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**METROLOGIC INSTRUMENTS, INC.**

**IS421X ScanGlove®  
Laser Bar Code Scanner**

**Installation and User's Guide**

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## **Introduction**

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The ScanGlove™ non-decode scanners interface directly into decode equipped "keyboard wedges," controllers, or decode, they are designed distinctly to accommodate many types of applications.

When using the ScanGlove™ with a decoder, scanner operation is dependent upon your decoder. Since there are many decoders available, refer to the decoder's documentation concerning scanner requirements and operation.

## **Unpacking List**

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With the purchase of a ScanGlove scanner, the following will be in the shipping carton:

- ! Installation and User's Guide
- ! ScanGlove Laser Bar Code Scanner
- ! Glove

To order additional items, contact your dealer, distributor or call Metrologic's Customer Service Department.

## Theory of Operation

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When connected to a decoder/controller and to the signals as defined in the pin assignment sections, the IS4210 and IS4213 scanners will operate as follows.

The scanning process initiates by an infrared (IR) device located behind the window. The IR sensor is active as long as the power is applied to the unit. When the IR sensor detects an object, the green LED will flash. When the laser decodes a bar code, the scanner transmits the data to the host system and then "beeps" to show the decoding is complete. The IR sensing range can be programmed for two ranges.

**Short Range Activation** - The IR signal initiates the scan process if it senses an object anywhere from the face of the window out to approximately 4" to 7".

**Long Range Activation** - The IR signal initiates the scan process if it senses an object anywhere from the face of the window out to approximately 9" to 13".

*If the object is removed* from the field during the scanning process, the laser turns off and the scanner reenters "standby" mode.

However, *if the object stays in the field*, the laser remains on for up to 2.5 seconds trying to detect another bar code. If the scanner does not detect a bar code, the scanner reenters "standby" mode. To reactivate the scanning sequence, remove the object and present another.

*If the same symbol stays in the field after a successful scan*, the laser stays on for approximately 4 seconds and then turns off. This prevents unintentional reads of the same bar code. To read the same symbol more than once, remove the object from the scan field for approximately 1 second and then present the symbol again.

## Connecting the IS4210 or IS4213 ScanGlove to a Decoder/Controller

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**Important Note:** To maintain compliance with applicable standards, all circuits connected to the scanner must meet the requirements for SELV (Safety Extra Low Voltage) according to EN 60950.

Since each host system is unique, configure the decoder/controller to match your host system requirements. Refer to the Installation and User's Guide for further information.

Since there are many different types of decoders, refer to your decoder's documentation to connect the decoder to your host system.

1. Make sure the host system is off and the ON/OFF toggle switch on the controller is in the OFF (O) position.
2. Connect the 9-pin squeeze end of the scanner adaptor cable to the decoder/ controller. Then, attach the 15-pin connector of the host's communication cable to the decoder/controller. Connect the other end of the cable to the host device.
3. If the decoder/controller receives power from an external power supply, check the AC input requirements of the transformer/power supply to make sure the voltage matches an available AC outlet. Connect the power supply to the decoder/controller. (The socket-outlet can be installed near the equipment so it will be easily accessible.)
4. Supply power to the scanner and decoder/controller by plugging the power supply into the AC outlet. Position the decoder ON/OFF switch to the ON (1) position and then power up the host system.

**Note:** When the ScanGlove first receives power, it will immediately go through a self diagnostic routine, then the red and green LED will flash and the unit will beep once.

When positioning the ScanGlove, make sure to align the output window flush with the knuckles of your hand. Also, avoid obstructing the output window. Rings and fingers may prevent the scanner from reading a bar code.

# Parts of the ScanGlove Scanner

Becoming familiar with the features of the scanner will help when operating the scanner. The following illustration and list explain the pertinent parts.

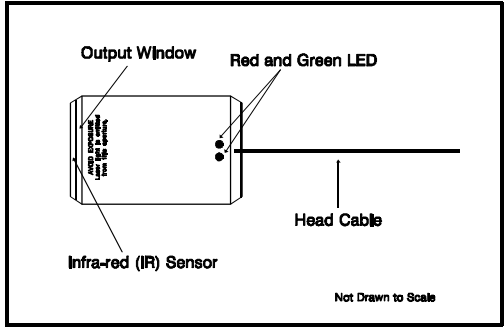


Figure 1

## Green and Red LED

When the red LED is on, this shows that the laser is on. Depending upon your decoder, when the green LED flashes on, this shows that the scanner has read a bar code successfully. When the green light turns off, communication to the host is complete.

