

HEIDENHAIN

Webinar



HIT

HEIDENHAIN Interactive Training

WEBINAR



INHALT

1. Überblick
2. HIT-Software
3. Programmierplatz
4. HIT Arbeitshefte
5. Lernplattform
6. Produktversionen



1 Überblick

Überblick

Interaktives Lernsystem für HEIDENHAIN-Steuerungen

- Basiert auf der Lernplattform Moodle
- Einfaches Erlernen der Bedienung und Programmierung
- Geeignet zum Selbststudium auch für Quereinsteiger
- Umfangreiche Prüfungsaufgaben zur Überwachung des Lernfortschritts des Schülers

HEIDENHAIN

Webinar



The screenshot shows the user interface of the HIT - HEIDENHAIN Interactive Training platform. At the top, there is a green header with the HEIDENHAIN logo and a play button icon. Below the header, the user's name 'Michael Wiendl' is displayed. The main heading is 'HIT - HEIDENHAIN Interactive Training'. A large image shows the entrance of a modern building with a sign that reads 'HEIDENHAIN'. Below the image, the text 'Welcome to the HEIDENHAIN Learning Platform' is visible. The 'My courses' section lists three courses:

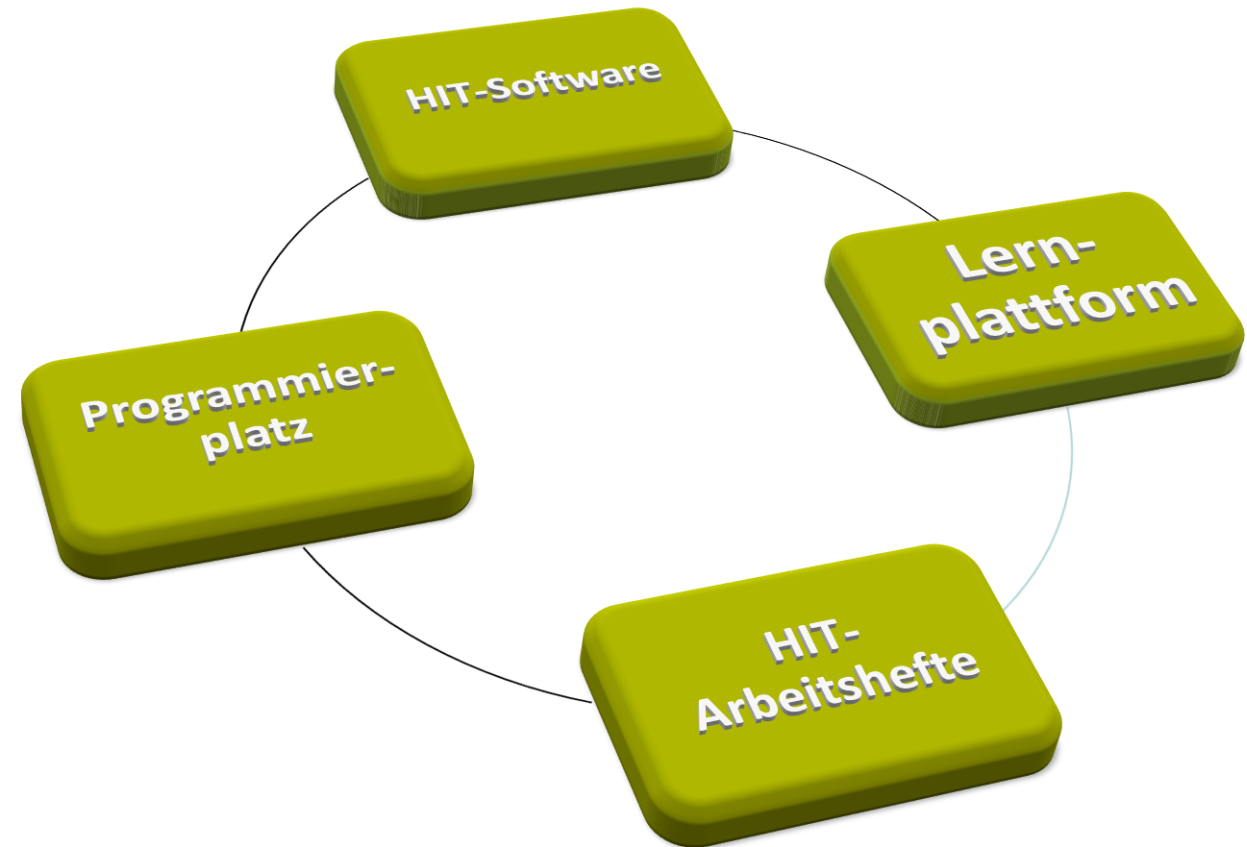
- HIT Drehen - 2+2-Achsbearbeitung Einzelplatz**
Die HIT Drehen 2+2-Achsbearbeitung Vollversion beinhaltet grundlegende Lerneinheiten zum Aufbau von CNC-gesteuerten Drehmaschinen und der Bedienung von CNC PILOT-Steuerungen von HEIDENHAIN.
Die Einzelplatzlizenz hat eine Laufzeit von 12 Monaten.
- HIT Fräsen 3-Achsbearbeitung Einzelplatzlizenz**
Die HIT Fräsen 3-Achsbearbeitung Vollversion enthält die Themen Grundwissen Fräsen, Kontur- und Zyklenprogrammierung, Programmiertechniken sowie DIN/ISO-Programmierung.
Die Einzelplatzlizenz hat eine Laufzeit von 12 Monaten.
- HIT Milling: 3-Axis Machining, Single-User License**
The full version of "HIT Milling: 3-Axis Machining" covers the following topics: Milling Fundamentals, Contour Programming, Cycle Programming, Programming Techniques, and Fundamentals of DIN/ISO Programming. The Single-User License is valid for 12 months.



