Phase Matching on a 6814 Dual-Feed System

Before beginning, refer to the installation drawing and the antenna manual, and become familiar with the details of your installation. Install the entire antenna and transmission system, then use the transformers to bring each half into the best possible match, as described in Chapter 2 of your manual.

Isolate the Transmission Lines from the Rest of the System.

a. Disconnect the lines between the transformers and the antenna halves at points A.

b. Attach short-circuits to both disconnected ends, above the transformers.

c. Disconnect the lower ends of the lines at the hybrid outputs or at equal line lengths from the hybrid output ports. Terminate the lower ends of the lines with flanges or fittings to mate to the outputs of your network analyzer.

Phase-Match the Transmission Lines Alone.

d. Using the network analyzer, phase-test the transmission lines alone.

e. Attach short transmission line sections (straight or elbow) as necessary to bring the phase between the two halves to 90° ± 3° in transmission (± 6° in reflection).

f. Mark the line that shows a -90° phase shift.

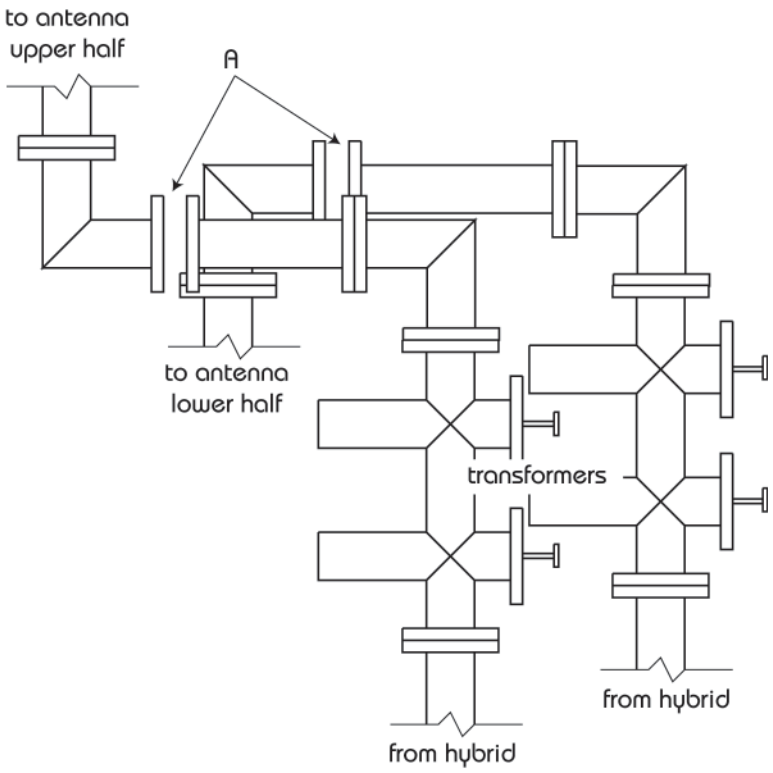
Reassemble the System.

g. Disconnect and remove the network analyzer and the fittings you used to mate to it in step c.

h. On the hybrid, identify the output port marked 0°. To that port, attach the line marked -90° in step f.

i. Attach the other line to the port marked -90°.

j. Reassemble the lines at points A above the transformers.



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