



Thermal Printer C-56 Windows XP/7/8/10 Driver

**S 684 002
R8-V2.05-FINAL
2021DEC03**

Release Note
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Document History

Revision	Mod. Nr	Status	Description
1	4 310107 HOR2	Closed	Initial version: created for C-56 Windows XP Driver: S684002 - Release 1 – Version 1.08 – 31 January 2007
2	4 310508 HOR1	Closed	2nd version: created for C-56 Windows XP Driver: S684002 - Release 2 – Version 1.09 – 31 May 2008
3	4 131112 HOR1	Closed	3rd version: created for C-56 Windows XP/7/8 Driver: S684002 - Release 3 – Version 2.00 – 13 November 2012
4	4 270417 HOR1	Closed	4th version: created for C-56 Windows XP/7/8/10 Driver: S684002 - Release 4 – Version 2.01 – 27 April 2017
5	4 311018 HOR1	Closed	5th version: created for C-56 XP/7/8/10 Driver: S684002 - Release 5 – Version 2.02 – 31 October 2018
6	4 020119 HOR1	Closed	6th version: created for C-56 XP/7/8/10 Driver: S684002 - Release 6 – Version 2.03 – 02 January 2019
7	4 150719 HOR1	Closed	7th version: created for C-56 XP/7/8/10 Driver: S684002 - Release 7 – Version 2.04 – 15 July 2019
8	4 031221 HOR1	Closed	8th version: created for C-56 XP/7/8/10 Driver: S684002 - Release 8 – Version 2.05 – 03 December 2021

Applicable Documentation

Part Nr	Description
D 684 017	THERMAL PRINTER C-56 - EMULATION COMMAND SET
D 684 021	Windows XP/7/8/10 Driver Manual for Thermal Printer C-56

Comments

Revision	Comments
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1 Introduction

This release note describes all modifications done to the C-56 printer driver (HENGSTLER part number S684002) for Windows XP, 7, 9 and 10 since the 1st release (R1-V1.08) on 31. January 2007.

The latest released C-56 printer driver is S684003-R7-V2.04-2019JUL15

The current C-56 printer driver is regarded to be backward compatible to earlier released and/or beta versions them and replaces them all.

The current C-56 printer driver operational with both USB and RS232 type controllers and all released C-56 firmware version (e.g. V1.30-USB, V1.31-USB, V1.32-USB, V2.00-RS232, V2.01-RS232, V3.00-USB/RS232 or higher), whereas the availability of certain functionality depends on the C-56 firmware version.

2 Firmware Changes Prior to Current Release

2.1 C-56 DRIVER S684002-R1-V1.08-2007JAN31

List of modifications		
=> R1-V1.00 - 2004 NOV 23 – UNRELEASED BETA VERSION		
Initial beta version		
=> R1-V1.01 - 2004 NOV 26 – UNRELEASED BETA VERSION		
User interface redesigned Port monitor optimized for usage with windows 2000 Registry information regarding print job added		
Component	Version	Description
C56PM .dll	R1-V1.01	Port Monitor
Thread read/write on C-56 USB port was malfunctioning under W2K. It has been encapsulated between start/end document.		
C56TB.dll	R1-V1.01	Tool Box
Minor version number now 00..99 instead of 1..9.		
C56UD.dll	R1-V1.01	Uni Driver
Job status spooling...spooled added if document has [XX] as end of name (e.g. [01]).		
C56UI.dll	R1-V1.01	User Interface / Printer Properties
Dialogs slightly optimized for variable font sizes.		
Absolute version number of driver (here R1-V1.01) added.		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.01	Main driver components
Release and version information updated.		
=> R1-V1.02 - 2004 DEC 03 – UNRELEASED BETA VERSION		
Correction of driver version information		
Component	Version	Description
C56SDK.dll	R1-V1.02	Application Programming Interface
Version number of driver (C56RC.dll) is returned instead of SDK version.		
File C56SDK.h reordered.		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.02	Main driver components
Release and version information updated.		
=> R1-V1.03 - 2004 DEC 20 – UNRELEASED BETA VERSION		
Implementation of firmware upload feature Implementation of font upload feature Implementation of printout feature		
Component	Version	Description
C56SDK.dll	R1-V1.03	Application Programming Interface (SDK)
Firmware/font upload implemented.		
Sample printouts implemented.		
C56TB.dll	R1-V1.03	Tool Box

Firmware/font upload implemented for SDK/UI.		
C56UI.dll	R1-V1.03	User Interface / Printer Properties
Firmware/font upload implemented.		
SDK attached to UI.		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.03	Main driver components
Release and version information updated.		
=> R1-V1.04 - 2005 JAN 12 – UNRELEASED BETA VERSION		
Printer control options extended with variable paper size		
Component	Version	Description
C56PM.dll	R1-V1.04	Print Job Monitor
C56Pm_PdPrinterSettings(..) call extended with structure size		
C56Pm_PdPrinterStatus(..) call extended with structure size		
C56Pm_RdPrinterStatus(..) usage of C56STATUS_REVISION corrected		
C56SDK.dll	R1-V1.04	Application Programming Interface (SDK)
Variable paper size added (flag from registry)		
C56Tb_RdPrinterSettings(..) call extended with structure size		
C56TB.dll	R1-V1.04	Tool Box
C56SETTINGS_REVISION revision number changed to 3 (this might have caused an error in R1.03)		
C56SETTINGS extended with variable paper size		
C56Tb_RdPrinterSettings(..) call extended with structure size		
C56Tb_RdPrinterStatus(..) call extended with structure size		
C56Tb_RdPrinterStatus(..) usage of C56STATUS_REVISION corrected		
C56UD.dll	R1-V1.04	Uni Driver
Variable paper size added (flag from registry)		
C56Tb_RdPrinterSettings(..) call extended with structure size		
C56UI.dll	R1-V1.04	User Interface / Printer Properties
Variable paper size added (flag from registry)		
C56Tb_RdPrinterSettings(..) call extended with structure size		
C56Tb_RdPrinterStatus(..) call extended with structure size		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.04	Main driver components
Release and version information updated.		
=> R1-V1.05 - 2005 JAN 18 – UNRELEASED BETA VERSION		
Periodical requests for printer status are only done if the result is inquired by an application		
Component	Version	Description
C56PM.dll	R1-V1.05	Print Job Monitor
Structure C56STATUS extended with fRequest		
C56STATUS_REVISION set to 2		
C56SDK.dll	R1-V1.05	Application Programming Interface (SDK)
Structure C56STATUS extended with fRequest		
Flag fRequest in C56STATUS raised on status request call		
C56TB.dll	R1-V1.05	Tool Box
Structure C56STATUS extended with fRequest		
C56UD.dll	R1-V1.05	Uni Driver
Structure C56STATUS extended with fRequest		

