SOFTWARE | HARDWARE | SERVICE

UTC RETAIL

3190 Series
Touch Screen POS Workstation

USER GUIDE

Congratulations on your purchase of UTC RETAIL's innovative 3190 Series Touch Screen POS Workstation. The 3190 Series was designed to conserve counter space and it comes standard with a rich set of features. This guide will acquaint you with the 3190 Series Workstation's features and functionality.

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The 3190 Series Touch Screen POS Workstation complies with UL60950 requirements. This equipment has been tested and found to comply with the limits for a Class "A" digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference, in which case the user will be required to correct the interference at his/her own expense.

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Product Information

The 3190 Series POS Workstation is designed for use in specialty retail stores, restaurants, convenience stores, cafeterias and other retail establishments. It is highly configurable, has easy access to connectors, and a large selection of interface ports for connectivity to printers, cash drawers, scanners, keyboards, and other peripherals.

Product Components

The 3190 Series product includes:

- 3190 Series main unit
- AC Line Cord

Depending on the configuration you have purchased, the following optional components may also be provided:

- Magnetic Strip Reader (MSR) unit
- Rear Customer Display (RCD) unit
- WLAN Kit (802.11 b/g/n)

Product Safety

DANGER: High Voltage

This unit contains high voltage. There is a risk of electrical shock if the case is opened. If service is required, contact an authorized service agent or UTC RETAIL.

WARNING: CMOS Battery Damage

Replace your system's battery only with CR-2032 (or equivalent) 3V Lithium-Ion coin cell battery to avoid risk of personal injury or physical damage to your equipment. Always dispose of used batteries according to local ordinance, where applicable. Any damage due to not following this warning will void your warranty

WARNING: Access to Internal Components

All access to internal components of the 3190 Series unit is restricted to Authorized Service Personnel only. Opening the case or service by anyone else will automatically void the warranty on this product.

WARNING: Electrical Shock

Use caution when connecting cables. To avoid electric shock, do not connect safety extra-low voltage (SELV) circuits to telephone-network voltage (TNV) circuits. Local Area Network (LAN) ports contain SELV circuits, and telephone ports contain TNV circuits. Some LAN ports and some telephone ports use RJ-45 connectors.

CAUTION:

If your 3190 contains the WLAN accessory: This 3190 complies with FCC radiation exposure limits for an uncontrolled environment. The 3190 should be installed and operated at a distance greater than 20 centimeters (8 inches) between yourself and any bystander to comply with the Radiation Exposure Requirements. Changes or modifications not expressly approved by UTC RETAIL could void your authority to operate the 3190.

CAUTION:

Damage to the logic module components may occur if AC power is not removed from the product prior to attaching any accessories.

CAUTION:

Do not hot plug to the rear panel serial ports. Turn off the 3190 Series Unit before connecting serial port cables.

CAUTION:

Do not use the Magnetic Stripe Reader (MSR) unit as a handle when moving or carrying the 3190 Series.

Technical Specifications

3190 Series Touch Screen POS Workstation	
Processor	Intel® Pentium® G4400 Dual Core 3.3 GHz with 3M Cache or higher
Storage	Hard disk drive (HDD), 500GB SATA III or larger Solid State Drive (Optional); Second HDD (Optional)
Memory	Up to 16GB DDR3L DRAM (2 SO-DIMM slots)
Input/Output	(1) Cash drawer port, +24VDC (4) RS232 serial ports on rear I/O panel, (3 powered, BIOS selectable) (5) USB ports on rear I/O panel and (1) on front I/O panel. (One port on rear panel is USB 3.0) (1) SVGA port (1) 10/100/1000 Base-T Ethernet port (1) Audio Line-out jack
Display	Size/type: 15 in. (38 cm) TFT LCD flat panel Pixels/resolution: 1024 x 768 pixels
Touch Screen	Touch screen: 5-wire resistive (COM5 interface) or Projected Capacitive Multi Touch (PCAP) (USB interface)
Mechanical Features	Safety: UL60950 Listed Dimensions: 15 in. (38 cm) wide x 17 in. (43 cm) high x 15 in. (38 cm) deep Weight: ~17 lbs(7.7 kg)
Optional Features	MSR: ID Tech, 3-track (USB interface) Rear Customer Display: 2x20 VFD, 10.5mm x 5.5mm character size (RS-232) Internal WLAN: Factory installed, 802.11 b/g/n
Power Requirements	110 VAC, 60 Hz 0.5A (typical)
RoHS	Compliant

