

Quality Control



Quality Control Systems Management

One of the biggest challenges facing an OEM in its relationship with a Contract Manufacturer is Quality Control. Every Contract Manufacturer will claim to provide 100% defect-free products, but in reality that is never the case.

The solution is *traceability*. Component defects and human error are unavoidable parts of the manufacturing industry. A Contract Manufacturer needs to have a high level of *transparency* within their systems. In order to excel in this area, Circuitronics has implemented *Manex* ERP Software. This allows us to track our Assembly on a systematic, step-by-step basis. It also allows our production and resource management to interface. Most importantly, it permits our operations managers to track the circuit boards while they're in the shop, identify any problems, and deal with them while still on the line.

When a Work Order is entered into our system for production, it allows our Production Manager to manage the PCB's through each phase of production. Below you can see a Work Order, and where each PCB is in the production process:

The screenshot displays a 'Work Order Shop Floor Tracking' window. At the top, there are buttons for 'Time Log', 'Inspection', 'WC Check List', and 'Transfer'. Below these are fields for 'Work Order' (0000001518), 'Sales Order', 'Customer' (Standard Price), 'Wk Ord Qty' (650), 'Balance' (650), and 'Due Date' (11/18/2011). The 'Part Number' is 999-TEST-ROHS and the 'Description' is 'FINISHED PCA CIRCUITRONICS, TEST ASSY, QUALITY EXAMPLE 2011'. The 'Selected Work Center/Activity' is 'Material Staging'. A table lists various production steps with their respective quantities and panel counts. A blue arrow points to the 'Material Staging' row.

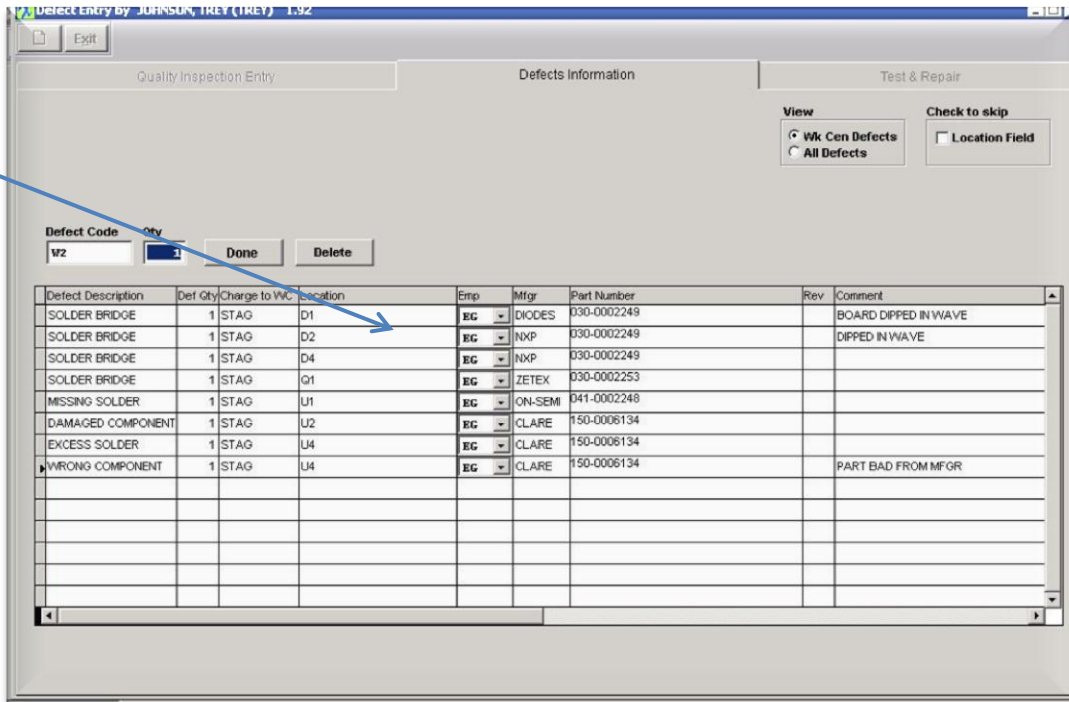
ID	WorkCenter	Qty	Panels
STAG	Material Staging	0	0
SER	SERIALIZATION	50	0
SMTT	SMT TOP	150	0
SMTB	SMT BOTTOM	200	0
XRAY	X-RAY	42	0
ROI1	SMT ROI TOP	22	0
ROI2	SMT ROI BOTTOM	24	0
PREP	MATERIAL PREP	54	0
SLID	SLIDE LINE	10	0
WAVE	WAVE SOLDERING	5	0
MAN	MANUAL ADD PARTS & SOLDER	13	0
TU	INSPECT & TOUCH UP	60	0
TRIM	LEAD TRIM	4	0
ROI	AUTOMATED OPTICAL INSPECT	2	0
QC	QC INSPECT	12	0
PACK	PACKING	2	0
FGI	Finished Goods Inventory	0	0
SCRP	Scrapped Material	0	0

On the right side of the interface, there are several buttons: 'Setup', 'Tool/Fixture', 'Work Instr', 'Special Instr', 'Standard Spec', 'Documentation', 'WC BOM', 'ECO', 'Deviation', 'Quality Info', 'WIP Status', 'User Defined Button', 'WO Note', 'WO-WC Note', 'WC Note', 'Xfer History', 'Serial No History', and 'Feedback'.



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When defects are found, the part number, location on the PCB, and location on the production floor are entered into our system. This allows our Production Manager to catch any trends or patterns with regards to defects:



By tracking defects through every aspect of the assembly process, Circuitronics is able to analyze historical trends, allowing us to constantly refine the production process, creating more reliable and efficiently built products for our customers.

