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AUCTIONS AND VALUATIONS

Roll Forming Line

Information Packet

Blackbird Asset Services, LLC
5586 Main Street Suite 204
Williamsville, NY 14221
716-632-1000
www.blackbirdauctions.com

FOR SALE: Roll Forming Line

Complete end-to-end integrated roll forming system including:

- CompuRoll 10,000 lb Uncoiler
- CompuRoll 20 Ton 36" servo punch/sheeter
- CompuRoll Duplex 2.5" x 36" 20 stand Roll Former
- Yoder 2.5" x 34" 19 stand Roll Former
- MFR 30 ton flying shear/punch with integrated control system by Intricco

This entire system is built to Canadian safety standards and is under power for immediate inspection in Buffalo, New York.

For more information contact us at: 716.632.1000
www.blackbirdauctions.com/for-sale

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Blackbird Asset Services, LLC is a boutique asset management and marketing company headquartered in Buffalo, NY specializing in secured creditor brokerage service, auctions, commercial real estate auctions and bankruptcy auctions. We tailor specialized marketing plans and auction sales of industrial equipment and machinery, and also conduct real estate auctions nationwide.

LARGE SELECTION OF TOOLING INCLUDED

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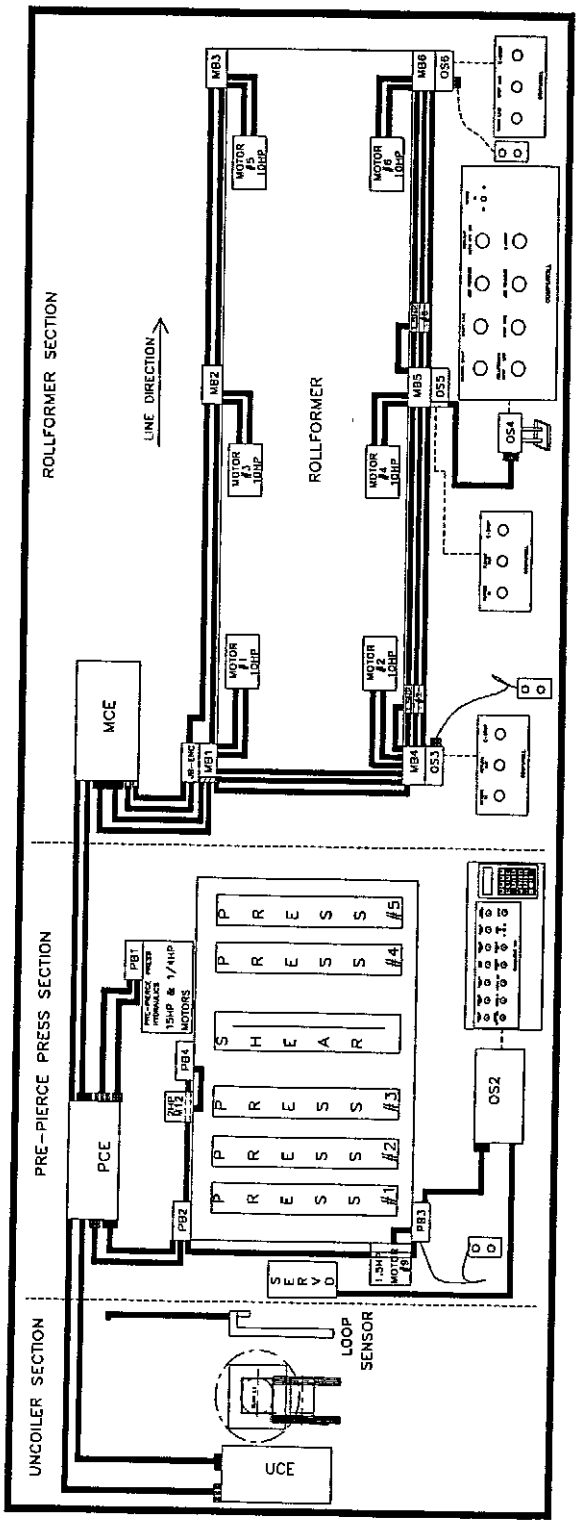
Info

Line Layout


ROLLFORMER SECTION
LINE DIRECTION
ROLLFORMER
PRE-PIERCE PRESS SECTION
UNCOILER SECTION
MCE
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MB1
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PB1
PB2
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PB4
15HP & 1/4HP MOTORS
PRESS #1
PRESS #2
PRESS #3
SHEAR
PRESS #4
PRESS #5
SERVO
1.5HP MOTOR #8
LOOP SENSOR

2 Installation

2.1 Electrical specification

Input Voltage	575VAC/3/60Hz
Input Current	200 Amp.
Control Voltage	120VAC 24VDC

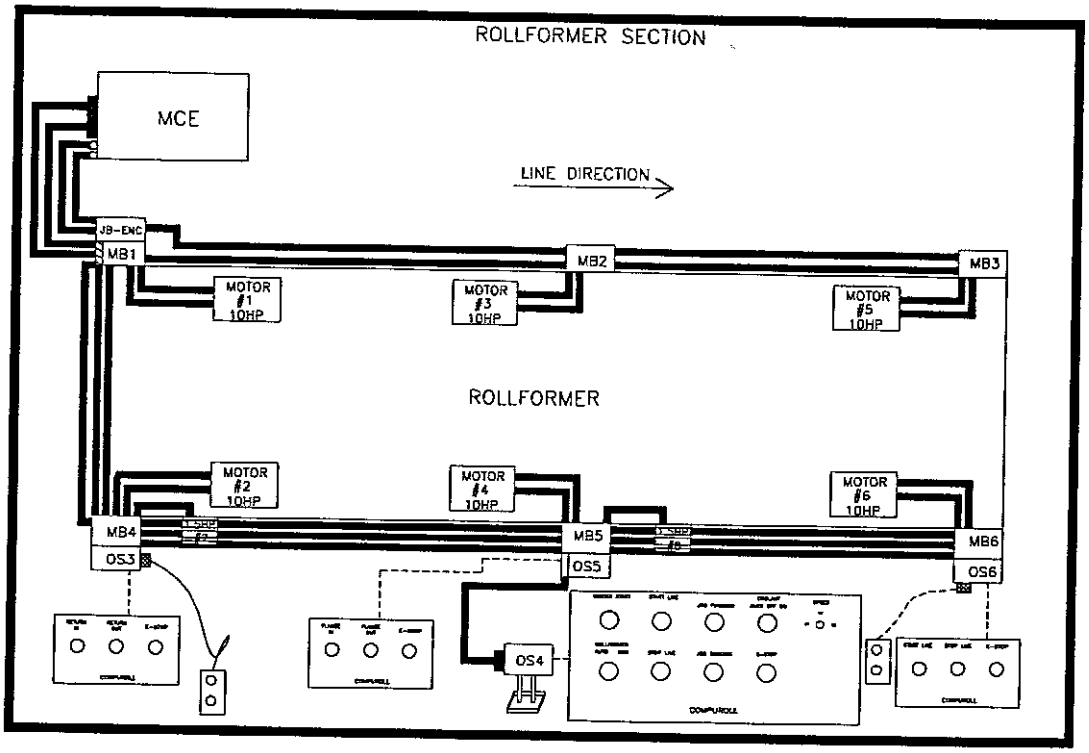
2.2 Electrical wiring

Installation of the equipment must be done in accordance with the National Electrical Code or other electrical codes that may apply. Proper grounding conductor sizing and short circuit protection must be installed for safe operation.
The rollforming line will operate from typical industrial 3-Phase AC.
The control equipment is distributed in the Main Control Enclosure (MCE), the Press Control Enclosure (PCE), the Uncoiler Control Enclosure (UCE) and Operator Stations (OS2, OS3, OS5, OS5, OS6). All this electrical equipment has to be wired, in accordance with the line layout and electrical wiring diagram, which are shipped with the Rollformer. Insure that all control and power terminal connections are tight and properly insulated.
Some electrical equipment is equipped with reliable industrial Multiple Pole Connectors that make the installation of the line easier. All the connectors and electrical conduit are tagged to indicate the proper connecting location.
Before powering up the line, insure that correct voltage, as per purchase order, is available on the incoming line side of the input disconnect.

3 Rollformer Section

The entire system is divided into three separate sections. The Rollformer Section, Press Section and Uncoiler Section.

Rollformer Layout



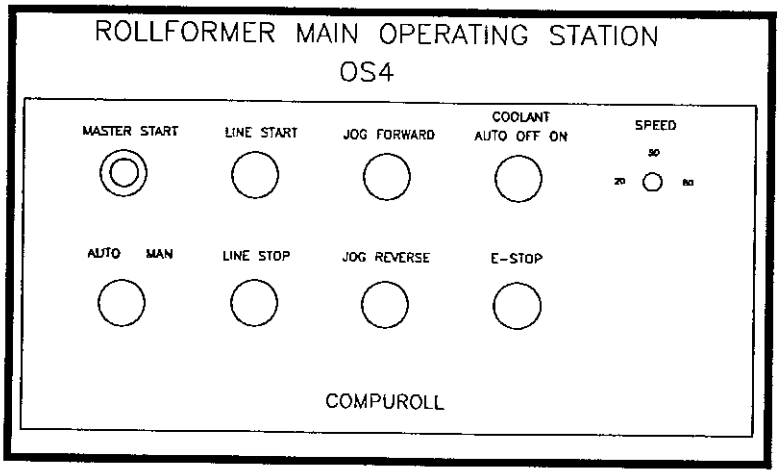
3.1 Starting the Machine

To start and run the machine, follow this sequence:
After the main disconnect switch is turned **ON** and the line is powered up, press the Master Start push-button. The Master Control Relay will pick-up and self-hold. The contact of this relay will then supply **120 VAC** to the control circuit. Pressing any of the **E-STOP** buttons can always shut down the machine. The Operator can then run the line in Manual Mode or Auto Mode.

3.2 Operator Station (OS4)

The main operator station consists of 6 push buttons, 2 selector switches and 1 speed dial. The functions of the push buttons and the selector switch are as follows:

MASTER START - When the button is pressed, the master control relay will pick up if the current status of all the safety components (E-STOPS) are closed. Power is supplied to the control circuit and enables all the line functions.



E-STOP - When an emergency stop command is given the Master Control Relay will drop out and stop the line.

ROLLFORMER AUTO - When the 2-position selector switch is in this position, the mill will be set in auto mode as long as all conditions are met.

ROLLFORMER MANUAL - When the 2-position selector switch is in this position, the mill will be set in manual mode stopping the line.

SPEED DIAL – This dial allows the operator to adjust the speed of the line when running in Auto mode. The range is from 0 to 100 % of the motor speed.

START LINE - When this momentary push-button is pressed and all three sections are in AUTO, the entire line will start running.

STOP LINE - When this momentary push-button is pressed it will disable the run mode and stop the entire line.

COOLANT MAN - When the 3-position selector switch is set to this position, the coolant pump will be ON at all times circulating the coolant liquid.

COOLANT AUTO - In this position the coolant pump will start only when the line is active in RUN.

COOLANT OFF - In this position the coolant pump will remain off.

JOG FORWARD - This momentary push-button when pressed, jogs the rollformer forward.

JOG REVERSE - This momentary push-button when pressed, jogs the rollformer in reverse.

3.3 Manual Mode

Select the Manual Mode using the selector switch. Press the **JOG FORWARD** or **JOG REVERSE** momentary push-button on the pendent or console and keep them pressed to start the line in jog mode. The jog speed is a percentage of the Run speed and this is set internally by the ABB drive. The pendant provides an additional access to the operation of the mill, having two mechanically interlock push buttons for **JOG FOR** and **JOG REV**. These buttons when depressed will jog the mill forward or reverse. The mill must be in Manual mode to be able to jog.

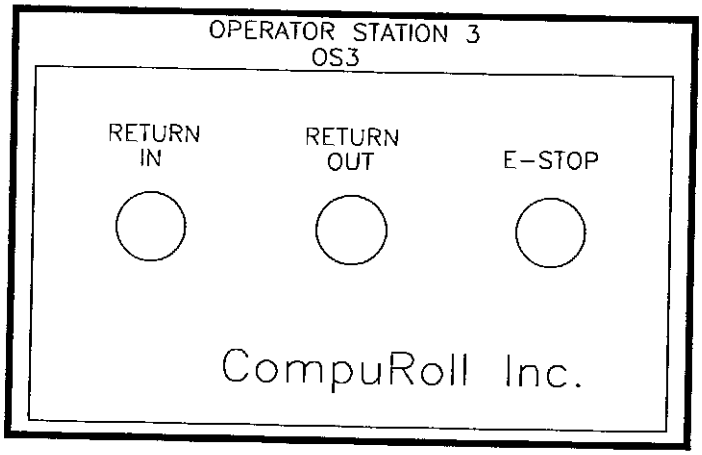
3.4 Auto Mode

Select the Mill Auto Mode using the two-position selector switch. Set the running speed by turning the speed potentiometer to an adequate position (0-100%). To start the line press ***LINE START***. To stop the line press ***STOP LINE***. Use ***E-STOP*** only in case of an **emergency.**

Note: the line will not start unless the other sections of the machine are set in Auto as well.

3.5 Operator Station (OS3)

The operator station on the entry side of the rollformer (OS3) consists of 3 push buttons. The functions of the push buttons are as follows:



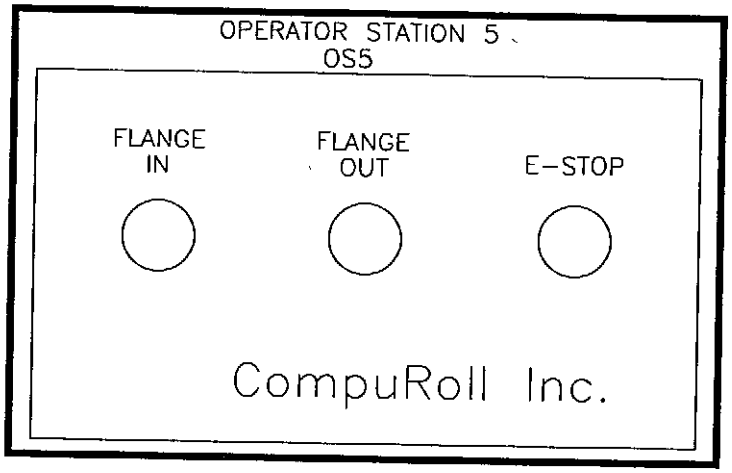
RETURN IN - When this momentary push-button is pressed it will move the rollformer return section inwards.

RETURN OUT - When this momentary push-button is pressed it will move the rollformer return section outwards.

E-STOP - When an emergency stop command is given the Master Control Relay will drop out and stop the line.

3.6 Operator Station (OS5)

The operator station in the middle of the rollformer (OS5), consists of 3 push buttons. The functions of the push buttons are as follows:



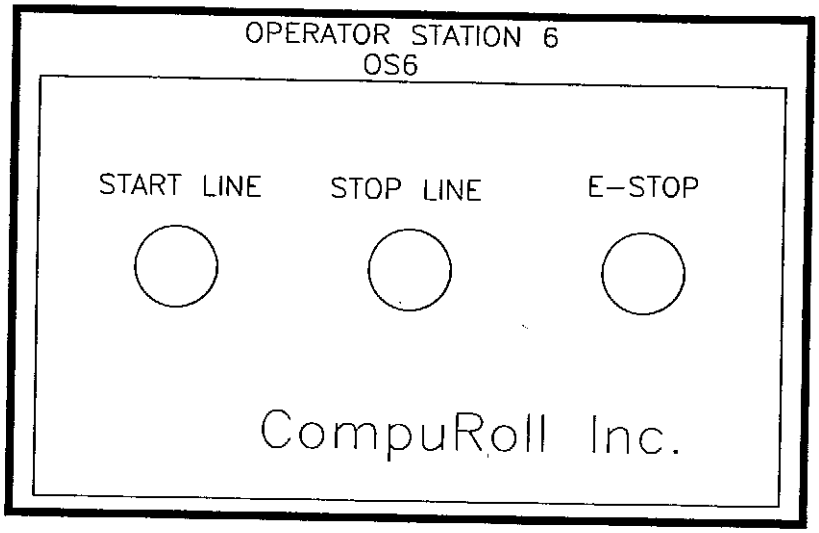
FLANGE IN - When this momentary push-button is pressed it will move the rollformer flange section inwards.

FLANGE OUT - When this momentary push-button is pressed it will move the rollformer flange section outwards.

E-STOP - When an emergency stop command is given the Master Control Relay will drop out and stop the line.

3.7 Operator Station (OS6)

The operator station at the end of the rollformer (OS6), consists of 3 push buttons. The functions of the push buttons are as follows:



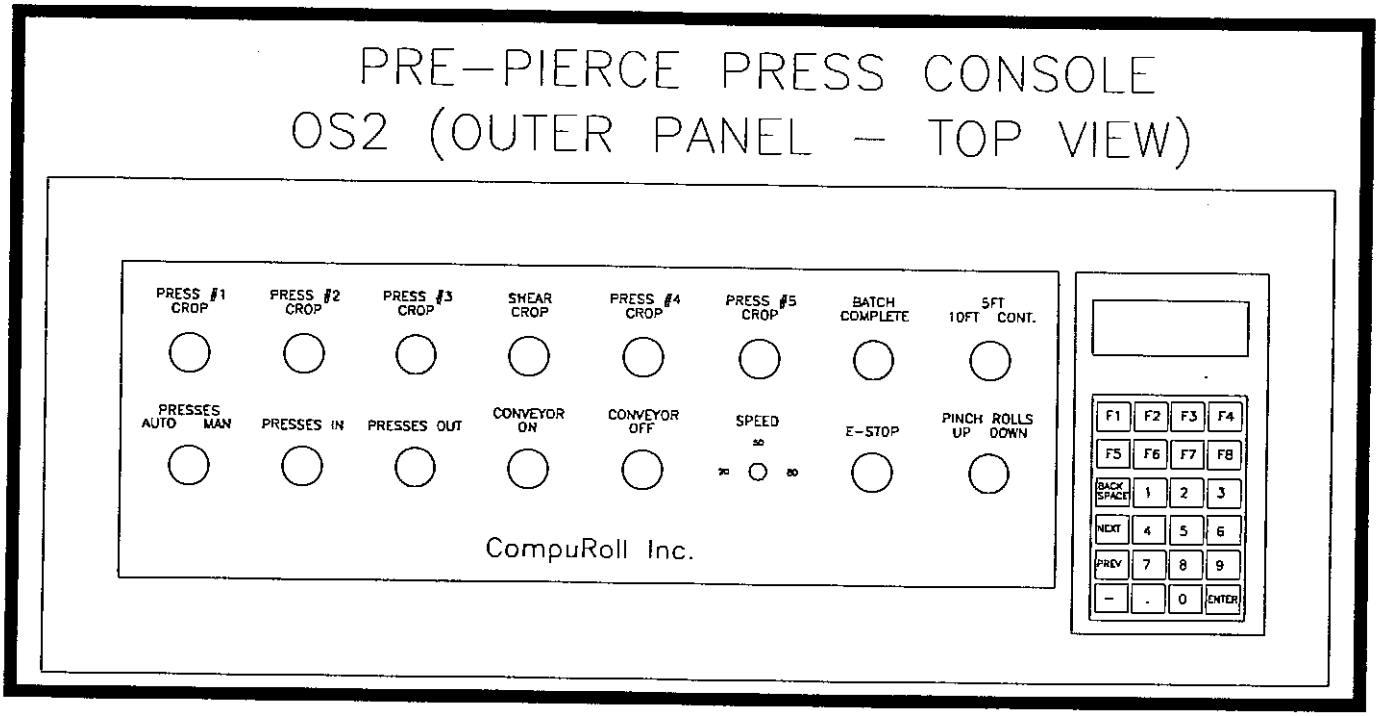
START LINE - When this momentary push-button is pressed and all three sections are in AUTO, the entire line will start running.

STOP LINE - When this momentary push-button is pressed it will disable the run mode and stop the entire line.

E-STOP - When an emergency stop command is given the Master Control Relay will drop out and stop the line.

4.1 Operator Station (OS2)

The press operator station consists of servo programming interface, 11 push buttons, 3 selector switches, 1 pilot light and 1 speed dial. The functions of the push buttons and the selector switches are as follows:



PRESSES AUTO / MAN - When the 2-position selector switch is in the Auto position, the press section will be set in auto mode as long as all conditions are met.

PRESS CROP - When any of the crop momentary push buttons are pressed, the corresponding press or shear will perform a single cycle.

4 Press Section

PRESSES IN - When this momentary push-button is pressed it will move the pre-piercing presses inwards.

PRESSES OUT - When this momentary push-button is pressed it will move the pre-piercing presses outwards.

BATCH COMPLETE – This pilot light will come on when the servo feeder reaches the programmed batch size.

CONVEYOR ON – When this momentary push button is pressed the press conveyor will turn on and run at the speed set by the speed dial.

CONVEYOR Off – When this momentary push button is pressed the press conveyor stop running.

SPEED DIAL – This dial allows the operator to adjust the speed of the press conveyor. The range is from 0 to 100% of the motor speed.

PINCH ROLLS UP/DN – This 2-position selector switch allows the operator to raise and lower the feed rolls.

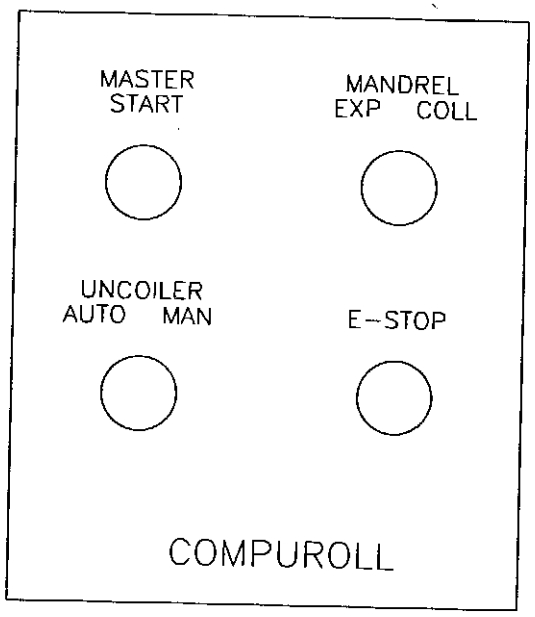
10FT / 5FT / CONT. – This 3-position selector switch allows the operator to select what type of mode the machine should run. Precut mode is the 10FT (10 foot) and 5FT (5 foot) positions of the selector switch, meaning 10 foot precut or 5 foot precut material. To run with the servo feeder the cont. (continuous) should be selected.

Note: when running precut material the operator must program into the servo interface a random length then select the presses preferred to use. After the operator must go back to the length and enter a zero for length.

5.1 Operator Interface

The operator interface consists of one push button, one three position selector switch and one two position selector switch.

The function of the push-button are as follows :



MASTER START – This pilot light will illuminate when the master start push button on the main operating station is pressed and the MCR relay latches in.

E-STOP - When an emergency stop push button is depressed the master control relay will drop out and stop the machine.

MANDREL EXPAND & COLLAPSE -
This is a three position spring return type switche. To *EXPAND* or *COLLAPSE* you must hold the switch in the desired position. When the switch is let go it will return to the 12 o'clock position which essentially means the stop position. The mandrel will stay where it is until *EXPAND* or *COLLAPSE* is selected again.

5 Uncoiler

While the uncoiler is in RUN MODE, the mandrel will automatically expand and will keep pressure on the material with the help of a pressure switch.

UNCOILER AUTO/MAN –this three position selector switch when in Auto will start to run the Uncoiler with the Sonic sensor controlling the speed as well as when to start running the uncoiler. In the center position the uncoiler is bypassed so that the sensor does not start and stop the uncoiler or the line. In Manual the operator is able to jog the material forward & reverse.

6 Maintenance

6.1 Preventive Maintenance

Preventive maintenance consists of inspecting, adjusting, and cleaning the control equipment at regular intervals. Regular inspection at intervals (dependent upon service conditions) is the best insurance against costly maintenance and breakdown. Experience is the best guide. Record inspection results and maintenance action performed.
The controls should be kept free of dust, dirt, oil, caustic atmosphere and excessive moisture.
The equipment should be kept away from high vibration areas that could loosen connections or cause chafing of wires. All interconnections should be retighten at the time of initial start-up and at least every six months.
The motor should be inspected at regular intervals and the following checks must be made:

A. See that both the inside and outside of the motor are not excessively dirty. This can cause added motor heating, and therefore, can shorten motor life.

B. The motor bearing should be greased per manufacturer's instructions as to type of grease and maintenance frequency.

For the electrical and electronic equipment used in this application follow the manufacturer recommendation for proper maintenance.

6.2 Troubleshooting Guide

The equipment used to build the roll former control is a very reliable product.
Faults observed when the machine first goes into service or during subsequent operation should be identified and cleared without delay, since this will almost invariably prevent development of serious damage later on.
Always disconnect the machine from the power supply before you investigate a fault or work on a machine.
Troubleshooting is just a logical series of steps, which leads to the likely cause of a problem.
Follow the equipment troubleshooting guide and the electrical schematics to solve any problems that may appear.
Always replace electrical equipment only with the same current, voltage, and class rating as supplied with the original product.

Section II-

Dimensions and Specs

Don Dellmore

From: David Fiegel <david.fiegel@blackbirdauctions.com>
Sent: Tuesday, July 14, 2015 4:06 PM
To: Don Dellmore
Cc: Michael Leahy
Subject: Roll Former Project

Hi Don,

We have gone through the book on the roll former and find it's mostly control data. While this is good information, it lacks mechanical information that we'll need to accurately describe the roll formers. So.... Can you please fill in these blanks if possible??:

Question:	Yoder	Compuroll
Roll Spacing:	34"	36"
Horizontal Centers:	19@18"	6@8" 6@12½" 8@14½"
Vertical Centers:	5½-8½"	6@5½-6" 6@7"-7½" 8@ 8"-9¼"
Main Drive HP:	+ 60 HP	6-10HP
Gear ratio:	10-1	15-1
Max Thickness:	.125"	.125"
Line Speeds:	0-100FPM	0-100FPM
Overall Dimensions:	8'x35'	8'x22'
Appx Weight:	40,000lbs	20,000lbs
Model Number:	—	—
Serial Number:	—	—

If you happen to find other books on these I would like to have them to copy pertinent pages for our data.

Regarding the Yoder, it's a 21 stand frame with 19 stands. 4 of the 19 are missing the non-drive idler stand (I believe that's the proper term for that part, please correct me if I am wrong). You indicated you thought you had those four parts. Can you please confirm you have them? Also, do you have the parts (stands, drive, etc) to install components in the other 2 "blank" spaces?

Thanks for the help.

