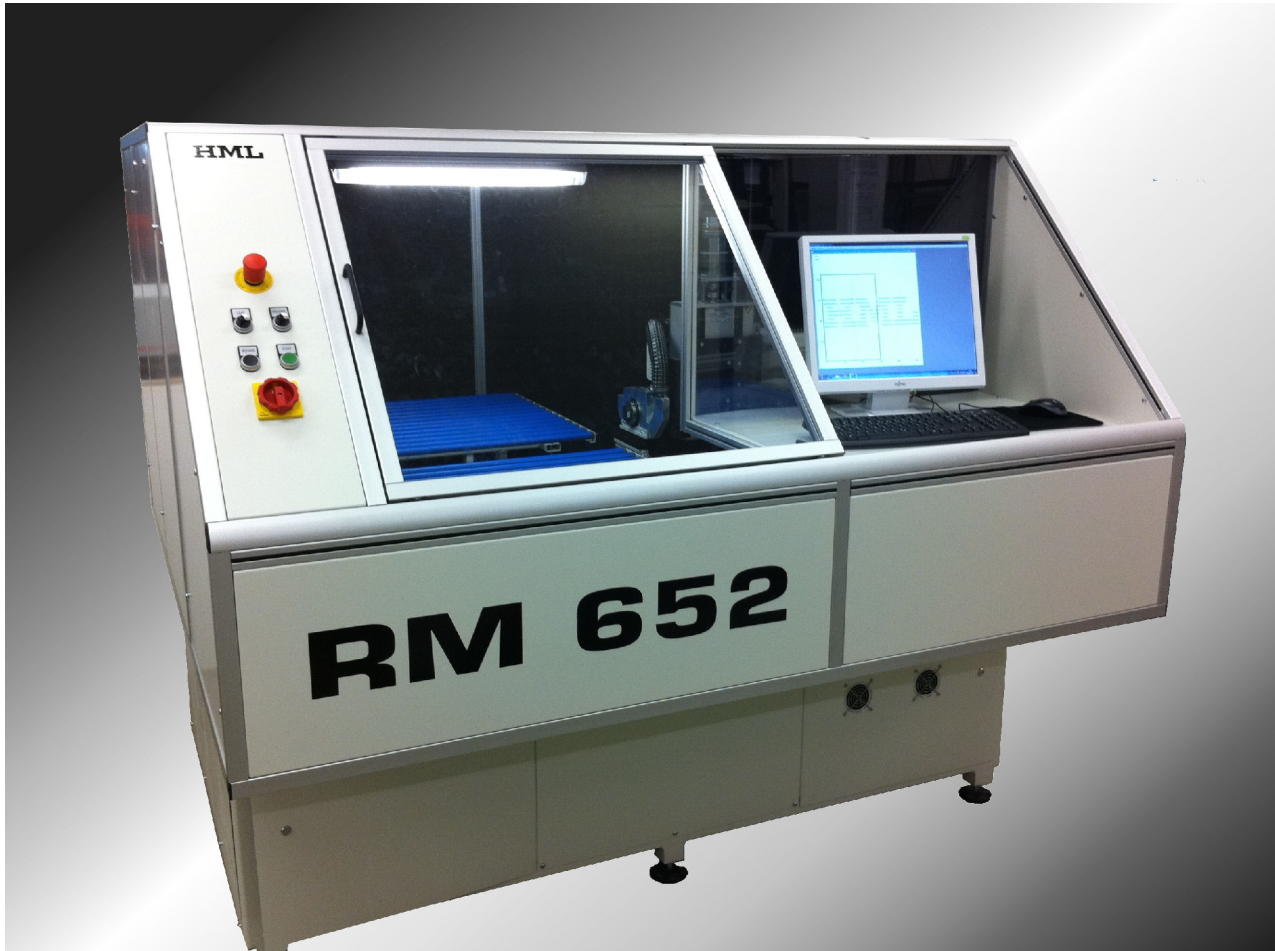


## CNC – Scoremachine RM 652

Modular Scoringssystem with numerically controlled z-axis



### Technical Description

#### Scope of function

The RM 652 CNC – Scoring Machine offers the full range of functions of today's scoring technology. It is used to cut lines into multi-pcb panels, that allows to easily break them. The booth z-axis is independent and to set variable cutting depths between the several scorelines, single side threading and jump-scoring down to a rest thickness of 0,1 mm. The standard version is able to handle boards from minimum 120 x 120 mm up to 650 x 650 mm. The system is able to handle all common materials from FR2 to FR4, Green Ceramics, Polyamides and Aluminium in material thickness from 0,5 up to 3,2 mm. The logic operator software interface, makes it easy to program, setup and handle the system. It is useful for small production series as well as for high volumes. Its modular design allows easy upgrades to automatic panel rotation and load-unloading automation solutions.