Operating System and Drivers

The 3190 Series is typically shipped with an operating system and specific drivers installed. Individual video, audio, network, etc. drivers can be downloaded from the UTC RETAIL website at: www.utcretail.com.

Installing Customer-Specific Applications

It is suggested that all applications be fully tested on the 3190 Series product to ensure that there are no hardware conflicts. This is typically done prior to store installation and within a technical environment.

Care and Cleaning

Never use pens, pencils, fingernails, or other sharp objects on the Touch Screen. **These will damage the screen and void the product's warranty.** Turn the unit OFF before cleaning the screen or case. Any standard glass cleaner can be used to clean the touchscreen, but avoid products containing ammonia. Always spray the glass cleaner on the cloth or towel and then clean the touch screen. Glass cleaner sprayed directly on the monitor could possibly leak inside a non-sealed unit and cause damage.

Diagnostics and Troubleshooting

WARNING: Unauthorized service will automatically void the warranty on the product(s). Contact UTC RETAIL Technical Support at 1.800.349.0546 or (585) 924.9500 if you have any questions.

System Boot

The 3190 POS has a BIOS that is based upon the Unified Extensible Firmware Interface (UEFI) specification. This new power-up specification allows for a much faster system boot to the Windows® Desktop.

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To perform a one-time modified boot order, keep pressing F7 during the boot process until the Boot Order menu appears.

To access the BIOS during the system boot, keep pressing Delete during the boot process unit until the BIOS Main screen appears.

Service and Technical Support

Assistance and customer service are available from your dealer or authorized service provider. If your dealer or service provider cannot answer your questions or provide satisfactory service, call UTC RETAIL Technical Support. When calling for assistance or service information, please be ready to provide the serial number, which can be found on a label on the bottom of the 3190 Series. If the product needs to be returned to our repair facility, please use the original packing material and shipping carton.

For assistance, service and product information, contact:

UTC RETAIL
100 Rawson Road
Victor, NY 14564
Phone: 1.800.349.0546 or (585) 924.9500
Fax: (585) 924.1434
www.utcretail.com

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Technical Information

Serial Port Power Default

The default settings for Serial Port Power include no power for COM1 and +5V for COM2, COM3 and COM4.

Audio Line-out Jack

The 3190 Series 3.5mm line-out jack will provide an audio output signal to an external pair of computer speakers.

These speakers must be powered by a user supplied external power source.

3190 Cash Drawer Port

The cash drawer port is accessed using GPIO (General Purpose Input / Output) and a GPIO driver. If you purchased your 3190 POS with a Windows® operating system pre-installed, you will find a Cash Drawer folder within the Drivers folder on the hard drive. In the Cash Drawer folder there are files with sample source code and executables for DOS and Windows environments. Go to the Drivers section of UTCRetail.com for additional information.

Appendix A

Programming Guide: 3190 Rear Customer Display

Note: If you are using the customer display with an OPOS, JavaPOS, or POS for .Net application, this document does not apply to you. You will need to use the correct driver available on the UTC RETAIL web site at www.utcretail.com.

The 3190 Rear Customer Display (RCD) operates by converting recognized data, supplied by serial communication, into a display message. The supplied data may also contain commands that control the display.

The 3190 RCD uses a limited command structure for display control, requiring minimal programming effort. The table below lists the display control features of the 3190 RCD and control codes (in ASCII, DEC, and HEX expression). The display control command structure, with examples, is described in this section.