David Fiegel
President

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Blackbird Asset Services, LLC
5586 Main Street
Suite 204
Williamsville, NY 14221

Section III- Prints

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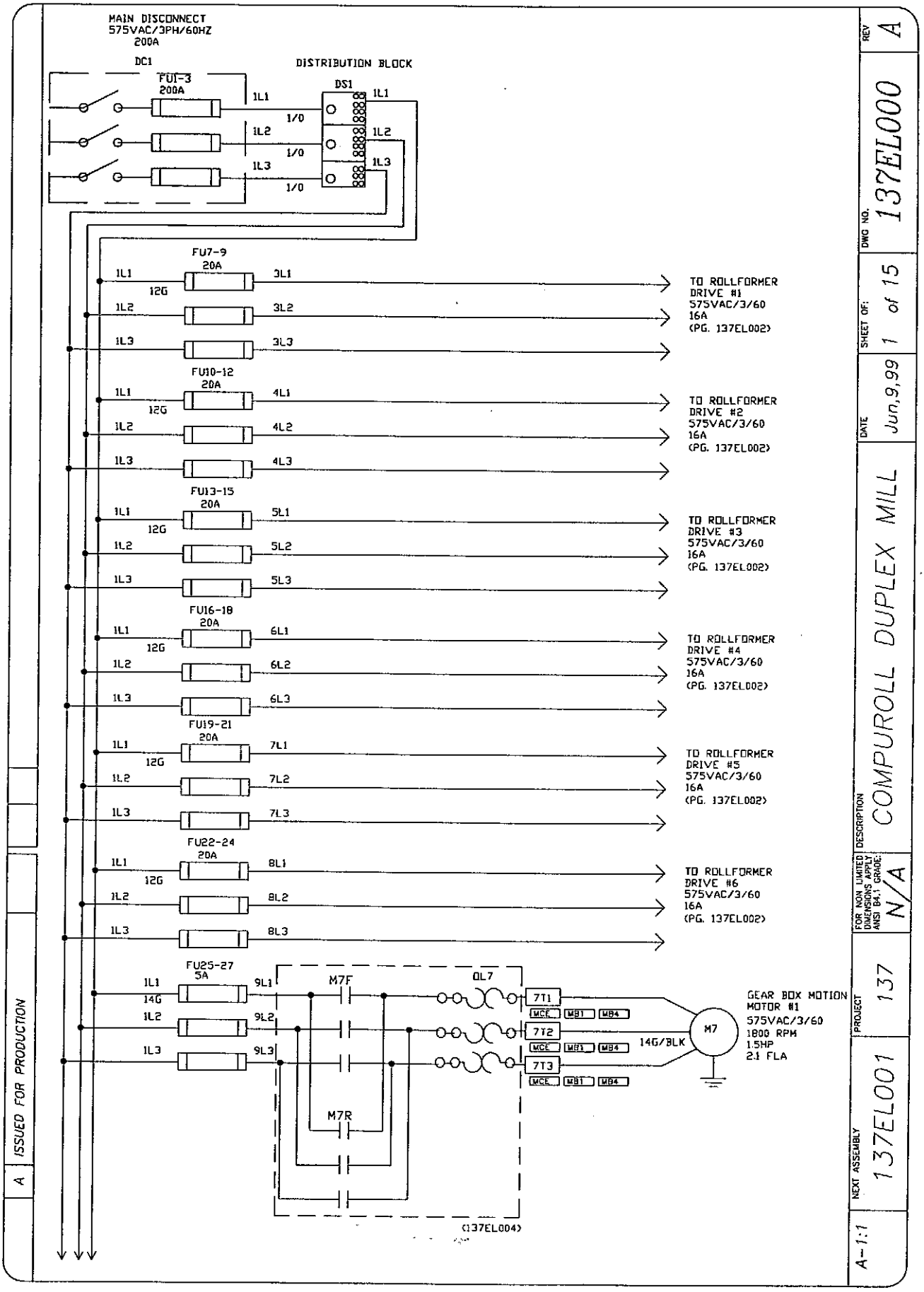

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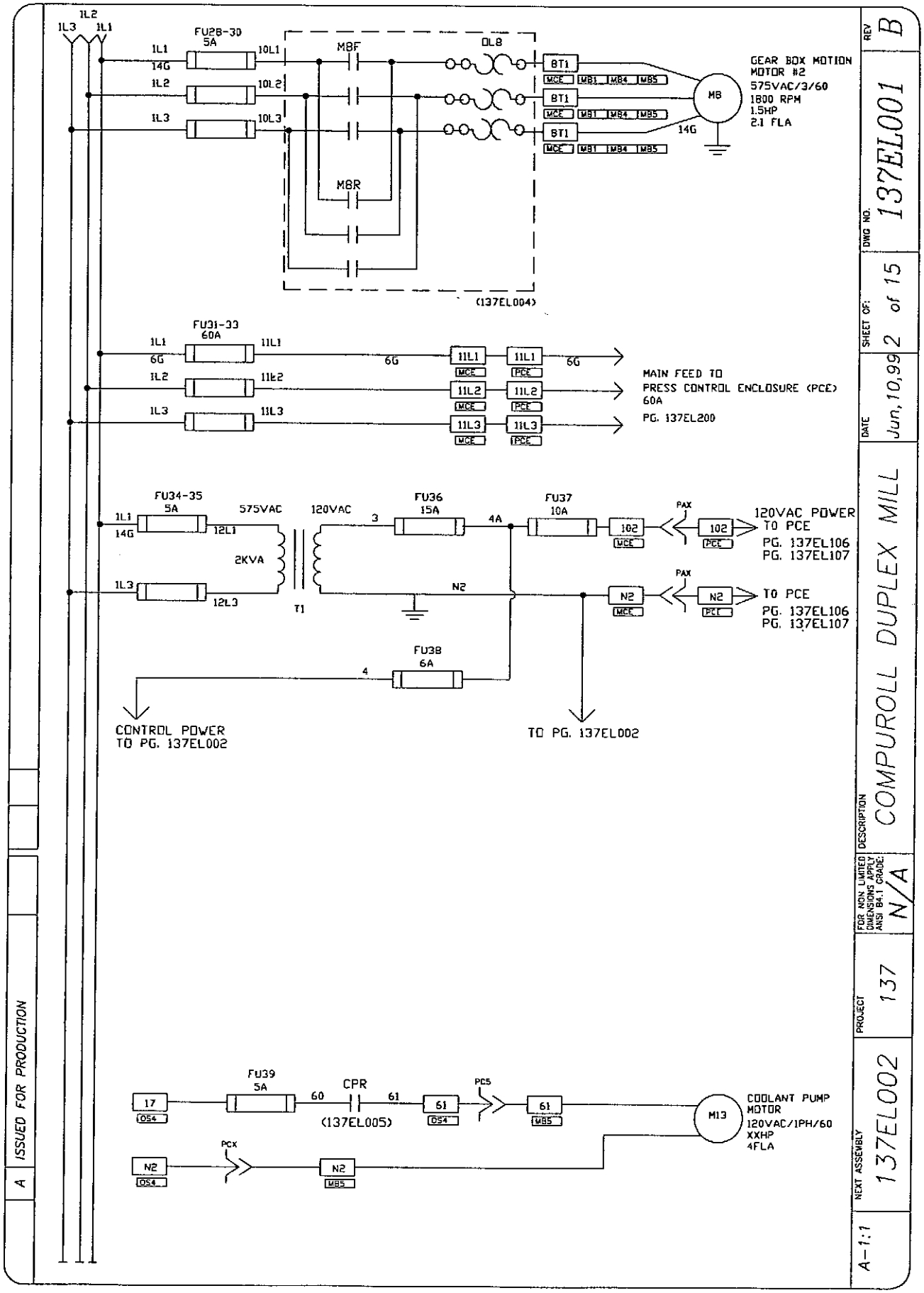

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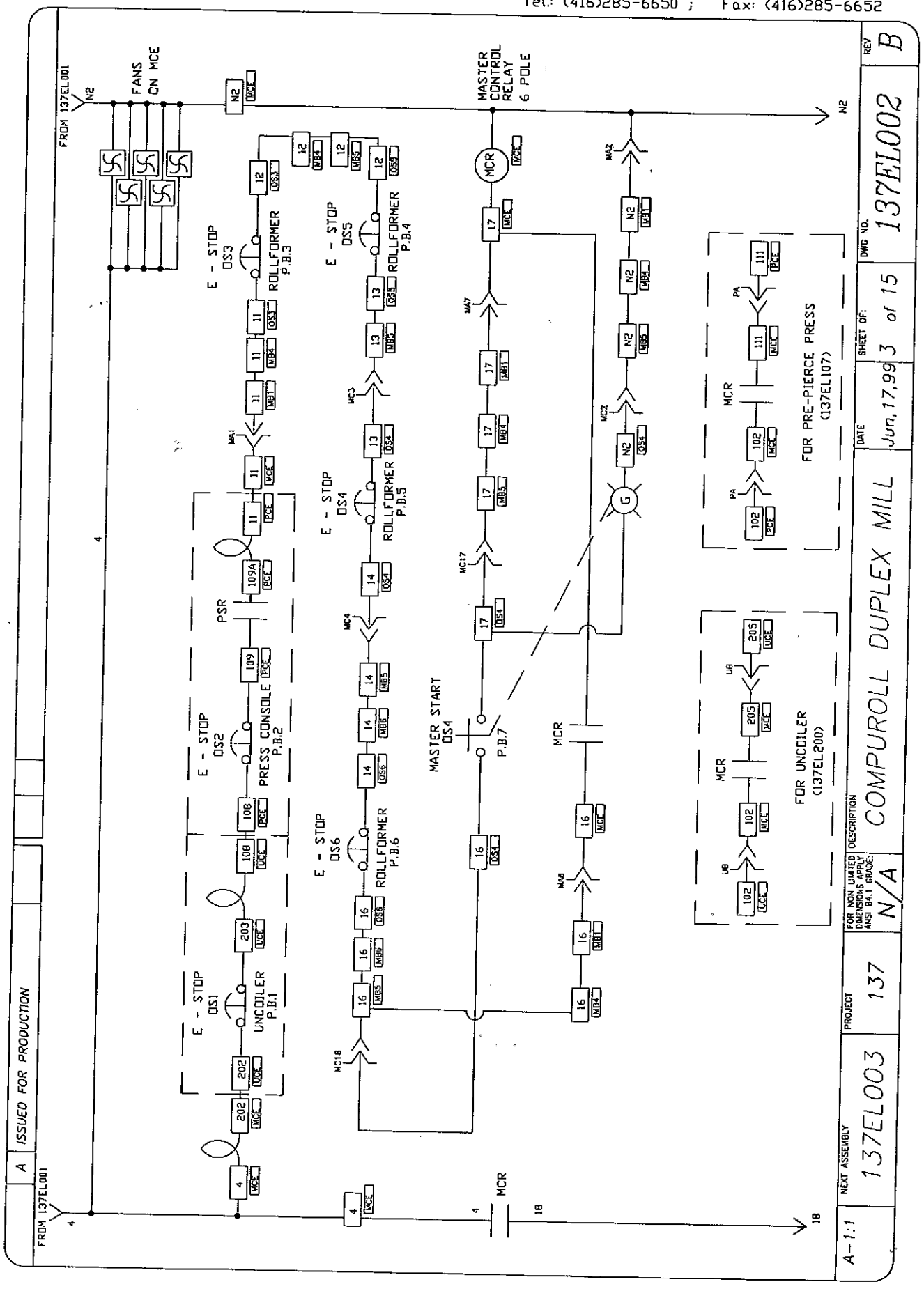

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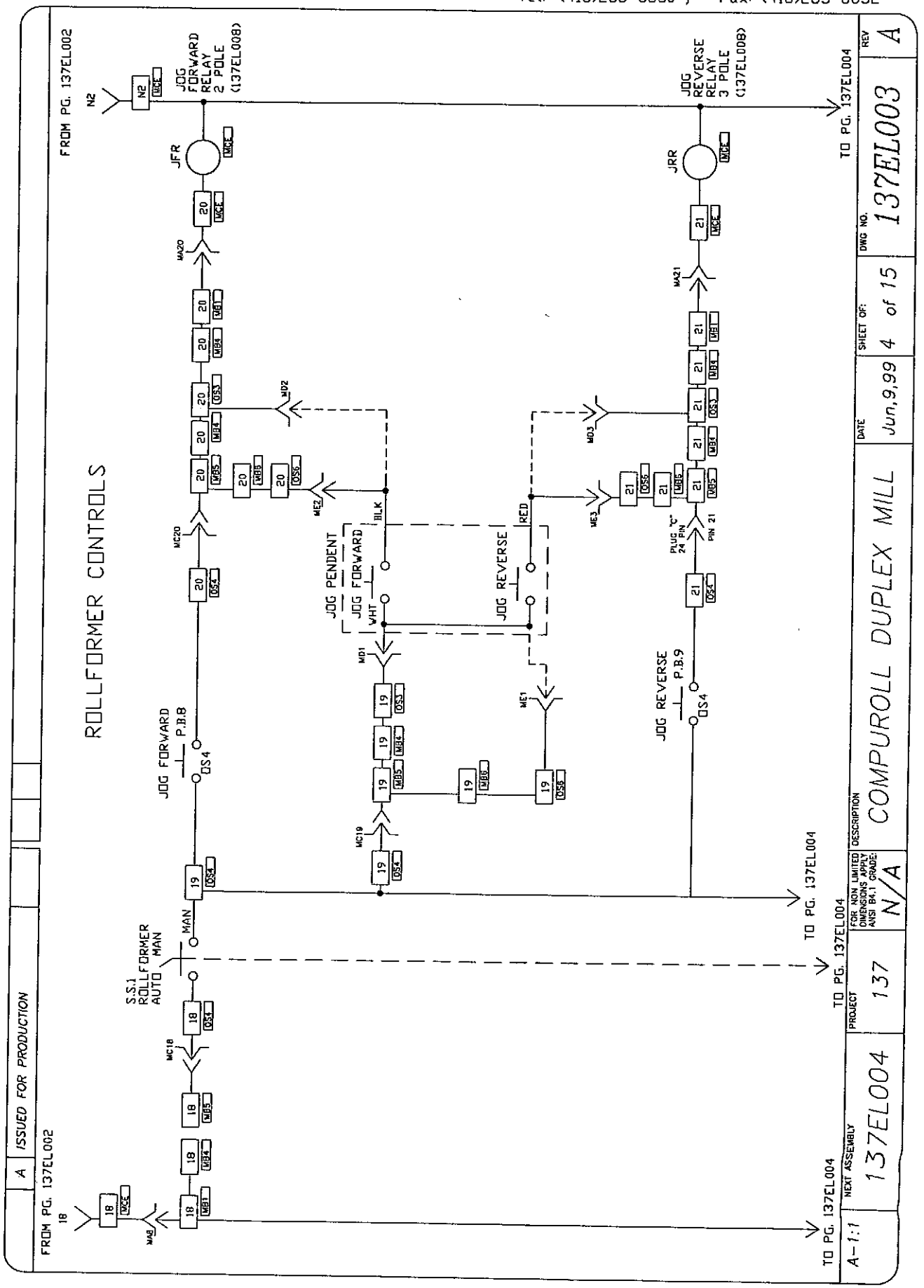

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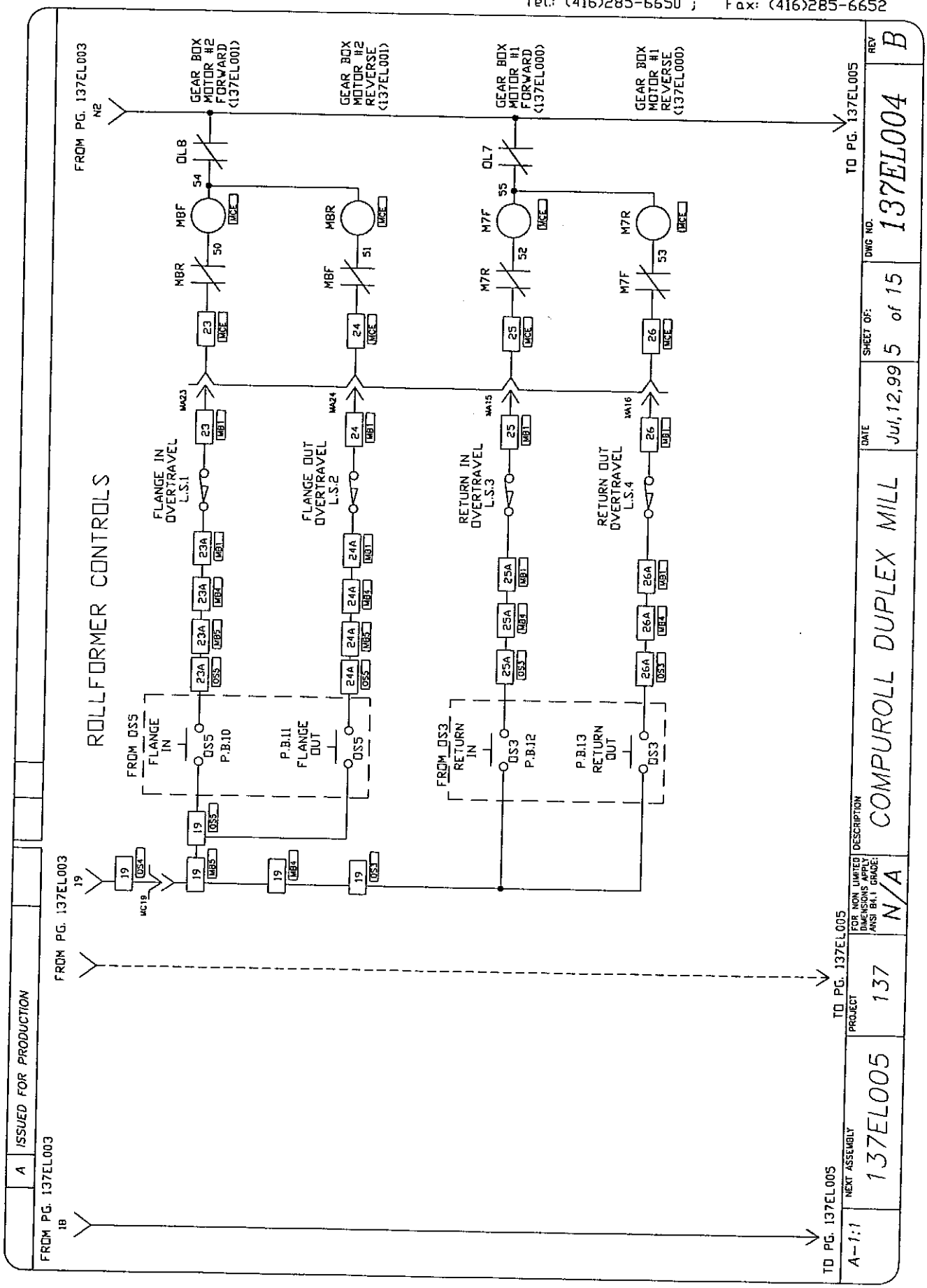

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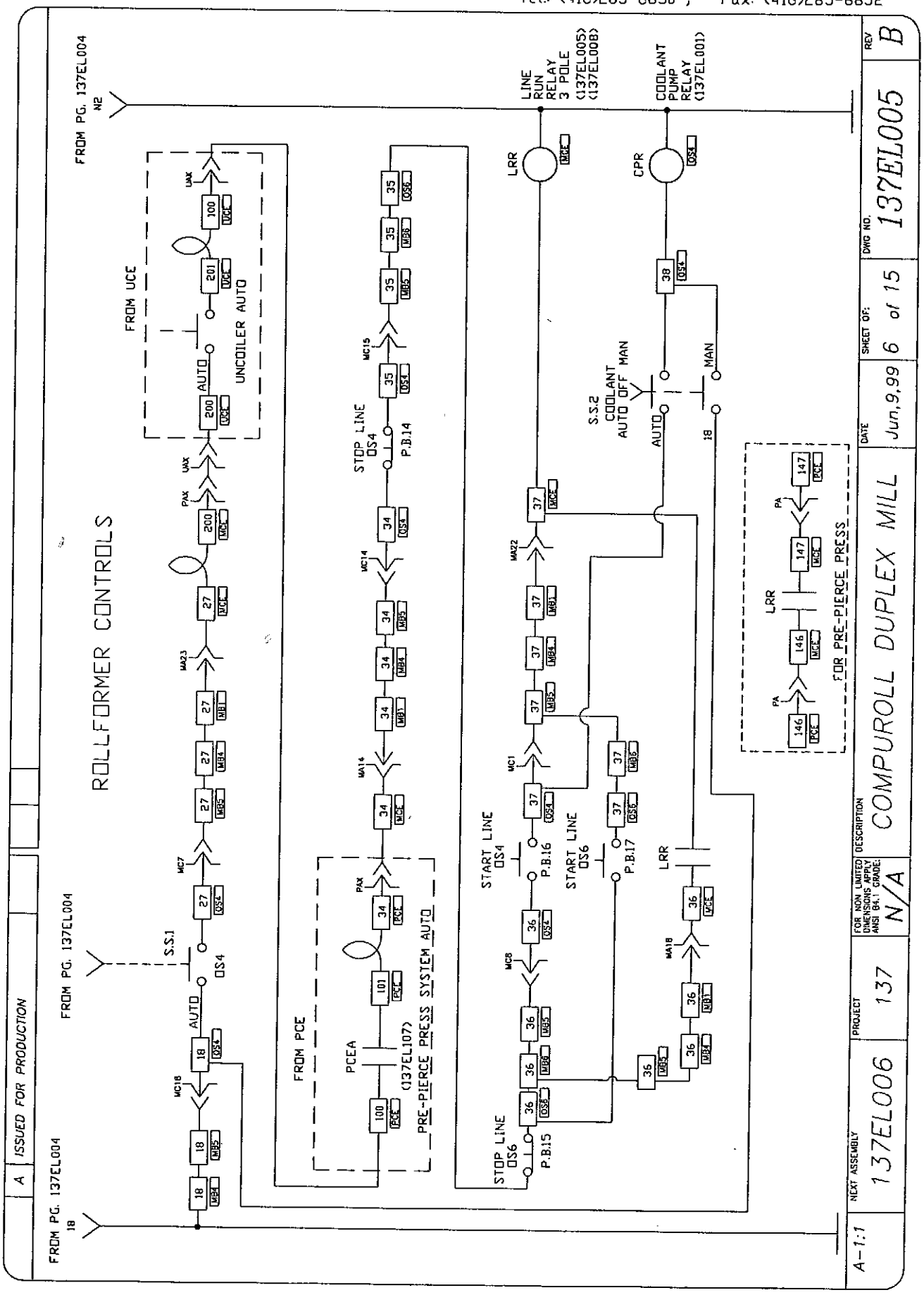

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A	ISSUED FOR PRODUCTION							
NEXT ASSEMBLY: 137EL007	PROJECT: 137	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A	DESCRIPTION: COMPUROLL DUPLEX MILL	DATE: May, 10, 99	SHEET OF: 7 of 15	DWG NO.: 137EL006	REV: A	
A-1:1								

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REV	DWG NO.	SHEET OF:	DATE	DESCRIPTION	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	PROJECT	NEXT ASSEMBLY
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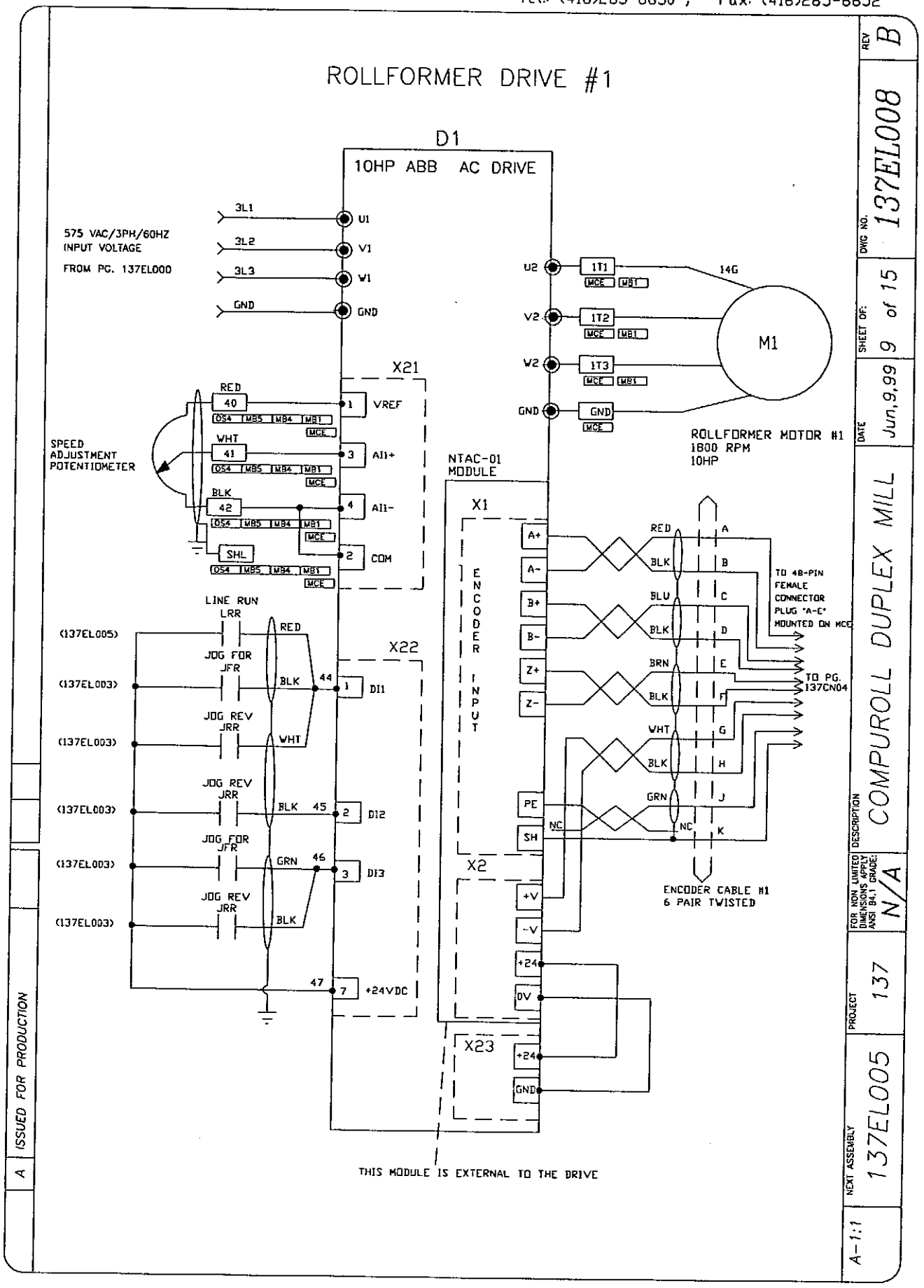

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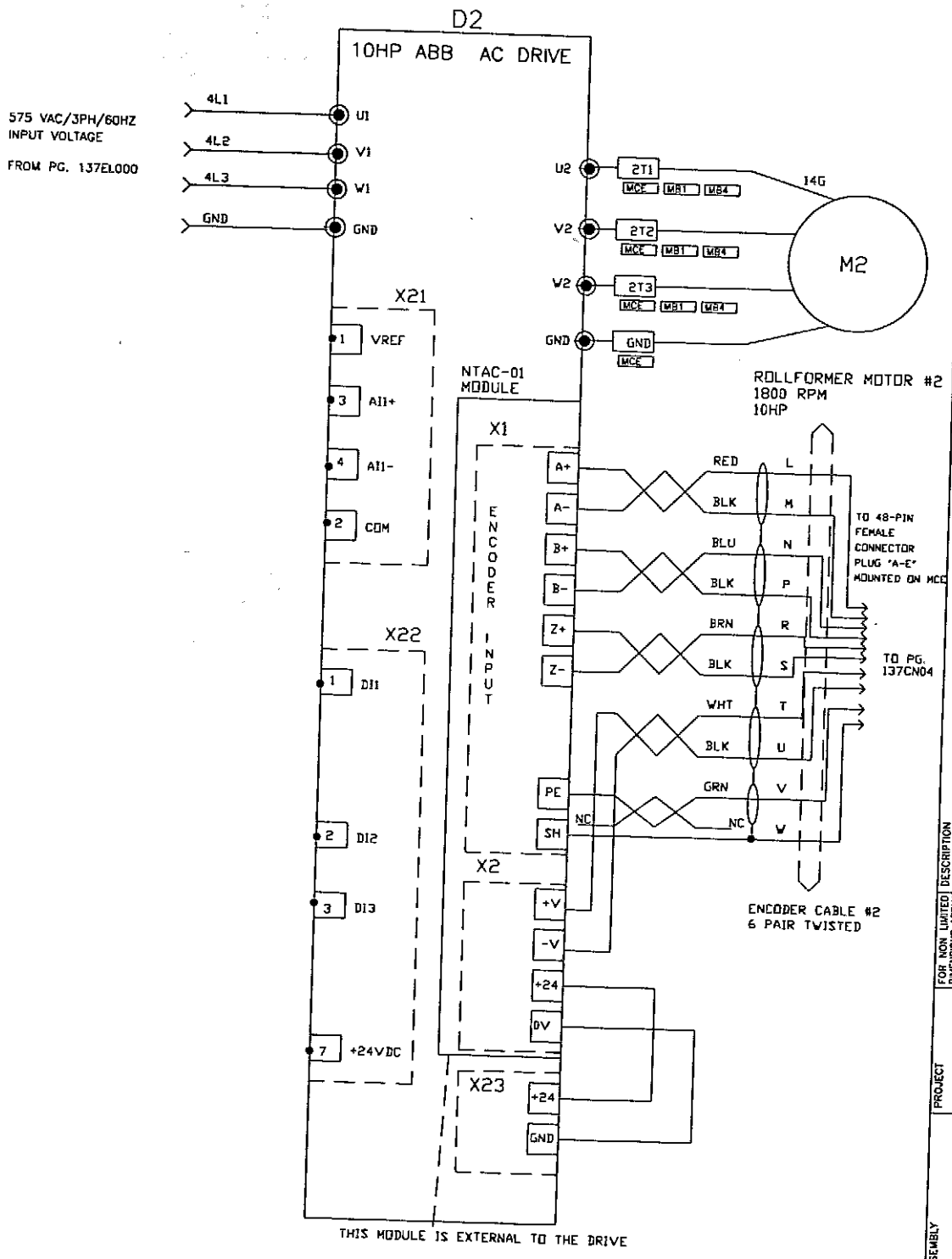
ROLLFORMER DRIVE #2



