



## Frequency Distribution System Distribution Amplifier

### Model 8140



- **Eliminates periodic frequency calibration of test equipment**
- **For calibration lab or production test**
- **10 MHz or custom outputs**
- **Trunk-line frequency distribution lowers wiring costs**
- **Unlimited system size when daisy-chaining**
- **5-Year warranty**

Spectracom's Frequency Distribution System consists of the Model 8140 Distribution Amplifier and combinations of Model 8140T LineTaps, Model 8140MT MultiTaps, and Model 8140VT VersaTaps.

The Model 8140 Distribution Amplifier sends accurate frequencies to multiple locations over long distances. The amplifier derives 10 MHz from the input signal and sends it on the trunk line coaxial cables to up to 25 remote stations. Running a separate cable to each station is not necessary. Input and output signals are monitored. Faults trigger a visual indicator or activate on optional audible alarm. As distribution amplifiers are added, a virtually unlimited number of remote stations may receive output from one frequency standard.

Remote station LineTaps receive both 10 MHz and DC power from the trunk line cable. The signal is buffered and then converted to the frequency needed at that station. MultiTaps are configurable dividers with three square wave outputs. VersaTaps are single-frequency synthesizers that provide custom frequency outputs.

**Specifications**

**Frequency Output:**

Four connections provide 10 MHz sine wave signals to terminated cable via separate buffer amplifiers. Level is 0.5 V rms, 50 ohms, superimposed on +12 VDC. One front panel TTL-compatible output is selectable between 0.1, 1, 5 and 10 MHz. Phase noise is typically less than -130 dB/Hz 1 kHz from the carrier when the distribution amplifier is fed with noise-free 10 MHz.

**Number Of Remote Stations:**

Each Distribution Amplifier will drive up to 25 standard LineTap loads. If additional loads must be driven, another Model 8140 Distribution Amplifier may be "daisychained" onto the output of a LineTap to drive 25 more loads.

Tap	Standard Line Tap Load
8140T	1
8140MT	3
8140MT-40	1
8140VT-10-00	3
8140VT-10-00-40	1

**Distance To Remote Stations:**

Up to 25 LineTaps on RG-58 50-ohm cable at a maximum distance of 1500 feet from basestation. Model 8140TA Distribution Line Extender extends this distance to up to 3000 feet with fewer LineTaps allowed. Using low-loss cable such as RG-8 extends distance to 3000 feet for all 25 LineTaps.

**Audible Alarm (Option 20):** Activated by input or output loss

**Frequency Input:**

10 MHz; Signal level 0.25 to 3.0 Vms, 50-ohm impedance

**Input options:** 5 or 1 MHz

**Power:** 115/230 VAC ±15%, 50/60 Hz; 40 W

**Warranty:** 5-Year Warranty

**Physical & Environmental**

**Size:** 8.5" W x 5.25" H x 13.5" D (216 x 133 x 343 mm)

**Weight:** 12 lbs

**Connectors:**

**Input/Output:** BNC; 4 DC-isolated output terminators included

**AC power:** 3-prong connector, 7' cord included

**Controls:** Power switch, frequency select

**Indicators:** Power, output fault

**Temperature:**

0° to 50° C (32° to 122° F) operating range

-40° to 85° C (-40° to 185° F) storage range

**Humidity:** 95% R. H. non-condensing

**Ordering Information**

1. Specify Spectracom Model 8140 plus

**Option 01** for 19" EIA rack mount

**Option 07** for 5 MHz input

**Option 08** for 1 MHz input

**Option 20** for audible alarm

2. Specify output taps:

**Model 8140Txx provides fixed sine wave outputs:**

8140T10 = 10 MHz

8140T5 = 5 MHz

8140T1 = 1 MHz

8140TR1 = 0.1 MHz

Model 8140MT provides configurable TTL frequencies.

Model 8140VT provides fixed custom frequencies.

3. Specify any required Line Extenders, 8140TA.

4. When exceeding 25 standard LineTap loads, order additional Model 8140 Amplifiers (see table).

**Frequency Distribution System, Typical Interconnection Diagram**

