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**

<table>
<thead>
<tr>
<th>Rev Number</th>
<th>Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>12 Aug 04</td>
<td>Initial Release</td>
</tr>
<tr>
<td>2</td>
<td>22 Sep 04</td>
<td>Section 1, Specifications: changed hopper capacity to 70. Section 3, Operation, Multiple checks: Changed capacity to 70 Checks.</td>
</tr>
<tr>
<td>3</td>
<td>9 Nov 04</td>
<td>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.</td>
</tr>
<tr>
<td>4</td>
<td>17 Feb 05</td>
<td>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.</td>
</tr>
<tr>
<td>5</td>
<td>6 Jul 05</td>
<td>To all sections: changed illustrations where appropriate to reflect new configurations or for clarity Front Matter: added CE Standards to agency page. Added additional statement (ICES) to agency page Sec 1: to Features added JFIF and BMP, to USB 2.0 changed to add High Speed, deleted USB 1.1 compatible and added Ethernet, deleted Aux interface port Sec 2: Added two illustrations changed LED indicator section and closing the unit Sec 3: Changed operator button text, added closing the unit section, added illustration for cleaning the ink cartridge. Appendix A: newly added Appendix B: ewly added Other appendices renamed as C and D</td>
</tr>
<tr>
<td>6</td>
<td>9 Feb 05</td>
<td>Front Matter: Limited Warranty newly added. Appendix A: Updated; Appendix B: Removed reference to Demo API CD for USB Configuration Utility.</td>
</tr>
<tr>
<td>7</td>
<td>2 Nov 09</td>
<td>Front Cover: Image added and Technical support number changed; Limited Warranty updated; FCC Statement Page updated, Fig 1.1 moved to Section 1 Sec 1: Two Features added to Features list p. 2; Document Speeds added to Table 1.2 Appendix A: Screen Shots Updated; System Configuration added</td>
</tr>
</tbody>
</table>
LIMITED WARRANTY

MagTek warrants that the products sold pursuant to this Agreement will perform in accordance with MagTek’s published specifications. This warranty shall be provided only for a period of one year from the date of the shipment of the product from MagTek (the “Warranty Period”). This warranty shall apply only to the “Buyer” (the original purchaser, unless that entity resells the product as authorized by MagTek, in which event this warranty shall apply only to the first repurchaser).

During the Warranty Period, should this product fail to conform to MagTek’s specifications, MagTek will, at its option, repair or replace this product at no additional charge except as set forth below. Repair parts and replacement products will be furnished on an exchange basis and will be either reconditioned or new. All replaced parts and products become the property of MagTek. This limited warranty does not include service to repair damage to the product resulting from accident, disaster, unreasonable use, misuse, abuse, negligence, or modification of the product not authorized by MagTek. MagTek reserves the right to examine the alleged defective goods to determine whether the warranty is applicable.

Without limiting the generality of the foregoing, MagTek specifically disclaims any liability or warranty for goods resold in other than MagTek’s original packages, and for goods modified, altered, or treated without authorization by MagTek.

Service may be obtained by delivering the product during the warranty period to MagTek (1710 Apollo Court, Seal Beach, CA 90740). If this product is delivered by mail or by an equivalent shipping carrier, the customer agrees to insure the product or assume the risk of loss or damage in transit, to prepay shipping charges to the warranty service location, and to use the original shipping container or equivalent. MagTek will return the product, prepaid, via a three (3) day shipping service. A Return Material Authorization (“RMA”) number must accompany all returns. Buyers may obtain an RMA number by contacting Technical Support at (888) 624-8350.

EACH BUYER UNDERSTANDS THAT THIS MAGTEK PRODUCT IS OFFERED AS IS. MAGTEK MAKES NO OTHER WARRANTY, EXPRESS OR IMPLIED, AND MAGTEK DISCLAIMS ANY WARRANTY OF ANY OTHER KIND, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

IF THIS PRODUCT DOES NOT CONFORM TO MAGTEK’S SPECIFICATIONS, THE SOLE REMEDY SHALL BE REPAIR OR REPLACEMENT AS PROVIDED ABOVE. MAGTEK’S LIABILITY, IF ANY, SHALL IN NO EVENT EXCEED THE TOTAL AMOUNT PAID TO MAGTEK UNDER THIS AGREEMENT. IN NO EVENT WILL MAGTEK BE LIABLE TO THE BUYER FOR ANY DAMAGES, INCLUDING ANY LOST PROFITS, LOST SAVINGS, OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF, OR INABILITY TO USE, SUCH PRODUCT, EVEN IF MAGTEK HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, OR FOR ANY CLAIM BY ANY OTHER PARTY.