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DATE	Jun,1,99
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FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A
PROJECT	137
NEXT ASSEMBLY	137EL006
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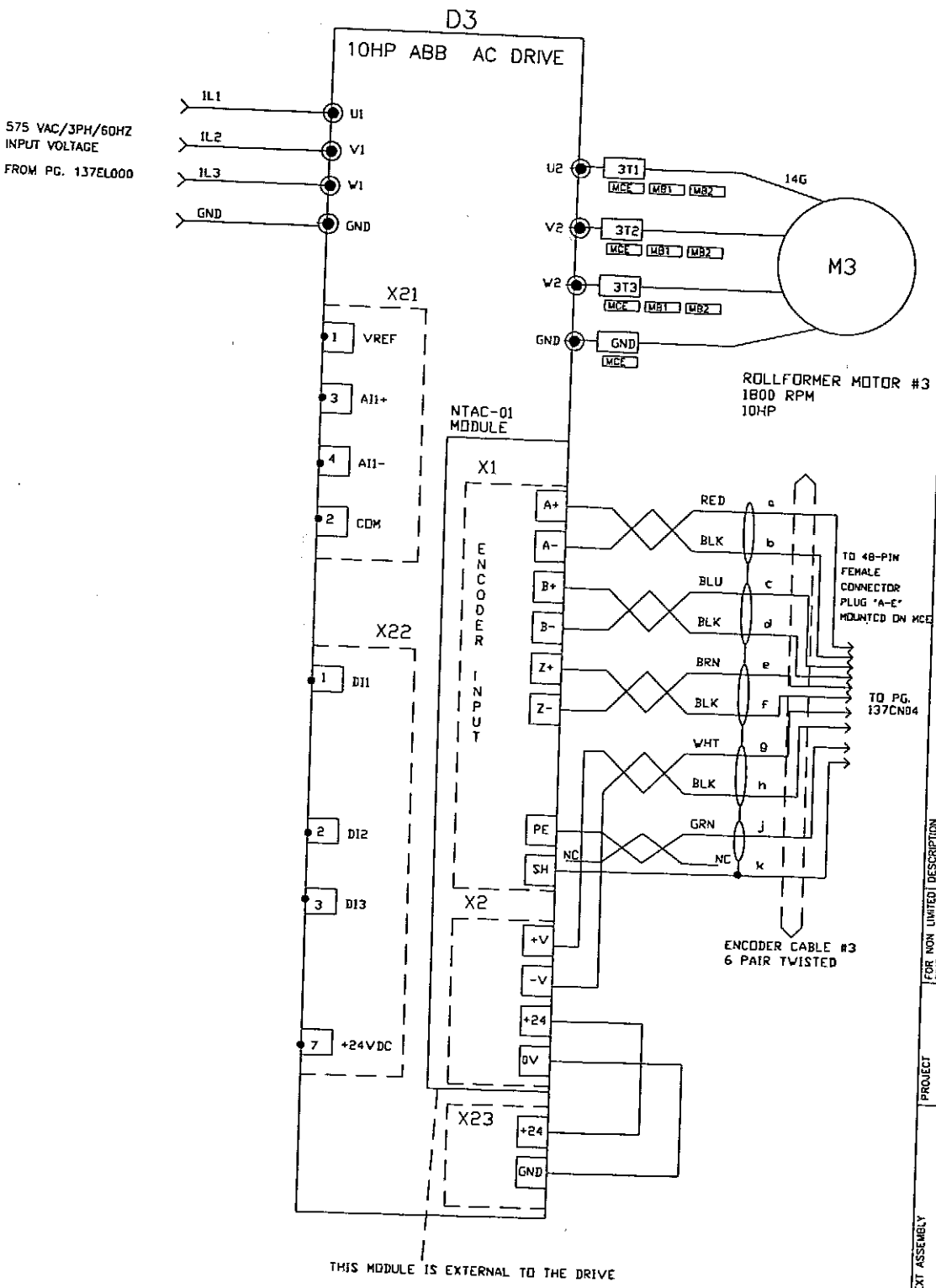
ROLLFORMER DRIVE #3



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B	137EL010	11 of 15	Jun,1,99	COMPUROLL DUPLEX MILL	N/A	137	137EL007

A-1:1

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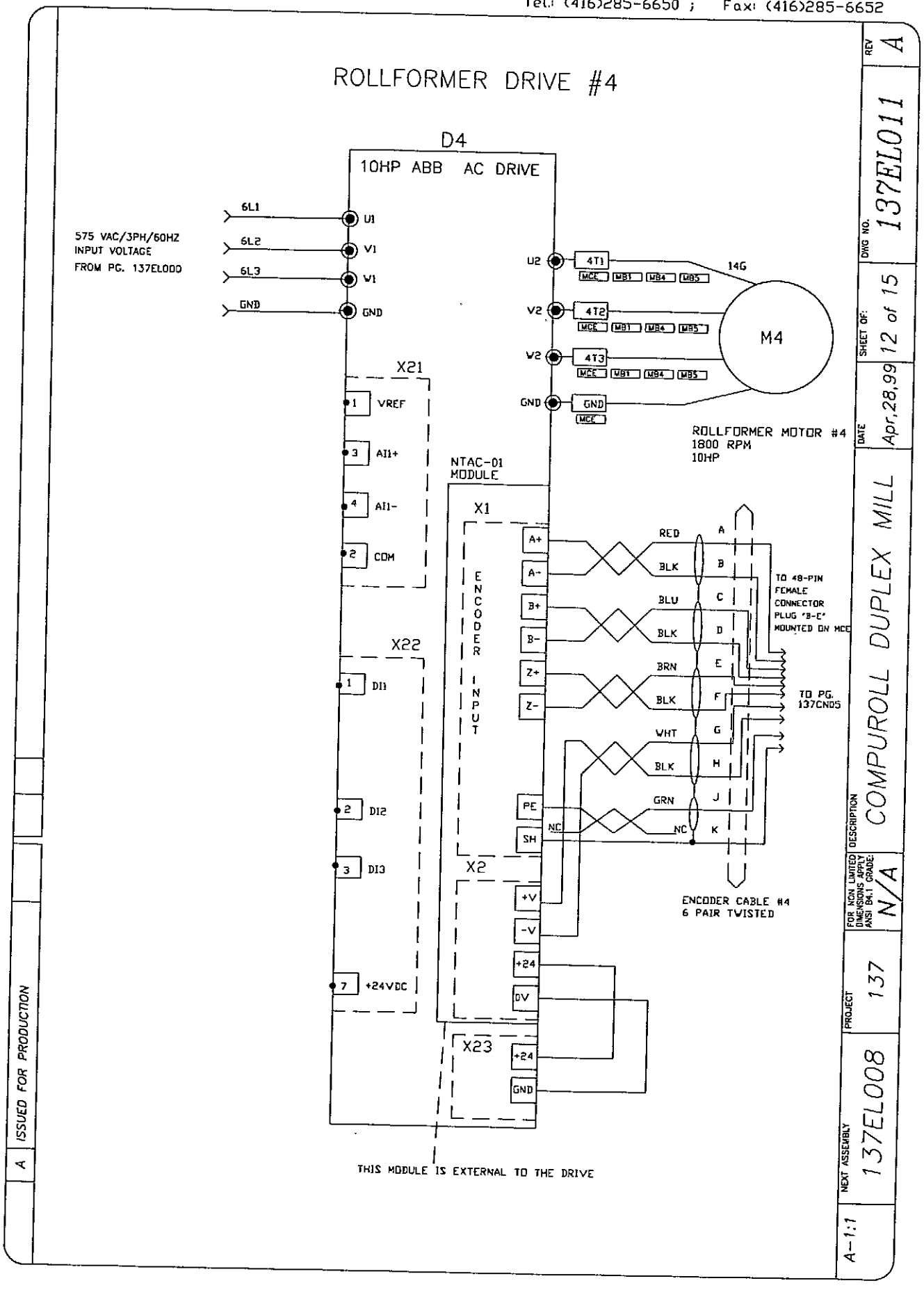

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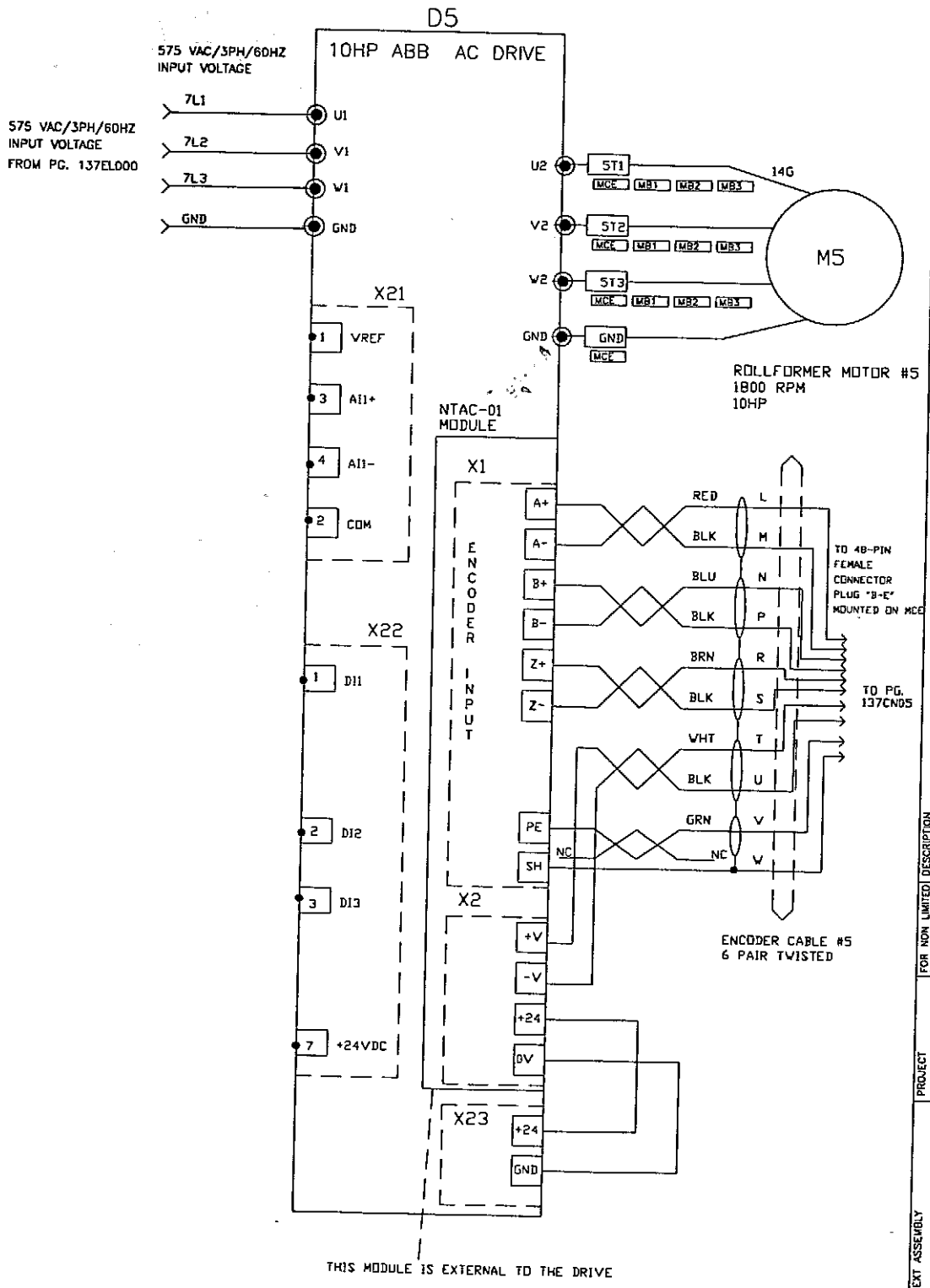
ROLLFORMER DRIVE #5



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PROJECT	137
NEXT ASSEMBLY	137EL009
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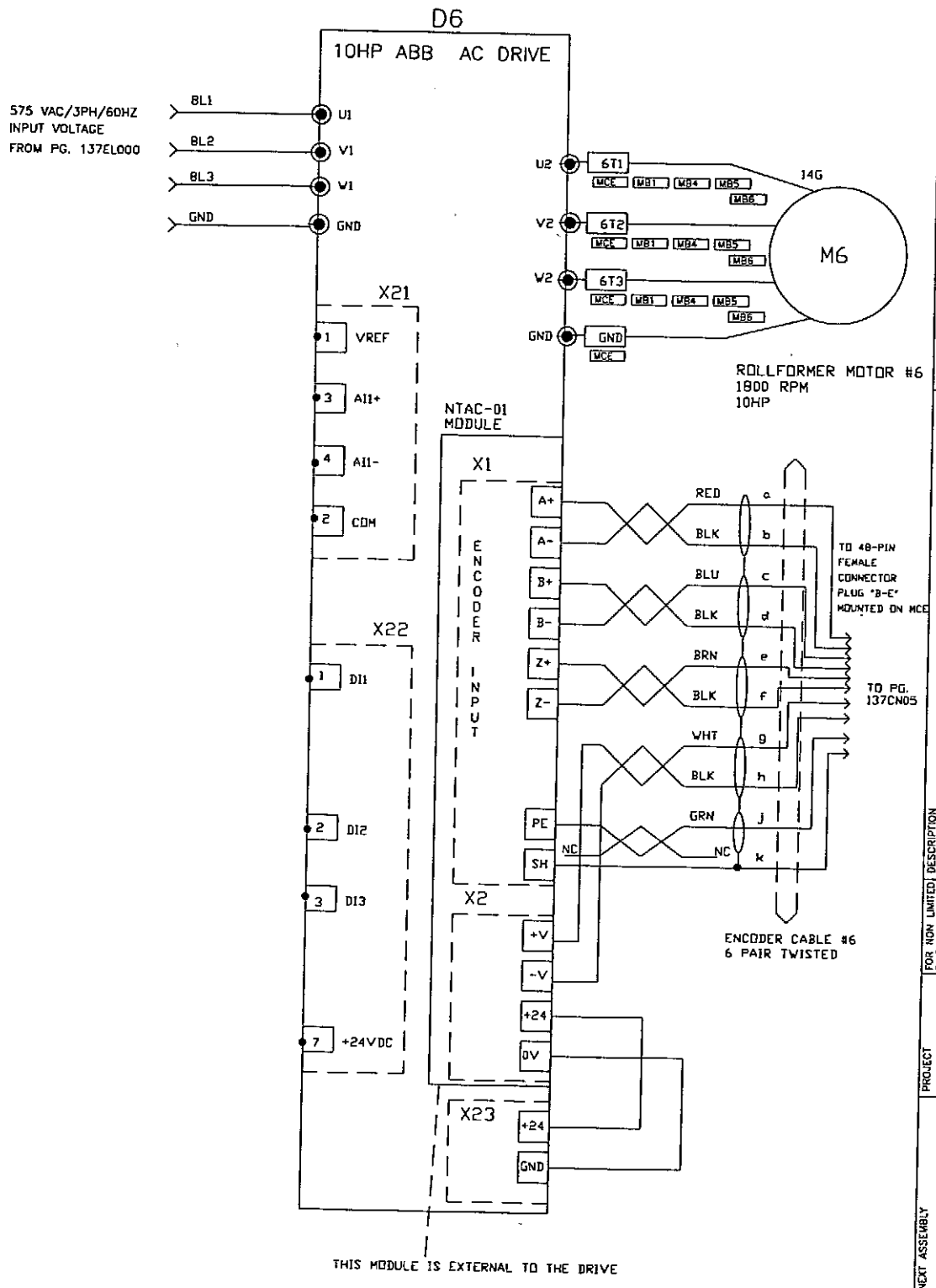
ROLLFORMER DRIVE #6



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NEXT ASSEMBLY	137EL014
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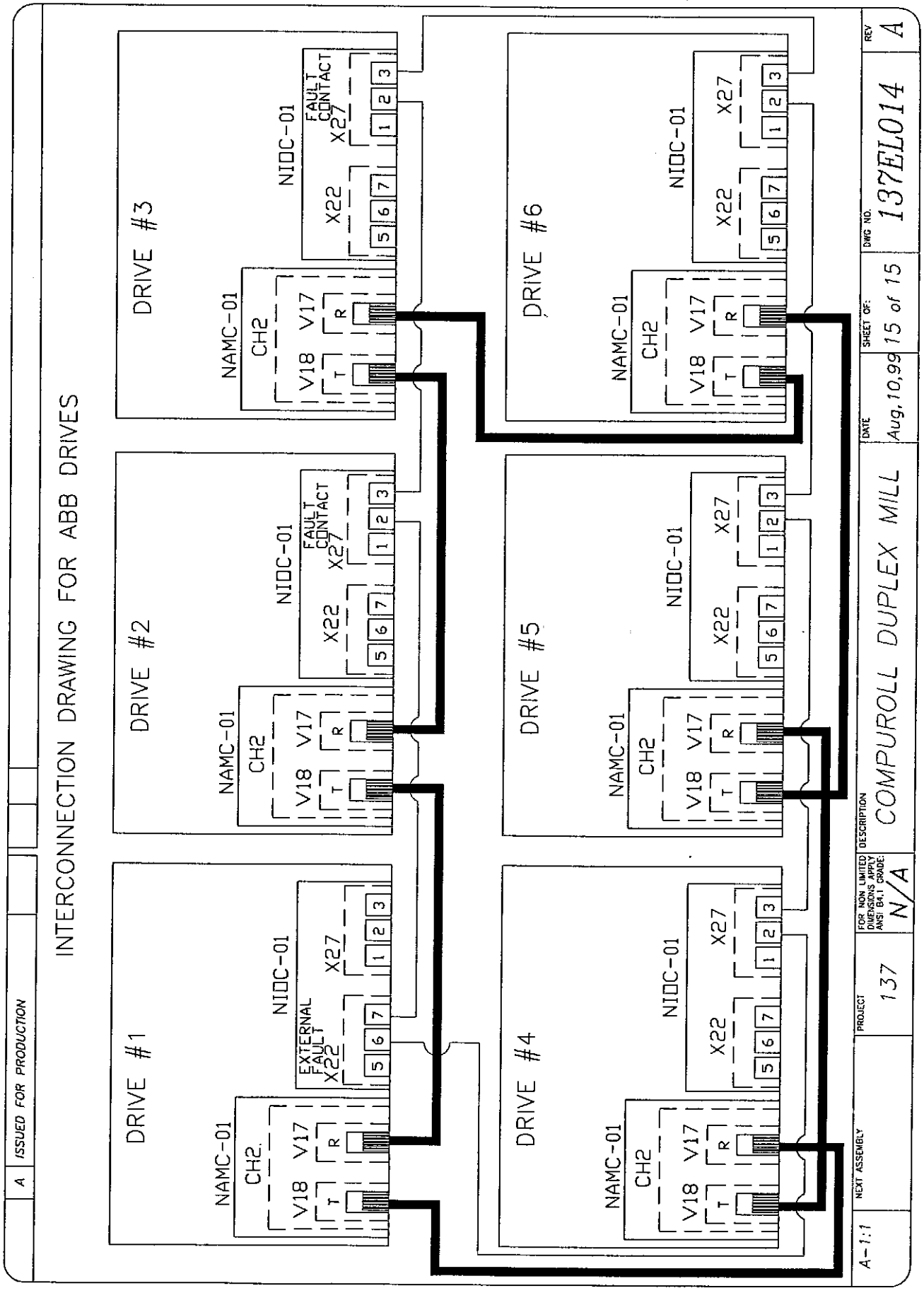

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ROLLFORMER WIRE LIST

CONDUIT/PLUG A

5' CONDUCTOR FROM SOCKET MCE TO TERMINAL STRIP MCE

15' CONDUCTOR FROM PLUG MB1 TO TERMINAL STRIP MB1

MCE TERM STRIP	MCE WIRE COLOR	MCE SOCKET-A PIN OUT	MCE FEMALE 24 PIN	MB1 MALE 24 PIN	MB1 PLUG-A PIN OUT	MB1 WIRE COLOR	MB1 TERM STRIP
11	RED	MA1	1	1	MA1	RED	11
N2	WHT	MA2	2	2	MA2	WHT	N2
MA3/NC	RED	MA3	3	3	MA3	RED	MA3/NC
MA4/NC	RED	MA4	4	4	MA4	RED	MA4/NC
MA5/NC	RED	MA5	5	5	MA5	RED	MA5/NC
16	RED	MA6	6	6	MA6	RED	16
17	RED	MA7	7	7	MA7	RED	17
18	RED	MA8	8	8	MA8	RED	18
40	RED	MA9	9	9	MA9	RED	40
41	WHT	MA10	10	10	MA10	WHT	41
42	BLK	MA11	11	11	MA11	BLK	42
SHL	SHL	MA12	12	12	MA12	SHL	SHL
MA13/NC	RED	MA13	13	13	MA13	RED	MA13/NC
34	RED	MA14	14	14	MA14	RED	34
25	RED	MA15	15	15	MA15	RED	25
26	RED	MA16	16	16	MA16	RED	26
27	RED	MA17	17	17	MA17	RED	27
36	RED	MA18	18	18	MA18	RED	36
MA19/NC	RED	MA19	19	19	MA19	RED	MA19/NC
20	RED	MA20	20	20	MA20	RED	20
21	RED	MA21	21	21	MA21	RED	21
37	RED	MA22	22	22	MA22	RED	37
23	RED	MA23	23	23	MA23	RED	23
24	RED	MA24	24	24	MA24	RED	24
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

CONDUIT/PLUG B

CONDUCTOR FROM SOCKET MCE TO DEVICE IN MCE

15' CONDUCTOR FROM PLUG MB1 TO TERMINAL STRIP MB1

MCE TERM STRIP	MCE WIRE COLOR	MCE SOCKET-A PIN OUT	MCE FEMALE 24 PIN	MB1 MALE 24 PIN	MB1 PLUG-A PIN OUT	MB1 WIRE COLOR	MB1 TERM STRIP
1T1	BLK	MB1	1	1	MB1	BLK	1T1
1T2	BLK	MB2	2	2	MB2	BLK	1T2
1T3	BLK	MB3	3	3	MB3	BLK	1T3
2T1	BLK	MB4	4	4	MB4	BLK	2T1
2T2	BLK	MB5	5	5	MB5	BLK	2T2
2T3	BLK	MB6	6	6	MB6	BLK	2T3
3T1	BLK	MB7	7	7	MB7	BLK	3T1
3T2	BLK	MB8	8	8	MB8	BLK	3T2
3T3	BLK	MB9	9	9	MB9	BLK	3T3
4T1	BLK	MB10	10	10	MB10	BLK	4T1
4T2	BLK	MB11	11	11	MB11	BLK	4T2
4T3	BLK	MB12	12	12	MB12	BLK	4T3
5T1	BLK	MB13	13	13	MB13	BLK	5T1
5T2	BLK	MB14	14	14	MB14	BLK	5T2
5T3	BLK	MB15	15	15	MB15	BLK	5T3
6T1	BLK	MB16	16	16	MB16	BLK	6T1
6T2	BLK	MB17	17	17	MB17	BLK	6T2
6T3	BLK	MB18	18	18	MB18	BLK	6T3
7T1	BLK	MB19	19	19	MB19	BLK	7T1
7T2	BLK	MB20	20	20	MB20	BLK	7T2
7T3	BLK	MB21	21	21	MB21	BLK	7T3
8T1	BLK	MB22	22	22	MB22	BLK	8T1
8T2	BLK	MB23	23	23	MB23	BLK	8T2
8T3	BLK	MB24	24	24	MB24	BLK	8T3
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

A | ISSUED FOR PRODUCTION

REV C | DWG NO. 137CN00 | SHEET OF: 1 of 7 | DATE Jun,17,99 | DESCRIPTION COMPUROLL DUPLEX MILL | FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A | PROJECT 137 | NEXT ASSEMBLY 137CN01 | A-1:1

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652

ROLLFORMER WIRE LIST

CONDUIT E

10' CONDUCTOR FROM TERM. STRIP MB1 TO TERMINAL STRIP MB4

MB1 TERMINAL STRIP	WIRE COLOR	MB4 TERMINAL STRIP
N2	WHT	N2
11	RED	11
16	RED	16
17	RED	17
18	RED	18
20	RED	20
21	RED	21
23A	RED	23A
24A	RED	24A
25A	RED	25A
26A	RED	26A
27	RED	27
34	RED	34
36	RED	36
37	RED	37
ME0	RED	ME0
40	RED	40
41	WHT	41
42	BLK	42
SHL	SHL	SHL
ME1/NC	RED	ME1/NC
ME2/NC	RED	ME2/NC
ME3/NC	RED	ME3/NC
ME4/NC	RED	ME4/NC
GND	GRN	GND

CONDUIT F

MB2 TERMINAL STRIP	WIRE COLOR	10HP MOTOR #3
3T1	BLK	3T1
3T2	BLK	3T2
3T3	BLK	3T3
GND	GRN	GND

M3

CONDUIT I

MB3 TERMINAL STRIP	WIRE COLOR	10HP MOTOR #5
5T1	BLK	5T1
5T2	BLK	5T2
5T3	BLK	5T3
GND	GRN	GND

M5

CONDUIT J

MB4 TERMINAL STRIP	WIRE COLOR	10HP MOTOR #2
2T1	BLK	2T1
2T2	BLK	2T2
2T3	BLK	2T3
GND	GRN	GND

M2

CONDUIT H

10' CONDUCTOR FROM TERM. STRIP MB1 TO TERMINAL STRIP MB4

MB1 TERMINAL STRIP	WIRE COLOR	MB4 TERMINAL STRIP
2T1	BLK	2T1
2T2	BLK	2T2
2T3	BLK	2T3
4T1	BLK	4T1
4T2	BLK	4T2
4T3	BLK	4T3
6T1	BLK	6T1
6T2	BLK	6T2
6T3	BLK	6T3
7T1	BLK	7T1
7T2	BLK	7T2
7T3	BLK	7T3
8T1	BLK	8T1
8T2	BLK	8T2
8T3	BLK	8T3
GND	GRN	GND

CONDUIT K

MB1 TERMINAL STRIP	WIRE COLOR	1.5HP MOTOR #7
7T1	BLK	7T1
7T2	BLK	7T2
7T3	BLK	7T3
GND	GRN	GND

M7

REV D
DWG NO. 137CN01
SHEET OF: 2 of 7
DATE Jul,12,99
DESCRIPTION COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A
PROJECT 137
NEXT ASSEMBLY 137CN02
A-1:1
A ISSUED FOR PRODUCTION

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
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ROLLFORMER WIRE LIST

CONDUIT L

16' CONDUCTOR FROM TERM. STRIP MB5 TO TERMINAL STRIP MB4

MB4 TERMINAL STRIP	WIRE COLOR	MB5 TERMINAL STRIP
N2	WHT	N2
12	RED	12
16	RED	16
17	RED	17
18	RED	18
19	RED	19
20	RED	20
21	RED	21
ML0/NC	RED	ML0/NC
23A	RED	23
24A	RED	24
27	RED	27
34	RED	34
36	RED	36
37	RED	37
ML1/NC	RED	ML1/NC
40	RED	40
41	WHT	41
42	BLK	42
SHL	SHL	SHL
ML2/NC	RED	ML2/NC
ML3/NC	RED	ML3/NC
ML4/NC	RED	ML4/NC
ML5/NC	RED	ML5/NC
GND	GRN	GND

CONDUIT N

16' CONDUCTOR FROM TERM. STRIP MB5 TO TERMINAL STRIP MB6

MB5 TERMINAL STRIP	WIRE COLOR	MB6 TERMINAL STRIP
14	RED	14
16	RED	16
35	RED	35
36	RED	36
37	RED	37
19	RED	19
20	RED	20
21	RED	21
N2	WHT	N2
GND	GRN	GND

CONDUIT P

MB5 TERMINAL STRIP	WIRE COLOR	10HP MOTOR #4
4T1	BLK	4T1
4T2	BLK	4T2
4T3	BLK	4T3
GND	GRN	GND

M4

CONDUIT Q

MB5 TERMINAL STRIP	WIRE COLOR	1.5HP MOTOR #8
8T1	BLK	8T1
8T2	BLK	8T2
8T3	BLK	8T3
GND	GRN	GND

M8

CONDUIT M

5' CONDUCTOR FROM TERM. STRIP MB4 TO TERMINAL STRIP DS3

MB4 TERMINAL STRIP	WIRE COLOR	DS3 TERMINAL STRIP
11	RED	11
12	RED	12
19	RED	19
20	RED	20
21	RED	21
25A	RED	25A
26A	RED	26A
MM0/NC	RED	MM0/NC
MM1/NC	RED	MM1/NC
MTM/NC	RED	MTM/NC
GND	GRN	GND

CONDUIT S

16' CONDUCTOR FROM TERM. STRIP MB4 TO TERMINAL STRIP MB5

MB4 TERMINAL STRIP	WIRE COLOR	MB5 TERMINAL STRIP
4T1	BLK	4T1
4T2	BLK	4T2
4T3	BLK	4T3
6T1	BLK	6T1
6T2	BLK	6T2
6T3	BLK	6T3
GND	GRN	GND

A ISSUED FOR PRODUCTION

REV E
DWG NO. 137CN02
SHEET OF: 3 of 7
DATE Aug,10,99
DESCRIPTION COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A
PROJECT 137
NEXT ASSEMBLY 137CN03
A-1:1

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652

ROLLFORMER WIRE LIST

CONDUIT T

MB5 TERMINAL STRIP	WIRE COLOR	OS5 TERMINAL STRIP
12	RED	12
13	RED	13
19	RED	19
23A	RED	23A
24A	RED	24A
MT0/NC	RED	MT0/NC
MT1/NC	RED	MT1/NC
MT2/NC	RED	MT2/NC
GND	GRN	GND

CONDUIT R

MB1 TERMINAL STRIP	WIRE COLOR	MB2 TERMINAL STRIP
3T1	BLK	3T1
3T2	BLK	3T2
3T3	BLK	3T3
5T1	BLK	5T1
5T2	BLK	5T2
5T3	BLK	5T3
MR0/NC	RED	MR0/NC
MR1/NC	RED	MR1/NC
MR2/NC	RED	MR2/NC
MR3/NC	WHT	MR3/NC
GND	GRN	GND

