

DS1100

General View:



Laser Safety:

The scanner is classified as a Class 2 laser product according to EN 60825-1 regulations and as a Class II laser product according to CDRH regulations.

For installation, use and maintenance it is not necessary to open the scanner.

There is a safety device which allows the laser to be switched on only if the motor is rotating above the threshold for its correct scanning speed.

The motor and the laser beam can be switched off through a software command (see also the WinHost Help On Line).

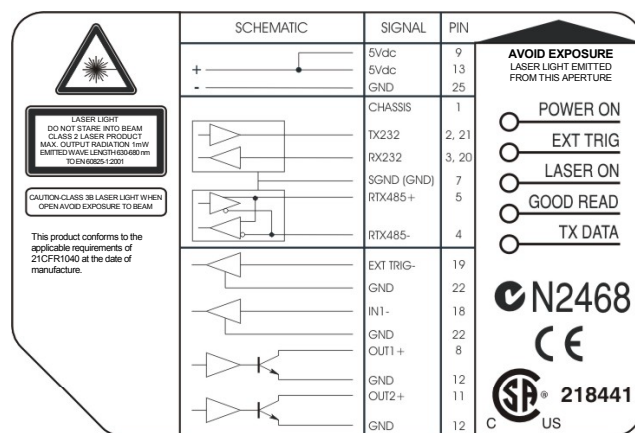
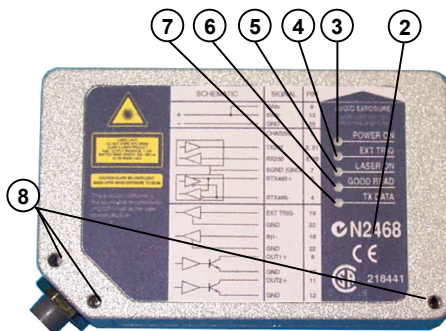


Figure A

Warning and Device Class Label

- ① Laser Beam Output Window
- ② Laser Warning and Device Class Label
- ③ Power On LED
- ④ Ext Trig LED
- ⑤ Laser On LED
- ⑥ Good Read LED
- ⑦ TX Data LED
- ⑧ Mounting Holes

The laser diode used in this device is classified as a class 3B laser product according to EN 60825-1 regulations and as a Class IIIb laser product according to CDRH regulations. As it is not possible to apply a classification label on the laser diode used in this device, the following label is reproduced below.

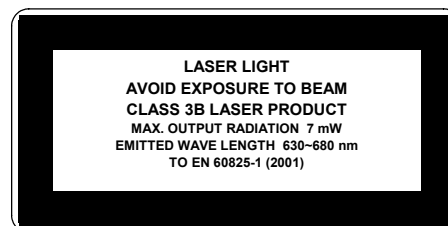
For further details on product installation, see the complete Installation Manual.

DS1100 can be configured through the WinHost Windows-based software program available on the installation CD-ROM.

For configuration it is necessary to create a cable connecting the scanner to the PC as indicated in the "How To Build A Simple Interface Test Cable" section of this guide.

Power Supply:

- This product is intended to be installed by Qualified Personnel only.
- This accessory device is intended to be supplied by a UL Listed or CSA Certified Power Unit with «Class 2» or LPS power source which supplies power directly to the scanner via the 25-pin connector.



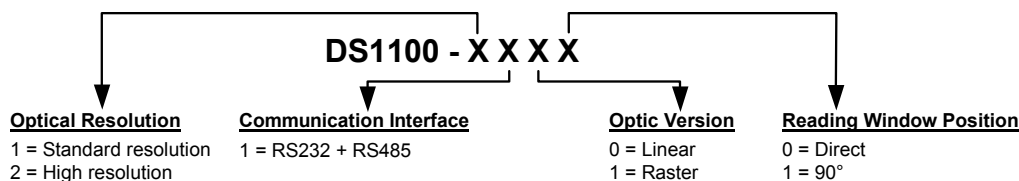
Laser Diode Class Label

Any violation of the optic parts in particular can cause radiation up to the maximum level of the laser diode (7 mW at 630 to 680 nm).

