

Kofax Communication Server

TCxx Modules Overview

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The KOFAX logo is displayed in a bold, blue, sans-serif font. The letters are thick and closely spaced, with a clean, modern aesthetic.

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Chapter 1

TCxx Modules Overview

This chapter lists all modules which have a Kofax Communication Server “TCxx” number assigned. Modules may be either bought from 3rd party manufactures or developed by Kofax engineering.

TC00	Model 155, 165 Cabinet
TC01	Model 155, 165 Main Board (Pentium)
TC02	Model 131 RAID Cabinet
TC03	Model 2xx Cabinet, base unit
TC04	Dual Pentium II Main Board
TC05	14 Slot ISA Passive Back Plane
TC06	AT Power Supply for TC00
TC07	ATX Power Supply
TC08	GSM Link Box Cabinet
TC09	Line Server ONE Power Supply
TC0B	ATX Cabinet
TC0C	Passive Backplane Cabinet
TC0D	Cabinet for TS0D Mainboard
TC0E	Backplane for Line Server ONE
TC10	TC ATX Mainboard
TC11	Line Server ONE cabinet
TC15	BranchBox Board
TC16	Line Server ONE Main Board
TC17	Model 304 Mainboard
TC18	Line Server Model 305 v2 Main Board
TC20	Processor Board
TC22	DSP Module
TC23	Dual ISDN Basic Rate Module
TC24	Dual ISDN Primary Rate Module
TC25	Dual GSM Module
TC26	Quad Analog Interface Module
TC27	DID Module for TC26

TC31	Dual E&M Fax Modem
TC3P	DC/DC Converter for TC31
TC3K	Noise filter for TC3PUS
TC32	Dual Analogue Fax Modem
TC33	ISDN Basic Rate Module
TC34	ISDN Primary Rate Module
TC37	GSM Modem
TC40	3.5" Floppy Disk Drive
TC41	SCSI CDROM Drive
TC42	SCSI CD Writer
TC43	SCSI Hard Disk 9GB
TC44	LVD/SCSI Hard Disk 9GB
TC45	SCA/SCSI Hard Disk 18 GB
TC46	SCA/SCSI Hard Disk 36 GB
TC47	SCSI Hard Disk 2GB
TC48	LVD/SCSI HARD DISK DRIVE
TC49	LVD/SCSI HARD DISK DRIVE 36GB
TC4A	Removable Hard Disk Rack SCSI
TC4B	Removable Hard Disk Rack Wide/LVD SCSI
TC4C	Removable Hard Disk Rack Wide/LVD SCSI LCD
TC4D	Removable Hard Disk Rack SCA / LVD SCSI
TC4E	Removable Hard Disk Rack SCA / LVD SCSI
TC50	PCI Ethernet Card
TC51	PCI Fast Ethernet Card (100 MBit/s)
TC52	PCI Dual Fast Ethernet Card (2x 100 MBit/s)
TC55	GSM Link LAN Adapter
TC60	PCI Token Ring Card
TC63	PCI Dual SCSI Controller Card
TC64	Mod 29x HW RAID Controller
TC65	Mod 2xx HW RAID Controller for Disk Mirroring
TC70	PCI VGA Card
TC71	AGP VGA Adapter
TC90	System Attendant for Model 155 / 165
TC91	System Attendant for Model 125 / 145
TC92	Parallel Port Connector for TC90 / TC95

TC93	System Attendant for Link Servers
TC95	System Attendant for Model 2xx
TC96	System Attendant for Slave Models 2xx

Chapter 2

Hardware Revisions

This chapter lists the hardware revisions of modules which were shipped to Kofax customers. Hardware revisions which were used for development only are not included. For 3rd party modules, a description is given of the particular hardware configuration (e.g. chip set, capabilities) is applicable to that revision. For modules developed by Kofax engineering, only the date and the kind of change is given. Refer to the respective hardware manual for an extensive description of each hardware revision.

