

FTXS OPOS 1.3

(Release 1.3.7)

Configuration and Setup

FOR

Fujitsu TeamPOS & POS Peripherals

08/18/2005

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1.0 FTXS - OPOS Overview

1.1 FTXS - OPOS 1.3.7 Release Overview

The purpose of this document is to provide information needed to install and operate the POS peripheral device framework for client applications based on OPOS 1.3 (OLE for Retail POS). The OPOS specification fully describes eighteen device interfaces and provides complete specifications for client applications to be developed immediately. Client applications call the OPOS device “Control Object” (CO) which in turn calls the OPOS device “Service Object” (SO).

Starting with release 1.3.6, the capability for the support of the Common Control Objects (CCOs) was introduced. These are available from <http://monroecs.com/>. If use of the CCOs is desired, then these should be downloaded and installed as a separate installation step from the FTXS OPOS installation, and support for the CCOs selected during the FTXS OPOS install.

Hardware:

TeamPOS2000 POS terminals support up to 10 standard RS 232 serial ports using the TeamCOM board. The TeamCOM board provides eight powered RS232 compatible ports, in addition to two standard comm. ports available on the PC motherboard. The TeamCOM board supplies power to POS peripheral devices usually through pin 9 of the DB9 connector. The following serial ports are provided:

- COM 1-2 - Integrated on system board
- COM 3-10 - TeamCOM Board

A later revision of the TeamCOM board, named the TeamCOMBO board, provides support for four powered RS232 ports and four powered Retail USB ports. See section 4.4 for details on port assignments. The following serial ports are provided:

- COM 1-2 - Integrated on system board
- COM 3-6 & 10 - TeamCOM Board

The TeamUSB version of the I/O board provides 7 powered Retail USB 2.0 ports (Board). Three ports are 12-volt powered USB and four ports are 24-volt powered USB.

All communications between the External Control Interface and the PoS terminal hardware and software are through standard PoS terminal compatible virtual COM ports (VCP) or USB devices. This hardware is recognized and supported by standard drivers supplied with the various Windows operating systems. The ability to use standard drivers supplied with the operating systems greatly simplifies development needed to support TeamPoS 2000 specific functionality and allows easy migration to new versions of operating system software.

Testing and Diagnostics:

Test programs are provided for each device listed in Section 1.2. These programs allow you to validate your configuration. The FTXS OPOS Install Utility installs these test programs.

Install/Registry Functions:

Registry update procedures are done automatically by the FTXS OPOS install utility.

Operating Systems:

FTXS OPOS peripheral device driver SOs (DLLs or EXEs) are functional under Windows 2000 and Windows XP. The FTXS OPOS drivers use standard RS232 drivers provided by these operating systems and no special installable system level drivers are required.

1.2 FTXS - OPOS 1.3 Supported Devices

- Fujitsu Dot Printers

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- Fujitsu VFD (serial and USB)
- Fujitsu SlimScan 1200 Scanner
- Fujitsu POS/PC Keyboard (133PQ & 104) with built-in Keylock, MSR, and ToneIndicator
- Fujitsu Cash Drawer(s) (via TeamCOM, TeamCOMBO, and TeamUSB boards)
- Fujitsu Power Management (via TeamCOM, TeamCOMBO, and TeamUSB boards)
- 92R/92M/92U Keyboard with built-in LineDisplay, Keylock, MSR, and ToneIndicator
- Fujitsu 9900/9950 Symphony Scanner/Scale

OPOS Controls for the devices listed in the table below are currently available and are operational under Windows 2000 and Windows XP.

Device	Model	FJ Model #	FTXS Model #	Control Object	Service Object	Description
CashDrawer	FJ Cash Drawer	F7514DR11	TP10	Cashdrawer.ocx	Fjmcpsd.dll	Access via the TeamCOM at COM10, (1 or 2 drawers)
Keyboard	POS-PC	N/A	133PQ/104	POSKeyboard.ocx Keylock.ocx Msr.ocx ToneIndicator.ocx	fjkbdsd.dll fjklksd.dll fjmsrso.dll (fjkbdsd.dll) fjtoneso.dll	FJ POS/PC Updated 133PQ keyboard Firmware is required for WinNT 4 & SP3 is required
Keyboard	92R/M/U	N/A	92R/M/U	POSKeyboard.ocx LineDisplay.ocx Keylock.ocx ToneIndicator.ocx Msr.ocx	FjRkbdSO.dll FjRkbdPO.exe	92R/M/U Keyboard
Printer	FJ Dot Impact	F7514PR40	FD20	POSPrinter.ocx	fjprtso.dll	2 ½ Station, R/J/S, 40 Col. Jour, 40 Slip
Printer	FJ Dot Impact	F7514PR70	FD21	POSPrinter.ocx	fjprtso.dll	2 ½ Station, R/J/S, 40 Col. Jour, 70 Slip
Scanner/Scale	FJ 9900/9950 Symphony	F7521E_S	9900/9950	Scale.ocx Scanner.ocx	fjsymphso.dll Fjsymphpo.exe	Integrated Scanner/Scale
Scanner	SlimScan1200	F7521C	PB600064	Scanner.ocx	fjscanso.dll	SlimScan Hand Held scanner
Power (FJ)	F/W Version 8003		TeamCOM	Power.ocx	Fjmcpsd.dll	Multi Comm. Port board
VFD	FJ VFD Display	F7518CD	VF40	LineDisplay.ocx	fjvfdso.dll	Fujitsu 2-Line Display

1.3 Default Scanner and Scale Programming

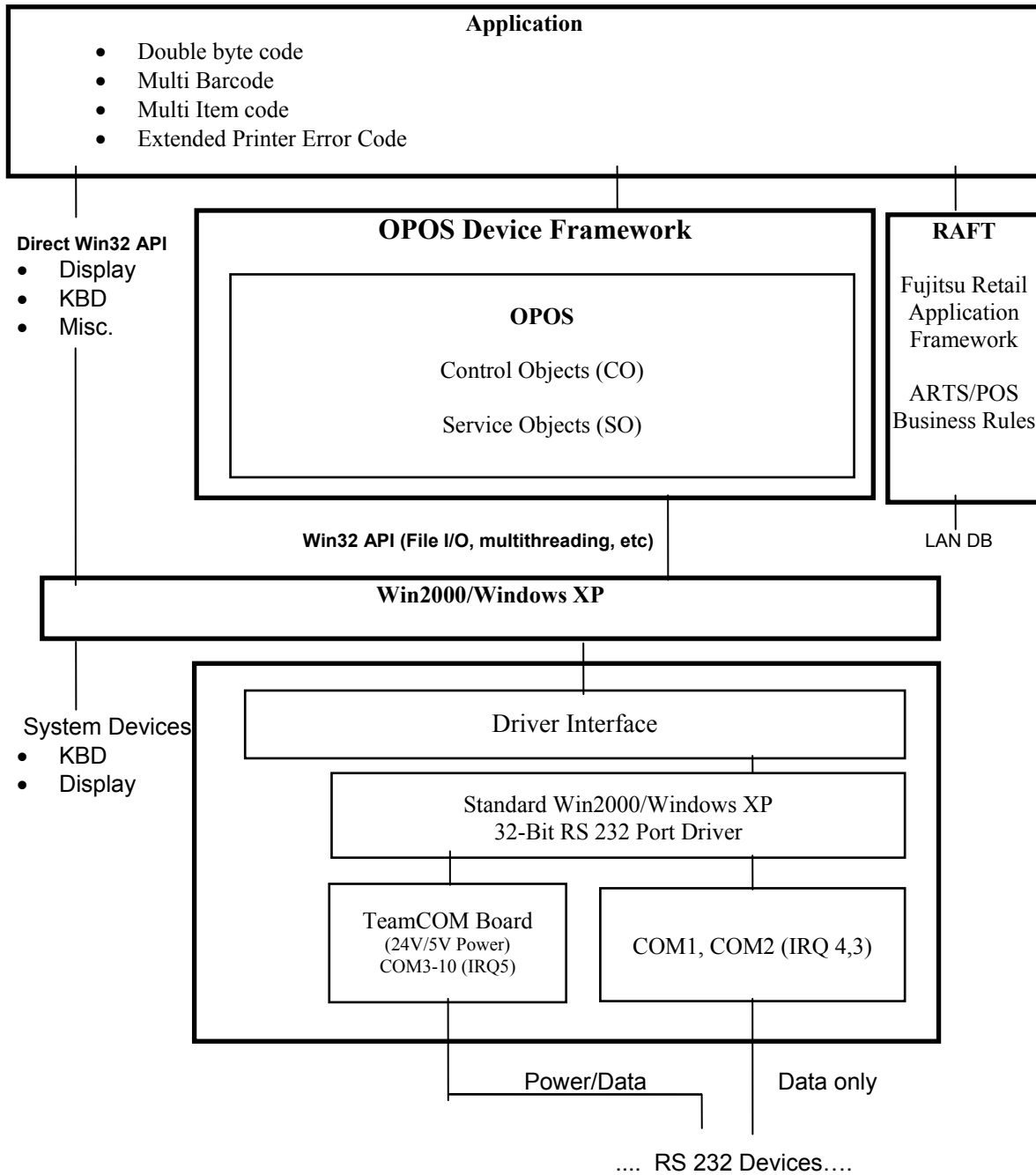
The OPOS installer program stores a file called **SCANNER-INIT.DOC** in the install directory. This document contains the default barcodes necessary to initialize Fujitsu's SlimScan1200, and the 9900 scale for use with FTXS OPOS drivers. Additional barcodes may need to be scanned if a 9900 scanner/scale is attached with a single cable. This information is also included at the end of this document for convenience.

