

IntelliStripe 350

DESKTOP MOTORIZED READER

TECHNICAL REFERENCE MANUAL

Manual Part Number: 99875179 Rev 6

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REVISIONS

| Rev Number | Date | Notes |
|------------|-----------|---|
| 1 | 16 Jan 01 | Initial Release |
| 2 | 12 Feb 01 | Figure 1-2: added overall dimension (7.125"), corrected other dimension ("7.11" to "6.125"). |
| 3 | 16 Aug 01 | Front Matter: Changed Warranty Address to 20801.Changed Agency page from CE Class B to Class A. Editorial Correction To UL/CUL. Added EMV, Level 1. Section 2: Table 2-1, Changed TRX to TXD. |
| 4 | 2 May 02 | Added JIS to Specifications; added Smartcard functions. |
| 5 | 27 May 03 | Front Matter: added ISO line to logo, changed Tech Support phone number, added new warranty statement. |
| 6 | 14 Feb 07 | Added new model 16050313; removed RS-232 cable from unit |

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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 accordance with the instruction manual, may cause harmful interference to 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 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 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.

CE STANDARDS

Testing for compliance to CE requirements was performed by an independent laboratory. The unit under test was found compliant to Class A.

UL/CSA

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

EMVCo APPROVAL STATEMENT

EMVCo approval of the interface module (IFM) contained in this Terminal shall mean only that the IFM has been tested in accordance with the EMV Level 1 Specifications, Version 3.1.1, as of the date of testing. EMVCo approval does not under any circumstances include any endorsement or warranty regarding the completeness of the approval process or the functionality, quality or performance of any particular product or service. EMVCo does not warrant any products or services provided by third parties. EMVCo approval does not under any circumstances include or imply any product warranties from EMVCo, including, without limitation, any implied warranties of **merchantability, fitness for purpose, or non-infringement**, all of which are expressly disclaimed by EMVCo. All rights and remedies regarding products and services, which have received EMVCo approval, shall be provided by the party providing such products or services, and not by EMVCo.

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FIGURES and TABLES

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Figure 1-1. IntelliStripe 350

SECTION 1. FEATURES AND SPECIFICATIONS

The IntelliStripe 350, Desktop Motorized Reader, can read the mag-stripe data from financial cards and drivers licenses, as well as provide ISO 7816/ EMV level 1 support for communicating to T=0, T=1 Smartcards. Support for many popular Memory cards is also provided.

The Reader communicates with a Host via an RS-232 serial interface, and uses a proprietary MCP protocol and command set, which has been developed by MagTek. Windows Drivers for the MCP protocol are available and can support most Windows operating systems.

CONFIGURATION

Part numbers and descriptions for the basic configuration are shown in the table below. All extra items must be ordered separately.

| Part Number | Description |
|--------------------|--|
| 16050313 | IntelliStripe 350, 3TK, C Bezel, RS-232 & USB Interface, Stripe Down, Chip Up, EMV Compliant, cables ordered separately. |
| 16051412 | RS-232 I/O Cable, 7-pin connector connects to host 9-pin connector with 12V/Ground connector for Power Supply. |
| 16051433 | USB Cable, 6' MagTek Gray |
| 64300080 | Power Supply, 100V through 240V regulated with 2.5mm plug. |
| 71100001 | AC power cord, P/N is for use in North America. Other users must supply their own cord, or contact MagTek for international cords. |

STANDARD FEATURES

Standard features of the IntelliStripe 350 are as follows:

- Motorized transport
- RS-232 and USB interface
- Status LED
- Flash upgradable
- 8 Smart Card Contacts for reading ISO 7816 contact locations
- Supports all popular magnetic stripe track combinations
- Front Card Gate prevents coins, dust, moisture, and debris from entering the unit – gate resists opening except when ISO-size card enters the unit.

SOFTWARE ACCESSORIES

The following Software Modules may be required and will assist in the development of application software. In addition, this software can provide an initial test platform for checkout of the IntelliStripe 350.

