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ANTENNA SYSTEMS FOR SPACE COMMUNICATIONS



Fig 22—Wilfred Carey, ZS6JT, constructed this cluster of satellite and EME antennas. Left to right: 2 × 23-element offset feed Yagi for U band; 1.64-meter dish with $2\frac{1}{4}$ -turn helix feed for S band; 2 × 11-element coplanar feed Yagi for V band. (ZS6JT photo.)



Fig 23—Robert Suding, W0LMD, modified this 4-foot dish antenna with a patch feed for S band and an Az-EI mount. (W0LMD photo.)



Fig 25—W0LMD increased to this 10-foot dish for AO-40 operations, with a triband patch feed for U, L, and S bands on an Az-EI mount. (W0LMD photo.)

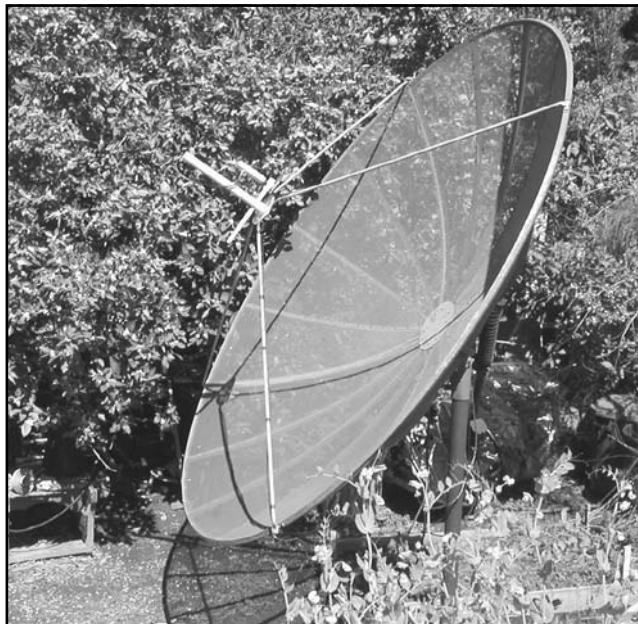


Fig 27—Clair E. Cessna, K6LG, has this 10-foot dish with S-band patch feed. This dish uses the original polar-mounting system and offsets the patch feed to compensate for AO-40's deviation from the Clarke belt. (K6LG photo.)



Fig 26—W0LMD found the ultimate in this 14-foot dish for AO-40, with a triband patch feed and Az-EI mount. (W0LMD photo.)

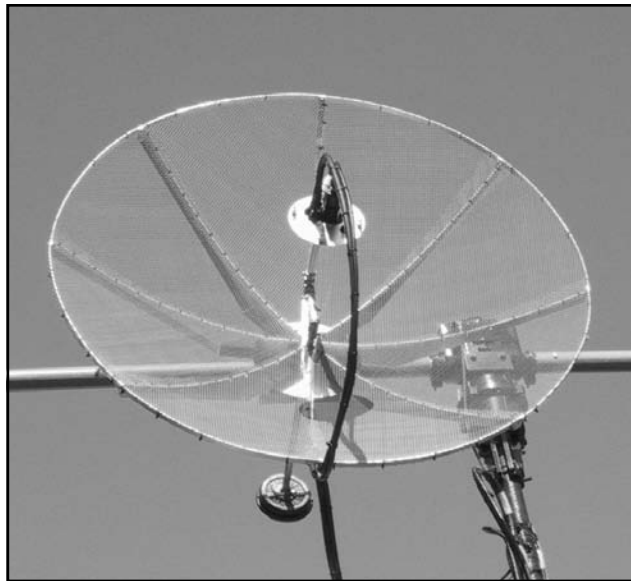


Fig 37—Prototype 1.2-meter dish by Rick Fletcher, KG6IAL, using a dual-band (L and S) patch-feed antenna for AO-40. See text. This kit dish is covered with 1/4-inch mesh. (KG6IAL photo.)



Fig 38—K5OE found this K-band dish on the Web and has set it up for the AO-40 K-band downlink. (K5OE photo.)

