MULTI-SERVICE TIMS (Transmission Impairment Measuring Set). The 806A supports a wide range of services including: POTS, DATA, Program, DDS, DSL (ISDN basic rate), and T1 via HDSL. It measures: LEVEL, DELAY, FREQUENCY, NOISE, NOISE with TONE, S/N RATIO, NOISE to GROUND, IMPULSE NOISE, IMPULSE NOISE with TONE, and IMPULSE NOISE to GROUND per IEEE Standard 743-1995. The 806A is easy to operate from the front panel (or from a personal computer) and it has AUTO-TEST capability for VF, DSL and HDSL facilities. It is also accurate, rugged and economical.

STRAIGHTAWAY DELAY Expanded use of 2 Wire transmission (FAX, Modem, ISDN DSL, and HDSL) has accentuated the need for a 2 Wire, STRAIGHTAWAY Envelope Delay Distortion (EDD) Measurement. The 806A introduces a new, Patented EDD Technique which: handles VF, DSL, and HDSL Frequencies; measures on a 2 wire basis; is comparable to, and compatible with the Standard 4 Wire EDD Measurement.

Extended Round Trip Delay was added to facilitate alignment of delay lines in Simulcast Radio Systems.

NOISE is measured with one of eight weighting filters. Noise-to-ground (or Power Influence) is measured directly using standard test leads. A 1010 Hz Notch Filter is provided to measure NOISE-with-TONE, Signal to Noise Ratio, or Signal to Total Distortion Ratio.

<table>
<thead>
<tr>
<th>FILTER</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>C MSG</td>
<td>POTS Voice Traffic</td>
</tr>
<tr>
<td>D filter</td>
<td>POTS modem or fax</td>
</tr>
<tr>
<td>3.4 kHz</td>
<td>POTS power line / ringing interference</td>
</tr>
<tr>
<td>15 kHz</td>
<td>POTS Level, Delay, EDD / Program Noise</td>
</tr>
<tr>
<td>1010 Notch</td>
<td>POTS S/N Ratio / Noise, S/N on PCM</td>
</tr>
<tr>
<td>E Filter</td>
<td>ISDN (DSL) Level and Noise / DDS</td>
</tr>
<tr>
<td>F Filter</td>
<td>HDSL Level and Noise, S/N Ratio</td>
</tr>
<tr>
<td>200 kHz</td>
<td>ISDN (DSL) and DDS Attin Dist, EDD</td>
</tr>
<tr>
<td>500 kHz</td>
<td>HDSL Level, Attenuation Distortion, EDD</td>
</tr>
</tbody>
</table>

CONTROLS Front panel controls are simple and utilize large bright LED displays and indicators which are grouped for ease of use. The 806A comes with software that runs under DOS or Windows. The PC communicates with the test set through an RS-232 Port which is located on the side or rear of the test set.

The Portable 806A includes: a rechargeable battery, padded field case, two miniature phone plug / clip test leads, an RS-232 PC Cable, PC Software, Operating Manual, and an AC Power Cord. The battery powers the test set for 8 hours.

The Rack Mounted 806AR has the I/O brought out on jacks on the front panel and spade lugs on the rear panel. 115 VAC Power standard. 230 VAC, -24 or -48 VDC options available.
**LEVEL**

Dynamic Range
-80 to +24 dBm 15 kHz, 200 kHz-600/900
-70 to +24 dBm 200 kHz, 500 kHz
-20 to +20 dB TLP offset

Freq. Range 20 Hz to 300 kHz
Resolution 0.1 dB
Detector Average or RMS, Selectable

Accuracy
<table>
<thead>
<tr>
<th>+24 dBm</th>
<th>-0.2 dB</th>
<th>±0.5 dB</th>
<th>±1 dB</th>
</tr>
</thead>
<tbody>
<tr>
<td>±0.5 dB</td>
<td>±0.2 dB</td>
<td>±0.5 dB</td>
<td>±1 dB</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Filters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hum Reject, IN/OUT High Pass, -60 dB at 60 Hz</td>
</tr>
<tr>
<td>15 kHz Flat, HF Low Pass, -3 dB at 15 kHz</td>
</tr>
<tr>
<td>200 kHz, Wide Band Low Pass, -3 dB at 200 kHz</td>
</tr>
<tr>
<td>500 kHz, Extra WB Low Pass, -3 dB at 500 kHz</td>
</tr>
</tbody>
</table>

**FREQUENCY**

Count Range 20 Hz to 300 kHz
Level Range -50 to +24 dBm, 15 kHz Bandwidth
-40 to +24 dBm, 200 kHz Bandwidth
-30 to +24 dBm, 500 kHz Bandwidth
Resolution 1 Hz to 30 kHz, 10 Hz to 300 kHz
Accuracy ±1 Hz to 30 kHz, ±10 Hz to 300 kHz