TC01.00	19.Jun.1996	IWILL P54TS
.10	03.Dec.1996	IWILL P55TV
.1A	18.Sep.1997	IWILL P55TV with Intel CPU cooler
.20	24.Nov.1997	IWILL P55XUB
.2A	18.Sep.1999	IWILL P55XUWB
TC03.00	27.Aug.1997	VERO System cabinet
.10	14.Oct.1997	additional mounting position for TC81 on TC0D
.1A	29.Jan.1998	add mounting facilities for max. 2 (5 for Mod.205) TC3P
.1B	12.May.1998	Modify drive chassis and ON/OFF-switch wiring for TC04.10
.20	09.Feb.1999	2 hot swappable HDD mounting trays
TC0B.00	23.Jun.1999	VERO System Cabinet ATX
.0A	14.Feb.2000	Transport protection brackets added
TC0C.00	24.Jun.1999	VERO System Passive Backplane Cabinet
TC0D.00	24.Jun.1999	VERO System Cabinet for TS0D Mainboard
TC0E.00	25.May.2001	First shipped version
.0A	04.Apr.2002	HW Modification
.0B	16.May.2002	HW Modification
.10	27.Oct.2003	New PCB
.1A	15.Sep.2006	HW Modification; TC18 support
.30	08.Nov.2006	New PCB
TC04.00	02.Aug.1997	IWILL DP6NS
.0A	01.Oct.1997	(modified solder jumper for power switch)
.10	12.May.1998	IWILL DPIILS2

TC05.00	03.Aug.1997	ICP Model BP-14S
TC06.00	26.Jun.1996	LIKOM / Model PSA-2054C
.10	03.Feb.1997	VASTEC / Model NT-250W
.1A	29.Jan.1998	add 6th 5 1/4"power connector
.20	13.May.1998	SPI / Model SPI-250G
.30	06.Jul.2001	Fortron/Source FSP250-60PFN(12V)
TC07.00	01.Oct.1997	VASTEC / Model NT-200ATX
.10	01.Oct.1997	VASTEC / Model NT-220ATX
.1A	29.Jan.1998	add 6th 5 1/4"power connector
.20	13.Jul.1998	SPI / Model FSP235-60GT
.30	06.Jul.2001	Fortron/Source FSP250-60PFN(12V)+ Adapter
TC08.00	25.Aug.1998	Roline 16.01.5012
.0B	21.May.2001	adapted for TC55 0A
.1A	11.Sep.2001	New cabinet: BBSK 83204286
TC09.00	08.Oct.2001	N2Power / XL125-1 or Power-One / MPB125-4350
TC10.0A	31.Jan.1999	TC ATX mainboard
.10	18.Apr.1999	Layout changed
.1A	07.Dec.1999	support P III/600MHz
.2A	23.Apr.2001	BIOS and Windows 2000
.2B	25.Mar.2002	New TOPCALL logo in BIOS
.2C	20.Feb.2003	support for TC41.40 and TC42.50
TC16.1A	22.Jan.2002	First shipped version
.1B	14.Mar.2002	HW Modification
.1C	16.May.2002	HW Modification, TC0E.0B, TC24.0C
.1D	02.Aug.2002	HW Modification
.1E	05.Mar.2003	HW Modification
.1F	04.Nov.2004	HW Modification
.2A	12.Aug.2002	New PCB, HW Modifications
.2B	05.Mar.2003	HW Modification
.2C	04.Nov.2004	HW Modification
.2D	14.Mar.2005	HW Modification
.3A	13.Feb.2003	New PCB, HW Modification

