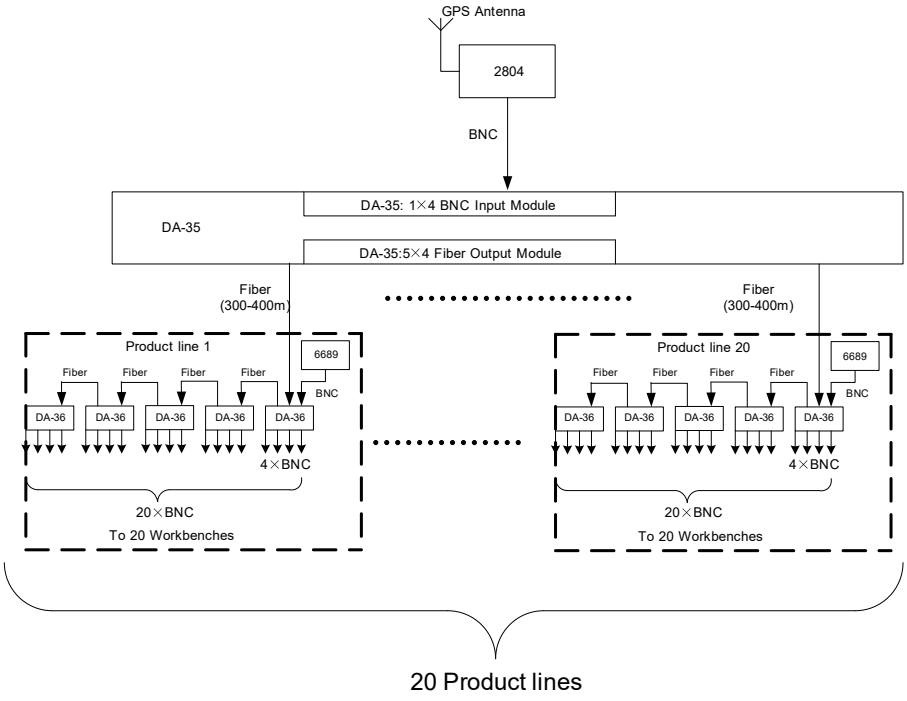
# DA-35 & 36

Wide-area Frequency Distribution for Telecom Equipment Manufacturing

SUCCESS STORY

## Background

A world famous telecom equipment manufacturer is now updating their large frequency distribution system, in a number of factories. This distribution system can supply the 10 MHz reference frequency from a central source to 20 product lines, each product line with 20 workbenches. The system has built-in redundancy via local Rubidium clocks in the product lines. The distance from the central reference source to the product line is about 300~400 meters.




## The System Solution

Pendulum offered the customer a total system solution with Pendulum test & measurement instruments, using:

- 2804 GPS-controlled Rubidium Master Clock, providing a very stable10 MHz reference frequency with close-to-Cesium stability. The 2804 is the central GPS traceable frequency source
- 6689 stand-alone Rubidium clock, used as local 10 MHz back-up clocks in each product line .
- DA-35 Frequency Distribution Rack, for transmitting the master clock frequency to each product line via optical fi bers. DA-35 receives the reference signal from the 2804 master clock, and then supplies the 10 MHz reference frequency signal to 20 product lines via fi ber. A single DA-35 rack can accommodate up to 36 individual fi ber outputs. Fiber distribution is the only feasible way of distributing the reference over such long distances, providing low attenuation and no electromagnetic noise pickup.
- DA-36 Frequency Distribution Box, delivering the 10 MHz reference frequency as electrical signals to the individual workbenches. Each product line has fi ve cascaded DA-36's to distribute the reference frequency to 20 workbenches The DA-36 has two reference inputs, one electrical and one optical. The master reference frequency from the 2804 clock is distributed by fi ber to the receiver's optical input. The back-up 6689 Rubidium Clock is connected to the electrical input. The optical reference from the 2804 master clock has priority and will be distributed. If it fails, for some reason, the 6689 back-up clock at the electrical input automatically takes over and assures that a stable 10 MHz clock signal is distributed to the outputs.

## Success Summary

Based on the customer's requirements, Pendulum offered a full system solution using Pendulum test & measurement instruments. The large frequency distribution system is redundant, easy to expand, and distributes stable reference signal over a long distance via optical fi ber in a cost-effi cient way. Spectracom's flexibility and ability to present a full system solution is a benefi t for the customer, saving time as well as money.





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