Überblick

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2 HIT-Software

HIT-Software

- Basiert auf HTML5
- Läuft ohne Installation in gängigen Browsern
- Läuft auf mobile Endgeräten
- Innerhalb des Browsers
- Via APP

- Responsives Design



The screenshot displays the HIT software interface. At the top, there is a green header with the HIT logo on the left and the HEIDENHAIN logo on the right. Below the header, a search bar is visible. The main content area is titled "Learning module overview" and features a sidebar on the left with a home icon and a list of modules: "Learning module overview", "Milling Fundamentals", "Contour programming", "Cycle programming", "Programming techniques", "DIN/ISO programming", "Additional Tasks", and "Additional Information". The main area contains six module cards, each with a representative image and a "Continue" button. The modules are: "Milling Fundamentals" (with a 3D mill model), "Contour programming" (with a 3D part and code), "Cycle programming" (with a 3D part and code), "Programming techniques" (with a code editor), "DIN/ISO programming" (with a code editor and graph), and "Additional tasks" (with a calculator image).

HIT-Software

- Die Lerninhalte sind didaktisch aufbereitet
- Der Lernfortschritt wird unterstützt durch
 - anschauliche Animationen
 - interaktive Übungen
 - Wissenstest
 - Videos
 - Tutorials



The screenshot displays the HIT software interface. At the top, there is a navigation bar with the HIT logo and the HEIDENHAIN name. Below this is a search bar and a breadcrumb trail: "Contour programming > Conventional contour programming > Additional contouring functions".

The main content area is titled "Additional contouring functions". It features a dropdown menu with the following options: "Tool radius compensation", "Getting to know the benefits of tool radius compensation", and "Getting to know the effects of tool radius compensation". The selected option is highlighted in green.

Below the menu, there is a text block: "The control supports your work with many helpful features and pieces of information. It will, however, not check whether the statements in the NC program make sense for manufacturing. Thus, you must make sure that any machining steps programmed without the use of machining cycles are correct. Before running an NC program, test it for possible errors, e.g. by using the graphical simulation feature."

An information icon (i) is followed by a warning: "Selecting an inappropriate tool radius compensation will result in workpiece contour damage and thus cause scrap. In combination with an excessive feed rate, severe collisions may occur!"

On the left, there is a code editor window showing the following NC program:

```
RO
RL
RR
9 BEGIN PGM RO_RL_RR_Z_RL_WM
10 L X+50 Y+0
11 L X+0 Y+50
12 L X-200 R0
13 L Z+5 R0 F2000
14 L X+150 Y+150 Z+100 R0 FMAX M30
15 END PGM RO_RL_RR_Z_RL_WM
```

On the right, there is a graphical simulation window showing a diamond-shaped contour. A green line indicates the tool path, starting from a point labeled "START". The dimensions of the diamond are shown as 100 units.