WEEE Compliance:



Model Description:



Reading Performance:

Version	Reading Distance	Max Code Resolution mm (mils)	Speed scans/s
1XXX	30 mm (1.2 in) - 220 mm (8.7 in) on 0.50 mm (20 mils) codes	0.20 (8)	500
2XXX	10 mm (0.4 in) - 110 mm (4.3 in) on 0.30 mm (12 mils) codes	0.12 (5)	500

Technical Features:


ELECTRICAL FEATURES		SOFTWARE FEATURES		
Power Supply	5 Vdc ± 5%	Readable Codes	EAN/UPC (including Add-on 2 and Add-on 5) Code 39 2/5 Interleaved Code 128 EAN 128 Code 93 Codabar Pharmacode	
Power Consumption	1.5 W maximum			
Main Serial Interface	RS485 Half-Duplex			
Auxiliary Interface	RS232			
Baud Rates	150 to 115200			
Inputs	External Trigger; IN1	Headers and Terminators	Up to four header and four terminator characters	
Outputs	OUT1, OUT2 User-defined	Operating Modes	On-Line, Automatic, Serial-On-Line, Test	
V_{CE} max.	50 Vdc	Special Functions	Motor On/Off sw commands Laser On/Off sw commands	
Collector Current	50 mA continuous max.	Configuration Modes	Through menu using WinHost utility Host Mode (commands from one of the serial ports)	
V_{CE} Saturation	0.3 V at 10 mA max.		Decoding Safety	Can enable multiple good reads of the same code
Power Dissipation max.	200 mW at 40 °C (Ambient temp.)		Code Selection	Up to six different codes during one reading phase
OPTICAL FEATURES		Parameter Storage	Non-volatile internal EEPROM	
Light Source	Semiconductor laser diode		PHYSICAL FEATURES	
Wavelength	In the range 630 to 680 nm	Dimensions	80x50x24 mm (3.15x1.9x1 in)	
Safety Class	Class 2 - EN 60825-1;CDRH	Weight without Cable	<100 g. (3.53 oz)	
ENVIRONMENTAL FEATURES				
Operating Temperature	0° to +45 °C (+32° to +113 °F)			
Storage Temperature	-20° to +70 °C (-4° to +158 °F)			
Humidity max	90% non condensing			
Vibration Resistance IEC 68-2-6 test FC	14 mm @ 2-10 Hz 1.5 mm @ 13-55 Hz 2 g @ 70-200 Hz 2 hours on each axis			
Shock Resistance IEC 68-2-27 test EA	30g; 11 ms; 3 shocks on each axis			
Protection Class	IP65			
USER INTERFACE				
LED Indicators	Power ON, Good Read, External Trigger, Data TX; Laser ON			

Accessories:

Name	Description	Part Number
DC5-2200	DC converter 4-30 Vdc to 5 Vdc	93ACC1040

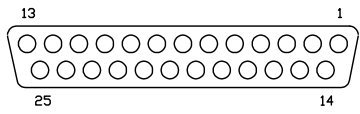
Electrical Connections:

DS1100 is equipped with a cable terminated by a 25-pin female D-sub connector for connection with the power supply and input/output signals.