Scanner Notes

The FTXS OPOS 1.3 Scanner SO defaults are defined in the table below. To change the COM port, port initialization string, and/or the terminator (end sentinel), the registry **MUST be changed**. Alternately, the scanners can be reprogrammed to match the registry values. Fujitsu scanners may not necessarily be initialized to these values and may require being initially programmed using programming barcodes.

Scanner Type	COM Port	Port Initialization String	End Sentinel	Flow Control	Enable /Disable	Control Object (OCX)	Service Object (DLL)
SlimScan 1200	COM4	9600,E,7,1	0x0D	CTS/RTS	No	Scanner.ocx	Fjscanso.dll
Symphony 9900	COM1	9600,E,7,2	0x0D	CTS/RTS	Yes	Scale.ocx Scanner.ocx	FjsymphSO.dll FjsymphPO.exe

2.0 OPOS Architecture



3.0 Hardware/Software Interface

3.1 Driver Registration

The OPOS drivers are registered automatically by the FTXS install utility. Use Regedit.exe to browse and make registry changes. The FTXS OPOS device registry information is located at:

HKEY_LOCAL_MACHINE\SOFTWARE\OleforRetail\ServiceOPOS.

3.2 TeamCOM COM Port IRQ and IO Addresses

The FTXS install utility automatically adds the COM port information to the system registry. The COM ports are configured as follows:

If the base address jumper is 230h (default for TeamPoS5000, option for TeamPoS2000):

- COM3: Printer Port IRQ 5, Port Addr = 230h – 237h
- COM4: Port 1 IRQ 5, Port Addr = 238h – 23Fh
- COM5: Port 2 IRQ 5, Port Addr = 240h – 247h
- COM6: Port 3 IRQ 5, Port Addr = 248h – 24Fh
- COM7: Port 4 IRQ 5, Port Addr = 250h – 257h
- COM8: Port 5 IRQ 5, Port Addr = 258h – 25Fh
- COM9: Port 6 IRQ 5, Port Addr = 260h – 267h
- COM10: Cash Drawer IRQ 5, Port Addr = 268h – 26Fh

If the base address jumper is 100h (default for TeamPoS2000, option for TeamPoS5000):

- COM3: Printer Port IRQ 5, Port Addr = 100h – 107h
- COM4: Port 1 IRQ 5, Port Addr = 108h – 10Fh
- COM5: Port 2 IRQ 5, Port Addr = 110h – 117h
- COM6: Port 3 IRQ 5, Port Addr = 118h – 11Fh
- COM7: Port 4 IRQ 5, Port Addr = 120h – 127h
- COM8: Port 5 IRQ 5, Port Addr = 128h – 12Fh
- COM9: Port 6 IRQ 5, Port Addr = 130h – 137h
- COM10: Cash Drawer IRQ 5, Port Addr = 138h – 13Fh

3.3 TeamCOMBO COM Port IRQ and IO Addresses

The FTXS install utility automatically adds the COM port information to the system registry. The COM ports are configured as follows:

If the base address jumper is 230h (option for TeamPoS2000):

- COM3: Port 1 IRQ 5, Port Addr = 230h – 237h
- COM4: Port 2 IRQ 5, Port Addr = 238h – 23Fh
- COM5: Port 3 IRQ 5, Port Addr = 240h – 247h
- COM6: Port 4 IRQ 5, Port Addr = 248h – 24Fh
- COM10: Cash Drawer IRQ 5, Port Addr = 268h – 26Fh

If the base address jumper is 100h (default for TeamPoS2000):

- COM3: Port 1 IRQ 5, Port Addr = 100h – 107h
- COM4: Port 2 IRQ 5, Port Addr = 108h – 10Fh
- COM5: Port 3 IRQ 5, Port Addr = 110h – 117h
- COM6: Port 4 IRQ 5, Port Addr = 118h – 11Fh
- COM10: Cash Drawer IRQ 5, Port Addr = 138h – 13Fh

3.4 *TeamUSB Virtual COM Port Assignments*

VCOM drivers are installed that map certain USB devices to virtual COM ports, allowing the existing OPOS service objects to run. The following are the default assignments:

- COM7: USB VFD 1 (VFD1 driver maps USB port to COM port)
- COM8: USB VFD 2 (VFD2 driver maps USB port to COM port)
- COM8: USB 92U Keyboard/Key Lock/MSR/Line Display/Tone Indicator
- COM10: Cash Drawer; Power Management

3.5 COM Port Registry Setup for Win2000/Windows XP

3.5.1 TeamCOM Retail I/O COM Port Settings (7 RS 232 Ports)

The COM port configurations are setup automatically in the Win2000/Windows XP registry in **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial\Parameters\ Serial10000 - Serial10007** by the install utility. The COM port registry settings are as follows if the base address jumper is set to 230h:

```
"PortAddress"=dword:00000230
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM3"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000001
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000250
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM7"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000005
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000238
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM4"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000002
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000258
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM8"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000006
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000240
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM5"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000003
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000260
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM9"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000007
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000248
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM6"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000004
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000268
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM10"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000270
"PortIndex"=dword:00000008
"Indexed"=dword:00000001
```


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The Win2000/Windows XP COM port registry settings are as follows if the base address jumper is set to 100h:

```
"PortAddress"=dword:00000100
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM3"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000001
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000108
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM4"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000002
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000110
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM5"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000003
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000118
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM6"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000004
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000120
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM7"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000005
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000128
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM8"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000006
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000130
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM9"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000007
"Indexed"=dword:00000001
```

```
"PortAddress"=dword:00000138
"ForceFifoEnable"=dword:00000001
"DosDevices"="COM10"
"Interrupt"=dword:00000005
"InterruptStatus"=dword:00000140
"PortIndex"=dword:00000008
"Indexed"=dword:00000001
```

3.5.2 TeamCOMBO COM Port Settings (4 RS 232 Ports)

The COM port configurations are setup automatically in the Win2000/Windows XP registry in **HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Services\Serial\Parameters\Serial10000 - Serial10004** by the install utility. The COM port registry settings are as follows if the base address jumper is set to 230h:

"PortAddress"=dword:00000230	
"ForceFifoEnable"=dword:00000001	
"DosDevices"="COM3"	
"Interrupt"=dword:00000005	
"InterruptStatus"=dword:00000270	
"PortIndex"=dword:00000001	
"Indexed"=dword:00000001	
	"PortAddress"=dword:00000248
	"ForceFifoEnable"=dword:00000001
	"DosDevices"="COM6"
	"Interrupt"=dword:00000005
	"InterruptStatus"=dword:00000270
	"PortIndex"=dword:00000004
	"Indexed"=dword:00000001
"PortAddress"=dword:00000238	
"ForceFifoEnable"=dword:00000001	
"DosDevices"="COM4"	
"Interrupt"=dword:00000005	
"InterruptStatus"=dword:00000270	
"PortIndex"=dword:00000002	
"Indexed"=dword:00000001	
	"PortAddress"=dword:00000268
	"ForceFifoEnable"=dword:00000001
	"DosDevices"="COM10"
	"Interrupt"=dword:00000005
	"InterruptStatus"=dword:00000270
	"PortIndex"=dword:00000008
	"Indexed"=dword:00000001
"PortAddress"=dword:00000240	
"ForceFifoEnable"=dword:00000001	
"DosDevices"="COM5"	
"Interrupt"=dword:00000005	
"InterruptStatus"=dword:00000270	
"PortIndex"=dword:00000003	
"Indexed"=dword:00000001	

The Win2000/Windows XP COM port registry settings are as follows if the base address jumper is set to 100h:

