This file provided by

INFINITY
data corp

Switch to Infinity Data Corp for your processing needs! Infinity offers great rates, excellent customer support and a wide range of payment processing solutions.

http://www.infinitydata.com/

Call Today!
866 746 8931

EXCELLA

MICR CHECK READER AND DUAL-SIDED SCANNER INSTALLATION AND OPERATION MANUAL

Manual Part Number: 99875310 Rev 4

FEBRUARY 2005

MAGTEK®

REGISTERED TO ISO 9001:2000

20725 South Annalee Avenue
Carson, CA 90746
Phone: (310) 631-8602
FAX: (310) 631-3956
Technical Support: (651) 415-6800
www.magtek.com

Copyright© 2004 - 2005
MagTek®, Inc.
Printed in the United States of America

Information in this document is subject to change without notice. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of MagTek, Inc.

MagTek is a registered trademark of MagTek, Inc.

Excella™ is a trademark of MagTek, Inc.

REVISIONS

Rev Number	Date	Notes
1	12 Aug 04	Initial Release
2	22 Sep 04	Section 1, Specifications: changed hopper capacity to 70. Section 3, Operation, Multiple checks: Changed capacity to 70 Checks.
3	9 Nov 04	Throughout: removed access cover on six illustrations; Added loading zone mark, modified text, in Figs 1-1, 2-1, 2-2, 2-3, 2-6, 2-7, 2-8, 3-1, 3-3, 3-4, 3-6 and changed position of hand in Fig 3-3, and added callouts. Added Appendix C: License and Copyright.
4	17 Feb 05	Updated Figures 1-1, 2-1, 2-2, 2-3, 2-6, 2-7, 2-8, 3-1, 3-3, 3-4, 3-5, 3-6 and accompanying text to reflect new parts.

Limited Warranty

MagTek, Inc. warrants that the Product described in this document is free of defects in materials and workmanship for a period of one year from the date of purchase where the date of purchase is defined as the date of shipment from MagTek. During this warranty period, MagTek shall, at their option, repair or replace without charge for either parts or labor, any failure, malfunction, defect or nonconformity which prevents the product from performing in accordance with MagTek's published technical specifications and manuals.

This warranty does not apply to wear of the magnetic read head. This warranty shall not apply if the product is modified, tampered with, or subject to abnormal working conditions. This warranty does not apply when the malfunction results from the use of the Product in conjunction with ancillary or peripheral equipment where it is determined by MagTek that there is no fault in the Product itself.

Notification by the Customer to MagTek of any condition described above should be directed to the Customer's MagTek Sales Representative or to MagTek's Help Desk at (651) 415-6800. If the Product is to be returned from the Customer to MagTek, a returned material authorization (RMA) will be issued by MagTek. The Customer shall be responsible for shipping charges to MagTek, (20801 S. Annalee Ave., Carson, CA 90746). MagTek shall be responsible for shipping charges back to the Customer.

Repair or replacement as provided under this warranty is the exclusive remedy. This warranty is in lieu of all other warranties, express or implied.

FCC WARNING STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in aceordance with the instruetion manual, may cause harmful interference to radio communications. Operation of this equipment in a rcsidential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

FCC COMPLIANCE STATEMENT

This devicc complies with Part 15 Of The FCC Rules. Operation of this device is subjeet to the following two conditions: (1) This device may not cause harmful interference. And (2) This device must accept any interference received, including interference that may cause undesired operation.

CANADIAN DOC STATEMENT

This digital apparatus does not excced the Class A limits for radio noise for digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélcctriques dépassant les limites applicables aux appareils numériques de las classe A prescrites dans le Réglemcnt sur le brouillage radioélectrique édictć par les ministère des Communications du Canada.

UL/CSA

This product is listed per Underwriter Laboratories and Canadian Underwriter Laboratories 1950.

TABLE OF CONTENTS

SECTION 1. OVERVIEW **1**
CONFIGURATIONS 1
FEATURES 1
ACCESSORIES 2
CABLES 3
SPECIFICATIONS 3
SECTION 2. INSTALLATION **5**
REQUIREMENTS 5
COMPONENTS 5
UNPACKING 6
INSTALLING OR REPLACING THE PRINTER/CARTRIDGE 6
OPENING THE UNIT 7
CABLE CONNECTIONS 8
CABLING 9
LED INDICATORS 11
SECTION 3. OPERATION AND MAINTENANCE **13**
POWER UP 13
TILT-DOWN CHECK STOP 13
OPERATION 13
Single Check – Manual Feed **14**
Multiple Checks – Auto Feed **15**
CLEANING 16
Printer 17
Scan Bars and Card Path 18
Clearing the Check Path 18
APPENDIX A. ASCII CODES **21**
APPENDIX B. CHECK READING **23**
E13-B CHARACTER SET 23
CMC-7 CHARACTER SET 23
CHECK LAYOUTS 24
MICR FIELDS 25
1-Transit Field 25
2-On-Us Field 26
3-Amount Field 26
4-Auxiliary On-Us Field 26
APPENDIX C, LICENSE AND COPYRIGHT **27**
LIBTIFF LIBRARY 27
GOAHEAD WEBSERVER 27
TINYXML PARSER 27
eCos PUBLIC LICENSE 27
GNU GENERAL PUBLIC LICENSE 27
Preamble 27
GNU GENERAL PUBLIC LICENSE 27

FIGURES

Figure 1-1. Excella Check Reader and Dual-Sided Scanner viii
Figure 2-1. Top View, Excella Components 5
Figure 2-2. Installing or Replacing the Printer/Cartridge 6
Figure 2-3. Opening the Entry and Exit Guides 7
Figure 2-4. Separating the Cover from the Outside Entry Guide 8
Figure 2-5. Cable Connections 8
Figure 2-6. Cabling, USB, 4-pin, Right Angle, P/N 22310301 9
Figure 2-7. Cabling, Ethernet, 8-pin RJ45P, Right Angle, P/N 22310302 or 22310304 10
Figure 2-8. Power Supply and Cords. P/N 64300098 and 71100001 11
Figure 3-1. Check Orientation - Insertion 14
Figure 3-2. Separate Checks by Fanning 15
Figure 3-3. Stacking Checks in Entry Hopper 16
Figure 3-4. Opening the Unit for Cleaning 17
Figure 3-5. Cleaning Scan Bars 18
Figure 3-6. Clearing Debris or Removing Checks 19
Figure B-1. Personal Checks 24
Figure B-2. Business Checks 25

TABLES

Table 1-1. Excella Cables and Power Supply 3
Table 1-2. Specifications 3
Table 2-1. USB Pin List 9
Table 2-2. Ethernet Cable Pin List, P/N 22310302 10
Table 2-3. Ethernet Cable Pin List, P/N 22310304 10
Table B-1. CMC-7 Nonnumeric Characters 24

