

APPENDIX B - MOUNT SPECIFIC DATA

For General Dynamics CM-SNG Mounts

Date: 18 May 2011

Software Version: 1.60

This appendix describes RC3000 operations unique for the General Dynamics Commercial Mobile SNG (CM-SNG) family of mounts. Differences between these versions and the operation described in the "baseline" RC3000 manual are noted on a paragraph by paragraph basis.

1.1 Manual Organization

This appendix is provided as a supplement to the baseline RC3000 manual.

1.2 Mount Models

The differences between each mount type may be characterized by three major parameters:

- 1) reflector size
- 2) feed pallet configuration
- 3) polarization stow requirement

| Mount Type Designation | CM-SNG Model | Reflector Size | Feed Pallet Configuration | Polarization Stow |
|------------------------|---------------------------------|----------------|---------------------------|-------------------|
| VS | C180M with changeable feeds | 1.8 | Pivot | Yes |
| VT | C180M static feed with pol stow | 1.8 | Static | Yes |
| VU | C150M with pol stow | 1.5 | Static | Yes |
| VV | C120M with pol stow | 1.2 | Static | Yes |
| VW | C120M w/o pol stow | 1.2 | Static | No |
| VO | C240M | 2.4 | Static | Yes |
| VP | C180M static feed w/o pol stow | 1.8 | Static | No |
| VZ | C150M static feed w/o pol stow | 1.5 | Static | No |
| VY | C135M static feed w/o pol stow | 1.35 | Static | No |
| KC | C135M (VY with new pol) | 1.35 | Static | No |

1.3.2 System Interface Requirements

The CM-SNG family of mounts follows the standard RC3000 interface requirements.

The following should be noted:

- Mount types having the pivot pallet configuration (multiple, changeable feeds) will use polarization identification inputs described in section 2.2.7.
- Mount types with the polarization stow requirement will utilize a polarization stow limit switch

2.0 INSTALLATION

2.1.4 Inclinometer Orientation

For each CM-SNG mount the inclinometer should be rigged with the face of the reflector vertical.

2.3.2 Elevation Reference Position

| MODEL | VOLTAGE | OFFSET ANGLE |
|------------|---------|--------------|
| VS, VT, VP | 1.69 | 18.8 |
| VU, VZ | 1.69 | 15.8 |
| VV, VW | 1.69 | 12.8 |
| VO | 1.69 | 16.0 |
| VY, KC | 1.10 | 17.4 |

2.2.7 Accessories (applicable only to mount types with changeable feeds)

Polarization identification signals are input via the J8 accessories port pins shown below.

| POL ID bit | Input | +12V |
|------------|-------|------|
| f | 22 | 9 |
| j | 23 | 10 |
| E | 21 | 8 |
| R | 24 | 11 |

2.3.4 Polarization Calibration (applicable only to mount types with changeable feeds)

Separate reference voltages are maintained for the three linear feed types. At power up the linear feed type is sensed and the reference voltage stored for that feed type is used. Therefore the reference voltage for each linear feed type used should be separately set.

3.0 DETAILED OPERATION

3.3.2.5 Limits Maintenance (applicable only to mount types with changeable feeds)

| | | | | |
|--------|------|--------|----------|-----------------------|
| AZIM | CW:0 | CCW:1 | STOW:0 | LIMITS |
| ELEV | UP:1 | DN:1 | STOW:1 | f:1 E:1 ACTIVE |
| POL | CW:0 | CCW:1 | STOW:1 | j:0 R:0 |
| <BKSP> | MAKE | LIMITS | INACTIVE | <MODE>EXIT |

f:1 E:1**j:0 R:0**

The state of the feed type inputs is also shown. The letters f, j, E and R correspond to corresponding pin in the connector. A 1 indicates that a switch closure is sensed at the pin. Note that E actually represents a logical OR'ing of pins E and D. The following table shows how the feed input combinations are interpreted.

| Pin f | Pin j | Pin E | Pin R | Sensed Feed Type |
|------------------------|-------|-------|-------|-------------------|
| 0 | 0 | 0 | 1 | C-Band Linear |
| 0 | 0 | 1 | 0 | C-Band Circular |
| 0 | 1 | 0 | 0 | X-Band Circular |
| 0 | 1 | 0 | 1 | Ku-Band Linear |
| 1 | 1 | 0 | 0 | Ka-Band Circular |
| 1 | 1 | 0 | 1 | Ka-Band Linear |
| All other combinations | | | | INVALID FEED TYPE |

3.3.1.2 Reset Defaults

The following table supplies the default configuration item values for each mount type. Values common to all mount types are only shown in the first column.

NOTE: VY and KC mounts only differ by one value and are listed in same column.

Space has also been provided to record installation specific changes to the configuration items. Note: recording of installation specific changes to defaults may prove valuable when trying to restore system configuration.