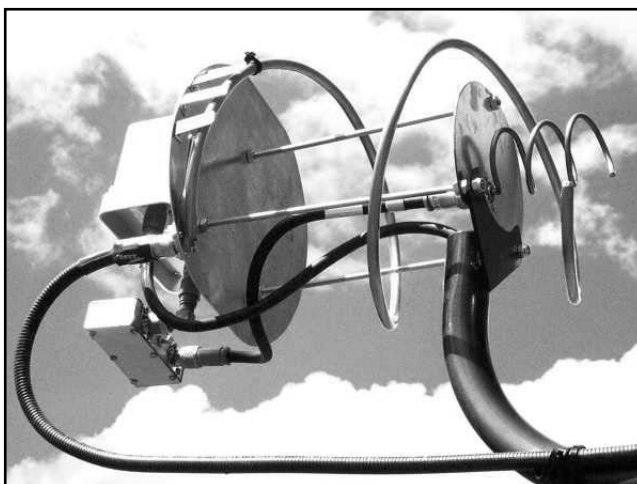


Fig 41—WØLMD's dual helix-dish feed for U and S bands. This early experimental feed was found to be wanting and he then turned to patch feeds for dishes. (WØLMD photo.)

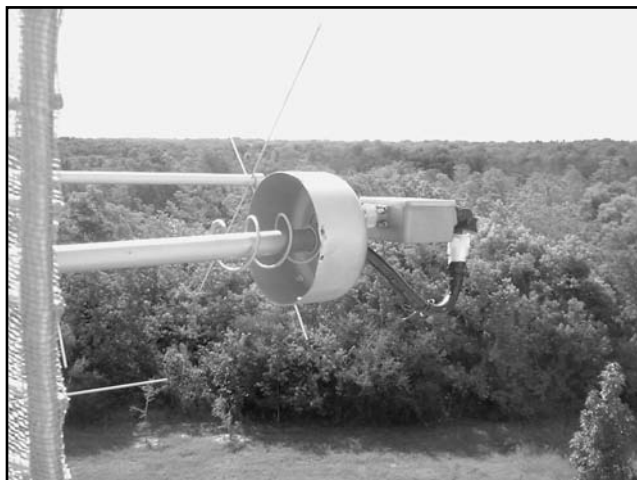


Fig 42—K5OE's helix feed for his MMDS S-band dish antenna. (K5OE photo.)

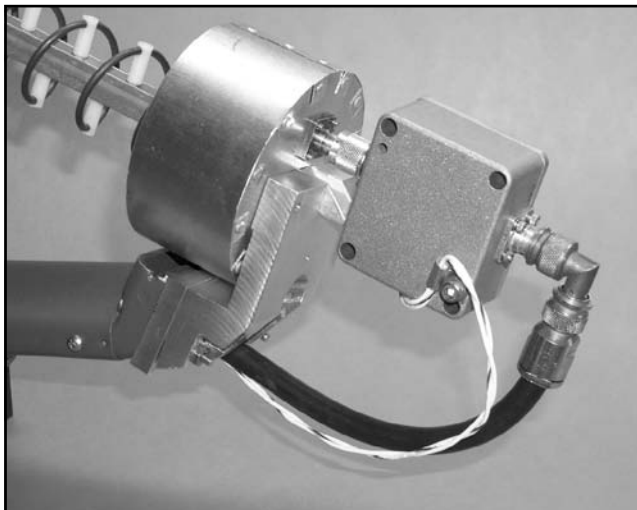


Fig 44—Mounting details of seven-turn helix and preamp. (WD4FAB photo.)



Fig 46—Welded pipefitting mount bracket for FABStar dish antenna. (WD4FAB photo.)