C56UI.dll	R1-V1.05	User Interface / Printer Properties
Structure C56STATUS extended with fRequest		
Flag fRequest in C56STATUS raised on status request call		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.05	Main driver components
Release and version information updated.		
=> R1-V1.06 - 2005 FEB 28 – UNRELEASED BETA VERSION		
Extended with upload of configuration data into C-56 flash memory		
Extended with upload of manufactory data into C-56 flash memory		
Extended with upload of character sets into C-56 flash memory		
Upload of C-56 firmware depends on current C-56 firmware version (secure from V3.00)		
Extended with new applications: C56ConfigTool, C56ExhibitionTool, C56ManufTool, C56SdkDemo05, C56SdkDemo06, C56SdkDemo07		
Extended with new SDK functions for upload of firmware, fonts, etc.		
Extended with new SDK functions for monitoring spooler and print jobs		
Component	Version	Description
C56TB.dll	R1-V1.06	Tool Box
C-56 configuration data upload functions added		
C-56 checksum functions added		
C56CONFIG_... structures created		
Configuration upload functions added		
C56Tb_UcStartCharsetUpload(..) extended with parameter wFwVersion (command set changed from FW 2.00)		
C56Tb_UfStartFirmwareUpload(..) extended with parameter wFwVersion (command set changed from FW 2.00)		
C56SETTINGS_REVISION set to 3		
C56SETTINGS extended with firmware version (C56SETTINGS_REVISION 3)		
C56SETTINGS default final paper feed on with 20 mm		
Module C56TbUploadBinary added for upload of binary files		
Function C56Tb_LcSetHardReset(..) added		
C56SDK.dll	R1-V1.06	Application Programming Interface (SDK)
C56Sdk_DmAddDocumentInitial/FinalSettings(..) corrected (had been exchanged)		
Character-Set printout header corrected		
Function C56Sdk_PmSetProperties(...) added		
Function C56Sdk_PmGetProperties(...) added		
Function C56Sdk_PmIsSpoolerEmpty(...) added		
Function C56Sdk_PmUploadCharset(...) retrieves FW version from registry		
Function C56Sdk_PmUploadFirmware(...) retrieves FW version from registry		
Function C56Sdk_PsPrintoutPaperfeed(..) feed paper backwards and forwards		
Function C56Sdk_DmPrintDocument2(..) added (no job number)		
Function C56Sdk_PmGetSpoolerJobCount(..) added		
Function C56Sdk_PmClearSpooler(..) added		
Function C56Sdk_PsPrintoutPrinterInfo(..) added, replaces C56Sdk_PsPrintoutFirmwareVersion(..)		
Function C56Sdk_PmUploadFirmware2 (...) added, which contains FW version to load onto		
C56UI.dll	R1-V1.06	User Interface / Printer Properties
Versions of updated modules set to 1.06		
Upload feature tab extended with firmware version		
C56RC.dll	R1-V1.06	Driver resource / version info
Version number changed to 1.06		
C56VS.dll	R1-V1.06	Vendor Setup

Application C56SdkDemo05 added		
Application C56SdkDemo06 added		
Application C56SdkDemo07 added		
C56SdkDemo05.exe	R1-V1.00	SDK Demo Application
New demo application for continuous ticket printout		
C56SdkDemo06.exe	R1-V1.00	SDK Demo Application
New demo application for load/save properties		
C56SdkDemo07.exe	R1-V1.00	SDK Demo Application
New demo application for upload of binary files		
C56SdkDemo04.exe	R1-V1.01	SDK Demo Application
Version number of actual firmware added for upload of font & firmware		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.06	Main driver components
Release and version information updated.		
=> R1-V1.07 - 2005 MAR 21 – UNRELEASED BETA VERSION		
C-56 configuration parameter for RS232 control flow limited to hardware		
Extended with new SDK functions for monitoring print jobs		
Extended with new demo application: C56SdkDemo08		
Component	Version	Description
C56TB.dll	R1-V1.07	Tool Box
C-56 serial configuration limited to hardware protocol only		
Structure C56STATUS extended with bJobNrConfirmed		
Structure C56STATUS extended with szFwVersion		
C56STATUS_REVISION set to 3		
C56SDK.dll	R1-V1.07	Application Programming Interface (SDK)
Function C56Sdk_PmGetJobNrConfirmed(...) added		
C56PM_FONT_MAG_2X, C56PM_FONT_MAG_3X, C56PM_FONT_MAG_4X added to C56_PRINT_MODE		
C56SR_STATE_VERSION added to C56_STATUS_REQUEST		
Function C56Sdk_PmGetFwVersion(...) added (from V2.0X)		
C56ConfigTool	R1-V1.01	C-56 Printer Configuration Tool
C-56 serial configuration limited to hardware protocol only		
C56ManufTool	R1-V1.01	C-56 Printer Manufactory Tool
C-56 serial configuration limited to hardware protocol only		
C56PM.dll	R1-V1.07	Print Job Language Monitor
Error in thread monitoring (exit thread) corrected. Long waiting time for settings popup and other might be solved by this modification		
Structure C56STATUS extended with bJobNrConfirmed		
Structure C56STATUS extended with szFwVersion		
C56SdkDemo08.exe	R1-V1.00	SDK Demo Application
New demo application for load/save of escape commands		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.07	Main driver components
Release and version information updated.		

