

EXHIBIT 1
Installation and Operating Instructions



Retlif Testing Laboratories

REPORT No. R-3219N
FCC ID: GTS418T

INFORMATION TO USER

NOTE: This equipment generates and uses radio frequency energy, and if not installed properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.



Retlif Testing Laboratories

REPORT No. R-3219N
FCC ID: GTS418T

WS-2000

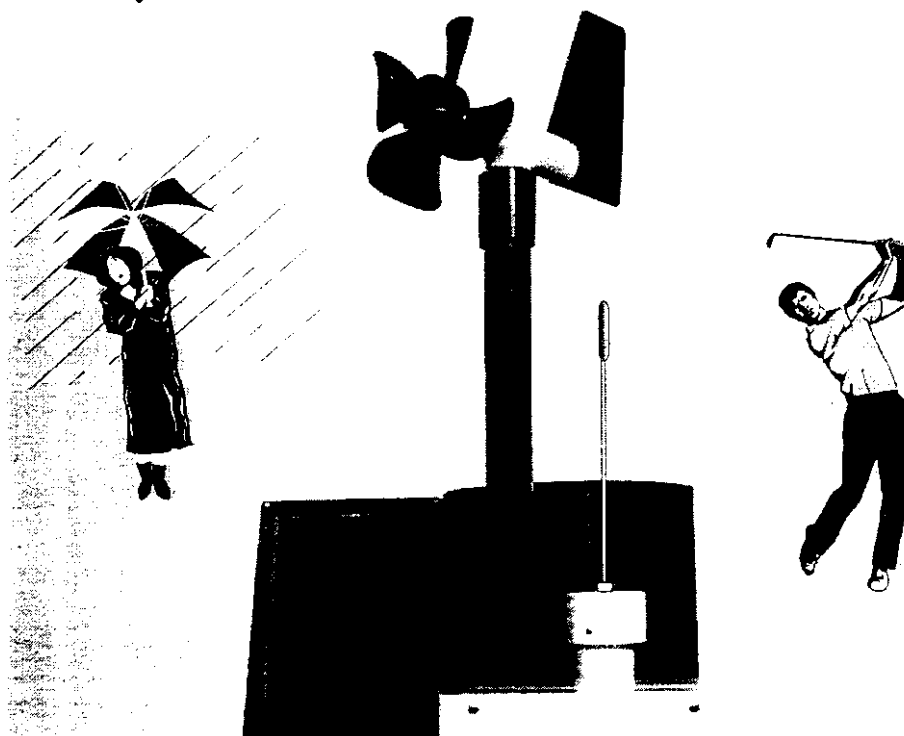
WEATHERSTATION

INSTRUCTIONS

SERIAL NO'S. FOR

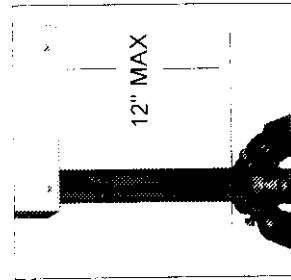
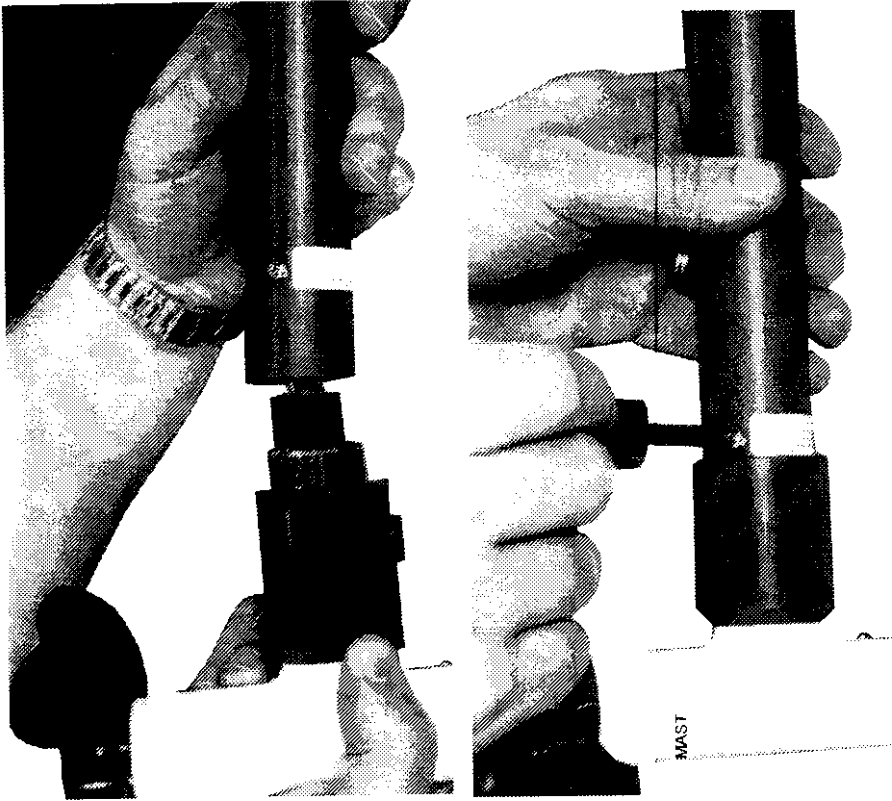
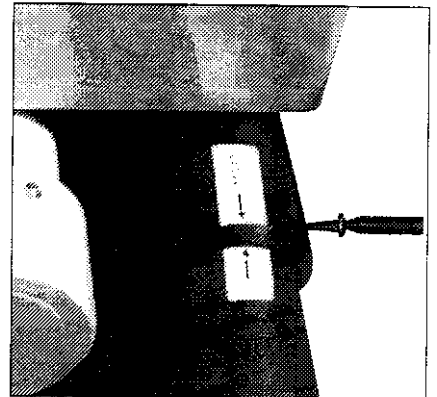
WS-2000: _____