- **IntelliStripe Picture Demo with MCP Driver:**
P/N 30037435 (Floppy Disks) or P/N 99510015 (Web Release)
This software will install both a Demo program and the MCP driver.
The Demo program is useful for initial checkout of the Reader's functionality. The MCP driver is recommended for use as the communications interface on Windows based host systems. Application programmers can interface to the MCP driver via a MagTek defined API.
- **Source Code for Picture Demo Program:**
P/N 30037436
Visual Basic 6.0 source code for the Picture Demo program.
This will be useful to Application Programmers, as it shows examples of how to interface with the MCP drivers and how to use the various commands.
- **MCP Utility Program:**
P/N 30037442 (Floppy Disks) or P/N 99510020 (Web Release)
This is a utility program that interfaces with the MCP driver, and allows engineers to send commands directly to the Reader per the defined MagTek Command Set. This is useful for gaining an understanding of the commands used with the Reader. (Note: This utility requires that the MagTek MCP drivers be previously installed.)

RELATED DOCUMENTS

This document, P/N 99875179, is from a hardware perspective only. Other documents that cover the command set, communications protocol, and API (Application Program Interface) are as follows:

| Part Number | Title |
|--------------------|--|
| 99875163 | MCP, Serial Transport Protocol, Reference Manual |
| 99875164 | Communication Protocol, Driver Reference Manual |
| 99875168 | IntelliStripe 320, Command Reference Manual |

SMART CARD INTERFACE

The Reader can provide connections to ICC contacts as defined by ISO 7816 specifications. The Reader supports ISO7816 T=0 and T=1 cards not requiring V_{PP} , with a speed range of 9600 bps to 115200 bps. It also supports a variety of common memory card types. See IntelliStripe 320 Command Reference Manual, Part Number 99875168, for more details.

MAGNETIC STRIPE READER

The Reader can read up to three tracks of magnetic stripe card data. See IntelliStripe 320 Command Reference Manual, Part Number 99875168, for more details.

FLASH UPGRADABLE

The unit's firmware is in-system Flash Upgradable. This allows the unit's firmware to be upgraded when required.

INTERFACE

The unit communicates to the host through either a USB or an RS-232 interface. For RS-232, the device uses 8 data bits, 1 stop bit, even parity. The unit can automatically sync to baud rates 9600, 14400, 19200, 28800 38400, and 57600. See MCP Driver Reference Manual, Part Number 99875164, and MCP Serial Transport Protocol Reference Manual, Part Number 99875163, for more details.

SPECIFICATIONS

Specifications for the Reader are listed in Table 1-1. Overall dimensions of the unit are shown in Figure 1-2.

Table 1-1. Specifications

| DATA FORMAT SPECIFICATIONS | |
|--|---|
| Reader Configuration | Data Format Specifications* |
| Mag-Stripe Functions Track 1,2,3 only | ISO/ANSI/AAMVA/JIS formats ISO 7810, 7811, JIS x 6302 Type 2 |
| Smartcard Functions | ISO 7816 T=0 and T=1 protocols, many popular memory cards EMVCo Level 1 Approval |
| * ISO (International Standards Organization), ANSI (American National Standards Institute), AAMVA (American Association of Motor Vehicle Administrators), JIS (Japanese Industrial Standard) | |
| OPERATIONAL | |
| Card Speed: | 10 IPS (25,4 cm/sec) typical |
| Recording Method: | Two-frequency coherent phase (F2F) |
| MTBF: | |
| Electronics | 125,000 hours |
| Head | 1,000,000 passes (500,000 Insertion Cycles) |
| SC Contacts | 1,000,000 passes |
| ELECTRICAL | |
| Input Voltage | 12.0 VDC \pm 5% |
| Current | 1.5 A max 170 mA typical (with motor off) |
| MECHANICAL | |
| Dimensions: | |
| Length | 7.125" (181.0 mm) |
| Width | 4.56" (115.82 mm) |
| Height | 2.85" (72.40 mm) |
| Cable Length (16051412) | 6' (1.83 m) |
| Power Supply Cable Length (64300080) | 6' 4" (1.93 m) |
| Power Cord (North American 100-240V) (P/N 71100001) | 7' 6" (2.28 m) |
| Weight: | |
| Reader with Cable | 2 lb 5.33oz (1.05 kg) |
| Power Supply | 6.4 oz (0.2 kg) |
| AC Cord | 6.4 oz (0.2 kg) |
| ENVIRONMENTAL | |
| Temperature | |
| Operating | 32 °F to 122 °F (0 °C to 50 °C) |
| Storage | -40 °F to 158 °F (-40 °C to 70 °C) |
| Humidity | |
| Operating | 10% to 95% noncondensing |
| Storage | 10% to 95% noncondensing |
| Altitude | |
| Operating | 0 to 10,000 ft. (0 to 3,048 m) |
| Storage | 0 to 50,000 ft. (0 to 15,240 m) |

