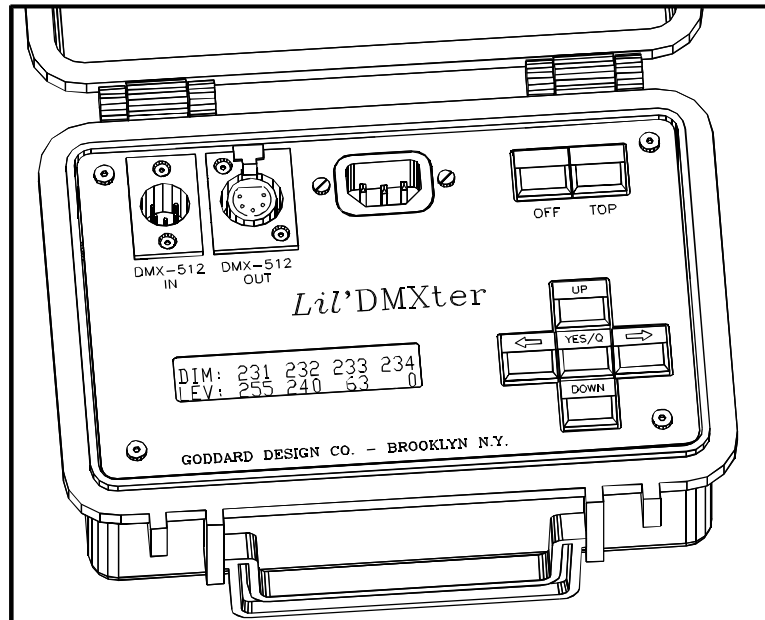


Lil'DMXter2tm

The Volt Meter of Digital Lighting Control



The Evolution Continues. For over eight years the Lil'DMXter has been the standard of DMX512 testing. Now it's to introduce Lil'DMXter2. We've significantly expanded the unit's memory capacity. There's room to grow; room for software expansion.

- ! *Lil'DMXter2* **GENERATES and TRANSMITS** a DMX512 control signal.
- ! *Lil'DMXter2* **RECEIVES and ANALYZES** a DMX512 signal.
- ! *Lil'DMXter2* **CHECKS** DMX512 cables.
- ! *Lil'DMXter2* **VERIFIES** system stability.
- ! *Lil'DMXter2* **TESTS** multi channel devices (moving lights).
- ! *Lil'DMXter2* **BACKS-UP** your console with its ShowSaver software.
- ! *Lil'DMXter2*'s standby **BATTERY LIFE** exceeds 6 months.
- ! *Lil'DMXter2* is CE certified for AC mains operations

The FIRST portable DMX512 test set

The *Lil'DMXter* is simple to use. Only seven buttons run its menu-driven software. The *Lil'DMXter* speaks to you in plain English using a backlit 40-character display. It comes in a rugged water-resistant case, tough enough to ride in your tool kit or cable hamper. It runs on its own internal rechargeable battery. The AC charger is built in. The *Lil'DMXter* is the tool you need to work with digital lighting systems, color scrollers, moving lights, and anything that is controlled by DMX512.

TRANSMIT

The *Lil'DMXter* offers you four DMX512 transmit modes. You may ADJUST ONE DIMMER. You may ADJUST ALL DIMMERS to the same level. The *Lil'DMXter* can AUTOFADE thru a dimmer system, bringing each successive dimmer up to full and down again - perfect for checking lamps, patches and dimmers! It can work as a "one cue" lighting controller, allowing you to send any combination of levels to any of 512 dimmers. This feature, SEND/EDIT SNAPSHOT, can be used either by entering data from the front panel keys, or by recording a "picture" of the received DMX line. The *Lil'DMXter* provides a signal that may be used as a scope trigger, synchronized to the break/mark after break sequence.

The DMX512 standard is widely used in theatrical lighting and effects. Different equipment uses different aspects of the standard for a wide variety of purposes. The DMX512 standard allows wide variation of certain parameters. We allow you to vary five important parameters of the transmitted signal to help the *Lil'DMXter* mimic as many products as possible. We group these parameters into presets which we call "flavors". The *Lil'DMXter* provides you with eight flavors, three of them user-defined. Those parameters you can vary are:

- ! Break Length
- ! Mark After Break Length
- ! Numbers of Dimmers Sent
- ! Interframe Time
- ! Interpacket Time

The *Lil'DMXter* allows you to send and receive any of the 256 allowed start codes.