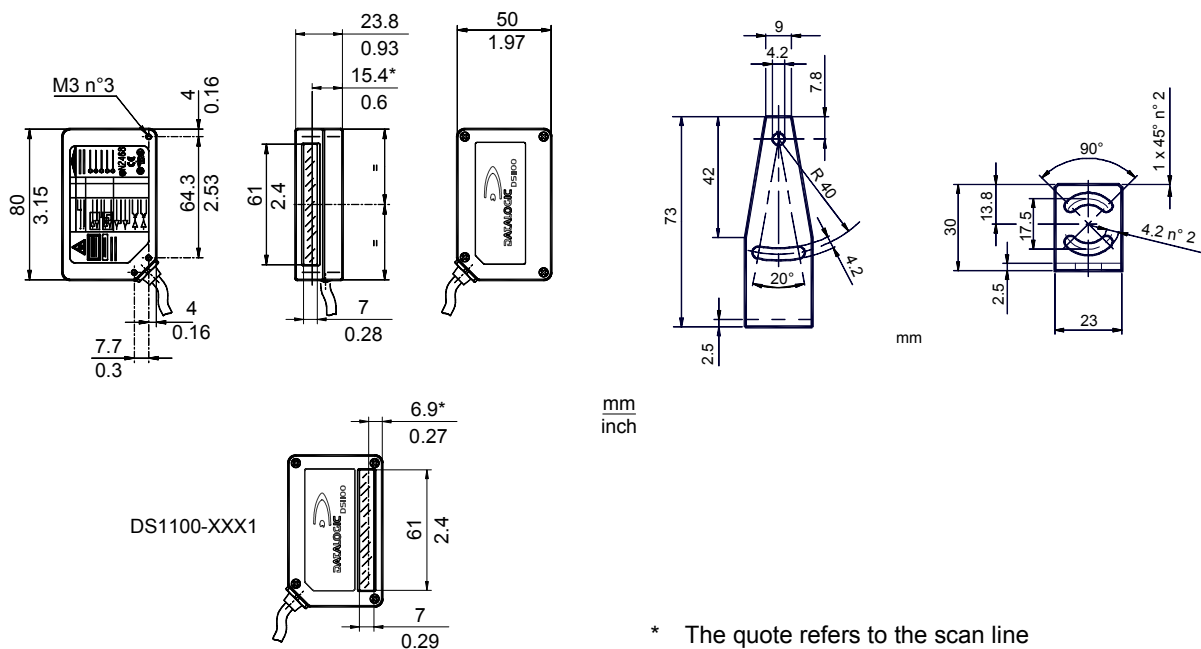
CAUTION Do not connect GND and SGND to different (external) ground references. GND and SGND are internally connected through filtering circuitry which can be permanently damaged if subjected to voltage drops over 0.8 Vdc.

The details of the connector pins are indicated in the following table:

25-pin D-sub female connector pinout			
Pin	Name	Function	
9, 13	VS	Power supply input voltage +	 <p style="text-align: center;">25-pin female connector</p>
25*	GND	Power supply input voltage -	
1*	CHASSIS	Chassis ground	
2, 21	TXAUX	TX RS232 Aux. Interface	
3, 20	RXAUX	RX RS232 Aux. Interface	
4	RTX485-	RTX- RS485 Main Interface	
5	RTX485+	RTX+ RS485 Main Interface	
7	SGND	Signal Ground	
8	OUT 1+	Output 1+	
11	OUT 2+	Output 2+	
18	IN 1-	Input 1-	
19	EXT TRIG -	External Trigger -	
12, 22	GND	Input/Output reference	
23, 24	N.U.	Not Used	
6, 10, 14, 15, 16, 17	N.C.	Not Connected	

* Pins 1 and 25 are connected together internally.

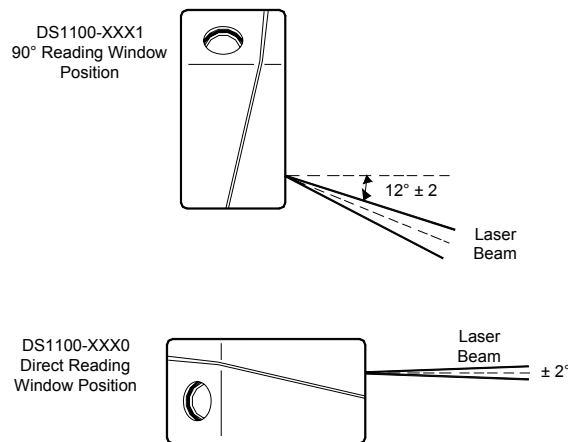
Mechanical Installation:



