



SALES SERVICE INFORMATION

Technical Materiel Corporation
Mamar neck New York

SALES SERVICE BULLETIN NUMBER 114

Model TAK Six Channel Tone Keyer

The Model TAK is a highly versatile keying terminal consisting of a $10\frac{1}{2}$ " x 19 inch panel assembly 14 inches deep, containing six separate tone generating units with power supply and monitoring circuits, plus a phantom circuit which may be used over telephone lines when coils or repeaters are not introduced into the circuit.

The TAK is used for remote keying of six separate functions over a telephone line or radiotelephone link, and provides six standard tone frequency output voltages separated 340 cps with the lowest frequency at 765 cps.

The intelligence pulses from each of six circuits amplitude modulate (on-off) each of the respective tone channels. A high stability audio oscillator in each tone channel is provided with an adjustment for adjusting the frequency to its exact value. A balanced output stage is keyed by means of shorting the bias to ground with special emphasis on complete reduction of transients produced by keying. The output of each tone channel is fed through a band-pass filter network centered at that tone frequency, 150 cps wide at 3 db points for maximum attenuation of all undesired keying transients and sidebands. The output circuits of the six bandpass filter networks are bridged into a 600 ohm line transformer. The output level of each channel is controllable from the front of each unit and is indicated on the level meter. A variable output attenuator on the front panel in the combined output circuit permits adjustment of this level which is also indicated on the output level meter. Each of the channel tone generating circuits is constructed on a $2\frac{1}{2}$ " x 5" x 10" chassis which plugs into the shelf and panel assembly. Instantaneous removal of any of the six units is possible without impairing the operation of the remaining units. Guide strips on the shelf and guide pins on the plugs insure smooth rapid installation. Sockets on the back of the shelf assembly permit self-alignment of the receptacles and plugs. The tubes are accessible from the front. Jacks are provided on the front panel for connection to each of the keying circuits and to the combined output. Monitoring of keying characteristics and frequency of each channel is possible from the front panel without interruption of any of the circuits. The frequency monitoring circuit consists of a highly stable precision Wien Bridge which is calibrated to less than 10 cps at each of the six frequencies and provides a null indication on the meter on the front panel. A screwdriver adjustment in each channel permits adjustment of the frequency to the standards in the monitoring circuit. Power supply is precision voltage regulated.

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Technical Specifications:

Input Signal: Contact closing to ground.

Output Frequency: 765, 1105, 1445, 1785, 2125 and 2465 cps.

Output Level: Variable to plus 3 dbm on mark and 0 on space.

Output Impedance: 600 ohms balanced with center tapped phantom circuit.

Keying Speed: 100 wpm Max. Morse and 100 wpm Max. Teletype.

Controls:

1. Primary power switch.
2. Individual Channel level controls.
3. Individual frequency adjustment controls.
4. Common output attenuator.
5. Level meter selector switch.
6. Monitor frequency selector switch.
7. Individual test key switches.

Metering:

1. VU meter for indicating level of each channel and output circuit.
2. Null indicator for frequency monitoring circuit.

Power Requirements: 110/220 v 50/60 cycles, 100 watts, with connection at rear of chassis.

Dimensions: 10 $\frac{1}{2}$ " x 19" x 14".

Weights: 65 pounds.

Tube Complement:

6 ea. 6AU6	Oscillator
1 ea. 6AU6	Null Oscillator
6 ea. 6J6	Keyed Amplifier
1 ea. 5U4G	Rectifier
1 ea. VR 90	Regulator
1 ea. 6SH7	DC Amplifier
1 ea. 6AS7	Control Tube
1 ea. 6X5	Bias Rectifier
1 ea. VR 75	Bias Regulator

Components & Construction: Equipment is manufactured in accordance with JAN specifications wherever practicable.

We reserve the right to make engineering changes in these specifications when required.