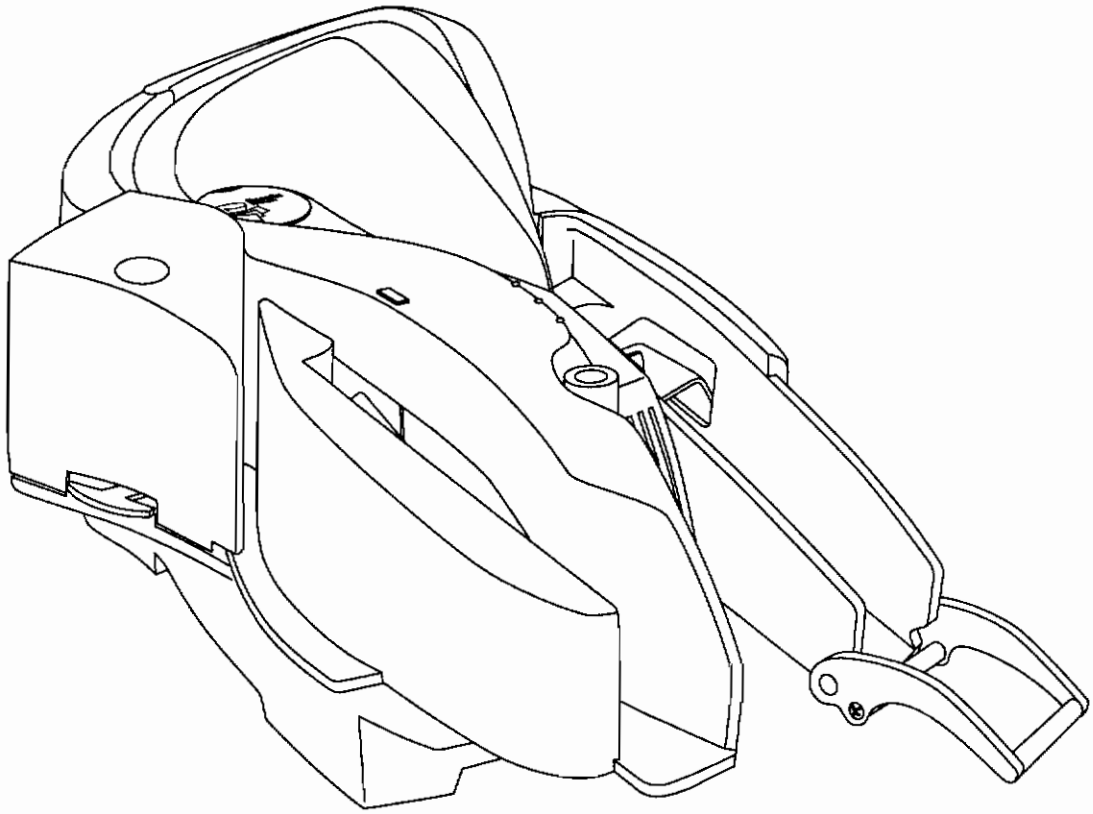


Figure 1-1. Excella Check Reader and Dual-Sided Scanner

SECTION 1. OVERVIEW

The Excella™ Check Reader is a MICR check reader (Magnetic Ink Character Recognition) and dual-sided scanner with endorsement printer. Checks can be entered into the Excella with an automatic feeder or by a separate manual feed for single checks. The Excella reads the MICR character set (E13B or CMC7 fonts) on the front face and bottom of a check and scans both sides of the check in a single pass, producing high-quality, grayscale or black/white images in the most common file formats used in the industry. The characters and the image are then transmitted to a Host device.

Excella will communicate with the Host system using a standard USB 2.0 interface (contact the factory for other interfaces).

CONFIGURATIONS

The current configurations is as follows:

Part Number	Description
22310102	MICR Excella, USB/Ethernet

FEATURES

The following is a list of features of the Excella Reader:

- Reads E13B and CMC7 MICR fonts
- Captures front and back image of check in a single pass
- Endorsement printer prints horizontal message on back of the check
- Endorsement message is programmable
- Message height: 1/8" consisting of 12 pixels
- Resolution: 200 dpi (scaling to 100 dpi); black/white and grayscale images
- Image compression: CCITT G4 or JPEG
- Image files: TIFF 6.0 (other formats can be made available)
- Optional image storage memory available with multi-media memory cards installed at the factory

- Manual feed - single check
- Automatic feeder with capacity for up to 70 documents
- Output hopper/stacker with capacity for up to 70 documents
- USB 2.0 and Ethernet 100Base-T
- USB 1.1 compatible
- Auxiliary interface port: RS232 serial
- Smart cable management

ACCESSORIES

Accessories available for the Excella Reader include:

- Host Interface Cable (See Table 1-1)
- Power Supply, 24 VDC Regulated, Switcher 5.5 x 2.1 mm, Right Angle Plug
- Sample Checks, Part Number 96530005
- Cleaning Swabs, P/N 97200078
- Print Cartridge, P/N 93600132

CABLES

The cables and power supply available are as follows:

Table 1-1. Excella Cables and Power Supply

Part Number	Description
22310301	Cable Assy, USB A – USB B Right Angle, 8'
22310302	Cable Assy, Ethernet RJ45P A/A, 8'
22310303	Cable Assy, RS232 PC DB9F–RJ6P Right Angle, 8'
22310304	Cable Assy, Ethernet (Crossover) RJ45P/RJ45P Right Angle 8'
71100001	Cable, Power Cord-AC, US 18/3 Blade Non-Polarized, IEC C7
64300098	Power Supply, 24 VDC Regulated, Switcher, 5.5 x 2.1 mm, Right Angle Plug

SPECIFICATIONS

Table 1-2 lists the specifications for the Excella Reader.

Table 1-2. Specifications

OPERATING	
Reference Standards	ANSI X9.27
Power Input	24 VDC, 2.5 Amps
Document Size	4"x 8.5" Maximum
Printer/Cartridge Image Resolution: Image compression:	 200 dpi (scaling to 100 dpi); Black/white and grayscale images CCITT G4 or JPEG
Check Feed and Hoppers:	Manual feed of a single check Automatic feeder with capacity for up to 70 documents Output hopper/stacker with capacity for up to 70 documents
MICR fonts supported	E13-B CMC-7
Interface Options	RS-232, USB 2.0, USB 1.1 compatible Ethernet 100 Base-T,
MECHANICAL	
Dimensions	L 13 ¼ inches x W 7 ½ inches; H 7 inches
Weight	3.59 lbs.

SECTION 2. INSTALLATION

The installation for the Excella Check Reader is described below.

REQUIREMENTS

The following items are required for the Installation:

- Excella, Check Reader and Dual-Sided Scanner, P/N 22310001
- USB Interface Cable (see Cabling below) and/or
- Ethernet Cables (see Cabling below)
- Power Supply, 24 VDC Regulated, Switcher, 5.5 x 2.1 mm, Right Angle Plug, P/N 64300098 (see Cabling below)
- Sample Checks, P/N 96530005

COMPONENTS

Figure 2-1 shows the top view of Excella and lists some of the components used for installation and operation.