## Output Window

Sends and receives the IR signal and Laser beam.

## Infrared Object Sensor

If a specified time has elapsed without any scanning, the unit will enter a “standby” mode. To reactivate the unit, point the output window downwards or wave an object in front of the IR (infrared) sensor. When the red LED comes on, the scanner is ready to scan.

## Head Cable

This cable terminates to the specifications of each order.

## Audible Indicators

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Audible indicators show the status of the scanner. These indicators are dependent upon the decoder being used. The function of these indications may not work as described below if the decoder pinouts and software controls do not match the pin out signals as defined in the pin assignment section of this manual.

To change the volume (four settings are available) or turn the beeper off, refer to the Programming Guide section: Beeper Tones.

**One Beep** When the scanner *first* receives power, the red LED will blink, followed by the green LED, and then the scanner will "beep." After the scanner performs this start-up sequence, the scanner is ready to scan.

When the scanner *successfully* reads a bar code, the green light will flash and "beep" once. If the scanner does not "beep" or the green LED does not flash then the bar code read is *not* successful.

**Razzberry Tone** If, upon power up, the scanner emits a razzberry tone, then the scanner has failed diagnostics.

**Note:** The scanner can be programmed to emit a razzberry tone when the timeout occurs during communication between the host and scanner. Refer to the Programming Guide section: Audible Indicators for Communication Timeouts.



## Visual Indicators

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There are visual indicators to show the status of the scanner. These indicators are dependent upon the decoder being used. The function of these indicators may not work as described below if the decoder pinouts and software controls do not match the pin out signals as defined in the pin assignment section of this manual.

There are a red LED and a green LED at the top of the scanner. When the scanner is on, the flashing or steady activity of the LEDs indicates the status of the scan and scanner.

- No Red or Green** Illumination of the LEDs will not occur if the scanner has remained dormant for a specified time and the scanner is not receiving power from the host. To reactivate the unit, direct the output window up then down toward the object.
- Red Flash;  
Green Flash;  
Steady Red** When the scanner *first* receives power, the red LED will flash, followed by the green LED, and then "beep" once. After the scanner performs this startup sequence, the red LED will remain on for a specified time showing that the scanner is ready to scan. If an object is not presented to the scanner, the red light will turn off.
- Steady Red** When the laser is on, the red LED will be on. This occurs when an object is in the scan field. If the scanner cannot detect a bar code within approximately 2.5 seconds, the red LED will shut off indicating that the laser is no longer on.
- Steady Red;  
Green Flash** When the scanner *successfully* reads a the scanner does not bar code, the green LED will flash and "beep" once. If "beep" or the green LED does not flash then the bar code read is *not* successful.
- Repetitive  
Red Flashes** When the red LED flashes several times while it rests upon a stationary surface, then an object is within the scan field and is activating the IR sensor. To eliminate this disturbance, direct the scan window toward a different location.

## Signaux optiques

Il existe des signaux optiques qui vous informent sur l'état du scanner. Ces signaux dépendent du décodeur que vous utilisez. Il peut arriver que les fonctions de ces signaux ne correspondent pas à celles qui suivent si vous utilisez un décodeur qui n'a pas été construit par Metrologic.

Sur la partie supérieure du scanner se trouvent une diode LED rouge et une diode LED verte. Les diodes rouge et verte clignotantes ou allumées vous informent sur l'état de palpation et de scanner.

### **Ni la diode rouge, ni la diode verte n'est allumée**

Il arrive fréquemment que les deux diodes ne s'allument pas. Pour deux raisons. Les diodes ne s'allument pas quand le scanner ne reçoit de l'énergie ni de l'ordinateur central, ni du transformateur. Quand le scanner reçoit de l'énergie et ne s'allume cependant pas, le scanner est resté pendant une certaine période sans être utilisé et le laser et le moteur sont désactivés.

Pour réactiver l'unité, déplacer un objet devant le palpeur infrarouge ou prendre le scanner et diriger la fenêtre de palpation vers le bas.

### **Diode rouge clignotante; diode verte clignotante; diode rouge restant allumée**

Quand le scanner reçoit *pour la première fois* de l'énergie, la diode rouge se met d'abord à clignoter, puis la diode verte. Ensuite, le scanner émet un bip sonore unique. Une fois cette séquence de démarrage effectuée, la diode rouge reste allumée pendant un certain temps indiquant que le laser est prêt à servir. Quand le scanner ne détecte aucun objet, la diode rouge s'éteint.

