

**MarCum**  
TECHNOLOGIES

**LX-5i**  
**Multicolor Sonar**

*User Manual*



## Introduction

Thank you for purchasing the MarCum LX-5i multicolor flasher. The LX-5i incorporates the same cutting edge technology as its predecessor, the LX-5, but now with the addition of improved viewability provided by the flat screen. The LX-5i features the latest in sonar technology, featuring a patented movable zoom that can be set anywhere between the surface and the bottom, a patent pending TrueColor display, 2500 watts of peak-to-peak power, patented signal interference rejection, Superfine Line Technology, and target separation down to 3/4 inch. Our goal is to set the industry standard for performance while maintaining the highest level of reliability. Please read this manual carefully before using your LX-5i system. Only by reading this manual can you realize the maximum benefit from your purchase — enjoy your new LX-5i sonar system!

## General Description

- New Flat Screen Design
- Dual-Beam Transducer—Quickly switch between 20 degree and 8 degree
- Rugged transport shuttle with extendable transducer arm
- Padded nylon soft pack offers the ultimate in protection
- 12 level interference rejection
- Adjustable Zoom
- Exclusive SuperFine Line feature
- 12 volt 9 amp battery with 3-stage charger
- 2 year warranty

## GETTING STARTED

### Ice System Set-Up

Your LX-5i comes virtually ready to fish. Open the front cover of the soft pack, loosen the knobs and the monitor can now be positioned how you want it. Once the monitor is positioned, tighten the knobs again to hold the monitor in place.

Look behind the monitor and hook up the LX-5i power cord to the battery. While you are at it, remove the entire unit from the soft pack so you can see exactly how everything connects—this makes it easier down the road if you ever need to check connections or change a battery or transducer. Your LX-5i is delivered with a 9 amp battery that is charged, so you can take it fishing right away. Even though the battery comes with a charge on it, due to storage time or other factors it may not be fully charged when you get it, so if you are not going fishing immediately you should hook up the charger to make sure the battery has a full charge. To charge the battery, see below. The LX-5i will operate for 12 hours or more on a fully charged battery. If you are going to be in a situation where you will want to use your system for more than one day without recharging, having a second, fully charged battery with you is cheap insurance that will allow you to get full use out of your system for the duration of your trip.

Inside the LX-5i deluxe soft case is an electronics shuttle that has compartments for the battery and the dual beam transducer, as well as a transducer arm. The adjustable transducer arm allows for maximum flexibility in positioning the LX-5i around the ice hole, and can even be moved to the other side of the shuttle.

### BATTERY CHARGING

Your Marcum system comes with a 3-stage battery charger. This style of charger has proven to be the most effective and easiest to use of all charging systems available. Because this is a 3-stage charger, there is no danger of overcharging your battery. When properly cared for, a sealed lead acid battery will last for at least a couple of years. Batteries are made to be used, and they need to be used to make the most of them. The most important thing you can do is to promptly recharge your battery after each use. Not charging your battery immediately after use is the number one thing that leads to battery failure.

For safety reasons, it is recommended that you place your system on a flat, hard surface like cement or tile when charging it, away from any flammable materials. Be sure to disconnect the charger from the wall when not in use, and avoid leaving your battery hooked up to the charger for extended periods of time.

When you get home from a trip, put your battery on charge right away and leave it there overnight, or for around 8-12 hours. Likewise, on the night before an ice fishing trip put it on the charger again, just to make sure. Again, there is no danger of overcharging your battery. We often talk to people who hesitate to charge their battery after each use for fear that the battery will develop a “memory” and this will lead to a shortened run time—THIS IS FALSE!!! ALWAYS CHARGE YOUR BATTERY AFTER EVERY USE!!! Be sure to use

the charger that came with your system, or a similar one that is between .5 amp. and 1 amp. Using a larger charger, like you would use on a car, truck, RV, or boat is likely to cause damage to the battery. There is really no danger of overcharging your battery with a low amp charger, and most chargers automatically go into "maintenance mode" once a full charge has been achieved.

**TO CHARGE THE BATTERY:**

Your battery has a wiring harness attached to it that has "piggyback" terminals on it, enabling you to keep the power cord from the unit attached to the battery at all times, as well as having the wiring harness with receptacle for your charger attached at all times. To charge, simply couple the end of the charger with the end of the wiring harness. It is normal for a green light to appear on the charger at this time if the charger is plugged into the battery only. It is also normal for the light on the charger to be green if it is just plugged into the wall. When it is plugged into the wall and battery, you will see a red LED light appear on the charger. If the light is red, the battery is being charged. When your battery is fully charged, this red light should change to green. If it is time to go fishing and the light has not turned green, go fish and try to allow a longer charging period next time.