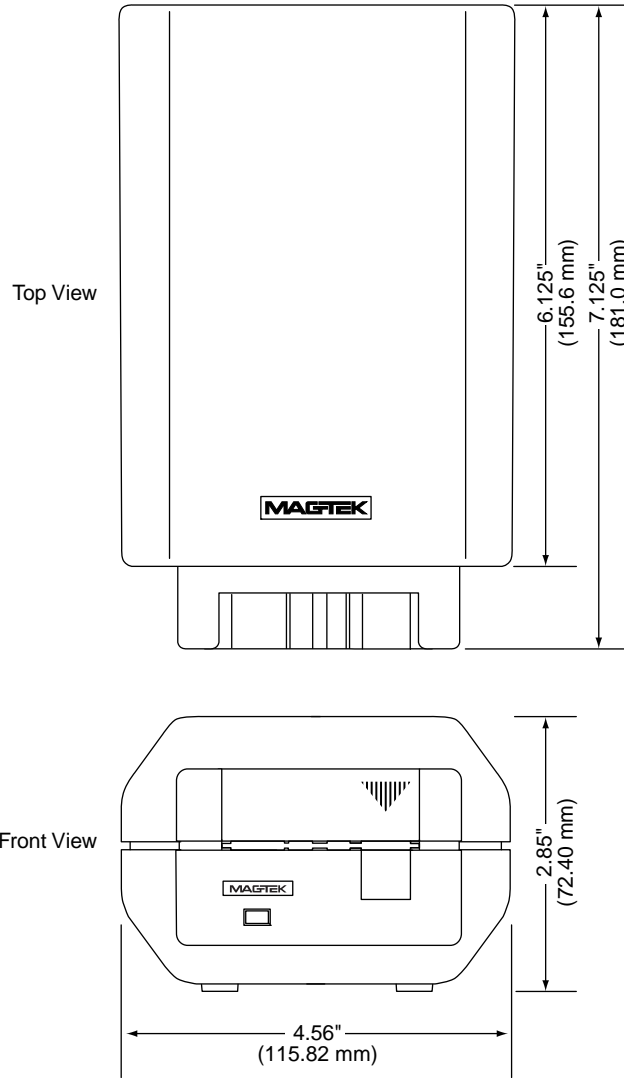


Figure 1-2. IntelliStripe 350 Dimensions

SECTION 2. INSTALLATION

The installation of the IntelliStripe 350 Desktop Motorized Reader consists of placing the unit on a flat surface, plugging the I/O connector into the host serial port, and plugging the Power Supply into the I/O cable and into a wall receptacle.

COMPONENTS

Components of the unit for installation are shown in Figure 2-1.