=> R1-V1.08 - 2007 JAN 31 – RELEASED FINAL VERSION

C-56 configuration parameter for RS232 control flow limited to hardware
 Extended with new SDK functions for document handling
 Extended with new SDK functions for new C-56 emulation commands
 Extended with new SDK functions for wide character sets (e.g. Chinese/Korean)
 Extended with new controls for C56-EXTENDED printers, which have a cutter.
 Removal of specific applications: C56SdkDemo04, C56SdkDemo07
 Extended with new applications: C56ExhibitionTool2006, C56CutterDemoTool,
 C56PrintTerminal, C56SpeedTestTool, C56SdkDemo10, C56UploadTool
 Extended with new components: C56TB2 (DLL)
 Implementation of horizontal/vertical data compression for GDI printing

Component	Version	Description
C56SDK.dll	R1-V1.08	Application Programming Interface (SDK)
C56Sdk_DmAddDocumentData now adds to end of last data part		
Version number changed to 1.08		
Function C56Sdk_PmUploadWideCharSet(...) added		
Type C56_WIDECHARSET_TYPE added		
Function C56Sdk_PsPrintoutWideCharSet(..) added		
Function C56Sdk_DcAddWideCharSet(..) added		
Function C56Sdk_DcAddRegImgDef(..) parameter corrected		
Function C56Sdk_DcAddDHisPreBurnFac(..) added		
Function C56Sdk_DcAddBurnTimeCorr(...) added		
Type C56_FIRMWARE_RELEASE added		
Function C56Sdk_DcAddMultiStrobeFac(...) added		
Function C56Sdk_DcAddBarCodeSubTitle(...) added		
Function C56Sdk_PmUploadFirmware2(..) deleted		
Function C56Sdk_PmUploadFirmware(..) extended with wFwVersion		
Function C56Sdk_PmUploadCharSet(..) extended with wFwVersion		
Function C56Sdk_PmUploadWideCharSet(..) extended with wFwVersion		
Extended with wide character 20X20 Korean font		
Function C56Sdk_DcAddPositionStampSet(...) added		
Function C56Sdk_DcAddPositionStampFeed(...) added		
Function C56Sdk_PioPrinterOpen(...) added		
Function C56Sdk_PioPrinterClose(...) added		
Function C56Sdk_PioPrinterRead(...) added		
Function C56Sdk_PioPrinterReadClear(...) added		
Function C56Sdk_PioPrinterReadWrite(...) added		
Function C56Sdk_PmUploadFirmware(...) removed		
Function C56Sdk_PmUploadCharSet(...) removed		
Function C56Sdk_PmUploadWideCharSet(...) removed		
Function C56Sdk_PmUploadBinary(...) removed		
Function C56Sdk_DcAddFlashWriteProtect(...) added		
Function C56Sdk_DcAddCutterCommand(...) added		
Function C56Sdk_DcAddHostControlCommand(...) added		
Structure C56_STATUS_RESPONSE extended with C56SR_PRINTER_CUSTFLAG1/2		
Memory leak bug in C56Sdk_DmEndDocument(...) resolved		
C56TB.dll	R1-V1.08	Tool Box
C56SETTINGS extended with szPathWideCharSet24X24		
C56SETTINGS_REVISION set to 4		
Function C56Tb_UwcStartWideCharSetUpload(...) added		

Function C56Tb_UwcGetWideCharsetData(...) added		
Function C56Tb_UwcEndWideCharsetUpload(...) added		
Function C56Tb_LcSetWideCharset(...) added		
Function C56Tb_LcSetDHisPreBurnFac(...) added		
Function C56Tb_UcfStartConfigUpload2(...) added (for firmware 3.00)		
Function C56Tb_LcSetBurnTimeCorr(...) added		
C56CONFIGDATA_X set to revision 2		
Function C56Tb_LcSetExtRegCharDef(...) number of characters sent corrected		
C56SETTINGS extended with wGraphicCompression		
Solved the "last bytes lost in firmware upload" bug		
Function C56Tb_LcSetMultiStrobeFac(...) added		
Function C56Tb_LcSetBarCodeSubTitle(...) added		
Flash area for firmware, fonts, manufdata, configdata depend on FW version (1.30..1.99, 2.00..3.00d, 3.00e..)		
Function C56Tb_UcStartCharsetUpload(..) extended with dwFwVersion		
Function C56Tb_UmfStartManufUpload(...) extended with dwFwVersion		
Function C56Tb_UcfStartConfigUpload(...) extended with dwFwVersion		
Function C56Tb_UcfStartConfigUpload2(...) extended with dwFwVersion		
Modified upload of FW, char sets, etc. in 3.00 due to flash reorganization		
Function C56Tb_LcGetStatusInfo(...) handles negative temperatures		
Extended with wide character upload of 20X20 korean font		
Function C56Tb_LcSetPositionStampSet(...) added		
Function C56Tb_LcSetPositionStampFeed(...) added		
Calls to OpenFile(...) replaced by CreateFile(...)		
Function C56Tb_LcSetEscapeCmd(...) extended (as in Hpd05c)		
Function C56Tb_LmMemAllocStrWc2Mb(...) added		
Function C56Tb_LmAllocStrCat(...) added		
Functions C56Tb_Prt....(...) added		
C56SETTINGS_REVISION set to 5 (path to files used for upload removed)		
Configuration data may contain flow control software/none for firmware version 3.00 or up		
Function C56Tb_LcSetFlashWriteProtect(...) added		
Function C56Tb_LcSetCutterCommand(...) added		
Function C56Tb_LcSetHostControlCommand(...) added		
C56SETTINGS extended with cutter control fag		
C56SETTINGS_REVISION set to 6 (cutter control fag added)		
Function C56Tb_UcfStartConfigUpload2(...) extended with customer flags		
C56SETTINGS extended with horizontal and vertical compressed		
C56PM.dll	R1-V1.08	Print Job Language Monitor
C56SETTINGS extended with szPathWideCharset24X24		
C56SETTINGS_REVISION set to 4		
C56SETTINGS extended with wGraphicCompression		
C56SETTINGS_REVISION set to 5 (path to files used for upload removed)		
C56SETTINGS extended with cutter control fag		
C56SETTINGS_REVISION set to 6 (cutter control fag added)		
C56SdkDemo01.exe	R1-V1.01	SDK Demo Application
Irrelevant icons removed from resource file		
C56SdkDemo02.exe	R1-V1.01	SDK Demo Application
Irrelevant icons removed from resource file		
C56SdkDemo03.exe	R1-V1.01	SDK Demo Application
Irrelevant icons removed from resource file		
C56SdkDemo04.exe	R1-V1.01	SDK Demo Application