Display Control Features and Commands

The following table outlines the 3190 RCD control features and commands:

Feature	ASCII	DEC	HEX
Dimming	<EOT>x	04, x	04, x
Back Space	<BS>	08	08
Horizontal Tab	<HT>	09	09
Line Feed	<LF>	10	0A
Carriage Return	<CR>	13	0D
Display Position	<DLE>p	16, p	10, p
Normal Display	<DC1>	17	11
Vertical Scrolling	<DC2>	18	12
Reset	<US>	31	1F
Flashing Text Start	<FS>	28	1C
Flashing Text Stop	<GS>	29	1D
Clear to End of Line	<CAN>	24	18
Clear to End of Display	<EM>	25	19
Home and Clear Display	<RS>	30	1E

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Dimming Feature

<EOT>x 04 DEC 04 HEX

Brightness can be controlled to four levels by using this function. After writing 04h to the display, the next byte sent will set the brightness. The table below lists the display dimming commands in ASCII, DEC and HEX expression.

Dimming Level	ASCII	DEC	HEX
100 %	-	255	FF
60 %	‘	96	60
40 %	@	64	40
20 %	Space	32	20

Back Spacing Feature

<BS> 08 DEC 08 HEX

When the backspace command is executed, the write-in position is shifted to the left one position, erasing the character, if any, in that position. When the write-in position is in the first (read from left to right) position of the first row, the write-in moves to the last position of the second row. When the write-in is in the first position of the second row, the write-in moves to the last position of the first row.

Horizontal Tab Feature

<HT> 09 DEC 09 HEX

DC1 Mode (Normal Display Mode)
The write-in position is shifted to the right one position. When the write-in is in the last position of the first row, the write-in moves to the first position of the second row. When the write-in is in the last position of the second row, the write-in moves to the first position of the first row.

DC2 Mode (Vertical Scroll Mode)
When the write-in is in the last position of the second row, the characters displayed in the second row are shifted up to the first row and the write-in moves to the first position of the second row. This action clears the second row.

Line Feeding Feature

<LF> 10 DEC 0A HEX

DC1 Mode (Normal Display Mode)
The write-in moves up or down to another row, staying in the same horizontal position.

DC2 Mode (Vertical Scroll Mode)
When the write-in is in the second row, the characters displayed there are shifted up to the first row, leaving the write-in at its present position. This action clears the second row. When the write-in is in the first row, the write-in moves down to the second row.

Carriage Return Feature

<CR> 13 DEC 0D HEX

The write-in moves to the first position of the same row.

Display Position Feature

<DLE> 16 DEC 10 HEX

Use the display positioning function to specify the write-in starting position.

After writing a 10h to the display, enter a position byte from the following Character Position Chart (HEX):

Row	Position Bytes																			
1	00	01	02	03	04	05	06	07	08	09	0A	0B	0C	0D	0E	0F	10	11	12	13
2	14	15	16	17	18	19	1A	1B	1C	1D	1E	1F	20	21	22	23	24	25	26	27

Normal Display Mode Feature

<DC1> 17 DEC 11 HEX

After writing a character, the write-in is shifted automatically to the right one position. When the write-in is in the last position of the first row, the write-in moves to the first position of the second row. When the write-in is in the last position of the second row, the write-in moves to the first position of the first row.

Vertical Scroll Mode Feature

<DC2> 18 DEC 12 HEX

After writing the characters up to the last position of the second row, all characters displayed in the second row are shifted to the upper row (first row), clearing the second row.

Reset

<US> 31 DEC 1F HEX

All characters displayed are erased, and the write-in position (cursor position) is set in the first position of the first row. The display mode returns to the power-on default set-up.

Flashing Text Start

<FS> 28 DEC 1C HEX

After receipt of this command, all subsequent data received will flash, until a <GS> command is received. Flashing will be terminated with the flashing text stop command.

