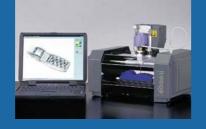
MAIN FEATURES

Easy-to-Use, Compact Design

The MDX-20/15's stylish good looks and compact size make it an attractive addition to your desktop. Yet, it is also a very powerful performer, one that is surprisingly easy to use, even for first time users. Just plug it in to your computer as you would a desktop printer with an RS-232C cable. By following the simple instructions included in PDF format, even a beginner can be scanning and milling in minutes.



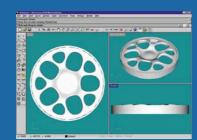
Choose from Two Models

MDX-20 Maximum work area: 203.2mm(X) x 152.4mm (Y) x 60.5mm (Z) 8 in. (X) x 6 in. (Y) x 2-3/8 in. (Z) MDX-15 Maximum work area: 152.4 mm (X) x 101.6 mm (Y) x 60.5 mm (Z) 6 in. (X) x 4 in. (Y) x 2-3/8 in. (Z)



Compatible with Popular Software

Adding to its functionality, the MDX-20/15 works with a variety of popular 3D CAD and computer graphics software programs, including SolidWorks®, Rhinoceros®, VectorWorks[®], LightWave[®], VisualMill and 3d Studio Max,[®] allowing you to design in the program you're most comfortable with.



3D Scanning and Milling in One

The MDX-20/15 is the culmination of over ten years of innovative product development in scanning and milling by Roland engineers. Utilizing innovative Roland Active Piezo Sensor (R.A.P.S.) technology, the MDX-20/15 is a precision 3D scanner, capable of scanning objects at 4 to 15 mm per second with a resolution of up to 0.05 mm (0.002"). Selecting the sensor unit with the spindle turns the MDX-20/15 into a powerful CNC mill capable of cutting light metals, including aluminum and brass.



Roland reserves the right to make changes in specifications, materials or accessories without notice. Your actual output may vary. For optimum output quality, periodic maintenance to critical components may be required. Please contact your Roland dealer for details. No guarantee or warranty is implied other than expressly stated. Roland shall not be liable for any incidental or consequential damages, whether foreseeable or not, caused by defects in such products. Three-dimensional shapes may be protected under copyright. Customers are responsible for observing laws and ordinances when scanning. Windows, Windows NT are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries. All other trademarks are the property of their re



AUTHORIZED DEALER:

MDX-20	MDX-15			
220 mm (X) x 160 mm (Y) (8-5/8 in. x 6-1/4 in.)	170 mm (X) x 110 mm (Y) (6-11/16 in. x 4-5/16 in.)			
203.2 mm (X) x 152.4 mm (Y) x 60.5 mm (Z)	152.4 mm (X) x 101.6 mm (Y) x 60.5 mm (Z)			
(8 in. (X) x 6 in. (Y) x 2-3/8 in. (Z))	(6 in. (X) x 4 in. (Y) x 2-3/8 in. (Z))			
1000 g (2.2 lb.)	500 g (1.1 lb.)			
Serial (RS-232C)				
STANDBY key, VIEW key, TOOL-UP key, TOOL-DOWN key				
SCANNING MODE LED, MODELING MODE LED, VIEW LED				
Exclusive AC adapter (DC+19V 2.1 A)				
Standby mode : under 35 dB (A) Operation mode (not cutting) : under 70 dB (A) (According to ISO 7779)				
476.8 mm (W) x 381.6 mm (D) x 305 mm (H)	426 mm (W) x 280 mm (D) x 305 mm (H)			
(18-13/16 in. (W) x 15-1/16 in. (D) x 12-1/16 in. (H))	(16-13/16 in. (W) x 11-1/16 in. (D) x 12-1/16 in. (H))			
13.7 kg (30.2 lb.)	9.6 kg (21.2 lb.)			
5 to 40°C (41 - 104° F)				
35 to 80 % (no condensation)				
	er: 1, power code: 1, Roland Software Package CD-ROM: 1, spindle unit: 1, sensor unit: 1, cap screw M4x15: 4, tool: 1, set screw M3x3: 2, double-sided tape: 1, front cover: 1, hexagonal wrench (size: 3 mm): 1, hexagonal wrench (size: 1.5 mm): 1, positioning pins: 3, clay: 1, MDX-20/15 user's manual: 1			
	220 mm (X) x 160 mm (Y) (8-5/8 in. x 6-1/4 in.) 203.2 mm (X) x 152.4 mm (Y) x 60.5 mm (Z) (8 in. (X) x 6 in. (Y) x 2-3/8 in. (Z)) 1000 g (2.2 lb.) Serial (F STANDBY key, VIEW key, TO SCANNING MODE LED, MOD Exclusive AC adap Catandby mode : under 35 dB (A) Operation mode (r 476.8 mm (W) x 381.6 mm (D) x 305 mm (H) (18-13/16 in. (W) x 15-1/16 in. (H)) 13.7 kg (30.2 lb.) 5 to 40°C (35 to 80 % (nc AC adapter: 1, power code: 1, Roland Software Package CD-RC			