WeatherOracle®: _____



WIRELESS & SOLAR POWERED

1. Unpack the system.
2. Insert the grey PVC mast into the support and line up the arrows.
3. Fasten with the screw provided.
4. Plug the wind sensor into the end of the cable. Make sure the plug snaps in place. Line up the screw in the tube end with the slot in the base of the wind sensor. Push the wind sensor down into the grey tube until it bottoms. The screw acts like a key and must line up with the slot. The label will be against the sensor when the sensor is bottomed. Tighten the screw when in place.
5. Move the slide switch in the bottom of the electronic enclosure to the "ON" position.
6. Remove the cardboard cover from the solar panel and the tape holding the rain gauge screen in place. The system is now ready to mount.
7. The WS-2000 mast must be securely mounted. The vertical distance from the bottom of the electronic enclosure to the point where the mast is first fastened must not exceed 12 inches. **THIS IS IMPORTANT!! The mast must not extend unsupported more than this distance.**
8. Mount the support mast so that the solar panel faces TRUE South. The local airport can provide the magnetic variation for your location.



INSTALLATION AND OPERATING INSTRUCTIONS FOR THE WIRELESS Weather Oracle® MOUNTING THE DISPLAY:

The display may be wall mounted using the keyhole slots provided. An angle foot replacing the battery cover may be installed in place of the battery cover when it is desired to place the display on a desk or table.

The black box containing the receiver is connected to the display with a five foot cable. This, plus the cable from the wall transformer allows over ten feet from a power outlet to the display. The output from the wall transformer is low voltage (nine volts DC). The receiver may be placed in any convenient location.

TO PLACE THE DISPLAY IN THE SET-UP MODE:

The set-up mode is used to:

1. Set the time and date
2. Set the displays to read English or Metric.
3. Adjust the Temperature or Barometer.

1. Press and hold **MAX**.
2. WHILE HOLDING **MAX**, Press **AUTO SELECT**. The display will show 12:00 if this is the original set-up or if there is no backup battery and there has been a power outage. . . otherwise it will show the correct time. The **MAX** and **MIN** LED's will be on and the colon will be blinking.
3. You are now in the set-up mode.

Once the display has been placed in the set-up mode, you can exit at any time by pressing **AUTO SELECT**.

TO SET THE CLOCK:

1. Press **MAX**. The hours will flash.
2. Press **MAX** to increase the hours. Press **MIN** to decrease the hours.
3. Press **AUTO SELECT**. Minutes will flash.
4. Press **MAX** to increase the minutes. Press **MIN** to decrease the minutes.
7. Press **AUTO SELECT**. The month will flash.
8. Press **MAX** to increase the month. Press **MIN** to decrease the month.
9. Press **AUTO SELECT**. The day will flash.
10. Press **MAX** to increase the day. Press **MIN** to decrease the day.
11. Press **AUTO SELECT**. The display will return to the set-up mode. The display will show the time with the colon flashing. If you wish to exit the set-up mode press **AUTO SELECT**.

TO SET THE DISPLAYS FOR ENGLISH OR METRIC:

TEMPERATURE AND WIND CHILL

1. The display is in the set-up mode.
2. Press **TEMPERATURE**. The display will show **U** **E** or **U** **F** "0" indicates that the temperature is in Fahrenheit. "1" indicates that the temperature is in Celsius.
3. Press **MAX** or **MIN** to change from Metric or English.
4. If you are finished with the set-up mode, press **AUTO SELECT**.

BAROMETER

1. The display is in the set-up mode.
2. Press **BAROMETER**. The display will show **U** **E** or **U** **F** "0" indicates that the barometer is in inches of Mercury "1" indicates that the barometer is in Millibars.
3. Press **MAX** or **MIN** to change from Metric or English.
4. If you are finished with the set-up mode, press **AUTO SELECT**.

NOTE: All digits flashing indicate falling pressure. Left two digits flashing indicate rising pressure

RAINFALL

1. The display is in the set-up mode.
2. Press **RAINFALL**. The display will show **U** **E** or **U** **F** "0" indicates that the rainfall is in inches. "1" indicates that the rainfall is in millimeters.
3. Press **MAX** or **MIN** to change from Metric or English.
4. If you are finished with the set-up mode, press **AUTO SELECT**.

WIND SPEED

1. The display is in the set-up mode.
2. Press **WIND SPEED**. The display will show **U** **E** or **U** **F** "1" or **U** **E** or **U** **F** "2" indicates that the wind speed is in miles per hour. "1" indicates that the wind speed is in kilometers per hour "2" indicates that the wind speed is in knots. "3" indicates that the wind speed is in meters per second.
3. Press **MAX** or **MIN** to change from mph or kph or knots or mps
4. If you are finished with the set-up mode, press **AUTO SELECT**.

