LAMBDA

TV CP ANTENNA

- Circularly polarized
- Channels 2-6 Band I
  Channels 7-13 Band III
- Top Mounted
- Omni Directional
- Super-turnstile
  Replacement
- Grounded copper
  feed lines
- Radomes
- Elements at DC ground
  for lightning protection
- Hot dipped
  galvanized pole

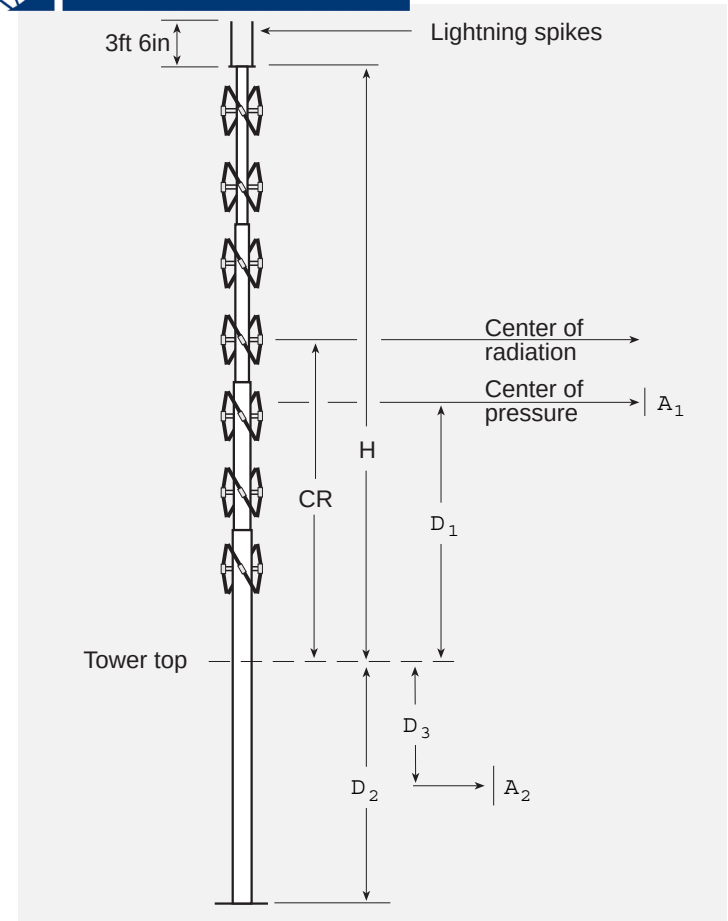

FIG. 1 KEY TO DIMENSIONS

channel	CR ft	H ft	A_1 ft^2	A_2 ft^2	D_1 ft	D_2 ft	D_3 ft	weight lbs
2	53.9	100.1	165	55	44.5	20	10	13,000
3	48.8	90.7	150	50	41.5	20	10	12,000
4	44.6	82.8	135	40	38.5	16.4	8.2	10,000
5	38.9	72.3	125	35	36.5	16.4	8.2	10,000
6	36.2	67.2	115	33	34.5	16.4	8.2	9,500

Note: Above Specifications are for a 7 bay system. For other configurations consult the factory

FIG. 2 MECHANICAL DETAILS

Operating channels		2-6
Circularity		1.5 dB
Axial Ratio		3 dB
Beam Tilt		1 deg.
Gain, RMS, each polarization		4.7 dB
Input Impedance		50 ohms
VSWR	Visual carrier	1.05:1
	Across channel	1.10:1
Input Connector		31/8 EIA
Power Rating (peak synch)		60 kW

Note: Above Specifications are for a 7 bay system. For other configurations consult the factory

The ADC Lambda CP antenna, for Band I channels 2 through 6, and channels 7 through 13 Band III, developed specifically to provide a top-mounted circularly polarized antenna with comparable loadings to the familiar horizontally polarized Super-turnstile. The antenna is conservatively designed with a power rating to achieve 100kW ERP per plane with ample reserve capacity.

Lambda antennas are ruggedly built for long trouble free life. Great attention has been paid to optimizing both the mechanical and electrical design. Careful selection of materials has resulted in a heavy duty galvanized steel pole and radiating elements, coupled with grounded copper, brass and gun metal distribution feeder components and stainless steel hardware. Radome protection of the feed points eliminates the need for expensive electrical de-icing.

Optimized Lambda antennas are produced for each Band I channel, 2 through 6, and Band III channels 7 through 13. The antenna consists of an array of X bays of 4 slant dipoles per bay. Antennas may be provided with either single or dual 31/8 EIA input flanges as indicated on the back cover schematic diagrams. Input fine matchers are included to minimize installation and commissioning time and provide optimum antenna match to the main transmission line.

