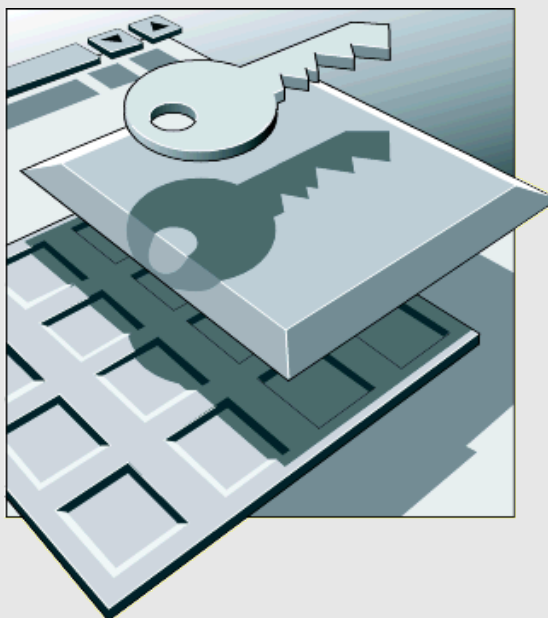


# DCN Next Generation Quick Reference Open Interface



**BOSCH**



en | Quick Reference

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# 1. INTRODUCTION

## 1.1 Purpose

Quick start document for using the DDTK tool to control the CCU using the Open Interface.

## 1.2 Scope

Meant for developers who want to use the remote interface to control applications present in the CCU.

The Open Interface must be licensed (LBB4187/00). Use the 'Download and Licensing Tool', to license the Open Interface. The D&L tool is present on the DVD supplied with the DCN (CCU) conference system.

All available Open Interface commands could be find in the Open Interface Manual.

## 2. USING DDTK TOOL FOR OPEN INTERFACE

### 2.1 Preparation

Step1.

Make sure that the license key for the open interface is present in the CCU.

Step2.

By using a DCN-CCU(B)2, no settings have to be made in the CCU.

By using a DCN-CCU(B), make sure that dipswitch settings in the CCU are set for open interface protocol including the correct baud rate.

Step3.

By using a DCN-CCU(B)2 or DCN-NCO, connect the CCU by using an Ethernet cable.

By using a DCN-CCU(B), connect the CCU by using a RS232 cable.

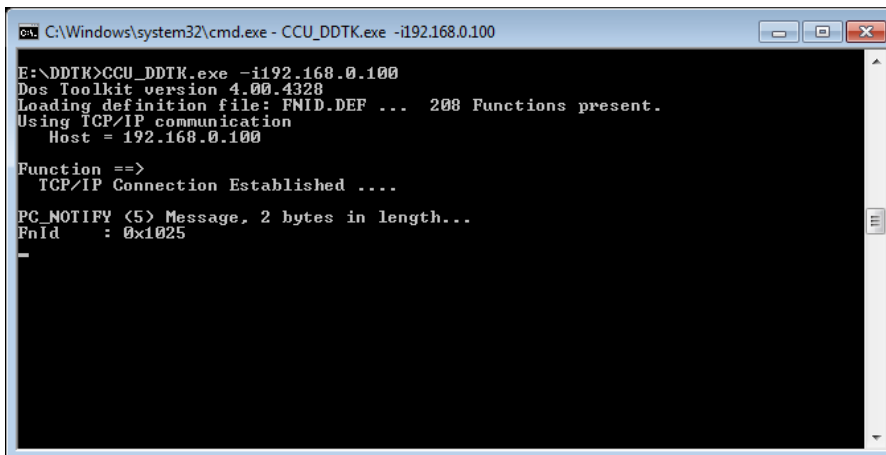
### 2.2 Connecting to the CCU

Step1.

For testing purpose, use the CCU\_DDTK.exe file (refer to the DVD, DDTK directory).

Step2.