#### Operation

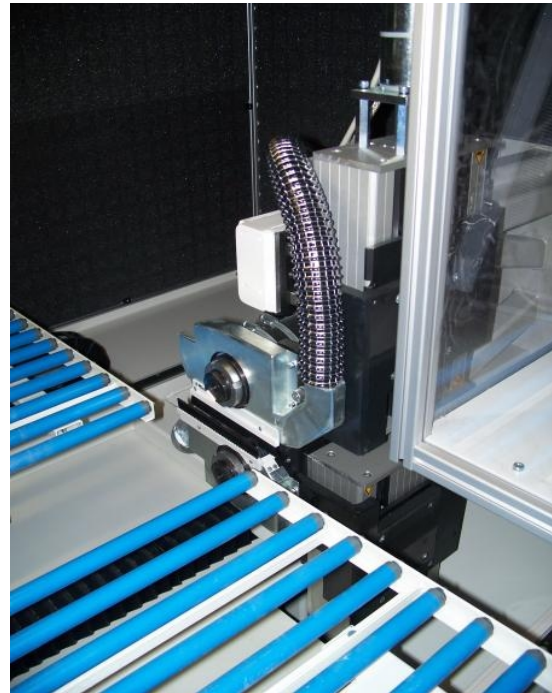
The system is controlled by a CNC-processing, which is accessed by a connected PC terminal. The drive system is equipped with servocontrolled DC-motor-system for each axis.

The process software is visualized by a Windows typical pull-down menu structure with macro functionality. Caused by the logical software interface, the system is work-ready to every operator within a very short range of training. The program editor of the system allows easy and quick to generate complete score files and offers an internal memory for approx. 100.000 different score programs, which is expandable by external memory stations or via local network. Programming might be made direct on the system editor or send by an external source via network. Each program allows an individual scoreline design with a variety of score depth, jumpscores etc. different from line to line. To have the editing in the easiest way, the system offers a tool database which is able to speed up the process of scorefile generating. Each line could be set up to 40 interrupts per cut line. The scorefile data contains all steps for x & y directions and so it's able to give full treatment in one process when upgrading with rotation module and / or automatic loading and unloading system.

# Technical Data

## Data

Panel Size	Max. 650 x 650 mm
	Min. 120 x 120 mm
Panel Thickness	0,5 – 3,2 mm
Traversing	X-Achse 650 mm Y-Achse 850 mm Z-Achse 10 mm
Drive System x / y / z-Axis	Ball Screw DC-Servo with Incremental counters
Positioning accuracy	
X-Axis	+/- 0,02 mm
Y-Axis	+/- 0,05 mm
Z-Axis	+/- 0,02 mm



Repeatable Accuracy	
X-Axis	+/- 0,01 mm
Y-Axis	+/- 0,02 mm
Z-Axis	+/- 0,01 mm
Routingspeed	Programable 0,5 to 40 m/min.
Saw Blade Drive	
Rotation Speed	from 0 to 5000 rpm
Rated Power	0,6 kw
Scoreblade	Dm 120 x 2 x 40 mm Fullhardmetal or Carbon Types
Fixation System	Pin 1x fix / 1x adjustable  Multipinsystem Option Automatic Depining
Fixation Pin	Ø 3,0 mm Standard  others available
Distance ( Pin to Pin )	min. 100 mm other designs available
Min. Distance ( Pin to Score )	4 to 8 mm ( 8 mm Standard )
Parallelism ( Pin to Score )	+/- 0,03 mm

### Score Values

Distance Tolerance	
Score to Score	+/- 0,02 mm
Jumps	100
Scorelines	1000
Interruptions	Programable
Score depth	Programable
Residual ridge width	down to 0,1 mm

### Processing Unit

Units	PC Terminal w. Windows 7
Systemcode	Written in C++
Main connection	230 v – 50/60 Hz
Power consumption	2 kW
Air connection	6 bar
Size	2000 x 1900 x 1750 mm
Weight	700 kg
Noise Level	>75 db

### Options

Panel Rotation  
Automatic Loading- and  
Unloading  
Programable Fixation Pin  
System  
Aluminium Processing  
Scoreblades and Accessoires

### Hersteller / Manufacturer :

**HML Haseneder Maschinenbau e.K.**  
**Niederer Hofweg 4**  
**D-09376 Oelsnitz / Ergeb.**  
**Deutschland / Germany**

**Telefon:** +49 37298 301290  
**Fax:** +49 37298 301299  
**Mail:** info@hml-hm.com  
**www:** www.hml-hm.com