"PortAddress"=dword:00000100	
"ForceFifoEnable"=dword:00000001	
"DosDevices"="COM3"	
"Interrupt"=dword:00000005	
"InterruptStatus"=dword:00000140	
"PortIndex"=dword:00000001	
"Indexed"=dword:00000001	
	"PortAddress"=dword:00000118
	"ForceFifoEnable"=dword:00000001
	"DosDevices"="COM6"
	"Interrupt"=dword:00000005
	"InterruptStatus"=dword:00000140
	"PortIndex"=dword:00000004
	"Indexed"=dword:00000001
"PortAddress"=dword:00000108	
"ForceFifoEnable"=dword:00000001	
"DosDevices"="COM4"	
"Interrupt"=dword:00000005	
"InterruptStatus"=dword:00000140	
"PortIndex"=dword:00000002	
"Indexed"=dword:00000001	
	"PortAddress"=dword:00000138
	"ForceFifoEnable"=dword:00000001
	"DosDevices"="COM10"
	"Interrupt"=dword:00000005
	"InterruptStatus"=dword:00000140
	"PortIndex"=dword:00000008
	"Indexed"=dword:00000001
"PortAddress"=dword:00000110	
"ForceFifoEnable"=dword:00000001	
"DosDevices"="COM5"	
"Interrupt"=dword:00000005	
"InterruptStatus"=dword:00000140	
"PortIndex"=dword:00000003	
"Indexed"=dword:00000001	

3.6 POS Key Scan Codes

POS keys are those keys, which are not normally recognized by Windows. These keys are not recognized because they don't generate normal "make and break" sequences.


3.6.1 133PQ Keyboard Layout

SYS REQ	Pause	F1	F3	F5	F7	F9	Ins	Home	Page up	Gray -	↑	Gray +	POS1	POS2	POS3	POS4	POS5	POS6	POS7
ESC	Scroll Lock	F2	F4	F6	F8	F10	Del	End	Page down	←	↓	→	POS8	POS9	POS10	POS11	POS12	POS13	POS14

~	!	@	#	\$	%	^	&	*	(	)	-	+	BKSP	POS15	POS16	/	POS17	POS18	POS19	POS20
TAB	Q	W	E	R	T	Y	U	I	O	P	{	}	|	7	8	9	POS21	POS22	POS23	POS24
Caps Lock	A	S	D	F	G	H	J	K	L	:	"	ENTER	4	5	6	POS25	POS26	POS27	POS28	
Shift	Z	X	C	V	B	N	M	<	>	?	Shift	1	2	3	POS29	POS30	POS31	POS32		
Ctrl	Alt	SPACE BAR										Alt	Ctrl	POS33	0	POS34	POS35	POS36	POS37	POS38

3.6.2 104 Keyboard Layout

The default layout for the TeamPoS 2000 104 keyboard is as follows:

ESC	F1	F2	F3	F4	F5	F6	Ins	Home	Page up	- =	+ =	BKSP
TAB	F7	F8	F9	F10	F11	F12	Del	End	Page down	7	8	9
Caps Lock	~ `	| \	{ [	} ]	? /	: ;	" '	POS1	POS2	4	5	6
! 1	@ 2	# 3	\$ 4	% 5	^ 6	& 7	* 8	(9	) 0	1	2	3
Q	W	E	R	T	Y	U	I	O	P	POS3	0	.
A	S	D	F	G	H	J	K	L	ENTER ←		POS5	POS6
Z	X	C	V	B	N	M	< ,	> .	↑	POS7	POS8	POS9
Shift	Ctrl		Alt	SPACE		Alt	Ctrl	←	↓	→	POS ENTER	

Rows are labeled A through H and columns are numbered 1 through 13, starting at the bottom left corner

In this particular layout POS4 (C11) is used to widen the standard Enter key, POS 11 (A05) is used to widen the standard Space bar, and POS10 (A12) is used to widen the POS Enter key.

3.6.3 32-Key Keypad Layout

The default layout for the TeamPoS 2000 32-key keypad is as follows:

F1	F2	F3	F4
F5	F6	F7	F8
F9	F10	↑	↓
F11	F12	←	→
7	8	9	+
4	5	6	-
1	2	3	=
0	00	.	ENTER

Rows are labeled A through H and columns are numbered 1 through 4, starting at the bottom left corner

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The OPOS driver returns key values for the 1333PQ 38-POS keys as specified in the Windows registry. During the OPOS installation these values default to:

"POSKey01"=dword:000007d1	"POSKey20"=dword:000007e4
"POSKey02"=dword:000007d2	"POSKey21"=dword:000007e5
"POSKey03"=dword:000007d3	"POSKey22"=dword:000007e6
"POSKey04"=dword:000007d4	"POSKey23"=dword:000007e7
"POSKey05"=dword:000007d5	"POSKey24"=dword:000007e8
"POSKey06"=dword:000007d6	"POSKey25"=dword:000007e9
"POSKey07"=dword:000007d7	"POSKey26"=dword:000007ea
"POSKey08"=dword:000007d8	"POSKey27"=dword:000007eb
"POSKey09"=dword:000007d9	"POSKey28"=dword:000007ec
"POSKey10"=dword:000007da	"POSKey29"=dword:000007ed
"POSKey11"=dword:000007db	"POSKey30"=dword:000007ee
"POSKey12"=dword:000007dc	"POSKey31"=dword:000007ef
"POSKey13"=dword:000007dd	"POSKey32"=dword:000007f0
"POSKey14"=dword:000007de	"POSKey33"=dword:000007f1
"POSKey15"=dword:000007df	"POSKey34"=dword:000007f2
"POSKey16"=dword:000007e0	"POSKey35"=dword:000007f3
"POSKey17"=dword:000007e1	"POSKey36"=dword:000007f4
"POSKey18"=dword:000007e2	"POSKey37"=dword:000007f5
"POSKey19"=dword:000007e3	"POSKey38"=dword:000007f6

These hex values correspond to the decimal values in the range 2001 through 2038.

For the 104 keyboard, keys can be mapped as POS keys using the Keymap utility. The mapping values that correspond to POSKey01 through POSKey38 above are set in the mapping program by selecting the values in the ranges A-Z and F1-F12 and checking both the Attribute boxes "Returns Break code only" and "Prefix code add".

3.7 OPOS Test Utilities

The FTXS OPOS device test utilities are installed in the directory selected at installation. The following shows the supported Fujitsu peripherals, their corresponding test utility names, and the default SO name used by the test program OPEN button command if no data is entered:

Device Name	Common Control Program	Default SO "Name"
CashDrawer:	CCOcd.exe	fjmcpcd1 (also tests 2 nd CD → fjmcpcd2)
Keylock:	CCOkeyl.exe	Fjklkso
LineDisplay:	CCOjvfd.exe	Fjvfdso
MSR:	CCOmsr.exe	Fjmsrso
POSKeyboard:	CCOkbd.exe	Fjkbds
POSPrinter:	CCOprt.exe	Fujitsu7514pr40 (FD20), or Fujitsu7514pr70 (FD21)
Power Management:	Fjpower.exe	Fjpower (No CCO test)
Scale:	CCOscale.exe	Fujitsu7521E_S_Scale
Scanner:	CCOscan.exe	SlimScan1200, or Fujitsu7521E_S
ToneIndicator:	CCOtone.exe	fjposkbtone

If the Fujitsu Control Objects were selected then the following set of test utilities are installed.

Device Name	FJ Test Program	Default SO "Name"
CashDrawer:	Fjcd.exe	fjmcpcd1 (also tests 2 nd CD → fjmcpcd2)
Keylock:	Fjkeyl.exe	Fjklkso
LineDisplay:	Fjvfd.exe	fjvfdso
MSR:	Fjmsr.exe	fjmsrso
POSKeyboard:	Fjkbd.exe	fjkbds
POSPrinter:	Fjprt.exe	Fujitsu7514pr40 (FD20), or Fujitsu7514pr70 (FD21)
Power Management:	Fjpower.exe	fjpower
Scale:	Fjscale.exe	Fujitsu7521E_S_Scale
Scanner:	Fjscan.exe	SlimScan1200, or Fujitsu7521E_S
ToneIndicator:	Fjtone.exe	fjposkbtone

See [Section 6](#) for instructions regarding the running of these test programs.

3.8 *Microsoft Runtime Support Files*

A number of Microsoft Visual C++ and Visual Basic runtime libraries are needed for the execution of the OPOS environment. These files are listed below. They are copied to the following directories during installation:

Win2000 - WinNT\System32
Windows XP - Windows\System32

COMDLG32.ocx	MFC42u.dll	MSVCRT40.dll
COMCTL32.ocx	MSVBVM50.dll	OLEAUT32.dll
Asycfilt.dll	MSVCIRT.dll	OLEPRO32.dll
COMCAT.dll	MSVCP50.dll	STDOLE2.tlb
Ctl3D32.dll	MSVCRT.dll	
MFC42.dll	MSVCRT20.dll	

NOTE: The Microsoft runtime modules above are from Microsoft Visual Studio 6.0 Service Pack 5 or later.