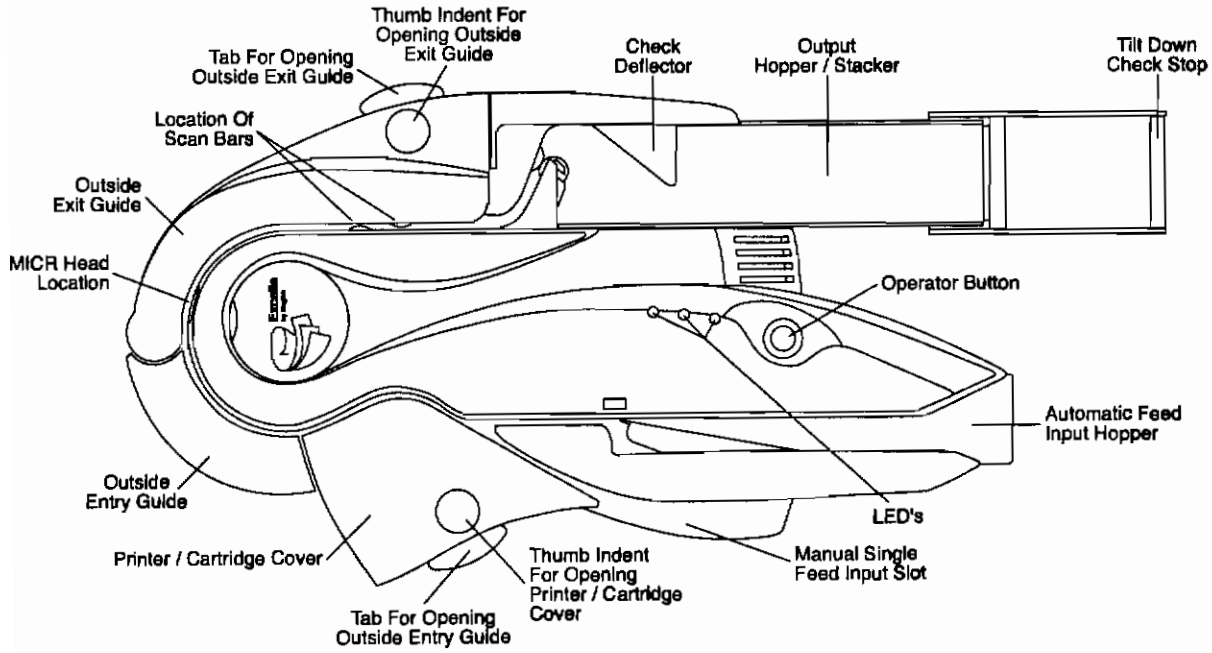


Figure 2-1. Top View, Excella Components

UNPACKING

Check the list under "Requirements" above and the packing sheet to insure all items have been received.

The Printer/Cartridge is shipped separately and must be unpacked. Remove all packing material (such as tape and tabs), and prepare to install the Printer/Cartridge first.

INSTALLING OR REPLACING THE PRINTER/CARTRIDGE

To install or replace the **Printer/Cartridge**, refer to Figure 2-2.

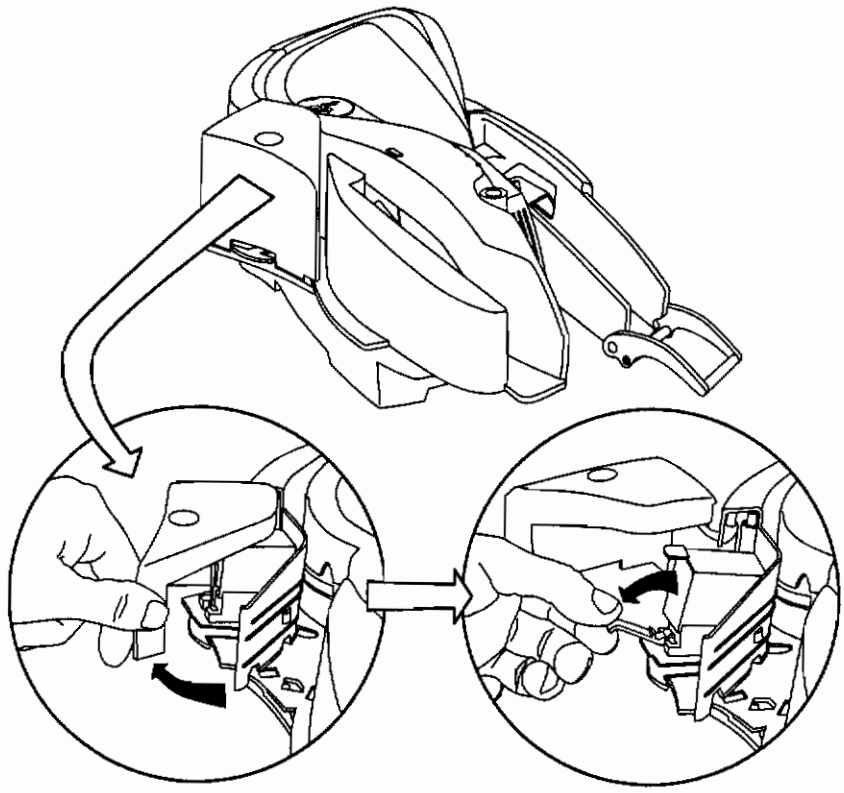


Figure 2-2. Installing or Replacing the Printer/Cartridge

1. Pull the **Printer/Cartridge** cover open to expose the **Printer/Cartridge** as shown in the left bubble.

2. Push the **Printer/Cartridge Tab** down as indicated in the right bubble.

5. Remove the cartridge by pulling the handle on the **Printer/Cartridge** up.

6. Replace the **Printer/Cartridge** by inserting it into position shown in the illustration.
7. Close the **Tab** holding the **Printer/Cartridge** in position.
8. Close the **Printer/Cartridge** cover.

OPENING THE UNIT

The **Outside Entry Guide**, the **Outside Exit Guide** and the **Printer/Cartridge Cover,** shown in Figure 2-1, can be opened to provide access to the check path and both scan bars. Open the unit as described below:

1 Open the **Outside Entry Guide** by placing the thumb on the **Indent** and the finger(s) on the **Tab** as shown in Figure 2-3 and squeezing, and then gently pull the Guide open.

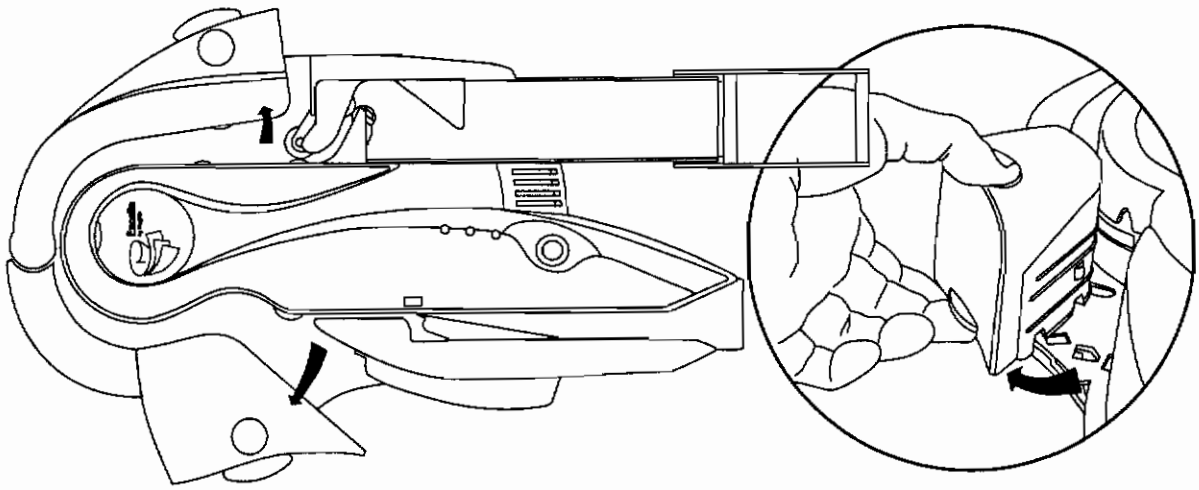


Figure 2-3. Opening the Entry and Exit Guides

2. Open the **Outside Exit Guide**, in the same manner, by placing the thumb on the **Indent** and the finger(s) on the **Tab**, and squeezing and then gently pull the Guide open.

3. Open the **Printer/Cartridge Cover** by pulling the Cover from the Inside Guide as shown in Figure 2-4.

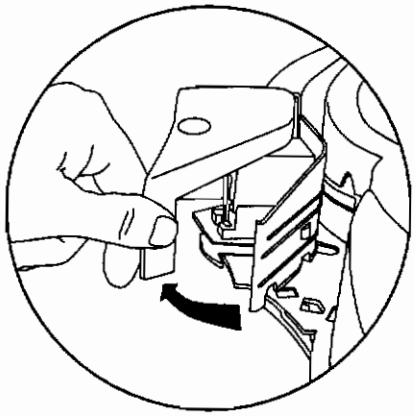


Figure 2-4. Separating the Cover from the Outside Entry Guide

CABLE CONNECTIONS

The cable connections are shown in Figure 2-5.