Irrelevant icons removed from resource file		
C56SdkDemo04.exe	R1-V1.02	SDK Demo Application
Irrelevant icons removed from resource file		
Added firmware version to SDK calls		
No longer available -> replaced by C56UploadTool		
C56SdkDemo05.exe	R1-V1.01	SDK Demo Application
Irrelevant icons removed from resource file		
C56SdkDemo06.exe	R1-V1.01	SDK Demo Application
Irrelevant icons removed from resource file		
C56SdkDemo07.exe	R1-V1.01	SDK Demo Application
Irrelevant icons removed from resource file		
No longer available -> replaced by C56UploadTool		
C56SdkDemo08.exe	R1-V1.01	SDK Demo Application
Irrelevant icons removed from resource file		
C56SdkDemo09.exe	R1-V1.00	SDK Demo Application
New demo application demonstrating registered images		
C56SdkDemo10.exe	R1-V1.00	SDK Demo Application
New demo application demonstrating direct I/O with printer through SDK		
C56ChinaBin2Bmp.exe	R1-V1.00	Helper Application
New helper application to convert binary chinese file to a wide character bitmap file		
C56ExhibitionTool.exe	R1-V1.01	Demonstration Tool
Irrelevant icons removed from resource file		
C56ManufTool	R1-V1.02	C-56 Printer Manufactory Tool
Irrelevant icons removed from resource file		
C56ConfigTool	R1-V1.02	C-56 Printer Configuration Tool
Modifications for firmware 3.00		
- Dot history burn factor		
- Wide character index		
- Customer product/serial number added		
- Burn time corrections added		
- Multi strobing added		
Extended with wide characters 20x20 KS5601/STANDARD		
Config data may contain flow control software/none for firmware version 3.00 or up		
Customer status flags added		
C56UI.dll	R1-V1.08	User Interface / Printer Properties
Dialog IDD_DEVICE_PRINTQUALITYANDSPEED extended with check box for RLE8 compression		
New demo application demonstrating wide character font upload and printout		
Upload of firmware and fonts depend of FW version (1.30..1.99, 2.00..3.00d,3.00e..)		
Paper state depends of firmware version (< 3.00, >= 3.00)		
User Interface Data mixup with multiple printers corrected		
Removal of trailing blanks also in landscape		
Extended with wide character upload of 20X20 korean font		
Upload tab removed (use C56UploadTool instead)		
Cutter control buttons added to printer feature tab		
Cutter control options buttons added to paper control tab		
Horizontal/vertical data compression added		
Printer status dialog extended with customer flags		
C56VS.dll	R1-V1.08	Vendor Setup
C56SdkDemo09 added		
C56SdkDemo10 added		
C56UnInstaller tool added		
C56ConfigTool added		
C56ExhibitionTool added		

C56SdkDemo04 removed		
C56SdkDemo07 removed		
C56CutterDemoTool added		
C56PrintTerminal added		
C56SpeedTestTool added		
C56UploadTool added		
C56SdkDemo09 added		
C56SdkDemo10 added		
C56ExhibitionTool2006 added		
C56UD.dll	R1-V1.08	Uni Driver
Removal of trailing blanks also in landscape		
Horizontal/vertical data compression added		
C56+Cutter: control of cutter after printout added		
HengstlerC56.INF HengstlerC56+SDK.INF	R1-V1.08	Installation Files
C56SdkDemo09 added		
C56SdkDemo10 added		
C56SdkDemo04 removed (upload only by upload tool)		
C56CutterDemoTool added		
C56PrintTerminal added		
C56SpeedTestTool added		
C56UploadTool added		
C56ExhibitionTool2006 added		
C56TB2	R1-V1.08	Tool Box 2
New toolbox library, used by tools only		
C56CutterDemoTool	R1-V1.00	Demonstration Tool
New tool for C-56 cutter (X-56) demonstration		
C56PrintTerminal	R1-V1.00	Evaluation Tool
New tool for evaluation of C-56 emulation commands		
C56SpeedTestTool	R1-V1.00	Test Tool
New tool for testing C-56 print speed		
C56UploadTool	R1-V1.00	Upload Tool
New tool for uploading firmware and fonts into the C56		
C56ExhibitionTool2006	R1-V1.00	Exhibition tool
New exhibition tool that is used for 2006 exhibitions		
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R1-V1.08	Main driver components
Release and version information updated.		