TO CORRECT THE TEMPERATURE:

1. The display is in the set-up mode.
2. Press **TEMPERATURE**. The display will show **U** **E** or **U** **F** "1"
3. Press **TEMPERATURE** again. The display will show **F** **E** or **F** **F** "2"
4. Press **MAX** or **MIN** to change temperature reading up or down. The temperature may be adjusted up or down by 20 degrees Fahrenheit - (11 degrees Celsius).

TO CORRECT THE BAROMETER:

1. The display is in the set-up mode.
2. Press **BAROMETER**. The display will show **U** **E** or **U** **F** "1"
3. Press **BAROMETER** again. The display will show **F** **E** or **F** **F** "2"
4. Press **MAX** or **MIN** to change barometer reading up or down. The barometer may be adjusted up or down by 50 hundredths of an inch - (17 Millibars).

THE BACK-UP BATTERY:

Provision is made for a 7.2 volt (9 volt size) re-chargeable Nickel-Cadmium battery to provide a memory backup in the event of a power outage. The display has a built-in charger for this battery. The battery will hold the memory for two hours. The display is turned off to conserve power during this time. However, any sensor value can be viewed by pressing and holding the touch switch for that sensor. You do not have to install a battery for normal operation. The battery is necessary only to record maximums and minimums and retain memory, including the time and date, during an outage. It is important to use only a rechargeable Ni-Cad (not a re-chargeable alkaline). Any other type of battery will destroy the display and void the warranty.

SETTING THE FREQUENCY:

There are two frequencies available with the system. (49,830 MHz - CH 1) and (49,875 MHz -CH 2). You have set the system with CH 1. There is no reason to change to CH 2 unless you experience a problem with reception or interference from your system. Both the W5-2000 and the Weather Oracle® must be set to the same channel.

RESETTING THE DISPLAY:

Pressing **AUTO SELECT** and **WIND CHILL** simultaneously will reset the display.

VIEWING MAXIMUMS AND MINIMUMS:

1. To view a maximum, press **MAX**. All of the LED's except the **MAX** LED will go out.
2. Press the desired sensor. The display will first show the maximum; then the date; and then the hour and minutes in 24:00 time.
3. To view a minimum, press **MIN**. All of the LED's except the **MIN** LED will go out.
4. Press the desired sensor. The display will first show the minimum; then the date; and then the hour and minutes in 24:00 time.

TO VIEW RAINFALL ACCUMULATION:

- There are two registers for RAINFALL. Pressing **RAINFALL** will show the **current** rainfall.
1. To view rainfall accumulation, press **MAX**. All of the LED's except the **MAX** LED will go out.
 2. Press **RAINFALL**. The display will show the accumulation. The date and time of last reset will also show.

TO CLEAR MAXIMUMS OR MINIMUMS:

1. Press **MAX** or **MIN**. All of the LED's except the **MAX** or **MIN** LED will go out.
2. Select the sensor that you wish to clear.
3. Press **AUTO SELECT**. This will clear the maximum or minimum.

TO CLEAR CURRENT RAINFALL:

1. Press **MIN**. All of the LED's except the **MIN** LED will go out.
2. Press **RAINFALL**.
3. Press **AUTO SELECT**. This will clear out the current rainfall.

TO CLEAR RAINFALL ACCUMULATION:

1. Press **MAX**. All of the LED's except the **MAX** LED will go out.
2. Press **RAINFALL**.
3. Press **AUTO SELECT**. This will clear out the accumulation.

DIAGNOSTIC DISPLAY MODE:

1. Press and hold **MIN**; Press **AUTO SELECT**.
The Temperature, Barometer and Rainfall LED's will all light. This indicates that the system is in the diagnostic mode. One LED will flash. This indicates the selected item.
TEMPERATURE shows battery voltage, which should always be greater than 10.5 volts.
BAROMETER shows the receive count. The right hand digits should change every seconds showing that the system is receiving data.
RAINFALL shows the program version for the display and sensor unit.

GENERAL INFORMATION:

If the wind speed exceeds 99, both decimal points will light indicating that 100 should be added to the number viewed. This is true regardless of the units displayed.

The wind direction variation updates every 30 seconds.

The time given in maximums and minimums is in 24:00 (military) time.

When the barometer is steady the readout is steady.

When the barometer is falling, all four digits in the display flash.

When the barometer is rising, the left two digits flash.

FOR RAINWISE SERVICE:

1-800-762-5723 www.rainwise.com

NOTE: This equipment generates and uses radio frequency energy, and if not installed properly, that is, in strict accordance with the manufacturer's instructions, may cause interference to radio and television reception. It has been type tested and found to comply with the limits for a class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Re-orient the receiving antenna.
- Increase the separation between the equipment and the receiver
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/television technician for help.

Changes or modifications to this equipment not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

GUARANTEE

RainWise, Inc. warrants this new WS-2000 weather station against defects in materials and workmanship for a period of two years from the date of purchase, and agrees to repair or replace any defective product without charge. Additionally, the Solar panel is guaranteed for five years from the date of purchase.

This warranty does not cover damage resulting from accident, misuse or abuse, lack of reasonable care, the fixing of any attachment not provided with the product or damage due to a lightning strike. RainWise will not reimburse for take-down or re-installation charges. RainWise will not pay for any warranty service performed by a non-authorized repair service and will not reimburse the consumer for damage resulting from warranty service performed by a non-authorized repair service. No responsibility is assumed for any special, incidental or consequential damages. No other warranty, written or oral is authorized by RainWise, Inc. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state. Some states do not allow the exclusion incidental or consequential damages, so the above exclusion and limitations may not apply to you.

