Drawing No. A881574-2

1. Ballast requirements are provided to assist consumers in determining the applicability of the 78 inch square ballast roof mount (BRM) for an antenna installation. The ballast data should not be relied upon without competent local professional examination and verification of its accuracy and suitability for a specific site or application.

2. Ballast requirements are based on typical ANSI/EIA-222-D paraboloid antennas supported 12 inches from the vertex of the antenna on a 36 inch long mounting pipe on a flat supporting surface (See note 11). Specific antenna types may require more stringent wind loads and ballast requirements and must be investigated for each installation. The load carrying requirements of the supporting surface, the mast, the antenna and the antenna's connection to the mast must also be investigated for each installation.

3. The ballast weights indicated are net ballast weights, and must be uniformly distributed over all panels. The effective weight of the mount and antenna may be deducted from the ballast weights indicated to determine ballast panel weight requirements. The effective weight of the mount and antenna may be calculated by subtracting the uplift component of wind load from the actual weight of the mount and antenna.
(Worst case ANSI/EIA-222-D uplift wind load component = .000910 (A) (V) 2 at an 80° elevation angle).

4. The zero velocity roof loads shown are equal to the ballast weights indicated divided by the total area enclosed by the perimeter of the mount (i.e. an area greater than the ballast panel contact area). If effective mount and antenna weights are considered when determining ballast panel weight requirements, the zero velocity roof loads will be higher than those indicated due to the absence of the uplift component of wind load. The zero velocity roof load, in all cases, equals the weight of the mount, antenna, and ballast panel weights, divided by the total area enclosed by the perimeter of the mount (42 sq. ft.). Total roof loads under wind loading conditions would include wind forces and moments, weights of ballast, mount, antenna and roof pads. (Worst case ANSI/EIA-222-D download wind component =.003374 (A) (V) 2 at a 60° elevation angle).

5. Maximum wind velocities are based on a minimum 1.5 factor of safety against structural failure and overturning for the worst case antenna elevation angle. (See notes 12 and 13). The wind speeds which may occur at an installation must be determined on an individual site basis.

6. The tabulated wind speeds resulting in sliding are based on a factor of safety (F.S.) equal to 1.0 and a coefficient of friction (μ) equal to .50. (See note 13). A 1.0 factor of safety was used assuming that at higher wind speeds, safety cables or other suitable attachments to the support structure would prevent sliding beyond a safe, designated area. Wind speeds are given for 0, 20, and 40 degree antenna elevation angles. The .50 coefficient of friction value was determined from full-scale load tests using wet UNR-Rohn roof pads on wet troweled finished concrete. The appropriate coefficient of friction to determine wind speeds resulting in sliding must be determined on an individual site basis. The coefficient of friction may vary under changing moisture and temperature conditions.