.3B	09.Mar.2004	HW Modification
.3C	04.Nov.2004	HW Modification
.3D	14.Mar.2005	HW Modification
.40	15.Mar.2004	New PCB
.4B	19.Nov.2004	HW Modification
.4C	14.Mar.2005	HW Modification
.5A	18.Sep.2006	New PCB, HW Modification
TC17.20	12.Feb.2004	First shipped version, EPLD V1.0
TC18.1D	13.Sep.2006	First shipped version, EPROM V3.02.02
.20	06.Oct.2006	New PCB
.2A	18.Dec.2006	HW Modification
TC22.10	25.May.2001	First shipped version
.1A	10.Jan.2002	HW Modification
TC23.0A	29.Jan.2002	First shipped version
.20	03.Apr.2003	new ISAC and EPLD Version
.30	22.Jan.2004	new PCB and EPLD Version
.3A	27.Aug.2004	Modifications and new EPLD Version
.40	03.Jan.2007	New PCB, ISDN transformer and EPLD-chip
TC24.0A	29.Jan.2002	First shipped version
.0B	03.Apr.2002	HW-modification, new EPLD V1.2
.0C	16.May.2002	HW-modification
.10	12.Aug.2003	new PCB
.20	17.Jan.2007	new PCB, new FALC, transformer and EPLD-chip, EPLD V2.0
TC25.10	25.Oct.2004	First shipped version
TC26.20	28.Feb.2006	First shipped version
TC27.10	3.Aug.2006	First shipped version
TC37.00	25.Aug.1998	FALCOM A1
.10	22.Oct.2001	FALCOM A2 GSM Modem
TC40.00	19.Jun.1996	TEAC FD-235HF 6291
TC41.00	19.Jun.1996	Toshiba XM-5401B
.10	13.Feb.1997	Toshiba XM-5701B

.20	19.Mar.1998	TEAC CD-532S
.30	8.Jul.1998	Toshiba XM-6201B
.40	07.Jan.2003	PLEXTOR PX-40TSI
TC42.00	3.Feb.1997	TEAC CD-R50S
.10	5.May 1999	TEAC CD-R55S
.20	28.Jun.1999	TEAC CD-R56S
.30	28.Dec.1999	TEAC CD-R58S
.40	09.Oct.2001	YAMAHA CRW8824SZ
.50	09.Jan.2002	Plextor PX-W1210TS
.60	26.Jan.2004	Plextor PX-W4012TS
TC43.00	3.Feb.1997	SEAGATE ST19171N
.10	2.Jun.1998	SEAGATE ST39173N
TC44.00	26.JUL.1999	IBM DRVS-9LZX (09V)
.10	04.Nov.1999	IBM DMVS-09V
.20	04.Nov.1999	IBM DNES-309170
.30	12.Apr.2000	Seagate ST39103LW
.40	10.May.2000	Seagate ST39204LW
.50	26.Jun.2001	Seagate ST39205LW
TC45.00	23.Apr.2001	IBM DDYS-T18350
.10	28.Oct.2002	IBM IC35L018UCD210-0
TC46.00	23.Apr.2001	IBM DDYS-T36950
.10	03.Apr.2002	Seagate ST336706LC
.20	10.Jun.2002	IBM IC35L036UCD210-0
.30	30.Jan.2003	IBM IC35L036UCDY10-0
TC47.00	12.Aug.1997	SEAGATE ST32272N
TC48.00	17.Jun.1999	IBM DDRS-34560
TC49.00	28.Dec.1999	Seagate ST136403LW
.10	12.Apr.2000	Seagate ST336704LW
.20	14.May 2001	Seagate ST336705LW
.30	16.May.2002	Seagate ST336706LW
TC4A.00	19.Jul.1999	SYSTECH SI-125 SD