LIMITATION ON LIABILITY

EXCEPT AS PROVIDED IN THE SECTIONS RELATING TO MAGTEK’S LIMITED WARRANTY, MAGTEK’S LIABILITY UNDER THIS AGREEMENT IS LIMITED TO THE CONTRACT PRICE OF THIS PRODUCT.

MAGTEK MAKES NO OTHER WARRANTIES WITH RESPECT TO THE PRODUCT, EXPRESSED OR IMPLIED, EXCEPT AS MAY BE STATED IN THIS AGREEMENT, AND MAGTEK DISCLAIMS ANY IMPLIED WARRANTY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

MAGTEK SHALL NOT BE LIABLE FOR CONTINGENT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES TO PERSONS OR PROPERTY. MAGTEK FURTHER LIMITS ITS LIABILITY OF ANY KIND WITH RESPECT TO THE PRODUCT, INCLUDING ANY NEGLIGENCE ON ITS PART, TO THE CONTRACT PRICE FOR THE GOODS.

MAGTEK’S SOLE LIABILITY AND BUYER’S EXCLUSIVE REMEDIES ARE STATED IN THIS SECTION AND IN THE SECTION RELATING TO MAGTEK’S LIMITED WARRANTY.
FCC WARNING STATEMENT
This equipment has been tested and was 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 accordance with the instruction manual, may cause harmful interference with radio communications. Operation of this equipment in a residential 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 device complies with Part 15 of the FCC Rules. Operation of this device is subject 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 exceed the Class A limits for radio noise from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n’émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

This Class A digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

CE STANDARDS
Testing for compliance with CE requirements was performed by an independent laboratory. The unit under test was found compliant with standards established for Class A devices.

UL/CSA
This product is recognized per Underwriter Laboratories and Canadian Underwriter Laboratories 1950.

RoHS STATEMENT
When ordered as RoHS compliant, this product meets the Electrical and Electronic Equipment (EEE) Reduction of Hazardous Substances (RoHS) European Directive 2002/95/EC. The marking is clearly recognizable, either as written words like “Pb-free”, “lead-free”, or as another clear symbol (.Tick).
# TABLE OF CONTENTS

| SECTION 1. OVERVIEW ................................................................. | 1 |
| CONFIGURATIONS ........................................................................ | 2 |
| FEATURES .................................................................................. | 2 |
| ACCESSORIES ............................................................................ | 3 |
| CABLES ..................................................................................... | 3 |
| SPECIFICATIONS ........................................................................ | 4 |

| SECTION 2. INSTALLATION ........................................................ | 5 |
| REQUIREMENTS ........................................................................... | 5 |
| DEVICE DESCRIPTION ............................................................. | 5 |
| INSTALLATION SUMMARY ....................................................... | 6 |
| UNPACKING ............................................................................... | 6 |
| INSTALLING OR REPLACING THE PRINTER/CARTRIDGE ......... | 6 |
| OPENING THE UNIT ................................................................ | 7 |
| CLOSING THE UNIT .................................................................. | 9 |
| CABLE CONNECTIONS ................................................................ | 9 |
| CABLING .................................................................................. | 10 |
| LED INDICATORS ...................................................................... | 12 |

| SECTION 3. OPERATION AND MAINTENANCE .............................. | 15 |
| POWER UP ............................................................................... | 15 |
| TILT-DOWN CHECK STOP ....................................................... | 15 |
| OPERATOR BUTTON ................................................................... | 15 |
| OPERATION ............................................................................... | 15 |
| Single Check – Manual Feed ............................................... | 16 |
| Multiple Checks – Automatic Feed ....................................... | 17 |
| CLEANING ............................................................................... | 18 |
| Printer .................................................................................... | 19 |
| Scan Bars and Card Path ...................................................... | 20 |
| Clearing the Check Path .................................................... | 20 |