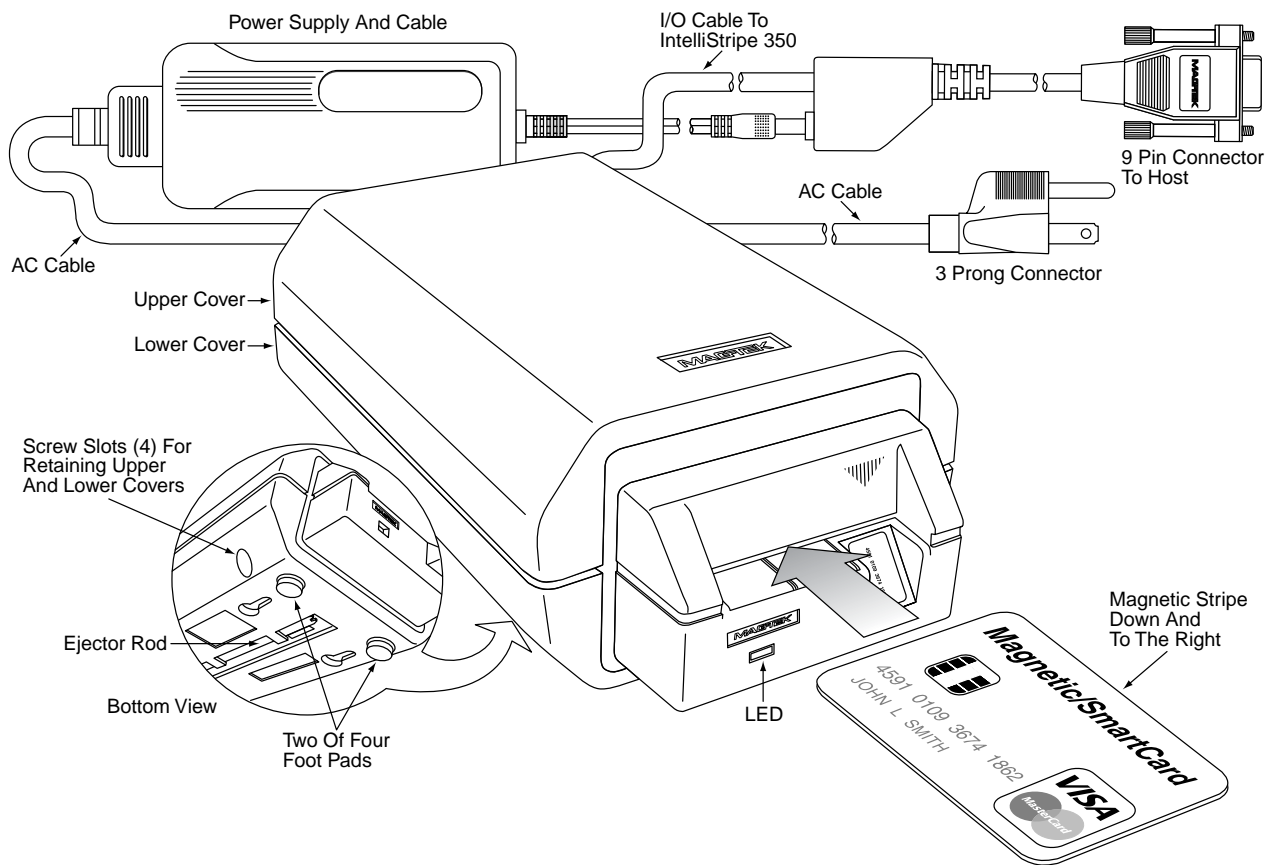


Figure 2-1. IntelliStripe 350 Components

PLACEMENT AND CABLE CONNECTIONS

Refer to Figure 2-1, and place and connect the IntelliStripe 350 cabling as follows:

Ensure power to the PC is off.

1. Place the unit on a smooth flat surface convenient for operation.
2. Connect the 9-pin I/O connector to the PC.
3. Connect the 12 V power supply plug into the I/O cable.
4. Connect the AC cable into a wall receptacle.
5. Turn power on to the PC.

