**Model LTM-WAVE-AG User Manual**


# LTM-WAVE-AG

## Wireless Video Monitoring System

# LTM-WAVE-AG
## Wireless Video Monitoring System

## *DESCRIPTION*

**The LAIRD WAVESHOT-AG is a powerful and efficient means of remote monitoring your video work. The system may be used with any standard NTSC composite video signal and can transmit a clean UHF signal up to 250 feet line-of-site and approximately 75 feet indoors between walls. The WAVESHOT-AG can be monitored by any standard UHF equipped TV set receiver.**

***Some notes on wireless transmissions:***

**This system uses standard UHF low power transmissions of TV signals for use in monitoring and viewing only. Low power UHF transmissions are subject to other environmental signal ingress and it must be noted that it is possible that other transmissions of equal or more signal strength may cause interference on the channel that is in use by the WAVESHOT-AG.**

**The WAVESHOT-AG works best in LINE-OF-SIGHT applications, where the transmitter is in sight line to the receiver. Indoor use of the WAVESHOT-AG will be reduced by such environmental conditions as metal surfaces, walls, and steel structures. You may see occasional flickers as the transmitter is in motion. This is caused by reflections from surfaces in the environment. The best results for indoor work is where the transmitter somewhat stationary.**

**The WAVESHOT-AG is designed for remote signal monitoring only. The signal may be received and decoded to a composite video signal by any standard demodulator or TV-MONITOR device. This signal can be recorded, however, any reflections or UHF interference may cause a poor signal quality to be recorded.**

**The WAVESHOT-AG transmission is transmitted over a standard UHF TV carrier. As such, these signals can be monitored and/or recorded by anyone within range of such transmission. Please be aware that your work is not protected and may be received by others not under your control or employ.**

**Please be aware that the Federal Government and the FCC has specific laws that regulate low power transmissions and video surveillance using wireless technology. This product should not be used for any activity that is defined as a violation of any of such laws or the invasion of personal privacy of individuals. Please research and follow the local and Federal laws that regulate such technology and its use.**



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## *WAVESHOT-AG SYSTEM CONTENTS*

***Examine the contents of the package. You should have the following components:***

- **WAVESHOT-AG TRANSMITTER and ANTENNA**
- **TRANSMITTER HOT-SHOE L-BRACKET**
- **TRANSMITTER DC BATTERY PACK and CABLE**
- **BNC-RCA VIDEO ADAPTER (2)**
- **AA BATTERIES (6)**
- **PLASTIC CARRY CASE**
- **HEAVY DUTY VELCRO STRIP**




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### *TECHNICAL SUPPORT*

The LTM-WAVESHOT-AG is designed for reliable operation. Should there be any technical assistance required, you may call our tech support line at 845-339-9555.

Or visit the Laird support website at: www.laird-support.com

### *LEGAL NOTICE FOR OPERATIONS*

This device operates on UHF frequencies reserved for non-commercial use only in the U.S. Federal Communications Commission (FCC) regulations state that an Amateur Radio License is required to operate this unit legally within the United States. Amateur Radio License required for hobby and non-commercial applications within the USA (for all non FCC-approved, unrestricted transmitters). We encourage you to observe all laws when operating this device.

UHF transmitters operate in the Amateur Radio Service (ARS) frequencies, and according to FCC regulations, requires licensing for legal operation. There are no restrictions on the sale of this equipment, however LAIRD TELEMEDIA urges the user to become familiar with and observe all laws and regulations governing ARS licensing and the operation of ARS equipment. Please note that the ARS frequencies are not for commercial use.

Please visit http://www.remote.arrl.org for more information.

