Model 7000

Beacon Tracking Receiver

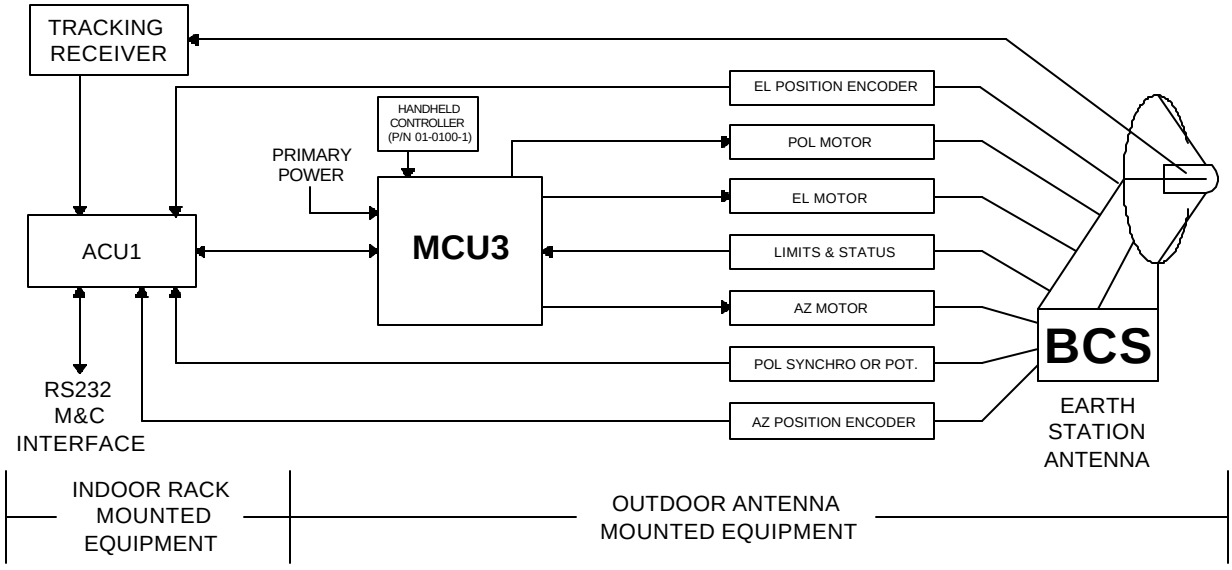
Model 7000 Beacon Tracking Receiver Overview

The Model 7000 Beacon Tracking Receiver developed by Bradshaw Communication Systems and shown above, is a frequency agile tracking receiver providing satellite beacon signal (or other SCPC signal) translation to a D.C. voltage proportional to signal strength. This translated D.C. voltage is used by earth station antenna control systems to automatically peak the antenna on satellite beam center.

The earth station antennas are most commonly steerable parabolic reflectors with two axes of motorized control and an optional motorized feed polarization axis. A typical system configuration is shown in Figure 1 and details interconnection of the Model 7000 Tracking Receiver with the other required system components that comprise a complete tracking antenna control system.

In addition to earth station antenna auto-tracking support, the Model 7000 may also be used to provide a reference for uplink power control systems. The receiver has a pre-detection bandwidth of 50 kHz. Frequency selection of the desired carrier is accomplished via the front panel or by a remote serial monitor and control link. Fully frequency agile, boasting any carrier selection within the 500 MHz band of the satellite, and a minimum step size of 10 kHz, the Model 7000 provides truly superior performance at an affordable price.

The Model 7000 comes complete with operation and maintenance instructions and mating connectors. Intuitive users interface and ease of setup and will provide the system operator with the high level of confidence needed in a new system from start-up to long term operation.



TYPICAL SYSTEM CONFIGURATION
FIGURE 1

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Model 7000 Beacon Tracking Receiver Specifications

- **Part Number Specific Specifications**
  - P/N 99-02000-1
    L Band Tracking Receiver
    Input Frequency: 950-1750 MHz @ -60dBm Nominal
    Input Impedance: 50 ohms L Band
    Freq. Select: Over 500MHz on 10KHz steps (local/rem.)
    Input Connector: Type "BNC" Female 50 ohm
  - P/N 99-03000-1
    C Band Tracking Receiver
    Input Frequency: 3700-4200 MHz @ -60dBm Nominal
    Input Impedance: 50 ohms C Band
    Freq. Select: Over 500MHz on 10KHz steps (local/rem.)
    Input Connector: Type "N" 50 ohm
  - P/N 99-04000-1
    Ku Band Tracking Receiver
    Input Frequency: 10.95-12.75 GHz @ -60dBm Nominal
    Input Impedance: 50 ohm Ku Band
    Freq. Select: Over 500MHz on 10KHz steps (local/rem.)
    Input Connector: Type "SMA" Female 50 ohm

All Units - Output DC Signal Strength Mating Connector Provided

- **General Specifications**
  - 2x20 Character Backlit LCD Display
  - Front Panel 6 Key Tactile Keypad
  - Receiver Output: 0 - 8 VDC for -75 to -60dBm Input
  - Lock/Alarm: Form C, 24V @ 1A Max
  - Noise Bandwidth: 50 kHz
  - AFC: 20 kHz
  - Tracking Threshold:
    4dB C/N for acquisition, <1 dB for lock
- **Physical**
  - Enclosure
    Rack Mount ANSI/EIA 1 Rack Height Chassis
  - Dimensions
    1.75” high x 19.0” wide
    (44.5mm high x 482.6mm wide)
- **Power Requirements**
  - 110/220VAC / 40-60Hz Auto-Sensing
- **Environmental**
  - +32° F to +122° F, 90% humidity, non-condensing
    (-0° C to +50° C, 90% humidity, non-condensing)

Conclusion

With over 40 years of combined experience in the Satellite Communications Industry, Bradshaw Communication Systems (BCS) has the solution to get your job done right and on time. By providing extremely high quality products and services at economical prices, BCS has become a respected name in the industry and the right choice when it comes to satellite earth station antenna products and services. BCS has provided custom solutions for numerous customers and stands ready to provide components, systems, and services to best fit your specific requirements. Please contact BCS today regarding your requirements.

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