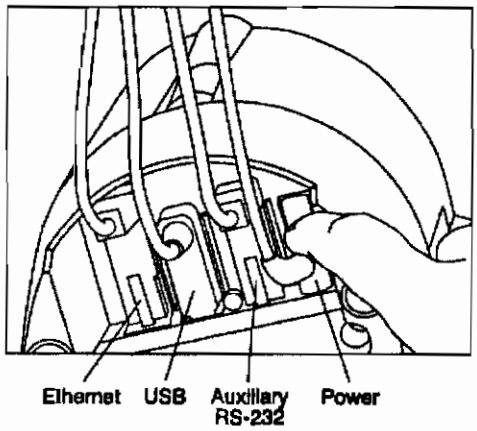


Figure 2-5. Cable Connections

CABLING

Available cabling is as follows:

- USB – A-plug, 4-pin, right angle, P/N 22310301 shown in Figure 2-6 with pin list in Table 2-1
- Ethernet – RJ 45P, 8-pin, right angle, P/N 22310302 shown in Figure 2-7 with pin list in Table 2-2
- Ethernet Cross-Over – RJ 45P, 8-pin, right angle, P/N 22310304 shown in Figure 2-7 with pin list in Table 2-3
- Power Supply and Cords – Power Supply, Input 100-240 VAC, 1.5A, 60-50 Hz, P/N 64300098 and
  Power Cord-AC – US 3 Blade Non-Pol, IEC C7, P/N 71100001 shown in Figure 2-8

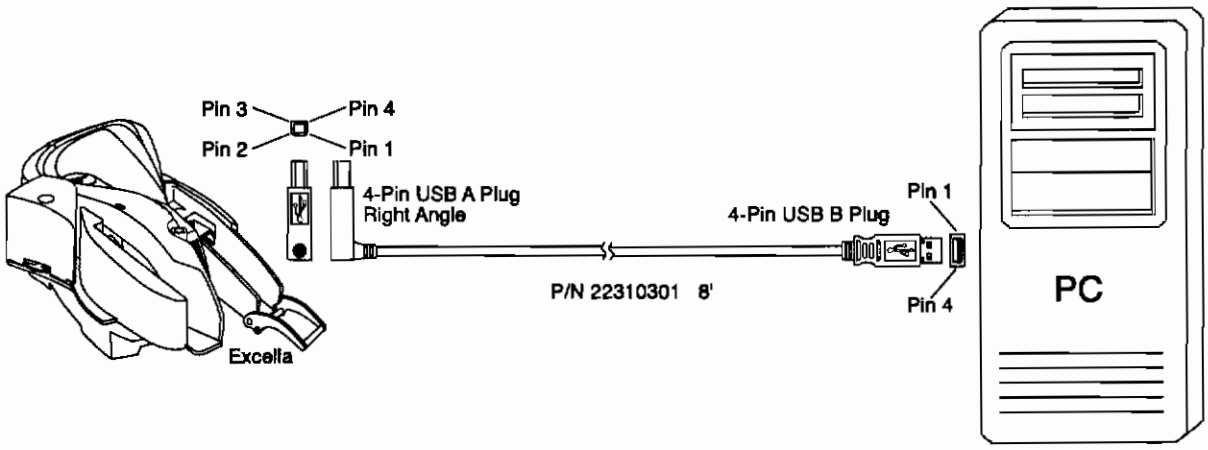


Figure 2-6. Cabling, USB, 4-pin, Right Angle, P/N 22310301

Table 2-1. USB Pin List

USB Cable Pin List		
USB B Plug, Right Angle	Signal Name	USB A Plug
1	5V	1
2	- Data	2
3	+ Data	3
4	Gnd	4
Shell (Braid Shield)		Shell (Braid Shield)

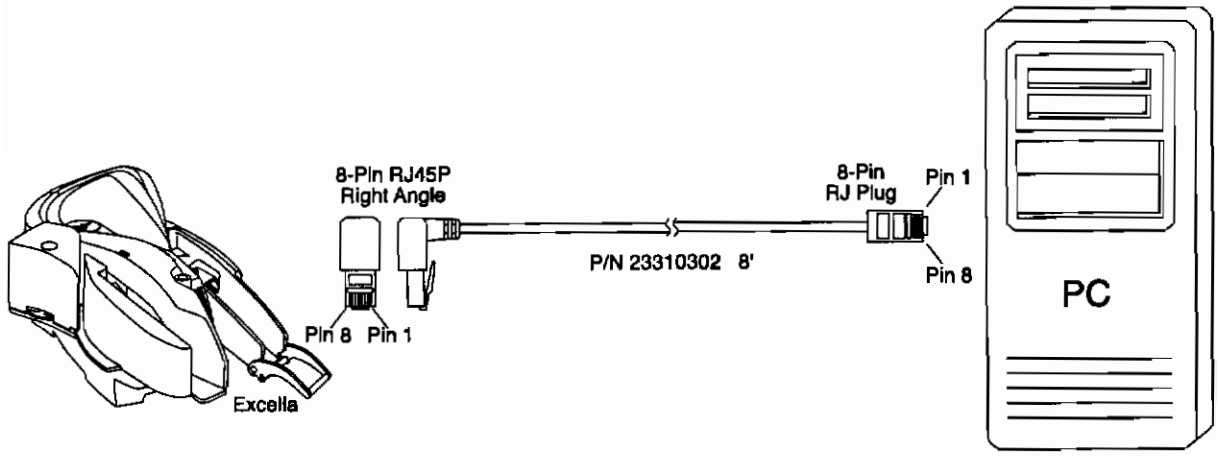


Figure 2-7. Cabling, Ethernet, 8-pin RJ45P, Right Angle, P/N 22310302 or 22310304

Table 2-2. Ethernet Cable Pin List, P/N 22310302

Ethernet Pin List		
8-pin RJ Plug, Right Angle	Signal Name	8-Pin RJ Plug
1	Transmit +	1
2	Transmit -	2
3	Receive +	3
4 NC	NC	4 NC
5 NC	NC	5 NC
6	Receive -	6
7 NC	NC	7 NC
8 NC	NC	8 NC

NC = No Connection

Table 2-3. Ethernet Crossover Cable Pin List, P/N 22310304

Ethernet Pin List		
8-pin RJ Plug, Right Angle	Signal Name	8-Pin RJ Plug
1	Transmit +	3
2	Transmit -	6
3	Receive +	1
4 NC	NC	4 NC
5 NC	NC	5 NC
6	Receive -	2
7 NC	NC	7 NC
8 NC	NC	8 NC

NC = No Connection

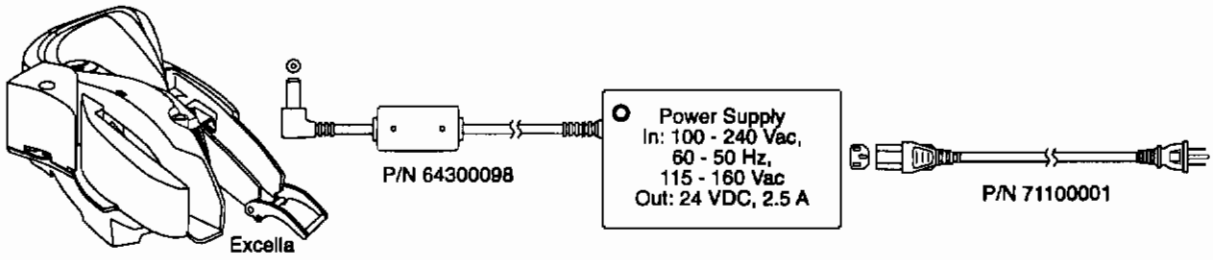


Figure 2-8. Power Supply and Cords. P/N 64300098 and 71100001

LED INDICATORS

The LED indicator locations are shown in Figure 2-1.