| APPENDIX A. BUILT-IN WEB PAGE ........................................... | 23 |
| OVERVIEW ............................................................................... | 23 |
| STATUS .................................................................................... | 23 |
| MAINTENANCE .......................................................................... | 24 |
| CALIBRATE .............................................................................. | 24 |
| UPDATE FIRMWARE ................................................................... | 25 |
| CONFIGURATION ...................................................................... | 27 |
| Network Configuration Tab .................................................. | 27 |
| Ethernet Configuration Tab ................................................ | 28 |
| USB Configuration Tab ....................................................... | 30 |
| Save/Restore Configuration Tab ........................................... | 33 |

| APPENDIX B. USB CONFIGURATION UTILITY ........................... | 35 |
| OVERVIEW ............................................................................... | 35 |
| IP ADDRESS SETUP ............................................................... | 36 |

| APPENDIX C. CHECK READING ................................................ | 37 |
| E13-B CHARACTER SET ........................................................... | 37 |
| CMC-7 CHARACTER SET .......................................................... | 37 |
| CHECK LAYOUTS ...................................................................... | 38 |
| MICR FIELDS ............................................................................ | 39 |
| 1-Transit Field ....................................................................... | 39 |
| 2-On-Us Field ................................................................. | 40 |
| 3-Amount Field ................................................................. | 40 |
| 4-Auxiliary On-Us Field .................................................... | 40 |

| APPENDIX D. LICENSE AND COPYRIGHT ................................. | 41 |
| eCos PUBLIC LICENSE ............................................................ | 41 |
FIGURES

Figure 1-1. Excella Check Reader and Dual-Sided Scanner ................................................................. 1
Table 1-1. Excella Cables and Power Supply ....................................................................................... 3
Table 1-2. Specifications ..................................................................................................................... 4
Figure 2-1. Top View, Excella Features ............................................................................................. 5
Figure 2-2. Installing or Replacing the Printer/Cartridge ................................................................. 7
Figure 2-3. Opening the Entry and Exit Guides ................................................................................. 8
Figure 2-4. Separating the Cover from the Outside Entry Guide ..................................................... 8
Figure 2-5. Closing the Unit .............................................................................................................. 9
Figure 2-6. Cable Connections .......................................................................................................... 10
Figure 2-7. Cabling, USB, 4-pin, Right Angle, P/N 22310301 ............................................................ 11
Table 2-1. USB Pin List ...................................................................................................................... 11
Figure 2-8. Cabling, Ethernet, 8-pin RJ45P, Right Angle, P/N 22310302 or 22310304 ...................... 11
Table 2-2. Ethernet Cable Pin List, P/N 22310302 ........................................................................... 11
Table 2-3. Ethernet Crossover Cable Pin List, P/N 22310304 ........................................................... 12
Figure 2-9. Power Supply and Cords, P/N 64300098 and 71100001 .................................................. 12
Figure 2-10. LED Indicators ............................................................................................................. 13
Table 2-4. LED Indicators ................................................................................................................ 13
Figure 3-1. Check Orientation - Insertion ......................................................................................... 16
Figure 3-2. Separate Checks by Fanning ............................................................................................ 17
Figure 3-3. Stacking Checks in Input Hopper .................................................................................... 18
Figure 3-4. Opening the Unit for Cleaning ....................................................................................... 19
Figure 3-5. Cleaning the Ink Cartridge ............................................................................................. 19
Figure 3-6. Cleaning Scan Bars ....................................................................................................... 20
Figure 3-7. Clearing Debris or Removing Checks ............................................................................ 21
Figure A-1. Excella Status Page ....................................................................................................... 23
Figure A-2. Maintenance Page ........................................................................................................ 24
Figure A-3. Update Firmware Page .................................................................................................. 25
Figure A-4. Network Configuration Tab ............................................................................................ 27
Figure A-5. Ethernet Configuration Tab ............................................................................................ 28
Figure A-6. USB Configuration Tab .................................................................................................. 30
Figure A-7. System Configuration Tab .............................................................................................. 32
Figure A-8. Save/Restore Configuration Tab .................................................................................... 33
Figure B-1. ExcellaUSBConfig Utility Screen ................................................................................ 35
Table C-1. CMC-7 Nonnumeric Characters ...................................................................................... 38
Figure C-1. Personal Checks ............................................................................................................ 38
Figure C-2. Business Checks ............................................................................................................ 39