### **Diode rouge restant allumée**

Quand un objet se trouve devant la fenêtre de palpation, la diode rouge reste allumée et indique que le scanner est prêt à servir.

### **Diode rouge restant allumée; diode verte clignotante**

Après lecture *avec succès* d'un code barres par le scanner, la diode verte se met à clignoter, suivie d'un bip sonore unique. Si la diode verte ne clignote pas ou quand aucun bip sonore n'est émis, cela signifie que le code barres *n'a pas* pu être lu avec succès.

### **Clignotement répété de la diode rouge**

Quand la diode rouge clignote plusieurs fois pendant que l'appareil repose sur une surface non déplacée, un objet activant le palpeur infrarouge se trouve devant la fenêtre de palpation. Ceci peut se produire même quand le scanner se trouve sur une table ou un repose-pied. Pour éliminer ce défaut, positionner le scanner de façon différente.

## Optische Anzeigen

Es sind optische Anzeigen vorhanden, die Ihnen Aufschluß über den Scannerstatus geben. Diese Anzeigen sind abhängig von dem von Ihnen verwendeten Dekodierer. Es kann sein, daß die Funktionen dieser Anzeigen nicht den nachfolgend angegebenen entsprechen, falls Sie einen Dekodierer verwenden, der nicht von Metrologic hergestellt wurde.

Auf der Oberseite des Scanners befinden sich zwei Leuchtdiodenanzeigen: eine rote und eine grüne. Die blinkenden bzw. feststehenden Leuchtdiodenanzeigen geben Aufschluß über den Abtast- und Scannerstatus.

### **Weder rote noch grüne Leuchtanzeige**

Es kommt häufig vor, daß die beiden Leuchtdiodenanzeigen nicht aufleuchten. Dafür gibt es zwei mögliche Gründe. Die Anzeigen leuchten nicht, wenn der Scanner weder vom Hostrechner noch vom Transformator Energie erhält. Erhält der Scanner Energie, und die Anzeigen leuchten dennoch nicht auf, so ist der Scanner für einen bestimmten Zeitraum untätig geblieben, und Laser und Motor sind abgeschaltet. Zur Reaktivierung der Einheit sollten Sie ein Objekt vor dem Infrarot-Sensorhin- und herbewegen oder den Scanner aufnehmen und das Abtastfenster nach unten richten.

### **Rote Blinkanzeige; Grüne Blinkanzeige; feststehende rote Leuchtanzeige**

Wenn dem Scanner *erstmalig* Energie zugeführt wird, blinkt zunächst die rote Leuchtdiodenanzeige auf, gefolgt von der grünen Leuchtdiodenanzeige, und anschließend sendet der Scanner ein einmaliges Piep-Signal aus. Nach Ausführung dieser Startsequenz leuchtet die rote Leuchtdiodenanzeige für einen bestimmten Zeitraum auf und zeigt an, daß der Scanner zur Durchführung des Scannens bereit ist. Wird dem Scanner kein Objekt präsentiert, so erlischt die rote Leuchtanzeige.

### **Feststehende rote Leuchtanzeige**

Befindet sich ein Objekt vor dem Ausgabefenster, so leuchtet die rote Leuchtdiode weiterhin auf und zeigt an, daß der Scanner zur Durchführung des Abtastvorgangs bereit ist.

### **Feststehende rote Leuchtanzeige; grüne Blinkanzeige**

Nach *erfolgreichem* Lesen eines Barcodes durch den Scanner blinkt die grüne Leuchtdiodenanzeige auf, gefolgt von einem einmaligen Piep-Signal. Falls die grüne Leuchtdiodenanzeige nicht aufblinkt oder der Scanner kein Piep-Signal aussendet, bedeutet dies, daß der Barcode *nicht* erfolgreich gelesen werden konnte.

### **Wiederholte rote Blinkanzeigen**

Blinkt die rote Leuchtdiodenanzeige mehrmals auf, während das Gerät auf einer nichtbewegten Fläche liegt, so befindet sich ein Objekt innerhalb des Abtastfeldes, das den Infrarot-Sensor aktiviert. Dies kann selbst dann vorkommen, wenn der Scanner auf dem Ladentisch oder dem Ablagegestell liegt. Um diese Störung zu beseitigen sollten Sie den Scanner anders positionieren.