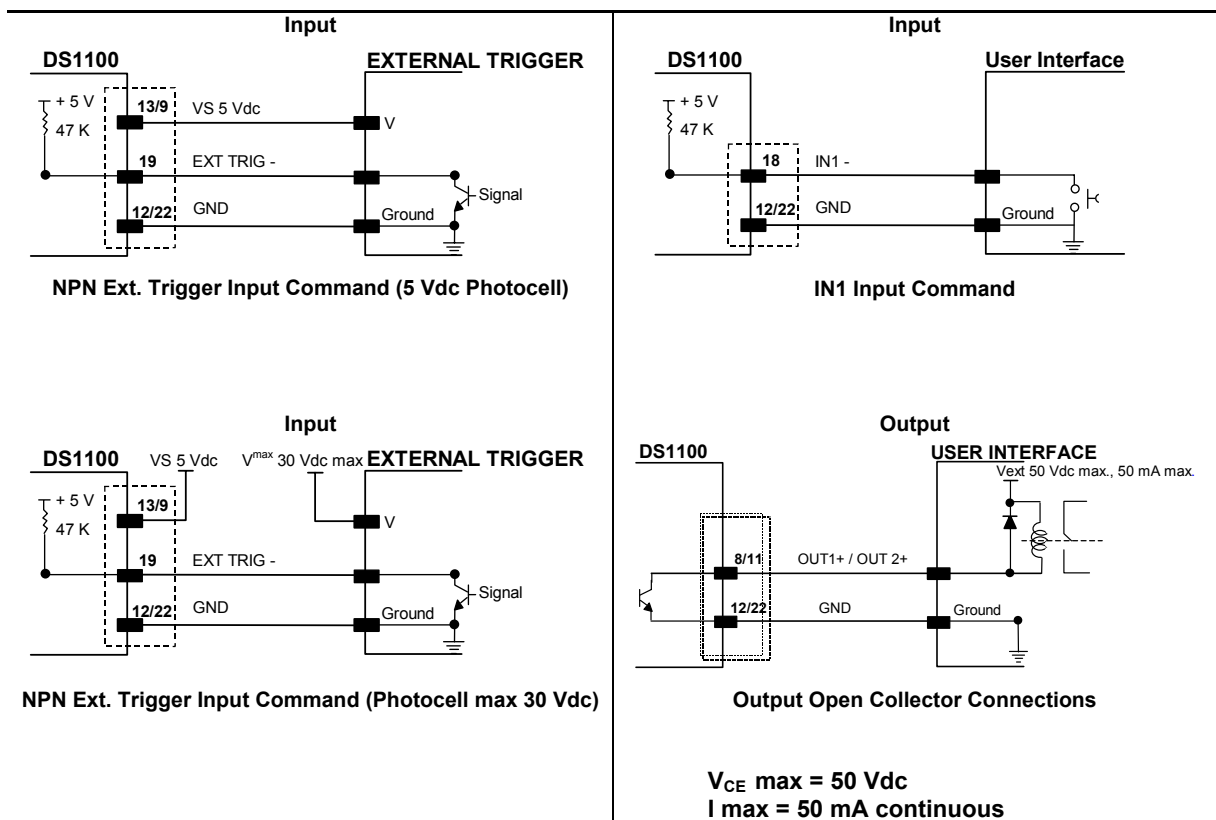
* The quote refers to the scan line

Reading Position:

In DS1100-XXX1 models the laser beam is emitted from the output window with a $12^\circ (\pm 2)$ skew angle.

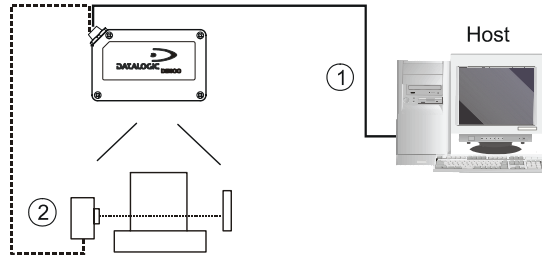


Input/Output Connections:



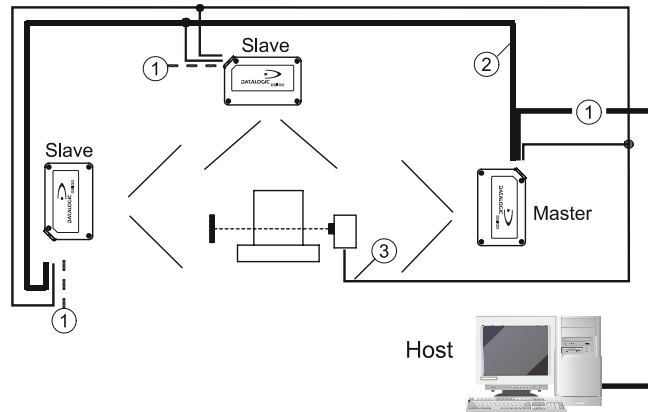
Connectivity:

RS232 Point-to-point layout



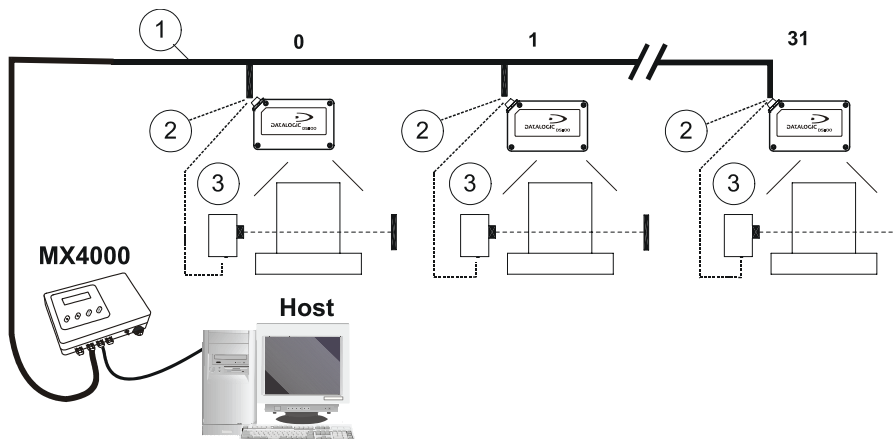
- ① RS232 Auxiliary Serial Interface
- ② External Trigger (for On-Line mode)

RS485 Master/Slave layout



- ① RS232 Auxiliary Serial Interface
- ② RS485 HD Main Serial Interface
- ③ External Trigger

Multiplexer layout



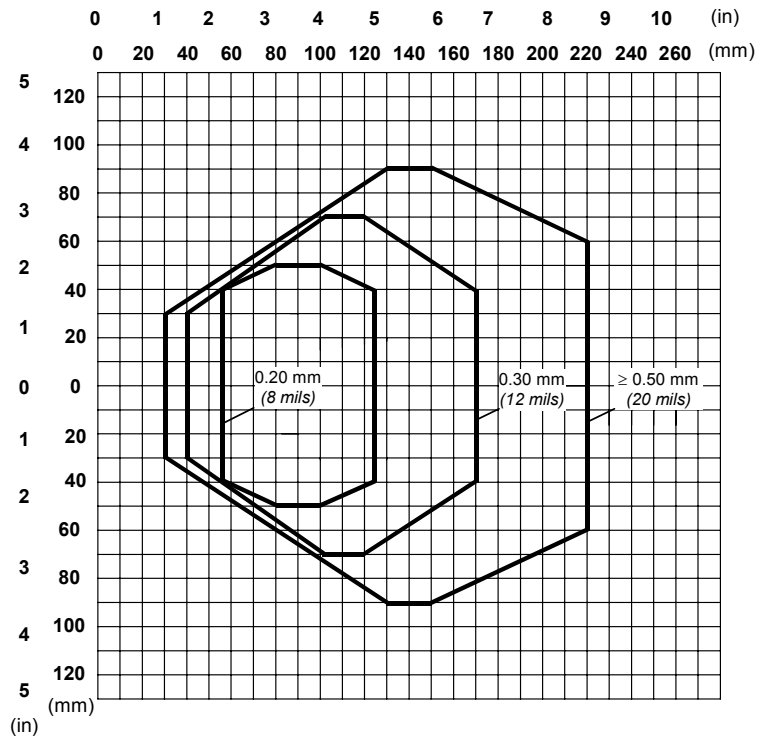
- ① RS485 HD Main Interface
- ② RS232 Auxiliary Interface (Local Echo)
- ③ External Trigger (for On-Line mode)