CONDUIT U

MB6 TERMINAL STRIP	WIRE COLOR	OS6 TERMINAL STRIP
14	RED	14
16	RED	16
19	RED	19
20	RED	20
21	RED	21
35	RED	35
36	RED	36
37	RED	37
MU0/NC	RED	MU0/NC
MU1/NC	RED	MU1/NC
MU2/NC	RED	MU2/NC
GND	GRN	GND

CONDUIT V

MB6 TERMINAL STRIP	WIRE COLOR	10HP MOTOR #6
6T1	BLK	6T1
6T2	BLK	6T2
6T3	BLK	6T3
GND	GRN	GND

M6

CONDUIT D

MB1 TERMINAL STRIP	WIRE COLOR	10HP MOTOR #1
1T1	BLK	1T1
1T2	BLK	1T2
1T3	BLK	1T3
GND	GRN	GND

M1

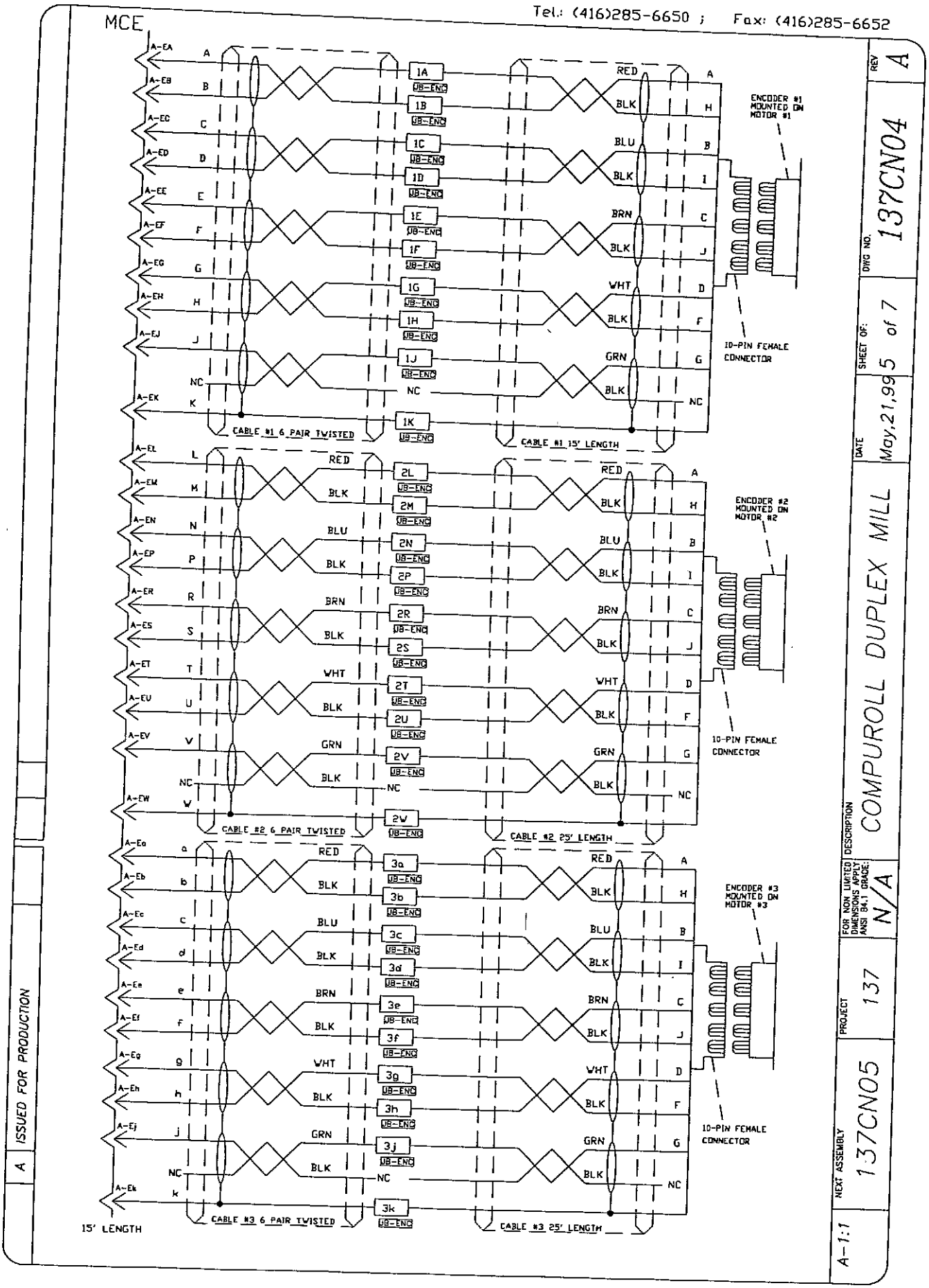
A ISSUED FOR PRODUCTION

REV B
DWG NO. 137CN03
SHEET OF: 4 of 7
DATE Jun,17,99
DESCRIPTION COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A
PROJECT 137
NEXT ASSEMBLY 137CN05
A-1:1

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652



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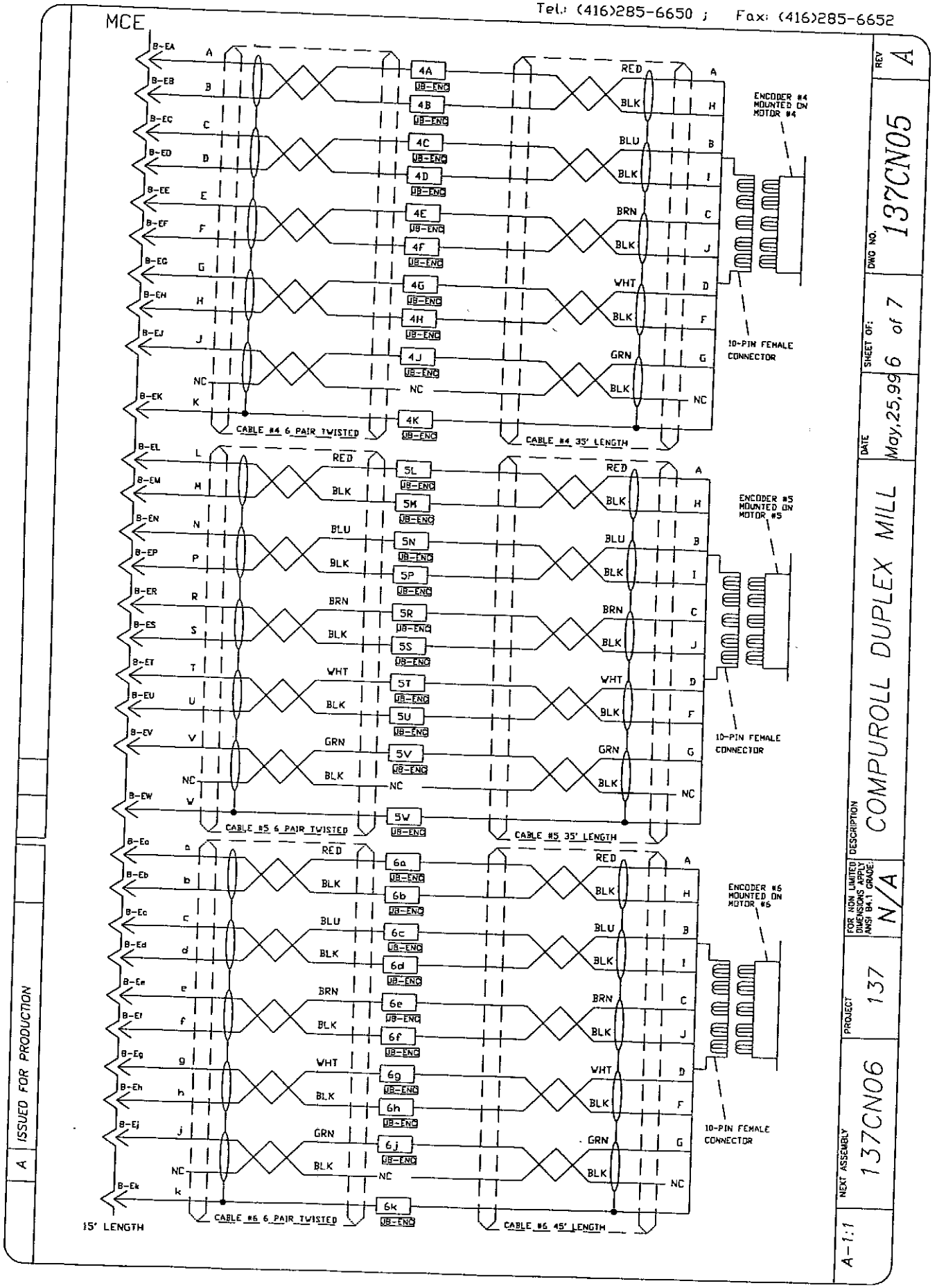

A	ISSUED FOR PRODUCTION						
REV	A						
DWG NO.	137CN05						
SHEET OF:	6 of 7						
DATE	May.25,99						
DESCRIPTION	COMPUROLL DUPLEX MILL						
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A						
PROJECT	137						
NEXT ASSEMBLY	137CN06						
A-1:1							

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Tel.: (416)285-6650 ; Fax: (416)285-6652

ROLLFORMER WIRE LIST

PENDENT/PLUG D

3' CONDUCTOR FROM SOCKET OS3/OS6 TO TERMINAL STRIP OS3/OS6

OS3 TERM STRIP	OS3 WIRE COLOR	OS3 SOCKET-D PIN OUT	OS3 FEMALE 6 PIN
19	RED	MD1	1
20	RED	MD2	2
21	RED	MD3	3
NC	--	MD4	4
NC	--	MD5	5
NC	--	MD6	6
GND	GRN	GRD	GRD

OS6 TERM STRIP	OS6 WIRE COLOR	OS6 SOCKET-D PIN OUT	OS6 FEMALE 6 PIN
19	RED	MD1	1
20	RED	MD2	2
21	RED	MD3	3
NC	--	MD4	4
NC	--	MD5	5
NC	--	MD6	6
GND	GRN	GRD	GRD

COIL CORD CONDUCTOR FROM PLUG ON TO PENDENT

PENDENT MALE 6 PIN	PENDENT PLUG-D PIN OUT	PENDENT WIRE COLOR	PENDENT CONN.
1	MD1	WHT	19
2	MD2	BLK	20
3	MD3	RED	21
4	MD4	--	NC
5	MD5	--	NC
6	MD6	--	NC
GRD	GRD	GRN	GND

CONDUIT/PLUG C

2' CONDUCTOR FROM SOCKET MB5 TO TERMINAL STRIP MB5

MCE TERM STRIP	MCE WIRE COLOR	MCE SOCKET-A PIN OUT	MCE FEMALE 24 PIN
37	RED	MC1	1
N2	WHT	MC2	2
13	RED	MC3	3
14	RED	MC4	4
61	RED	MC5	5
MC6/NC	RED	MC6	6
27	RED	MC7	7
36	RED	MC8	8
40	RED	MC9	9
41	WHT	MC10	10
42	BLK	MC11	11
SHL	SHL	MC12	12
MC13/NC	RED	MC13	13
34	RED	MC14	14
35	RED	MC15	15
16	RED	MC16	16
17	RED	MC17	17
18	RED	MC18	18
19	RED	MC19	19
20	RED	MC20	20
21	RED	MC21	21
MC22/NC	RED	MC22	22
MC23/NC	RED	MC23	23
MC24/NC	RED	MC24	24
GRD	GRN	GRD	GRD

10' CONDUCTOR FROM PLUG OS4 TO TERMINAL STRIP OS4

MB1 MALE 24 PIN	MB1 PLUG-A PIN OUT	MB1 WIRE COLOR	MB1 TERM STRIP
1	MC1	RED	37
2	MC2	WHT	N2
3	MC3	RED	13
4	MC4	RED	14
5	MC5	RED	61
6	MC6	RED	MC6/NC
7	MC7	RED	27
8	MC8	RED	36
9	MC9	RED	40
10	MC10	WHT	41
11	MC11	BLK	42
12	MC12	SHL	SHL
13	MC13	RED	MC13/NC
14	MC14	RED	34
15	MC15	RED	35
16	MC16	RED	16
17	MC17	RED	17
18	MC18	RED	18
19	MC19	RED	19
20	MC20	RED	20
21	MC21	RED	21
22	MC22	RED	MC22/NC
23	MC23	RED	MC23/NC
24	MC24	RED	MC24/NC
GRD	GRD	GRN	GRD

A | ISSUED FOR PRODUCTION

REV B | DWG NO. 137CN06 | SHEET OF: 7 of 7 | DATE Jun,17,99 | DESCRIPTION COMPUROLL DUPLEX MILL | FOR NON LIMITED DIMENSIONS APPLY ANSI 84.1 GRADE: N/A | PROJECT 137 | NEXT ASSEMBLY NONE | A-1:1

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
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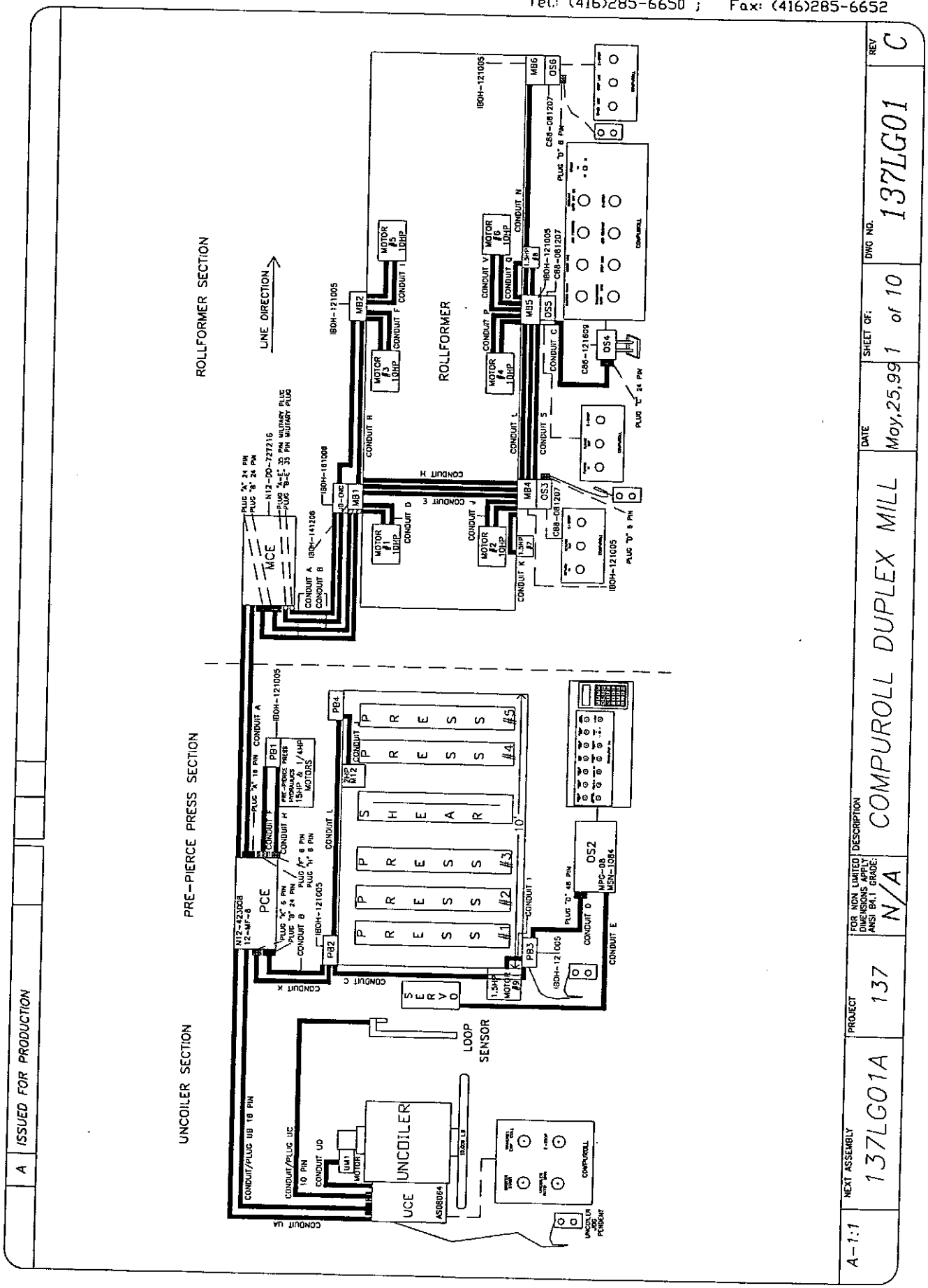
Tel.: (416)285-6650 ; Fax: (416)285-6652



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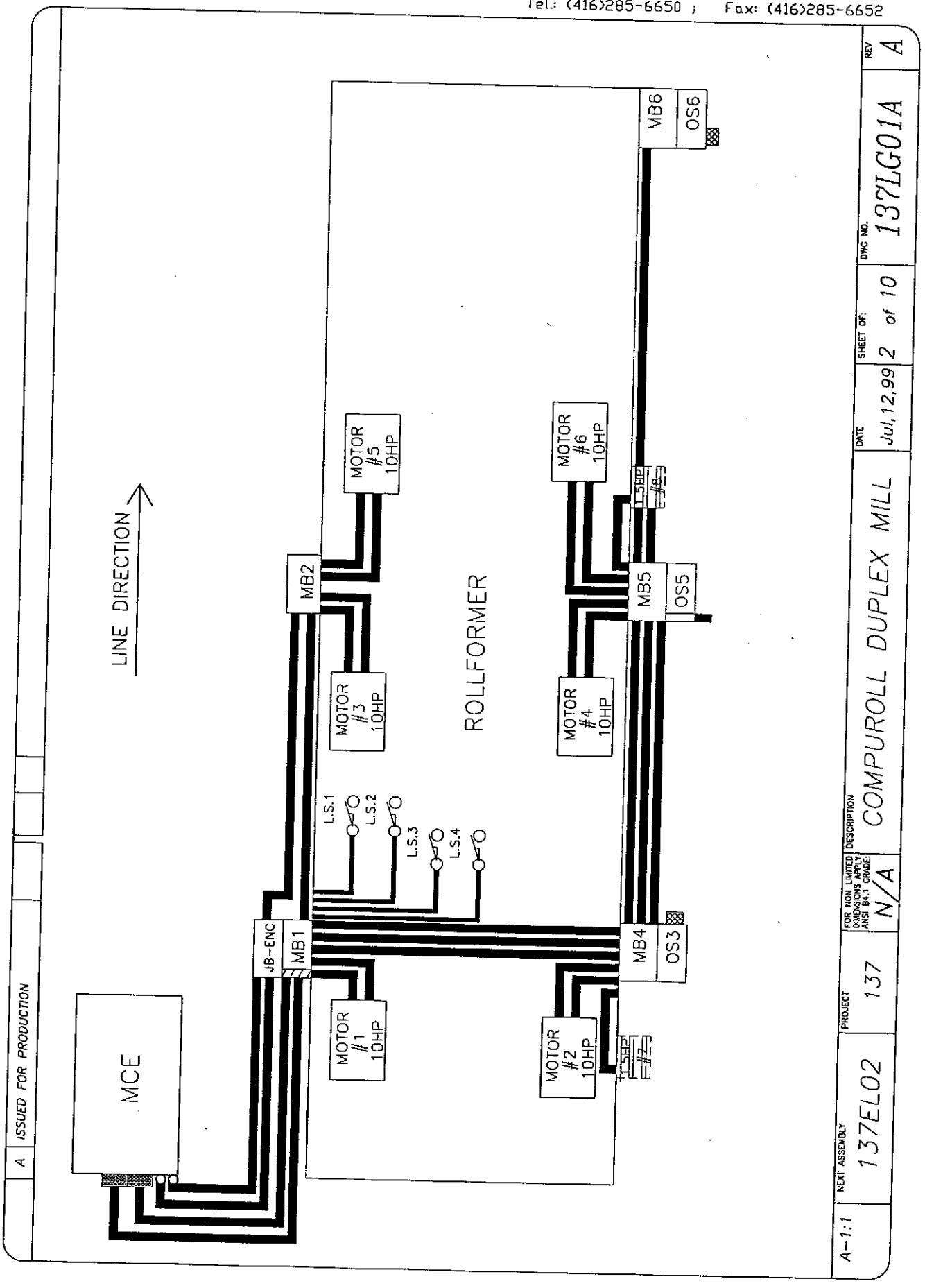
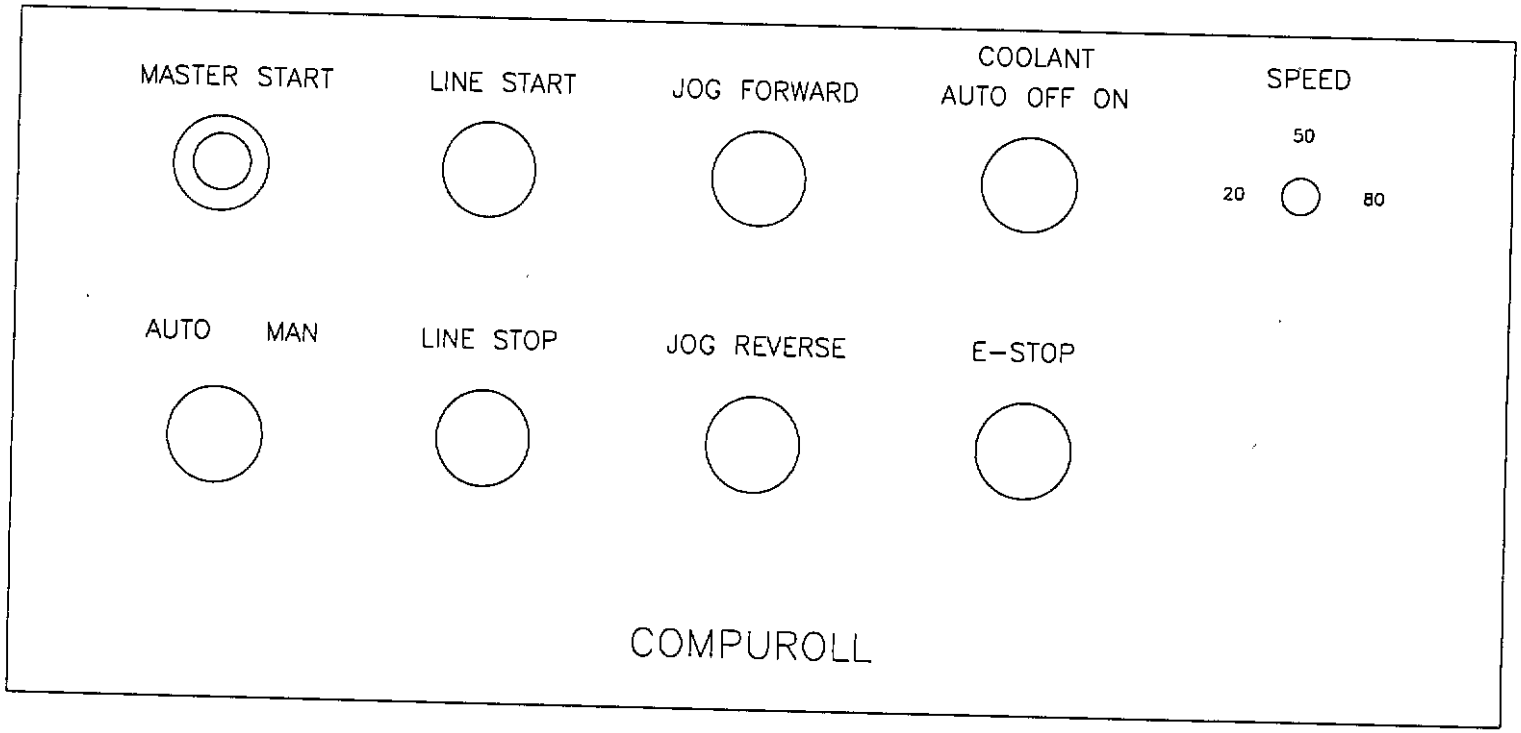


A	ISSUED FOR PRODUCTION							

ROLLFORMER MAIN OPERATING STATION
OS4



A-1:1	NEXT ASSEMBLY	PROJECT	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	DESCRIPTION	DATE	SHEET OF:	DWG NO.	REV
	137LG03	137	N/A	COMPUROLL DUPLEX MILL	Apr,22,99	3 of 10	137LG02	A

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A	ISSUED FOR PRODUCTION						
NEXT ASSEMBLY	PROJECT	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	DESCRIPTION	DATE	SHEET OF:	DWG NO.	REV
137LG04	137	N/A	COMPUROLL DUPLEX MILL	Apr,28,99	4 of 10	137LG03	B

A-1:1

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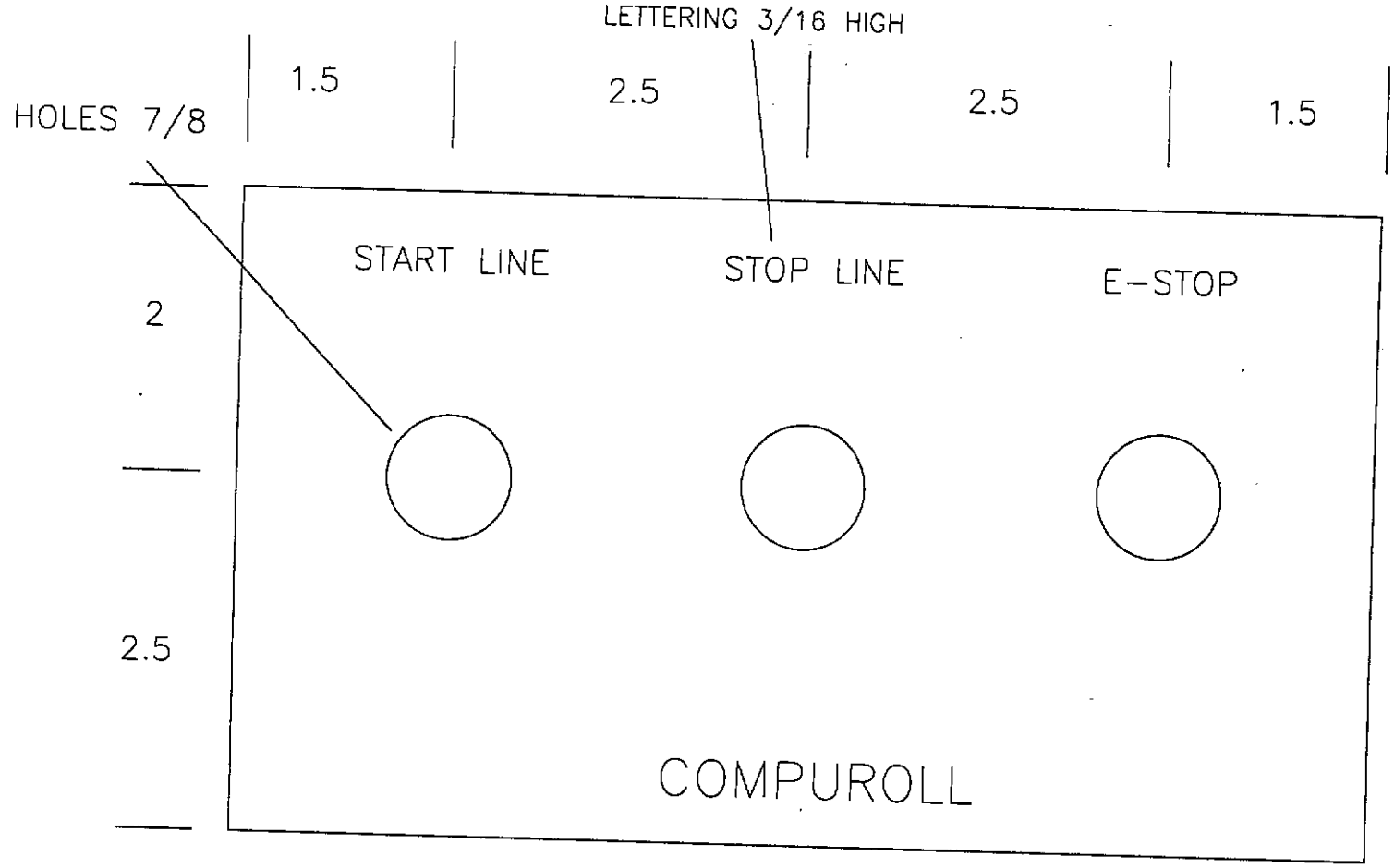
A	ISSUED FOR PRODUCTION	

OS6



A-1:1	NEXT ASSEMBLY	PROJECT	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	DESCRIPTION	DATE	SHEET OF:	DWG NO.	REV
	137LG06	137	N/A	COMPUROLL DUPLEX MILL	Apr,22,99	6 of 10	137LG05	A