By using a DCN-CCU(B)2: Activate the Windows command prompt and type: `CCU_DDTK.exe -i<IP-address CCU>`



```

C:\Windows\system32\cmd.exe - CCU_DDTK.exe -i192.168.0.100

E:\DDTK>CCU_DDTK.exe -i192.168.0.100
Dos Toolkit version 4.00.4328
Loading definition file: FNID.DEF ... 208 Functions present.
Using TCP/IP communication
Host = 192.168.0.100

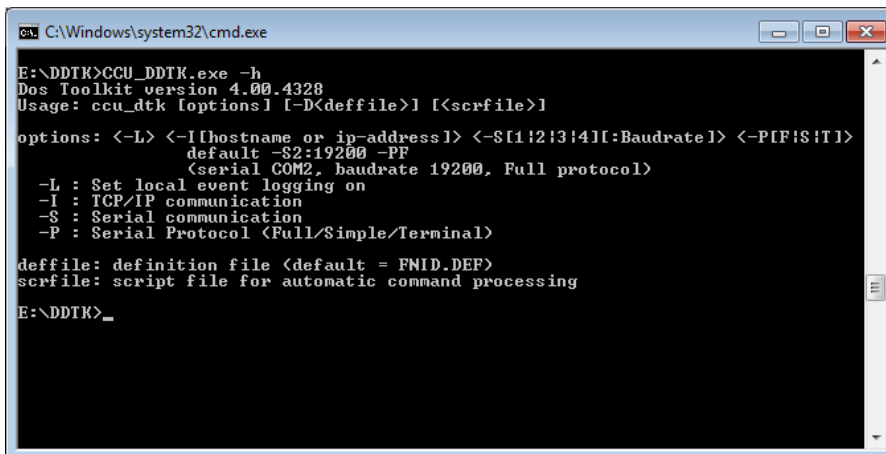
Function ==>
TCP/IP Connection Established ....

PC_NOTIFYV <5> Message, 2 bytes in length...
FnId : 0x1025
  
```

By using a DCN-CCU(B): Activate the Windows command prompt and type: `CCU_DDTK.exe -s1:19200 -ps`

REMARK:

To find the available startup commands, type: `CCU_DDTK.exe -h`



```

C:\Windows\system32\cmd.exe

E:\DDTK>CCU_DDTK.exe -h
Dos Toolkit version 4.00.4328
Usage: ccu_dtk [options] [-D<deffile>] [<scrfile>]

options: <-L> <-I[hostname or ip-address]> <-S[1|2|3|4]:Baudrate> <-PIF[S|T]>
          default -S2:19200 -PF
          <serial COM2, baudrate 19200, Full protocol>
-L : Set local event logging on
-I : TCP/IP communication
-S : Serial communication
-P : Serial Protocol <Full/Simple/Terminal>

deffile: definition file <default = FNID.DEF>
scrfile: script file for automatic command processing

E:\DDTK>_
  
```

## 2.3 Retrieving version information

Step 1.

Refer to the Open Interface manual for all available commands.

Step 2.

Activate the CCU to start sending notifications, type: `SC_C_START_APP`

```

C:\Windows\system32\cmd.exe - CCU_DDTK.exe -i192.168.0.100
Function ==> sc_c_start_app
RFS_REQUEST (3) message
FnId : 0x1007, StructToSend=( )

Function ==>
RFS_RESPONSE (4) Message, 6 bytes in length...
FnId : 0x1007, SC_C_START_APP, OutStruc=( W )
Error : 0x0000
WORD : 1

PC_NOTIFY (5) Message, 10 bytes in length...
FnId : 0x1024
Number of rest bytes: 8
000: FC FF FC FF 8F 4B 00 E8 - .....K..

```

Step 3.

To get the CCU sw version, type: `SC_C_GET_CCU_VERSIONINFO`

```

C:\Windows\system32\cmd.exe - CCU_DDTK.exe -i192.168.0.100
Function ==> sc_c_get_ccu_versioninfo
RFS_REQUEST (3) message
FnId : 0x1006, StructToSend=( )

Function ==>
RFS_RESPONSE (4) Message, 154 bytes in length...
FnId : 0x1006, SC_C_GET_CCU_VERSIONINFO, OutStruc=( W $50 B2 B2 B $29 W B S
50 $11 )
Error : 0x0000
WORD : 57
String : CCU2: stand-alone mode
BYTE : 4 0
BYTE : 1 0
BYTE : 3
String :
WORD : 3
BYTE : 0
String :
String : 4.00.4377

```

## 2.4 Monitoring microphone activities

Step 1.