RECEIVE

The *Lil'DMXter* allows you to examine a controller's output and indicates whether a valid DMX512 signal is being sent. In VIEW LEVELS the unit displays received levels. The unit displays levels for four sequential dimmers at once. If the unit detects a reception error, it warns the user. In addition to stepping from dimmer to dimmer, the *Lil'DMXter* allows the user to jump to the next dimmer with a level equal to or greater than a preset search level. In VIEW PARAMETERS the unit measures and displays break length, mark after break length, break to break time, updates per second and number of dimmers per packet. It also displays all of the start codes being received from the DMX line. VIEW PARAMETERS also provides the error summary screen. This screen flags parity errors, framing errors, break too short, mark after break too short, overflow (reception of more than 512 dimmers) and broken line detection. Broken line detection is a proprietary Goddard Design Co. feature that detects if either of the two data lines is open during reception.

DISPLAY FORMATS SUPPORTED

The *Lil'DMXter* supports three display formats for dimmer levels. Two of them, decimal and hexadecimal, display the full 256 step resolution. The third, percent, provides a 0-100 step scale similar to that used on most lighting consoles.

FLICKER FINDER

Have you ever had a haunted lighting system? Have you had the problem of trying to determine whether it's the console or the dimmers? The FLICKER FINDER mode allows you to compare each received packet with a stored snapshot of the console's output. It also gives you a user selectable comparison window. The unit will count as an error any dimmer level falling outside the comparison window. The *Lil'DMXter* displays the number of errors and their minimum and maximum values. Using FLICKER FINDER allows you to calculate the system error rate.

CABLE TEST

Testing a cable for electrical continuity is not the same as testing it for data transmission continuity. The *Lil'DMXter* tests cables using actual data. It has a mode that allows you to test cables when both ends are not available in the same place. This makes the unit particularly useful in troubleshooting installations. It also tests the optional link on pins 4 and 5. Although use of these pins is outside the DMX512 standard, there is considerable installed base of equipment using them, and you'll probably want to test them at some point.

MULTI CHANNEL MODE

DMX512 was conceived as a dimmer control protocol. Today many different theatrical devices are controlled by DMX512. Many of these devices, particularly moving lights, use more than one DMX dimmer channel.. Our Multi Channel Mode moving light software will let you:

- ! Define a fixture type using 2 to 99 fixture channels.
- ! Define the number of similar fixtures in a contiguous block. A block may contain from 1 to 99 fixtures.
- ! Many multi channel fixtures have an internal dimmer but some do not. For fixture types that use an external dimmer, the software allows patching of the intensity control channel to any dimmer.
- ! If the external dimmers are in contiguous blocks, a simple auto patch routine will set up the patch with the absolute minimum of key strokes.
- ! Some multi channel fixtures use discharge or arc style lamps. Many of these lamps may not be turned on and off at will. To make it easier to deal with these fixtures the software can define one channel as the arc lamp control channel. This channel's level will never be changed except by an explicit instruction.
- ! Enter test values for any specific fixture. Consider you are testing a lighting system with 15 moving lights; the first light starts at channel 93, each light takes 11 channels, and the iris is on channel 7. What channel is the iris on lamp 13? Just select fixture 13, channel 7, there is no need to calculate the absolute dimmer channel address. If you wish to view the absolute address a simple key press will display it.
- ! Once you are done testing one fixture you may move to the next one with a single key stroke. As an option the values you set for the first fixture may be copied to the next fixture. The old fixture is returned to one of three definable conditions.

The above is a brief overview of the moving light features of our software. You may download the full manual from our Web site.

ShowSaver

How would you like to have a backup DMX512 controller? **ShowSaver** allows your *Lil'DMXter* to work as a backup device.

- ! Store up to eight 512-dimmer "looks". Record the looks from the output of your console or create them using the *Lil'DMXter*'s keys.
- ! Assign a 1-16 character name and a 0-30 second fade time to each look. View and edit stored looks - live or blind.
- ! During playback, cross-fade between any two looks or a blackout in any sequence, at the assigned fade time - or as a bump. During playback, adjust individual dimmer levels onstage without altering the levels in the stored look.
- ! During playback, adjust a proportional Grand Master.

The *Lil'DMXter*'s ShowSaver is useful for testing dimmers and color scrollers too!

