



3M™ Dynatel™ Far End Device III

Optimized for VDSL2, Outside Plant and Central Office Applications

The 3M™ Dynatel™ Far End Device III (FED III) is an accessory device to the 3M™ Dynatel™ Advanced Modular System 965AMS family. When used with the Dynatel™ 965AMS, the FED III helps improve work efficiency by automatically providing tones and terminations at the far-end of a pair under test during pair qualification testing. The 965AMS remotely controls the FED III using DTMF signaling.

The FED III supports the following functions of the 965AMS Autotest feature:

- Loop resistance (shorts tip to ring)
- Resistive balance (shorts tip-ring to ground)
- Longitudinal balance (provides IEEE balance termination)
- Noise (provides quiet termination)
- Single tone and sweep loss (sends loss tones for voiceband and wideband qualification)

The FED III is housed in a rugged Xenoy® plastic case. The user interface is provided by a keypad with five function keys (on/off, battery test, ID tone, two spares) and four LEDs (status and battery level). The FED III is powered by four AA alkaline batteries (supplied). Three sets of test leads and one ground lead (supplied) plug into seven jack positions on the front of the case and are terminated in heavy-duty alligator clips. Each test lead set is color-coded for ease of attachment to the appropriate pair under test.



3M™ Dynatel™ Far End Device III

Features

Input Keys

"ON/OFF"

Unit can be turned **ON/OFF** either by this key or remotely by a 965AMS or 3M™ Dynatel™ Subscriber Loop Analyzer 965DSP

Unit automatically turns off at programmed time from last key push or command (automatic OFF time can be adjusted remotely by AMS)

"BATT TEST"

Provides a battery test that indicates battery level on keypad LED's

"ID TONE" & audible continuity test

ID tone on pair 1

T-R resistance on pair 1 < ~1 Kohms

"F1" key for future options

"F2" key for future options



Features (continued)

Visual indicators	Status LED: blinks indicating activation
	Batt '1' LED on: battery > 75%
	Batt '1/2' LED on: battery > 50%
	Batt '0' LED on: battery > 25%
	Batt '0' LED flashing: battery < 25%
Auto power down time	30 minutes (AMS can override & turn FED III unit ON/OFF at any time)
Continuity resistance	Buzzer tone if resistance between Pair 1 leads is less than ~1 Kohms (during ID tone)
Control commands	DTMF signaling from 965AMS or 965DSP
Software upgrade	USB mini-B receptacle accessible from sealed battery compartment - Standard USB cable (supplied)

Electrical Specifications

Tone output	400 Hz to 100 kHz 100 kHz to 2.2 MHz 2.2 MHz to 30 MHz Low power level is -20 dBm nominal	0 dBm or -20 dBm / ± 0.5 dB 0 dBm or -20 dBm / ± 1.0 dB -5 dBm / ± 1.5 dB
Tone output impedance (controlled by AMS)	400 Hz to 20 kHz 20 kHz to 400 kHz 20 kHz to 30 MHz 20 kHz to 30 MHz	600 135 100 75
Longitudinal balance termination	IEEE 455-1985	
Strap resistance	< 0.2 (internal to FED III)	
DC input impedance	>100 M Tip-Ring-Gnd	
AC input impedance	100 k in series with 470 pF (cadence wakeup circuit)	
Voltage rating	250 VDC, 150 VAC (Tip-Ring-Gnd)	
ID tone frequency	Alternating 577 Hz and 1004 Hz tone interrupted @ 20 Hz applied Tip to Ring Source impedance 600 ohms (sine wave)	
ID tone amplitude	10 V pk-pk typical	

Battery

Battery type	4 AA alkaline cells (type E91 or equivalent)
Battery life	~70 hrs @ 40 mA avg load ~140 hrs @ 20 mA avg load
Battery shelf life	>12 months with unit OFF typical

Physical/Environment/Compliance

Dimensions	6.8" L x 4.6" W x 1.4" Thick
Weight	15.75 oz (with batteries)
Operating temperature	-18°C to 60°C
Storage temperature	-40°C to +75°C
Water, dustproof	Meets IP65 per IEC 529(1989) for rain and dust Immersion test IP67 0.15m deep
Drop test	Survives 5 ft. drop onto concrete with soft case using ASTM D4169 assurance level 1 method 5276
Vibration	Meets Mil 810F method 514.5
Emissions	FCC Part 15 Class A, EN55022
ESD	EN61000-4-2, EN61000-4-3

Accessories

Soft case	Top plastic hook provides for hanging in customer applications Access to battery compartment for battery change Provides storage for instructions and test leads
Test leads	3 Red/Black grouped pairs (BLUE, RED, YEL) each 21" long Blue group is Pair 1, Yellow group is CO Pair, Red group is Pair 2 GREEN lead is 32" long
Operators manual	
USB cable	USB A Plug – Mini USB B Plug

Ordering Information

Model 1193	FED III with BON test leads	80-6113-2640-8
Model 1195	FED III (Canada model)	80-6113-2642-4
Model 1196	FED III with banana jack test leads	80-6113-2643-2

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