To return a unit under warranty, call 1-800-762-5723. For a period of 90 days after date of purchase, RainWise will issue a UPS call tag for pickup of the equipment at your address. RainWise will also pay the return UPS charges. If expedited shipping is requested, the excess cost must be paid by the customer. After 90 days from date of purchase the customer is responsible for all shipping charges. **Make sure that the equipment is properly packed. . . preferably in the original box, because damage incurred in shipping is not covered by this warranty**

REGISTRATION

TYPE OF UNIT: _____ SERIAL NO. - WS-2000: _____

NAME: _____ SERIAL NO. - *Weather Oracle®* _____

ADDRESS: _____

CITY: _____ STATE: _____ ZIP: _____

WHERE PURCHASED: _____

DAYTIME PHONE NUMBER: _____

COMMENTS: _____

Rainwise Inc.

25 Federal Street, Bar Harbor, Maine 04609
Phone: 800-762-5723 FAX: 207-288-3477

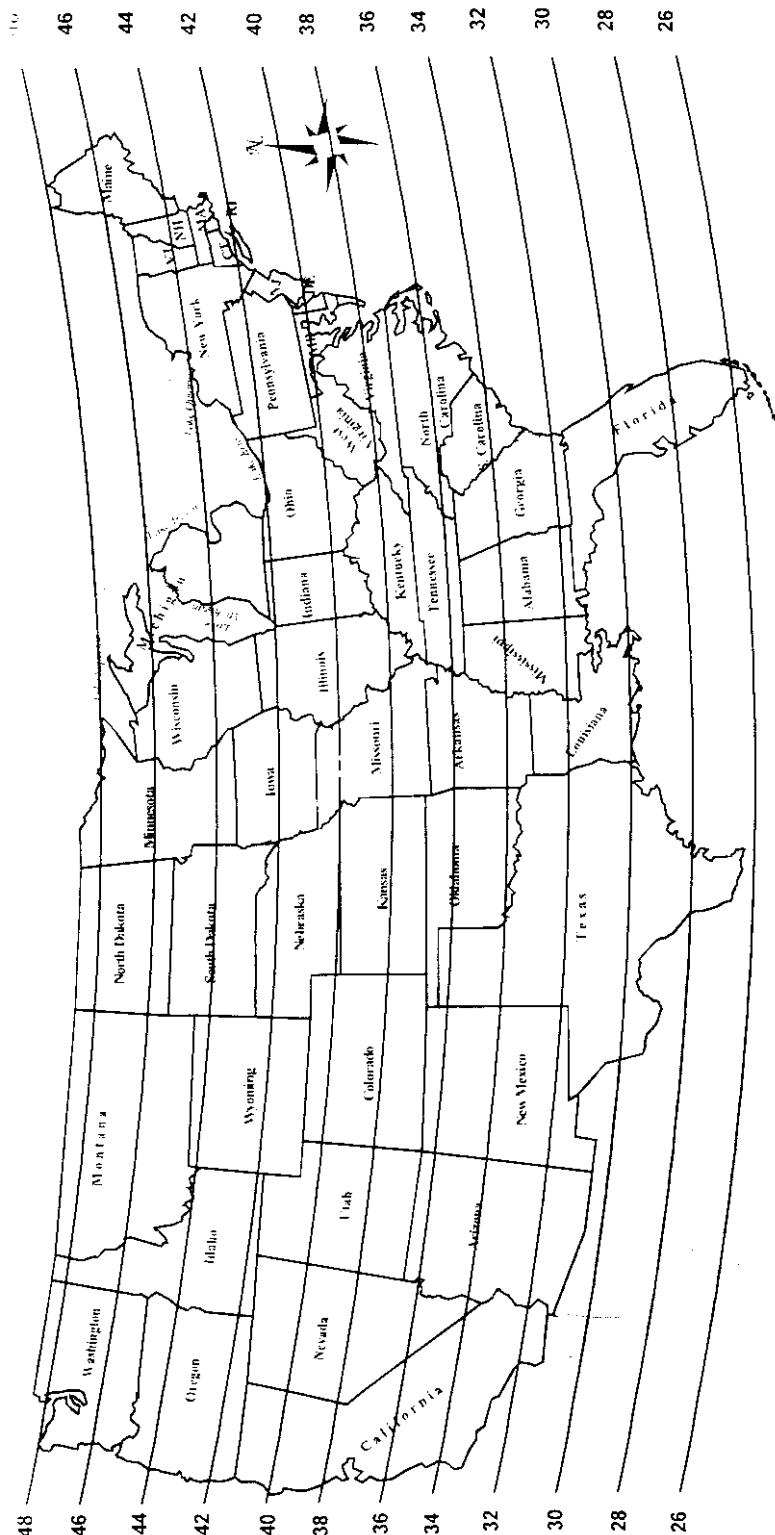
It is important for you to send this registration back to us. As soon as we receive it, a service technician will call and discuss your installation, and answer any questions you may have. We want you to be pleased with your new WeatherStation.

CUT ALONG THIS FOLD

Rainwise Inc.