Batteries are an expendable item, and must be replaced periodically. The batteries that we use are the "Sealed Lead Acid" variety, they are 12 volts, and range from 7 to 9 amps. The more amps the battery has, the longer it will run on a full charge. Your Marcum can be powered off of any battery that is 12 volts, even a large automotive or deep cycle battery.

If you are having difficulty with the charging process, please see the Charger Troubleshooting section at end of the manual.

If you need to remove the battery, slide the power cord leads from the battery. Remove the strap that is holding the battery in place and lift the battery out. To replace the battery, place a new battery of similar specifications into the battery compartment and secure it with the Velcro strap and re-connect the positive and negative terminals.

**SETTING THE TRANSDUCER FOR ICE FISHING:**

When used in conjunction with the retractable pivoting transducer arm and rubber stopper, the LX-5i's transducer will automatically level itself in your ice hole. To begin operation, take the transducer out of the recessed holder, and rotate the adjustable ice arm out from inside the shuttle. Extend the transducer arm, (the cable should already be threaded through it with stopper in place) and deploy the transducer into the water. We recommend setting your stopper to have the transducer down the least amount possible. The LX-5i puts out enough power that in most cases it is not necessary to have your transducer down more than a few inches below the water line to get a good reading. When the ice thickness is over two feet, it may be necessary to have your transducer set somewhat farther down. Remember--the less transducer cable you have out, the easier it is to pull it out of the water when bringing in a fish, or to move to a new location. Under no circumstances should you ever have the ducer below the ice—this can lead to the ducer becoming damaged. It is also important that you keep the cable near the center of the ice hole. We frequently hear from anglers who allowed their cable to freeze into the side of the ice hole. If this should happen to you, make sure the unit is turned off before attempting to chisel it out. If you accidentally cut the ducer cable, do

not try to use that ducer again.

### **MOVING THE DUCER TO A NEW LOCATION**

Being mobile is one of the keys to being successful on the ice. Whenever you move from one spot to another, it is tempting to leave your transducer hanging on the transducer arm. This is likely to lead to failure of the transducer arm, and can cause damage to the transducer itself. Always stow the transducer inside the pack when you are moving. Keeping the amount of transducer cord you have out at a minimum will make transporting your LX-5i easier. Similarly, you may need to quickly remove your transducer from the hole when about to land a fish. We have actually seen anglers in a panic actually grab the shuttle itself and toss the entire unit to the side. This is no way to treat any piece of electronics; a much better approach is to simply lift the transducer out of your way by the cord, and the shuttle itself can be gently pushed aside. Whenever you are moving via sled or vehicle, always fold up your transducer arm, stow the transducer inside, and close the protective soft pack.

### **HOW TO INTERPRET THE DIAL**

We receive many phone calls from users who are having a hard time interpreting the different rings of numbers around the dial. When on the 20' range, simply go by the white numbers on the outside. When on the 40' range, use the white numbers but multiply x 2 [13 on the dial = 26 feet]. When on the 80' range, use the red numbers on the inside of the dial. When on the 160' range, use the red numbers x 2. The innermost yellow numbers are for the split screen zoom, and they are used in a similar manner.

### **WHICH CONE ANGLE TO USE**

One of the benefits of the LX-5i over our other flashers is the ability to switch between a standard 20 degree cone angle, and a narrow, more precise 8 degree cone angle. The 20 degree cone angle is suitable for general use, but here are some situations where you will appreciate the precision of the narrow beam.

#### **1---Fishing in deep water (over 40') for walleyes, perch, or lake trout.**

When fishing in deep water, the energy of your transducer beam gets spread out over a wide area, making it difficult to highlight targets. The narrow beam focuses the energy in a smaller area, giving you better resolution of targets in the area below you

**2---Fishing along very steep drop-offs for bottom-hugging walleyes.** The transducer beam will register the highest point of the bottom below you as the actual bottom, and this creates what we call the "Shadow Effect", where your lure and fish can hide in the "shadow". In 30' of water with a 20 degree transducer, your sonar footprint is an approximate 10' circle on the bottom. Now, if one edge of that circle is 29' and the opposite edge is 31', the transducer will read the shallowest part first, and 29' will be displayed as the bottom. In this situation, when you drop your jig down to the actual bottom, you would have to raise it up at least a foot before it would show up on your sonar to escape the shadow. Switching to a narrow beam will minimize the Shadow Effect. Underwater objects like boulders or standing timber can also create sonar shadows.

#### **3---Fishing in big schools of fish, like suspended crappies or tullibees.**

Imagine you fishing in 30' of water, and there is a big school of crappies suspended five to ten feet off the bottom. It's a huge school, comprised of hundreds of fish, and at any given time there could be twenty or more fish hanging in your 20 degree transducer cone, and they are likely to show up on

your display as one wide band rather than individual lines. By changing to the narrow 8 degree cone, the fish on the edge of your area will be eliminated from your display, and it will now become easy to present your jig to individual fish in the school.

