



## Acterna Signal Level Meters

MS-1000, MS-1200D, MS-1300D, MS-1400

System bandwidth expansion and digital service deployment have placed greater demands on CATV installers. Today's installers require a Signal Level Meter (SLM) that combines advanced measurement capability with the ruggedness needed for everyday field use. The family of Acterna Signal Level Meters offers comprehensive, reliable measurement performance to meet the needs of installers deploying services at every phase of the network cycle.

Acterna Signal Level Meters are designed to help installers perform their work effectively, faster, and more easily, to improve productivity and reduce costs. The same easy-to-use, icon-based interface for all instruments in the family, minimizes training requirements and downtime. All instruments are light, portable, durable and water-resistant. They are designed to meet the tough requirements of field use and like all Acterna instruments, they are built to last and to deliver sustained value.

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### Highlights

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- Easy-to-use, icon-based interface for all instruments and multilingual firmware options available
- Efficient and automated testing, plus convenient proof-of-performance compliance testing with results viewable immediately on screen or tests scheduled over time for printing later
- Fast, easy location of forward and reverse ingress and interference with an advanced ingress spectrum scan
- Complete digital measurement solution for DTV and cable modem signals including digiCheck™ average power measurement with auto limit check
- Extended battery life of the MS-1400 – approximately five hours, and faster charging times improve productivity

The MS-1000 is ideal for installers responsible for activating broadcast CATV service. The six-channel scan and installation check provide the essential capability to ensure high-quality CATV installation.

The new digital SLMs, MS-1200D and MS-1300D, offer the advanced performance capability that digital installers need, at a cost that does not strain budgets. New standard features include digital average power measurement, with the patented digiCheck™ method and 5-890 MHz frequency range.

Additional standard features such as the reverse ingress scan of the MS-1300D, and customizable channel plans for the MS-1200D make Acterna Signal Level Meters the best priced performance field meters currently on the market.

The MS-1400 offers a complete set of analog and digital measurement capability, with the added benefits of forward ingress scan, an upgradeable platform, extended-life battery, and multilingual firmware options. The MS-1400 also can be upgraded to an Acterna CLI-1450 or CLI-1750 which adds more advanced capability including signal leakage detection.

### Powerful features

Acterna Signal Level Meters are designed for the challenges of installing and maintaining the cable networks of today.

### Features

- Single channel display and six-channel scan have PASS/FAIL indicators for quick performance
- Ingress Scan mode – allows users to find forward and reverse ingress problems from the tap to the drop
- digiCheck™ Digital Signal Measurement measures DVB, digital TV, cable modem, Internet, and telephony on-cable services

| Features                            | MS-1000 | MS-1200D | MS-1300D | MS-1400 |
|-------------------------------------|---------|----------|----------|---------|
| Icon Driven User Interface          | •       | •        | •        | •       |
| 6 Channel Scan                      | •       | •        | •        | •       |
| Installation Check                  | •       | •        | •        | •       |
| Configure by Channel or Frequency   | •       | •        | •        | •       |
| Channel Video/Audio Level & Delta   | •       | •        | •        | •       |
| FCC & CENELEC Limit Check           | •       | •        | •        | •       |
| Tilt Mode                           | –       | •        | •        | •       |
| Cloning                             | –       | –        | •        | •       |
| Copy Remote Channel Plan            | –       | •        | •        | •       |
| Prints Current Data                 | –       | •        | •        | •       |
| All Channel Scan/Full Scan          | –       | •        | •        | •       |
| Ingress Scan in Reverse Band        | –       | –        | •        | •       |
| Ingress Scan in Forward Band        | –       | –        | –        | •       |
| Customized Channel Plans            | –       | •        | •        | •       |
| Stores Measured Results/Screens     | –       | •        | •        | •       |
| 24 Hour – Auto Test                 | –       | •        | •        | •       |
| Prints Stored Results               | –       | •        | •        | •       |
| Downloads to StealthWare            | –       | –        | •        | •       |
| digiCheck™ - Digital Measurement    | –       | •        | •        | •       |
| Analog Limits                       | –       | •        | •        | •       |
| Digital Limits                      | –       | –        | –        | •       |
| Multilingual LCD Screen             | –       | –        | –        | •       |
| Standard 45-550 MHz Frequency Range | •       | –        | –        | –       |
| Optional 45-890 MHz Frequency Range | •       | –        | –        | –       |
| Standard 5-890 MHz Frequency Range  | –       | •        | •        | •       |