### *PRODUCT FEATURES AND SPECIFICATIONS*

*ALL UHF TRANSMITTERS*

| | |
|---|---|
| Available Channels: | .CATV 59,CATV 60, CATV 61, UHF 14, UHF 16, UHF 18, UHF 20, UHF 22 |
| Antenna Type: | .Omni-Directional |
| Video Format: | .NTSC |
| Radiated Power | .10mW AM @ Peak |
| Connector Format: | .Video Input - RCA Female @ 75 ohms - 1.0 Volt P-P<br>Audio Input -RCA Female @ 600 ohms- 1.0 Volt P-P |
| Operating Temperature Range: | .-22 - +140F |
| Operating Voltage: | 9 - 13 Volts DC, Polarity Protected |
| Current Consumption: | .270mA @ 12 Volts DC |
| Dimensions: | .Transmitter Unit: 2.73" x 2.01" x 1.06" |
| Receiver Type: | .Use Standard UHF Television |
| Transmitter Weight: | .3.8 oz., 110 grams |



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# LTM-WAVE-AG
## Wireless Video Monitoring System

### *Setting Up the Waveshot-AG*

The LTM-WAVE-AG is completely micro-processor controlled. This allows for the AGILE method of frequency programming. The unit has 8 standard TV channels for transmission. The channel listings are screened on the face of the product. Please note that the first 3 channels are CATV cable channels and require that the receiving device be set to CATV for these channels to work. The other 5 channels are UHF channels and can be received on NORMAL TV UHF receiving channels. See Chart below:

### *WAVESHOT-AG FREQUENCIES*

| SELECTABLE CHANNELS | | MHz |
|---|---|---|
| 1 | **CATV 59** | **433.25** |
| 2 | **CATV 60** | **439.25** |
| 3 | **CATV 61** | **445.25** |
| 4 | **UHF 14** | **471.25** |
| 5 | **UHF 16** | **483.25** |
| 6 | **UHF 18** | **495.25** |
| 7 | **UHF 20** | **507.25** |
| 8 | **UHF 22** | **519.25** |

### POWER OPTIONS:

The WAVESHOT-AG can be powered from any clean filtered DC power source inclusive of various battery supplies. The power jack is a standard DC jack with a 2.1mm center pin diameter. Do not use 2.5mm power plugs, they will not fit properly and may cause damage to the unit.

Power ranges from 9 volts to 13Volts will work fine, however the best power for longer ranges up to 250 feet should be 12 Volts. The unit is shipped with a 9 Volt (AA) battery clip which will provide power for up to 2 hours at a range of 200 feet. You may use several optional power choices to power your product including replacing he provided AA batteries with re-chargeable batteries.

The power jack is wired TIP POSITIVE and SHELL GROUND. Power polarity protection is provided in the event of cross wired power jacks.

Below is a list of several commonly available power options to power your WAVESHOT-AG. The unit draws 210mA @ 9Volts and 270@12Volts. Use this information when calculating AH(Amp Hour) ratings for run time.

Once power is provided to the unit, the LED begins to blink. This indicates that the system is ready for programming.

**CAMCORDER BATTERY ADAPTERS**

**LTM-PWR-NP1** NP-1 Battery Adapter. Mounting plate holds your NP-1 battery with power plug pigtail output. NP-1 Battery not included.

**LTM-BATSNY** Accepts the following Camcorder batteries with 2.1mm plug output cable. Battery not included.

**Sony:** NP-730, NP-F330, F530, F550, F730, F730H, F750, F930, F950.
**Panasonic:** AG-BP-15, AG-BP15P, AGBP25, PV-DBP5, VW-VBD1, VW-VBD1/E, VW-VBD2, CGR-B/202, CGR-B/403.
**Yashica:** BP-VI
**JVC:** BN-V812, BN-V812U, 814