2.2 C-56 DRIVER S684002-R2-V1.09-2008MAY31

List of modifications

=> R2-V1.09 - 2008 MAY 31 – RELEASED FINAL VERSION

Communication between driver API and host improved.		
Component	Version	Description
C56SDK.dll	R2-V1.09	Application Programming Interface (SDK)
R2-001-HOR	The timeout time in the API is the timeout time for the I/O added 2500 ms	
C56TB.dll	R2-V1.09	Tool Box (TB)
R2-002-HOR	Processing of comments (e.g. "//Comment") in escape command text corrected. Instead of all subsequent data being ignored, only text until end of line is ignored.	
C56TB.dll	R2-V1.09	Tool Box (TB)
R2-003-HOR	C56 Configuration data extended with paper jam detection flags (available from C56 firmware version 3.01i) and with paper low detection setting (available from C56 firmware version 3.01j).	
C56ConfigTool.exe	R2-V1.02	Configuration Tool
R2-004-HOR	C56 Configuration data extended with paper jam detection flags (available from C56 firmware version 3.01i) and with paper low detection setting (available from C56 firmware version 3.01j).	
C56CutterDemoTool.exe	R2-V1.01	Cutter Demonstration Tool
R2-005-HOR	Text "Paper low detected through blackmark" changed to "Paper low detected".	
C56ExhibitionTool2005.exe	R2-V1.02	Exhibition Tool 2005
R2-006-HOR	Tool C56ExhibitionTool changed to C56ExhibitionTool2005.	
C56ManufacturingTool.exe	R2-V1.03	Manufacturing tool
R2-007-HOR	Model indicator field added (12/24 volt).	
C56Sdk.dll	R2-V1.09	Application Programming Interface (SDK)
R2-008-HOR	Enumeration C56_STATUS_RESPONSE extended with C56SR_PRINTER_PAPERINCHUTE.	
C56Ui.dll	R2-V1.09	User interface (printer properties)
R2-009-HOR	Status dialog extended with paper in chute flag.	
C56.gpd, C56UD.dll, C56PM.dll, C56RC.dll, C56SDK.dll, C56TB.dll, C56UD.dll, C56UI.dll, C56VS.dll, HengstlerC56.INF, HengstlerC56+SDK.INF	R2-V1.09	Main driver components
R2-XXX-HOR	Release and version information updated.	

2.3 C-56 DRIVER S684002-R3-V2.00-2012NOV13

List of modifications		
Component	Version	Description
C56ConfigTool	R3-V1.04	Configuration tool
R3-001-HOR	Paper low detection is no longer set to "BLACK MARK" when "NEVER" is selected (B-R2-001-HOR).	
C56SpeedTestTool	R3-V1.04	Speed test tool
R3-002-HOR	Density setting added to speed test tool	
C56ConfigTool	R3-V1.04	Configuration tool
R3-003-HOR	Flash write protection is disabled before configuration data is sent to the printer	
C56ManufConfigTool	R3-V1.04	Manufacturing tool
R3-004-HOR	Flash write protection is disabled before manufactory data is sent to the printer	
Complete driver package	R3-V2.00a	Complete driver package
R3-005-HOR	Complete driver package migrated to windows 7 (64 and 32 bits) and windows XP (32 bits).	
C56Ui.dll	R3-V2.00b	User interface
R3-006-HOR	Contents display in Driver Information Tab corrected.	
C56Toolbox.dll	R3-V2.00b	Tool box
R3-007-HOR	Error in processing of hexadecimal escape commands sequences resolved.	
C56PrintMon.dll	R3-V2.00b	Print monitor
R3-008-HOR	Timeout of port lock failure increased from 0 to 15 seconds. This failure first occurred in R3-V2.00a.	
C56Ui.dll	R3-V2.00b	User interface
R3-009-HOR	Failure in displaying printer status within the printer properties dialog corrected.	
C56Vs.dll	R3-V2.00b	Vendor setup
R3-010-TKA	Extended with automatic paper path selection at the end of the printer driver setup phase.	
C56ConfigurationTool.dll	R3-V2.00c	Configuration tool
R3-011-HOR	Tool extended with Periodic Motor Lock feature, which periodically locks the motor when paper is detected by the chute sensor and when the motor excitation time has exceeded.	
C56Toolbox.dll	R3-V2.00c	Tool box
R3-012-HOR	Configuration data extended with Periodic Motor Lock setting.	
C56ConfigurationTool.dll	R3-V2.00c	Configuration tool
R3-013-HOR	Tool extended with a Print Options setting, which allows disabling the auto speed reduction and enabling continuous paper low.	
C56Toolbox.dll	R3-V2.00c	Tool box
R3-014-HOR	Configuration data extended with Print Options setting.	
C56Setup.exe	R3-V2.00c	Setup tool
R3-015-HOR	Setup tool for Windows XP / 7 added.	
Various files	R3-V2.00	Complete driver package
R3-016-HOR	All driver files and tools signed with the genuine Hengstler GmbH certificate.	

2.4 C-56 DRIVER S684002-R4-V2.01-2017APR27

List of modifications			
Mod-Id	Component	Version	Description
M-R4-001-HOR	Complete package	R4-V2.01a	Complete driver package adapted to windows 8.
M-R4-002-HOR	C56Sdk.dll	R4-V2.01b	Failure in C56Sdk_PmGetFwVersion(..) regarding buffer size determination resolved.
M-R4-003-HOR	Complete package	R4-V2.01	Complete driver package adapted to windows 10.
M-R4-004-HOR	C56ApiWrapperNet.dll	R4-V2.01	API Wrapper .NET added.
M-R4-005-HOR	Driver Package	R4-V2.01	Various code pages added as font
M-R4-006-HOR	C56PrintTerminal.exe C56Tb2.dll C56Tb.dll	R4-V2.01	Tools updated and data storage format changed to XML
M-R4-007-HOR	C56CommandTool.exe	R4-V2.01	Driver package extended with a command tool.
M-R4-008-HOR	C56EnduranceTestTool.exe	R4-V2.01	Tool package extended with an endurance test tool.
M-R4-009-HOR	C56ApiWrapperDotNetDemo.exe	R4-V2.01	Test tool for API Wrapper .NET added.
M-R4-010-HOR	C56Sdk.dll C56Tb.dll	R4-V2.01	Extended with image printing (default rendering) functionality.
M-R4-011-HOR	C56Sdk.dll C56Tb.dll	R4-V2.01	Extended with RLE8 dot line compression functionality.