All three LEDs are able to show three colors: green, red, or yellow

Current LED functions:

First LED (closest to the front of the unit): green when power on.

Second LED (middle LED): green when everything is OK; red when paper jam.

Third LED (closest to center of unit): green when power on.

All Three LEDs: amber when powered up, then green.

SECTION 3. OPERATION AND MAINTENANCE

This section contains powering, operating, and maintenance procedures. Ensure the Excella is installed and cabling and power are connected as described in Section 2.

POWER UP

Plug the power supply, P/N 64300098P/N, and cord 71100001, into wall power, and press the start button. The green LED closest to the front of the unit should light.

TILT-DOWN CHECK STOP

The **Tilt-Down Check Stop**, shown in Figure 2-1, is used for both single and multiple check feed. For business size checks (long), place the Tilt Stop in the down position. For personal size checks (short), place the Tilt Stop in the up position. (See Appendix B for check sizes.)

OPERATOR BUTTON

The **Operator Button** signals the Excella that it is reset. For example, if there is a paper jam, the middle LED flashes red. The jam is then cleared, and the operator presses the **Operator Button,** and the Excella resumes operation.

OPERATION

Checks may be entered manually (one check at a time) or automatically (up to 70 checks at a time). Consult Section 2, Figure 2-1, for locations of the components described here.

Single Check – Manual Feed

For single checks perform the following steps:

1. With the front of the check facing the center of the unit and the MICR line closer to the bottom, feed the check into the **Manual Single Feed Input Slot**, as shown in Figure 3-1.

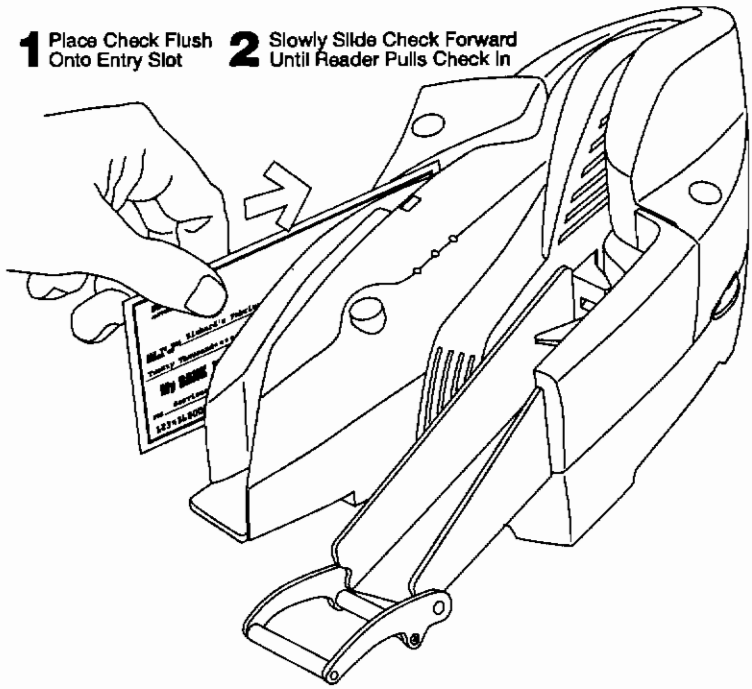


Figure 3-1. Check Orientation - Insertion

3. The check then winds around the **Printer/Cartridge** where a programmable endorsement is printed horizontally on the check.

4. The face and back of the check are then scanned at the two **Scan Bars.**

5. Next, the **Check Deflector** guides the check into the Exit Hopper.

Multiple Checks – Automatic Feed

The **Automatic Feed Input Hopper** can hold up to 70 checks. Separate the checks by fanning as indicated in Figure 3-2 and stack as shown in Figure 3-3.

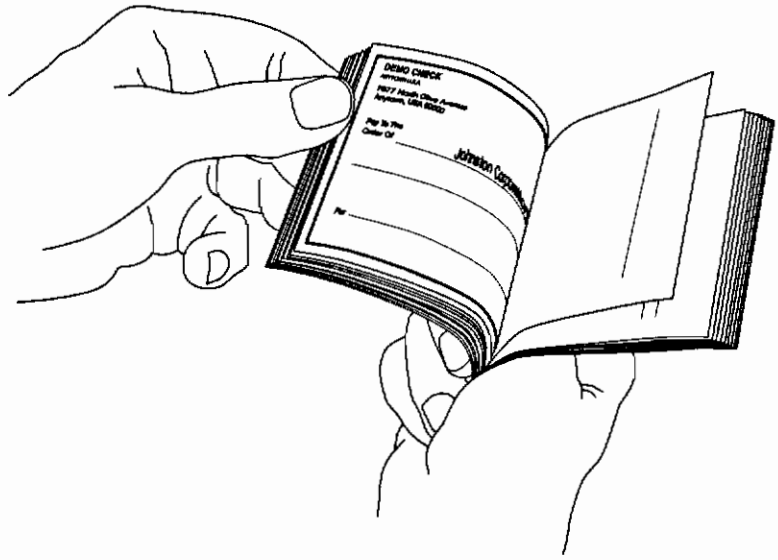


Figure 3-2. Separate Checks by Fanning

Proceed as follows:

1. Stack the checks in the **Automatic Feed Input Hopper** as shown in Figure 3-3.

2. Slide the deck forward to the **Loading Zone Marker** so that all leading edges are within the length of the loading zone as shown in Figure 3-3.

3. The checks will follow the same path as the single (manually entered) checks.

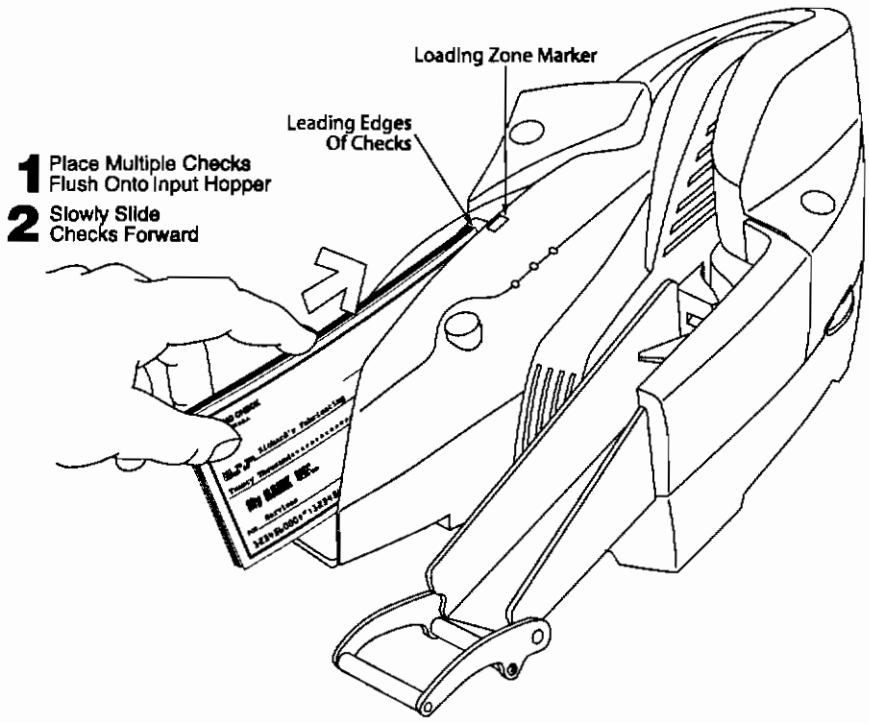


Figure 3-3. Stacking Checks in Input Hopper

CLEANING

Consult Section 2, Figure 2-1, for locations of the components described here.