At the bottom of the interface, there is another dropdown menu with the following options: "Chamfer", "Rounding arc", "Approach and departure", and "Getting to know the approach functions".



3 Programmierplatz



Programmierplatz

- Basierend auf der Original-Steuerungssoftware
- Frei verfügbare Demoverision (auf 100 NC-Sätze begrenzt)
- Bedienbar über virtuelle Tastatur oder über Original-Steuerungs-Tastatur
- Erstellte Programme direkt auf der Maschine nutzbar

The screenshot displays the Heidenhain TNC6XX Virtual Key interface. On the left is a virtual keyboard with various function keys (PGM MGT, CALC, MOD, HELP, ERR, etc.) and a numeric keypad. The main window shows a CNC program titled "Program Run Single ... Test Run" with the following code:

```
TNC:\nc_prog\demo\Bauteile_components\2_Flansch_flange.H
0 BEGIN PGM 2_FLANSCH_FLANGE MM
1 CALL PGM ..\reset.H
2 BLK FORM 0.1 Z X-52 Y-52 Z-30
3 BLK FORM 0.2 X+52 Y+52 Z+0
4 TOOL CALL "FACE_MILL_D40" Z S1000
5 L Z+100 R0 FMAX M3
6 CC X+0 Y+0
7 LP PR+75 PA+0 FMAX
8 L Z-20 F500
9 APPR CT X+51 Y+0 CCA30 R+5 RL F500
10 CP PA+0 DR- RL F500
11 DEP PLCT PR+80 PA+0 R3
12 L Z+100 R0 FMAX
13 * - SCHLICHTWERZEUG 3MM:
14 TOOL CALL "MILL_D6_FINISH" Z S1000
15 * - ZYKLUS 215 KREISZ. SCHLICHTEN
16 CYCL DEF 215 C. STUO FINISHING
    Q200=+2 ;SET-UP CLEARANCE
    Q201=-19.99 ;DEPTH
    Q206=+150 ;FEED RATE FOR PLNGNG
    Q202=+5 ;PLUNGING DEPTH
    Q207=+500 ;FEED RATE MILLING
    Q203=+0 ;SURFACE COORDINATE
    Q204=+20 ;2ND SET-UP CLEARANCE
    Q216=+0 ;CENTER IN 1ST AXIS
    Q217=+0 ;CENTER IN 2ND AXIS
    Q222=+102 ;WORKPIECE BLANK DIA.
    Q223=+100 ;FINISHED PART DIA.
17 CYCL CALL M3
18 * - AUSRAEMWERKZEUG1 4,0MM:
19 TOOL CALL "MILL_D8_ROUGH" Z S1000
20 L Z+20 R0 FMAX M3
21 * - ZYKLUS 14 KONTUR:
22 CYCL DEF 14.0 KONTOUR
23 CYCL DEF 14.1 KONTOUR LABEL1 /2 /3 /4 /5
24 * - ZYKLUS 20 KONTURDATEN:
```

