

toward the CO, then connect to the other side of the pair (going to the CO). Make sure that the RJ-45 end of the cable is securely plugged into the connector on the top of the FED. Attach the test leads to the test pair. The black clip lead is attached to the tip (A) and the red clip to the ring (B) of the pair. The green clip is attached to the shield and local ground (earth). If desired the FED can be powered up by pressing the on/off pushbutton (once for idle mode, twice for ID tone). If the ID tone is not needed, the unit can be left off since the 965DSP will automatically power it up during the test sequence. Now go to the opposite end of the test section and connect the 965DSP to the pair as described in the Auto test procedure.

Specifications

Size:	2.6" X 4.7" X 0.9" (6.6 X 11.9 X 2.3 cm)
Weight:	5.6 oz. (159 g.) with battery
Oper. temp.:	0 to +140°F (-18 to +60°C)
Stor. temp.:	-40 to +165°F (-40 to +75°C)
Battery life:	40 hours typical
Battery shelf life:	2 months (installed)
Replacement battery:	Duracell MN1604 or equivalent
Strap resistance:	Less than 0.2 ohms

DC input impedance:	>100 megohms tip-ring-gnd
AC input impedance:	~100 kohms in series with 470 pf tip-ring
Voltage rating:	250 Vdc, 150 Vac
ID tone frequency:	577 Hz & 1004 Hz
ID tone amplitude:	8 volts p-p no load typical
Transmitted tones:	0 dBm ± 0.5 dBm 400 Hz to 100 kHz 0 dBm ± 1.0 dBm 100 kHz to 1.2 Mhz

IMPORTANT NOTICE

Before using this product, you must evaluate it and determine if it is suitable for your intended application. You assume all risks and liability associated with such use.

Warranty; Limited Remedy; Limited Liability.

This product will be free from defects in material and manufacture for a period of one year from the date of purchase. **3M MAKES NO OTHER WARRANTIES INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.** If this product is defective within the warranty period stated above, your exclusive remedy shall be, at 3M's option, to replace or repair the 3M product or refund the purchase price of the 3M product. **Except where prohibited by law, 3M will not be liable for any loss or damage arising from this 3M product, whether direct, indirect, special, incidental or consequential regardless of the legal theory asserted.**



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Far End Device Model 1332

Operating Instructions

[3M Dynatel Model 1332 Specs](#)

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Introduction

The 3M™ Model 1332 Far End Device (FED) is an accessory device to the 3M™ Dynatel™ 965DSP Subscriber Loop Analyzer. When used with the Dynatel 965DSP, the FED improves work efficiency by automatically providing some necessary functions at the far-end of the pair under test during pair qualification testing. The 965DSP controls the FED using DTMF signaling. The FED supports the following functions of the 965DSP Auto Test feature:

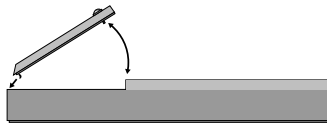
- Loop Resistance (shorts Tip to Ring)
- Resistive Balance (shorts Tip-Ring to Ground)
- Single Tone & Sweep Loss (sends loss tone)

The 3M FED is contained in a small plastic case with an on/off pushbutton and LED power/battery indicator. It is powered by a 9-volt alkaline battery (supplied). The test lead is terminated with an RJ-45 on one end and three color-coded heavy-duty alligator clips on the other. The RJ-45 connector plugs into the top of the FED case. The three alligator clips attach to the pair under test.

Installing or Replacing the Battery

Turn the unit over so that it is facing down. Loosen the screw at the top-center of the battery cover (beneath the rear label) using

a small phillips screwdriver. Remove the cover by lifting the part closest to the retaining screw (cover is hinged at the bottom). Remove the battery from the compartment. Unsnap the clip from the battery and discard per applicable regulations. Press the clip onto the contacts of the new battery, making sure that the contacts mate properly. Place the battery back in the compartment as shown on the rear label. Insert the two tabs of the battery cover into the lower part of the opening being careful not to force it. Press the cover into place and tighten the retaining screw.



Power-up

The 3M FED can be turned on manually (by the user) or remotely (by the 965DSP).

The FED is powered up manually and placed in an idle state by pressing the on/off pushbutton once. If the pushbutton is pressed twice rapidly in succession, the unit is powered-up and begins sending an identification (ID) tone. The ID tone, when applied to the pair under test, can be used to identify the pair at the other end of the

pair. Pressing the pushbutton once more turns the unit off. If the FED is powered up in the ID tone mode, it can also be used to measure continuity. The FED will produce a continuous tone if the resistance between the black and red test clip is 800 ohms or less. This feature can be used to positively identify a pair if the tip and ring at the other end has been shorted together.

The FED is powered up remotely by the 965DSP at the beginning of the Auto test sequence. The 965DSP accomplishes this by sending a short burst of an ID tone down the pair. This is received by the FED and interpreted as a wake-up signal.

When the FED is powered up, the LED will begin to flash at a rate of about four times per second. If the unit detects that the battery is weak, the LED will flash once per second. The battery should be replaced as soon as possible when this occurs.

Connecting the 3M FED

Once the test pair has been located, the FED can be connected to the pair at the initial work point. Normally this pair would be opened at the pedestal or splice point. The FED is connected to the pair in the direction to test. If the section to be tested is between the pedestal and the subscriber, connect the FED to the pair going to the subscriber's premises. If the section is