The MDX-20/15 includes PS-6 (a spindle unit with a jaw diameter of 6 mm) as standard accessory. The MDX-20/15 for U.S. and Canada includes PS-1/8 instead of PS-6 Modeling Functions 6 mm or 1/8 in 10W (DC motor) /step (0.000984 in./step 0.00625 mm/step (0.000246 in./step 0.1 to 15 mm/sec. (0.00393 to 9/16 in./sec.) Wood, Plaster, Resin (modeling wax, styrenform), Chemical wood, Aluminum (A5052 according to JIS), Brass Acceptable tool End mil. Drill

OPTIONS Spindle unit with tool chuck

SPECIFICATIONS

FIGURELING	Applicable tool shallk ulailletei				
PS-3	3 mm	1 pce.			
PS-4	4 mm	1 pce.			
PS-5	5 mm	1 pce.			
PS-6	6 mm	1 pce.			
PS-1/8	3.175 mm (1/8")	1 pce.			
PS-1/4	6.35 mm (1/4")	1 pce.			
The MDX-20/15 includes PS-6 (a spindle unit with a jaw diameter of 6 mm) as standard accessory.					

The MDX-20/15 for U.S. and Canada includes PS-1/8 instead of PS-6

Engraving to	= overall length	W = blade width	
Product number	Specifications (unit = mm)	Quantity per package	Required spindle unit
EC-100	dia = 6, 50L	1 pce.	PS-6
EC-A2013	dia = 3.175, 114(L) x 0.127(W) (for plastic)	1 pce.	PS-1/8
EC-A2025	dia = 3.175, 114(L) x 0.254(W) (for plastic)	1 pce.	PS-1/8
EC-A2051	dia = 3.175, 114(L) x 0.508(W) (for plastic)	1 pce.	PS-1/8
EC-A2076	dia = 3.175, 114(L) x 0.762(W) (for plastic)	1 pce.	PS-1/8
EC-A2150	dia = 3.175, 114(L) x 1.52(W) (Parallel, for plastic)	1 pce.	PS-1/8
EC-A2190	dia = 3.175, 114(L) x 1.91(W) (Parallel, for plastic)	1 pce.	PS-1/8
EC-A2230	dia = 3.175, 114(L) x 2.29(W) (Parallel, for plastic)	1 pce.	PS-1/8
EC-A2320	dia = 3.175, 114(L) x 3.175(W) (Parallel, for plastic)	1 pce.	PS-1/8
EC-A2013-QR	dia = 3.175, 114(L) x 0.13(W) (Quarter round, for plastic)	1 pce.	PS-1/8
EC-A2025-QR	dia = 3.175, 114(L) x 0.25(W) (Quarter round, for plastic)	1 pce.	PS-1/8
EC-A2013-BAL	dia = 3.175, 114(L) x 0.13(W) (for aluminum and brass)	1 pce.	PS-1/8
EC-A2025-BAL	dia = 3.175, 114(L) x 0.25(W) (for aluminum and brass)	1 pce.	PS-1/8

Proc

*The spin It is reco

Product ZW-2

Scanning Functions				
Sensor	Roland Active Piezo Sensor (R.A.P.S.) Probe length 60 mm (2-5/16 in.), tip bulb diameter 0.08 mm (0.00315 in.)			
Scanning method	Contacting, mesh-point height-sensing			
Scanning pitch (Dr. PICZA)	X/Y-axis directions 0.05 to 5.00 mm (0.002 to 0.20 in.) (settable in steps of 0.05 mm (0.002 in.)) Z-axis direction 0.025 mm (0.000984 in.)			
Scanning speed	4-15 mm/sec. (1/8-9/16 in./sec.)			
Exportable file formats	DXF, VRML, STL, 3DMF, IGES, Grayscale, Point Group and BMP			

dia = flute diameter, R = flute radius, ℓ = flute length, r ℓ = reach length, L = overall length, d = shank diameter, NT = number of flute End mill