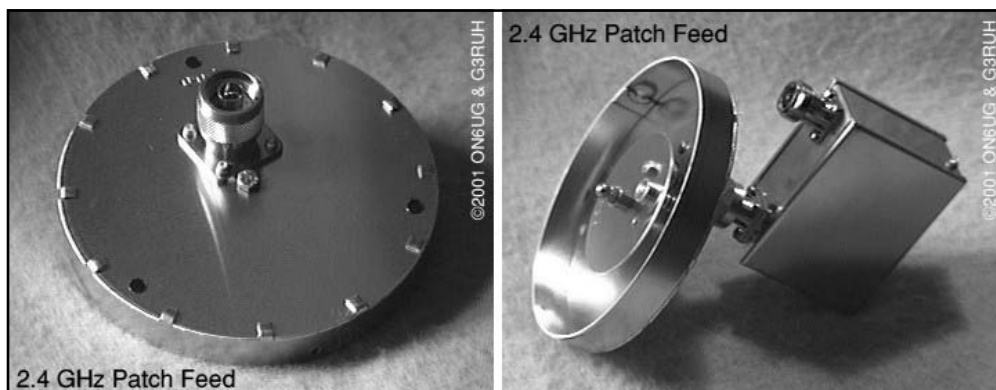


Fig 47—Details of CP-patch feed for short f/D dish antennas by G3RUH and ON6UG.



Fig 49—Some of the many experimental CP-patch-feed antennas by W0LMD. (*W0LMD photo.*)



Fig 50—The 1.2-meter dish with dual-band patch feed installed. (*K5OE photo; courtesy of The AMSAT Journal.*)

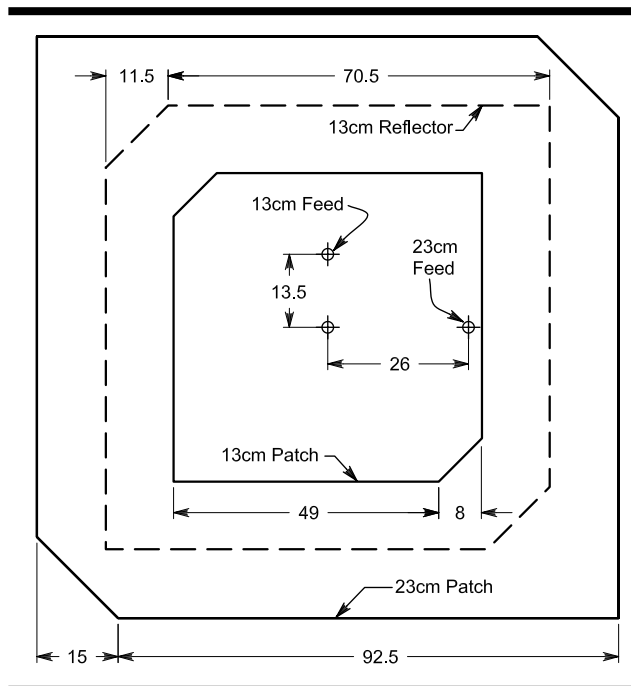


Fig 51—Dual-band patch feed dimensions, in millimeters. (K5OE diagram; courtesy of The AMSAT Journal.)

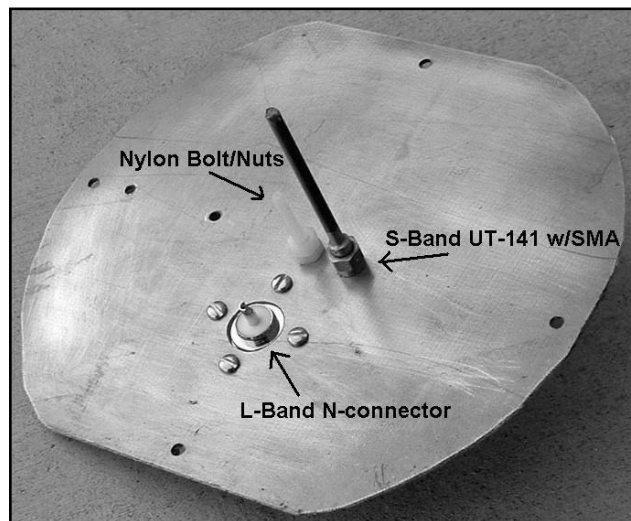


Fig 52—Assembly of the L band reflector. (K5OE photo; courtesy of The AMSAT Journal.)

