

**TABLE B
SPECIFICATIONS (Cont.)**

Levels	
MF and DTMF Levels (Transmit)	2-Wire (-3 db TLP): each tone is -6 dBm 4-Wire Originating (-1 6 dB TLP): each tone is -22 dBm 4-Wire Terminating (+7 dB TLP): each tone is +1 dBm
SF Levels (Transmit)	Originating: T,R (-19 dB TLP): -36 dBm Terminating: TI, RI (+,40 dB TLP): -13 dBm During Dial Pulse sending SF level increases 12 dB +/- 1.0 dB
Output Level Accuracy	+/- .5 dB (MF, DTMF and SF)
Supervision	
Type of Supervision	LOOP, E&M or SF
Supervision Sensors	Loop: Voltage >37V = ON-HOOK <37V = OFF-HOOK <3V = no indication E Lead: Voltage > 1 6V = ON-HOOK <5V = OFF-HOOK 6V-40V = no indication M Lead: Voltage <6V = ON HOOK >16V = OFF-HOOK 4.2V-22V = no indication TR SF Receiver > -42 dBm 2600 Hz = Detect T1R1 SF Receiver > -19 dBm 2600 Hz = Detect
SF Receivers	Bandwidth: +/- 50 Hz Dynamic Range: 22 dB
Impedances	
Impedance (TR)	MONITOR: 500 K ohms SEND (2-Wire): 900 ohms +/- 5% SEND (4-Wire): 600 ohms +/- 5%
Impedance (T1R1)	MONITOR: 500 K ohms RECEIVE (4-Wire): 600 ohms +/- 5%
Impedance (E LEAD)	MONITOR: 200K ohms RECEIVE (ON-HOOK): open RECEIVE (OFF-HOOK): Ground
Impedance (M LEAD)	MONITOR: 200 K ohms SEND (ON-HOOK): Ground SEND (OFF-HOOK): Battery (1 K ohm internal termination during send)
Digital Levelmeter	
DVM Level Range	-54 dBm to +1 2 dBm
DVM Frequency Range	404 Hz to 2804 Hz (for specified accuracy)
DVM Resolution	+/- .1 dBm

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Digital Levelmeter (Cont.) DVM Accuracy	+/- .1 dBm; +/- 1 Count (-30 dBm to +1 2 dBm) +/- .3 dBm; +/- 1 Count (54 dBm to -30 dBm)
DVM Detector Type DVM Sample Rate	Average responding: calibrated in RMS 5 per second (1 0 per second during auto-ranging)
Miscellaneous Digit Storage	In AUTO or REPEAT SEND, sequences of up to 125 digits or pauses can be stored and outpulsed as desired.
Electrical Circuit Type	CMOs
Power Requirements	10 "D" cell batteries or -42 to -56 VDC with a current drain of .100 mA as normally supplied by the central office battery. Central office battery is required if E&M supervision is sent.
Power Requirements for 314 with Drop and Insert	115 VAC, 60 Hz, 30 watts maximum
Battery Life	Approximately 200 hours
Environmental Temperature Range Relative Humidity	0 degrees to 50 degrees C (Operating or Storage) 0 to 90% No condensation
Mechanical Size (HxWxD)	7.0 x 11.0 x 7.0 inches 17.8 x 27.9 x 17.8 centimeters
Weight 12 lbs. (5.5 Kgs)	
Circuit Access	310 type jacks: TR, T1R1, E&M, TELSET, -48, REMOTE
Controls	Trunk Type: LOOP NORMAL, LOOP REVERSE, E&M ORIGINATING, E&M TERMINATING, SF ORIGINATING, SF TERMINATING Pulsing: MF, TT, DP Function: MONITOR, MANUAL SEND, AUTO SEND, REPEAT SEND, DVM ON, KEYPAD, VOLUME, CLEAR, GS TIP, GS RING, PAUSE, ON-HOOK/OFF-HOOK, POWER
Display Indicators	4 LED digits (0.625 inches high) Originating ON-HOOK and OFF-HOOK, Terminating ON-HOOK and OFF-HOOK, Group 1, Group 2, LOOP NORMAL, LOOP REVERSE, E&M ORIGINATING, E&M TERMINATING, SF ORIGINATING, SF TERMINATING, MF, TT, DP, MONITOR, MANUAL SEND, AUTO SEND, REPEAT SEND

2. Description

A. General

2.01 The Model 314A Trunk Test Set is a portable Multifrequency (MF) TOUCH-TONE (DTMF) and Dial Pulse (DP) sender combined with an autoranging digital level meter. The instrument is useful in all local and toll switching offices for testing trunks, trunk equipment, incoming registers, and special service circuits. Advanced microprocessor techniques are used in the 314A to produce an instrument that is extremely versatile and yet easy to use. A photograph of the Model 314A Trunk Test Set is shown in Figure 1.



Figure 1. Model 314A Trunk Test Set

2.02 The front panel controls are logically grouped according to function. LED indicators are used to indicate which control functions have been selected,

2.03 The six keys in the Trunk Type group are used to select the type of supervision used on the trunk to be tested. LOOP, E&M, or SF supervision may be chosen. The supervision status is clearly shown by two sets of ON-HOOK and OFF-HOOK LED indicators. One set is for the Originating office; the other is for the Terminating office. These indicators are connected to the appropriate detectors as selected by the Trunk Type keys. Supervision sent by the 314A is controlled by the ON-HOOK/OFF-HOOK switch located on the lower right side of the front panel. This switch is used when any SEND Function key is selected.

The three keys in the Trunk Type group labeled (1), (2), and (3) are dual purpose keys that are also used to select FEATURES 1, 2, or 3. The three FEATURES are:

FEATURE 1: TRUNK TRANSMISSION CHECK

FEATURE 2: TRUNK NOISE CHECK

FEATURE 3: Reserved for future use

2.04 The three keys in the Pulsing group are used to select the type of pulsing to be sent. Multifrequency (MF), TOUCH-TONE (DTMF) or Dial Pulse (DP) may be chosen. All 15 MF codes including KP, ST, STP, ST2P and ST3P are provided for testing CAMA, TSPS, and IDDD trunks. All 16 TOUCH-TONE codes are provided for testing local, special service and AUTOVON circuits. Pulsing is sent as entered on the 16-key KEYPAD. Illegal entries such as MF or TT special purpose codes are ignored when sending Dial Pulse. Outpulsing may be either manual, automatic or repetitive.

The FEATURE (F) key in the Pulsing group enables the three "Trunk Type" keys to perform a second function, i.e. the selection of FEATURE 1, 2, or 3.

2.05 The four Function keys are used to select the operating mode of the 314A. In MONITOR operation, no pulsing or supervision is sent. The supervision LED display, digital levelmeter, and monitor speaker are connected to the trunk under test through a high impedance bridging input circuit to insure no circuit loading.