4.0 TeamPOS Hardware Setup

There are three different configurations for the TeamPOS I/O Boards: **TeamCOM** (7 Rs232 Ports), **TeamCOMBO** (4 Rs232 and 4 USB Ports) and **TeamUSB** (7 USB Ports).

TeamCOM ports and standard PC COM ports do not use the same naming convention. The silk-screened numbers on the TeamCOM board refer to an ordinal that is not related to more familiar COM port names. COM1 and COM2 are always the standard PC motherboard ports. TeamCOM Port0 is silk screened as PTR and is COM3, Port1 is COM4, Port2 is COM5, and so on. DRW is attached to COM10. The following table shows the relationship between Windows COM ports and TeamCOM port naming conventions along with other details.

	Port 0	Port 1	Port 2	Port 3	Port 4	Port 5	Port 6	Port 7
Connector	D15 F/M	D9 MALE	D9 MALE	D9 F/M	D9 F/M	D9 MALE	D9 F/M	Internal
Power	+5V +12V +24V - 12V	5V	5V	5V - 24V	5V - 24V	5V	5V - 24V	
Typical Use	Printer	Scanner		Cust Disp	RS232 K/B		Oper. Disp	
WINDOWS								
COM Port #	COM 3	COM 4	COM 5	COM 6	COM 7	COM 8	COM 9	COM 10
Interrupt	5, 7, 9, 10, 11 and 12 Switch Selectable							
I/O Address	100/230	108/238	110/240	118/248	120/250	128/258	130/260	138/268

TeamCOM MCP Interrupts & I/O Addresses (Interrupt selectable by jumper)

4.1 OPOS 1.3 Installation Notes

- The current default port assignments for the TeamCOM Board are:
 - Scanner = COM4
 - Line Display = COM6
 - Printer = COM3
 - Scanner/Scale = COM1
 - 92R/M/U Keyboard = COM7
 - Cash Drawer = COM10 (internal)

- The current default port assignments for the TeamCOMBO Board are:
 - Scanner = COM3
 - Line Display = COM5
 - Printer = N/A
 - Scanner/Scale = COM1
 - 92R/M/U Keyboard = COM6
 - Cash Drawer = COM10 (internal)

- The port assignments may be changed using the Install utility or Regedit.exe.
- An Error 104 on "Open" usually indicates incorrect port assignment or device not connected (no CTS)
- Use the supplied test utilities for initial test/diagnostics. See Section 6 for instructions regarding the running of these test programs.

4.2 TeamCOM (7 RS232 Ports) Board Setup for TeamPOS 2000

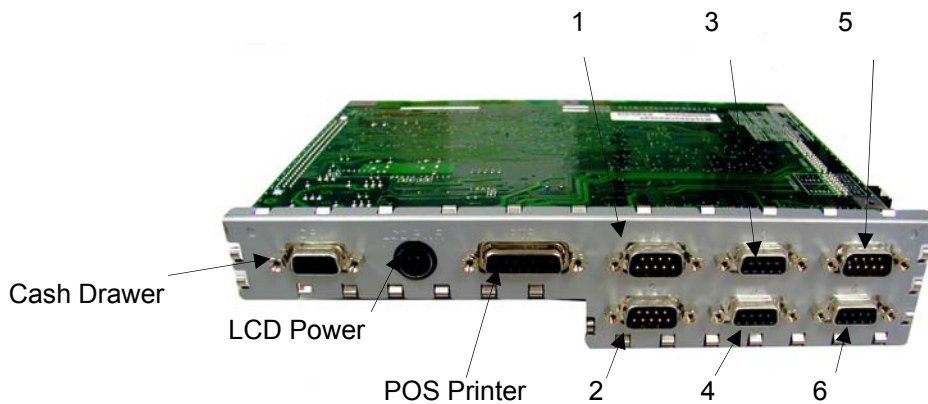
The TeamCOM version of the I/O Board provides seven (7) powered RS232 serial ports with optional jumper selected power distribution. The I/O Board also includes a microprocessor controlled External Control Interface to monitor and control external functions that are specific to the TeamPoS 2000.

The External Control Interface supports monitoring and control of the following units:

- PSU (Power Supply Unit)
- Dual Cash Drawers
- CMOS (Optional)
- Front Panel LEDs

All communications between the External Control Interface and the PoS terminal hardware and software are through standard PoS terminal compatible serial ports using a 16C550 UART or virtual com port (VCP) device. This hardware is recognized and supported by standard drivers supplied with the various Windows operating systems. The ability to use standard drivers supplied with the operating systems greatly simplifies development needed to support TeamPoS 2000 specific functionality and allows easy migration to new versions of operating system software.

The following diagram is a representation of the rear panel of the TeamCOM board showing the various connector locations.



RS232 Port Assignments:

- Printer Port COM3:
- Port 1 COM4:
- Port 2 COM5:
- Port 3 COM6:
- Port 4 COM7:
- Port 5 COM8:
- Port 6 COM9:
- Cash Drawer COM10: (internal)

The following switches are shown viewed with the TeamCOM board above the motherboard with the TeamPos2000 chassis side panel removed:

TeamCOM Board Setup for TeamPoS 2000

Port 1:2	FJ FD2	ESC/POS	MISC	IRQ
87654321	7654321	7654321	87654321	87654321
xx xx		xxxxxxxx	vvvv	x
87654321	7654321	7654321	87654321	87654321

Switch Setting Legend (Default Settings in Bold):

Port 1: 2

- 8=Port2 **DC Power on Pin 9**
- 7=Port2 **DC Power on Pin 9**
- 6=Port2 Standard RS232
- 5=Port2 Standard RS232
- 4=Port1** **DC Power on Pin 9**
- 3=Port1** **DC Power on Pin 9**
- 2=Port1 Standard RS232
- 1=Port1 Standard RS232

FJ FD21

1234567

ESC/POS

1234567

; all jumpered for ESC/POS printer as default

MISC/SW 3

- 8=on=FAN3 ON
- 7=on=FAN2 ON
- 6=on=FAN1 ON
- 5=on=BATTERY ENABLED
- 4=off=COM3/4 or **MULTI**
- 3=off=OPC or **MCP**
- 2=off=OPC 278 or 378
- 1=off=UART 230 or **100**

ISAIRQ, on some boards this switch is labeled SW 4

- 8=IRQ5
- 7=IRQ7
- 6=IRQ9
- 5=IRQ10
- 4=IRQ11
- 3=IRQ12
- 2=VFD, ESC interface/**FJ interface OFF**
- 1=RESET, ENA/**Disable**

Note: TeamPOS 2000 TeamCOM board **USES IRQ 5**. The BIOS must be configured with IRQ5 reserved as a "LEGACY DEVICE"; otherwise Plug-and-Play operating systems will not assign the TeamCOM IRQ correctly. This is the default BIOS setting as shipped from Fujitsu.

4.3 TeamCOMBO (4 RS232 / 4 USB Ports) Board Setup for TeamPOS 2000

The TeamCOMBO board is differentiated from the TeamCOM board by fewer serial ports, (4 vs. 7) and the addition of a 4 port Retail USB Hub. Serial ports 1-4 are implemented on this version of the Retail I/O board. See functional block diagram for details. Serial port interrupts can be selected by using jumper CN2009 and can be set to IRQ 5,7,9,10,11 & 12.

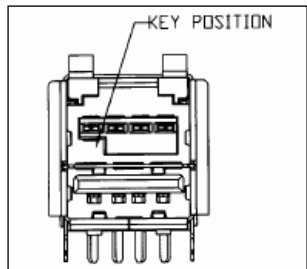
Serial Ports 1 & 2, CN5279, may be powered with +5V, the default setting, by plugging jumpers into JP1 as indicated on the schematic. Either or both of these serial ports may be reconfigured to be a standard serial port by installing the appropriate jumpers. Note that +5V optionally applied to Serial Ports 1 & 2 appear on pin 6 of the DB9 connector.

The permanently powered serial ports (3 & 4) have +24V on pin 4 of the DB9 connectors, CN5281, and +5V on pin 6. Power ground reference for serial ports 3 & 4 are pins 1 & 9 of CN5281, whereas logic ground reference is pin 5.

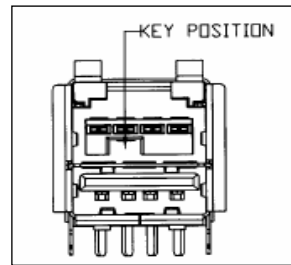
The TeamCOMBO Board features a 4-port USB Hub that differs from a conventional USB hub in that the connectors are of a special type that provides power to specially designed USB retail peripherals. The standard model has two +24V retail USB ports and two +12V ports.