**4---Fishing in and around heavy weeds for panfish, like bluegills and crappies.** Some lakes have thick, lush beds of aquatic plants like milfoil, coontail, and cabbage, and these areas are often magnets for big panfish. The trouble is, when you deploy a 20 degree transducer in heavy weeds, there can be overload on your display from all the weeds. Switching to the narrow beam will reduce how many plants are being picked up, and your jig and fish can be plainly seen below you.

**5---Fishing in a crowd, the narrow beam will reduce interference from your neighbor.** Whenever two or more sonars are operated in proximity to each other, there is the potential for interference caused by the various transducer cones "crossing paths". Switching to narrow beam will keep your cone right below you, minimizing interference.

### **READING THROUGH ICE –**

The LX-5i will provide accurate information reading through ice providing the ice is reasonably clear. Wet the ice with at least a cup of water to improve the coupling of the transducer to the ice. Place the face of the transducer firmly on the wetted ice, and you will now be able to see a signal showing the bottom (and even fish if there are any present!). Drilling into the ice 1-2" before taking a reading may be necessary if the surface of the ice is very rough, or if the ice is filled with air bubbles.

### **Operation**

The LX-5i utilizes a combination of control knobs (Gain & Range) and keypad (IR, ZM, UP & DN, NBT, SFL) to change or activate various system functions. The keypad has an audible beep when the key is depressed to indicate that a system function has been activated. The following is an explanation of the various system functions.

**Range Select** - The Range select knob is used for turning the LX-5i on or off, as well as choosing the correct depth range. The LX-5i offers four depth ranges to choose from that can be selected by rotating the knob clockwise. The depth ranges are 20, 40, 80, or 160 feet. The depth-range setting is determined by turning the unit "on" and turning the Gain knob looking for a solid return (band of light), indicating bottom on the display. If no return is present, then select the 40-, 80-, or 160-foot range until a bottom reading is displayed on the screen.

**Gain Knob** - The Gain knob controls the amount of sensitivity required by the unit to pick up objects like bottom, weeds, fish, or lures and jigs. The lower the number, the less sensitivity, conversely higher numbers mean more sensitivity. However, too much Gain (sensitivity) will result in too much information being displayed, and it becomes difficult to interpret the return signals. The best Gain setting is achieved by turning up your Gain from 0 until you receive a clear and steady bottom reading. If you're looking for your lure or bait, turn up the gain until you just begin to display your bait without it fading or flickering on the screen. The lower the sensitivity, the narrower the display segments, and therefore the easier it is to distinguish targets. We cannot emphasize this strongly enough. Too much Gain will only clutter the display with unnecessary information, making it more difficult to interpret the return signals. Keeping the Gain at minimum levels will actually provide you with the most accurate and precise information.

**Interference Rejection** - The Interference Rejection system is designed to knock out competing return signals from other sonar units being used within close proximity. When other sonar units are causing interference to the display of the LX-5i, activate the IR feature by depressing the IR key located on the face of the LX-5i. When you press the key, a beep will be heard. There are 12 levels of interference rejection, and each press of the key will change the level of Interference Rejection. The correct level of IR will be achieved when the display is clear of display clutter. In some extreme cases, clutter will be greatly reduced but not totally eliminated. It is recommended that only one person in a group adjust the interference rejection at a time.

**Zoom** - The Zoom function can be activated by depressing the ZM key. An audible beep will indicate that the Zoom function has been activated. The Zoom function divides the circular display screen in half. The right half of the display, (12 to 6 o'clock on the dial) will become your entire surface-to-bottom display. This will be indicated by a RED band of light at the top (zero) and a RED band of light at the bottom (or 6 o'clock). If you are on the 20-foot depth range, the 12 o'clock position will be the surface of the water and 6 o'clock will be the bottom of your chosen depth range (20 feet on the 20-foot scale).

When utilizing the Zoom function, you will be reading your depth markings by viewing the inner circle (YELLOW numeric) located in the center of the LX-5 display dial. If you select the 40-foot scale, the same applies, except you multiply the YELLOW numeric markings by 2. The 80-foot range setting is a multiple of 4, and the 160-foot range setting is a multiple of 8.

Once you use the LX-5i a few times, your brain will automatically make the adjustment without any noticeable thought process. The backside of the display (6 o'clock moving clockwise to 12 o'clock) is the other half of your split-screen display. This half reads what you see on the right half, but in a magnified version. This will greatly enhance the precision of your presentation and show that multiple smaller targets might exist on the left half (Zoom) where it appears that one larger target is showing on the right (normal display). You can determine the size of your Zoom window (the width or amount of water viewed within the water column) by depressing the ZM key. If you

depress the key once (turning Zoom ON), the window is 5 feet on the 20- or 40-foot range setting, if you press the ZM key again the Zoom window is expanded to 10 feet. Depress the ZM key again and the Zoom feature is turned OFF. When in the 80-foot range, pressing the ZM will give you a 10-foot viewing window, depress ZM again and it will become a 20-foot Zoom window. The 160-foot range has a 20-foot window, or it becomes 40-foot when ZM is depressed again.