## Segnali ottici

Sono previsti dei segnali ottici che Vi informano sullo stato dello scanner. Questi segnali dipendono dal decodificatore da Voi utilizzato. Se utilizzate un decodificatore che non è stato fabbricato dalla Metrologic è possibile che le funzioni di questi segnali non corrispondano a quelle qui di seguito indicate.

Sulla parte superiore dello scanner si trovano due diodi luminosi: uno rosso e uno verde. I diodi luminosi, che possono o essere accesi in continuazione o lampeggiare, Vi informano sullo stato della scansione e dell'apparecchio.

### **Né il diodo luminoso rosso né quello verde sono accesi**

Succede spesso che i due diodi luminosi non siano accesi. Vi sono due cause possibili. Se lo scanner non viene alimentato né dal calcolatore host né dal trasformatore, i diodi luminosi non sono accesi. Se invece lo scanner viene alimentato e ciò nonostante i diodi luminosi non sono accesi, lo scanner è rimasto disattivato per un determinato periodo e laser e motore sono spenti. Per riattivare l'unità dovrete muovere un oggetto davanti al sensore a infrarossi oppure prendere lo scanner e rivolgere il finestrino di scansione verso il basso.

### **Il diodo luminoso rosso lampeggia; il diodo luminoso verde lampeggia; il diodo luminoso verde è acceso**

Quando lo scanner viene alimentato *per la prima volta*, lampeggia dapprima il diodo luminoso rosso e quindi quello verde. Poi lo scanner emette un unico segnale beep. Dopo l'esecuzione di questa sequenza di avvio, il diodo luminoso rosso si accende per un determinato periodo ed indica che il laser è pronto per effettuare una scansione. Se allo scanner non viene presentato nessun oggetto, il diodo luminoso rosso si spegne.

### **Il diodo luminoso rosso è acceso**

Se un oggetto si trova davanti al finestrino di uscita, il diodo luminoso continua ad essere acceso indicando così che lo scanner è pronto per effettuare una scansione.

### **Il diodo luminoso rosso è acceso; il diodo luminoso verde lampeggia**

Dopo la lettura *riuscita* di un codice a barre da parte dello scanner il diodo luminoso verde lampeggia e quindi viene emesso un unico segnale beep. Se il diodo luminoso verde non lampeggia oppure lo scanner non emette un segnale beep, ciò significa che la lettura del codice a barre *non* è riuscita.

### **Il diodo luminoso rosso lampeggia ripetutamente**

Se il diodo luminoso rosso lampeggia ripetutamente mentre l'apparecchio si trova su una superficie immobile, vi è un oggetto all'interno della zona di scansione che attiva il sensore a infrarossi. Ciò può essere addirittura il caso quando lo scanner si trova sul banco oppure nel suo supporto. Per eliminare questa anomalia basta cambiare la posizione dello scanner.

# Labels

The scanner is a CDRH Class II laser system. The CDRH Class II label and the serial number label are located at the bottom of the unit. The “Avoid exposure laser light emitted from this aperture” label is located directly over the output window. Below are examples of these labels:

Metrologic Instruments, Inc.  
MANUFACTURED IN NEW JERSEY, USA  
CONTAINS NO USER SERVICEABLE COMPONENTS  
October 1996 Voltage: 5V  
Serial #: YYYYYYYY Model: IS4210  
XXXXXXXXXX LASER  
XXXXXXXXXX Barcode Scanner  
U.S. PATENTS: 45,248,971; 45,349,973; 45,448,951; 45,288,553  
OTHERS PENDING



Metrologic Instruments, Inc.  
MANUFACTURED IN NEW JERSEY, USA  
CONTAINS NO USER SERVICEABLE COMPONENTS  
October 1996 Voltage: 5V  
Serial #: YYYYYYYY Model: IS4215  
XXXXXXXXXX LASER  
XXXXXXXXXX Barcode Scanner  
U.S. PATENTS: 45,248,971; 45,349,973; 45,448,951; 45,288,553;  
45,424,525; 45,494,992; OTHERS PENDING



Metrologic Instruments, Inc.  
MANUFACTURED IN NEW JERSEY, USA  
CONTAINS NO USER SERVICEABLE COMPONENTS  
October 1996 Voltage: 5V  
Serial #: YYYYYYYY Model: IS4213  
XXXXXXXXXX LASER  
XXXXXXXXXX Barcode Scanner  
U.S. PATENTS: 45,248,971; 45,349,973; 45,448,951; 45,288,553  
OTHERS PENDING

## Caution

For the scanner to comply with IEC 825 as a Class 1 laser product, the device used to control the scanner must limit each cycle of operation to a maximum of 3.5 seconds scanning and provide a minimum reaction time of 1 second.