The 24V and 12V USB powered connectors are shown below. **Note the keying of these connectors as shown below. Only peripheral connector cables that match the key may be attached.**

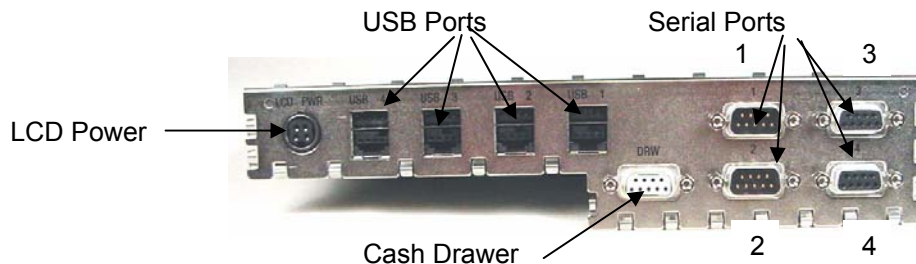
12V Retail Connector



24V Retail Connector



The following diagram is a representation of the rear panel of the TeamCOMBO board showing the various connector locations.



RS232 Port Assignments:

- Port 1 COM3:
- Port 2 COM4:
- Port 3 COM5:
- Port 4 COM6:
- Cash Drawer COM10: (internal)

The following switches are shown viewed on the TeamCOMBO I/O board above the motherboard with the TeamPoS **2000** chassis side panel removed:

TeamCOMBO Board Setup for TeamPoS 2000

Port 1:2	SW3 MISC	ISA/IRQ
87654321	87654321	87654321
xx xx	vvvv	v
87654321	87654321	87654321

X = jumpered v = ON position

Switch Setting Legend (Default Settings in Bold):

Port 1:2

- | | |
|----------------|--------------------------|
| 8=Port2 | DC Power on Pin 9 |
| 7=Port2 | DC Power on Pin 9 |
| 6=Port2 | Standard RS232 |
| 5=Port2 | Standard RS232 |
| 4=Port1 | DC Power on Pin 9 |
| 3=Port1 | DC Power on Pin 9 |
| 2=Port1 | Standard RS232 |
| 1=Port1 | Standard RS232 |

MISC/SW 3

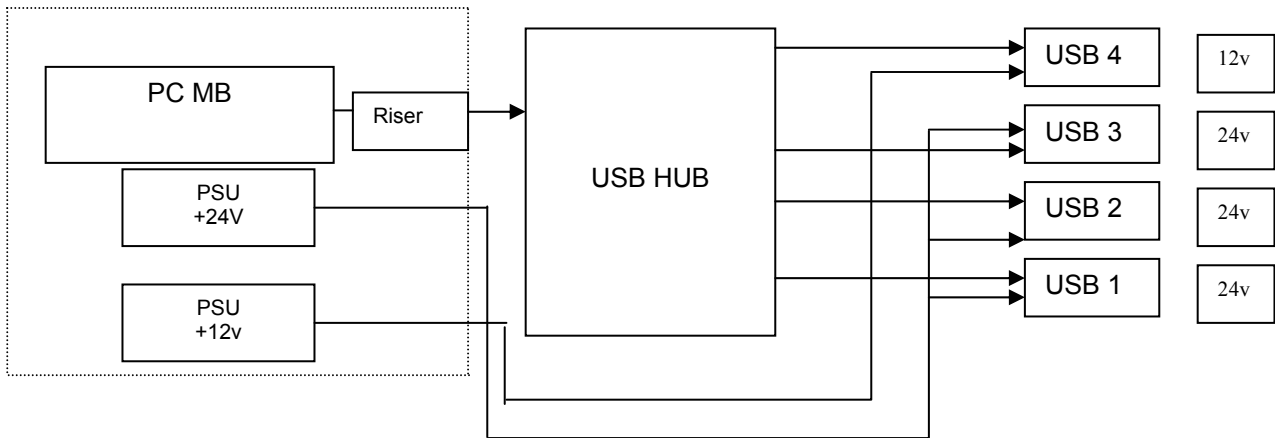
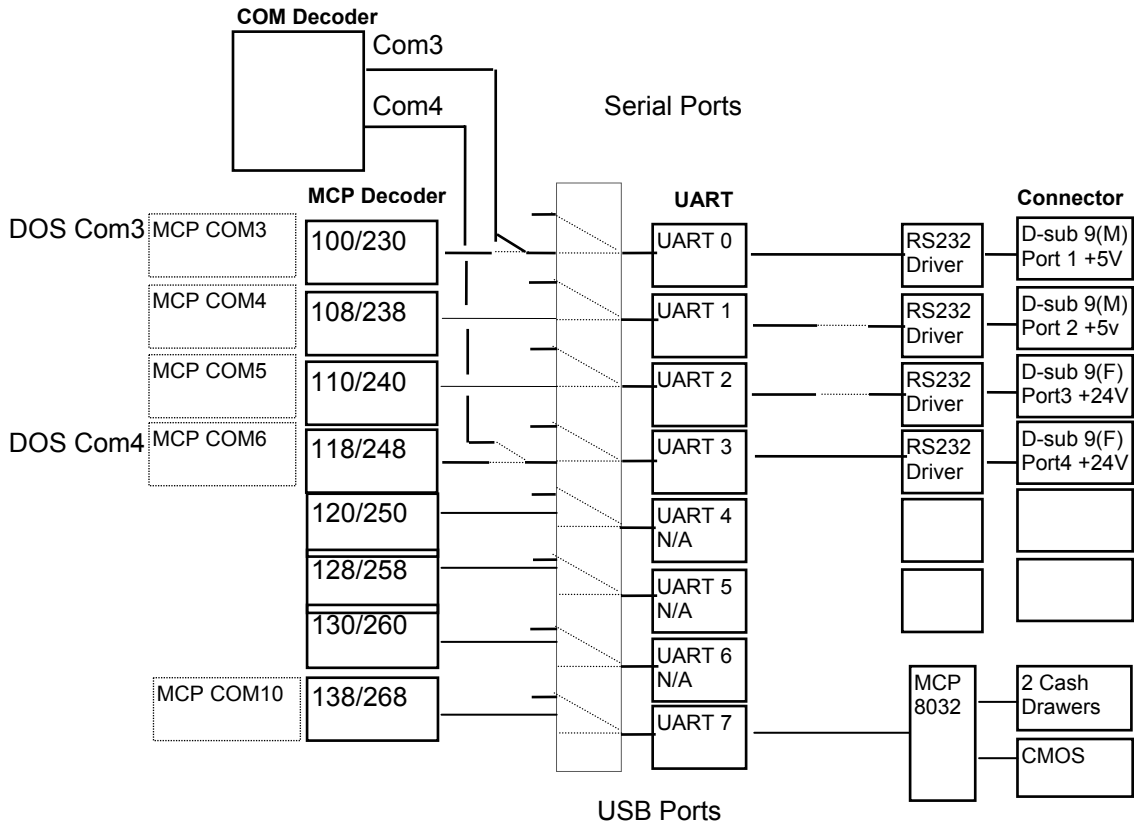
- 8 = on = FAN3 ON**
- 7 = on = FAN2 ON**
- 6 = on = FAN1 ON**
- 5 = on = BATTERY ENABLED**
- 4 = off = COM3/4 or MULTI**
- 3 = off = NA**
- 2 = off = NA**
- 1 = off = UART 0230 or 0100**

ISA/IRQ, on some boards this switch is labeled SW 4

- 8 = IRQ5**
- 7 = IRQ7
- 6 = IRQ9
- 5 = IRQ10
- 4 = IRQ11
- 3 = IRQ12
- 2 = VFD, ESC interface/**FJ interface OFF**
- 1 = RESET, ENA/**Disable**

Note: TeamPoS 2000 Retail I/O board by default **USES IRQ 5**. The BIOS must be configured with IRQ5 reserved as a "LEGACY DEVICE"; otherwise Plug-and-Play operating systems will not assign the Retail I/O IRQ correctly. This is the default BIOS setting as shipped from Fujitsu.

The following is a functional block diagram of the TeamCOMBO board:



4.3.1 RS232 default port details:

Port 1 == COM3, IRQ 5, I/O 0x100, +5v, D-sub 9(M), usage is Scanner (also DOS COM3 port)

Port 2 == COM4, IRQ 5, I/O 0x108, +5v, D-sub 9(M), usage is open

Port 3 == COM5, IRQ 5, I/O 0x110, +24v, D-sub 9(F), usage is LineDisplay

Port 4 == COM6, IRQ 5, I/O 0x118, +24v, D-sub 9(F), usage is 92R/M/U keyboard (also DOS COM4 port)

DRW == COM10, IRQ 5, I/O 0x138, D-sub 9(F), usage is CashDrawer; also the I/O interface used for the CMOS & Fujitsu power.