TC4B.00	19.Jul.1999	SYSTECH SI-125 WS
TC4C.00	04.Nov.1999	SYSTECH SI-145
.10	21.Aug.2002	SYSTECH SI-145U3
TC4D.00	23.Apr.2001	SYSTECH SI-152SCA
TC4E.00	23.Apr.2001	NOVOTEC LVDS (U160)
TC50.00	19.Jun.1996	3Com 3C590-COMBO
.10	5.Nov.1996	3Com 3C900-COMBO
.20	18.Aug.1998	3Com 3C900B-COMBO
TC51.00	10.Dec.1997	3Com 3C905-TX
.10	28.Jul.1998	3Com 3C905B-TX
.20	28.Oct.1999	3Com 3C905B-Combo
.30	09.Oct.2000	3Com 3C905-C-TX-M
TC52.00	11.Oct.1999	Intel EtherExpress Pro/100B T4
.10	23.Jan.2002	INTEL PRO/100 S DUAL Port Server Adapter
TC55.00	25.Aug.1998	W&T COM-Server #58401 OEM
.0A	21.May.2001	new orientation of SubD Connector
TC60.00	19.Jun.1996	Madge Smart 16/4 PCI Ringnode
.10	17.Feb.1997	3COM TokenLink Velocity PCI adapter 3C339
.20	29.Dec.1997	Madge Smart 16/4 PCI Ringnode BM 2
TC63.0A	3.Feb.1997	BusLogic FlashPoint DL BT-932 (modified driver disk)
TC64.00	12.Feb.1999	Mylex DAC960PG
TC65.00	27.Jan.1999	Mylex AccelleRaid 250 / DAC960PTL1
.10	10.Apr.2000	Mylex AccelleRaid 250 / DAC960PTL1 / REV. 0407
.20	23.Apr.2001	Mylex AccelleRaid 170 / REV. 0600
.2A	25.Feb.2002	as rev. 20, new drivers for Windows NT / 2000
TC70.00	19.Jun.1996	TGUI9440 AGi PCI
.10	20.Aug.1996	PCI MACH64
.20	2.Dec.1996	PCI MACH64 (PN 109-34000)
.30	16.Dec.1997	ATI PCI 3D-Charger (PN 109-38800)
TC71.00	10.Nov.1998	ATI AGP 3D-Charger RAGE IIC

.10	11.Oct.1999	ATI 3D RAGE PRO TURBO AGP
.20	09.Oct.2000	ATI 3D RAGE PRO TURBO AGP (8 MB RAM)
.30	24.Mar.2001	ATI 3D RAGE XL AGP 2X
.40	13.Jun.2001	ATI 3D RAGE XL AGP 2X, new PCB

Chapter 3

Firmware Revisions

This chapter lists the versions of firmware which was shipped to Kofax customers for or with TCxx modules. Firmware is considered the machine code / configuration which controls the hardware immediately after power-up, and which is contained in an EPROM or Flash chip.

TC10		31 Jan 1999	First outgoing Version
		21 Feb 2002	TOPCALLA.bin: solves error 7760
		25 Mar 2002	TC10_2B.bin: new logo in Bios
TC15	V1.02.00	10 Dec 2000	First outgoing Version
	V1.04.12	12 Feb 2001	Eliminates error in TCP/IP-stack of IC1
	V1.04.18	11 Dec 2001	Adds 10s send timeout to link send routine with subsequent link (=EPLD) reset
	V1.04.19	21 Oct 2002	support for TS15
	V1.04.20	13 Feb 2004	support for TC17
	V1.05.00	07 Feb 2005	support for new Bios with solved TCP/IP problems
			- Format: format100.hex
			- Bios: SC12V0110_medium.hex
			- Firmware: TC15.EXE 1.05.00
	V1.0	10 Dec 2000	First outgoing Version
	V1.2	22 Dec 2000	new PCB layout
	V1.3	21 Feb 2001	solves error #7562
	V1.4	10 Dec 2001	eliminates link transmission errors
	V2.1	11 Dec 2002	support for TS15
	V2.2		solves error #9365
TC16	(BIOS)		
	V1.09.00	8 Feb 2002	Flash driver for TC16.1 Incompatible with old TC16
	V2.00.00	19 Feb 2002	new version number only
	V2.01.00	10 Apr 2002	does not print password in trace
	V2.02.00	19 Apr 2002	prints friendly message if flash image is corrupt and does not reset
	V2.03.00	26 Apr 2002	Support Intel TE28F320C3T Flashes