TABLES

Table 1-1. Excella Cables and Power Supply ....................................................................................... 3
Table 1-2. Specifications ..................................................................................................................... 4
Table 2-1. USB Pin List ...................................................................................................................... 11
Table 2-2. Ethernet Cable Pin List, P/N 22310302 ........................................................................... 11
Table 2-3. Ethernet Crossover Cable Pin List, P/N 22310304 ........................................................... 12
Table 2-4. LED Indicators ................................................................................................................ 13
Table C-1. CMC-7 Nonnumeric Characters ...................................................................................... 38
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 (color images are offered as an option) 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 USB 2.0 or Ethernet interface.

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

The current configuration is as follows:

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>22310102</td>
<td>MICR Excella, USB/Ethernet</td>
</tr>
</tbody>
</table>

FEATURES

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

- Reads E13B and CMC7 MICR fonts
- Captures front and back images 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, JFIF with EXIF tags, BMP
- 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 High Speed (USB 1.1 compatible)
- Ethernet 10/100 Base-T
- Smart cable management
- Express Check Processing Mode (requires USB 2.0)
- Dynamic Virtual Endorsement
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>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>22310301</td>
<td>Cable Assy, USB A – USB B Right Angle, 8’</td>
</tr>
<tr>
<td>22310302</td>
<td>Cable Assy, Ethernet RJ45P A/A, 8’</td>
</tr>
<tr>
<td>22310303</td>
<td>Cable Assy, RS232 PC DB9F–RJ6P Right Angle, 8’</td>
</tr>
<tr>
<td>22310304</td>
<td>Cable Assy, Ethernet (Crossover) RJ45P/RJ45P Right Angle 8’</td>
</tr>
<tr>
<td>71100001</td>
<td>Cable, Power Cord-AC, US 18/3 Blade Non-Polarized, IEC C7</td>
</tr>
<tr>
<td>64300098</td>
<td>Power Supply, 24 VDC Regulated, Switcher, 5.5 x 2.1 mm, Right Angle Plug</td>
</tr>
</tbody>
</table>
**SPECIFICATIONS**

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

**Table 1-2. Specifications**

<table>
<thead>
<tr>
<th>OPERATING</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference Standards</td>
<td>ANSI X9.27</td>
</tr>
<tr>
<td>Power Input</td>
<td>24 VDC, 2.5 Amps</td>
</tr>
<tr>
<td>Document Size</td>
<td>4&quot; x 8.5&quot; Maximum</td>
</tr>
<tr>
<td>Document Processing Speed</td>
<td>20 to 35 documents per minute (Variation depends on image format)</td>
</tr>
<tr>
<td></td>
<td>40 to 50 documents per minute (Express Mode)</td>
</tr>
<tr>
<td>Printer/Cartridge</td>
<td></td>
</tr>
<tr>
<td>Image Resolution:</td>
<td>200 dpi (scaling to 100 dpi); Black/white and grayscale images (color images are offered as an option)</td>
</tr>
<tr>
<td>Image compression:</td>
<td>CCITT G4 or JPEG</td>
</tr>
<tr>
<td>Check Feed and Hoppers:</td>
<td>Manual feed of a single check</td>
</tr>
<tr>
<td></td>
<td>Automatic feeder with capacity for up to 70 documents</td>
</tr>
<tr>
<td></td>
<td>Output hopper/stacker with capacity for up to 70 documents</td>
</tr>
<tr>
<td>MICR fonts supported</td>
<td>E13-B, CMC-7</td>
</tr>
<tr>
<td>Interface Options</td>
<td>RS-232, USB 2.0, USB 1.1 compatible</td>
</tr>
<tr>
<td></td>
<td>Ethernet 100 Base-T,</td>
</tr>
</tbody>
</table>