The I/O cable is shown in Figure 2-2 and the Pin List is shown in Table 2-1

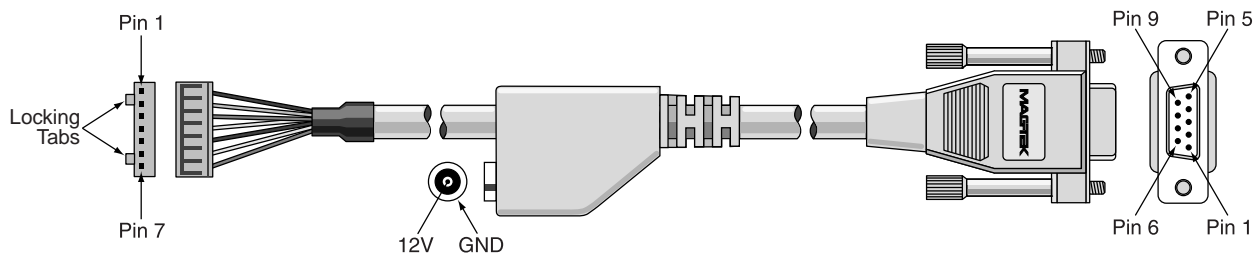


Figure 2-2. I/O Cable with Pin Locations, P/N 16051412

Table 2-1. Pin List for I/O Cable

| Molex 7 Pin (51055-0700) | | DB-9 Female | | 2.5mm Power Jack | |
|--------------------------|-------------|-------------|-------------|------------------|------|
| Pin Number | Signal Name | Pin Number | Signal Name | | |
| 1 | TXD | 2 | RXD | | |
| 2 | +12V | | | CENTER PIN | +12V |
| 3 | PWR GND | | | SHELL | GND |
| 4 | RXD | 3 | TXD | | |
| 5 | RTS | 8 | CTS | | |
| 6 | CTS | 7 | RTS | | |
| 7 | SIGNAL GND | 5 | GND | | |
| | | 6 |] DSR | | |
| | | 4 | |] DTR | |

The Power Supply, P/N 64300080, 100V–240V regulated, 12VDC, with 2.5 mm plug is shown in Figure 2-3. The AC power cord, P/N 71100001, is for use in North America. Other users must supply their own AC cord, or contact MagTek for international cords.

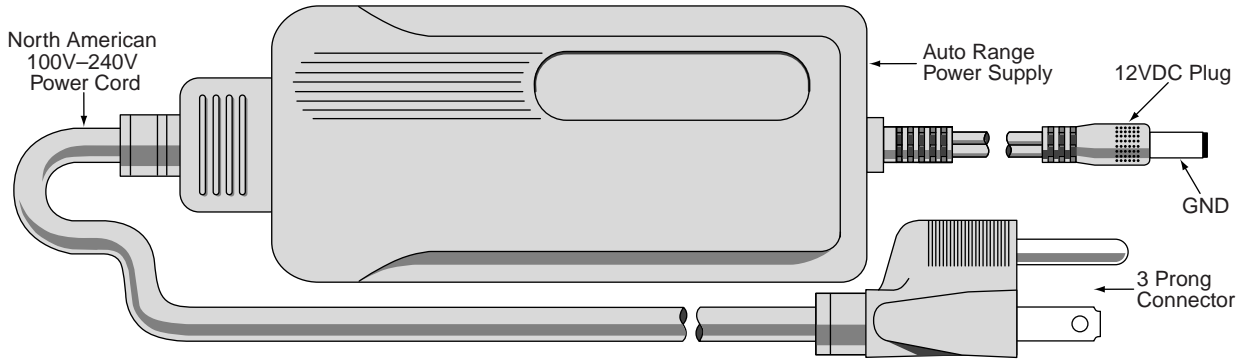


Figure 2-3. Power Supply and AC Cable.