Fig. 2 shows mechanical dimensions, aerodynamic areas and weights. Fig. 3 summarizes the electrical performance. The excellent omnidirectional horizontal radiation

pattern performance of both the horizontally and vertically polarized components is shown in Fig. 4 which also shows the axial ratio. Fig. 5 displays the vertical radiation pattern.

The mechanical data given in Fig. 2 is appropriate for standard antennas and could vary for a specific installation; ADC should always be consulted for specific sites. Aerodynamic areas have been calculated in accordance with the RS222E standard using the appropriate force coefficients. A1and A2 are the effective areas above and below the tower top, respectively. A2 includes the main power dividers and incorporates shielding effects.

ANTENNA TYPE NUMBER

The antennas type number provides a convenient reference to its main characteristics as illustrated below. For the Lambda antenna only two items are variable: the operating channel and the number of inputs.

A channel 4 antenna fed by two transmission lines would be designated:
T4C7.4LD60ND-2

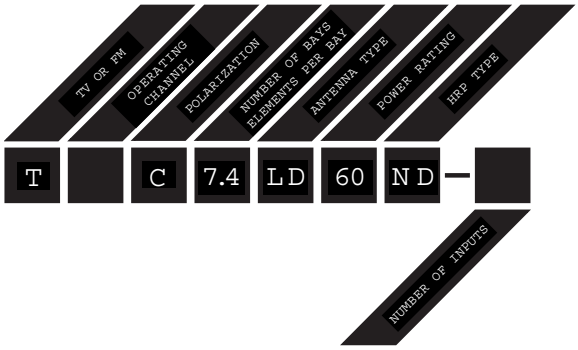

FIG. 3 ELECTRICAL PERFORMANCE

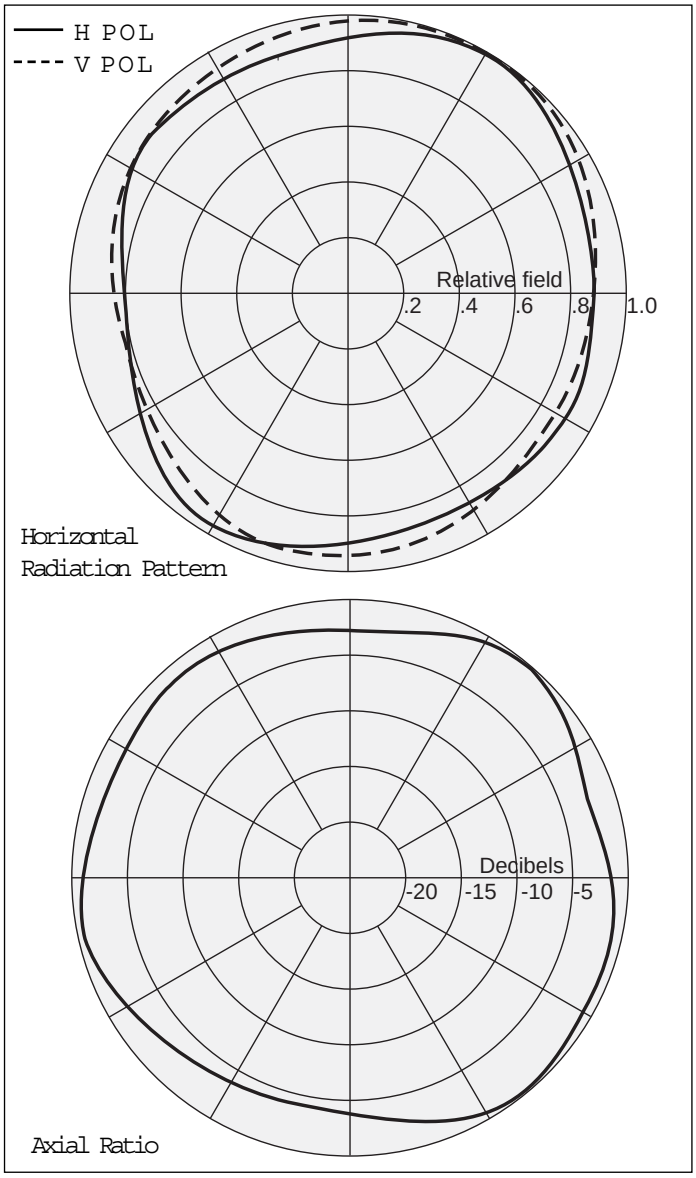

FIG. 4 HORIZONTAL PATTERN DATA

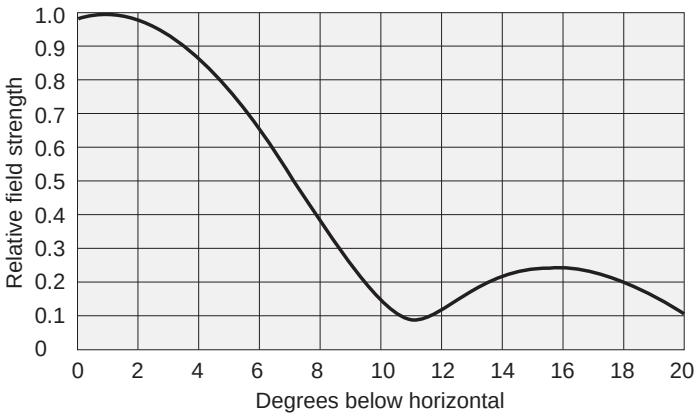

FIG. 5 VERTICAL RADIATION PATTERN

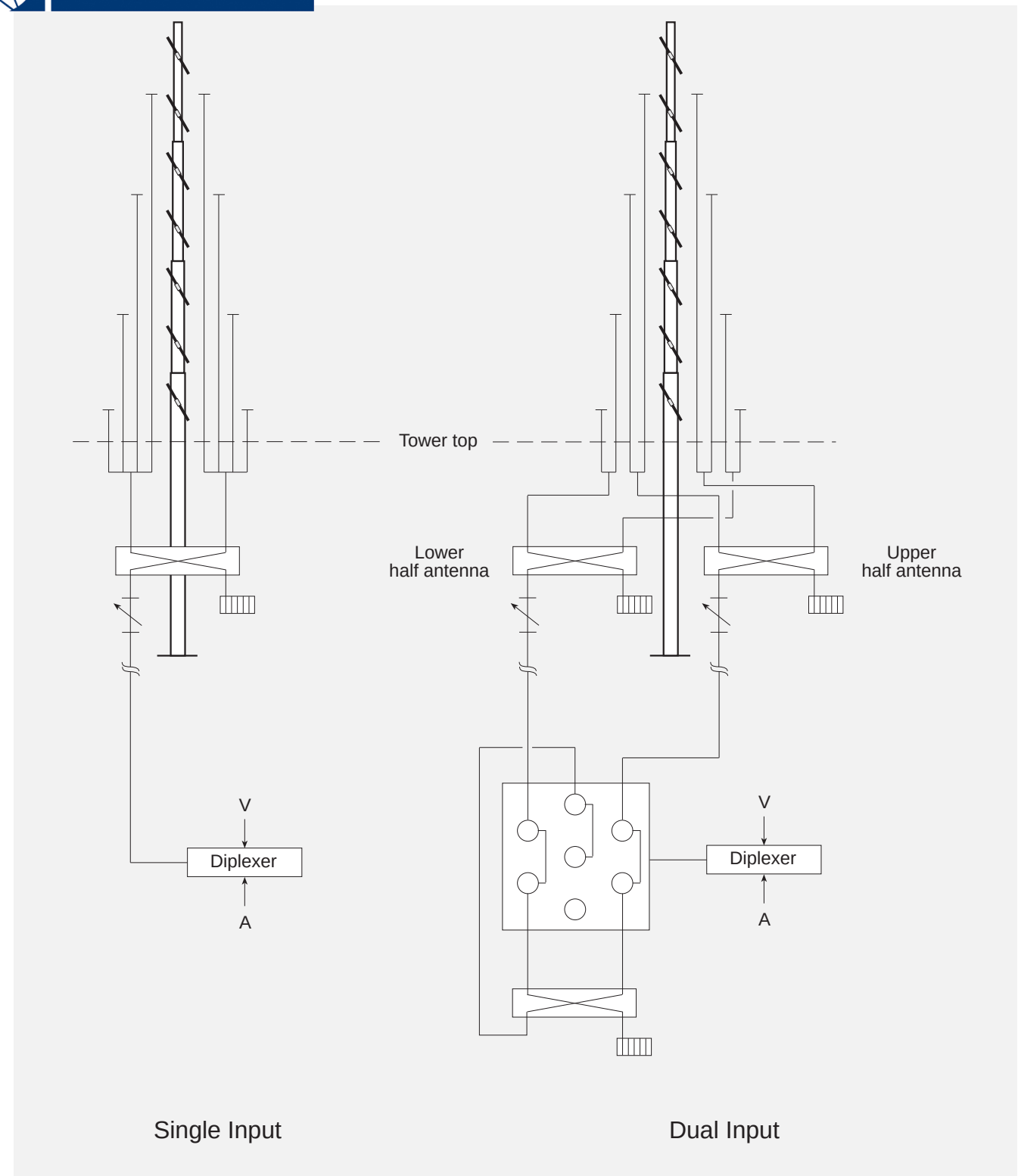

FIG. 6 TYPICAL INSTALLATION SCHEMATICS

ADCs Products and Services include Guyed towers Self Supporting Towers Cellular Antennas AM & FM Radio Transmitting Antennas VHF & UHF TV Transmitting Antennas TV and Radio Transmitter Combining Units RF Switching Frames and Transmission Line Components Installation and Commissioning