## IR Sensor Activation

The scanning process initiates by an infrared (IR) sensor located behind the output window. In short range mode the signal it projects extends approximately 4" - 7" beyond the output window. In long range mode the signal it projects extends approximately 9" - 13" beyond the output window. The IR sensor remains active as long as power is applied to the unit.

The mode wanted can be manually enabled by repositioning the Short Range/Long Range switch that is on the side of the ScanGlove (refer to Figure 2). Short range activation is down; long range activation is up.

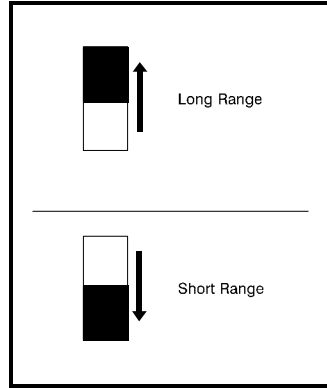


Figure 2

## Scan Field

The depth of field for the scanner is 38.1 mm to 139.7 mm (1.5" to 5.5") from the face of the output window (Refer to Figure 3).

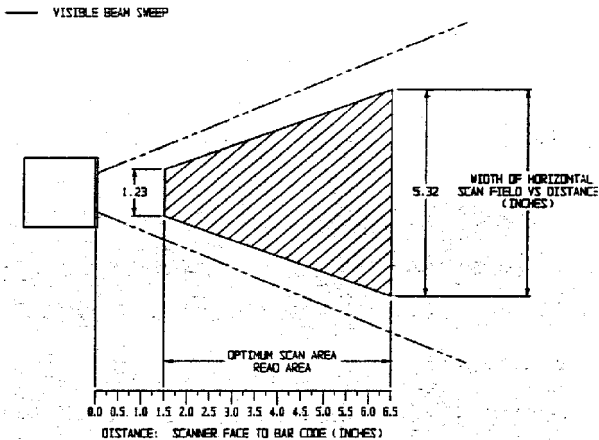


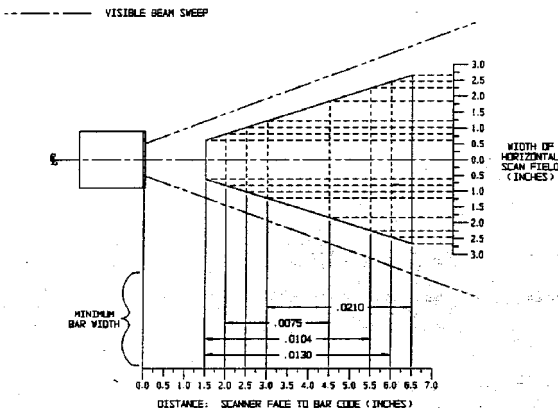
Figure 3

# Depth of Field and Symbol Specification

(Refer to Figure 4)

Code Type*	Minimum Small Element Mil. (1/1000")	Code Density	Depth of Field
UPC/EAN	10.4	80%	1.5" - 5.5"
UPC/EAN	13.0	100%	1.5" - 6.0"
Code 39	7.5	High	1.5" - 4.0"
Code 39	12.0	Medium	2.5" - 5.5"
Code 39	21.0	Low	3.0" - 6.5"
I 2 of 5	7.5	High	1.5" - 4.0"
I 2 of 5	12.0	Medium	3.0" - 5.5"
I 2 of 5	21.0	Low	2.5" - 6.0"
Codabar	6.5	High	2.5" - 4.0"
Codabar	9.8	Medium	2.0" - 5.0"
Codabar	13.0	Low	2.0" - 6.0"
Code 128	7.0	80%	2.0" - 4.0"
Code 128	13.0	100%	3.0" - 6.0"

\* All codes printed black on white.



SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Figure 4

## **Maintenance**

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Smudges and dirt can interfere with the proper scanning of a bar code. Therefore, the output window will need occasional cleaning.