Alternate I/O addresses start at 0x230, the same as for the current Retail I/O board.

4.3.2 USB port assignments:

USB1 == 24v, usage is USB version of the Epson TM6000 printer

USB2 == 24v, usage is USB version of the LineDisplay

USB3 == 12v or 24v depending on TeamCOMBO board type

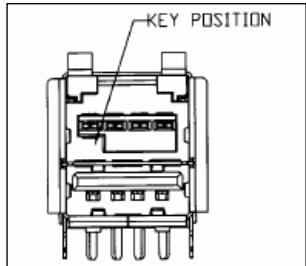
USB4 == 12v, usage is (future) USB version of the Symphony 9900 Scanner/Scale

4.4 TeamUSB (7 USB Ports) Board Setup for TeamPOS 2000

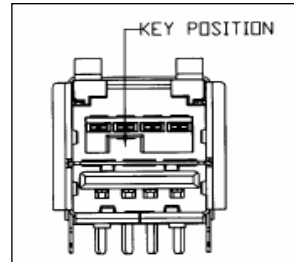
The TeamUSB Board features a 7-port USB Hub that differs from a conventional USB hub in that the connectors are of a special type that provides power to specially designed USB retail peripherals. The standard model has three +24V retail USB ports and four +12v retail ports.

The 24V and 12V USB powered connectors are shown below. **Note the keying of these connectors as shown below. Only peripheral connector cables that match the key may be attached.**

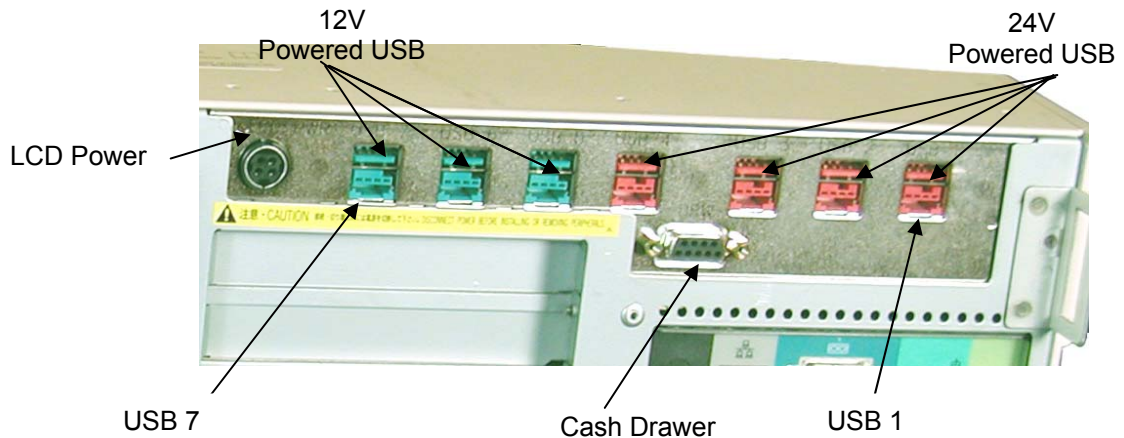
12V Retail Connector



24V Retail Connector

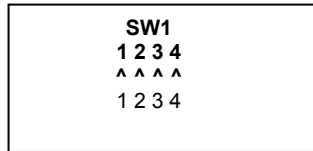


The following diagram is a representation of the rear panel of the TeamUSB board showing the various connector locations.



The following switch settings are shown viewed on the TeamUSB Board above the motherboard with the TeamPoS 2000 chassis side panel removed.

TeamUSB Setup for TeamPoS 2000



^ = on position

Team USB Switch Setting Legend (Default Settings in Bold):

SW1

1 = BATL	Detect Lead Acid Battery Alarm	ON/OFF
2 = FAN1	Detect CPU Fan Alarm	ON/OFF
3 = FAN 2	Detect PSU Fan Alarm	ON/OFF
4 = FAN 3	Detect Chassis Fan Alarm	ON/OFF

JP1

	"M" Motherboard	"A" Motherboard
1-2	OPEN	OPEN
3-4	SHORT	OPEN
5-6	OPEN	SHORT
7-8	SHORT	OPEN
9-10	OPEN	SHORT
11-12	SHORT	OPEN
13-14	SHORT	OPEN
15-16	SHORT	OPEN
17-18	SHORT	OPEN
19-20	SHORT	OPEN

Configured for setting up TeamUSB board for using six or seven USB ports depending upon the motherboard being used.

JP2 – Cash Drawer – decodes each drawer open switch. Configured for the type of cash drawer being used. Distinguishes between Fujitsu cash drawer and NCR, Fujitsu is the default.

JP2

	Fujitsu	NCR
1-2	SHORT	OPEN
3-4	OPEN	SHORT
5-6	OPEN	SHORT
7-8	OPEN	SHORT
9-10	SHORT	OPEN

JP3 – Determines the power source for the 12V on USB port 6. Options are from 24V power through DC-DC converter or directly from 12V power.

JP3 (USB 6 Power)

	PSU-12V	DC-DC
1-2	SHORT	OPEN
3-4	SHORT	OPEN
5-6	OPEN	OPEN
7-8	OPEN	SHORT
9-10	OPEN	SHORT

4.4.1 TeamUSB default port details:

USB1 == 24v, usage is USB version of the Epson TM-H6000 or TM-T88 printer
USB2 == 24v, usage is USB version of the Line Display
USB3 == 24v, usage is USB version of the 92U Keyboard/Key Lock/MSR/Line Display/Tone Indicator
USB4 == 24v,

USB5 == 12v, usage is (future) USB version of the Symphony 9900 Scanner/Scale
USB6 == 12v,
USB7 == 12v,

4.5 TeamCOM Board Setup for TeamPOS 5000

IRQ	5
MCP	0x230
Parallel Port	0x378
Comm. Port	MULTI
Printer jumper (7)	FJ (FD21) for Fujitsu printers, ESC POS for all other vendor's printers.

4.5.1 TeamCOM POS Printer Jumper Setup

The TeamCOM board supports two types of POS printers, the Fujitsu POS printer(s) and the ESC/POS printer. The default POS printer jumper setting on the TeamCOM board is for the Fujitsu POS printer. The printer jumper group (consisting of 7 jumpers) is located directly behind the COM3 port on the TeamCOM board. To switch to a different POS printer type, change all 7 jumper settings from the 1-2 position (Fujitsu printer) to the 2-3 position (ESC/POS printer) or vice versa. Verify printer type with the label next the jumper group.

4.5.2 SMC Ethernet Card

Suggested setup, should be changed to fit individual requirements

I/O Address:	0x280
RAM Address:	0xD000
ROM Address:	0xDA00 or 0xDC00
IRQ:	10

4.5.3 3COM EtherLink III Card

Suggested setup, should be changed to fit individual requirements

Wake-Up ID Address:	0x150
I/O Address:	0x300
IRQ:	10

4.5.4 Sound Card

See note below on INTEL Motherboard

Port Address:	240
IRQ:	7

INTEL Motherboard

Onboard audio must be disabled through TeamPOS BIOS CMOS setup.