### Upgradeable

| To ▼     | MS-1000 | MS-1200 | MS-1300 | MS-1200D | MS-1300D | MS-1400 |
|----------|---------|---------|---------|----------|----------|---------|
| MS-1200  | –       | N/A     | N/A     | N/A      | N/A      | N/A     |
| MS-1300  | –       | –       | N/A     | N/A      | N/A      | N/A     |
| MS-1200D | •       | –       | N/A     | N/A      | N/A      | N/A     |
| MS-1300D | •       | •       | •       | •        | –        | N/A     |
| MS-1400  | –       | –       | –       | –        | –        | N/A     |
| CLI-1450 | –       | –       | –       | –        | –        | •       |
| CLI-1750 | –       | –       | –       | –        | –        | •       |

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**Product information**

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|--------------|----------|
| 1010-00-0341 | MS-1000  |
| 1010-00-0626 | MS-1200D |
| 1010-00-0627 | MS-1300D |
| 1010-00-0448 | MS-1400  |

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**Options and accessories**

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**MS-1000/1200D/1300D**

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Includes a battery cartridge, one charger/AC adapter, operating manual, and one spare connector. Soft Carrying bag and Quick Reference Card are standard only with the MS-1300D.

| <b>Part Number</b> | <b>Nomenclature</b>                    | <b>Description</b>  |
|--------------------|--|---|
| 1013-00-0007       | MS1000 Pack                            | Includes 45 to 890 MHz frequency extension and soft carrying case. MS-1000 only     |
| 1019-00-0466       | Protective Bag Option                  | MS1000 Soft Carrying Case. Includes Quick Reference Card. Available for MS1000 only |
| 1219-00-1223       | Battery Assembly                       | Spare Battery Cartridge   |
| 1019-00-1375       | 120V Charger/Adapter Option            |   |
| 1019-00-0473       | Charger/Adapter 220VAC to 12VDC Option | European Charger/Adapter (CE Compliant)   |
| 1019-00-0533       | Universal Charger Option               | Universal Input Charger/Adapter 12VDC output  |
| 1019-00-0557       | Cigarette Lighter Adapter Option       | In-vehicle Charger  |
| 1019-00-0559       | UHF, BNC option                        |   |
| 1019-00-0564       | Non-UHF, BNC Option                    | MS-1000 Only  |
| 1019-00-1267       | MBC-4 Four Bay Battery Charger         | CE Approved   |

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**MS-1200D/1300D**

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| <b>Part Number</b> | <b>Nomenclature</b>                   | <b>Description</b>   |
|--------------------|---------------------------------------|--|
| 1019-00-1461       | Protective Bag Option                 | MS-1200D/MS-1300D Soft Carrying Case. Includes Quick Reference Card  |
| 1019-00-0553       | P-MSCLI Option                        | P-Stealth Printer Portable serial fusion printer kit Includes all P-Stealth Printer items, and MicroStealth Serial Printer Cable (P-Stealth printer serial cable not included) |
| 1019-00-0468       | MicroStealth Printer Cable – Standard | Generic Serial Printer Cable   |
| 1019-00-0469       | MicroStealth to PC Option             | RS232 Connection   |
| 1019-00-0470       | Cloning Cable                         | MicroStealth to MicroStealth cloning cable   |

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**MS-1400**

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| <b>Part Number</b> | <b>Nomenclature</b>                    | <b>Description</b>   |
|--------------------|--|--|
| 1019-00-1284       | MS-1400 Soft Carrying Case             | For DS-1 Docking Station   |
| 1019-00-1372       | Extended Life Battery                  |  |
| 1019-00-1373       | XBC-1 Charger                          |  |
| 1012-00-0145       | Extended Life Battery Upgrade Pack     | (Incl: one Extended Life Battery, one XBC-1 Charger, and one XBC-1 Charger Manual)   |
| 1019-00-1376       | Charger/Adapter, 120 VAC to 12 VDC     |  |
| 1019-00-0554       | Charger/Adapter 220VAC to 12VDC Option | European Charger/Adapter (CE Compliant)  |
| 1019-00-0557       | Cigarette Lighter Adapter              | In-vehicle Charger   |
| 1019-00-0558       | Universal Charger Option               |  |
| 1019-00-0553       | P-MSCLI Option                         | P-Stealth Printer Portable serial fusion printer kit Includes all P-Stealth Printer items, and MicroStealth Serial Printer Cable (P-Stealth printer serial cable not included) |
| 1019-00-0468       | MicroStealth Printer Cable – Standard  | Generic Serial Printer Cable   |
| 1019-00-0469       | MicroStealth to PC Option              | RS232 Connection   |
| 1019-00-0470       | Cloning Cable                          | MicroStealth to MicroStealth cloning cable   |
| 1019-00-0559       | MS/CLI BNC Option                      |  |
| 1019-00-0592       | 1GHz Type (F) Connector Option         |  |
| 1019-00-1239       | Portuguese Language Option             |  |
| 1019-00-1240       | Italian Language Option                |  |
| 1019-00-1241       | Spanish Language Option                |  |
| 1019-00-1242       | German Language Option                 |  |
| 1019-00-1243       | French Language Option                 |  |