**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 Interface Cable (see Cabling below)
- Power Supply, 24 VDC Regulated, Switcher, 5.5 x 2.1 mm, Right Angle Plug, P/N 64300098 (see Cabling below)
- Customer Supplied Checks or MagTek’s Sample Checks, P/N 96530005

DEVICE DESCRIPTION

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

Figure 2-1. Top View, Excella Features
INSTALLATION SUMMARY

This is a summary of the major installation steps for Excella:

1. Unpack Excella
2. Install ink cartridge (the cartridge is shipped uninstalled)
3. Install API/Demo software (CD provided by MagTek)
4. Connect interface cable (USB or Ethernet) and power cable to Excella
5. Connect power cord to AC wall outlet
6. Connect interface cable to PC

*Note*
*For more details see additional information in this section.*

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.
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](image)

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](image)
CLOSING THE UNIT

If the Entry Access Guide or the Exit Access Guide has been opened, close the access guide as described below:

1. Push to close the access guide (Entry Access Guide or Exit Access Guide) to its normal operating position (as show in Figure 2-5).
2. If the printer cover is open on the Entry Access Guide, first close the printer cover and then close the access guide as described in step 1 above.
3. Push down on the tab of the access guide (as shown in Figure 2-5). If the tab was not latched, a “click” sound will be heard as feedback to indicate the access guide is securely closed.
4. The LED indicator will flash if the access guide is improperly closed (see Table 2-4).

*Note*

*Improperly closed access guides can affect MICR reading and image quality.*

![Figure 2-5. Closing the Unit](image)

CABLE CONNECTIONS

The cable connections are shown in Figure 2-6.
Available cabling is as follows:

- USB – A-plug, 4-pin, right angle, P/N 22310301 shown in Figure 2-7 with pin list in Table 2-1
- Ethernet – RJ 45P, 8-pin, right angle, P/N 22310302 shown in Figure 2-8 with pin list in Table 2-2
- Ethernet Cross-Over – RJ 45P, 8-pin, right angle, P/N 22310304 shown in Figure 2-8 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 2-9
Section 2. Installation

Figure 2-7. Cabling, USB, 4-pin, Right Angle, P/N 22310301

Table 2-1. USB Pin List

<table>
<thead>
<tr>
<th>USB Cable Pin List</th>
<th>USB B Plug, Right Angle</th>
<th>Signal Name</th>
<th>USB A Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>5V</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>- Data</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>+ Data</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Gnd</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>Shell (Braid Shield)</td>
<td></td>
<td>Shell (Braid Shield)</td>
<td></td>
</tr>
</tbody>
</table>

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

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

<table>
<thead>
<tr>
<th>Ethernet Pin List</th>
<th>8-pin RJ Plug, Right Angle</th>
<th>Signal Name</th>
<th>8-Pin RJ Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>8-pin RJ Plug</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>8-pin RJ Plug</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>8-pin RJ Plug</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>4 NC</td>
<td>8-pin RJ Plug</td>
<td>4 NC</td>
<td></td>
</tr>
<tr>
<td>5 NC</td>
<td>8-pin RJ Plug</td>
<td>5 NC</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>8-pin RJ Plug</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7 NC</td>
<td>8-pin RJ Plug</td>
<td>7 NC</td>
<td></td>
</tr>
<tr>
<td>8 NC</td>
<td>8-pin RJ Plug</td>
<td>8 NC</td>
<td></td>
</tr>
</tbody>
</table>

NC = No Connection
Table 2-3. Ethernet Crossover Cable Pin List, P/N 22310304

<table>
<thead>
<tr>
<th>8-pin RJ Plug, Right Angle</th>
<th>Signal Name</th>
<th>8-Pin RJ Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Transmit +</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>Transmit -</td>
<td>6</td>
</tr>
<tr>
<td>3</td>
<td>Receive +</td>
<td>1</td>
</tr>
<tr>
<td>4 NC</td>
<td>NC</td>
<td>4 NC</td>
</tr>
<tr>
<td>5 NC</td>
<td>NC</td>
<td>5 NC</td>
</tr>
<tr>
<td>6</td>
<td>Receive -</td>
<td>2</td>
</tr>
<tr>
<td>7 NC</td>
<td>NC</td>
<td>7 NC</td>
</tr>
<tr>
<td>8 NC</td>
<td>NC</td>
<td>8 NC</td>
</tr>
</tbody>
</table>

NC = No Connection

Figure 2-9. Power Supply and Cords. P/N 64300098 and 71100001

LED INDICATORS

The LED indicators are shown in Figure 2-10. All three LEDs are able to show three colors: green, red, or amber.

