

Instruction  
Hardware Engineering

No. LMS 12-2

Subject: Preparation and Packing for Shipment by Suppliers

APPROVED BY Manager, Hardware Engineering

STATUS Maintenance Revision

PURPOSE Unless otherwise noted on approved drawings or purchase order instructions, this document provides guidelines, procedures, and direction for Suppliers in preparation for packaging and shipment; also recommends packaging techniques to prevent damage during shipment. Supplier's personnel shall follow this instruction when items purchased by L-3 Communications Corporation, Link Simulation & Training Division (Link) are prepared for packaging and shipment.

AFFECTED FUNCTIONS Hardware Engineering  
Manufacturing

REFERENCES None

DEFINITIONS None

#### INSTRUCTION

##### 1. Requirements

###### 1.1 Preparation for Packing:

- 1.1.1 Cleaning - The units must be clean before packing. All items shall be free from dust, dirt, and debris.
- 1.1.2 Preservatives\* - As necessary, a preservative shall be applied to unprotected metal surfaces. Preservatives shall not be used on mating surfaces.
- 1.1.3 Lubricants\* - Never apply lubricant over a rusted or corroded surface. All surfaces requiring lubricant must be clean and free from moisture, solvents, and other contaminants at the time of lubrication.
- 1.1.4 Supplier's Quality Assurance shall approve all units, not requiring Link source inspection, as being ready for packing. If the purchase

order specifies Link source inspection, a Link source inspector shall approve all units as being ready for packing.

- 1.2 Packing Instructions for Mechanical Parts and Assemblies:
  - 1.2.1 Units that do not have rollers, are top heavy, or require hermetic sealing, shall be secured to a pallet or skid for forklift handling.
  - 1.2.2 Fabricated parts, assemblies, or subassemblies mounted on pallets shall be pre-wrapped with 3/16-inch thick closed cell foam/microfoam, secured to the pallet and then completely wrapped on the pallet with hand film plastic.
  - 1.2.3 All loose fabricated/machined parts and/or assemblies shall be pre-wrapped in a minimum 1/8-inch thick closed cell foam/microfoam, over wrapped in bubble pack (secured with glass filled tape). Once wrapped, the part(s) are to be secured on pallets or in crates.
  - 1.2.4 All loose hardware (e.g., screws, bolts, washers, nuts, etc.) shall be bagged and identified. Bagged hardware shall be packed in a box(es). The box(es) shall be secured to pallets and completely wrapped in hand film plastic, or secured inside a crate.
  - 1.2.5 The units shall be examined for any components, which are heavy or fragile and are not fully supported. Straps, blocking, and/or closed cell foam/microfoam will be added to provide complete support, as required.
  - 1.2.6 Straps or fasteners shall secure hinged panels, and units mounted on slides.
  - 1.2.7 Any opening shall be covered with cardboard or other means so that the padding is supported.
  - 1.2.8 Glass or Plexiglas should be protected by covering with Kimpack, foam and cardboard, or similar material, and taped to hold in place.
  - 1.2.9 As required, the units shall be completely covered by Kimpack or similar padding material and securely taped. Otherwise, furniture pads on the shipping van will cover the units.

- 1.2.10 Leveling bolts shall be completely up with jam nut snugged tight or removed completely and packed.
- 1.3 Packing for all other items shall be best commercial practices to ensure no damage to components and/or equipment. In addition, when fragile/delicate items are being shipped on pallets, crates, or in boxes, affix appropriate identification labels as such. Also, the shipping containers shall have properly placed "Shock Watch" and/or "Tilt Watch" monitors affixed to the outside of the containers when applicable (e.g., when shipping delicate instruments).

\* Note: All chemicals, including preservatives and lubricants, applied to parts and/or hardware must be pre-approved by the Link Environment, Health and Safety (EHS) department, with a Material Safety Data Sheet (MSDS) on file, prior to packing.