5.0 Troubleshooting

5.1 Common Problems

1. **WinNT can't access TeamCOM ports.** Verify that the TeamCOM RS232 ports can be accessed using the WinNT Diagnostics. If COM1-10 are present under the RESOURCES tab, the TeamCOM board is probably working. The most likely reason for failure is that the 100H/230H address selection jumper on the TeamCOM board does not match what was installed. Otherwise check the on-board fuses on TeamCOM board. They are socketed, and depending on the revision of board, there are either two or three fuses. The fuses may blow if devices are plugged into the TeamCOM board while the TeamPoS is powered on. Please try to avoid doing this! Also, ensure that the TeamCOM board MCP/OPC jumper is set to MCP mode.
2. **OPOS Open error on TeamCOM port or MSR does not work.** Ensure that the OPOS software installation process is performed under a user that has Administrator privileges.
3. **Printer Access Problems.** Ensure that the printer jumper settings (one block of jumpers that has to be changed as one) on the TeamCOM board are correctly positioned for either a Fujitsu printer or for an ESC/POS type printer.
4. **Keyboard access failure.** If there is no access to the MSR, POS keys, or the key switch, ensure that the keyboard has the correct keyboard controller chip. If running under WinNT 4.0 then Service Pack 3 must be installed. Keyboards built prior to 11/97 will probably not work unless the keyboard controller chip is updated. This is because the WinNT keyboard driver cannot send the necessary hex codes to enable and run the MSR and other keyboard devices. If the failure persists, ensure the checksum label on the keyboard controller chip (accessed by removing the bottom of keyboard) is 4684-031H.
5. **MSR reads fail.** Check keyboard controller chip inside the keyboard (see above). Check the three-position switch setting in the keyboard where the MSR cover is and ensure it corresponds to the reader type (i.e. track 1/2 2/3 or JIS) installed in the keyboard compartment for the MSR reader. If so equipped, also ensure that the keyboard type switch is set for US standard. (Setting this switch incorrectly will cause the BIOS to not detect a keyboard).
6. **3COM port conflict.** If the TeamCOM address jumper is set to 100H, make sure that the 3COM wake up port address is set to 150H, using the 3COM utility dated 7-18-96. Then use REGEDIT hkey_local_machine\system\currentcontrolset\elnk32\parameters, setting the value of IDPORT:REG_DWORD:0x150. The standard wakeup port is 110H and this conflicts with the TeamCOM port 110H, when the base address is set to 100H. The preferred and recommended method is not to change anything on the 3COM board, and change the base address of the TeamCOM board to 230H.
7. **Cash drawer fails to open with the PAC2000 Motherboards (Only a few of these Motherboards were ever shipped).** The Cash Drawer is not usable in the OPOS environment when the TeamCOM jumper base address is set to 230H.
8. **COM5 usage causes failure of other TeamCOM ports.** Incorrect registry information causes the COM5 conflict. An updated registration file is available that corrects this for TeamCOM base address 230H. The current installation software available from the WEB corrects this problem.
9. **Numeric keypad key does not input numeric characters or the MSR does not work.** Please choose the initially opened device from among Keylock, MSR and POSKeyboard, and change the corresponding registry entry "Ignore_Numlock" value to "F". This is most often caused by a VB application issuing multiple "SendKeys" commands. Refer to MSDN issue Q179987.
10. **Additional OEM serial board/driver installation.** Please install the other vendor's serial board and/or OPOS drivers after the FTXS OPOS software installation.
11. **Epson OPOS Installation Fails on TeamPOS.** Install the FTXS OPOS drivers first and then reboot to make Windows aware of the TeamCOM comm. ports. Then run Epson's installation program. The Epson installer

needlessly verifies for overlapping comm. port conflicts with other similar OPOS devices. The Epson installer will fail if any other device such as another vendor's printer was previously assigned to comm. port 3. The same failure will occur if another vendor's MICR was installed. To work around this problem, BEFORE running Epson's OPOS installer, run REGEDIT.EXE from a DOS prompt and delete the OPOS key for this device type. For the printer, the registry key that should be deleted prior to running Epson's installer is:

HKEY_LOCAL_MACHINE\SOFTWARE\OLEforRetail\ServiceOPOS\POSPrinter.

12. WinNT 4.0 Keyboard Driver and Firmware Dependency

For correct POS/PC Keyboard operations under WinNT 4.0, an updated keyboard driver for WinNT 4.0 and updated POS/PC keyboard firmware are required from Microsoft and Fujitsu respectively.

The required keyboard driver files are available in WinNT4.0 Service Pack #3 or later. The service pack is available from Microsoft's support website.

The upgraded FJ POS/PC Keyboard firmware can be obtained from the Fujitsu Product group or through Fujitsu Customer Service.

5.2 3COM –TeamCOM Address Conflict

The following scenario applies to some older 3COM drivers for the 3C509B Ethernet adapter. The current driver is available from the 3COM WEB site at <http://www.3com.com>, and is the recommended driver to be used.

Note: The FTXS OPOS install utility does not include the 3COM diagnostics and drivers. These files can be downloaded from the 3COM WEB site. The following suggestions are for reference only. Please refer to 3COM WEB site or contact 3COM for current technical information and driver updates.

In order to avoid conflicts with the 3COM card, the base address jumper for the TeamCOM board should be set to 230H. If the base address jumper is set to 100H, then the following options should be considered.

WinNT:

1. Verify Plug and Play is disabled on the 3COM card.
 - Power off; disconnect the data cable from the TeamCOM board.
 - Boot DOS, run 3COM setup utility 3C5X9CFG.EXE to disable the Plug and Play option on the 3COM card. Verify the I/O address and IRQ setting. Exit the utility.
 - Power off and reconnect the data cable to the TeamCOM board.
2. The 3COM EtherLink driver (Elnk3.sys dated after 7-18-96) loaded by WinNT does not resolve the Wake-Up address conflict. 3COM recommends the use of the version dated 7-18-96 as an interim solution. The driver can be downloaded from the 3COM web site (file name is 3C5X9X.EXE), explode the package and copy the whole package on to a diskette. To install the driver:
 - Remove the 3COM adapter from Control Panel/Network/Adapter
 - Choose Add and Have Disk
 - Insert the diskette that contains the 3COM driver package.
3. The Wake-Up address for the 3COM LAN Adapter conflicts with the I/O address setting for one of the COM ports on the TeamCOM board. The 3COM Wake-UP address should be changed to 0x150. The 3COM EtherLink utilities (3C5X9PD and 3C5X9CFG) are ineffective in changing the Wake-Up address for WinNT environment. The Wake-Up address **must be** set in the WinNT registry for the 3COM driver to resolve this conflict. Use RegEdt32.exe (or RegEdit.exe) to add the key value **IDPort:REG_DWORD:0x150** to the following WinNT registry location:

HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\Elnk31\Parameters

6.0 Test Instructions

6.1 Instructions for testing the FTXS OPOS Services for TeamPoS devices

These test programs are installed as a result of selecting the corresponding devices for installation during the FTXS OPOS install process. They are installed into the target installation folder; the default target folder is "C:\Program Files\OPOS\FTXS".

Note: If the Fujitsu test programs were selected for installation, then the test program names will begin with FJ instead of CCO.

The following are basic test instructions that verify that the FTXS OPOS drivers are correctly installed and that the corresponding hardware is correctly configured and connected.

To test the 2 x 20 LineDisplay:

- 1 Run "CCOVFD.EXE"
- 2 Click Open, Click OK
- 3 Click Claim, Click OK
- 4 Click Enable Device
- 5 Click Display text normal, enter text, Click OK, text should show on the display
- 6 Click Close and then EXIT to terminate the testing

To test the Keylock in the 133PQ or 104 keyboards:

- 1 Run "CCOKEYL.EXE"
- 2 Click Open, Click OK
- 3 **Don't Claim.**
- 4 Click Enable Device
- 5 Click KeyPosition, move key; it should display a message box.
- 6 Click Close and then EXIT to terminate the testing

To test the Buzzer (ToneIndicator) in the 133PQ or 104 keyboards:

- 1 Run "CCOTONE.EXE"
- 2 Click Open, Click OK
- 3 Click Claim, Click OK
- 4 Click Device enable
- 5 For pitch, enter value(i.e.,1), Click set
- 6 For Duration, enter value(i.e.,100), Click set
- 7 For Volume, enter value(i.e.,100), Click set
- 8 Click "SOUND"
- 9 Click Close and then EXIT to terminate the testing

To test the MSR in the 133PQ or 104 keyboards:

- 1 Run "CCOMSR.EXE"
- 2 Click Open, Click OK
- 3 Click Claim, Click OK
- 4 Click Device Enable/on/off
- 5 Click Data event On/Off
- 6 Swipe card, keyboard will beep on successful swipe; data from track 1, 2, and/or 3 is displayed near the bottom of the window.
- 7 Click Close and then EXIT to terminate the testing

To test the POS keys in the 133PQ or 104 keyboards:

- 1 Run "CCOKBD.EXE"
- 2 Click Open, Click OK
- 3 Click Claim, Click OK
- 4 Click Enable device
- 5 Click Enable Data event
- 6 Click auto scan
- 7 Press a POSKey; you should see POSKey messages for each key depressed.
- 8 Click Close and then EXIT to terminate the testing

To test the FJ POS Printer (FD20, FD21):

1. Run "CCOPRT.EXE"
2. Click Open, Click OK
3. Click Claim, Click OK
4. Click Enable device
5. Click Enable Data event
6. Select "Receipt" from Print station drop down box
7. Click PrintNormal. The text is over-printed 4 times and one more line is printed after a line feed.
8. Click Close and then EXIT to terminate the testing

To test the Scanner:

1. Run "CCOSCAN.EXE"
2. Click Open, Click OK
3. Click Claim, Click OK
4. Click Enable device
5. Click Enable Data event
6. Make sure auto scan is checked
7. Scan an item. The details should be displayed
8. Click Close and then EXIT to terminate the testing

To test the Scale:

1. Run "CCOSCALE.EXE"
2. Click Open, should display OPENED
3. Click Claim, should display CLAIMED
4. Click Enable device, should display ENABLED
5. Click Read Weight, place item on scale, should display Measured Weight value
6. Click Closed, should display CLOSED
7. Click Exit

To test the FJ Cash Drawer:

1. Run "CCOCD.EXE"
2. Click Open, Click OK
3. Click Claim, Click OK
4. Click Enable device
5. Click Enable Data event
6. Click open drawer. The drawer should open.
7. Click Close and then EXIT to terminate the testing

To test the Fujitsu POS Power:

1. Run "FJPOWER.EXE"
2. Click Open, Click OK
3. Click Claim, Click OK
4. Click Enable device
5.

6.2 Instructions for testing the FTXS OPOS Services for the 92R/M/U keyboard devices

These test programs are installed as a result of selecting the 92R/92M/92U device for installation during the FTXS OPOS installation process. They are installed into the target installation folder; the default target folder is "C:\Program Files\OPOS\FTXS".