Each LED indicator has been assigned a specific reporting function (see Table 2-4 below):

- Front LED: reports MICR read status
- Middle LED: reports path status
- Rear LED: reports unit status
Figure 2-10. LED Indicators

Table 2-4. LED Indicators

<table>
<thead>
<tr>
<th>Front LED (MICR status)</th>
<th>Middle LED (Path status)</th>
<th>Rear LED (Unit Status)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amber</td>
<td>Amber</td>
<td>Amber</td>
<td>Unit is initializing</td>
</tr>
<tr>
<td>Green</td>
<td>Green</td>
<td>Green</td>
<td>Power on, everything is OK</td>
</tr>
<tr>
<td>X</td>
<td>X</td>
<td>Flash amber</td>
<td>Initializing network connection</td>
</tr>
<tr>
<td>Flash red</td>
<td>X</td>
<td>X</td>
<td>After check read: MICR read error</td>
</tr>
<tr>
<td>Flash green</td>
<td>X</td>
<td>X</td>
<td>After check read: good MICR read</td>
</tr>
<tr>
<td>Flash red/green</td>
<td>X</td>
<td>X</td>
<td>MICR noise detected (if enabled): relocate unit</td>
</tr>
<tr>
<td>X</td>
<td>Amber</td>
<td>X</td>
<td>Entry or Exit access guide unlatched (if feature is installed): close and latch access guides</td>
</tr>
<tr>
<td>X</td>
<td>Flash red</td>
<td>X</td>
<td>Paper jam: remove jam and hit operator button to clear</td>
</tr>
</tbody>
</table>
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 is commonly used to communicate to the PC application that an unexpected condition or error has been cleared and Excella is ready to go again. For example, if there is paper jam, the Middle LED will flash red. After the paper jam is cleared, the user must press the Operator Button to resume the check reading/scanning 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.

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

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

4. 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](image)

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. Figure 3-5 shows the Ink Cartridge.

Dry Wiping Nozzles

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

Caution

Do not wipe ink over the electrical contact area.
**Damp Wiping Nozzles**

Perform the following steps:

1. Dampen a clean, lint-free cloth 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 cloth.

**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 3-6.

**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 3-7.

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 3-7. Clearing Debris or Removing Checks
APPENDIX A. BUILT-IN WEB PAGE

OVERVIEW

Excella is a web appliance and it offers several functions and features in a built-in Web page accessible through a Web browser. For example, if Excella’s active device IP address is 192.168.1.2, type the “http://192.168.1.2” in your web browser to access Excella’s web page.

This appendix provides a general description of the Web page and the available functions and features.

STATUS

The Status Page, Figure A-1, provides device information plus operational statistics.
Excella MICR Check Reader

MAINTENANCE

The Maintenance Page, Figure A-2, provides status and counters that can be useful to define maintenance service programs for Excella. Also, the device’s clock can be set on this page.

Figure A-2. Maintenance Page

CALIBRATE

Scanner calibration is performed at the factory, and subsequent calibrations are NOT required under normal operating conditions. For rare situations where calibration may be required, please call the Help Desk for assistance to perform calibration using the Calibrate Page.
Appendix A. Built-In Web Page

UPDATE FIRMWARE

The Update Firmware Page, Figure A-3, is used to download new firmware to the Excella device. Firmware for Excella is provided in a file with the “.mef” extension.

Figure A-3. Update Firmware Page

Using the Update Firmware page, Figure A-3, follow these instructions to download new firmware:

1. Click on the "Browse" button to locate and select the firmware file (e.g., mx160j.mef).
2. Click on the "Update" button.
3. The update process will take several minutes (watch progress bar at the bottom of the screen).