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Flashing Text Stop

<GS> 29 DEC 1D HEX

After receipt of this command, the characters following will not flash.

Clear to End of Line Feature

<CAN> 24 DEC 18 HEX

This command will clear out the display from the current write-in position to the end of the current line. The current write-in position will not change.

Clear to End of Display Feature

<EM> 25 DEC 19 HEX

This command will clear out the display from the current write-in position to the end of the second line. The current write-in position will not change.

Home and Clear Display Feature

<RS> 30 DEC 1E HEX

This command will clear the display and move the write-in position to the first position of the first row.

Display Character Codes

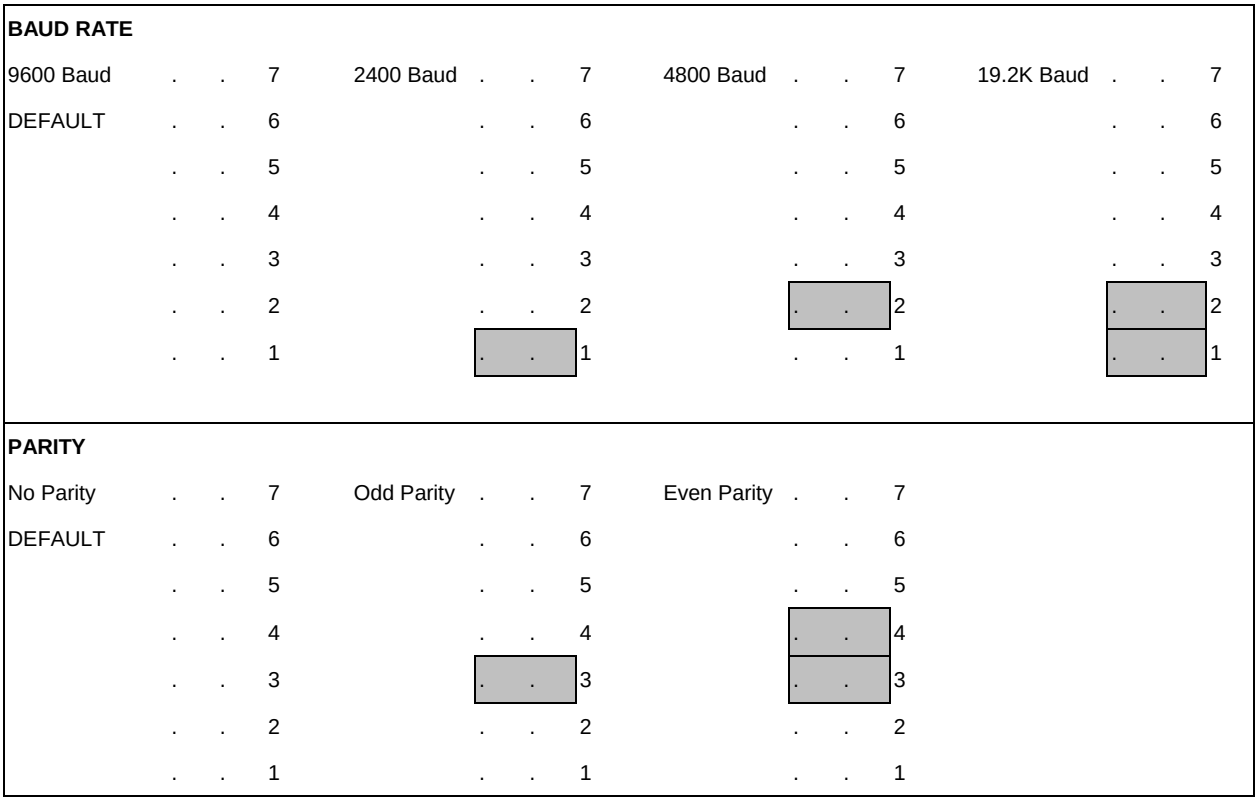
For a full listing of the display character codes used by the 3190 RCD, refer to the ASCII Character Set in the table on the following pages.