REAR PANEL

The Rear Panel is shown in Figure 2-4 (for the RS-232 connection) and Figure 2-5 (for the USB connection). The cables and tie wraps must be organized as separate line items when ordering the reader. For the RS-232 configuration, the power connector can either be connected to the rear of the reader or into the power jack on the RS-232 cable.

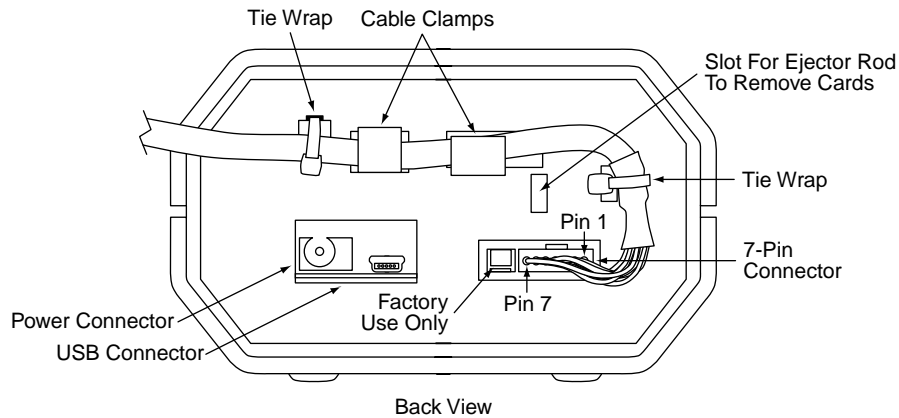


Figure 2-4. Rear Panel – RS-232 Connection

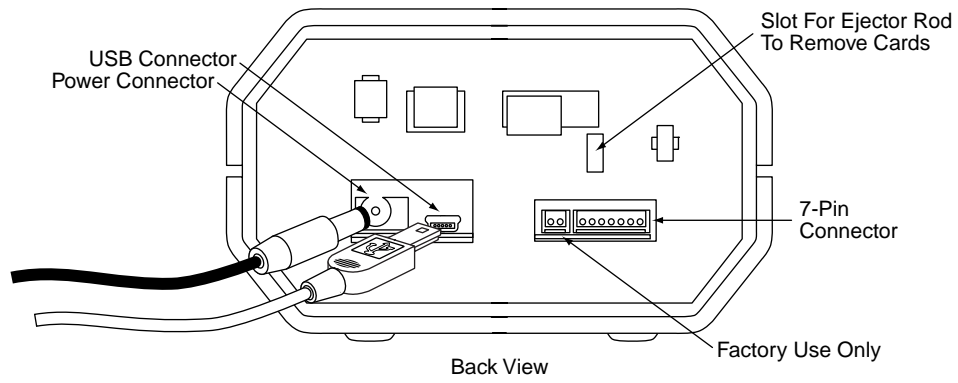


Figure 2-5. Rear Panel – USB Connection

SECTION 3. OPERATION AND MAINTENANCE

The operation of the unit includes inserting and removing the card. Maintenance includes keeping the unit clean and removing jammed cards from the unit.

OPERATION

The card is inserted with the magnetic stripe down and to the right as illustrated in Figure 2-1. Remove the card when unit ejects it. Perform any tasks on the PC as directed. The LED gives status or direction as defined by the institution.

MAINTENANCE

Preventive maintenance includes cleaning the unit periodically with a lint-free cloth. The cleaning schedule depends on how clean or dirty the environment is.

Corrective maintenance includes removing the card in case of power failure or card jam. In most cases, resetting the unit will cause the card to automatically eject the card. To reset the unit unplug the Power Supply connector (Figure 2-3) from the I/O connector and plug it back in.

If the card does not automatically eject, the card may be pushed out with a special tool, the Ejector Rod, which is located on the bottom of the unit. The Rod is inserted into a slot in the back of the unit, shown in Figure 3-2.