Clean the outside of the Excella Reader unit with a soft, damp cloth and wipe with a dry cloth. Open the unit. When the unit is open, as shown in Figure 3-4, check the path for debris. Clean with a soft, damp cloth and wipe with a dry cloth.

Caution

To avoid damaging the read head, do not get the inside of the check path wet.

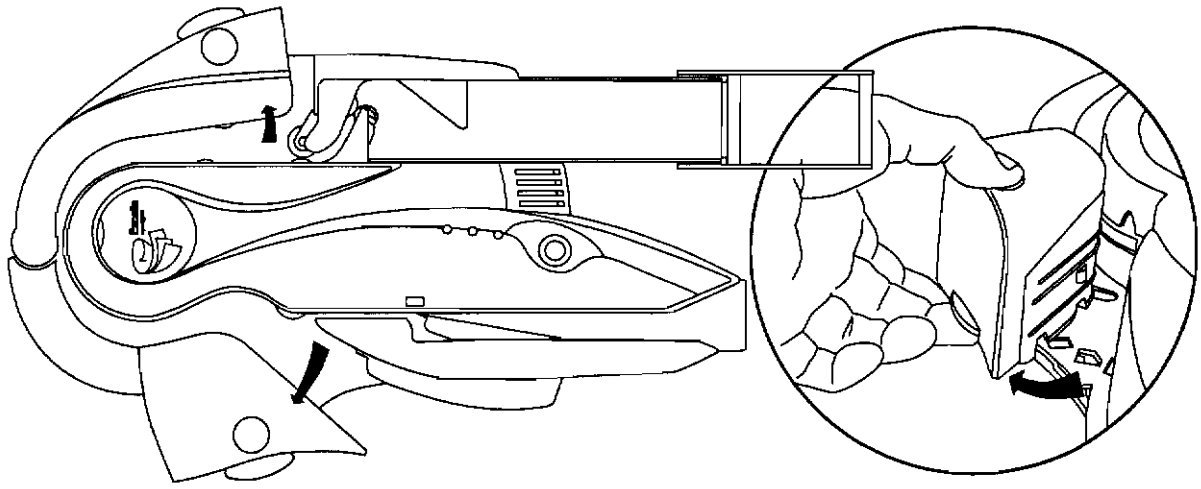


Figure 3-4. Opening the Unit for Cleaning

Printer

The **Printer/Cartridge** should be taken out when cleaned. See Section 2, Installing or Replacing the **Printer/Cartridge**. There are two methods of cleaning the nozzles on the **Printer/Cartridge**, dry wiping and damp wiping. Use the dry wiping method first, and if more cleaning is required, use the damp wiping method.

Dry Wiping Nozzles

Gently wipe the nozzle plate area with a clean, lint-free cloth or tissue.

Caution

Do not wipe ink over the electrical contact area.

Damp Wiping Nozzles

Perform the following steps:

1. Dampen a clean, lint-free cloth or tissue with water.
2. Hold the dampened cloth or tissue in contact with the nozzles for a few seconds.
3. Then gently wipe the nozzle plate.

Caution

Do not wipe the electrical contact area.

4. If ink remains on the nozzle plate, wipe again with a clean dry tissue.

Scan Bars and Card Path

Check the Excella paper path to ensure there is no build-up of ink or paper debris, and clean. To clean the **Scan Bars**, use the Cleaning Swab, P/N 97200078, as shown in Figure 3-5.

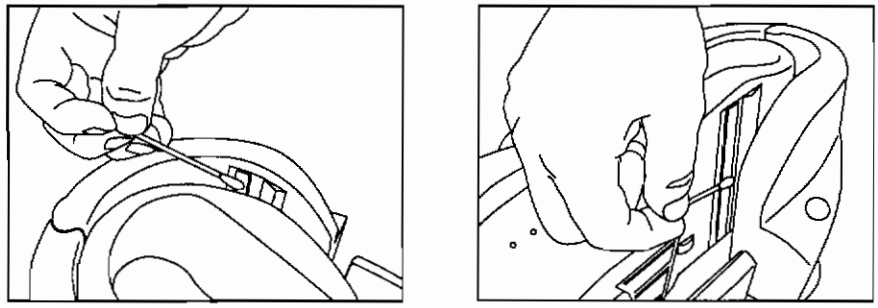


Figure 3-5. Cleaning Scan Bars

Clearing the Check Path

Clear debris or remove a check from the path as follows:

1. Open both **Outside Entry and Exit Guides** as shown in Figure 3-6.
2. Clear debris or pull out the checks from the path.
3. Examine the check path to ensure there is no additional debris, dust or other extraneous material in the path.

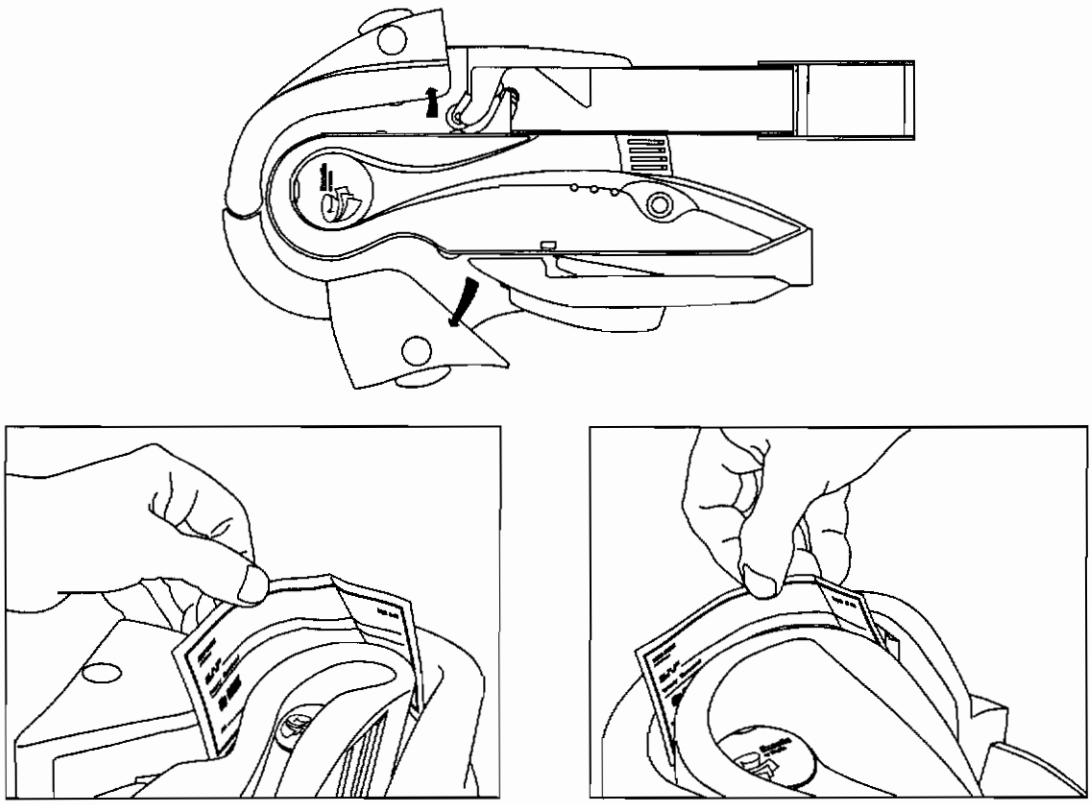


Figure 3-6. Clearing Debris or Removing Checks

APPENDIX A. ASCII CODES

The following is a listing of the ASCII (American Standard Code for Information Interchange) codes. ASCII is a 7-bit code, which is represented here with a pair of hexadecimal digits.