Note: If the Fujitsu test programs were selected for installation, then the test program names will begin with FJ instead of CCO.

To test the 2 x 20 keyboard display:

- 1 Run "CCOVFD.EXE"
- 2 Click Open, Input device name "ICL92ROPERATOR", Click OK, keyboard beeps on initialization.
- 3 Click Claim, Click OK
- 4 Click Enable Device
- 5 Click Display text normal, enter text, Click OK, text should show on the display
- 6 Click Close and then EXIT to terminate the testing

To test the Keylock:

- 1 Run "CCOKEYL.EXE"
- 2 Click Open, Input device name "ICL92RKEYLOCK", Click OK, keyboard beeps on initialization.
- 3 Don't Claim.
- 4 Click Enable Device
- 5 Click KeyPosition, move key, it should display message.
- 6 Click Close and then EXIT to terminate the testing

To test the Buzzer (ToneIndicator):

- 1 Run "CCOTONE.EXE"
- 2 Click Open, Input device name "ICL92RTONE", Click OK, keyboard beeps on initialization.
- 3 Click Claim, Click OK
- 4 Click Device enable
- 5 For pitch, enter value (i.e., 1), Click set
- 6 For Duration, enter value(i.e., 100), Click set
- 7 For Volume, enter value(i.e., 100), Click set
- 8 Click "SOUND"
- 9 Click Close and then EXIT to terminate the testing

To test the MSR:

- 1 Run "CCOMSR.EXE"
- 2 Click Open, Input device name "ICL92RMSR", Click OK, keyboard beeps on initialization.
- 3 Click Claim, Click OK
- 4 Click Device Enable/on/off
- 5 Click Data event On/Off
- 6 Swipe card, keyboard will beep on successful swipe; data from track 1, 2, and/or 3 is displayed near the bottom of the window.
- 7 Click Close and then EXIT to terminate the testing

To test the POS keys:

- 1 Run "CCOKBD.EXE"
- 2 Click Open, Input device name "ICL92RKEYBOARD", Click OK, keyboard beeps on initialization.
- 3 Click Claim, Click OK
- 4 Click Enable device
- 5 Click Enable Data event
- 6 Click auto scan
- 7 Press a key; you should see POSKey messages for each key depressed.
- 8 Click Close and then EXIT to terminate the testing

6.3 *Instructions for installing and verifying the Epson TM-H6000 or TM-T88 OPOS installation*

Refer to FTXS OPOS web site:

<http://www.ftxs.fujitsu.com>

Click the **Support and Downloads** at the top of the page. Then click the **OPOS Support** link on the page under the **Download TeamPoS Support**. Click on the **Epson Printer Driver** link under the **Other OPOS Resources:** at the bottom of the page.

Epson Printer Driver link:

<http://pos.epson.com/posindex.htm>

6.4 *Instructions for installing and verifying the Preh 133UQ Keyboard OPOS installation*

Refer to FTXS OPOS web site:

<http://www.ftxs.fujitsu.com>

Click the **Support and Downloads** at the top of the page. Then click the **OPOS Support** link on the page under the **Download TeamPoS Support**. Click on the **Preh 133UQ POSKeyboard Driver** link under the **Other OPOS Resources:** at the bottom of the page.

Preh 133UQ POSKeyboard Driver link:

<http://www.preh.de>

6.5 *Instructions for installing the Common Controls*

Refer to FTXS OPOS web site:

<http://www.ftxs.fujitsu.com>

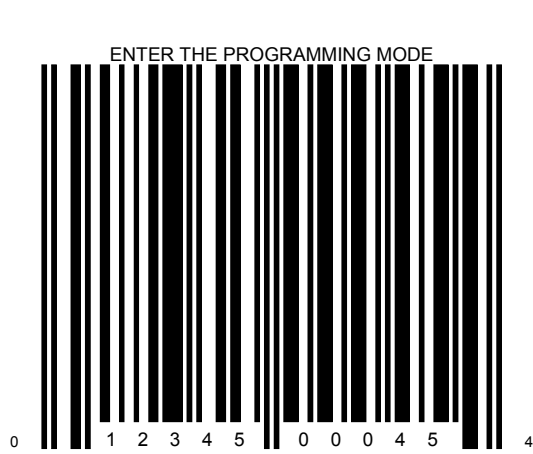
Click the **Support and Downloads** at the top of the page. Then click the **OPOS Support** link on the page under the **Download TeamPoS Support**. Click on the **OPOS Website** link under the **Other OPOS Resources:** at the bottom of the page.

Curtis Monroe link:

<http://monroecs.com/opus.htm>

7.0 SCANNER and SCALE HARDWARE INITIALIZATION BARCODES

7.1 Scanner hardware initialization Barcodes for use with the FTXS OPOS Drivers



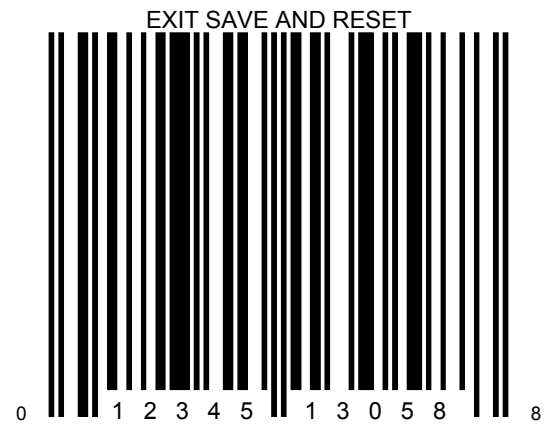
(1)



(2)



(3)

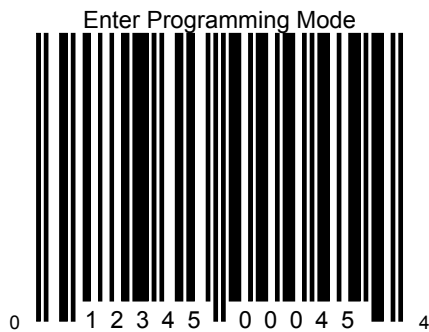


(4)

7.2 9900 Scanner/Scale hardware initialization Barcodes for use with the FTXS OPOS Drivers

NOTE: Currently the 9900 Scanner/Scale is only verified and supported with the FTXS OPOS drivers when configured in the single cable Magellan configuration.

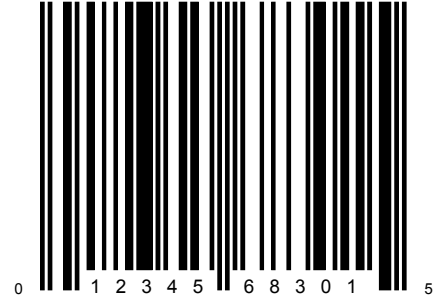
1. ENTER THE PROGRAMMING MODE
2. RESTORE ALL DEFAULTS
3. SCAN ONE OF THE CONFIGURATION LABELS
4. EXIT SAVE AND RESET



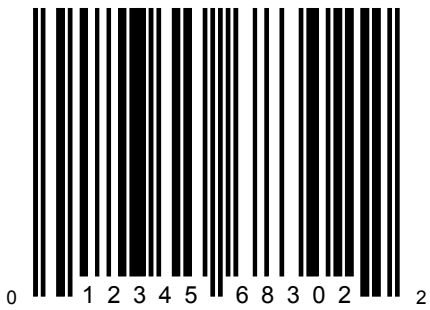
**DEFAULTS FOR SCANNER/SCALE
DUAL CABLE CONFIGURATION**



**DEFAULTS FOR SCANNER/SCALE
SINGLE CABLE MAGELLAN
CONFIGURATION (FTXS OPOS)**



**DEFAULTS FOR SCANNER/SCALE
SINGLE CABLE NCR7870
CONFIGURATION**



End of Document