To start monitoring the microphones (switched On or OFF), type: `mm_c_start_mon_mm`

```

C:\Windows\system32\cmd.exe - CCU_DDTK.exe -i192.168.0.100
Function ==> mm_c_start_mon_mm
RFS_REQUEST (3) message
FnId : 0x0045, StructToSend=( )

Function ==>
RFS_RESPONSE (4) Message, 6 bytes in length...
FnId : 0x0045, MM_C_START_MON_MM, OutStruc=( W )
Error : 0x0000
WORD : 1

```

## Step 2.

Switch ON or OFF the microphone of a contribution unit (Chairman or delegate) to display the information about the Unit's ID and microphone status.

```

C:\Windows\system32\cmd.exe - CCU_DDTK.exe -i192.168.0.100
Function ==> mm_c_start_mon_mm
RFS_REQUEST (3) message
FnId : 0x0045, StructToSend=( )

Function ==>
RFS_RESPONSE (4) Message, 6 bytes in length...
FnId : 0x0045, MM_C_START_MON_MM, OutStruc=( W )
Error : 0x0000
WORD : 1

PC_NOTIFV (5) Message, 4 bytes in length...
FnId : 0x000E, MM_C_SPK_APPEND_ON_PC, OutStruc=( U )
UnitNr : 522

PC_NOTIFV (5) Message, 4 bytes in length...
FnId : 0x000F, MM_C_SPK_REMOVE_ON_PC, OutStruc=( U )
UnitNr : 522

```

## Step 3.

It is advised to stop monitoring, type: mm\_c\_stop\_mon\_mm

## 2.5 Controlling microphones

## Step 1

To start the microphone control function to control the microphone and receive update, type: mm\_c\_start\_mm

```

C:\Windows\system32\cmd.exe - CCU_DDTK.exe -iccu220ac101e8
E:\DDTK>CCU_DDTK.exe -iccu220ac101e8
Dos Toolkit version 4.00.4328
Loading definition file: FNID.DEF ... 208 Functions present.
Using TCP/IP communication
Host = ccu220ac101e8

Function ==>
TCP/IP Connection Established ...

PC_NOTIFV (5) Message, 2 bytes in length...
FnId : 0x1025

Function ==> mm_c_start_mm
RFS_REQUEST (3) message
FnId : 0x001E, StructToSend=( )

Function ==>
RFS_RESPONSE (4) Message, 6 bytes in length...
FnId : 0x001E, MM_C_START_MM, OutStruc=( W )
Error : 0x0000
WORD : 1

```

## Step 2.

To switch On the microphone via DDTK, Type: mm\_c\_set\_micro\_on\_off

```

C:\Windows\system32\cmd.exe - CCU_DDTK.exe -i192.168.0.100
Function ==> mm_c_set_micro_on_off
RFS_REQUEST (3) message
FnId : 0x0022, StructToSend=( U B )

Expecting more0;<1x> UnitNr : 522
Expecting more2;<1x> BYTE : 1

Function ==>
RFS_RESPONSE (4) Message, 4 bytes in length...
FnId : 0x0022, MM_C_SET_MICRO_ON_OFF, OutStruc=( )
Error : 0x0000

PC_NOTIFV (5) Message, 4 bytes in length...
FnId : 0x000E, MM_C_SPK_APPEND_ON_PC, OutStruc=( U )
UnitNr : 522

```

## Step 3.

It is advised to stop the microphone control [module] type: mm\_c\_stop\_mm

Step 4.

Refer to the Open Interface manual for all available commands.

## 3. HINTS AND TIPS

### 3.1 Available DDTK commands

The DDTK (DCN Developer's Toolkit) makes use of the Open Interface commands. Refer to the Open Interface manual for all available commands.

### 3.2 Adding or modifying DDTK commands

The commands which are available in the DDTK are listed and defined in the FNID.DEF (Function Identifier Definition) file.

The FNID.DEF file can be modified using e.g. Notepad.

For testing purposes it can be useful to add or change OI commands from multiple entry (Array) to single entry.

e.g.

The default commands for creating and filling the database are made for 50 records:

```
DB_C_MAINT_CCU      0x0303 { b b b w (p dd u b d bbb s33)50 } { }  
DB_C_DOWNLOAD_CCU  0x0306 { b b b w (p dd u b d bbb s33)50 } { }
```

These can be changed to single entry commands by changing by adding the following new commands manually to the FNID.DEF

```
DB_C_MAINT_CCU1    0x0303 { b b b w p dd u b d bbb s33 } { }  
DB_C_DOWNLOAD_CCU1 0x0306 { b b b w p dd u b d bbb s33 } { }
```

When executing these functions, then the wFillLevel (w) must be 1, because you are only adding one record.