Description	Product number	Specifications (unit = mm)	Quantity per package	Required Spindle unit
	ZHS-100	dia = 1, 3 ℓ x 6d x 50L x 2NT	1 pce.	PS-6
	ZHS-200	dia = 2, 6 ℓ x 6d x 50L x 2NT	1 pce.	PS-6
Square end mill	ZHS-300	dia = 3, 10 ℓ x 6d x 50L x 2NT	1 pce.	PS-6
Made of high speed steel	ZHS-400	dia = 4, 12 ℓ x 6d x 50L x 2NT	1 pce.	PS-6
	ZHS-500	dia = 5, 15 ℓ x 6d x 55L x 2NT	1 pce.	PS-6
	ZHS-600	dia = 6, 15 ℓ x 6d x 55L x 2NT	1 pce.	PS-6
	ZHS-3015	dia = 3, 15 ℓ x 6d x 50L x 2NT	2 pce.	PS-6
Square end mill Made of cemented carbide	ZUS-300	dia = 3, 15 ℓ x 3d x 60L x 2NT	1 pce.	PS-3
	ZUS-400	dia = 4, 20 ℓ x 4d x 60L x 2NT	1 pce.	PS-4
	ZUS-500	dia = 5, 25 ℓ x 5d x 60L x 2NT	1 pce.	PS-5
	ZUS-600	dia = 6, 25 ℓ x 6d x 60L x 2NT	1 pce.	PS-6
Ball end mill Made of cemented carbide	ZCB-150	R1.5 15rl x 2.4Lc x 65L x 6d x 2NT	1 pce.	PS-6
	ZCB-200	R2 25rl x 3.2Lc x 70L x 6d x 2NT	1 pce.	PS-6
	ZCB-300	R3 30r ℓ x 4.8Lc x 80L x 6d x 2NT	1 pce.	PS-6

*Please use a spindle unit for the desired shank diameter

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Replacement spindle motor

duct num	nber	Specifications			Quantity per package
MM-40		Motor unit, 10 V	Motor unit, 10 W / DC motor		1 pce.
		MDX-20/15 is consumptive. hange the whole assembly for even	ry 700 hour usage.		
Deling wax Safety cover for MDX-15 only				for MDX-15 only	
t number		Specifications	Product number		Specifications
-200		75 mm(W) x 75 mm(D) x 3 mm(H),10 pcs.	ZBX-15	46 (2	50 mm(W) x 450 mm(D) x 62 mm(H) 1-11/16"(W) x 17-3/4"(D) x 3-1/4"(H))