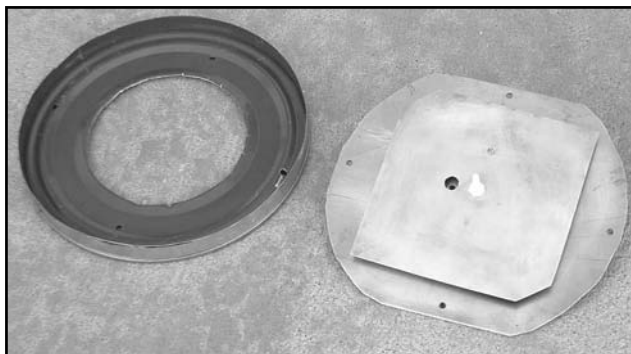


Fig 53—The support, L-band reflector and patch. (*K5OE photo; courtesy of The AMSAT Journal.*)

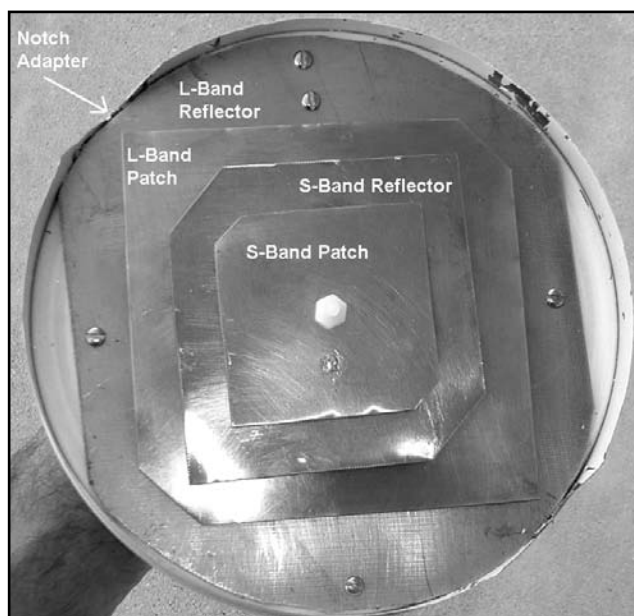


Fig 54—The completed dual-band patch feed. (*K5OE photo; courtesy of The AMSAT Journal.*)

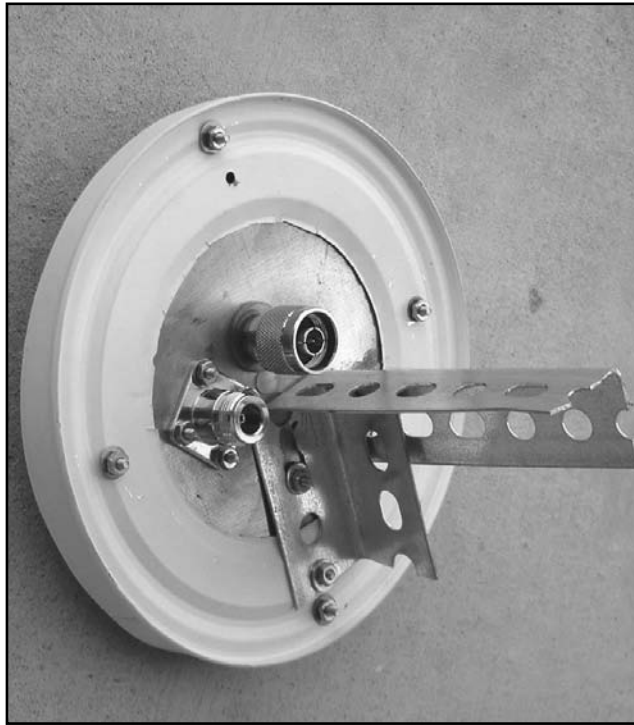


Fig 55—Rear of the completed feed. (K5OE photo; courtesy of *The AMSAT Journal*.)