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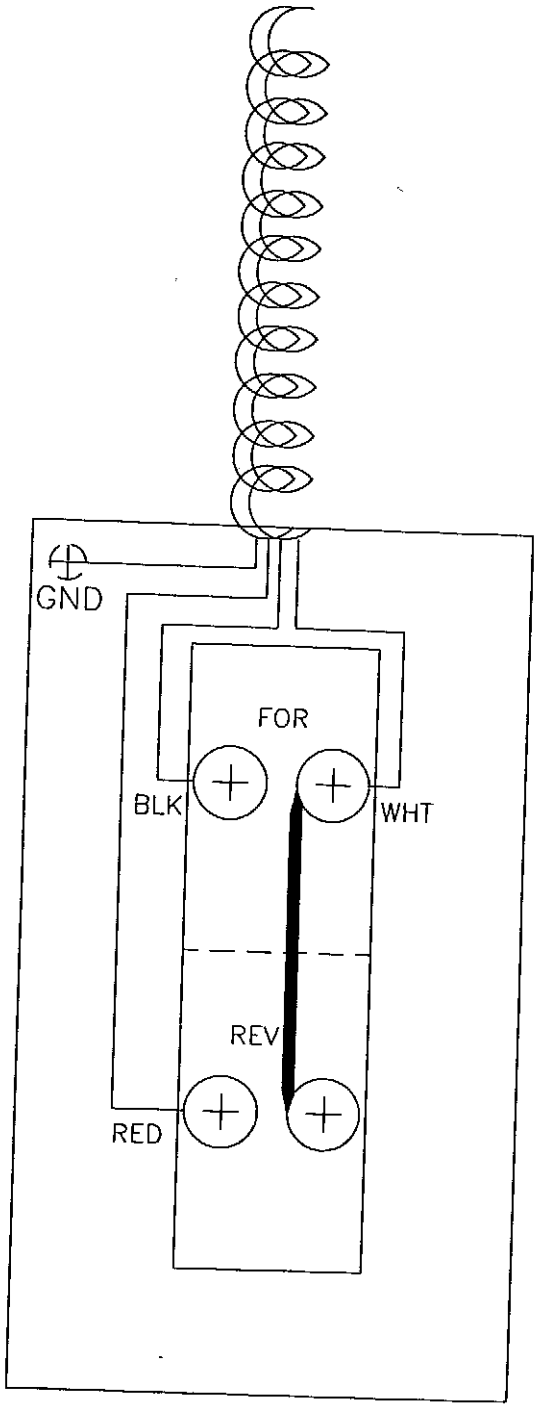
JOG PENDENT CONNECTIONS



A	ISSUED FOR PRODUCTION						
NEXT ASSEMBLY: 137LG08	PROJECT: 137	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A	DESCRIPTION: COMPUROLL DUPLEX MILL	DATE: Apr,29,99	SHEET OF: 8 of 10	DWG NO. 137LG07	REV A
A-1:1							

INTERCONNECT CONTROL SYSTEMS Ltd.
190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9
Tel.: (416)285-6650 ; Fax: (416)285-6652

BILL OF MATERIALS FOR ROLLFORMER

QTY	DESCRIPTION	I.D.	PART #	SUPPLIER
6	ABB 10HP AC DIGITAL DRIVE	D1,D2,D3,D4,D5,D6	ACS604-0016-6	AINSWORTH
6	10HP 575VAC/3/60 1800RPM MDTOR	M1,M2,M3,M4,M5,M6	----	MADISON
18	20A FUSES	FU7-FU24	FWP-20A14F	STAVERT
6	20A FUSE HOLDERS 3PH	----	1976-3	STAVERT
1	200A DISCONNECT	DC1	OES200J3P	STAVERT
2	LUG COVERS FOR DISCONNECT	---	OESA-ZX70	STAVERT
1	DISTRIBUTION BLOCK 3PH	DS1	16370-3	STAVERT
1	DISTRIBUTION BLOCK COVER	---	CPDB-3	STAVERT
2	1.5HP 575/3/60 1800RPM MOTOR	M7, M8	---	MADISON
500'	6 TWISTED PAIR SHIELDED	---	318-011-1806FR	ANIXTER
11	FUSE HOLDERS 3A - 30A BUSSMAN	FU4,5,6,25,26-38	CHM1	STAVERT
1	MAIN CONTROL ENCLOSURE	MCE	N12-DD-727216	RALSTON
1	JUNCTION BOX 16x10x06	JB-ENC	IBOH-161006	RALSTON
1	JUNCTION BOX 14x12x06	MB1	IBOH-141206	RALSTON
5	JUNCTION BOX 12x10x05	MB1-6	IBDH-121005	RALSTON
1	SET OF LEG EXTENSIONS FOR MCE	---	6-MF-16	RALSTON
2	6 POLE FEMALE INSERT 16A	PLUG D, E	CNF06	ITC
1	6 POLE MALE INSERT 16A	PLUG D, E	CNM06	ITC
2	BULK-HEAD HOUSING 6 P W/1 LEVER	PLUG D, E	CHI06L	ITC
1	6 POLE HOOD W/ 2 PEGS, 1/2"NPT SIDE ENTRY	PLUG D, E	CHOTO6L.4L	ITC
3	24 POLE FEMALE INSERT	PLUG A,B,C	CNF24	ITC
3	24 POLE MALE INSERT	PLUG A,B,C	CNM24	ITC
3	B/HEAD MOUNT 24P W/2 PEGS	PLUG A,B,C	CHI24L	ITC
3	24 POLE HOOD W/2 PEGS SIDE 3/4"NPT ENTRY	PLUG A,B,C	CHOT24.5L	ITC
1	COLUMN OF STAND FOR OS4	---	P95-0404-C	RALSTON
1	BASE OF STAND FOR OS4	---	P95-1818-B	RALSTON
1	JOG PENDENT	---	SBP-2WA	INDUSTRIAL POWER
2	48 PIN MALE MILITARY STYLE PLUG	PLUG A-E, B-E	97-3106A-36-10P	ELECTROSONIC
2	48 PIN FEMALE MILITARY STYLE PLUG	PLUG A-E, B-E	97-3102A-36-10S	ELECTROSONIC
2	PLUG CLAMP	PLUG A-E, B-E	97-3057-1024-1	ELECTROSONIC
4	E-STOP PUSH/PULL BUTTONS	PB3,4,5,6	05-MT4	STAVERT
6	S&S YELLOW PUSH BUTTONS	PB8,9,10-13	05P-F5	STAVERT
1	S&S 2 POSITION SELECTOR SWITCH	SS1	D5P-SM22	STAVERT
1	S&S 3 POSITION SELECTOR SWITCH	---	D5P-SM32	STAVERT
2	MOTOR OVERLOADS UP TO 2.5A	OL7, OL8	CT3-2.5	STAVERT
4	MOTOR STARTER CONTACTORS	M7-8R,M7-8F	CA39-10-120	STAVERT
2	S&S GREEN PUSH BUTTON	PB16,17	D5P-F3	STAVERT
2	S&S RED PUSH BUTTON	PB14,15	D5P-F4	STAVERT
1	S&S GREEN ILLUMINATED PUSH BUTTON	PB7	D5P-LF3	STAVERT
4	OMRON LIMIT SWITCHES	L.S.1-4	D4A-1101N	STAVERT
4	OMRON LIMIT SWITCHE ARMS	L.S.1-4	D4A-A00	WAINBEE
3	OPERATING CONSOLES 8x12x7	OS3, OS5, OS6	C88-081207	WAINBEE
1	OPERATING CONSOLE 12x16x9	OS4	C88-121609	RALSTON
2	STRAIN RELIEF	---	SHC1099ZP	RALSTON
3	200A FUSE FOR DISCONNECT	FU1-3	LPJ-200	STAVERT
1	60A FUSE BLOCKS	---	J600-60-3C	STAVERT
3	60A FUSES	FU31,33,200,202	LPJ-60	STAVERT
4	CONTACTS FOR MOTOR FOR/REV STARTERS	M7R,M7F,M8R,M8F	CA3P01	STAVERT
2	MECHANICAL INTERLOCK FOR FOR/REV CONTACTOR	---	CM3-12	STAVERT
2	2KVA 600VAC-120VAC TRANSFORMER	T1	CS2000JA	JACK A. FROST
8	5A FUSES	FU25-30, 34-35	LPCC5	STAVERT
1	15A FUSES	FU36	LPCC15	STAVERT
1	10A FUSES	FU37	LPCC10	STAVERT
1	6A FUSES	FU38	LPCC6	STAVERT

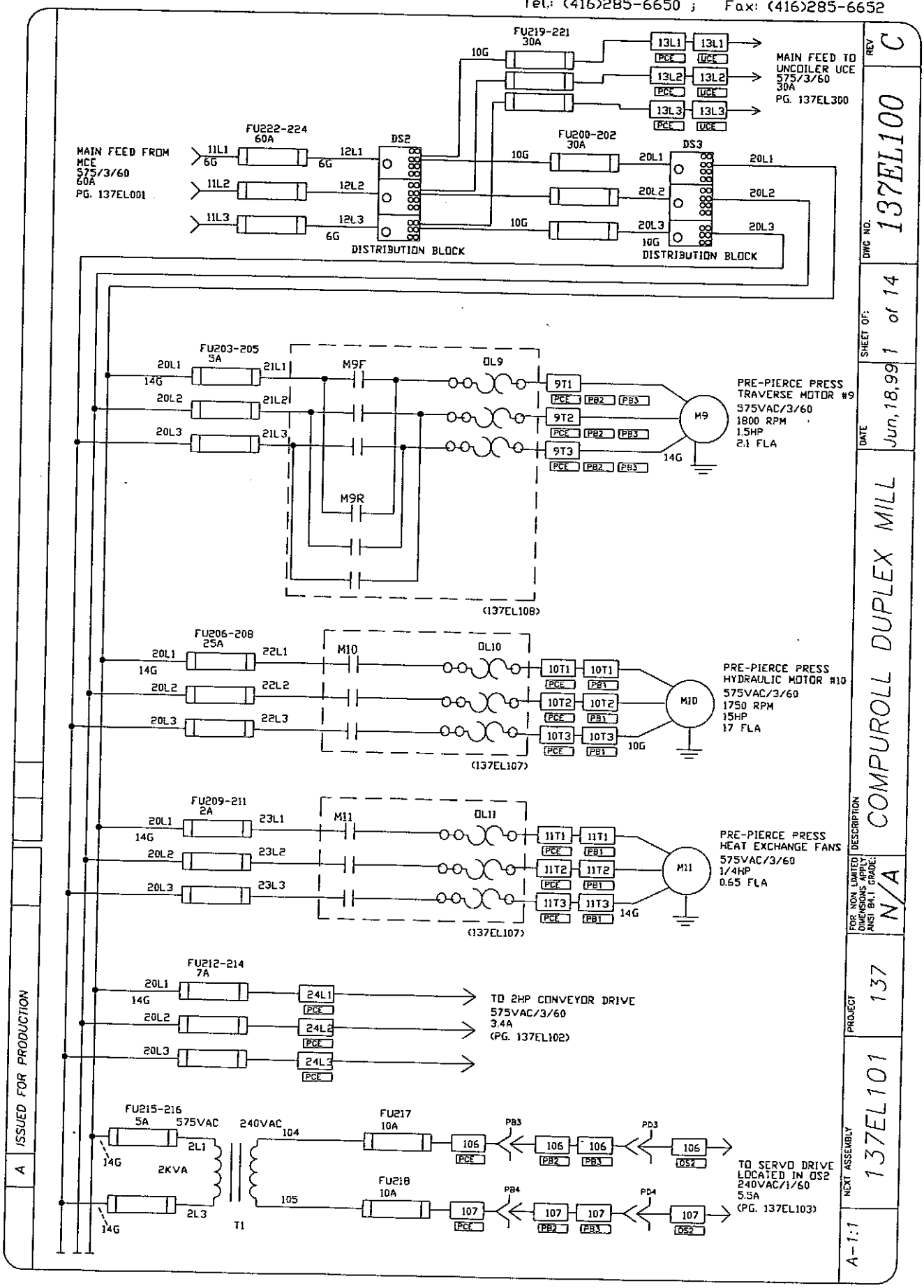
REV B | DWG NO. 137BOM0 | SHEET OF: 1 of 3 | DATE May,31,99 | DESCRIPTION COMPUROLL DUPLEX MILL | FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A | PROJECT 137 | NEXT ASSEMBLY | A-1:1

A | ISSUED FOR PRODUCTION

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652



REV	C
DWG NO.	137EL100
SHEET OF:	1 of 14
DATE	Jun, 18, 99
DESCRIPTION	COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A
PROJECT	137
NEXT ASSEMBLY	137EL101
A-1:1	

A ISSUED FOR PRODUCTION

INTERCONNECT CONTROL SYSTEMS Ltd.
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Canada, M1P 2N9
Tel.: (416)285-6650 ; Fax: (416)285-6652

THIS SHEET
INTENTIONALLY
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A	ISSUED FOR PRODUCTION							
A-1:1	NEXT ASSEMBLY: 137EL103	PROJECT: 137	FOR NON LIMITED DIMENSIONS APPLY ANSI 84.1 GRADE: N/A	DESCRIPTION: COMPUROLL DUPLEX MILL	DATE: May,28,99	SHEET OF: 2 of 14	DWG NO. 137EL101	REV A

INTERCONNECT CONTROL SYSTEMS Ltd.
190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9
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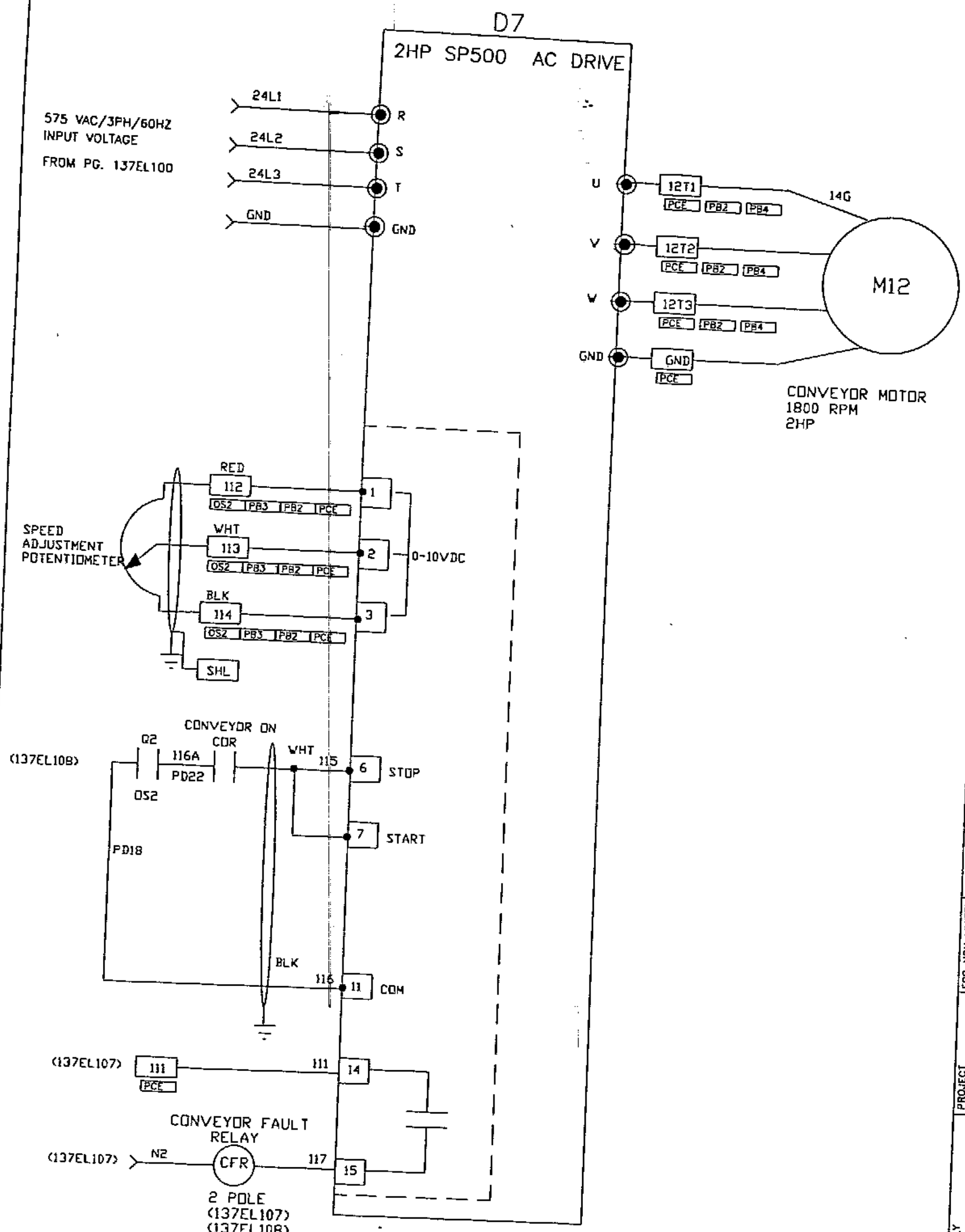
CONVEYOR DRIVE



ISSUED FOR PRODUCTION

REV	DWG NO.	SHEET OF:	DATE	DESCRIPTION	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	PROJECT	NEXT ASSEMBLY
B	137EL102	3 of 14	Jun, 16,99	COMPUROLL DUPLEX MILL	N/A	137	137EL103

A A-1:1

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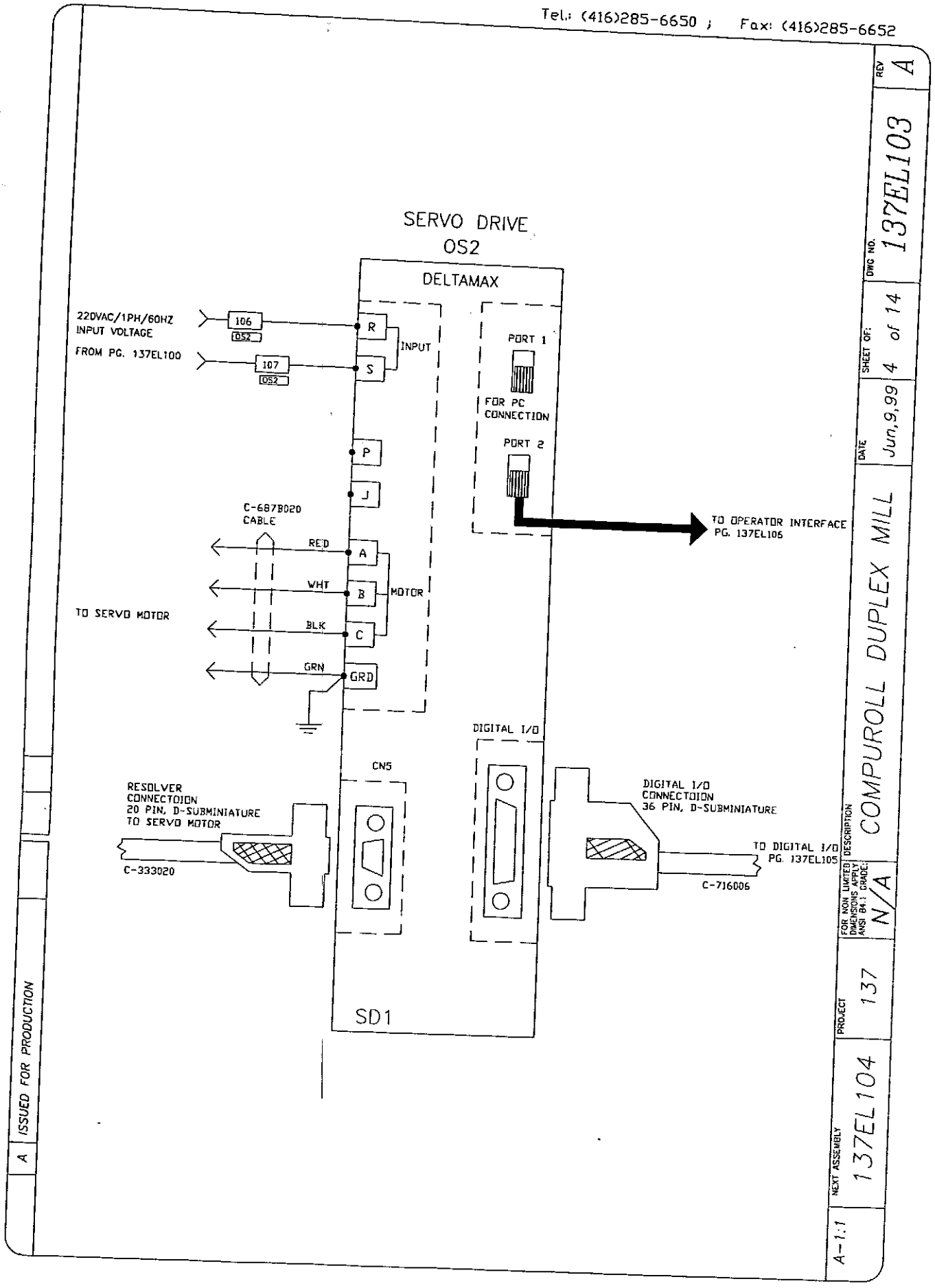
190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652



INTERCONNECT CONTROL SYSTEMS Ltd.

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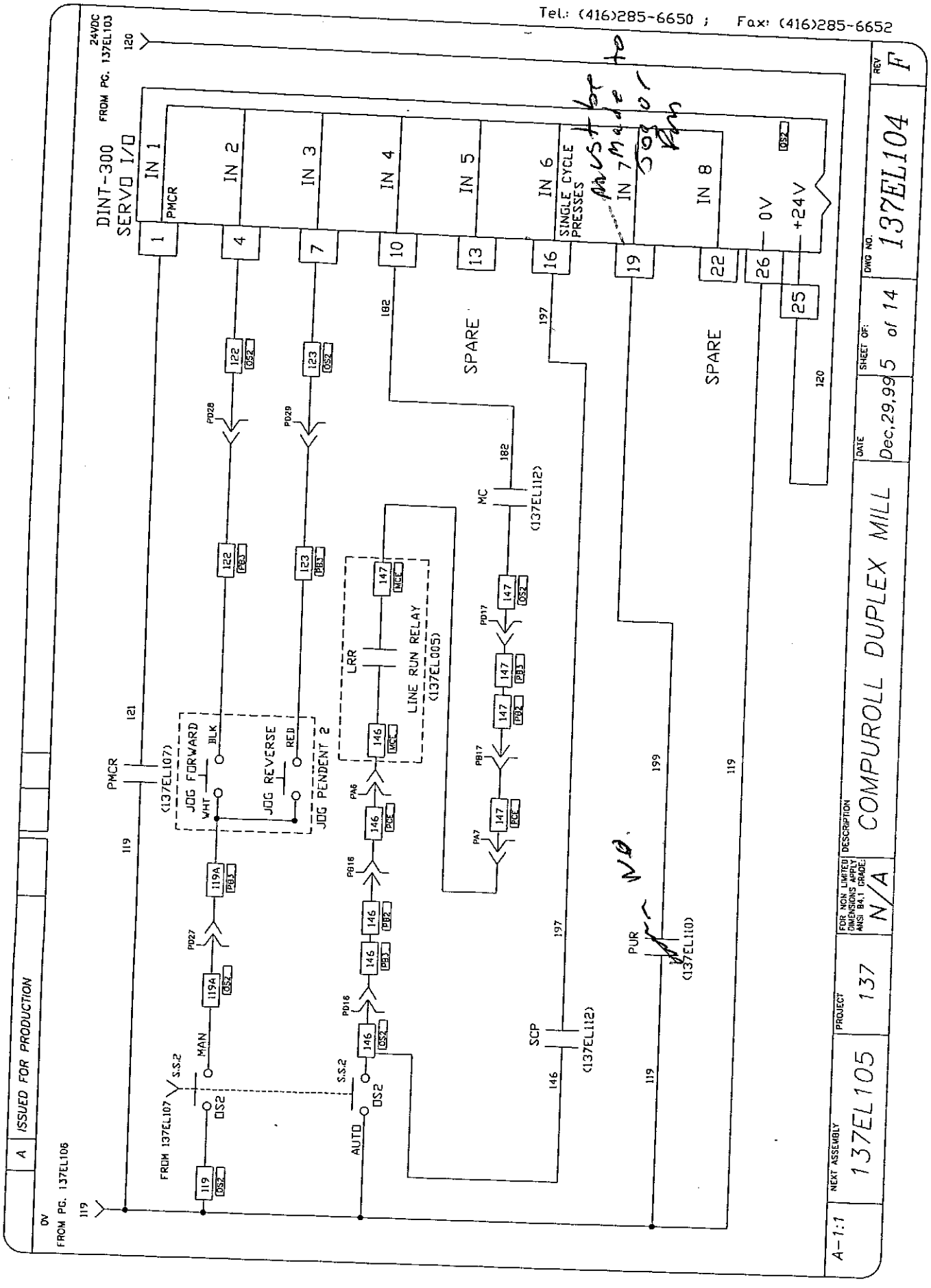
Tel.: (416)285-6650 ; Fax: (416)285-6652



INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
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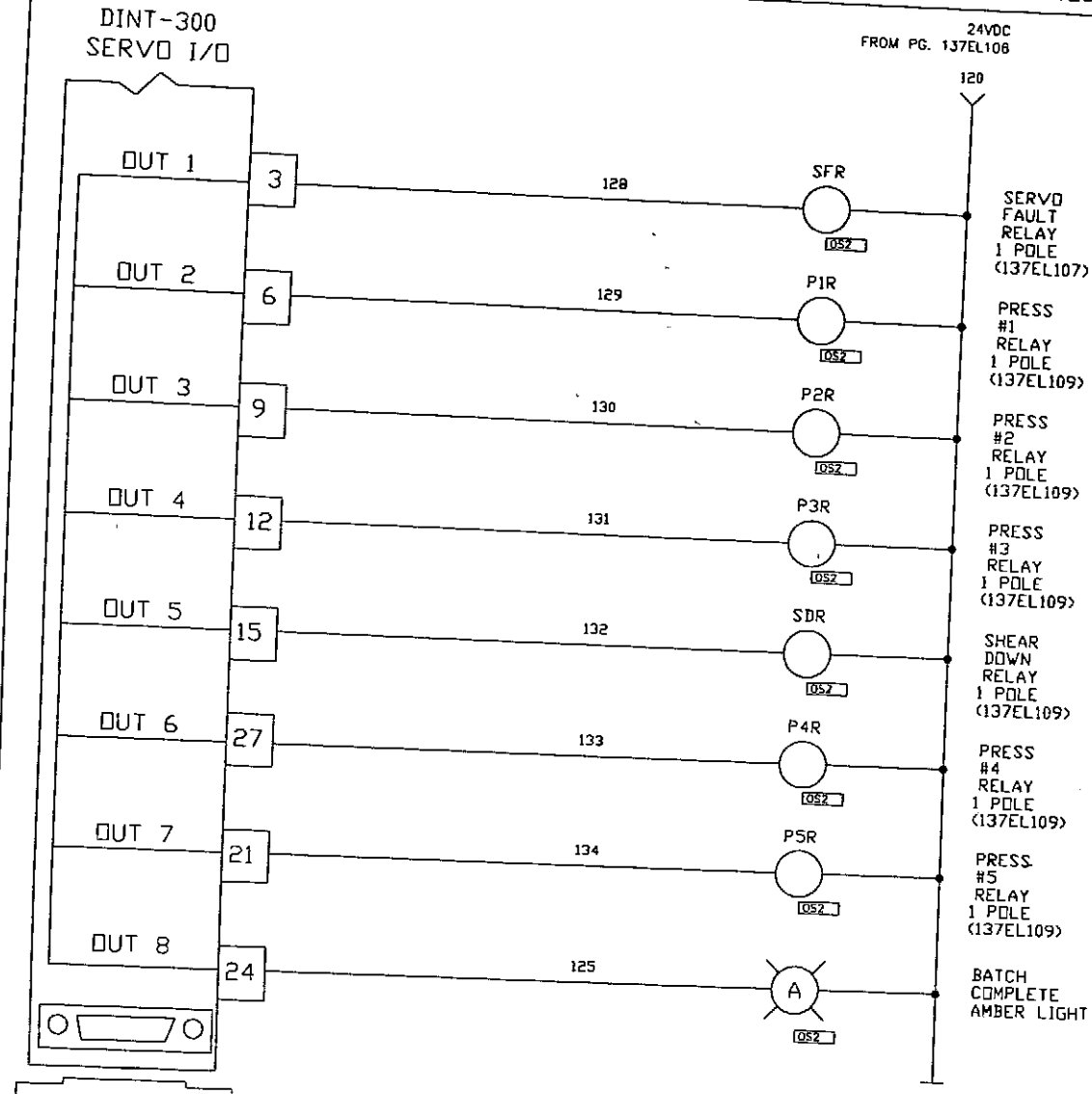
Tel.: (416)285-6650 ; Fax: (416)285-6652



REV	E
DWG NO.	137EL105
SHEET OF:	6 of 14
DATE	Dec,29,99
DESCRIPTION	COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A
PROJECT	137
NEXT ASSEMBLY	137EL106
A–1:1	
A	ISSUED FOR PRODUCTION

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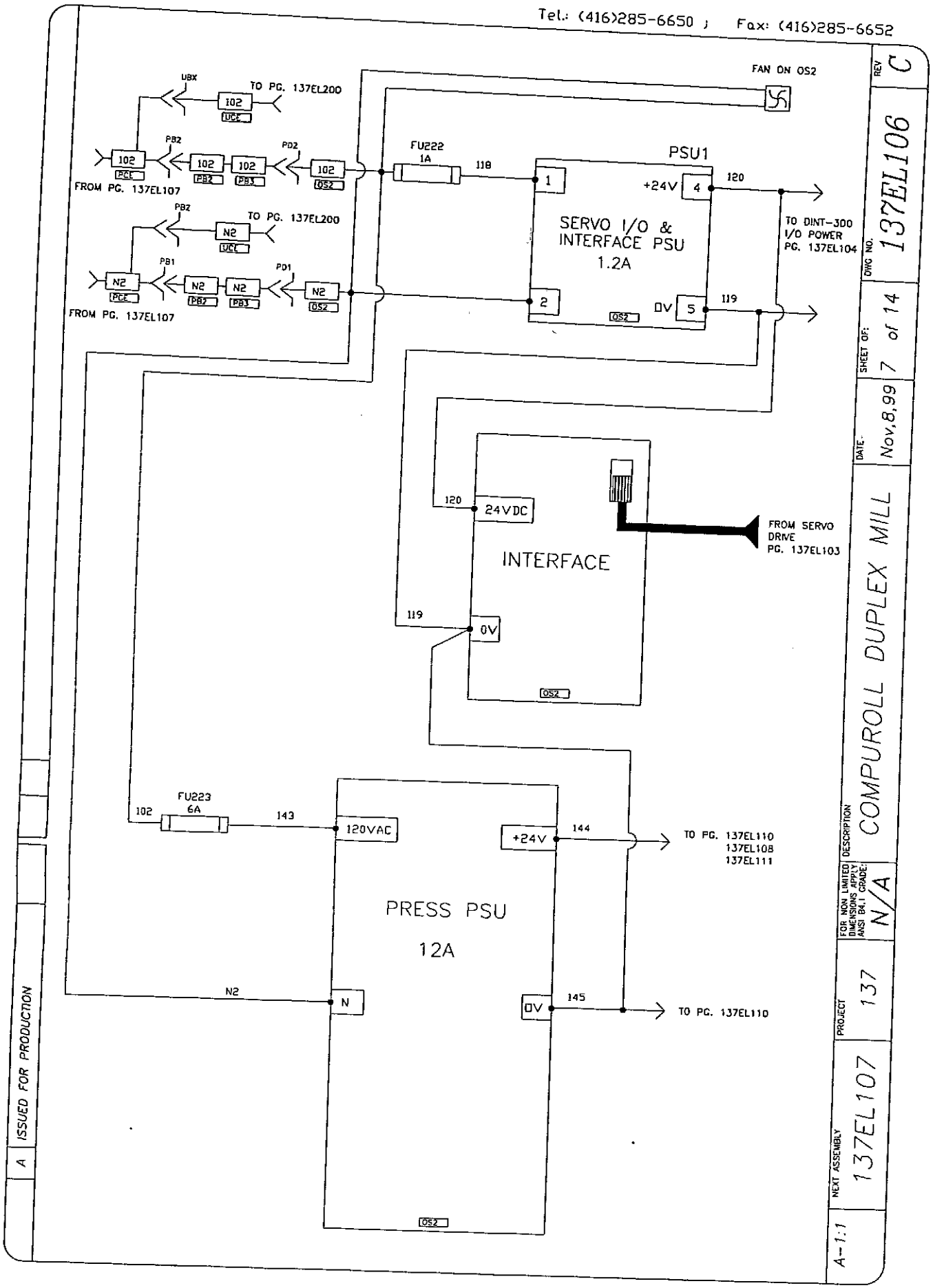

INTERCONNECT CONTROL SYSTEMS Ltd.