Printed in Japan. RDG90083 '06 JUL. B-3 C-S



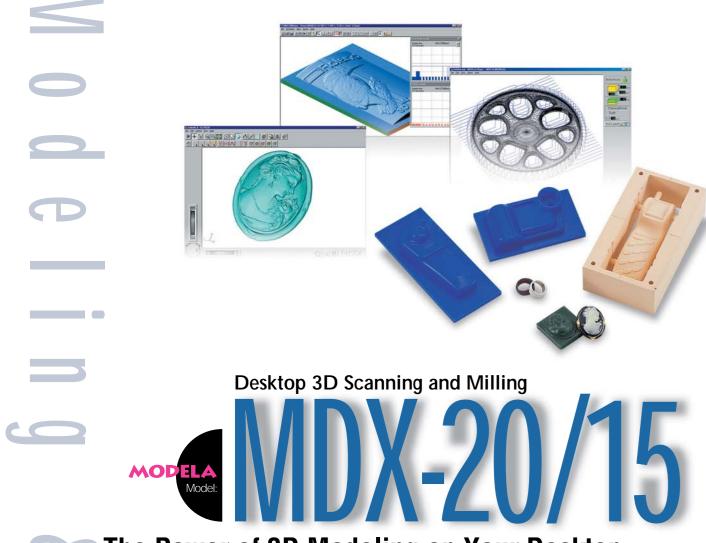
Desktop 3D Scanning and Milling

MO

Transforming Ideas into Reality:Roland Revolutionizes 3D CAD



http://www.rolanddg.com/



The Power of 3D Modeling on Your Desktop

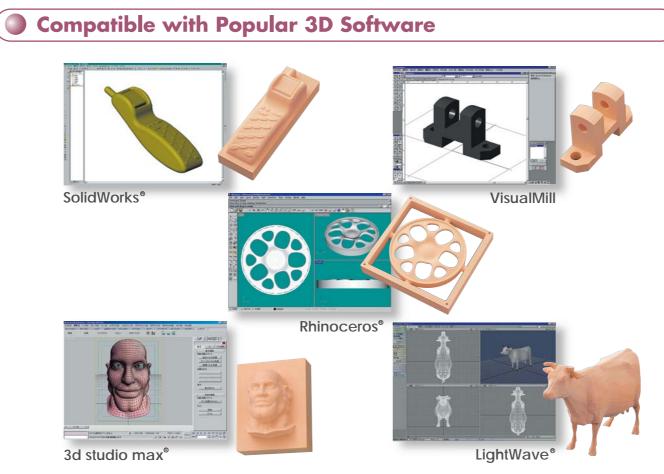
Seeing your ideas take shape has always been the dream of the 3D designer. Today's powerful, lower-cost CAD workstations and software help make this dream a reality as never before. The reality is, however, it can still take days or weeks to go from a CAD drawing to having a part, mold, or prototype. But not any longer. Now Roland's MDX-20 and MDX-15 put you in control with the power of 3D scanning and milling on your desktop.

Easy-to-use and compatible with many popular 3D CAD software programs, the MDX-20/15 is an affordable, all-in-one scanning and milling device, perfect for a variety of product design tasks, from model and jewelry making to molds, rapid prototyping, small lot production and package design. Use it to test and modify your designs, reducing errors, time and cost.



Model: MDX-20 Max operation area : 203.2 mm (X) x 152.4 mm (Y) x 60.5 mm (Z)

Model: MDX-15 Max operation area : 152.4 mm (X) x 101.6 mm (Y) x 60.5 mm (Z)



Applications Software Included

The MDX-20/15 comes standard with powerful application software compatible with Windows[®] 95/98/Me and Windows NT[®] 4.0/2000XP making it easy to use right out of the box.

MODELA Player is a numeric control software application that allows importing of 3D files from most popular computer graphics and CAD applications. Included with MODELA Player are libraries of various tool diameters and shapes with their pre-determined cutting speeds and depths. MODELA Player facilitates uniform 3D scaling, selection of milling direction and automatic generation and display of the tool path.

Virtual MODELA provides a quick preview of the entire milling operation. This powerful feature eliminates milling errors, enables simulation of finished shapes and estimates production time.

Dr. PICZA Scanning Software features a dynamic graphic display and diverse editing functions. Dr. PICZA features control functions such as scan pitch and area settings, plus numerous editing functions including a handy convex/concave inversion function for making molds, a mirror function for creating symmetric data, a tilt adjustment function, curve smoothing, and a function for adjusting the height of surfaces. A preview function lets you check the image from any angle using a wide frame. You can even display color and texture renderings. PICZA scanning data can be stored in its original format, or exported in DXF, IGES, VRML, or as Point Cloud data (ASCII)

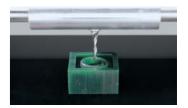
Streamline the Entire Design Process



The advantages of physical models are many, including the ability to check fit, weight, and center of gravity, etc., and then make changes as necessary. With the MDX-20/15's spindle unit installed, you're ready to transform your ideas into reality. A variety of tools can be used, including straight-end mills or cutters for rough cuts and square edges, or ball-end mills for finishing. The MDX-20/15 mills ABS, acrylic, woods, plaster, styrene foam, chemical wood, modeling wax, and light metals such as aluminum and brass.

MODELA Player quickly imports your design and prepares for milling. To begin, set the model's scale and milling direction from the tool and material libraries in the software. Next, select the size and type of materials to be milled. MODELA Player automatically sets the best milling parameters based on the materials you choose. Then click start. That's all there is to it. Your ideas are quickly transformed into reality, whether mockups, prototypes, molds, or small lot production of finished parts.



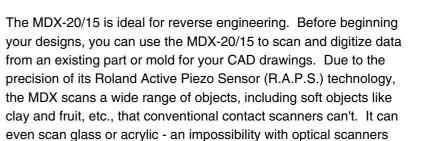


Scanning

MODELA Plave

Virtual MODEL

Dr.PICZ



To begin scanning, simply install the sensor unit on the device. Open the Dr. Picza software which controls processing, define the scan area and select the level of resolution you would like - from 5.00 mm up to 0.05 mm. Click "Scan" and the MDX-20/15 goes to work. For fine detail areas, you can rescan at a higher resolution. The MDX-20/15 automatically combines two or more scans.

because their light beams pass through the material.