1. Spray glass cleaner onto lint free, non-abrasive cleaning cloth.
2. Gently wipe the output window.



# Appendix A

---

## Specifications

Application:	Hand mounted laser bar code scanner
Light Source:	VLD 675 ± 5 nm
Max. Laser Power:	1.0 mW
CDRH:	Designed to meet Class II laser product
UL/CSA:	Designed to meet UL 1950; CSA, C22.2 No. 950
EMI:	Designed to meet FCC Class A
IEC:	Class I

## Mechanical

Dimensions:	71mm L x 51mm W x 27mm H (2.8" x 2.0"x 1")
Weight:	180g (6.35 oz.)

## Electrical

Power (Watts):	.75
Input Voltage, DC:	5V
Operating Current (Amps):	135 - 145 mA
Standby Current (Amps):	18 mA

## Operational

Depth of Field, UPC 100%:	38.1 mm to 139.7 mm (1.5" to 5.5")
Scan Speed:	70 scan lines per second
Scan Pattern:	Single scan line
Maintenance:	Clean output window periodically
Print Contrast:	35% minimum reflectance difference
Roll, Pitch, Yaw:	42E, 68E, 52E

## Environmental

Storage Temperature:	-40EC to 60EC (-40EF to 140EF)
Operating Temperature:	0EC to 35EC (32EF to 95EF)
Humidity:	5% to 95% relative humidity, non-condensing
Light Levels:	Up to 3200 foot candles; works in direct sunlight
Ventilation:	None required
Shock:	Drop of 1.5 meters (5')
ESD:	15 kV IEC 801-2 Level 4
Contaminants:	Sealed to resist airborne particulate contaminants

Specifications subject to change without notice.

## Appendix B

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### IS4210 and IS4213 Pin Assignments

The IS4210 and IS4213 scanners both terminate with a 9-pin female squeeze connector. The pin numbers impress on the connector.

Pin	Signal Name	Function
1	<b>Scan Sense</b>	<p>Each positive transition of the scan sense signal represents the start of a scan cycle, which is one pass in each direction across the bar code. Therefore, it sends the bar code data (both forwards and reverse) between the rising edges. There are 35 scan sense pulses per second, which equals 70 scans per second.</p> <p><b>Note:</b> The polarity does not show scan direction.</p> <p>This open collector output can sink 25 mA via an external pull up resistor connected to a voltage not to exceed +20 VDC.</p>
2	<b>Data</b>	<p>Data is an output digital representation of the scanned bar code. A low level represents a bar and a high level represents a space.</p> <p>This open collector output can sink 25 mA via an external pull up resistor connected to a voltage not to exceed +20 VDC.</p>
3	<b>Decode LED</b>	<p>The scan head is equipped with a LED and a beeper assembly. A +5VDC to 12 VDC input to the head at this pin will light the green LED. If it oscillates at approximately 2 KHz, it will drive a beeper. The current should be no more 30mA. Typically, this is used to show that decoding has occurred.</p>
4	<b>Reserved</b>	

- 5      **Proximity Detect**      The proximity detect is a grounding switch that is active while an object is in the specified detection field. The controlling computer should provide a +5 VDC pull up. Ground the +5 VDC pull up when the proximity detect activates.
- This shows that an object has moved within scanning range. We recommend that this signal debounce for approximately 30 milliseconds.
- Note:** We did not make the design of this scan head to have the continual enabling of the laser as if the scanner is in a permanent mounting fixture.
- 6      **Laser/  
Motor Control**      A +5 VDC input to the head. Its use is to start the flipper motor and signal processor, and enable the visible laser diode (VLD). This can be a TTL level signal and require less than 1 milliampere of current.
- 7      **Ground**      A power ground that can handle a 500-milliampere load.
- 8      **SHIELD**      Cable shield to chassis ground (no load).
- 9      **+5 VDC Supply**      Primary laser diode/motor power input. +5 VDC should be present at this pin and can supply up to 125 mA when enabled by the signal at pin 6.

## IS4215 Pin Assignments

The IS4215 scanner terminates with a 25-pin male D-type connector. The pin numbers impress on the connector:

Pin	Signal Name	Function
7	<b>Ground</b>	A power ground that can handle a 500-milliamper load.
13	<b>Laser/ Motor Control</b>	A +5 VDC input to the head. Its use is to start the flipper motor and signal processor, and enable the visible laser diode (VLD). This can be a TTL level signal and require less than 1 milliamper of current.
18	<b>No Connect</b>	
19	<b>Power</b>	Primary laser diode/motor power input. +5 VDC should be present at this pin and it can supply up to 125 mA when enabled by the signal at pin 6.
20	<b>No Connect</b>	
23	<b>Proximity Detect</b>	The proximity detect is a grounding switch that is active while an object is in the specified detection field. The controlling computer should provide a +5 VDC pull up. Ground the +5 VDC pull up when the proximity detect activates.