25 Federal Street, Bar Harbor, Maine 04609
Phone: 800-762-5723 FAX: 207-288-3477

LATITUDES FOR THE CONTIGUOUS UNITED STATES



REPORT No. R-3219N

FCC ID: GTS418T

U.S. CORPORATE HEADQUARTERS:

LINX TECHNOLOGIES, INC.
575 S.E. ASHLEY PLACE
GRANTS PASS, OR 97526

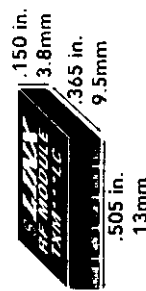
PHONE: (541) 471-6256
FAX: (541) 471-6251
<http://www.linxtechnologies.com>

TXM-315-LC
TXM-418-LC
TXM-433-LC

LC SERIES TRANSMITTER MODULE DATA GUIDE

Description:

Designed specifically for unlicensed operation under FCC Part 15, these tiny SMD transmitter modules are a cost effective RF solution for high-volume OEM users. When paired with a Linx LC series receiver, a highly reliable RF link capable of transferring serial data at distances in excess of 300 ft. is formed. Fabricated using an advanced MCHM process and SAW architecture, the LINX LC SERIES modules deliver an unmatched blend of performance, size, efficiency and cost. No external RF components (except an antenna) are required, making design integration painless even for engineers without previous RF experience.



PHYSICAL DIMENSIONS



PINOUTS (BOTTOM VIEW)

Features:

- Low Cost
- No External RF Components Required
- Ultra-Low Power Consumption
- Compact Surface-Mount Package
- Stable SAW-based Architecture
- Supports Data Rates to 5,000 bps
- Wide Supply Range (2.7-5.2 Vdc)
- Direct Serial Interface
- Low Harmonics
- No Production Tuning

Applications include:

- Remote control
- Keyless entry
- Garage / Gate openers
- Lighting control
- Medical monitoring / Call systems
- Remote industrial monitoring
- Periodic data transfer
- Home / Industrial automation
- Fire / Security alarms
- Remote status / Position sensing
- Long-range RFID
- Wire Elimination

ORDERING INFORMATION

PART #	DESCRIPTION
EVAL-315-LC	Evaluation Kit 315MHz
EVAL-418-LC	Evaluation Kit 418 MHz
EVAL-433-LC	Evaluation Kit 433 MHz
TXM-315-LC-*	Transmitter 315 MHz
TXM-418-LC-*	Transmitter 418 MHz
TXM-433-LC-*	Transmitter 433 MHz
RXM-315-LC-*	Receiver 315 MHz
RXM-418-LC-*	Receiver 418 MHz
RXM-433-LC-*	Receiver 433 MHz

* Insert TB for Tube Packaging

** Insert TR for Tape and Reel 5K min.

Disclaimer

Linx Technologies is continually striving to improve the quality and function of its products; for this reason, we reserve the right to make changes without notice. The information contained in this Data Sheet is believed to be accurate as of the time of publication. Specifications are based on representative lot samples. Values may vary from lot to lot and are not guaranteed. Linx Technologies makes no guarantee, warranty, or representation regarding the suitability of any product for use in a specific application. None of these devices is intended for use in applications of a critical nature where the safety of life or property is at risk. The user assumes full liability for the use of product in such applications. Under no conditions will Linx Technologies be responsible for losses arising from the use or failure of the device in any application, other than the repair, replacement, or refund limited to the original product purchase price. Some devices described in this publication are patented. Under no circumstances shall any user be conveyed any license or right to the use or ownership of these patents.

© 1997 by Linx Technologies, Inc. The stylized Linx logo, Linx, and "Wireless made Simple" are the trademarks of Linx Technologies, Inc. Printed in U.S.A.

PHYSICAL PACKAGING

The transmitter is packaged as a hybrid SMD module with eight pads spaced 0.100" on center. The SMD package is equipped with castellations which allow for side introduction of solder. This simplifies prototyping or hand assembly while maintaining full compatibility with automated pick-and-place equipment. The module is housed in a hi-temp plastic package which has been designed to withstand typical transport times through reflow. Exercise care when working with a heat point source such as a soldering iron as direct contact may mar or deform the module housing. Modules are available in tube or tape and reel packaging (see page 1 for ordering information).

PIN DESCRIPTIONS:

Pin 1	GROUND Connect to quiet ground or ground plane.
Pin 2	DATA IN Serial data input pin. TTL and CMOS compatible.
Pin 3	GROUND Connect to quiet ground or ground plane.
Pin 4	IADJ/GND Connect to quiet ground or ground plane.
Pin 5	RF OUT Connect to 50Ω matched antenna.
Pin 6	GROUND Connect to quiet ground or ground plane.
Pin 7	POSITIVE SUPPLY (Vcc 2.7-6 VDC) The supply must be clean (<20 mV pp), stable and free of high-frequency noise. A supply filter is recommended unless the module is operated from its own regulated supply or battery.
Pin 8	GROUND Connect to quiet ground or ground plane.

POWER SUPPLY REQUIREMENTS

The transmitter module requires a clean, well-regulated power source. While it is preferable to power the unit from a battery, the unit can also be operated from a power supply as long as noise and 'hash' are kept to less than 20 mV. A 10Ω resistor in series with the supply followed by a 10μF tantalum capacitor from Vcc to ground as shown at the right will help in cases where the quality of supply power is poor.

MODULE DESCRIPTION

The LC-TXM is a low-cost, high-performance SAW-(Surface Acoustic Wave) based CPCA (Carrier-Present Carrier-Absent) transmitter capable of sending serial data at up to 5,000 bits/second. With proper code balance the CPCA modulation method enables the transmitter to be legally operated at higher output power levels than continuous carrier modulation methods such as FSK. The LC's compact surface-mount package integrates easily into existing designs and is also friendly to prototype and hand production. The LC's ultra low power consumption (1.5mA typ.) makes it ideally suited for products powered from a battery. When combined with a Linx LC series receiver a highly reliable RF link capable of transferring digital data over line-of-sight distances in excess of 300 feet (90M) is formed.

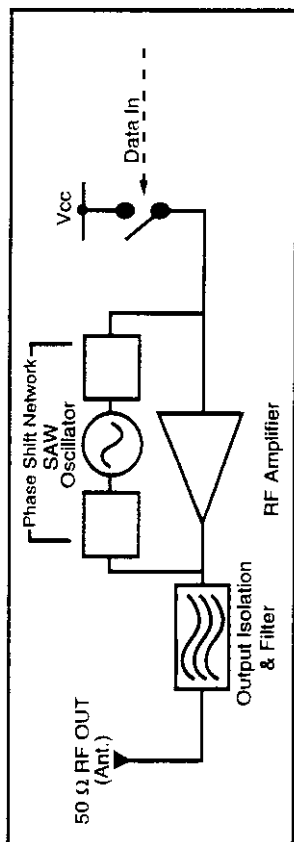


figure 12: LC Series Transmitter Block Diagram

THEORY OF OPERATION

The LC-TXM transmits data using CPCA (Carrier-Present Carrier-Absent) modulation. This type of AM modulation is often referred to by other designations including CW and OOK. As the CPCA designation suggests, this type of modulation represents a logic low '0' by the absence of a carrier and a logic high '1' by the presence of a carrier. This modulation method affords numerous benefits. Three of the most important are: 1) Cost effectiveness due to design simplicity. 2) No minimum data rate or mark/space ratio requirement. 3) Higher output power and thus greater range in countries (such as the US) where output power measurements are averaged over time. Please refer to Linx application note #00130 for a further discussion of modulation techniques including CPCA.

The LC-TXM is based on a simple but highly optimized architecture which achieves a high fundamental output power with low harmonic content. This insures that most approval standards can be met without external filter components. The LC transmitter is exceptionally stable over time, temperature, and physical shock as a result of the precision SAW (Surface Acoustic Wave) device that is incorporated as its frequency reference. Due to this accuracy and the high Q of the SAW device most of the output power is concentrated in a narrow bandwidth. This allows the receiver's pass opening to be quite narrow, thus increasing sensitivity and reducing susceptibility to near-band interference. The quality of components and overall architecture utilized in the LC series is highly unusual in a low-cost RF device and is one of the primary reasons the LC transmitter is able to outperform even far more expensive products.

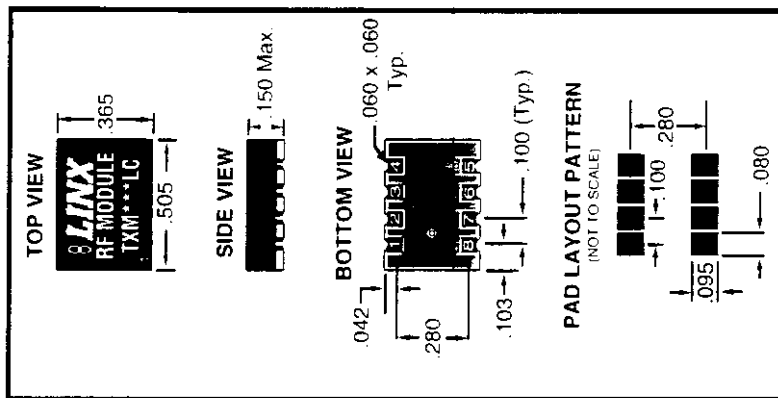


figure 10: LC-TXM Physical Package

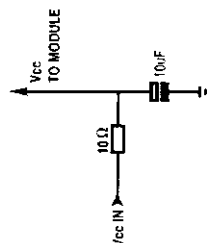


figure 11: Supply Filter

BOARD LAYOUT CONSIDERATIONS

If you are at all familiar with RF devices you may be concerned about specialized board layout requirements. Fortunately because of the care taken by Linx in designing the LC series, integrating an LC transmitter is very straightforward. This ease of application results from the advanced multi-layer construction of the module. By adhering to the following layout principles and observing a few basic design rules, you can enjoy a straightforward path to RF success.

Fig. 6: Example of proper Ground Plane

1. No conductive items should be placed within .15 in. of the module's top or sides.
2. Observe appropriate RF layout practice between the module and its antenna. A simple trace is suitable for runs up to 1", but longer distances should be covered using 50 Ω coax or a 50 Ω microstrip transmission line.
3. A ground plane should be placed on all unused circuit board areas under and around the module as shown above.
4. Depending on the antenna being used and duty cycle of incoming data, the output power of the LC module may be significantly higher than FCC regulations allow. The output power of the module is intentionally set high since many designers pair the module with an inefficient antenna in order to realize cost or space savings. In cases where a particularly efficient antenna is used, the designer can attenuate the output power by using an external three resistor T-pad, such as described in Linx application note #00150.

THE DATA INPUT

A CMOS/TTL level data input is provided on pin 2. This pin is normally supplied with a serial bitstream input directly from a microprocessor, encoder, or UART. During standby or the input of a logic low, the carrier is fully suppressed and the transmitter consumes less than 2 μ A of current. During a logic high the transmitter generates a carrier at 0dBm(typ.) to indicate to the receiver the presence of a logic 1. The applied data should not exceed a rate of 5,000 bits/sec. The data input pin should always be driven with a voltage common to the supply voltage present at pin 7 (Vcc). Under no condition should the data pin be allowed to exceed the supply voltage (Vcc).

TRANSMITTING DATA

Once a reliable RF link has been established, the challenge becomes how to effectively transfer data across it. While a properly designed RF link provides reliable data transfer under most conditions, there are still distinct differences from a wired link that must be addressed. Since the LC modules do not incorporate internal coding/decoding, a user has tremendous flexibility in how data is formatted and sent. If you are not familiar with the considerations and protocol for sending serial data in a wireless environment you will want to review Linx application note #00232. This application note (*Considerations for sending data with the LC series*) details important issues such as the effect of start-up times, pulse stretching and shortening and the relationship between data and and output power in a CPCA based transmitter. These issues should be clearly understood prior to commencing a significant design effort.

Transmitting Data, Cont.

If you want to send simple control or status signals such as button presses or switch closures, and you do not have a microprocessor on board your product or you wish to avoid protocol development, consider using an encoder and decoder IC set. These chips are available from a wide range of manufacturers (including Linx) and take care of all encoding, error checking, and decoding functions. These chips generally provide a number of data pins to which switches are generally connected. In addition address bits are usually provided for security and to allow the addressing of multiple receivers independently. Linx offers factory configured encoder/decoder chip pairs which can accommodate customer specific address, data, and timing requirements. These IC's are an excellent way to bring basic Remote Control/Status products quickly and inexpensively to market.

ENCODER/DECODER IC MANUFACTURERS:

Linx (Standard and Custom)
Microchip (Keeloq)
National Semiconductor
Hollek

Motorola

Additionally, it is a simple task to interface with inexpensive microprocessors such as the Microchip PIC or one of many IR, remote control, DTMF, and modem IC's.

Here is an example of a basic remote control transmitter utilizing an encoder/decoder chipset from Linx. When a key is pressed at the transmitter, a corresponding pin at the receiver goes high. This circuit can be easily modified to suit a broad range of applications, and clearly demonstrates the ease of using the Linx LC modules.

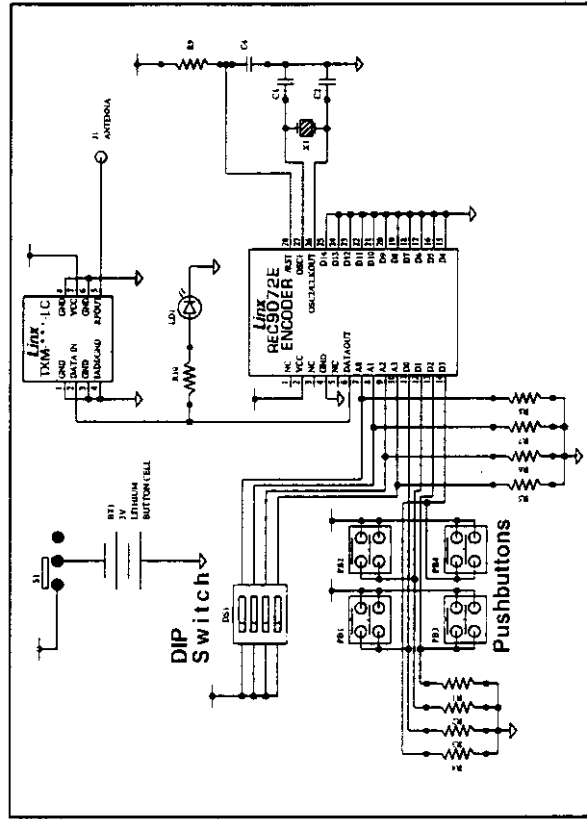


figure 13: Basic Remote Control Transmitter Circuit

Notes:

1) DIP Switch used to set ID code. A 4-position switch was chosen for this example but all or none of the address bits may be used. Settings of the Receiver and Transmitter must match for signal to be recognized.

ABOUT THESE MEASUREMENTS

The performance parameters listed below are based on module operation at 25°C from a 3.3Vdc supply unless otherwise noted. Figure 1 at the right illustrates the connections necessary for testing and operation. During testing it is acceptable to connect only one ground as all grounds are common internally. In production it is recommended that all ground pins be connected to the ground plane. Pin 4 (IADJ/GND) should be tied to ground externally during testing.

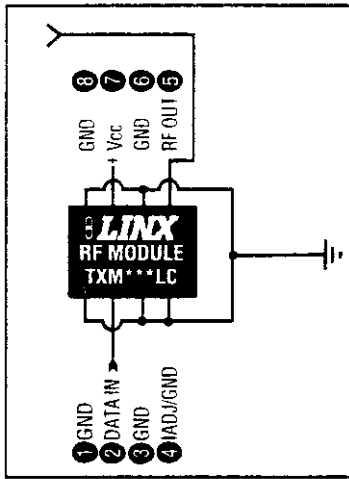


figure 1: Test/Basic application circuit

Parameter	Min.	Typical	Max.	Units	Notes	
Operating Voltage Range (Vcc)	pin 7	2.7	~	5.2	Volts	—
Supply Current		2.7	3.3	5.5	mA	—
Average Supply Current (50% Mark/Space)		—	1.6	—	mA	—
Standby Current (Logic Low)		—	—	1.5	µA	—
Transmit Frequency		LC modules are available in 315, 418, 433.92 MHz				—
Overall Frequency Accuracy		-90	~	+90	KHz	—
Output Power		-6	0	+2	dBm	—
Expected RF Output Load	pin 5	—	50	—	Ohms	—
Data Input Level,						
Logic low	pin 2	0	—	0.4	Vdc	—
Logic high	pin 2	Vcc - 0.3	~	Vcc	Vdc	—
Data Rate	pin 2	300	~	5,000	Bits/Sec.	—
Oscillator Start-up Time		~	—	50	µS	~
Data Input Rise Time		—	—	10	µS	—
Data Input Fall Time		~	—	10	µS	~

Absolute Maximum Ratings:	
Supply voltage Vcc, using pin 7	-0.3 to +6 VDC
Operating temperature	0°C to +70°C
Storage temperature	-45°C to +85°C
Soldering temperature	+225°C for 15 sec.
Any input or output pin	-0.3 to Vcc
*NOTE: Exceeding any of the limits of this section may lead to permanent damage of the device. Furthermore, extended operation at these maximum ratings may reduce the life of this device.	

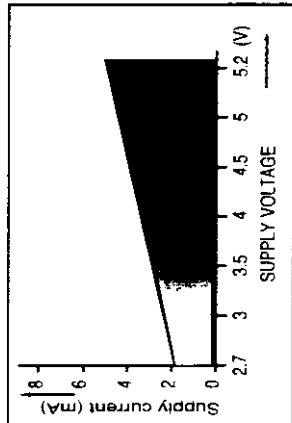


figure 2: Consumption vs. Supply Voltage

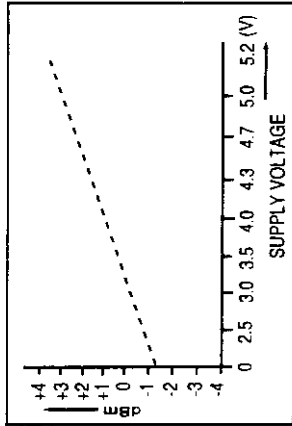


figure 3: Typical RF power into 50Ω

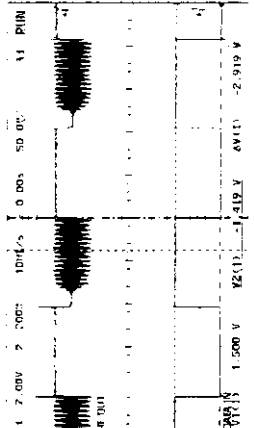


figure 4: Oscillator Response @ 3V (4.8Kbps)

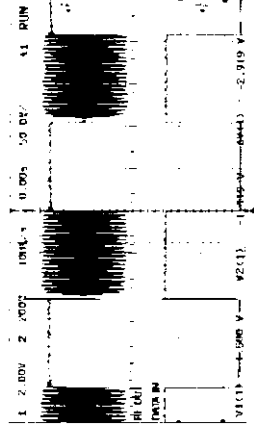


figure 5: Oscillator Response @ 5V (4.8Kbps)

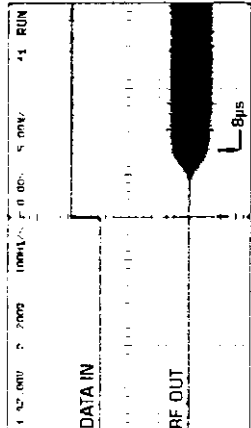


figure 6: Typical Oscillator Turn-On Time

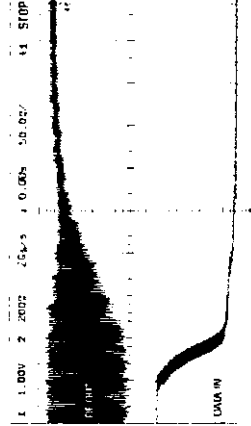


figure 7: Typical Oscillator Turn-Off Time

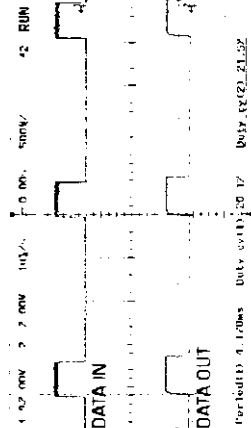


figure 8: Original vs. Received Data 4,800 BPS 20% Duty Cycle

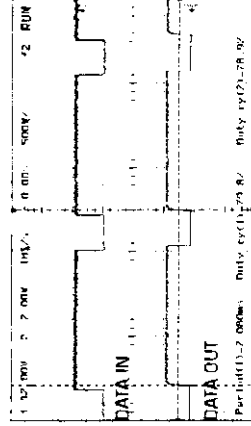


figure 9: Original vs. Received Data 4,800 BPS 80% Duty Cycle