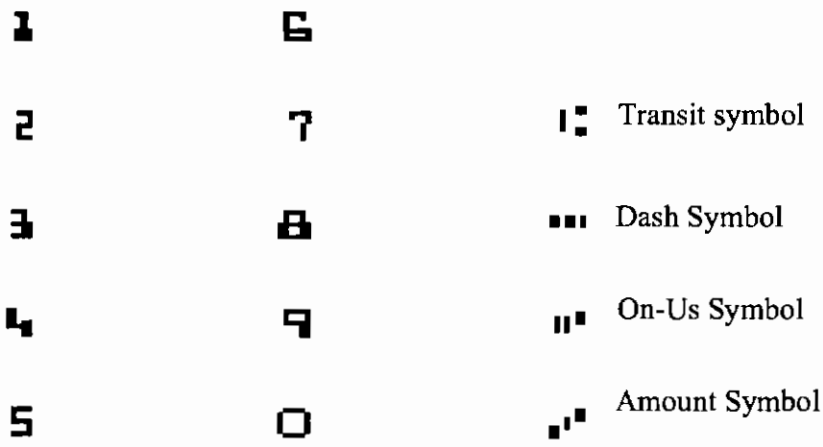
ASCII	Hex value	ASCII	Hex Value	ASCII	Hex Value	ASCII	Hex Value
NUL	00	SP	20	@	40	`	60
SOH	01	!	21	A	41	a	61
STX	02	"	22	B	42	b	62
ETX	03	#	23	C	43	c	63
EOT	04	$	24	D	44	d	64
ENQ	05	%	25	E	45	e	65
ACK	06	&	26	F	46	f	66
BEL	07	'	27	G	47	g	67
BS	08	(	28	H	48	h	68
HT	09	)	29	I	49	i	69
LF	0A	*	2A	J	4A	j	6A
VT	0B	+	2B	K	4B	k	6B
FF	0C	,	2C	L	4C	l	6C
CR	0D	-	2D	M	4D	m	6D
SO	0E	.	2E	N	4E	n	6E
SI	0F	/	2F	O	4F	o	6F
DLE	10	0	30	P	50	p	70
DC1	11	1	31	Q	51	q	71
DC2	12	2	32	R	52	r	72
DC3	13	3	33	S	53	s	73
DC4	14	4	34	T	54	t	74
NAK	15	5	35	U	55	u	75
SYN	16	6	36	V	56	v	76
ETB	17	7	37	W	57	w	77
CAN	18	8	38	X	58	x	78
EM	19	9	39	Y	59	y	79
SUB	1A	:	3A	Z	5A	z	7A
ESC	1B	;	3B	[	5B	{	7B
FS	1C	<	3C	\	5C	|	7C
GS	1D	=	3D	]	5D	}	7D
RS	1E	>	3E	^	5E	~	7E
US	1F	?	3F	_	5F	DEL	7F

APPENDIX B. CHECK READING

The characters printed on the bottom line of commercial and personal checks are special. They are printed with magnetic ink to meet specific standards. These characters can be read by a Excella Reader at higher speeds and with more accuracy than manual data entry. Two MICR character sets are used world wide; they are: E13-B and CMC-7. The E13-B set is used in the US, Canada, Australia, United Kingdom, Japan, India, Mexico, Venezuela, Colombia, and the Far East. The CMC-7 set is used in France, Spain, other Mediterranean countries, and most South American countries.

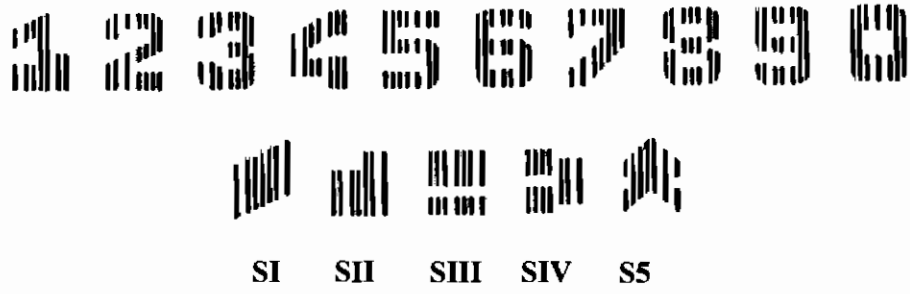
E13-B CHARACTER SET

The MICR font character set E13-B includes digits 0 through 9 and four symbols. The numbers found on U.S. checks are of the E13-B character set. The numbers and symbols of E13-B are as follows:



CMC-7 CHARACTER SET

The numbers and symbols of the CMC-7 character set are as follows:



The nonnumeric CMC-7 characters are translated by the Excella Reader as shown in Table B-1.

Table B-1. CMC-7 Nonnumeric Characters

CMC-7 Character	MICRImage Reader Output
SI	A
SII	B
SIII	C
SIV	D
SV	E

CHECK LAYOUTS

Personal checks with MICR fields are shown in Figure C-I. Business checks are shown in Figure C-2. The digits 1 through 4 in the illustrations are described below under MICR Fields.