2.5 C-56 DRIVER S684002-R5-V2.02-2018OCT31

List of modifications			
Mod-Id	Component	Version	Description
M-R5-001-HOR	C56CommandTool.exe C56PrintTerminal.exe C56ConfigTool.exe C56UploadTool.exe C56ManufTool.exe C56EnduranceTestTool.exe	R5-V2.02	Application data storage moved from a temporary storage directory to the local application data storage directory.
M-R5-002-HOR	C56ManufTool.exe C56Tb.dll	R5-V2.02	New manufacturing setting added in which the "paper exit sensor type" (chute/jam) can be specified.
M-R5-003-HOR	C56ConfigTool.exe C56ManufTool.exe	R5-V2.02	Data inquiry feature implemented which allows download of manufacturing and configuration data from C56 printers which have firmware version V4.00d or higher.
M-R5-004-HOR	C56ConfigTool.exe	R5-V2.02	Configuration data extended with paper entry and exit sensor calibration settings, which is available for C56 printers that have firmware version V4.00d or higher.
M-R5-005-HOR	C56ConfigTool.exe	R5-V2.02	Configuration data extended with motor excitation time, which is available for C56 printers that have firmware version V4.00d or higher.
M-R5-006-HOR	C56Tb.dll	R5-V2.02	Backward compatible adaptation of configuration and manufacturing data structures. Both structures are now packed on 1 byte boundaries (byte aligned).
M-R5-007-HOR	C56PrintMon.dll	R5-V2.02	Failure resolved regarding permanent port lock due to failed periodical status request.
M-R5-008-HOR	C56Tb.dll	R5-V2.02	Extended firmware upload data with firmware type information (USB/RS232) to avoid future uploads of RS232 firmware onto USB controllers and vice versa. Firmware type information only has effect when the firmware upload is done onto a controller which has at least firmware version V4.00d installed. Note that the firmware type information is determined from the name of the firmware file, whereas this name must contain ".RS232" (for upload onto RS232 type controllers) or ".USB" (for upload onto USB type controllers).
M-R5-009-HOR	C56CodeSigner.exe	R5-V2.02	Code signing adapted to USB token.
M-R5-010-HOR	C56CodeCleaner.exe	R5-V2.02	Code cleaning utility added.
M-R5-011-HOR	C56ConfigTool.exe C56ManufTool.exe	R5-V2.02	Request of configuration and manufacturing data is only available when the firmware version is equal or greater than V4.01a. (See R5-003-HOR)
M-R5-012-HOR	Driver Package	R5-V2.02	Folders "Documents" and "Other" removed.

2.6 C-56 DRIVER S684002-R6-V2.03-2019JAN02

List of modifications			
Mod-Id	Component	Version	Description
M-R6-001-HOR	C56ConfigTool.exe C56Tb.dll	R6-V2.03	Paper entry sensor current setting extended with the default value "CALIBRATE DYNAMICALLY".
M-R6-002-HOR	C56ConfigTool.exe C56Tb.dll	R6-V2.03	Paper exit sensor current setting extended with the default value "FIXED".
M-R6-003-HOR	C56ManufTool.exe C56Tb.dll	R6-V2.03	Paper exit sensor type setting extended with "SENSOR NOT AVAILABLE".
M-R6-004-HOR	C56ConfigTool.exe C56Tb.dll	R7-V2.03	Configuration tool extended with a feature which can load configuration data from a previously saved C56 binary file which has been created for firmware V4.01a or higher.

2.7 C-56 DRIVER S684002-R7-V2.04-2019JUL15

List of modifications			
Mod-Id	Component	Version	Description
M-R7-001-HOR	C56ConfigTool.exe	R7-V2.04	Configuration tool extended with a feature which can load configuration data from a previously saved C56 binary file which has been created for firmware V4.01a or higher.
M-R7-002-HOR	C56ManufTool.exe	R7-V2.04	Manufacturing tool extended with a feature which can load manufacturing data from a previously saved C56 binary file which has been created for firmware V4.01a or higher.
M-R7-003-HOR	C56PrintTerminal.exe	R7-V2.04	Print terminal does no longer check for the printer being connected or not.
M-R7-004-HOR	C56Tb.dll C56ManufTool.exe	R7-V2.04	Manufactory data now allows selection of 4 different exit sensor settings: UNDEFINED, NO SENSOR AVAILABLE, CHUTE SENSOR and JAM SENSOR.

3 C-56 DRIVER S684002-R8-V2.05-2021DEC03

Description

The C-56 printer driver S684002-R8-V2.05-2021DEC03 is developed for Windows XP, Windows 7, Windows 8 and Windows 10 and is operational with all currently available C-56 type HENGSTLER printers.