CMX (COLORTRAN) OPTION

The Lil'DMXter is available with a factory installed option that allows it to transmit and receive both DMX512 and Colortran (CMX) protocols in all its functions - including ShowSaver. The protocol selection is made and displayed thru the unit's menus. CMX Option is available for new and existing units.

RECEIVE SCOPE TRIGGER HARDWARE OPTION

All Lil'DMXter's provide a synchronization output that may be used to trigger an oscilloscope to view the unit's output. Synching a scope to an unknown source of DMX512 is notoriously difficult. For occasions when this is necessary, the RECEIVE SCOPE TRIGGER hardware allows you to synch to a received DMX512 signal from any source. This option provides the hardware, the software is included in all units. The hardware is an external scope trigger generator card .

The RECEIVE SCOPE TRIGGER option will allow you to:

- ! Trigger on beginning of BREAK
 - ! Trigger on end of BREAK
 - ! Trigger on beginning of START CODE
 - ! Trigger after any dimmer - this may be set to be conditional on START CODE and/or dimmer level
- One shot or continuous modes available.

The RECEIVE SCOPE TRIGGER hardware option is not for general DMX512 users. This is an analytical test function valuable in the R&D lab and for serious component level troubleshooters.

New Hardware Features of Lil'DMXter2

The Lil'DMXter2 features an extremely low standby power consumption of 200 μ A. This means standby time between charges should be greater than 6 months. The Ram memory has been increased from 8K to 32K bytes; the ROM from 32K to 64K bytes. Addition I/O has been added for expansions and special features. The DMXter2 has room to grow with you and DMX512.

| PRICE LIST - December 1, 1999 | |
|--|------------|
| DESCRIPTION | UNIT PRICE |
| Lil'DMXter2 with manual includes ShowSaver | \$765.00 |
| Receive Scope Trigger hardware | \$160.00 |
| Colortran option (CMX) | \$195.00 |
| DMX cable - 5' | \$30.00 |
| USA shipping & handling - ground | \$9.50 |
| For delivery within NY state add applicable sale tax. | |

The Lil'DMXter2 is CE certified

The European Union has established certain requirements that most electronic equipment must conform to when used within the EU. It has established testing methods to determine that a unit does conform. Units that do conform may carry the "CE mark".



Goddard Design Co. is pleased to announce that all Lil'DMXter are CE certified for direct connection to AC mains power. Previous CE certified Lil'DMXter units required a wall transformer. To our knowledge, this unit is only professional DMX512 test unit that does not require a wall transformer for charging.

The FIRST portable DMX512 test set

Lil'DMXter2tm

The Volt Meter of Digital Lighting Control

The operation of the Lil'DMXtertm is designed to be intuitive, and as user friendly as possible. Many users will never need to know the technical details. But since the Lil'DMXtertm is a piece of reasonably accurate test equipment here are the specifications in gory detail.

| TRANSMITTED DMX512 PARAMETERS | | | | |
|-------------------------------|------------|------------|-------------------|---------------|
| FUNCTION | DEFAULT | MINIMUM | MAXIMUM | RESOLUTION |
| BAUD RATE | 250,000 | | | as per DMX512 |
| BREAK LENGTH | 88 μ S | 50 μ S | 49144 μ S (1) | 1 μ S |
| MARK AFTER BREAK | 8 μ S | 3 μ S | 49064 μ S (2) | 1 μ S |
| INTERFRAME MARK TIME | 4 μ S | 4 μ S | 330 μ S | 22 μ S |
| INTERPACKET MARK TIME | 4 μ S | 4 μ S | 1.442SEC | 22 μ S |
| DIMMERS TRANSMITTED | 512 | 1 | 999 | 1 |
| UPDATE RATE | 40 | .594(3) | 5200(4) | NA |
| START CODES SENT | 0 | ANY | START | CODE |

(1) Maximum with MAB set to 8 μ S , (2) Maximum with break set to 88 μ S, (1 or 2) The Total of break and MAB cannot exceed 49152 μ S . (3) 512 dimmers, 49,144us break, 8 μ S mark, 334 μ S IBT(15 units), 1.454 second IPT (65535 units), (4) 1 dimmer, 88us break, 8us MAB

| RECEIVED DMX512 PARAMETERS | | | |
|----------------------------|-------------|---------|------------------------------------|
| FUNCTION | MINIMUM | MAXIMUM | NOTES |
| BAUD RATE | 250,000 | | as per DMX512 |
| BREAK LENGTH | 65 μ S | - | |
| MAB LENGTH | 3 μ S | - | |
| NUMBER OF DIMMERS | 1 | 512 | OVFL reported for over 512 dimmers |
| BREAK-BREAK TIME | 170 μ S | 3 SEC. | |