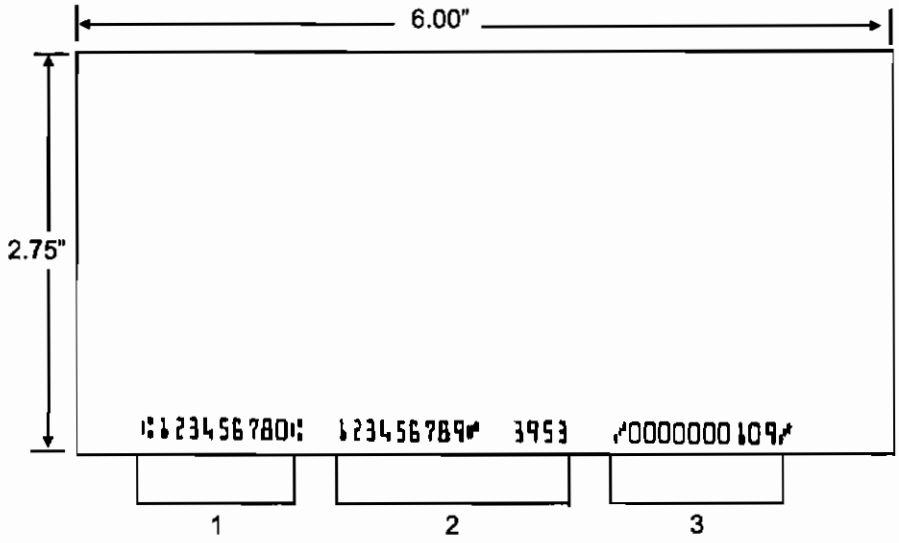


Figure B-1. Personal Checks

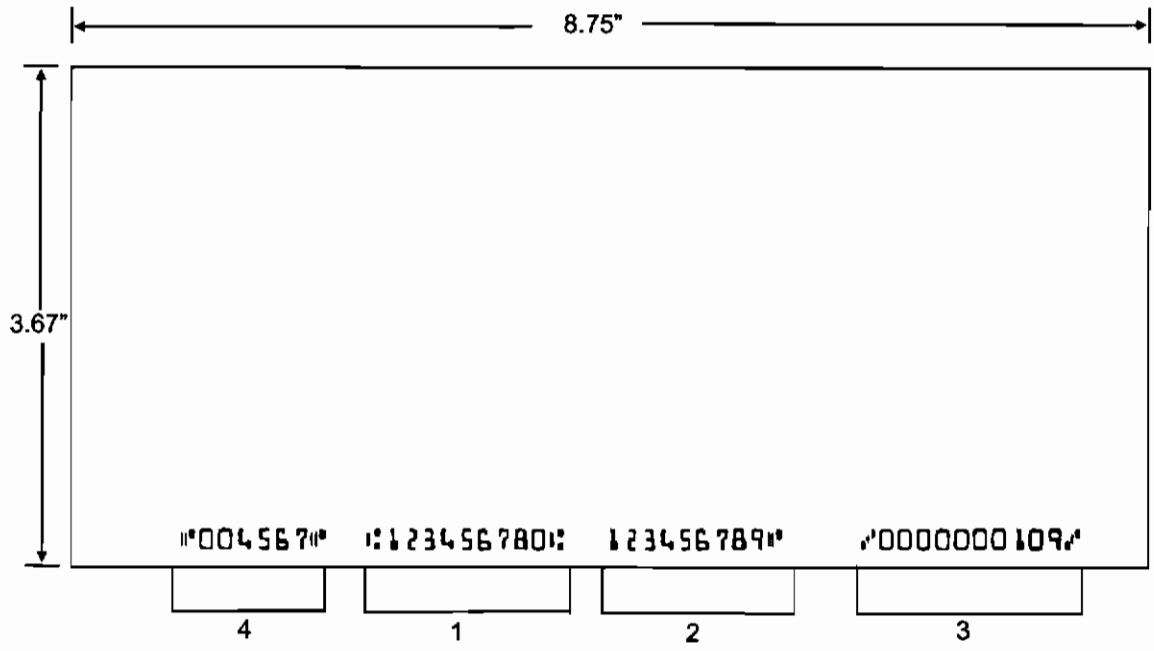


Figure B-2. Business Checks

MICR FIELDS

The numbers 1 through 4 refer to the numbers below the checks on the illustration and represent the 4 MICR fields.

1-Transit Field

The Transit field is a 9-digit field bracketed by two Transit symbols. The field is subdivided as follows:

- Digits 1-4 Federal Reserve Routing Number
- Digits 5-8 Bank ID Number (American Banking Association)
- Digit 9 Check Digit

2-On-Us Field

The On-Us field is variable, up to 19 characters (including symbols). Valid characters are digits, spaces, dashes, and On-Us symbols. The On-Us field contains the account number and may also contain a serial number (Check number) and/or a transaction code. Note that an On-Us symbol must always appear to the right of the account number.

3-Amount Field

The Amount field is a 10-digit field bracketed by Amount symbols. The field is always zero-filled to the left.

4-Auxiliary On-Us Field

The Auxiliary On-Us field is variable, 4-10 digits, bracketed by two On-Us symbols. This field is not present on personal checks. On business checks, this field contains the check serial number.

APPENDIX C. LICENSE AND COPYRIGHT

The following documentation, license agreements, and copyright acknowledgments require no action on the part of the consumer and are included to comply with various disclosure requirements governing the use of components in the software development of Excelfa.

LIBTIFF LIBRARY

Copyright (c) 1988-1997 Sam Leffler
Copyright (c) 1991-1997 Silicon Graphics, Inc.

Permission to use, copy, modify, distribute, and sell this software and its documentation for any purpose is hereby granted without fee, provided that (i) the above copyright notices and this permission notice appear in all copies of the software and related documentation, and (ii) the names of Sam Leffler and Silicon Graphics may not be used in any advertising or publicity relating to the software without the specific, prior written permission of Sam Leffler and Silicon Graphics.

THE SOFTWARE IS PROVIDED "AS-IS" AND WITHOUT WARRANTY OF ANY KIND, EXPRESS, IMPLIED OR OTHERWISE, INCLUDING WITHOUT LIMITATION, ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IN NO EVENT SHALL SAM LEFFLER OR SILICON GRAPHICS BE LIABLE FOR ANY SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES OF ANY KIND,OR ANY DAMAGES WHATSOEVER RESULTING FROM LOSS OF USE, DATA OR PROFITS, WHETHER OR NOT ADVISED OF THE POSSIBILITY OF DAMAGE, AND ON ANY THEORY OF LIABILITY, ARISING OUT OF OR IN CONNECTION WITH THE USE OR PERFORMANCE OF THIS SOFTWARE.

GOAHEAD WEBSERVER

Copyright (c) GoAhead Software Inc., 1995-2000. All Rights Reserved.

TINYXML PARSER

Original code (2.0 and earlier) copyright (c) 2000-2002 Lee Thomason (www.grinninglizard.com)

eCos PUBLIC LICENSE

Copyright (C) 1998, 1999, 2000, 2001, 2002, 2003 Red Hat, Inc.
Copyright (C) 2002, 2003 John Dallaway
Copyright (C) 2002, 2003 Nick Garnett
Copyright (C) 2002, 2003 Jonathan Larmour
Copyright (C) 2002, 2003 Andrew Lunn
Copyright (C) 2002, 2003 Gary Thomas
Copyright (C) 2002, 2003 Bart Veer

eCos is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 or (at your option) any later version.

eCos is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.

You should have received a copy of the GNU General Public License along with eCos; if not, write to the free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA.

As a special exception, if other files instantiate templates or use macros or inline functions from this file, or you compile this file and link it with other works to produce a work based on this file, this file does not by itself cause the resulting work to be covered by the GNU General Public License. However the source code for this file must still be made available in accordance with section (3) of the GNU General Public License.

This exception does not invalidate any other reasons why a work based on this file might be covered by the GNU General Public License.

GNU GENERAL PUBLIC LICENSE
Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software - to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Library General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the patents. We wish to avoid the danger that redistributors of a free effect making the program proprietary.

To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow. he precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE

TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

0. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

1. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

2. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:

a) You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.

b) You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.

c) If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:

a) Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

b) Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,

c) Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any

associated interface definition files, plus the scripts used to control compilation and installation executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.

5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.

6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.

7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION. 12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

How to Apply These Terms to Your New Programs

If you develop a new program, and you want it to be of the greatest possible use to the public, the best way to achieve this is to make it free software which everyone can redistribute and change under these terms. To do so, attach the following notices to the program. It is safest to attach them to the start of each source file to most effectively convey the exclusion of warranty; and each file should have at least the "copyright" line and a pointer to where the full notice is found.

> <one line to give the program's name and a brief idea of what it does.> Copyright (C) <year> <name of author>
>
> This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License as published by the Free Software Foundation; either version 2 of the License, or (at your option) any later version.
>
> This program is distributed in the hope that it will be useful, but WITHOUT ANY WARRANTY; without even the implied warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE. See the GNU General Public License for more details.
>
> You should have received a copy of the GNU General Public License along with this program; if not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 330, Boston, MA 02111-1307 USA

Also add information on how to contact you by electronic and paper mail.

If the program is interactive, make it output a short notice like this when it starts in an interactive mode:

Gnomovision version 69, Copyright (C) year name of author Gnomovision comes with ABSOLUTELY NO WARRANTY; for details type 'show w'. This is free software, and you are welcome to redistribute it under certain conditions; type 'show c' for details.

The hypothetical commands 'show w' and 'show c' should show the appropriate parts of the General Public License. Of course, the commands you use may be called something other than 'show w' and 'show c'; they could even be mouse-clicks or menu items--whatever suits your program.

You should also get your employer (if you work as a programmer) or your school, if any, to sign a "copyright disclaimer" for the program, if necessary. Here is a sample; alter the names:

> Yoyodyne, Inc., hereby disclaims all copyright interest in the program 'Gnomovision' (which makes passes at compilers) written by James Hacker.
>
> <signature of Ty Coon>, 1 April 1989
> Ty Coon, President of Vice

This General Public License does not permit incorporating your program into proprietary programs. If your program is a subroutine library, you may consider it more useful to permit linking proprietary applications with the library. If this is what you want to do, use the GNU Library General Public License instead of this License