

## Regarding: Customization of TOPS for Windows for use by automated Palletizer.

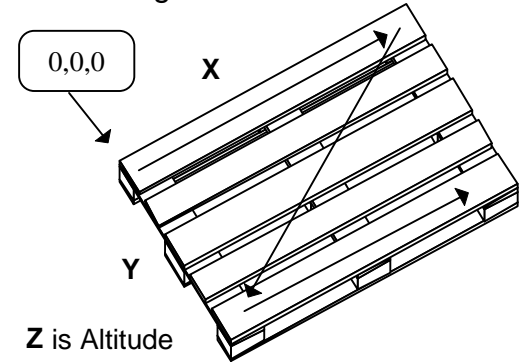
This document contains possible interface enhancements to TOPS for Windows for use by robotic palletizers. TOPS needs some sort of similar document to be able to fully support said equipment.

### Interface:

The screenshot shows the TOPS software interface. On the left is a 3D model of a pallet stack. In the center, a menu is open with 'Export to Palletizer' highlighted. A callout box points to this menu item with the text: "The *Export to Palletizer* menu item will prompt the user for a file name. It will then create a text file with the currently selected solution's information in the format described below." On the right, a 'UnitLoad View' window displays case dimensions and unit load information. At the bottom, a 'Unit Load List' table is visible.

Sol	Vert	Len	Wid	Hgt	Wgt	Type	Layer	70L	70R	Eff
1	H	1181.1	1016.0	1289.1	143.8	C	6	4	24	88.64%
2	H	1181.1	901.7	1289.1	124.7	B	5	4	20	73.87%
3	H	1181.1	1016.0	1289.1	124.7	T	5	4	20	73.87%
4	H	1181.1	1016.0	1289.1	124.7	T	5	4	20	73.87%
5	H	901.7	1016.0	1289.1	105.7	B	4	4	16	59.10%

Text file formatting information. Distances and Weights are to be in millimeters and Kilograms if in "Metric" mode, otherwise inches and lbs in "English" mode.



Z is Altitude  
Box placement is the distance of the box's nearest corner from the key corner indicated above. If there is overhang, negative distances are possible.

Case Dimension are outside dimensions without Bulge.

M, 400, 300, 200

0,0,0,H,L

(Coordinates ordered from Bottom to Top following the above pallet arrows.)

200,0,0,H,L

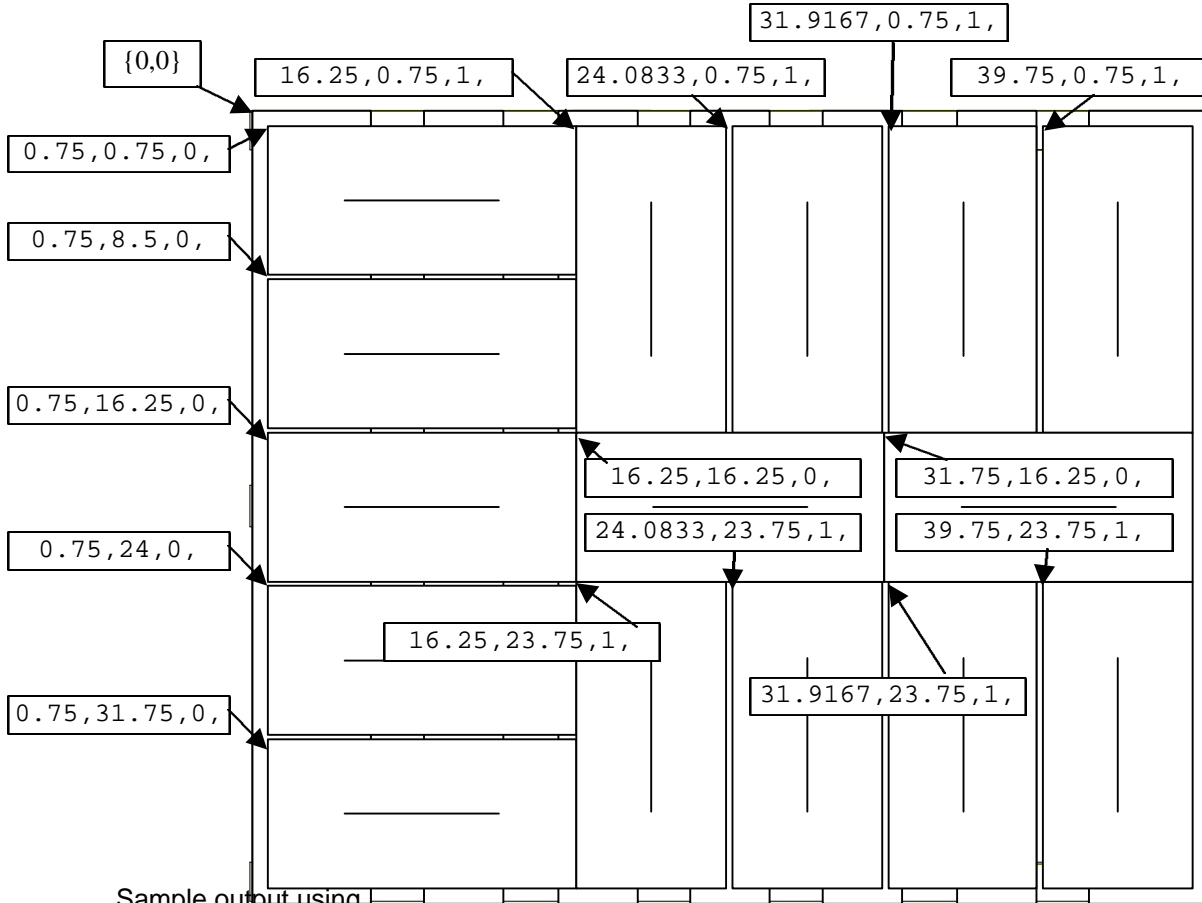
First line format: E/M for English/Metric, followed by the Length, Width, and Height of the case in the appropriate units.

Remaining Lines: X, Y, Z coordinates of bottom case corner nearest origin, Dimension vertical, Dimension running along Length of Pallet. Coordinates for every box is required.

**TOPS Pro Robotic Palletization interface file**

(This document describes the current Robotic Palletizer format within TOPS Pro.)

Sample Layout: Box OD of 15.5x7.5x10.75



Sample output using Robotic Palletizer option

- 0.75, 0.75, 0,
- 0.75, 8.5, 0,
- 0.75, 16.25, 0,
- 0.75, 24, 0,
- 0.75, 31.75, 0,
- 39.75, 0.75, 1,
- 31.9167, 0.75, 1,
- 24.0833, 0.75, 1,
- 16.25, 0.75, 1,
- 39.75, 23.75, 1,
- 31.9167, 23.75, 1,
- 24.0833, 23.75, 1,
- 16.25, 23.75, 1,
- 31.75, 16.25, 0,
- 16.25, 16.25, 0,

The first two values in a line are the offset from the key corner.  
 Negative offsets are possible with overhanging cases.  
 Third value is orientation down  
 length of pallet:  
 0 = Length  
 1 = Width  
 2 = Height

The above pattern could have been "Packed Tightly" as below.