To remove a jammed card proceed as follows:

1. Remove the Ejector Rod by sliding it from under the retaining tabs as shown in Figure 3-1.

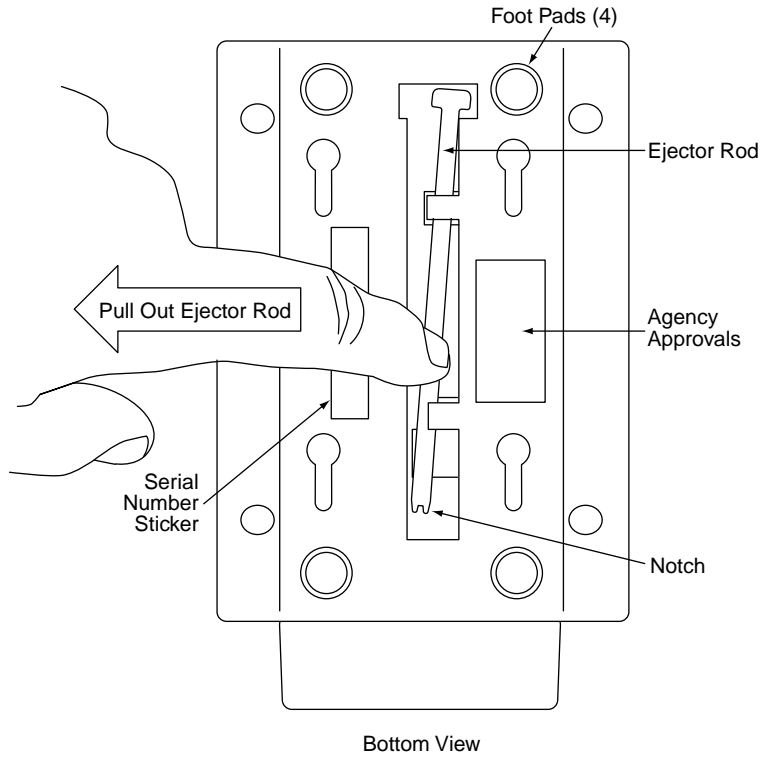


Figure 3-1. Ejector Rod Removal

2. Look into the slot in the back of the unit, shown in Figure 3-2, to see the jammed card. This will show the approximate position where the notch on the Ejector Rod will be inserted.

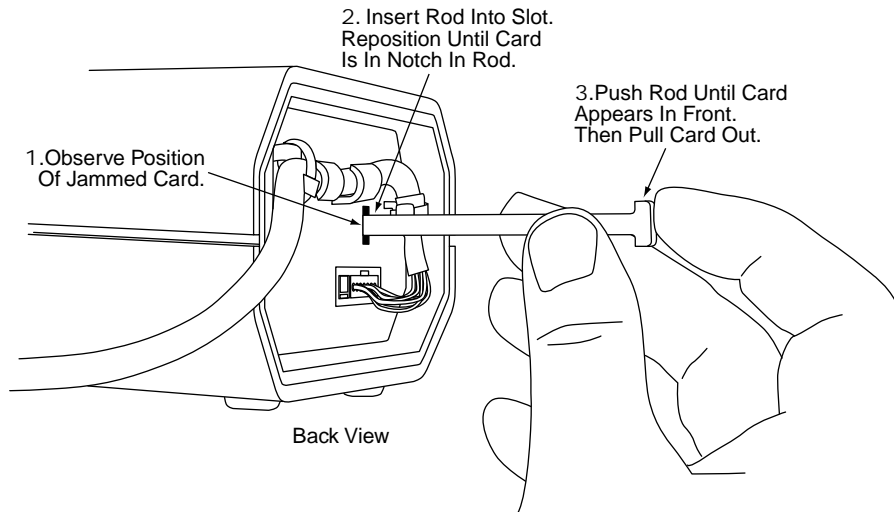


Figure 3-2. Card Removal with Ejector Rod

3. Insert the Rod into the slot as shown in Figure 3-2.
4. Reposition as required until the card is in the notch.
5. Push the Rod until the card appears in the front, then pull it out.