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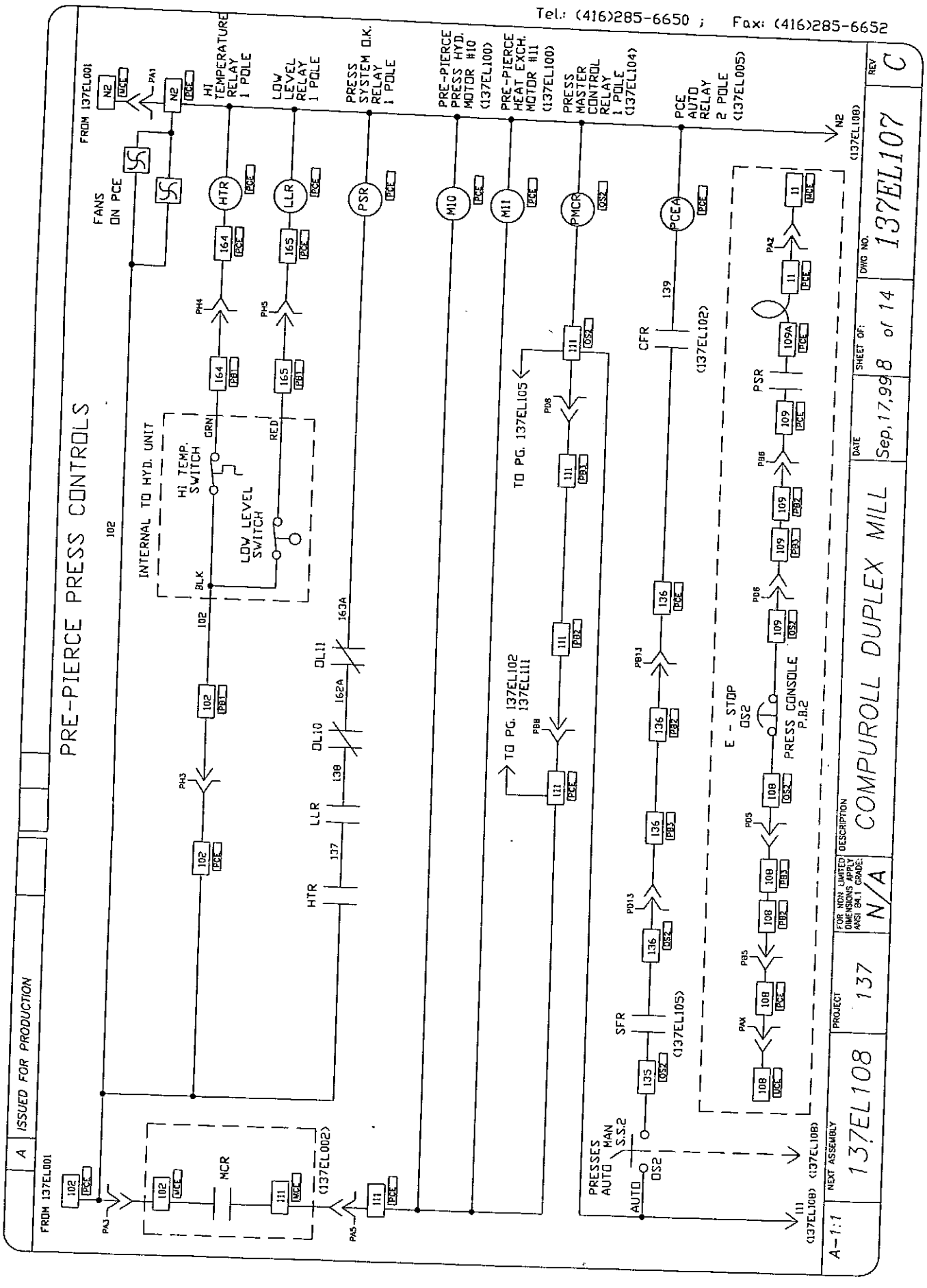
Tel.: (416)285-6650 ; Fax: (416)285-6652



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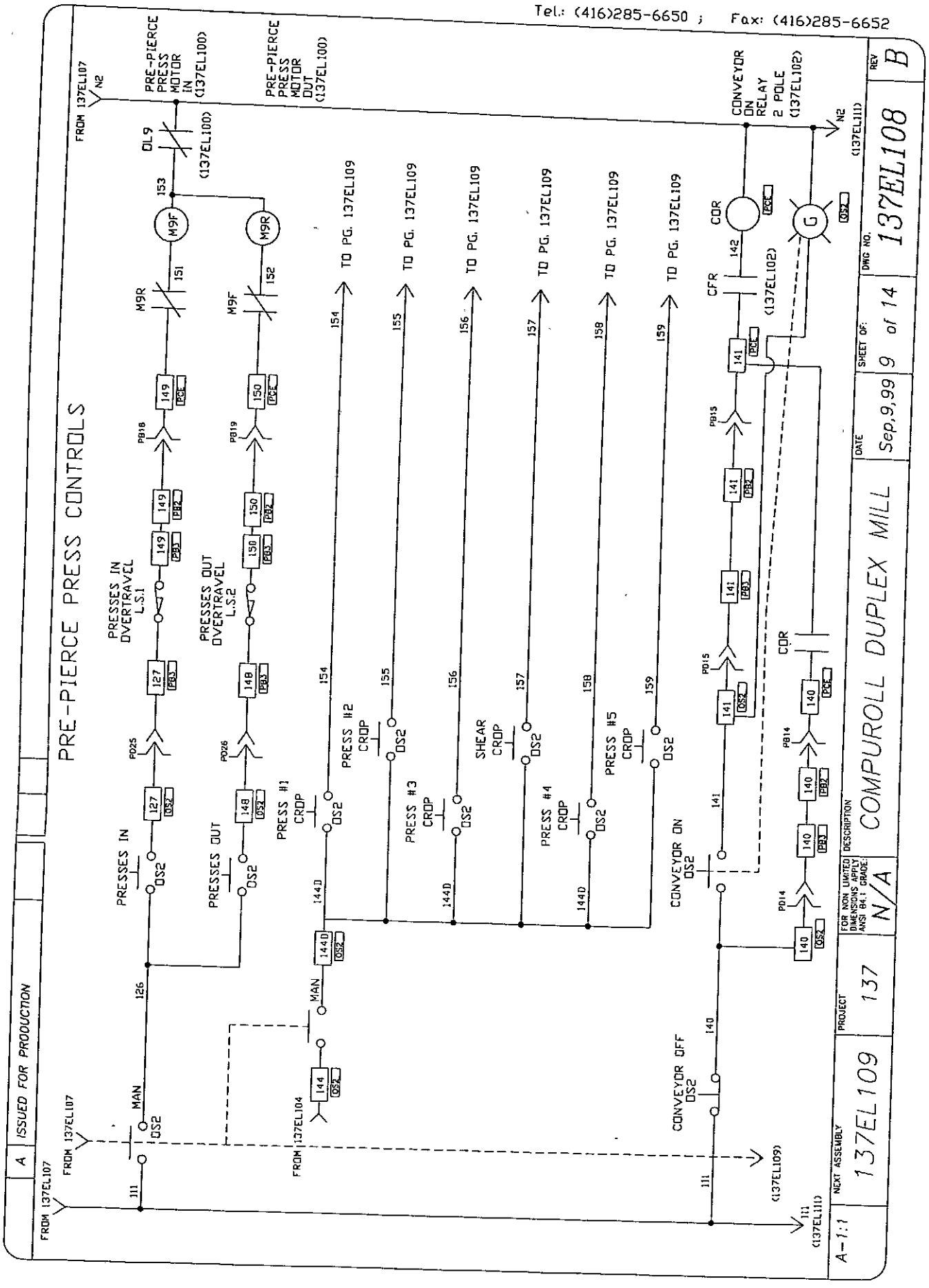

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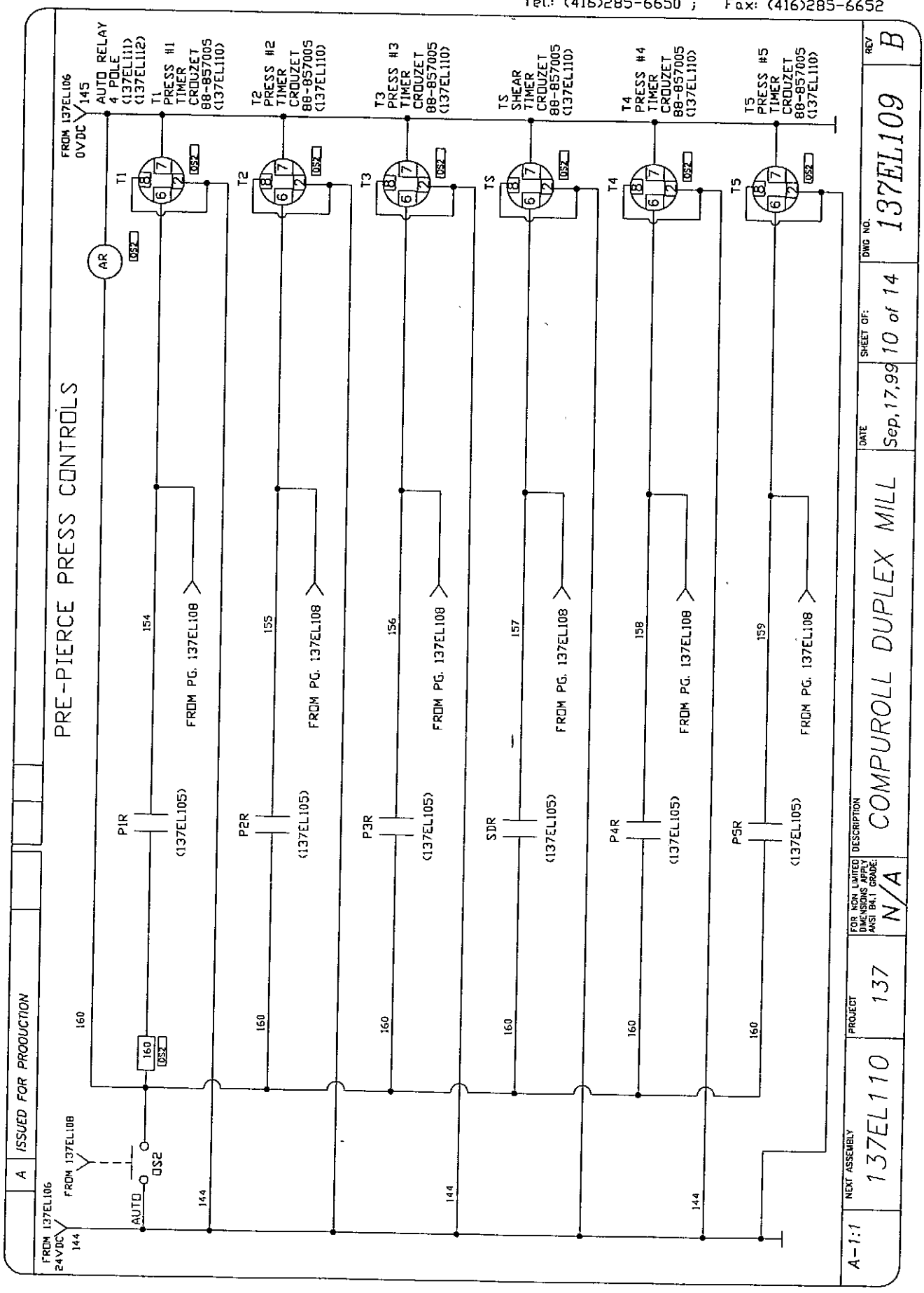

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
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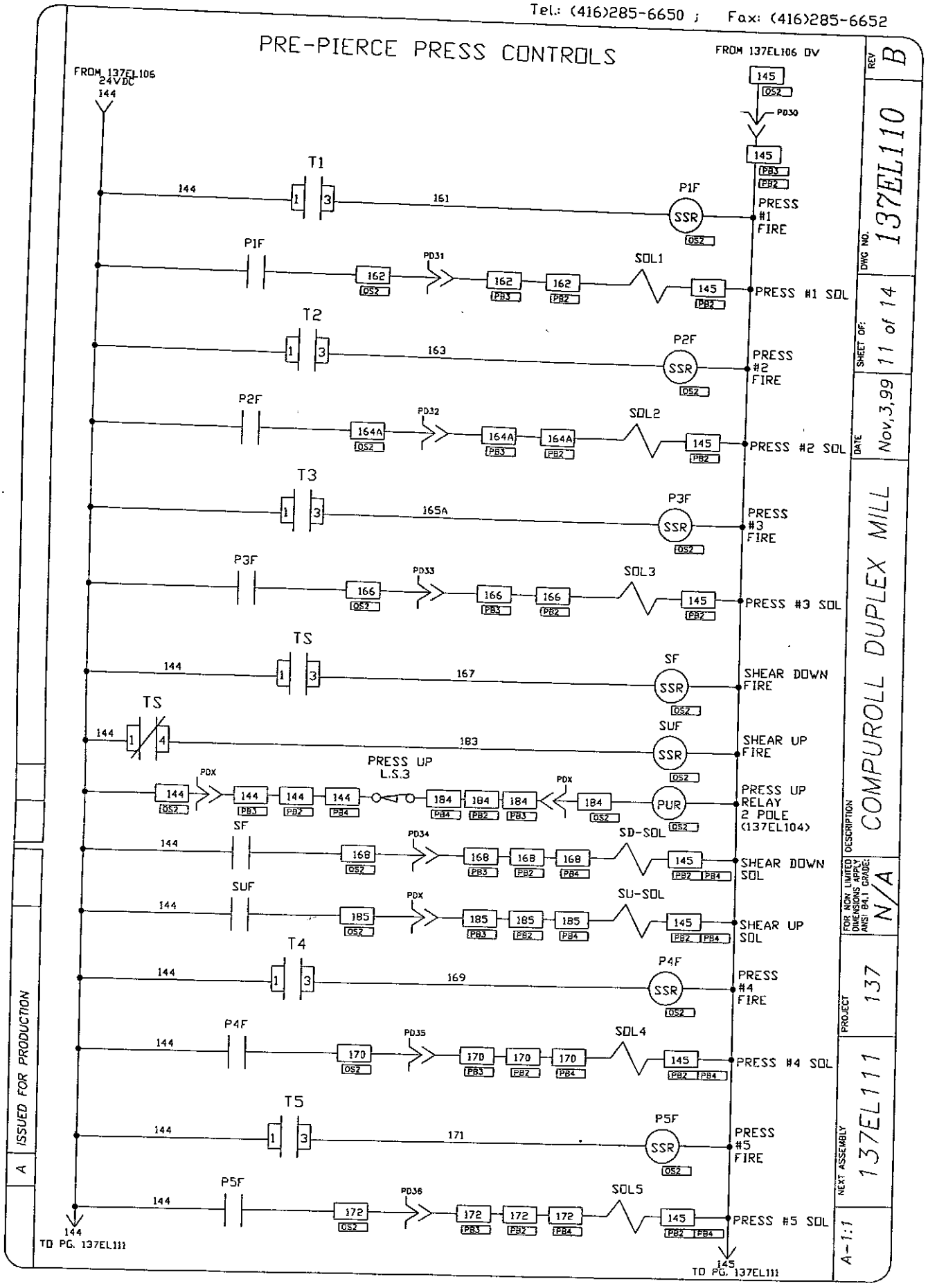
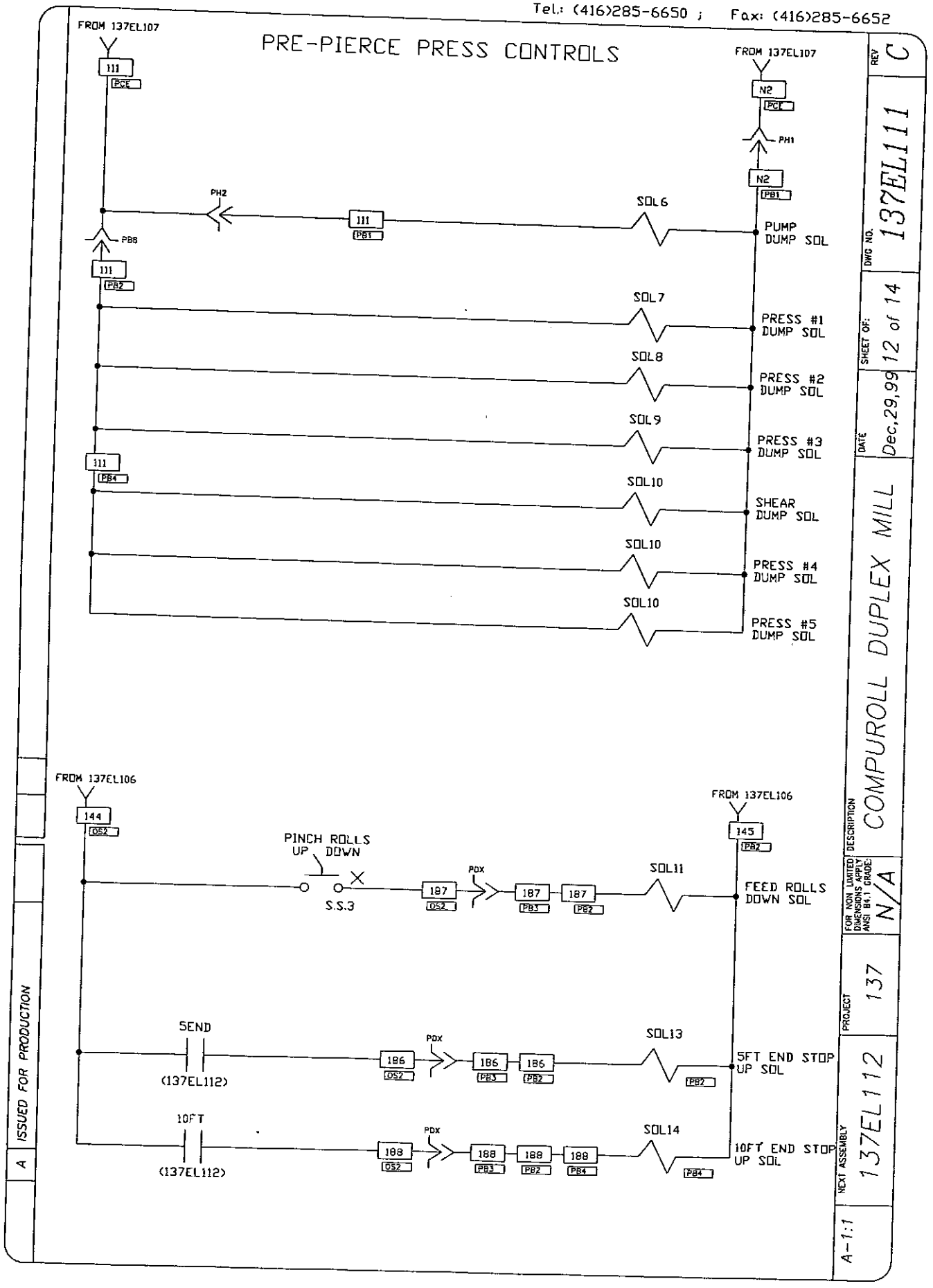
Tel.: (416)285-6650 ; Fax: (416)285-6652



INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652



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190 Nantucket Blvd., Scarborough, Ontario
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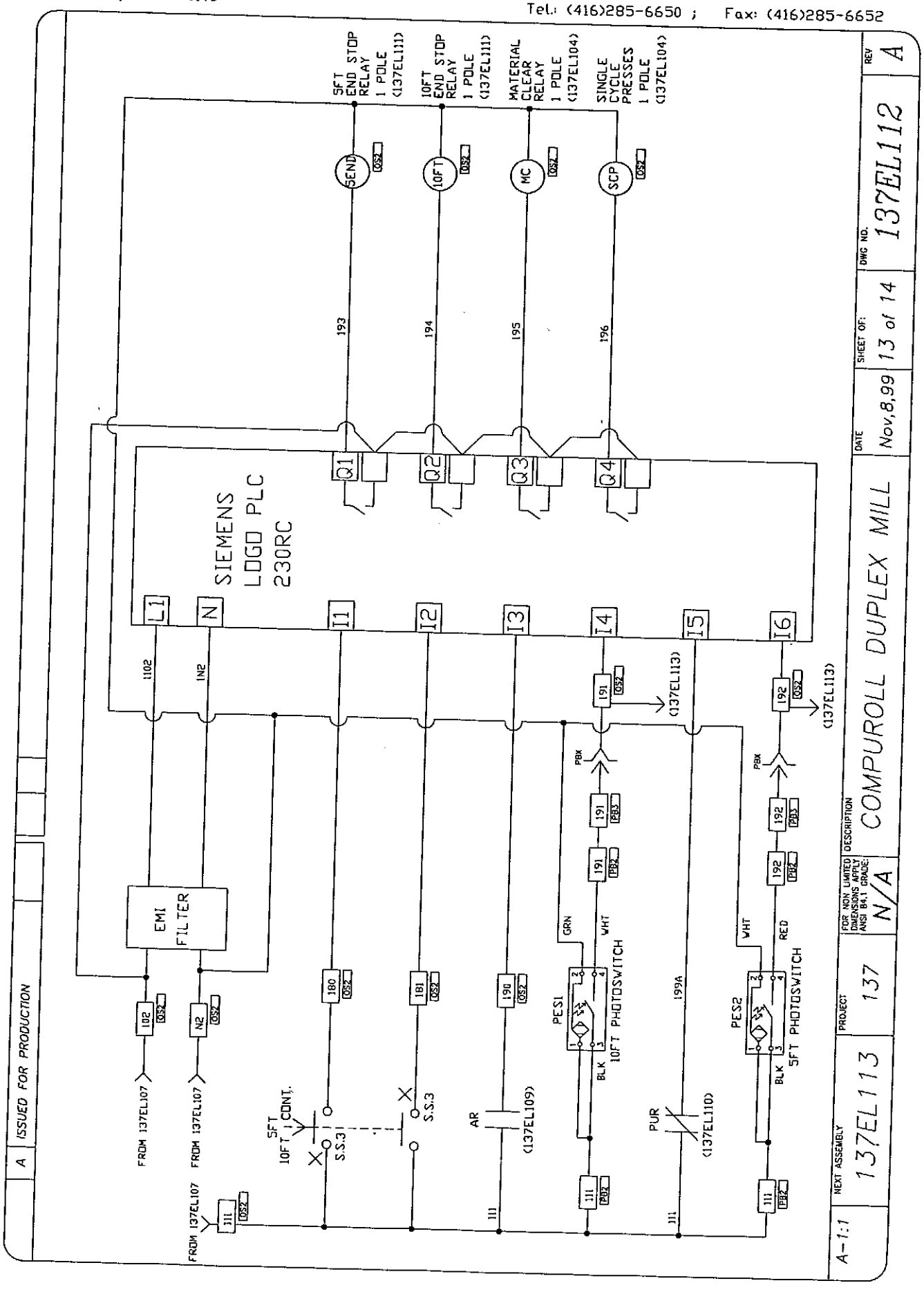
Tel.: (416)285-6650 ; Fax: (416)285-6652



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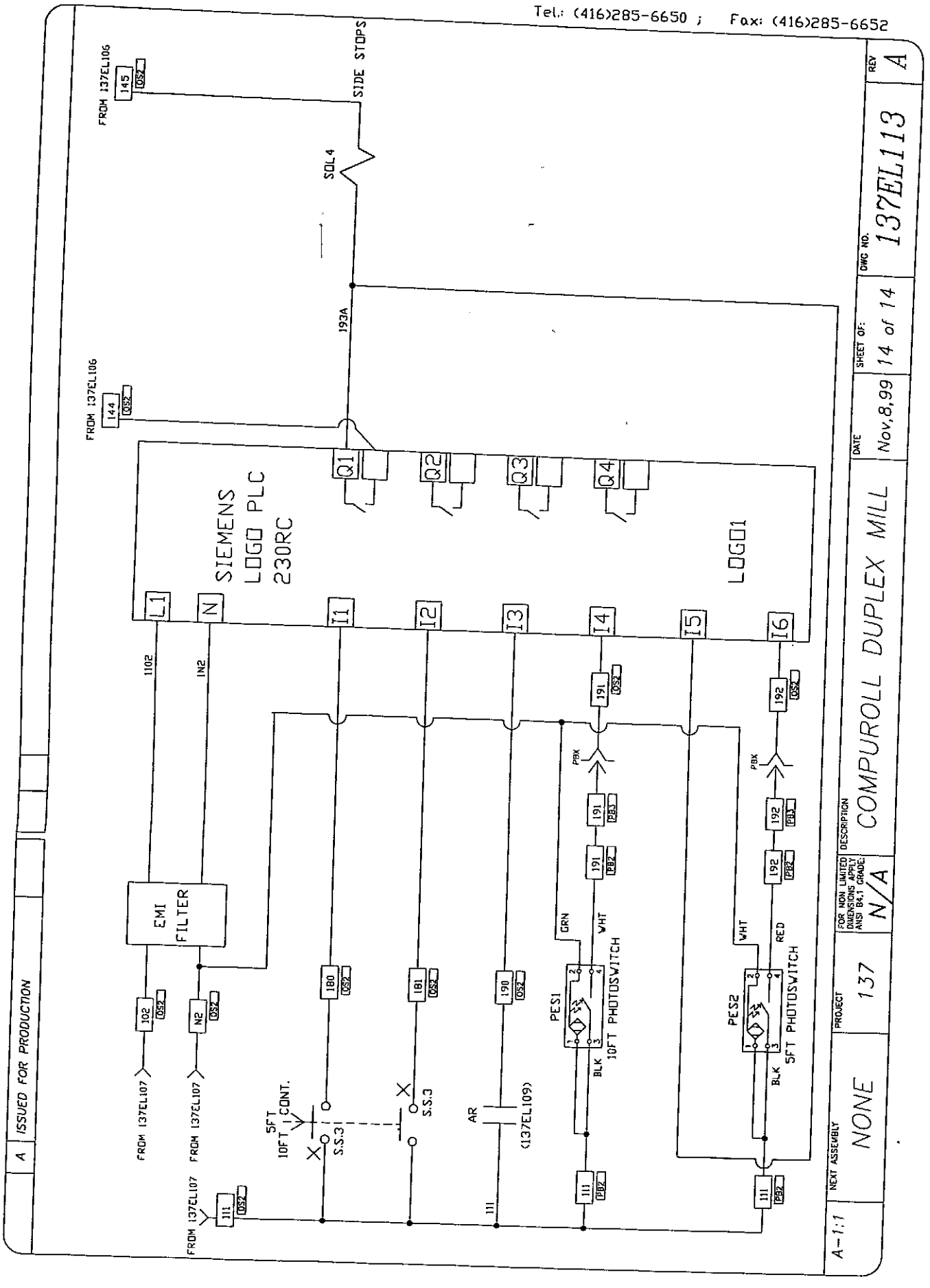

INTERCONNECT CONTROL SYSTEMS Ltd.