	V2.04.00	29 Apr 2002	Enable fan control from Winbond chip
	V2.05.00	13 May 2002	Unprotect (Intel-) flashes after JTAG programming; Re-enables LSD compatibility
	V2.06.00	05 Jun 2002	Support ST M29W3200D Flashes
	V2.07.00	06 Jun 2004	solves error #9632 (LS1 does not boot if open serial cable is connected)
	(EPLD)		
	V2.0	30 Nov 2001	new pinout for TC16.1
	V2.1	03 Dec 2001	8 DSPs
	V2.2	20 Feb 2002	DSP interrupt ports compatible to old version
	V2.3	14 Mar 2002	I/O slots can be reset by PPC, P12 is input
	V2.4	16 May 2002	changed IOA address latch, DSP I/O write timing gate PRDY with nHCS
	V2.5	08 Nov 2005	Support JTAG programming in I/O slots
	V3.0	30 Nov 2001	I/O bus on PPC
	V3.1	03 Dec 2001	8 DSP
	V3.2	19 Feb 2002	DSP interrupt ports compatible to old version
	V3.3	26 Feb 2002	PPC peripheral address line PA12
	V3.4	11 Aug 2004	move bits from reset port 0xF0100FDC to PPC Ctrl
TC17	V0.7	06 Dec 2003	first working version
	V0.8	09 Dec 2003	remove LDCBusy signal
	V0.9	11 Dec 2003	signals renamed to T450...
	V1.0	27 Apr 2004	source file clean up
TC18	V3.02.02	02 Oct 2006	First shipped version
TC20	V1.1	24 Jun 1999	first delivered version
	V1.2	19 Dec 2001	new TC16.2D version
TC23	V1.0	27 Feb 2002	first delivered version
	V1.1	26 Mar 2002	resetbit and revisionscode readable
	V1.2	09 Apr 2002	ncntRst with Clk8 synchron
	V1.3	30 Apr 2002	Leds are off by reset
	V1.4	30 Jun 2004	correct error #10868
	V2.0	26 Mar 2003	new layout TC23.2
	V2.1	03 Apr 2003	solves error with ISACLx
	V2.2	23 Jun 2003	solves readback error

	V2.3	18 May 2004	solves error #10901
	V2.4	23 Aug 2004	new design, solves error #10868
	V3.0	17 Jan 2007	new CPLD-chip EPM240
TC24	V1.0	27 Feb 2002	first delivered version
	V1.1	28 Mar 2002	resetbit for TCOSS and revision
	V1.2	29 Apr 2002	solves H100 reference from FALC
	V1.3	05.Dez.2005	solves address conflict with TC26
	V2.0	05.Jan.2007	new CPLD-chip EPM240
TC26	V1.4	19.Dec.2005	first delivered version
	V1.5	10.Oct.2006	solves Error #12998
TC31	V1.0	30 May 1997	first delivered version
	V1.1	01 Jun 1997	oscillator enable CLKEN at pin7
	V1.2	19 Aug 1997	change Port D7 read back
TC32	V1.0	07 Jan 1997	first delivered version
	V1.1	24 Mar 1997	fitted to EPM7032
	V1.2	30 Apr 1997	inport bit 2,4,7 default is 0
	V1.3	21 Jul 1997	output bit 7 = nCLKen, fit EPM7064S
TC33	V2.2	06 Aug 1997	first delivered version
	V3.0	16 Feb 1998	TC34 support
	V4.0	07 Jun 1999	new TC33 print
	V4.1	21 Jul 1999	new TC33 print
TC65	6.00-06	19 Feb 2001	first delivered version
TC90	V1.1	27 Mar 1996	first delivered version
TC95	V1.0	29 Jul 1997	changed to TC95 for licensing

Chapter 4

Solved Errors

This chapter lists the hardware related errors with TCxx Modules, which were solved by a new or different hardware revision and / or firmware revision. The numbers indicated are error numbers from the Lotus Notes Error Database.