**Caution**

*Do not turn off power to Excella during the update process. If power is turned off, Excella will hang up and the unit may have to be returned to the factory.*

4. When completed, the "Firmware Update" message will appear with information as follows:

*Filename = mx160j.mef*
*Size = 413816 bytes*
*Upgrade completed*

5. At this time, cycle the power of Excella (Off/On).
CONFIGURATION

The Configuration Pages, Figures A-4, A-5, A-6 and A-7 offer options to setup the Network, Ethernet, and USB configurations. Additionally, an option is provided to save and restore device (Figure A-8) configurations. A general description for all the options follows.

Network Configuration Tab

*Figure A-4. Network Configuration Tab*

**Device Name**

The Excella device name provided to the DHCP server (the network server must be setup appropriately to use this option). This name must be unique for each Excella device on the network. The default factory value is “EX” followed by the unit’s S/N (e.g. EX-A03LEY9).
Excella MICR Check Reader

**HTTP Port**

The default value is “80”. Use this option to change the HTTP port value.

**“Cancel Changes” Button**

Click on this button to cancel the current settings being displayed on this page.

**“Save Settings” Button**

Click on this button to save the current settings to the Excella device.

**Ethernet Configuration Tab**

![Image of Ethernet Configuration Tab]

**Figure A-5. Ethernet Configuration Tab**
**MAC Address**

The MAC (Media Access Control) address uniquely identifies each Excella device. This number is assigned at the factory and cannot be changed.

**IP Address**

This is Excella’s device IP address on the network. Use this option to change the IP address value. The default factory value is 192.168.10.100.

**Subnet Mask**

Use this option to change the Subnet Mask value. The default factory value is 255.255.255.0.

**Gateway**

Use this option to change the Gateway value. The default factory value is 0.0.0.0

**IP Source**

- Select the “Fixed” option if the values will be set manually using this page.
- Select the “DHCP” option if the Network server will dynamically assign these values (i.e. the values on this page will be ignored). The server must be configured appropriately to use DHCP.

“Cancel Changes” Button

Click on this button to cancel the current settings being displayed on this page.

“Save Settings” Button

Click on this button to save the current settings to the Excella device.
USB Configuration Tab

Figure A-6. USB Configuration Tab

**IP Address**

This is Excella’s device IP address. Use this option to change the IP address value. The default factory value is 192.168.1.2.

**Subnet Mask**

Use this option to change the Subnet Mask value. The default factory value is 255.255.255.0.
Appendix A. Built-In Web Page

Gateway

Use this option to change the Gateway value. The default factory value is 0.0.0.0

IP Source

- Select “RNDIS”, the default option, if the values will be provided by the PC to which Excella is being connected to (i.e., the values on this page will be ignored). It is recommended to run the “ExcellaUSBConfig” utility (See Appendix B) on the PC to set these values when the “RNDIS” option is selected.
- Select the “Fixed” option if the values will be set manually using this page.

“Cancel Changes” Button

Click on this button to cancel the current settings being displayed on this page.

“Save Settings” Button

Click on this button to save the current settings to the Excella device.
System Configuration Tab

Express Enabled for MagUSB Only

Use this option to toggle between the Normal and Gateway Express Check Mode

Note: When the Express Mode is enabled, greater throughput (approximately 45 documents per minute) is possible. However, dynamic check printing is not available when this mode is utilized.
Appendix A. Built-In Web Page

MICR EMF Noise Detect

This option should always be off.

Save/Restore Configuration Tab

![Save/Restore Configuration Tab](image)

Figure A-8. Save/Restore Configuration Tab

“Select Config File” Box

This option is used in conjunction with the “Restore” button. Use the “Browse” button to locate and select a previously saved config file, then click on “Restore” to activate the options saved in the Config file.
Save Config to PC

Click on the “Backup” button to save ALL current configuration options to a Config file on the PC. The default filename is “excella_config.ecg”.

Reset Config to Factory Defaults

Click on the “Reset to Default” button to restore ALL default factory settings.