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Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652

PRE-PIERCE PRESS WIRE LIST

CONDUIT/PLUG A

6' CONDUCTOR FROM SOCKET PCE TO TERMINAL STRIP PCE

30' CONDUCTOR FROM PLUG MCE TO TERMINAL STRIP MCE

PCE TERM STRIP	PCE WIRE COLOR	PCE SOCKET-A PIN OUT	PCE MALE 16 PIN	MCE FEMALE 16 PIN	MCE PLUG-A PIN OUT	MCE WIRE COLOR	MCE TERM STRIP
N2	WHT	PA1	1	1	PA1	WHT	N2
11	RED	PA2	2	2	PA2	RED	11
102	RED	PA3	3	3	PA3	RED	102
PA4/NC	RED	PA4	4	4	PA4	RED	PA4/NC
111	RED	PA5	5	5	PA5	RED	111
146	BLU	PA6	6	6	PA6	BLU	146
147	BLU	PA7	7	7	PA7	BLU	147
PA8/NC	RED	PA8	8	8	PA8	RED	PA8/NC
200	RED	PA9	9	9	PA9	RED	200
202	RED	PA10	10	10	PA10	RED	202
100	RED	PA11	11	11	PA11	RED	100
205	RED	PA12	12	12	PA12	RED	205
108	RED	PA13	13	13	PA13	RED	108
109A	RED	PA14	14	14	PA14	RED	109A
PA15/NC	BLU	PA15	15	15	PA15	BLU	PA15/NC
PA16/NC	BLU	PA16	16	16	PA16	BLU	PA16/NC
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

CONDUIT/PLUG B

5' CONDUCTOR FROM SOCKET PCE TO TERMINAL STRIP PCE

20' CONDUCTOR FROM PLUG PB2 TO TERMINAL STRIP PB2

PCE TERM STRIP	PCE WIRE COLOR	PCE SOCKET-B PIN OUT	PCE FEMALE 24 PIN	PB2 MALE 24 PIN	PB2 PLUG-B PIN OUT	PB2 WIRE COLOR	PB2 TERM STRIP
N2	WHT	PB1	1	1	PB1	WHT	N2
102	RED	PB2	2	2	PB2	RED	102
106	RED	PB3	3	3	PB3	RED	106
107	RED	PB4	4	4	PB4	RED	107
108	RED	PB5	5	5	PB5	RED	108
109	RED	PB6	6	6	PB6	RED	109
PB7/NC	RED	PB7	7	7	PB7	RED	PB7/NC
111	RED	PB8	8	8	PB8	RED	111
112 →	RED →	PB9 →	9	9	PB9 →	RED →	112
113 →	WHT →	PB10 →	10	10	PB10 →	WHT →	113
114 →	BLK →	PB11 →	11	11	PB11 →	BLK →	114
SHL →	--- →	PB12 →	12	12	PB12 →	--- →	SHL
136	RED	PB13	13	13	PB13	RED	136
140	RED	PB14	14	14	PB14	RED	140
141	RED	PB15	15	15	PB15	RED	141
146	BLU	PB16	16	16	PB16	BLU	146
147	BLU	PB17	17	17	PB17	BLU	147
149	RED	PB18	18	18	PB18	RED	149
150	RED	PB19	19	19	PB19	RED	150
PB20/NC	RED	PB20	20	20	PB20	RED	PB20/NC
PB21/NC	RED	PB21	21	21	PB21	RED	PB21/NC
PB22/NC	RED	PB22	22	22	PB22	RED	PB22/NC
PB23/NC	BLU	PB23	23	23	PB23	BLU	PB23/NC
PB24/NC	BLU	PB24	24	24	PB24	BLU	PB24/NC
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

A ISSUED FOR PRODUCTION

REV A
DWG NO. 137CN100
SHEET OF: 1 of 4
DATE Jun,17,99
DESCRIPTION COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A
PROJECT 137
NEXT ASSEMBLY 137CN101
A-1:1

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652

PRE-PIERCE PRESS WIRE LIST

CONDUIT/PLUG K

6' CONDUCTOR FROM SOCKET PCE TO TERMINAL STRIP PCE

20' CONDUCTOR FROM PLUG PB2 TO TERMINAL STRIP PB2

PCE TERM STRIP	PCE WIRE COLOR	PCE SOCKET-K PIN OUT	PCE FEMALE 6 PIN	PB2 MALE 6 PIN	PB2 PLUG-K PIN OUT	PB2 WIRE COLOR	PB2 TERM STRIP
9T1	BLK	PK1	1	1	PK1	BLK	9T1
9T2	BLK	PK2	2	2	PK2	BLK	9T2
9T3	BLK	PK3	3	3	PK3	BLK	9T3
12T1	BLK	PK4	4	4	PK4	BLK	12T1
12T2	BLK	PK5	5	5	PK5	BLK	12T2
12T3	BLK	PK6	6	6	PK6	BLK	12T3
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

CONDUIT/PLUG F

6' CONDUCTOR FROM SOCKET PCE TO TERMINAL STRIP PCE

20' CONDUCTOR FROM PLUG PB1 TO TERMINAL STRIP PB1

PCE TERM STRIP	PCE WIRE COLOR	PCE SOCKET-F PIN OUT	PCE FEMALE 6 PIN 35A	PB1 MALE 6 PIN 35A	PB1 PLUG-F PIN OUT	PB1 WIRE COLOR	PB1 TERM STRIP
10T1	BLK	PF1	1	1	PF1	BLK	10T1
10T2	BLK	PF2	2	2	PF2	BLK	10T2
10T3	BLK	PF3	3	3	PF3	BLK	10T3
11T1	BLK	PF4	4	4	PF4	BLK	11T1
11T2	BLK	PF5	5	5	PF5	BLK	11T2
11T3	BLK	PF6	6	6	PF6	BLK	11T3
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

CONDUIT/PLUG H

6' CONDUCTOR FROM SOCKET PCE TO TERMINAL STRIP PCE

20' CONDUCTOR FROM PLUG PB1 TO TERMINAL STRIP PB1

PCE TERM STRIP	PCE WIRE COLOR	PCE SOCKET-H PIN OUT	PCE FEMALE 6 PIN	PB1 MALE 6 PIN	PB1 PLUG-H PIN OUT	PB1 WIRE COLOR	PB1 TERM STRIP
N2	WHT	PH1	1	1	PH1	WHT	N2
111	RED	PH2	2	2	PH2	RED	111
102	RED	PH3	3	3	PH3	RED	102
164	RED	PH4	4	4	PH4	RED	164
165	RED	PH5	5	5	PH5	RED	165
PH6/NC	RED	PH6	6	6	PH6	RED	PH6/NC
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

A ISSUED FOR PRODUCTION

REV B
DWG NO. 137CN101
SHEET OF: 2 of 4
DATE Jun,22,99
DESCRIPTION COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A
PROJECT 137
NEXT ASSEMBLY 137CN102
A-1:1

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel: (416)285-6650 ; Fax: (416)285-6652

PRE-PIERCE PRESS WIRE LIST

CONDUIT/PLUG D

5' CONDUCTOR FROM SOCKET PB3 TO TERMINAL STRIP IN PB3				20' CONDUCTOR FROM PLUG DS2 TO TERMINAL STRIP DS2			
PB3 TERM STRIP	PB3 WIRE COLOR	PB3 SOCKET-D PIN OUT	PB3 FEMALE 48 PIN	DS2 MALE 48 PIN	DS2 PLUG-D PIN OUT	DS2 WIRE COLOR	DS2 TERM STRIP
N2	WHT	PD1	1	1	PD1	WHT	N2
102	RED	PD2	2	2	PD2	RED	102
106	RED	PD3	3	3	PD3	RED	106
107	RED	PD4	4	4	PD4	RED	107
108	RED	PD5	5	5	PD5	RED	108
109	RED	PD6	6	6	PD6	RED	109
PD7/NC	RED	PD7	7	7	PD7	RED	PD7/NC
111	RED	PD8	8	8	PD8	RED	111
112	RED	PD9	9	9	PD9	RED	112
113	WHT	PD10	10	10	PD10	WHT	113
114	BLK	PD11	11	11	PD11	BLK	114
SHL	---	PD12	12	12	PD12	---	SHL
136	RED	PD13	13	13	PD13	RED	136
140	RED	PD14	14	14	PD14	RED	140
141	RED	PD15	15	15	PD15	RED	141
146	BLU	PD16	16	16	PD16	BLU	146
147	BLU	PD17	17	17	PD17	BLU	147
191	RED	PD18	18	18	PD18	RED	191
PD19/NC	RED	PD19	19	19	PD19	RED	PD19/NC
188	BLU	PD20	20	20	PD20	BLU	188
189	BLU	PD21	21	21	PD21	BLU	189
PD22/NC	RED	PD22	22	22	PD22	RED	PD22/NC
PD23/NC	RED	PD23	23	23	PD23	RED	PD23/NC
PD24/NC	RED	PD24	24	24	PD24	RED	PD24/NC
127	RED	PD25	25	25	PD25	RED	127
148	RED	PD26	26	26	PD26	RED	148
119A	BLU	PD27	27	27	PD27	BLU	119A
122	BLU	PD28	28	28	PD28	BLU	122
123	BLU	PD29	29	29	PD29	BLU	123
145	BLU	PD30	30	30	PD30	BLU	145
162	BLU	PD31	31	31	PD31	BLU	162
164A	BLU	PD32	32	32	PD32	BLU	164A
166	BLU	PD33	33	33	PD33	BLU	166
168	BLU	PD34	34	34	PD34	BLU	168
170	BLU	PD35	35	35	PD35	BLU	170
172	BLU	PD36	36	36	PD36	BLU	172
144	BLU	PD37	37	37	PD37	BLU	144
184	BLU	PD38	38	38	PD38	BLU	184
185	BLU	PD39	39	39	PD39	BLU	185
186	BLU	PD40	40	40	PD40	BLU	186
187	BLU	PD41	41	41	PD41	BLU	187
PD42/NC	BLU	PD42	42	42	PD42	BLU	PD42/NC
PD43/NC	BLU	PD43	43	43	PD43	BLU	PD43/NC
NC	---	PD44	44	44	PD44	---	NC
NC	---	PD45	45	45	PD45	---	NC
NC	---	PD46	46	46	PD46	---	NC
NC	---	PD47	47	47	PD47	---	NC
NC	---	PD48	48	48	PD48	---	NC
GRD	GRN	GRD	GRD	GRD	GRD	GRN	GRD

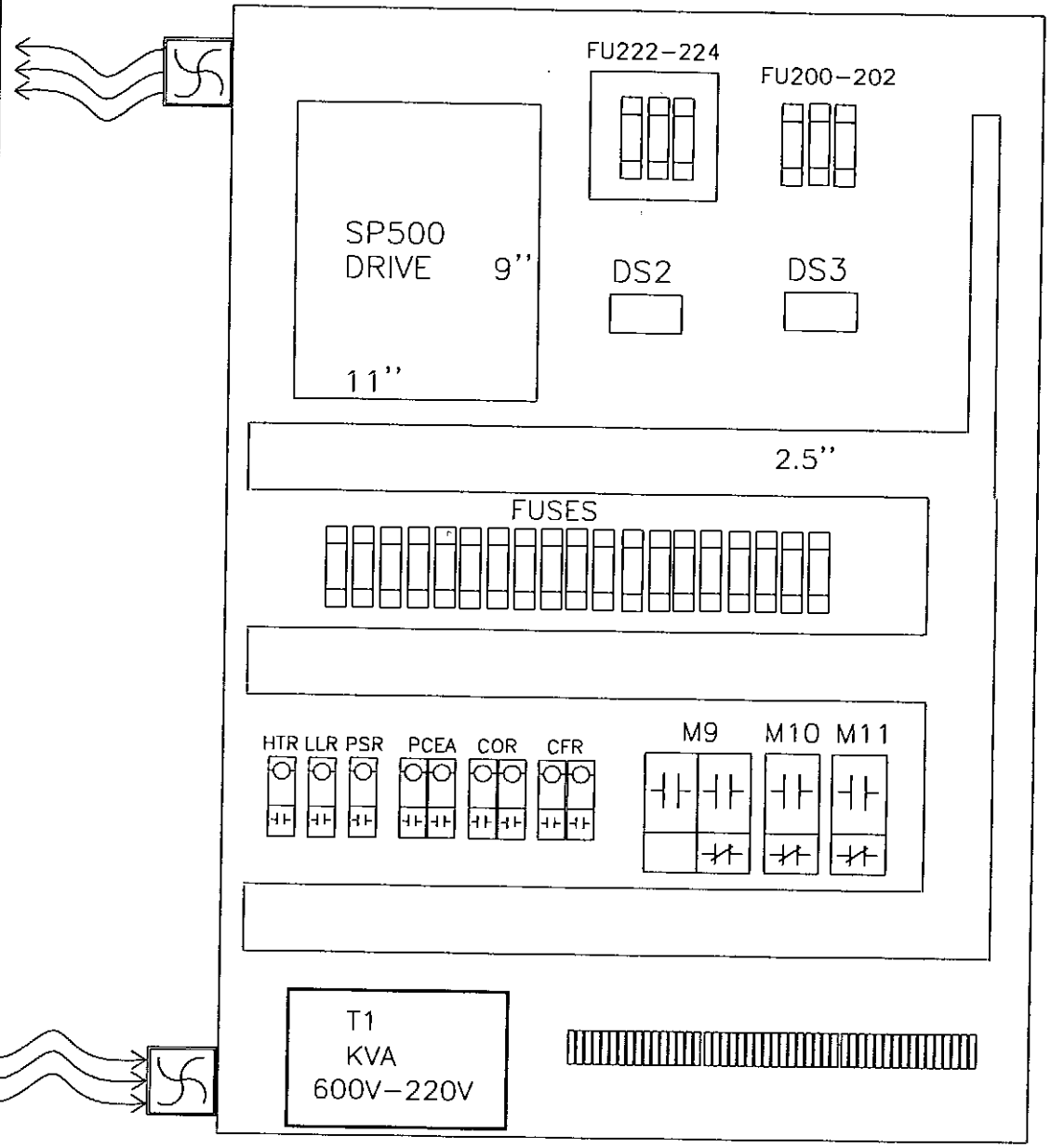
A	ISSUED FOR PRODUCTION								
REV	C								
DWG NO.	137CN103								
SHEET OF:	4 of 4								
DATE	Jun,23,99								
DESCRIPTION	COMPUROLL DUPLEX MILL								
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A								
PROJECT	137								
NEXT ASSEMBLY	NONE								
A-1:1									

INTERCONNECT CONTROL SYSTEMS Ltd.

190 Nantucket Blvd., Scarborough, Ontario
Canada, M1P 2N9

Tel.: (416)285-6650 ; Fax: (416)285-6652

PRE-PIERCE PRESS CABINET
PCE



A	ISSUED FOR PRODUCTION								
REV	DWG NO.	SHEET OF:	DATE	DESCRIPTION	FOR NON LIMITED DIMENSIONS APPLY ANSI 84.1 GRADE:	PROJECT	NEXT ASSEMBLY		
B	137LG101	1 of 3	Jun,16,99	COMPUROLL DUPLEX MILL	N/A	137	137LG102		

A-1:1

INTERCONNECT CONTROL SYSTEMS Ltd.

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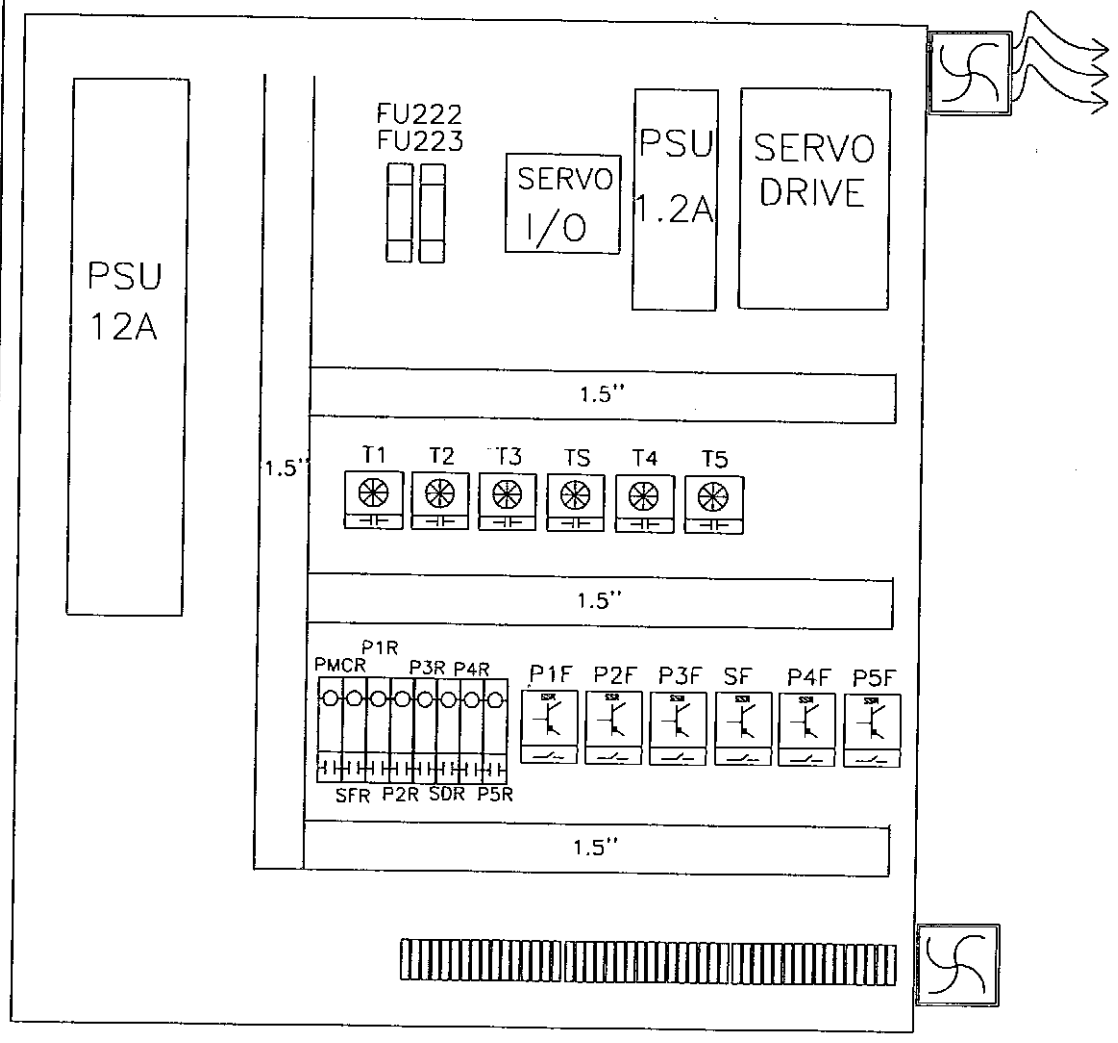
PRE-PIERCE PRESS CONSOLE
OS2 (INNER PANEL)

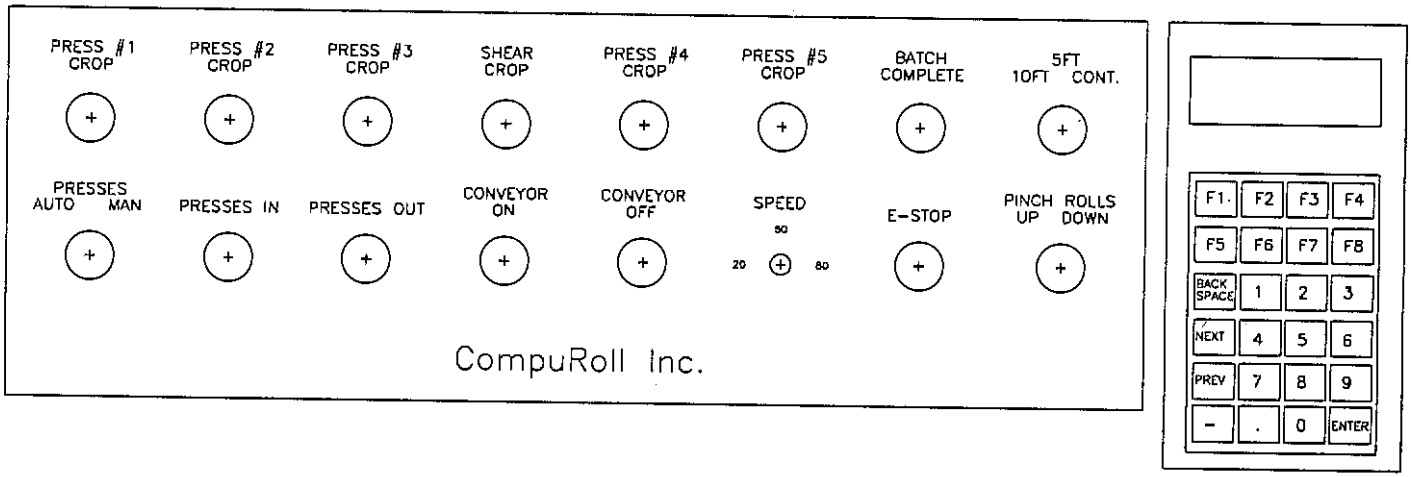


REV	A
DWG NO.	137LG102
SHEET OF:	2 of 3
DATE	Jun, 16, 99
DESCRIPTION	COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A
PROJECT	137
NEXT ASSEMBLY	137LG103
A-1:1	

A ISSUED FOR PRODUCTION

A	ISSUED FOR PRODUCTION						

PRE-PIERCE PRESS CONSOLE
OS2 (OUTER PANEL - TOP VIEW)



A-1:1	NEXT ASSEMBLY	PROJECT	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	DESCRIPTION	DATE	SHEET OF:	DWG NO.	REV
	NONE	137	N/A	COMPUROLL DUPLEX MILL	Jun,21,99	3 of 3	137LG103	B

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190 Nantucket Blvd., Scarborough, Ontario
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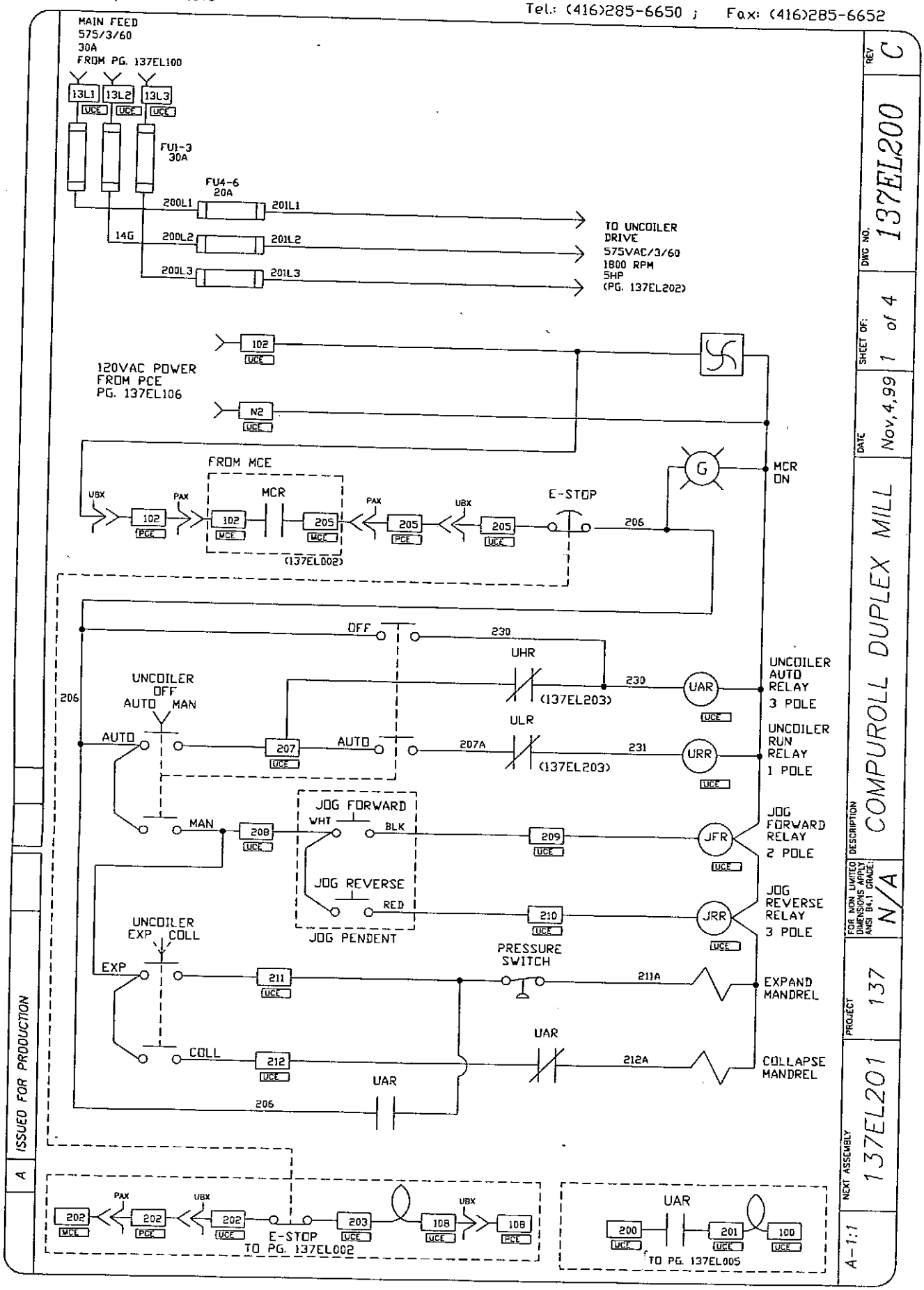

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THIS SHEET
INTENTIONALLY
LEFT BLANK

A	ISSUED FOR PRODUCTION								
NEXT ASSEMBLY: 137EL202	PROJECT: 137	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A	DESCRIPTION: COMPUROLL DUPLEX MILL	DATE: Jul, 16, 99	SHEET OF: 2 of 4	DWG NO. 137EL201	REV A		
A-1:1									

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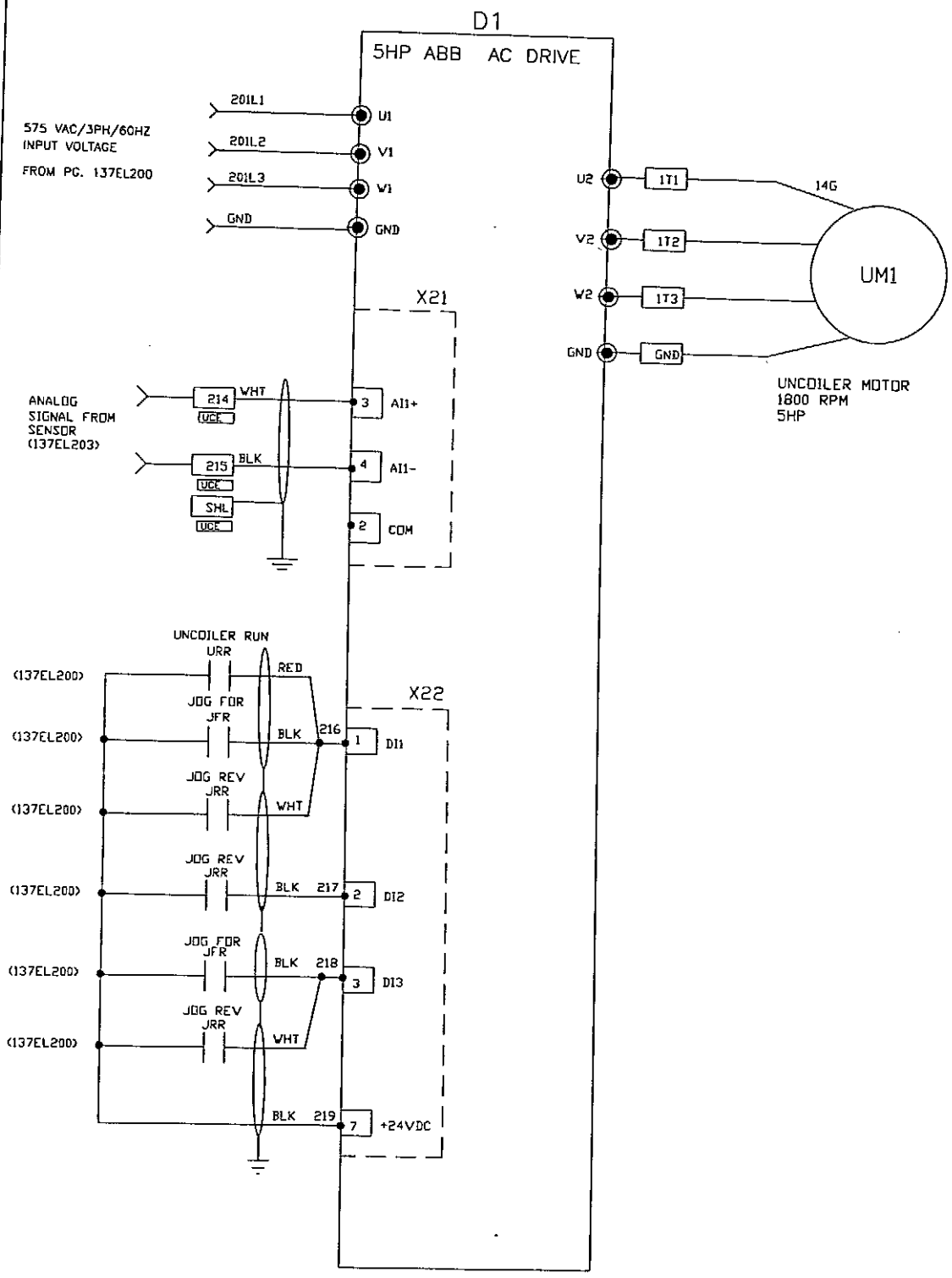
UNCOILER DRIVE



