



# Feeds and RF Technology

At TCS, we design and build everything from the feed down to the controller of our telemetry systems. Each part of the over all system is designed to meet our customers' specifications. In this ever-changing world of available RF spectrum, we have upgraded our feed line to keep up. We provide autotracking feeds in L-Band, S-Band, and C-Band. We have systems that provide autotracking in all 3 bands with a single antenna system using a Cassegrain configuration.

The Conical Scan Feed is at the heart of our feed line. Our design is both small and lightweight. The simplicity of the design provides for a cost-effective solution and one that is easy to maintain. A lower part count also leads to a higher reliability.

We offer cell phone rejection to prevent the new cell tower that they placed near your system from interfering with your data. We provide simultaneous Left Hand Circular Polarization (LHCP) and Right Hand Circular Polarization (RHCP) or simultaneous Vertical Polarization and Horizontal Polarization. If you need both circular and linear polarization support, we can provide the capability to switch polarizations from the ACU. Test inject ports are available on request.

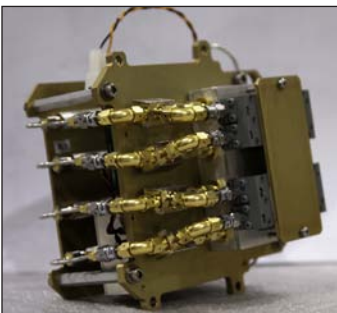
We provide digital phasing of the feed, done at the ACU. The ACU allows for the phasing to be changed at each band, allowing for optimal tracking performance. These phasing calibrations need only be done upon changing the receiver or feed.

Not all applications call for autotracking feeds. With a good timing source and good ephemeris, satellite tracking can be done without the need for an autotracking feed. Systems that can rely on good radar data are also good candidates for non-autotracking feeds.

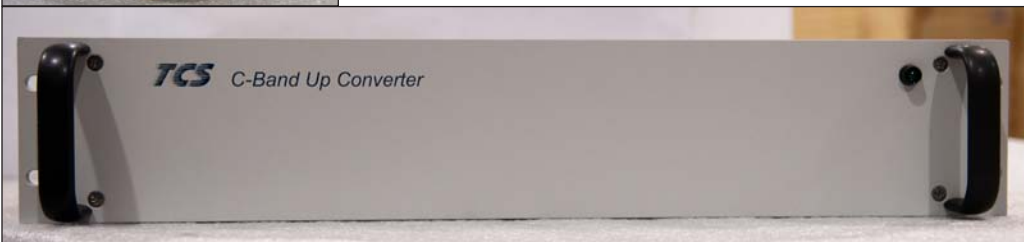


TCS offers feeds for program tracking only in many frequency ranges from UHF & VHF through the Ku Bands. We have one feed that receives in L-, S-, and X-Band in a single feed. This feed makes our Model 2400M Systems easier to deploy.

TCS offers boresites, as well, to be able to test and verify your systems before missions. These boresites range from simple cup/dipole combinations to boresites with reflectors for a more focused beam.



**C-Band Downconvert and Upconverter used with our C-Band Autotracking Feeds**

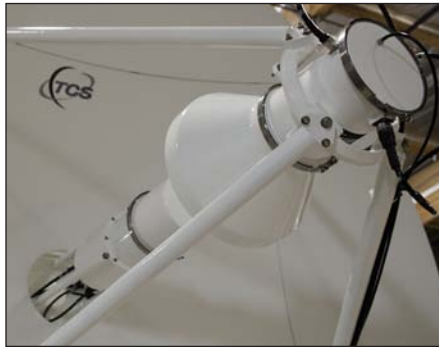


## L- and S-Band Conical Scan Feeds

<b>Frequency Range</b>	1435 MHz to 2400 MHz			
<b>G/T (Typical)</b>		<b>6' Reflector</b>	<b>8' Reflector</b>	<b>10' Reflector</b>
	<b>1435 MHz</b>	2.5 dB/K	5.0 dB/K	7.0 dB/K
	<b>2250 MHz</b>	6.5 dB/K	8.9 dB/K	10.9 dB/K
<b>Scan Speed</b>	20 to 35 Hz, User Selectable			
<b>Polarization</b>	Simultaneous RHCP and LHCP, Vertical and Horizontal, or Switched Linear and Circular			
<b>Options</b>	Cell Phone Rejection, 20 dB Attenuator, Test Injection, Transmit Capability Up to 200W, RF over Fiber, iNet Feed Option			



## C-Band Conical Scan Feeds (Prime Focus & Cassegrain)



<b>Frequency Range</b>	4400 MHz to 5150 MHz		
<b>G/T (Typical)</b>		<b>8' Reflector (Cassegrain)</b>	<b>10' Reflector (Cassegrain)</b>
	<b>4400 MHz</b>	11.2 dB/K	13.2 dB/K
	<b>4940 MHz</b>	12.2 dB/K	14.2 dB/K
	<b>5120 MHz</b>	12.5 dB/K	14.5 dB/K
<b>Scan Speed</b>	20 to 35 Hz, User Selectable		
<b>Polarization</b>	Simultaneous RHCP and LHCP, Vertical and Horizontal, or Switched Linear and Circular		
<b>Options</b>	Downconverter, Upconverter, RF over Fiber, Subreflector for Cassegrain Configuration		

## L-, S-, and X-Band Program Tracking Feeds

<b>Frequency Range</b>	1525-1559 MHz, 2000-2450 MHz, 8025-8400 MHz	
<b>G/T (Typical)</b>		<b>8' Reflector</b>
	<b>1544 MHz</b>	5.0 dB/K
	<b>2250 MHz</b>	10.0 dB/K
	<b>8300 MHz</b>	21.0 dB/K
<b>Polarization</b>	Simultaneous RHCP and LHCP	
<b>Options</b>	Signal Filtering	



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