RESET DEVICE

This option is a quick and convenient way to reset the device. A device reset must be performed for new configurations to take effect and become active. During the reset operation, the device is not available and the standard message “The page cannot be displayed” will be shown. This message can be ignored.
APPENDIX B. USB CONFIGURATION UTILITY

OVERVIEW

MagTek’s “ExcellaUSBConfig” utility (Figure B-1) is used to configure Excella for the USB interface ONLY. The utility will automatically select and configure IP address for the PC and Excella.

Note

ExcellaUSBConfig must be run to establish a connection between the PC and Excella.

After Excella API/Demo has been installed, ExcellaUSBConfig can be found on the following directory: C:\Program Files\Magtek\Excella Demo.

Figure B-1. ExcellaUSBConfig Utility Screen
IP ADDRESS SETUP

To run the ExcellaUSBConfig utility and setup the necessary IP addresses, use the following instructions:

1. Run the “ExcellaUSBConfig” utility.
2. For “Network Device ID”, use the default “USB\VID_0801&PID_2230\123”.
3. For “Excella Device”, use the default “EXCELLA_USB”.
4. Click on the “Search” button to automatically assign a valid IP address for the PC Side and Device Side; the boxes for these IP addresses will be automatically filled in.
5. For “Subnet Mask”, enter a new Subnet Mask or use the default: 255.255.255.0.
6. Click on “Apply”.
7. Click on “OK”.
8. Close the utility.

Note

For most applications, ignore the options “Display Network Binding Information” and “Command Line Options”.
APPENDIX C. 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 an Excella Reader at higher speeds and with more accuracy than manual data entry. Two MICR character sets are used worldwide; 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:

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 0
- Transit symbol
- Dash Symbol
- On-Us Symbol
- Amount Symbol

CMC-7 CHARACTER SET

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

1 2 3 4 5 6 7 8 9 0

| SI | SII | SIII | SIV | S5 |
The nonnumeric CMC-7 characters are translated by the Excella Reader as shown in Table C-1.

Table C-1. CMC-7 Nonnumeric Characters

<table>
<thead>
<tr>
<th>CMC-7 Character</th>
<th>MICR Image Reader Output</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI</td>
<td>A</td>
</tr>
<tr>
<td>SII</td>
<td>B</td>
</tr>
<tr>
<td>SIII</td>
<td>C</td>
</tr>
<tr>
<td>SIV</td>
<td>D</td>
</tr>
<tr>
<td>SV</td>
<td>E</td>
</tr>
</tbody>
</table>

CHECK LAYOUTS

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

Figure C-1. Personal 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 D. 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 firmware development of Excella.

GOAHEAD WEISER

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

cCos PUBLIC LICENSE


Copyright (C) 2002, 2003 John Dallaway

Copyright (C) 2002, 2003 Nick Garrett

Copyright (C) 2002, 2003 Jonathan Larmour

Copyright (C) 2002, 2003 Andrew Lunn

Copyright (C) 2002, 2003 Gary Thomas

Copyright (C) 2002, 2003 Bari Vear

cCos 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.

cCos 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 cCos. If not, write to the Free Software Foundation, Inc., 59 Temple Place, Suite 300, 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 an executable, that does not cause the resulting work to be covered by this License. These exceptions shall apply to the code in source and object forms of a work that contains some of the Code covered by this License. The intent is to apply this License in such a way that modified versions including those of Section 1 above result in a freely executable program derived using free and generally available means from this Code without infringing the rights of anyone;

This exception does not invalidate any other reasons why a work 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 and 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 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 author's reputation.

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 programs they distribute nonfree. To prevent this, we want that patent licenses be freely distributable by anyone else.

To protect 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. They ensure that the program is always published under these terms; that you haveNov 11, 2005 12:57:41

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 license 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 or 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 whole as 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 with an executable work, under the terms of Sections 1 and 2 above on a medium customarily used for software interchange, need not include anything that is normally distributed (in either source or binary format) 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 object code 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 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, then this License does not apply, only the specific requirements that do not contradict the conditions of this License still apply. If this License is incompatible with patent law, and if you are not willing to distribute this Program so that recipients do not need to make the specific additional effort needed to comply with those requirements, then this License is not offered under such patent law.

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; either version 2 of the License, or (at your option) any later version.

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.

This program is free software; you can redistribute it and/or modify it under the terms of the GNU General Public License win 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:

<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.
Notes: