48	100 lbs.	18"	19.3' to 48'	28 1/2" to 37 1/4"	14	5"	1,475 lbs.
P/F(1.9)-24-12	100 lbs.	24"	4.8' to 12'	28 1/2" to 37 1/4"	5	5"	410 lbs.
P/F(1.9)-24-24	100 lbs.	24"	9.7' to 24'	28 1/2" to 37 1/4"	8	5"	820 lbs.
P/F(1.9)-24-36	100 lbs.	24"	14.5' to 36'	28 1/2" to 37 1/4"	11	5"	1,230 lbs.
P/F(1.9)-24-48	100 lbs.	24"	19.3' to 48'	28 1/2" to 37 1/4"	14	5"	1,640 lbs.
P/F(1.9)-30-12	100 lbs.	30"	4.8' to 12'	28 1/2" to 37 1/4"	5	5"	450 lbs.
P/F(1.9)-30-24	100 lbs.	30"	9.7' to 24'	28 1/2" to 37 1/4"	8	5"	900 lbs.
P/F(1.9)-30-36	100 lbs.	30"	14.5' to 36'	28 1/2" to 37 1/4"	11	5"	1,350 lbs.
P/F(1.9)-30-48	100 lbs.	30"	19.3' to 48'	28 1/2" to 37 1/4"	14	5"	1,800 lbs.

Drive Motor Specifications. Line speed is infinitely adjustable from 0 to 120 feet per minute ■ Multiple drive motors ■ Approximately 3 amps per 12 feet of conveyor ■ DC drive motors with 180 volts AC converter, 220 optional ■ Motor rated for continuous duty cycle ■ Stop/Start cycle: 300 times per hour ■ On/Off switches at both ends of conveyor for easy access ■ Reversible optional

***Capacity** is 100lbs per lineal foot based on level conveyor. Capacity on 3° incline is 50 lbs per lineal foot.

Axle Centers: The distance between axle centers when the conveyor is expanded is 5". Optional 3" and 4" axle centers are available for small package applications. Optional axle centers affect compacted conveyor length, consult factory.

Standard Lengths: POWER/FLEX ROLLER conveyors are available in any length. If your application requires a length not listed in the above chart, consult factory.



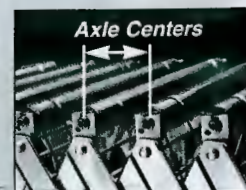
SuperOptics. Enables POWER/FLEX to function as a true accumulating conveyor or an indexing conveyor. Also serves as an electronic package stop (See below for more information).



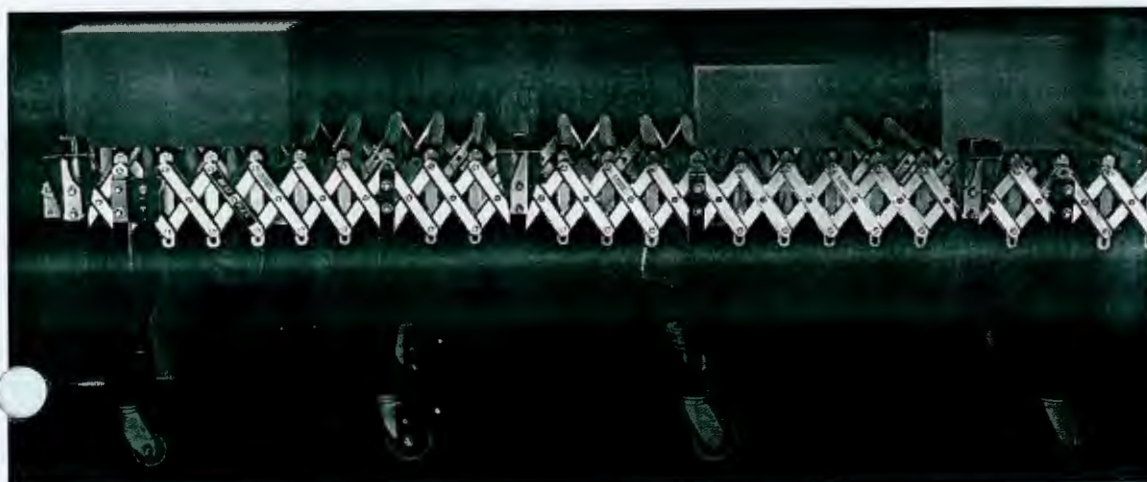
Package Stop. Stops cartons at the end of conveyor and folds down easily when not in use. Not recommended for use with accumulation models.



Leg Connect Brackets. Easily connects two or more conveyors.



Axle Centers. Optional 3" and 4" axle centers are available for small package applications. However, they effect compacted conveyor length. Consult factory.



Zero-Pressure Accumulation Option. SuperOptics can also be used to provide true zero-pressure accumulation. With this feature, when you place a carton on the conveyor it moves directly to the discharge end without stopping until it reaches the electronic package stop. As you place more cartons on the in-feed end they move all the way to the

discharge end and stop. Unlike indexing, with zero-pressure accumulation the infeed portion of the conveyor can move while the discharge end is stationary. With zero-pressure accumulation, your cartons never push against one another to prevent log jams, protect cargo and provide easier handling.

BEST

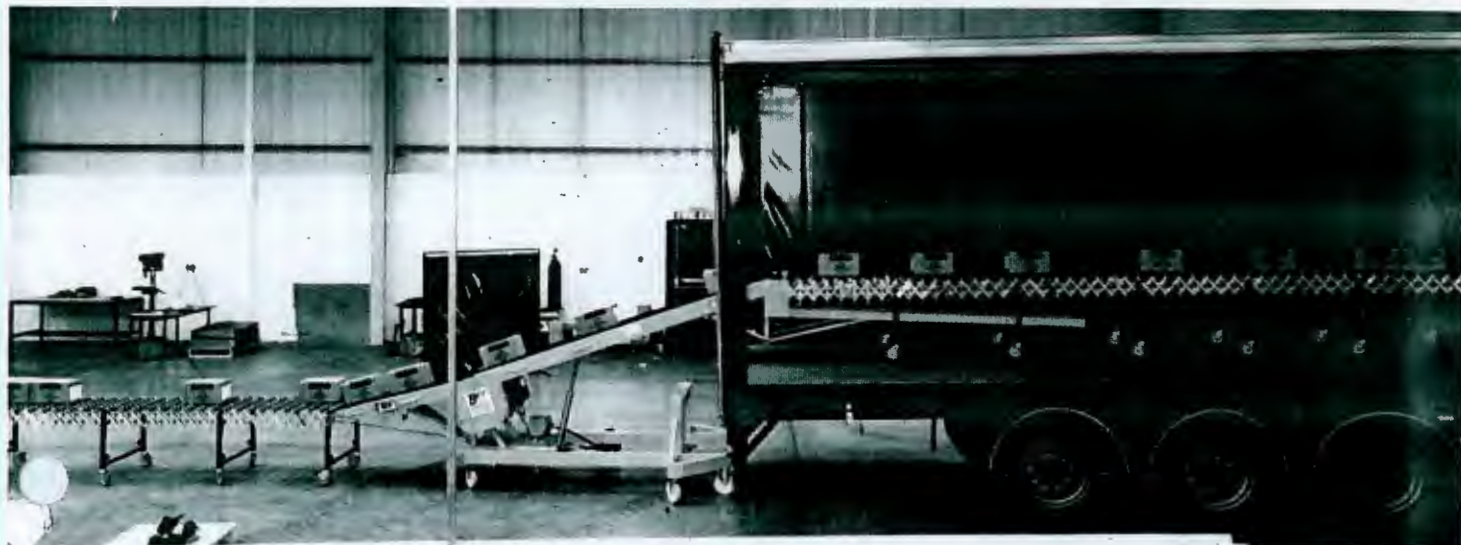
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RQS nº 03/2005 - CN-
CPM CORREIOS
Fls: 208
Doc: 3609



VEÍCULO BROCK-DOCA

CARREGAMENTO & DESCARREGAMENTO



CONCEITO EFICAZ EM MOVIMENTAÇÃO DE MATERIAIS



- custo x benefício comprovado e aprovado...
- agilidade máxima no carregamento e descarregamento...
- mais tempo para os caminhões nas estradas...
- maior flexibilidade nas separações da carga...
- dispensa paletes, manobras com empilhadeiras e paleteiras...
- menor esforço físico do carregador...

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RQS nº 03/2005 - CN -
CPMI CORREIOS
Fis: 269
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Nós fazemos o caminho

**REBOCADOR ELÉTRICO
OPERADOR SENTADO
3000KG – 5000KG**

4KAM



FUNCIONABILIDADE

O rebocador elétrico RT/OS é produto da mais moderna tecnologia no setor, desenvolvido para atender as necessidades de movimentação horizontal em espaços reduzidos com economia e alta produtividade.

O engate é feito através de garra hidráulica acionado por meio de botão de comando duplo e válvula solenoide próprio para trabalho com cargas pesadas e compridas.

ESTRUTURA COMPACTA

Construído sobre chassis de chapas pesadas, soldadas entre si de forma a permitir um baixo centro de gravidade e uma estrutura compacta e de grande rigidez.

**ACELERAÇÃO SUAVE
EM ALTÓ TORQUE**

Dotado do mais avançado sistema de controle eletrônico (SCR com tiristores) que permite uma aceleração suave, sem trancos e com alto torque em velocidades baixas nas operações de engate e nas manobras. O sistema SCR diminui o desgaste de contatos e aumenta consideravelmente a duração da bateria.

SEGURANÇA

Para maior segurança, o rebocador é equipado com chave de emergência, que ao ser acionada desacopla o conector que liga a bateria à máquina, desenergizando totalmente a fonte de energia.

ECONOMIA

O RT/OS percorre longas distâncias com reboques isolados ou comboio de reboques, aumentando a produtividade. Atua e manobra em espaços reduzidos, aumentando a área disponível para armazenagem. Seu sistema elétrico dispensa o custo com gás, gasolina ou diesel. A fácil manutenção e reposição das peças otimiza o uso do equipamento, evitando longas paradas.

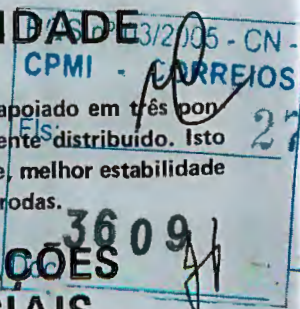
ESTABILIDADE

O rebocador está apoiado em três pontos e seu peso é igualmente distribuído. Isto significa tração constante, melhor estabilidade e vida mais longa para as rodas.

**APLICAÇÕES
ESPECIAIS**

Rebocadores à prova de explosão (EX)*, vapores e pó, (BL) e trabalho em câmaras frigoríficas (FRIGO).

(*) Aprovado pelo Instituto Eletrotécnico.



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POM

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POA

Transpaletes Elétricos SKAM

Os modelos POM, POA e PSP de transpaletes são para operador andando ou montado, carga na frente ou atrás. Muito ágeis e manobram com extrema facilidade em corredores estreitos.

O timão - de *design* revolucionário - reúne todos os comandos, permitindo manobras, mudanças de marcha e variações suaves de aceleração, possíveis com os sistemas digitais "inteligentes" Curtis. Estes e outros recursos só existentes nas melhores máquinas que estão chegando ao mercado.

Os três modelos de transpaletes elétricos da família de máquinas "inteligentes" SKAM para 97, com seu excelente *design*, proporcionam a mais adequada ergonomia.

E, o mais importante: são construídos para as condições brasileiras de operação, o que significa um chassi extra-reforçado em comparação ao de máquinas concorrentes - muito vendidas em mercados onde as condições de trabalho são mais favoráveis.

TRANSPALETES
**POM
POA
PSP**
2000 Kg
ELÉTRICOS

Painel de comando

Freio

Unidade hidráulica

Botão de reversão emergencial

ROS nº 03/2005 - CN - CPMI - CORREIOS
Fls. 271
Botões de comando

3609

Horímetro e indicador de descarga de bateria

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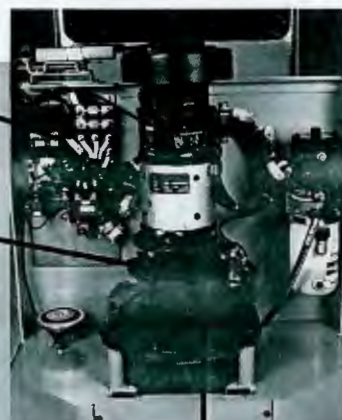
Unidade de tração

Chave de contato

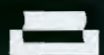
Desconector de bateria saca-tomada

Roleta simples (máquina POA)

Roletes Tandem (nas máquinas POM e PSP)



Sea



IMPRESSORAS



RQS nº 03/2005 - CN -	
CPMI - CORREIOS	
Fls:	272
Doc:	3609

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Impressora Z4000 e Z6000

Esses modelos de impressoras Zebra, série Z, combinam um design moderno e prático a uma configuração totalmente modular. E, com a qualidade, durabilidade e desempenho que já são constantes nos produtos Zebra, oferecendo preços atraentes.

Seal



LEITORES



RQS nº 03/2005 - CN -
CPMI - CORREIOS

Fis: 273

3609

Doc: 000385

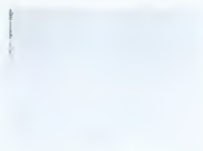
Leitores LS3000/LS3603

Desde que foi lançada, a linha LS 3000 tornou-se a melhor solução para leitores de códigos de barras em ambientes industriais e varejo pesado.

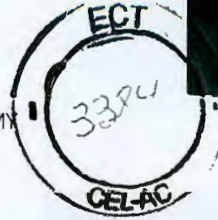
Agora a Seal lança a linha LS 3603, uma nova linha de leitores com performance melhorada e totalmente compatível com a LS 3000.



12Y RO/ARO 4Y RO/ARO



12Y MY/AMY 4Y MY/AMY



12Y YO/AYO 4Y YO/AYO

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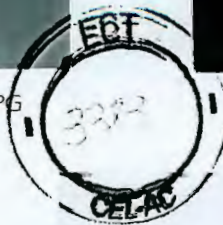
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12Y OY/AOY 4Y OY/AOY

12Y PG/APG 4Y PG/APG

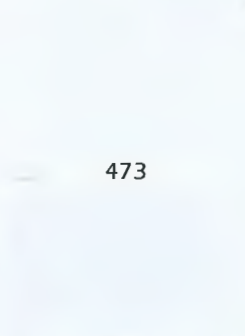
12Y PB/APB 4Y PB/APB



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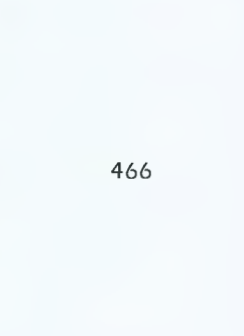
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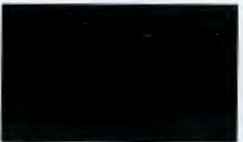
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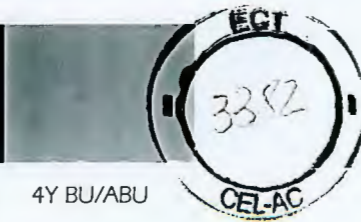
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12Y LB/ALB 4Y LB/ALB



12Y BU/ABU 4Y BU/ABU



TW/ATW

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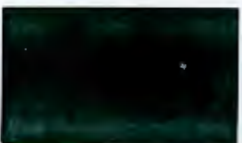
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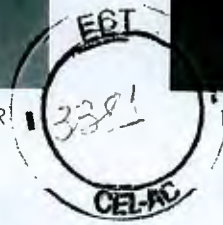
12Y QV/AQV 4Y QV/AQV



12Y QR/AQR 4Y QR/AQR



12Y UO/AUO 4Y UO/AUO



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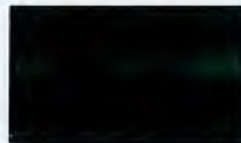
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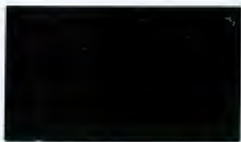
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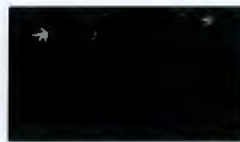
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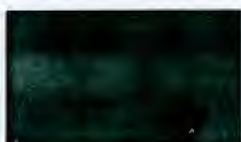
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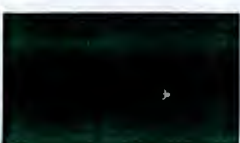
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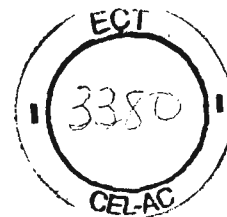
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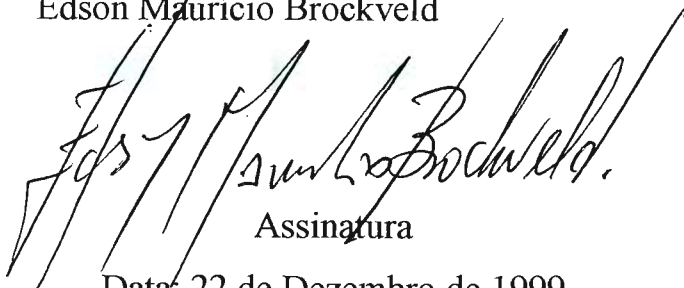


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CONCORRÊNCIA INTERNACIONAL Nº 016/99 - CEL/AC

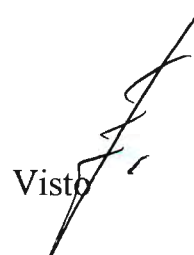
BROCKVELD Equipamentos Industriais Ltda

Edson Maurício Brockveld



Assinatura

Data: 22 de Dezembro de 1999

Visto 



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