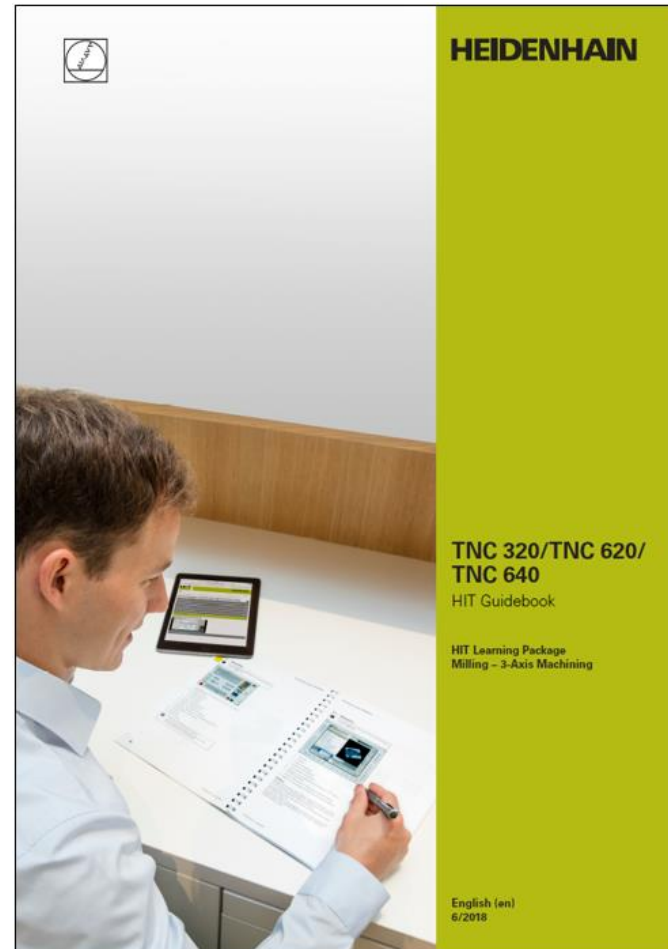
On the right, a 3D CAD model of a green cylindrical part with a blue tool bit is shown. The bottom status bar displays "00:21:51 F MAX" and various control buttons like "LAST FILES", "VIEW OPTIONS", "PROGRAM + WORKPIECE", "PROGRAM + STATUS", "BLANK IN WORK SPACE", "MEASURING ON", "GENERATE TOOL USAGE FILE", "M01 ON", "HIDE ON", and "TOOL TABLE".



4 Arbeitshefte

Arbeitshefte

- Leitfaden durch das Lernkonzept
- Arbeitsaufträge für die HIT-Software und den Programmierplatz
- Zusätzliche Programmierbeispiele
- Als PDF-Datei kostenlos verfügbar



Milling Fundamentals | Screen layout

2

2.4 Screen layout

You can find the following content in the HIT learning software by means of the ID BAAB.

The control always displays the selected modes of operation in the header:

- The machine operating mode on the left
- The programming operating mode on the right

The operating mode displayed on the screen is indicated in the header as a larger foreground field.

Display of machine operating modes

- 1 Machine operating mode in the foreground, and if applicable: dialog, error message
- 2 Programming operating mode in the background
- 3 Soft keys for machine tool builder functions
- 4 Soft keys
- 5 Machine state and position display
- 6 NC program, position display if applicable

TNC 320/TNC 620/TNC 640 | HIT Learning Package 3-Axis Programming | 6/2016

30



5 Lernplattform



Lernplattform Moodle

- HIT kann online innerhalb der HEIDENHAIN Moodle-Lernplattform verwendet werden!
- Mit der Premium-Klassenraumlizenz können Lehrer eigene Inhalte hinzufügen.

The screenshot shows a Moodle course page for HEIDENHAIN. The course title is "HIT Milling: 3-Axis Machining, Single-User License". The page is viewed by Michael Wiendl. The course content includes:

- HIT Milling: 3-Axis Machining** (HTML-Dokument)
- HIT Guidebooks**
 - HIT Guidebook (PDF-Dokument)
 - Operating Instructions (PDF-Dokument)

The left sidebar shows the course structure with the following items:

- HIT_3_Axis_EN
- Home
- Calendar
- My courses
- HIT_frezowanie obróbka w 3 osiach
- HIT_Drehen_EP
- HIT Fräsen 3-Achs
- HIT_3+2
- HIT_3_Axis_EN



6 Produktversionen



Produktversionen HIT

- DEMO-Lizenz
- Einzelplatzlizenz
- Basis-Klassenraumlizenz
- Premium-Klassenraumlizenz
- Update von Basis- auf Premiumlizenz

https://www.klartext-portal.de/de_DE/schulung/hit-lernkonzept/

[PDF Purchasing Guide](#) [PDF Flyer](#)

The following versions of the learning package are available:

Learning package	License type	
HIT Milling – 3-axis machining	Demo	More information
		Test now
HIT Milling – 3-axis machining	Single station	More information
		Buy now
HIT Milling – 3-axis machining	Basis (classroom license, 20 stations)	More information
		Buy now
HIT Milling – 3-axis machining	Premium (classroom license, 20 stations, with additional possibilities in the Moodle learning platform)	More information
		Buy now



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