Reading Diagrams:

DS1100-1XXX (Standard Resolution)

CONDITIONS

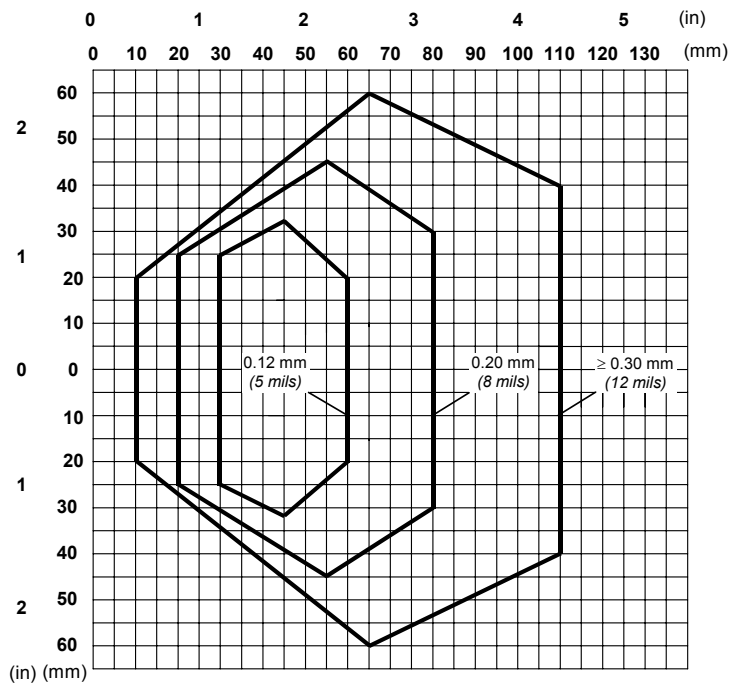
Code = Interleaved 2/5 or Code 39
 PCS = 0.90
 Pitch angle = 0°
 Skew angle = 15°
 Tilt angle = 0°



DS1100-2XXX (High Resolution)

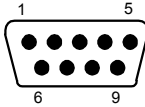
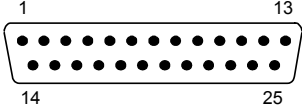
CONDITIONS

Code = Interleaved 2/5 or Code 39
 PCS = 0.90
 Pitch angle = 0°
 Skew angle = 15°
 Tilt angle = 0°