REV	A
DWG NO.	137EL202
SHEET OF:	3 of 4
DATE	Jul,16,99
DESCRIPTION	COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A
PROJECT	137
NEXT ASSEMBLY	137EL203
A-1:1	

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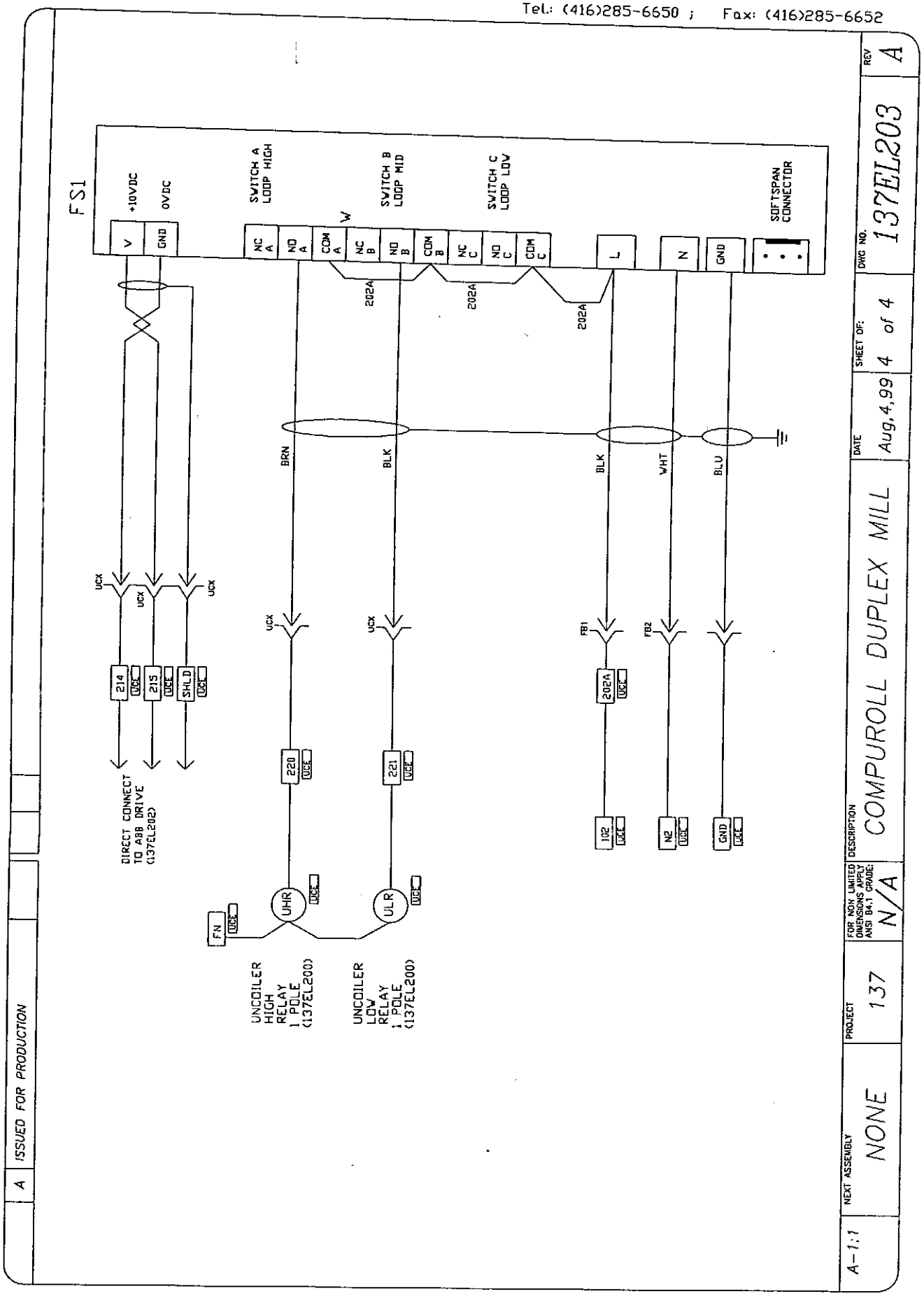

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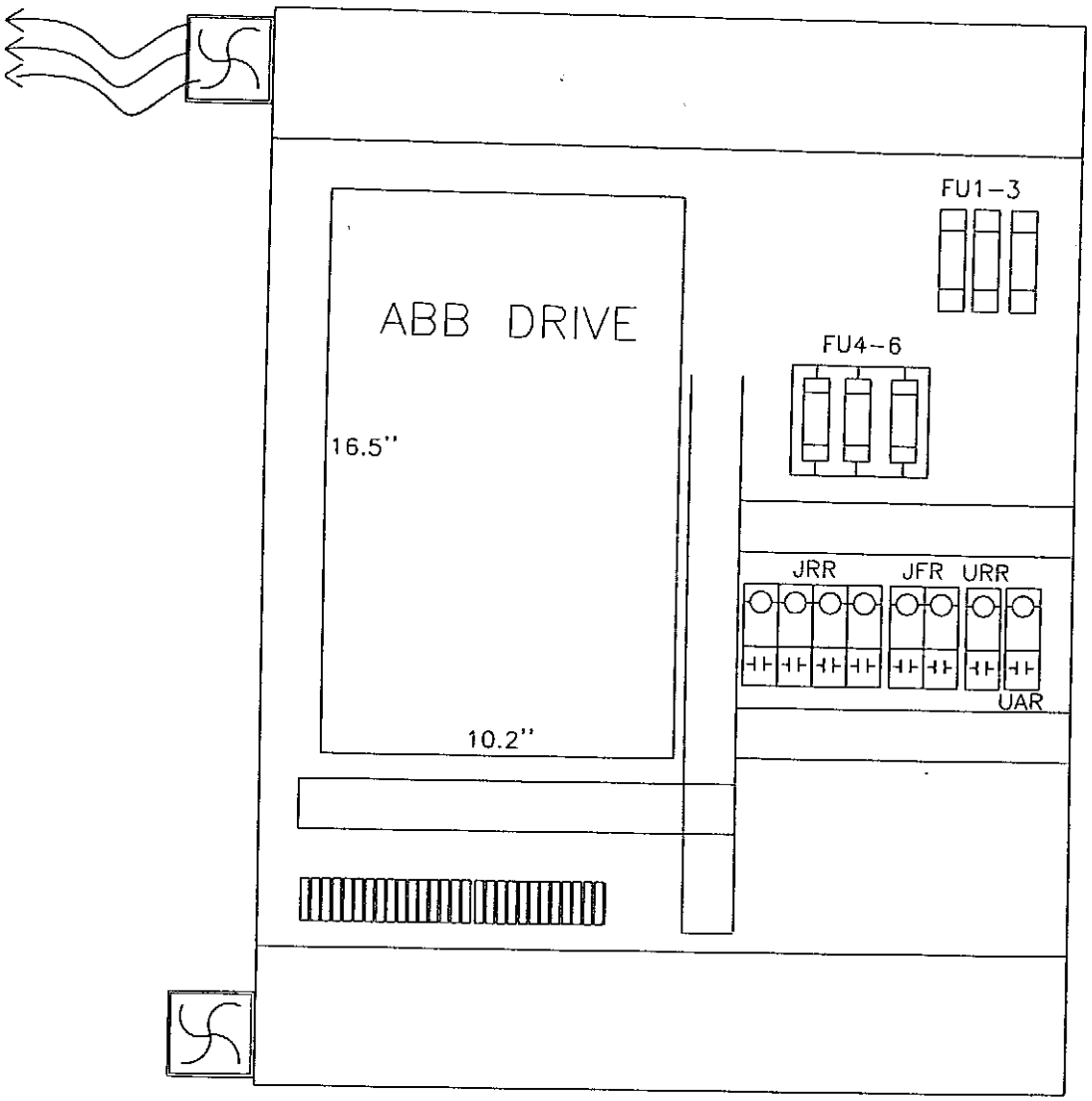

REV	A
DWG NO.	137LG200
SHEET OF:	1 of 3
DATE	Jul,16,99
DESCRIPTION	COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A
PROJECT	137
NEXT ASSEMBLY	137LG201
A-1:1	

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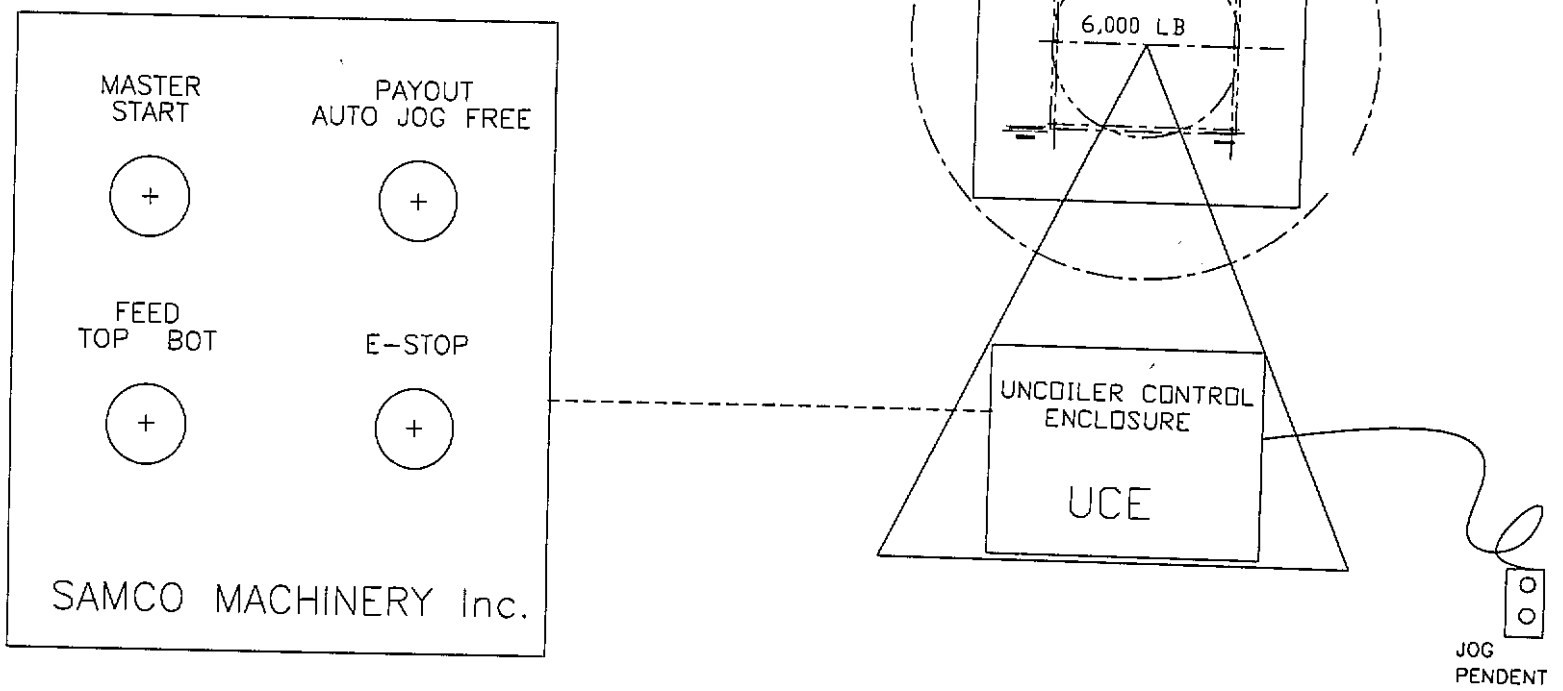

A-1:1	NEXT ASSEMBLY: 137LG202	PROJECT: 137	FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE: N/A	DESCRIPTION: COMPUROLL DUPLEX MILL	DATE: Jul,16,99	SHEET OF: 2 of 3	DWG NO.: 137LG201	REV: A

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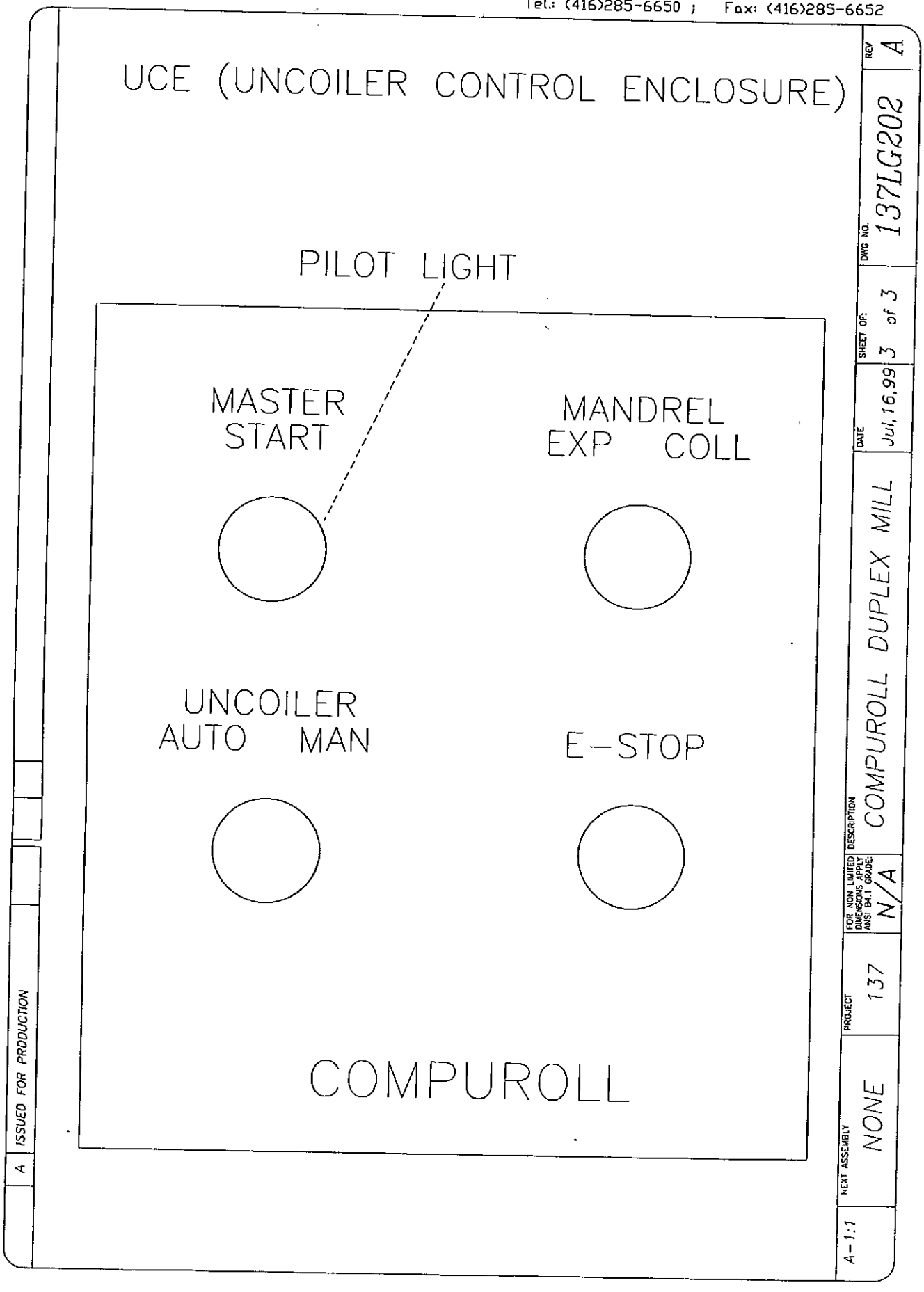
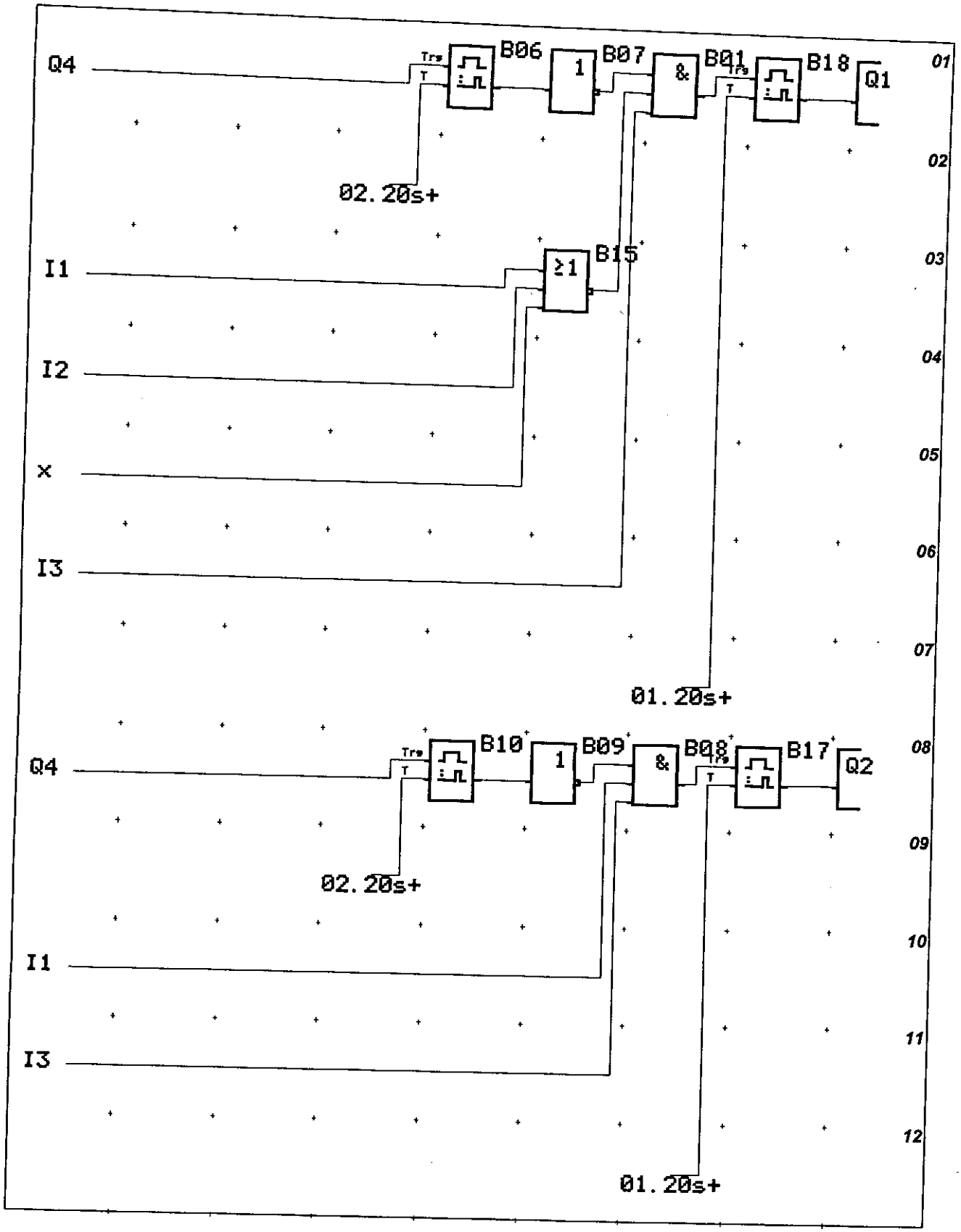


REV	A
DWG NO.	137LG202
SHEET OF:	3 of 3
DATE	Jul,16,99
DESCRIPTION	COMPUROLL DUPLEX MILL
FOR NON LIMITED DIMENSIONS APPLY ANSI B4.1 GRADE:	N/A
PROJECT	137
NEXT ASSEMBLY	NONE
A-1:1	

A ISSUED FOR PRODUCTION

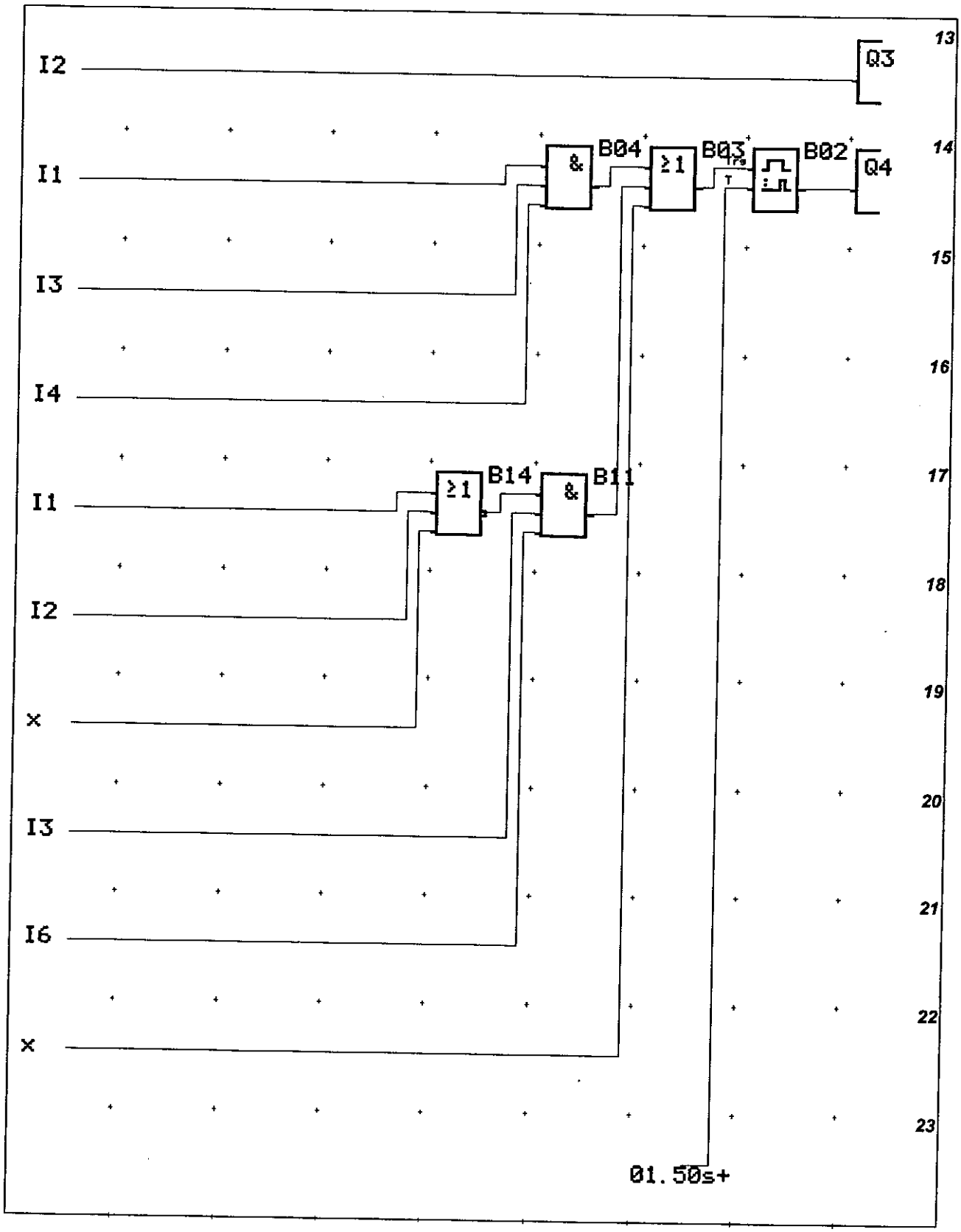
LOGO!Soft - Diagram overview

Program file : LOGO1.LGO
Created : 23. February 2000 (15:26)



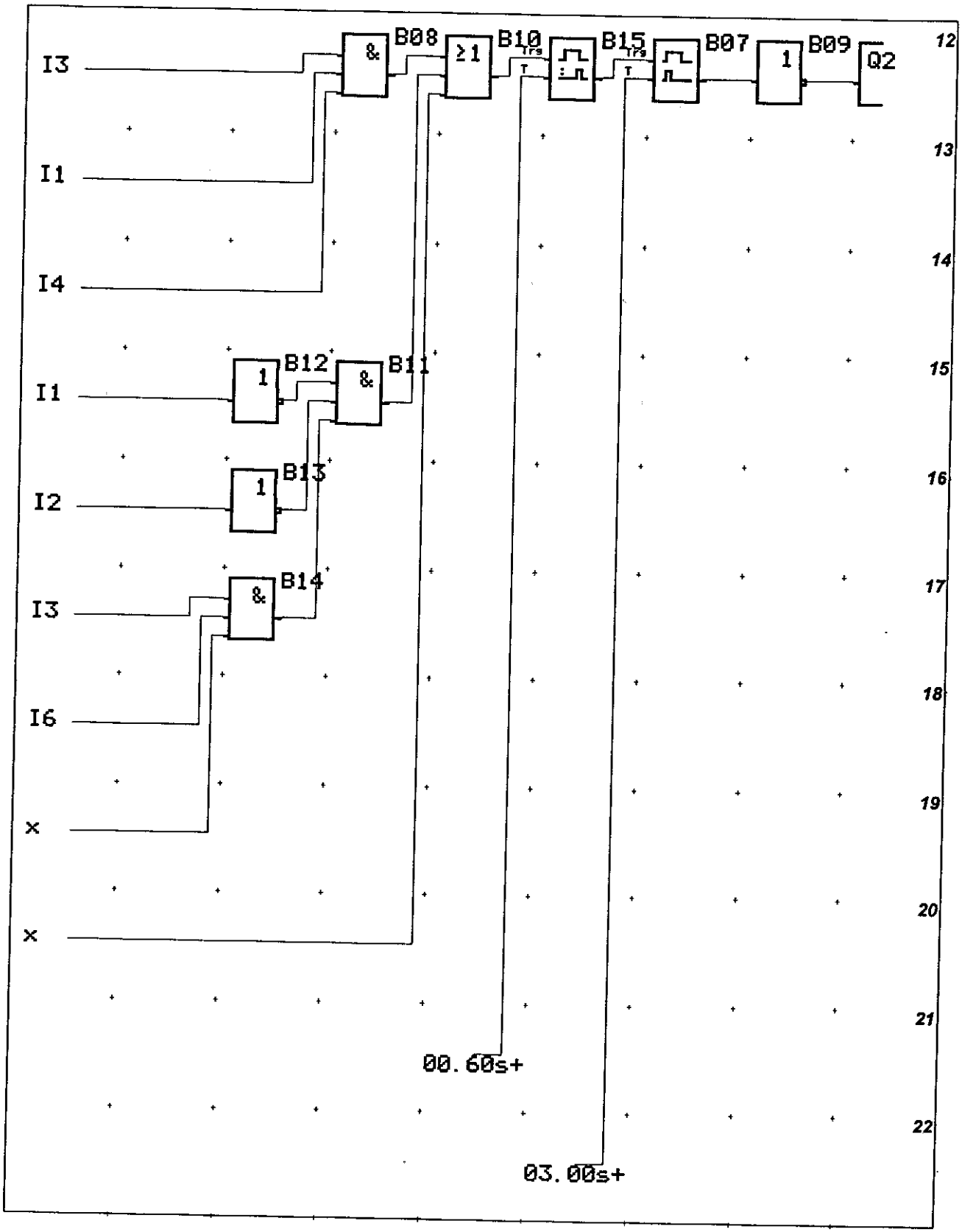
LOGO!Soft - Diagram overview

Program file : LOGO1.LGO
Created : 23. February 2000 (15:26)



LOGO!Soft - Diagram overview

Program file : LOGO2.LGO
Created : 04. February 2000 (16:12)



LOGO!Soft - Diagram overview

Program file : LOGO2.LGO
Created : 04. February 2000 (16:12)