Package overview for Windows 7/8/10 (32 + 64 bit)

```
| S-684-002-C56-Windows7810Driver-R8-V2.05-FINAL-2021DEC03.zip
| S-684-002-C56-WindowsXp7810Driver_ReleaseNote.pdf
|
+---Driver
|   | C56-Setup.exe
|   | C56-Setup.x32.exe
|   | C56-Setup.x64.exe
|   | difxapi.x32.dll
|   | difxapi.x64.dll
|   | Hengstler-C56.cat
|   | Hengstler-C56.inf
|   | Hengstler-C56.x64.cat
|   | Hengstler-C56_x64.inf
|   \---Data
|       C56.gpd
|       C56_x64.gpd
|       C56Pm.dll
|       C56Pm_x64.dll
|       C56.dll
|       C56_x64.dll
|       C56Sdk.dll
|       C56Sdk_x64.dll
|       C56Tb.dll
|       C56Tb_x64.dll
|       C56Ud.dll
|       C56Ud_x64.dll
|       C56Ud.ini
|       C56Ud_x64.ini
|       C56Ui.dll
|       C56Ui_x64.dll
|       C56Vs.dll
|       C56Vs_x64.dll
|       STDNAMES.GPD
|
+---Fonts
|   C56CodePages.zip
|   C56StandardFonts.zip
|   C56WideFonts.zip
|
+---Samples
|   C56GdiDemo01.doc
|   C56GdiDemo02.doc
|   C56GdiDemo03.doc
|   C56GdiDemo04.doc
|   C56GdiDemo05.doc
|   C56GdiDemo06.doc
|   C56GdiDemo07.doc
|   C56GdiDemo08.doc
|   C56GdiDemo09.doc
|   C56GdiDemo10.doc
|   C56SdkDemo01.exe
|   C56SdkDemo01.zip
|   C56SdkDemo02.exe
|   C56SdkDemo02.zip
|   C56SdkDemo03.exe
|   C56SdkDemo03.zip
|   C56SdkDemo05.exe
|   C56SdkDemo05.zip
|   C56SdkDemo06.exe
|   C56SdkDemo06.zip
|   C56SdkDemo08.exe
```

```
|      C56SdkDemo08.zip
|      C56SdkDemo09.exe
|      C56SdkDemo09.zip
|      C56SdkDemo10.exe
|      C56SdkDemo10.zip
|
+----Sdk
|      C56ApiWrapperDotNet.dll
|      C56Sdk.h
|      C56Sdk.lib
|      C56Sdk_x64.lib
|
\---Tools
|      C56ConfigTool.exe
|      C56CommandTool.exe
|      C56ImageTool.exe
|      C56PrintTerminal.exe
|      C56Sdk.dll
|      C56Tb2.dll
|      C56Tb.dll
|      C56UnInstaller.exe
|      C56UploadTool.exe
|      mfc140.dll
|      mfc140u.dll
|      msvcpl140.dll
|      vcruntime140.dll
```

Package overview for Windows XP (32 Bit)

```
|      S-684-002-C56-WindowsXpDriver-R8-V2.05-FINAL-2021DEC03
|      S-684-002-C56-WindowsXp7810Driver_ReleaseNote.pdf
|
+----Driver
|      |      Hengstler-C56.cat
|      |      Hengstler-C56.inf
|      \---Data
|              C56.gpd
|              C56Pm.dll
|              C56.dll
|              C56Sdk.dll
|              C56Tb.dll
|              C56Ud.dll
|              C56Ud.ini
|              C56Ui.dll
|              C56Vs.dll
|              STDNAMES.GPD
|
+----Fonts
|      C56CodePages.zip
|      C56StandardFonts.zip
|      C56WideFonts.zip
|
+----Samples
|      C56GdiDemo01.doc
|      C56GdiDemo02.doc
|      C56GdiDemo03.doc
|      C56GdiDemo04.doc
|      C56GdiDemo05.doc
|      C56GdiDemo06.doc
|      C56GdiDemo07.doc
|      C56GdiDemo08.doc
|      C56GdiDemo09.doc
|      C56GdiDemo10.doc
|      C56SdkDemo01.exe
|      C56SdkDemo01.zip
|      C56SdkDemo02.exe
|      C56SdkDemo02.zip
|      C56SdkDemo03.exe
|      C56SdkDemo03.zip
|      C56SdkDemo05.exe
|      C56SdkDemo05.zip
|      C56SdkDemo06.exe
|      C56SdkDemo06.zip
|      C56SdkDemo08.exe
```

	C56SdkDemo08.zip
	C56SdkDemo09.exe
	C56SdkDemo09.zip
	C56SdkDemo10.exe
	C56SdkDemo10.zip
+---Sdk	
	C56Sdk.h
	C56Sdk.lib
	C56Sdk_x64.lib
\---Tools	
	C56ConfigTool.exe
	C56CommandTool.exe
	C56ImageTool.exe
	C56PrintTerminal.exe
	C56Sdk.dll
	C56Tb2.dll
	C56Tb.dll
	C56UnInstaller.exe
	C56UploadTool.exe
	Mfc100.dll
	Msvcr100.dll

List of files		
File	Version	Description
S-684-002-C56-WindowsXpDriver-R8-V2.05-FINAL-2021DEC03	R7-V2.04	Complete Windows XP driver package as zip file.
S-684-002-C56-Windows7810Driver-R8-V2.05-FINAL-2021DEC03.zip	R7-V2.04	Complete Windows 7/8/10 driver package as zip file.
C56-Setup.exe, C56-Setup.x32.exe, C56-Setup.x64.exe	R7-V2.04	Windows 7/8/10 driver setup tools (console, 32/64 bit).
difxapi.x32.dll, difxapi.x64.dll	N/A	Windows 7/8/10 driver installation libraries (32/64 bit).
HengstlerC56.inf, HengstlerC56.cat, HengstlerC56_x64.inf, HengstlerC56_x64.cat	R7-V2.04	Windows 7/8/10 driver components => information file required for installation of the driver
D-684-004-C56-WindowsXpDriver_ReleaseNote.pdf	N/A	Release note of the C56 driver package
C56.gpd, C56_x64.gpd	R7-V2.04	Windows 7/8/10 driver components => general printer definition file (32/64 bit)
C56Pm.dll, C56Pm_x64.dll	R7-V2.04	Windows 7/8/10 driver components => print job monitor (32/64 bit)
C56.dll, C56_x64.dll	R7-V2.04	Windows 7/8/10 driver components => version information (32/64 bit)
C56Sdk.dll, C56Sdk_x64.dll	R7-V2.04	Windows 7/8/10 driver components => application programming interface (32/64 bit)
C56Tb.dll, C56Tb_x64.dll	R7-V2.04	Windows 7/8/10 driver component => tool box (32/64 bit)
C56Ud.dll, C56Ud_x64.dll	R7-V2.04	Windows 7/8/10 driver component => uni-driver (32/64 bit)
C56Ud.ini, C56Ud_x64.ini	N/A	Windows 7/8/10 driver component => uni-driver (32/64 bit)
C56Ui.dll, C56Ui_x64.dll	R7-V2.04	Windows 7/8/10 driver component => user interface / printer properties (32/64 bit)
C56Vs.dll, C56Vs_x64.dll	R7-V2.04	Windows 7/8/10 driver component => vendor setup (32/64 bit)
STDNAMES.GPD	N/A	General printer definition file from windows XP which must be available when installing the driver in windows Vista.
C56CodePages.zip	N/A	Various code pages
C56StandardFonts.zip	N/A	Standard character sets