**LTM-BATCN** **Canon:** BP-80, BP-85, BP-911, BP-914, BP-915, BP-924, BP-927, BP-930, BP-941, BP945



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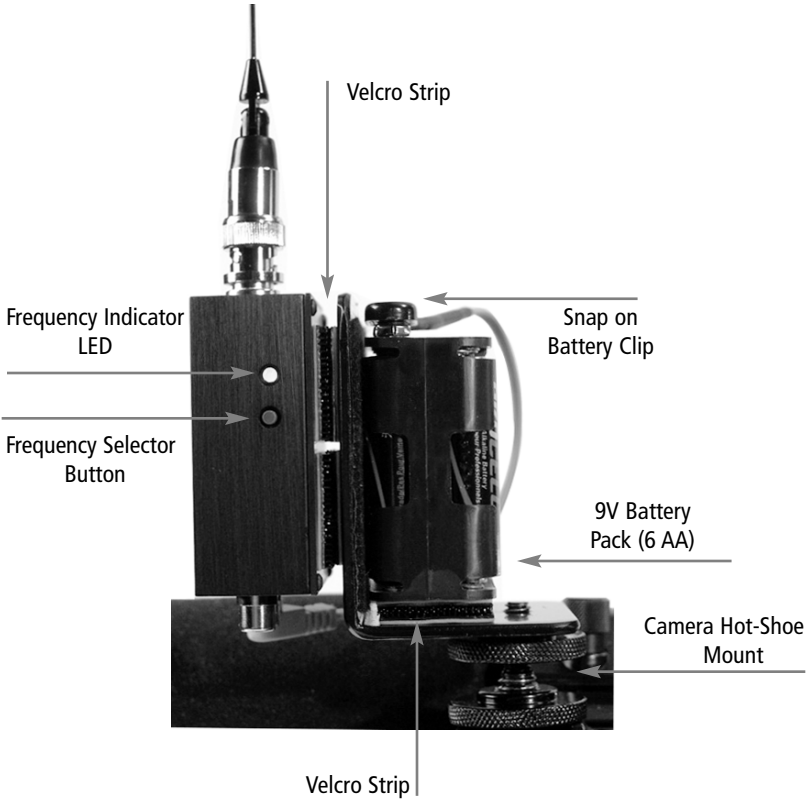
## *Setting Up the Waveshot-AG*

The WAVESHOT-AG may be used with the supplied camera L-Bracket to mount the transmitter onto any standard hot-shoe equipped camera. Using a measured strip of the Velcro supplied, place a strip on the camera bracket area as shown. Apply the same size piece to the transmitter as shown and then press the transmitter onto the bracket. The Velcro provided is very strong and will require care to remove it once the two pieces are secured.
Attach the battery clip in the same manner as shown.



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## *Setting Up the Waveshot-AG*

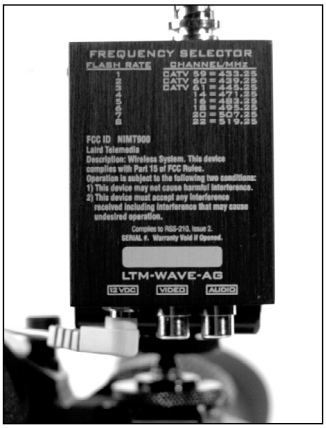
**SETTING THE FREQUENCIES:**

To set the transmission frequency press and hold the Button below the LED for 4 seconds. The LED will flash rapidly then stop. Release the button and then press it the number of times corresponding to the frequency you require. Allow about half a second duration on the button for each count. After the last count has been entered the LED will pause then flash the number of times as per the selection:

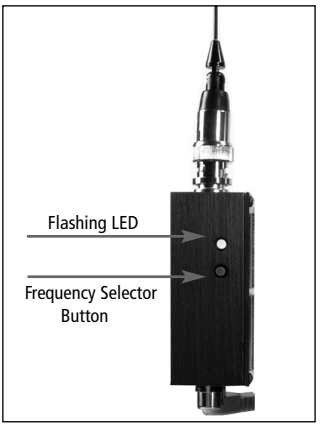
**Ex: CHANNEL 3 : CATV 61 : WAVESHOT-AG FLASHES 3 TIMES**

The LED will continue flashing in this manner with a 1 second pause in between until another frequency has been made. To change the frequency you must again hold the button down for 4 seconds and repeat the procedure.

It may take a few attempts until you get the timing just right. Just hold the button down for 4 seconds to reset the device for programming. The WAVESHOT-AG uses a highly efficient technology to lock in transmission frequencies. If you cannot receive the channels on your receiving device, please check the receiver first. Some lower quality TVs do not have tight frequency specs and may not receive the signal from the WAVESHOT-AG.




Waveshot-AG
Front Panel




Waveshot-AG
Side Panel



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