Serial Operating Parameters Selection

The 3190 RCD ships factory set for 9600 baud, 8 data bits, and no parity. If desired, the baud and parity can be changed with a few simple steps.

Remove the lens cover by depressing the 2 tabs on the bottom of the display. While the tabs are depressed, carefully rotate the lens cover off of the display, starting at the bottom of the display. Once the lens is removed, the headers used to select the baud rate and parity will be visible. They are located on the printed circuit board to the right of the vacuum fluorescent display. The shorting jumpers (supplied with unit) can be added to change both the baud rate and/or parity.

The diagram below shows positions of the shorting jumpers needed for different baud rates and parities. Up to 4 shorting jumpers may be needed.



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ASCII Character Set

DEC	HEX	ASCII	DEC	HEX	ASCII	DEC	HEX	ASCII	DEC	HEX	ASCII
0	00	Ctrl-@ (NUL)	32	20	Space	64	40	@	96	60	`
1	01	Ctrl-A (SOH)	33	21	!	65	41	A	97	61	a
2	02	Ctrl-B (STX)	34	22	“	66	42	B	98	62	b
3	03	Ctrl-C (ETX)	35	23	#	67	43	C	99	63	c
4	04	Ctrl-D (EOT)	36	24	$	68	44	D	100	64	d
5	05	Ctrl-E (ENQ)	37	25	%	69	45	E	101	65	e
6	06	Ctrl-F (ACK)	38	26	&	70	46	F	102	66	f
7	07	Ctrl-G (BEL)	39	27	‘	71	47	G	103	67	g
8	08	Ctrl-H (BS)	40	28	(	72	48	H	104	68	h
9	09	Ctrl-I (HT)	41	29	)	73	49	I	105	69	i
10	0A	Ctrl-J (LF)	42	2A	*	74	4A	J	106	6A	j
11	0B	Ctrl-K (VT)	43	2B	+	75	4B	K	107	6B	k
12	0C	Ctrl-L (FF)	44	2C	,	76	4C	L	108	6C	l
13	0D	Ctrl-M (CR)	45	2D	-	77	4D	M	109	6D	m
14	0E	Ctrl-N (SO)	46	2E	.	78	4E	N	110	6E	n
15	0F	Ctrl-O (SI)	47	2F	/	79	4F	O	111	6F	o
16	10	Ctrl-P (DLE)	48	30	0	80	50	P	112	70	p
17	11	Ctrl-Q (DC1)	49	31	1	81	51	Q	113	71	q
18	12	Ctrl-R (DC2)	50	32	2	82	52	R	114	72	r
19	13	Ctrl-S (DC3)	51	33	3	83	53	S	115	73	s
20	14	Ctrl-T (DC4)	52	34	4	84	54	T	116	74	t
21	15	Ctrl-U (NAK)	53	35	5	85	55	U	117	75	u
22	16	Ctrl-V (SYN)	54	36	6	86	56	V	118	76	v
23	17	Ctrl-W (ETB)	55	37	7	87	57	W	119	77	w
24	18	Ctrl-X (CAN)	56	38	8	88	58	X	120	78	x
25	19	Ctrl-Y (EM)	57	39	9	89	59	Y	121	79	y
26	1A	Ctrl-Z (SUB)	58	3A	:	90	5A	Z	122	7A	z
27	1B	Ctrl-[(ESC)	59	3B	;	91	5B	[	123	7B	{
28	1C	Ctrl-\ (FS)	60	3C	<	92	5C	\	124	7C	|
29	1D	Ctrl-] (GS)	61	3D	=	93	5D	]	125	7D	}
30	1E	Ctrl-^ (RS)	62	3E	>	94	5E	^	126	7E	~
31	1F	Ctrl-_ (US)	63	3F	?	95	5F	_	127	7F	DEL