C56WideFonts.zip	N/A	Wide character sets
C56GdiDemoXx.doc	N/A	Sample document for GDI printing
C56SdkDemoXx.exe	N/A	Sample application that demonstrates the application programming interface (SDK)
C56SdkDemoXx.zip	N/A	Visual C++ sources of the SDK demo
C56Sdk.h	R7-V2.04	Header file describing the application programming interface (SDK)
C56Sdk.lib, C56Sdk_x64.lib	R7-V2.04	SDK library, included in applications C56Sdk.lib
C56ConfigTool.exe	R7-V2.04	Tool for configuring the C-56
C56ImageTool.exe	R7-V2.04	Tool that uploads images into the C56 flash memory
C56PrintTerminal.exe	R7-V2.04	Tool that allows evaluation of emulation commands
C56TB2.dll	R7-V2.04	Driver component => tool box part two, used by certain applications/tools
C56UnInstaller.exe	R7-V2.04	Tool used for un-installation of C-56 drivers and files
C56UploadTool.exe	R7-V2.04	Tool used for upload of firmware, fonts, etc.
Mfc100.dll, Msvcr100.dll	N/A	Windows XP libraries, used in various tools and/or applications
mfc140.dll, mfc140u.dll, msvcpl140.dll, vcruntime140.dll	N/A	Windows 7/8/10 libraries, used in various tools and/or applications

Installation on Windows XP

To prevent any C-56 file version mismatch in Windows XP, it is required that the C56Uninstaller tool is used before installation of a different C-56 printer driver version.

Installation of the C-56 printer driver for usage with C56-RS232-type printers or C56-USB-type printers with firmware V1.3X, is started by selecting [START MENU]->[PRINTERS&FAXES]->[ADD NEW PRINTER].

Installation of the C-56 printer driver for usage with C56-USB-type printers with firmware V3.00 or up, is started by connecting the printer through USB.

The C-56 printer driver information file is "HengstlerC56.INF".

The C-56 printer driver manual contains more detailed information on C-56 printer driver installation.

Installation on Windows 7 / 8 / 10

To prevent a C56 file version mismatch, it is required that previously installed C56 drivers are removed from the system (see "Un-Installing on Windows 7/8/10" below).

Installation of the C56 printer driver for usage with C56-RS232-type printers is started by selecting [START MENU]->[DEVICES&PRINTERS]->[ADD NEW PRINTER].

Installation of the C56 printer driver for usage with C56-USB-type printers is started by connecting the printer through USB, whereas the C56 printer will appear in the printers & faxes dialog. The actions required for successfully installing the driver may depend on the system setting. The C56 driver will automatically be installed when the C56 driver has already been loaded in the driver store. If not, then press the right mouse button on the C56 printer in the "printer & faxes dialog, select "properties", go to the "Hardware" register, select "properties", go to the "Driver" register and update (attach) the C56 driver from there.

Un-Installation on Windows XP

The C56Uninstaller tool is to be used for Uninstallation of installed C-56 printer drivers and driver files.

Un-Installation on Windows 7 / 8 / 10

Removal of installed C56 drivers within Windows 7/8 can be done with by deleting the C56 printer within the printers and faxes dialog. C56 OEM driver files can be removed from Windows 7/8 by using the Windows 7/8 Tool "pnputil.exe" ("pnputil -e" lists all OEM drivers, "pnputil -d oem0.inf" deletes the particular OEM driver. A setup tool for un-installing is currently in development and is expected to be available in the next to come driver version.

List of anomalies and bugs

Currently no anomalies or bugs are known.

List of incompatibilities to previous versions

Currently no incompatibilities are known.

List of restrictions

Currently no restrictions are known.

Notes

The hardware flow control must be enabled in both C-56 printer driver and C-56 printer when uploading firmware onto a serial board. The hardware flow control can be enabled in the printer properties dialog.

List of modifications

Mod-Id	Component	Version	Description
M-R8-001-HOR 2020JAN15	C56ConfigTool.exe C56ManufTool.exe C56UploadTool.exe C56Tb.dll C56UserInterface.dll	R8-V2.05	Integration of the new firmware variant S684038 for C56 printers. Various tools and libraries now differentiate between firmware variants S684007 and S684038.
M-R8-002-HOR 2020MAR25	C56Sdk.dll C56Pm.dll	R8-V2.05	Until now, printer status inquiries which are done via C56Sdk_PmGetPrinter-Status() required the application to be run with administrator rights. This modification makes it possible for the application to inquire the printer status without having administrator rights.
M-R8-003-HOR 2021SEP13	C56CodeSigner.exe	R8-V2.05	Code signing tool adapted to 2021 signature token.
M-R8-004-HOR 2021OCT04	C56ConfigTool.exe C56ManufTool.exe	R8-V2.05	Added C56 firmware version S684036 V5.02a or higher "S684036 V5.02a or higher".
M-R8-005-HOR 2021OCT05	C56Pm.dll C56Sdk.dll	R8-V2.05	Optimized pipe communication between upper and lower part of the driver.