The FIRST portable DMX512 test set

| ACCURACY | | |
|-------------------------------|------------------------|---|
| PARAMETER | ACCURACY | NOTES |
| TIMEBASE & BAUD RATE ACCURACY | +/- 75 PPM | 0 - 70 Degrees C, by design, not tested in production |
| TRANSMITTED BREAK JITTER | NEGLIGIBLE | Timebase jitter is the major source of break jitter |
| TRANSMITTED MAB JITTER | NEGLIGIBLE | Start code = 0 Break + MAB less than 16.380 mS |
| TRANSMITTED MAB JITTER | +/- 4 μ S | Non-zero start code or break + mab time greater than 16,380ms |
| DIMMER FRAME JITTER | +/- 2 μ S | |
| SCOPE TRIGGER TO BREAK JITTER | NEGLIGIBLE | Timebase jitter is the major source of jitter |
| RERC'D BRK,MAB ACCURACY | +/- 250nS +/-75PPM (1) | Sum of both errors, rounded as needed for display |
| REC'D BREAK TO BREAK | +/-8 μ S | See section 5.2(5) |

| INPUT & OUTPUT VOLTAGE AND CURRENT LIMITS | | |
|---|---------------------------------|--|
| | VOLTAGE OR CURRENT | NOTES |
| DMX512-OUT PINS 2&3 MAX VOLTS MAX CURRENT | +20VDC, -12VDC(2) +/- 100 MA | Withstanding voltage & current |
| DMX512-IN PINS 2&3(1) MAX VOLTS MAX CURRENT | +50VDC, -30VDC +/-7 MA | Withstanding voltage & current |
| PIN 4&5 IN or OUT | +/-70 VDC | SCOPE TRIGGER - OFF DOUBLE ENDED CABLE TEST - OFF |
| PIN 4&5 OUT | +15 VDC, -5 VDC +/-100 MA | SCOPE TRIGGER - ON |

(1) In terminated modes, in unterminated modes DMX512-OUT limits apply.

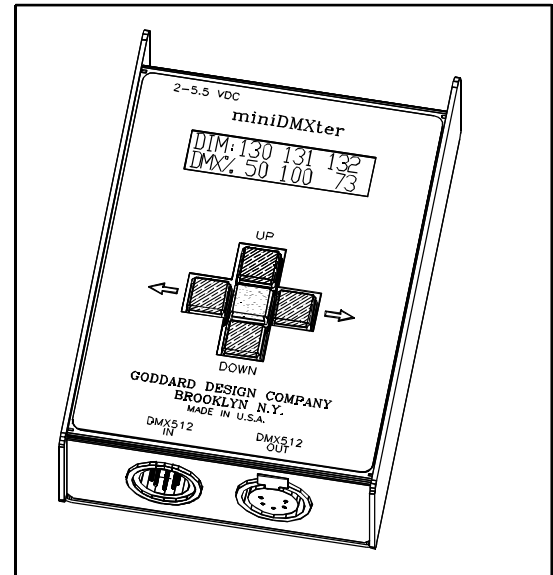
| OPERATIONAL ENVIRONMENT LIMITS | | | |
|---|--------------------------------|-------|---------------------------------------|
| PARAMETER | RANGE | | NOTES |
| AC Line Voltage Required North American Units | 85 - 135 VAC 100 - 135 VAC | 100mA | - To operate - To charge fully (1) |
| AC Line Voltage Required Europe & Other 230 volt locations | 170 - 270 VAC 200 - 270 VAC | 50mA | - To operate - To charge fully (1) |
| AC Line Frequency Required | ~50-60Hz | | For either voltage option |
| Humidity | 0%to-95% | | Non-condensing |
| Altitude | 0 to 1900 meters | | |
| Temperature | 0 to 40 Degrees Celsius | | |

(1) At line voltages below 110 (220) volts charging time will increase markedly. At 100(200) volts charging time will be nearly double the 120(230) volt time.

MiniDMXter

Goddard Design's Lil'DMXter has become the standard test instrument for DMX512. But we've received numerous requests for a smaller, less expensive tester that can send and receive DMX512. Hence the MiniDMXter. The essential features of the Lil'DMXter at a fraction of the weight, a quarter the size, and about half the price.

- 1) MiniDMXter **GENERATES** a DMX512 control signal. It allows you to bring up any one or up to 64 dimmers at one time to any level. It also lets you bump through a system one dimmer at a time, to check lamps, patches and dimmers.
- 2) MiniDMXter **RECEIVES** a DMX512 signal. It allows you to examine a controller's output displaying three dimmers at one time. You can easily search out which dimmers are being sent. Also it checks the DMX512 signal's integrity.
- 3) MiniDMXter Supports The **COLORTRAN** Protocol. There is no need for a separate test unit.
- 4) MiniDMXter **CHECKS** DMX512 cables. It tests cables for DC continuity and with actual data. Pins four and five may also be tested with DC.



The Mini's transmitter and receiver are ESD resistant. The unit is packaged in a small rugged aluminum case. (3-3/4"x6"x1-3/4") It is powered by 2 AA batteries (battery eliminator optional). The MiniDMXter is extremely easy to use - it requires only 5 buttons to navigate its menu driven software. It provides clear prompts on a 32 character LCD display. Unlike testers without a display, with the MiniDMXter you are always sure of which dimmer and what level you are sending or receiving.

The Lil'DMXter's full timing verification tests and full "flavor" settings capabilities are not supported. The MiniDMXter does not support ShowSaver, Flicker Finder, "snapshots", or alternate start codes.

TRANSMIT

The MiniDMXter offers you four transmit modes. It allows you to **ADJUST ONE DIMMER**. It allows you to **ADJUST ALL DIMMERS** to the same level. The MiniDMXter can **AUTOFADE** thru a dimmer system, bringing each successive dimmer up to full and down. In **ADJUST SOME** it functions as a "one cue" lighting console, allowing you to send up to 64 dimmers each to its own level. We provide two different transmit flavors. The standard flavor (SLOW) sends DMX512 or CMX at 8 updates a second; the alternate flavor (FAST) sends DMX512 at about 38 updates a second or CMX at 23 updates per second.

RECEIVE

In RECEIVE the MiniDMXter displays the received levels for 3 sequential dimmers at once. If the unit detects a reception error, it warns the user. In addition to stepping from dimmer to dimmer, the MiniDMXter allows the user to jump to the next dimmer with a level. If an error is detected it can be viewed on an error screen. The errors detected and displayed are: parity, framing errors, break too short, mark after break too short, overflow (reception of more than 512 dimmers) and broken line detection. Broken line detection is a proprietary Goddard Design Co. feature that detects if either of the two data lines is open during reception.

The MiniDMXter's receive input is properly terminated at all times. If the user wishes the Transmitter can be turned on during reception to allow for a loop thru mode. Note that pins 4 and 5 do not loop thru.

CABLE TEST

A double ended cable tester similar to the Lil'DMXter is provided. This test allows the user to select whether the first three pins or all five pins of the DMX cable are tested.

THREE DISPLAY FORMATS

The MiniDMXter supports 3 display formats for dimmer levels. Two of them, decimal and hexadecimal, display the full 256 step resolution. The third, percent, provides a 0-100 step scale similar to that used on most lighting consoles.

The MiniDMXter's small size and light weight make it the choice for certain users. The Mini is perfect for applications where the Lil'DMXter's extended hardware and software are not justified, but where you cannot afford to trust a toy. The MiniDMXter will be a perfect second tester for Lil'DMXter owners since their user interfaces are extremely similar. A user should be able to switch between the two instruments readily.

It's meant to fit in your hand .. or your toolkit or briefcase. It is the low cost insurance policy you shouldn't be without.

| | |
|--|----------|
| MiniDMXter with Manual | \$430.00 |
| Battery Eliminator (USA) | \$12.50 |
| Nylon Belt Pouch | \$10.00 |
| Shipping & Handling (USA) | \$8.00 |
| For delivery within NY state add applicable sale tax. | |



The European Union has established certain requirements that most electronic equipment must conform to if they are used within the EU. It has established testing methods to determine that a unit does conform. Units that do conform may carry the "CE mark". All MiniDMXters are CE compliant.

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The Personal DMXter