This shows that an object has moved within scanning range. We recommend that this signal debounce for approximately 30 milliseconds.

**Note:** We did not make the design of this scan head to have the continual enabling of the laser as if the scanner is in a permanent mounting fixture.

24 **Scan Sense**

Each positive transition of the scan sense signal represents the start of a scan cycle, which is one pass in each direction across the bar code. Therefore, it sends the bar code data (both forwards and reverse) between the rising edges. There are 35 scan sense pulses per second, which equals 70 scans per second.

**Note:** The polarity does not show scan direction.

This is an open collector output that can sink 25 mA via an external pull up resistor connected to a voltage not to exceed +20 VDC.

25 **Data**

Data is an output digital representation of the scanned bar code. A low level represents a bar and a high level represents a space.

This is an open collector output that can sink 25 mA via an external pull up resistor connected to a voltage not to exceed +20 VDC.

# Appendix C

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## Warranty and Disclaimer

### Limited Warranty

Products manufactured by Metrologic have a 2-year limited warranty from date of manufacture.

This warranty is limited to repair, replacement or refund at Metrologic's discretion. Faulty equipment must be returned to the Metrologic facility in Blackwood, New Jersey or Puchheim, Germany. To do this, contact Metrologic Customer Service/Repair for a Returned Material Authorization (RMA) number.

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# Appendix D

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## Notices

### Notice

This equipment has been tested and found to comply with limits for a Class A digital device, pursuant to Part 15 of the 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. Any unauthorized changes or modifications to this equipment could void the users authority to operate this device.

### Notice

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Industry and Canada.

### Caution

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous laser light. Under no circumstances should the customer attempt to service the laser scanner. Never attempt to look at the laser beam, even if the scanner appears to be nonfunctional. Never open the scanner in an attempt to look into the device. Doing so could result in hazardous laser light exposure. The use of optical instruments with the laser equipment will increase eye hazard.

### Remarque

Après contrôle de cet appareil, on a noté qu'il répondait aux valeurs limites de la classe A, conformément à la partie 15 des directives de l'administration fédérale américaine pour les télécommunications. Ces valeurs limites ont été prévues pour garantir une protection suffisante contre les effets nocifs dus à l'emploi de l'appareil dans un magasin. L'appareil génère et utilise une énergie haute fréquence et peut, s'il n'est pas installé et utilisé conformément aux instructions mentionnées dans le guide d'utilisation, entraîner des perturbations dans la radiocommunications. L'utilisation de cet appareil dans une zone d'habitation entraînera très vraisemblablement des perturbations. Dans ce cas, l'utilisateur est tenu de remédier à ces perturbations à ses propres frais. Toute modification ou remplacement non autorisé sur cet appareil peut entraîner l'invalidité de l'autorisation d'utilisation de l'appareil.

### Remarque

Cet appareil numérique ne va pas contre les valeurs limites pour émissions de bruits radios des appareils numérique de la classe A, conformément aux directives relatives aux perturbations des radiocommunications du ministère canadien pour l'industrie.

### Attention

L'emploi de commandes, réglages ou procédés autres que ceux décrits ici peut entraîner de graves irradiations. Le client ne doit en aucun cas essayer d'entretenir lui-même le scanner ou le laser. Ne regardez jamais directement le rayon laser, même si vous croyez que le scanner est inactif. N'ouvrez jamais le scanner pour regarder dans l'appareil. Ce faisant, vous vous exposez à une rayonnement laser mortel. L'emploi d'appareils optiques avec cet équipement laser augmente le risque d'endommagement de la vision.