**MS-1400 Only**

Battery Life > 5 hours continuous (backlight off)  
 Charge time with XBC-1 Charger < 6 hour charge with unit turned "off"

|                                | <i>MS-1000</i>                 | <i>MS-1200D</i>                | <i>MS-1300D</i>                | <i>MS-1400</i>                      |
|--------------------------------|--------------------------------|--------------------------------|--------------------------------|-------------------------------------|
| <b>Frequency Range</b>         | 45 to 550 MHz                  | 5-890 MHz                      | 5-890 MHz                      | 5-890 MHz                           |
| Option SUB                     | N/A                            | N/A                            | N/A                            | N/A                                 |
| Option UHF                     | 45-890 MHz                     | N/A                            | N/A                            | N/A                                 |
| Accuracy                       | ±10 kHz@25C                    | ±10 kHz@25C                    | ±10 kHz@25C                    | ±10 kHz@25C                         |
| Tuning Resolution              | 25 kHz                         | 25 kHz                         | 25 kHz                         | 25 kHz                              |
| <b>Level Measurement in dB</b> |                                |                                |                                |                                     |
| Analog Range                   | -20 to +50 dBmV                | -20 to +50 dBmV                | -20 to +50 dBmV                | -20 to +50 dBmV                     |
| Digital Range                  |                                | -20 to +40 dBmV                | -20 to +40 dBmV                | -20 to +50 dBmV                     |
| Resolution                     | 0.1 dB                         | 0.1 dB                         | 0.1 dB                         | 0.1 dB                              |
| <b>Accuracy</b>                |                                |                                |                                |                                     |
| Flatness                       | ±0.75 dB Flatness              | ±0.75 dB Flatness              | ±0.75 dB Flatness              | ±0.75 dB Flatness                   |
| Linearity                      | ±0.75 dB Flatness              | ±0.75 dB Flatness              | ±0.75 dB Flatness              | ±0.75 dB Flatness                   |
| digiCheck                      | N/A                            | ±2dB Typical                   | ±2dB Typical                   | ±2dB Typical                        |
| <b>Six Channel Mode</b>        |                                |                                |                                |                                     |
| Number of Channels             | 6                              | 6                              | 6                              | 6                                   |
| Scan Rate                      | < 1 second                     | < 1 second                     | < 1 second                     | < 1 second                          |
| <b>Full Scan Mode</b>          |                                |                                |                                |                                     |
| Number of Channels             | N/A                            | 120                            | 120                            | 120                                 |
| Scan Rate                      | N/A                            | Approx 6 carrier/second        | Approx 6 carrier/second        | Approx 6 carrier/second             |
| <b>General Dimensions</b>      |                                |                                |                                |                                     |
| Weight                         | 4.25 in W x 10 in H x 2.5 in D | 4.25 in W x 10 in H x 2.5 in D | 4.25 in W x 10 in H x 2.5 in D | 4.25 in W x 10 in H x 2.5 in D      |
| Operating Temp Range           | 0.8 kg (1.75 lb)               | 0.8 kg (1.75 lb)               | 0.8 kg (1.75 lb)               | 3.4 lb(1.54 kg)                     |
| Water Resistant                | 10 to 50°C (14 to 122°F)       | 10 to 50°C (14 to 122°F)       | 10 to 50°C (14 to 122°F)       | 10 to 50°C (14 to 122°F)            |
|                                | Exceeds MIL-STD-810D           | Exceeds MIL-STD-810D           | Exceeds MIL-STD-810D           | Exceeds MIL-STD-810D                |
| <b>Powering</b>                |                                |                                |                                |                                     |
| Battery Life                   | 3 hrs/replacement battery      | 3 hrs/replacement battery      | 3 hrs/replacement battery      | >5 hours continuous (backlight off) |
| Charge Time                    | 13 hrs unit off                | 13 hrs unit off                | 13 hrs unit off                | 30 hrs unit off                     |
|                                | 14 hrs slow charge (unit on)   | 14 hrs slow charge (unit on)   | 14 hrs slow charge (unit on)   |                                     |
| XBC-1 Charger                  | N/A                            | N/A                            | N/A                            | < 6 hours                           |