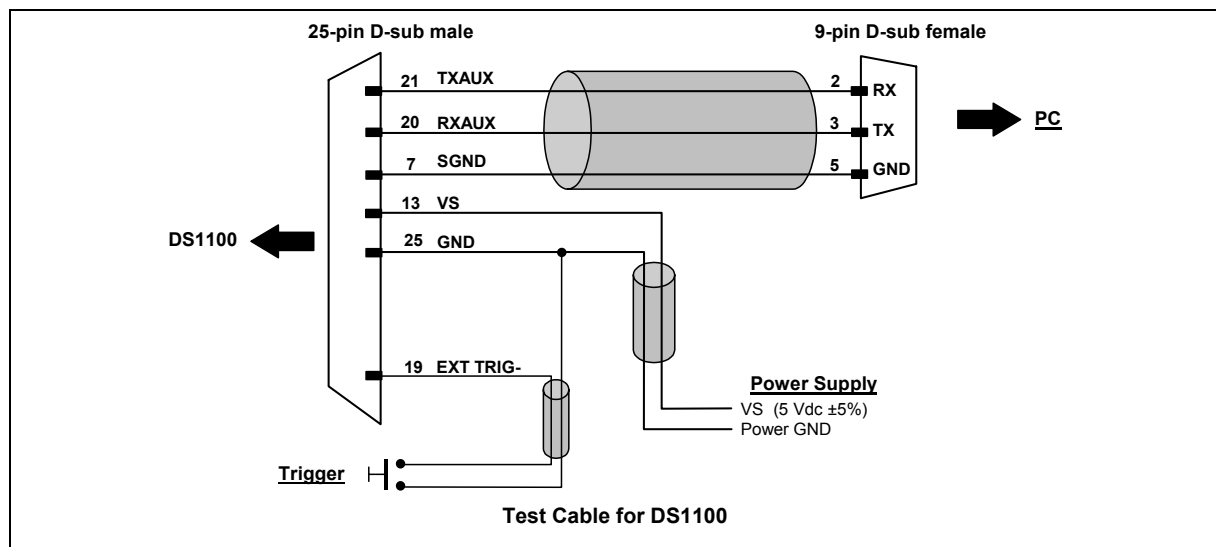
User Interface:

The following table contains the pinout for standard RS232 PC Host interface. For other user interface types please refer to their own manual.

RS232 PC-side connections			
 <p>9-pin male connector</p>		 <p>25-pin male connector</p>	
Pin	Name	Pin	Name
2	RX	3	RX
3	TX	2	TX
5	GND	7	GND
7	RTS	4	RTS
8	CTS	5	CTS

How To Build A Simple Interface Test Cable:

The following wiring diagram shows a simple test cable including power, external (push-button) trigger and PC RS232 COM port connections.



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DS1100-XXXX Laser Scanner e tutti i suoi modelli
and all its models
et tous ses modèles
und seine modelle
y todos sus modelos

sono conformi alle Direttive del Consiglio Europeo sottoelencate:
are in conformity with the requirements of the European Council Directives listed below:
sont conformes aux spécifications des Directives de l'Union Européenne ci-dessous:
der nachstehend angeführten Direktiven des Europäischen Rats:
cumple con los requisitos de las Directivas del Consejo Europeo, según la lista siguiente:

89/336/EEC EMC Directive e **92/31/EEC, 93/68/EEC** emendamenti successivi
and further amendments
et ses successifs amendements
und späteren Abänderungen
y sucesivas enmiendas

Basate sulle legislazioni degli Stati membri in relazione alla compatibilità elettromagnetica ed alla sicurezza dei prodotti.
On the approximation of the laws of Member States relating to electromagnetic compatibility and product safety.
Basée sur la législation des Etats membres relative à la compatibilité électromagnétique et à la sécurité des produits.
Über die Annäherung der Gesetze der Mitgliedsstaaten in bezug auf elektromagnetische Verträglichkeit und Produktsicherheit entsprechen.
Basado en la aproximación de las leyes de los Países Miembros respecto a la compatibilidad electromagnética y las Medidas de seguridad relativas al producto.

Questa dichiarazione è basata sulla conformità dei prodotti alle norme seguenti:
This declaration is based upon compliance of the products to the following standards:
Cette déclaration repose sur la conformité des produits aux normes suivantes:
Diese Erklärung basiert darauf, daß das Produkt den folgenden Normen entspricht:
Esta declaración se basa en el cumplimiento de los productos con las siguientes normas:

EN 55022 (Class A ITE), August 1994:
Amendment A1 (Class A ITE), October 2000:

LIMITS AND METHODS OF MEASUREMENTS OF RADIO DISTURBANCE
CHARACTERISTICS OF INFORMATION TECHNOLOGY EQUIPMENT

EN 61000-6-2, October 2001:

ELECTROMAGNETIC COMPATIBILITY (EMC)
PART 6-2: GENERIC STANDARDS - IMMUNITY FOR INDUSTRIAL
ENVIRONMENTS

Lippo di Calderara, 13/09/2005


Ruggero Cacioppo
Quality Assurance Supervisor