### **Anmerkung**

Nach Überprüfung dieses Geräts wurde festgestellt, daß es den Grenzwerten für Digitalgeräte der Klasse A gemäß Teil 15 der Richtlinien der US-amerikanischen Bundesbehörde für das Fernmeldewesen entspricht. Diese Grenzwerte wurden festgelegt, um einen angemessenen Schutz gegen schädliche Auswirkungen bei Einsatz des Geräts in einer Ladenumgebung zu gewähren. Das Gerät erzeugt und verwendet Hochfrequenzenergie und kann diese ausstrahlen, und kann, falls es nicht gemäß den im Bedienerhandbuch enthaltenen Anweisungen installiert und verwendet wird, zu einer Störung des Funkverkehrs führen. Der Betrieb dieses Geräts in einem Wohngebiet führt höchstwahrscheinlich zu Störungen. In diesem Fall ist der Bediener verpflichtet, die Störung auf eigene Kosten zu beseitigen. Durch jegliche unerlaubte Auswechslung oder Änderung an diesem Gerät könnte die Genehmigung des Bedieners zur Verwendung dieses Geräts ungültig werden.

### **Anmerkung**

Dieses Digitalgerät verstößt nicht gegen die Grenzwerte für Funkrauschemissionen von Digitalgeräten der Klasse A gemäß den Richtlinien für Funkstörungen des kanadischen Ministeriums für Industrie.

### **Achtung**

Die Verwendung anderer als der hierin beschriebenen Steuerungen, Einstellungen oder Verfahren kann eine lebensgefährliche Laserstrahlung hervorrufen. Der Kunde sollte unter keinen Umständen versuchen, den Laser-Scanner selbst zu warten. Sehen Sie niemals in den Laserstrahl, selbst wenn Sie glauben, daß der Scanner nicht aktiv ist. Öffnen Sie niemals den Scanner, um in das Gerät hineinzusehen. Wenn Sie dies tun, können Sie sich einer lebensgefährlichen Laserstrahlung aussetzen. Der Einsatz optischer Geräte mit dieser Laserausrüstung erhöht das Risiko einer Sehschädigung.

### **N.B.**

Dal controllo di questo apparecchio risulta che esso risponde ai valori limite per apparecchi digitali della classe A conf. parte 15 delle direttive sulle telecomunicazioni dell' Autorità federale statunitense. Questi valori limite sono stati fissati per garantire una protezione adeguata contro gli effetti nocivi se questo apparecchio viene usato all'intero di un negozio. L'apparecchio genera, utilizza e può emettere energia ad alta frequenza e, se non viene installato ed utilizzato conformemente alle indicazioni fornite nel Manuale utente, può provocare disturbi al servizio radiofonico. L'uso di questo apparecchio in zone residenziali causa molto probabilmente dei disturbi. In questo caso l'utente è obbligato ad eliminare questi disturbi a sue spese. Qualsiasi sostituzione o modifica non autorizzata all'apparecchio potrebbe rendere invalida l'autorizzazione dell'utente all'uso dell'apparecchio.

### **N.B.**

Questo apparecchio digitale non supera I valori limite per l'emissione di radiorumori da parte di apparecchi digitali della classe A conformemente alle direttive per radiodisturbi del Ministero canadese per l'Industria.

### **Attenzione**

L'utilizzo di sistemi di controllo, di regolazioni o di procedimenti diversi da quelli decritti nel presente Manuale può provocare dei raggi laser pericolosi per la vita. Il cliente non deve assolutamente tentare di riparare egli stesso lo scanner laser. Non guardate mai nel raggio laser, anche se credete che lo scanner non sia attivo. Non aprite mai lo scanner per guardare dentro l'apparecchio. Se tuttavia lo fate, potete esporVi a dei raggi laser pericolosi per la vita. L'uso di apparecchi ottici con questo equipaggiamento laser aumenta il rischio di danni alla vista.

## Appendix E

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### Patents

#### “Patent Information

This METROLOGIC product may be covered by one or more of the following U.S. Patents:

U.S. Patent No. 4,360,798; 4,369,361; 4,387,297; 4,460,120; 4,496,831; 4,593,186; 4,607,156; 4,673,805; 4,736,095; 4,758,717; 4,816,660; 4,845,350; 4,896,026; 4,923,281; 4,933,538; 4,992,717; 5,015,833; 5,017,765; 5,059,779; 5,117,098; 5,124,539; 5,130,520; 5,132,525; 5,140,144; 5,149,950; 5,180,904; 5,200,599; 5,229,591; 5,247,162; 5,250,790; 5,250,791; 5,250,792; 5,262,628; 5,280,162; 5,280,164; 5,304,788; 5,321,246; 5,324,924; 5,396,053; 5,396,055; 5,408,081; 5,410,139; 5,436,440; 5,449,891; 5,468,949; 5,479,000; 5,532,469; 5,545,889, 5,742,043 and 5,756,982

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