**NOISE, NOISE w TONE**

Dynamic Range 10 to 114 dBm or -80 to +24 dBm for C MSG, 3.4 kHz, D, E, 15 kHz Filters
20 to 114 dBm or -70 to +24 dBm for 200 kHz, F, 500 kHz Filters

Holding Tone -40 to +10 dBm / 995 to 1025 Hz
Resolution 0.1 dB
Detector RMS
Accuracy ±1 dB

S/N RATIO (S/ TD RATIO, signal to total distortion)
Dynamic Range 10 to 50 dB (excludes E and F Filters)
Holding Tone -40 to +10 dBm / 995 to 1025 Hz
Resolution 0.1 dB
Accuracy ±1 dB

**NOISE to GROUND** (Power Influence)
Dynamic Range
30 to 140 dBm, or -60 to +50 dBm
40 to 140 dBm, -50 to +50 dBm -F /500 kHz
Resolution 0.1 dB
Accuracy ±1 dB

**3-LEVEL IMPULSE NOISE, IMPULSE NOISE w TONE**

Dynamic Range 30 to 115 dBm - C, D, 3.4, 15 kHz Filters
40 to 115 dBm - 200 kHz, E, F Filters
50 to 115 dBm - 500 kHz Filter
Impulse w Tone excludes E and F Filters

Thresholds 3 / LOW, MID (+4 dB), HI (+8 dB)
Accuracy ±1 dB
Count Capacity 32,000
Count Rate 8, 100 Counts/Second
Holding Tone -40 to +10 dBm / 1002 to 1022 Hz
Loss of TONE Measurement halted, auto resume

**TRANSIENT TIMER**

Timer Set 1 Minute Steps up to 8 Hours
Resolution 1 Second
Accuracy ±1 Second

**EXTENDED ROUND TRIP DELAY**

Dynamic Ranges 0 to 1,000,000 uSec, 0 to 3,000,000 uSec
Resolution 1 uSec
Accuracy ±5 uSec

**ENVELOPE DELAY**

Dynamic Range -3000 to +9000 uSec
Frequency Range 200 Hz to 300 kHz
RCV Level -40 to +20 dBm
SEND Level -40 to +7 dBm
Modulation 50% AM, 83 1/3 Hz
Resolution 1 uSec
Accuracy ±10 uSec
Operating Modes 2W Straightaway - Patented 22 tone, Local, Forward / Return Reference
Remodulation Forward / Return Reference

**GENERATOR**

Dynamic Range -41 to +10 dBm
Resolution 0.1 dB Steps
Accuracy ±0.1 dB, -19 to 0 dBm, ±0.2 dB -1 kHz
Freq. Range 20 to 300 kHz
Resolution 1 Hz to 4 kHz, 10 Hz to 30 kHz,
100 Hz to 300 kHz
Accuracy ±1 Hz to 10 kHz, 30 Hz to 300 kHz
Flatness 0.2 dB to 15 kHz, 1 dB to 300 kHz
TH Distortion -50 dB - 1004 Hz, -40 dB - 20 Hz to 300 kHz
Quick Freq's 4 Programmable Frequency Keys
Auto Sweep: VF, DSL, HDSL / 500 kHz

**INPUT / OUTPUT PORTS**

Quantity 2 Measure / Dial Ports - Portable: A/C, B/D
Rack Mount: A, B Ports on front and rear
Operation 2 Wire, 4 Wire
Impedance 100, 135, 600, 900 Ohms
Return Loss 135, 600, 900 30 dB / 100 15 dB
Receive Bridge Less than .2 dB
Hold Dual, 23 ma Nominal

**GENERAL**

MONITOR Speaker with Volume Control
DIAL Parallel Bantam Jacks for Dial / Talk
TEMP Operate +0 to +50 C / Store -40 to +71 C
PC CONTROL Serial Port: RS-232 / 9 pin D Connector
POWER 115 VAC / 806 Battery Run: 8 Hrs. / Recharge: 8 Hrs.

**PORTABLE**

9.0 x 11.0 x 3.5 Inches
229 x 279 x 89 mm
WEIGHT 9.0 lbs. / 4.1 kg. including Battery

**WARRANTY**

All Convex products are warranted to be free of manufacturing defects for a period of one year from the date of shipment. No other warranties are expressed or implied. Convex Corporation is not liable for consequential damages.

**PRODUCT REPAIR SERVICE**

Post warranty repair service is available for Convex products. Where there is no observable mechanical damage, the Model 806A or 806AR will be repaired and/or recalibrated for a fixed fee. Otherwise, Convex will advise as to the nature and cost of repair and, subject to customer instructions, will promptly repair and return the product.