Product	Error	Description	Solved since
TC15, TC17	11556	No LAN activity and no function of TC15 after some time of proper operation – IC1 chip needs to be formatted and program flashed via RS232	HW-Docu TC15.1E 2nd Edition
TC15	8017	Wrong IP-address of TCOSS server is shown if access to TC15 is denied	HW-Docu TC15.1E 2nd Edition
TC15	8988	Wrong description on how to connect a TC95 to a TC15	HW-Docu TC15.1C
TC16	9309	DSP reboots	TC16.1E, TC16.2B, TC16.3A and TC16.4
TC16	9632	LS1 does not boot if open serial cable is connected	TC16 EPROM V2.07
TC16	11618	Possible problems with LS1 communication when capacitor C26 is equipped with 47pF	TC16.2D, TC16.3D, TC16.4C
TC16	11561	Model305 – Hot plug in does not work	TC16.ELF 1.04.03
TC16	11670	LED on second LAN on although not connected	TC16.2D, TC16.3B, TC18.1D
TC16	12065	Wrong LAN Speed indication shown on LAN2 LED's	TC18.1D
TC16, TC24, TC0E	8862	Reflexions on H.100 Bus lead to noise on TC23 BRI interfaces	TC16.1C, TC0E.0B, TC24.0C
TC16	9082	LS1 boot problems after Power on	TC16.1D
TC16	unknown	Solve problem that TC22 seems to crash at higher temperature / improve clock signal to TC22	TC16.1E, TC16.2B, TC16.3A
TC16	Not yet in error DB	Dual GSM Module (TC25) cannot be operated with old LS1 due to non-functioning IRQ lines. LSD: "Slot interrupt pull-up test FAILED"	TC16.1F, TC16.2C, TC16.3C, TC16.4B, TC16.5A
TC16	11630	In some situations LS1 does not boot if PRI line is connected to TC24 (no beep - LCD stays black)	TC16.5A, TC0E.1A, TC0E.30
TC16.4	10744	No network connection if both LAN1 and LAN2 of the LS1 operates with 100Mbit	TC16.40 (replace R15 with 0R)

Product	Error	Description	Solved since
TC20	6451	Missing information about LINK IN and LINK OUT connectors on TC20	HW-Docu TC20.10
TC23	10868	A lot of (XT) error during transmission, when a TC23 interface is connected to a PtMP ISDN BRI line from the Italian PTT	replace EPLD V1.4 for TC23.0x, TC23.1x and V2.4 for TC23.2x, TC23.3x
TC23	11711	Reference Clock on Line Server LS1" TExxxx error messages and "slip error counter" occur	TC23.3A
TC23	10901	Various XT errors when using LS1 BRI with TC23.3	TC23 EPLD V2.3 (Correct ISAC 3086 Timing in EPLD)
TC24	12388	Address conflict with TC26	TC24 EPLD V1.3
TC24	9090	Fax transmission/reception quality may bad when using PRI lines	TC24 EPLD V1.2
TC26	12998	Analog channels may stop working if both TC26 (analog) and TC24 (PRI) are used in the same LS1.	TC26 EPLD V1.5 Reduce noise sensitivity of Write Strobe signal
TC3P/TC31/Bell DID	5919	Bell DID generates high amount of XY break errors during reception	TC3K and TC3P.US
TC55	10834	IP Portscan causes TC55 to lose its network IP settings	TC25, TA37
TC65	9890	Missing information: from where to get the driver ASR-2010S	HW-Docu TC65.10
TC0B	6437	Hard Drive case mounts in Model 2xx case are insufficient to support the weight of drives during shipping	TC0B.0A