**Up & Down Keys** - The UP/DN keys are used to move your Zoom window up or down in the water column. When you first depress the DN key, two YELLOW blinking lights will appear on the LX-5i display. The YELLOW blinking LEDs will be 5 feet apart between the 1-foot and 6-foot markings on the YELLOW scale located on the inner circle of the display dial. If you remove your finger from the keypad, the blinking YELLOW indicator lights will disappear after 2 seconds.

If you hold the DN key, the two blinking lights will remain on and move down the display (with audible beeping) until you locate them in the area that you desire. To increase the Zoom window to 10 feet, depress the ZM key (audible beep) and then depress the DN key, then the blinking YELLOW lights will appear 10 feet apart on the inner YELLOW numeric scale in the center of the LX-5i display. You can then locate the Zoom window at the desired viewing depth. Even though your YELLOW indicator lights are no longer blinking, your Zoom window is still set and in position. To check the location, press either the UP key or the DN key to activate the visual blinking lights to reacquaint yourself with the location. The blinking YELLOW lights will assist you in setting the location and act as a visual reference.

The benefit to the MarCum design is that it allows you to move your Zoom window between surface and bottom, and in turn, zoom in on any 5- or 10-foot section of water (on the 20-foot depth range). There are many species of fish that are not bottom huggers that we all enjoy pursuing. Crappies, sunfish, perch, tullibees, whitefish and trout often suspend anywhere within the water column. The MarCum design allows you to have two sizes of Zoom window per depth range and position the Zoom where you need it for the fish that you enjoy pursuing.

**Dual Beam Transducer** - The LX-5i comes standard with a dual beam transducer that allows the user to choose between a 20- or 8-degree transmit cone (angle). When the LX-5i is first turned on, it will be transmitting utilizing the 20-degree element. To change the cone angle to a narrower eight degree transmit, simply depress the NBT key located on the keypad and the RED LED will light indicating the LX-5i is now transmitting using the 8-degree element. This option allows the user maximum flexibility by narrowing the "dead zone" associated with fishing sharp breaks, reducing or eliminating interference from nearby sonar in hard bottom situations, eliminating viewing other lures or baits from nearby anglers, or narrowing the cone in deeper waters to view fish in an area of closer proximity to your bait.

**Cone Angle Coverage** - The cone angle of the LX-5i dual-beam ice transducer is either 8 or 20 degree, and the open water high speed and puck transducers are 20 degrees. The approximate area of coverage with a 20 degree transducer is determined by dividing the depth by 3 (in 30 feet of water your area of coverage is approximately 10'). The approximate area of coverage with an 8 degree transducer is determined by dividing the depth by 7 (in 30 feet of water your area of coverage is approximately 4.25').

**SuperFine Line** - This feature allows the user to improve target separation to 3/4 on an inch and still utilize the full screen display. When the SFL key is depressed, a RED LED will light to indicate that the SFL feature has been activated. Utilizing SuperFine Line changes the transmit pulse, narrows the display segments, and improves the target separation from 2.15 inch to 3/4 of an inch. This is achieved without having to activate the Zoom feature thereby allowing you to view the entire water column from surface to bottom.

**Simulator** - The LX-5i comes equipped with a built-in simulator. To activate the simulator, depress and hold the Zoom key while turning on the unit. The unit will display a simulated bottom reading (RED & GREEN), a fish just off the bottom (GREEN) and a moving (jiggling) lure indicated by a YELLOW light.

The simulated fish (GREEN) will move off the bottom and change to RED as it approaches the lure. This indicates that the fish was not in the center of the transmit cone when near the bottom but as it approaches the lure will turn RED as it enters the center of the cone. The unit will beep as the simulated fish hits the lure and is caught. The unit will then re-start the programmed simulation and the process will repeat itself indefinitely.

## Signal Interpretation

Hard-bottom readings (rock or gravel) will be displayed by a wide band of RED light indicating a strong return signal. Conversely, a soft bottom (mud or silt) will return a weaker signal and will result in a narrower RED band or possibly even a combined RED and GREEN band. A soft bottom with weed growth will often appear as a narrow RED or GREEN band combined with both solid and broken Yellow segments indicating weeds. Any fish in the weeds may show as RED or GREEN depending on fish size and relationship within the transmit beam (in the middle or on the outside of the transmit signal).

**Reading Bottom** - In interpreting depth, always read the leading edge (shallowest side) of the signal return. If you have a strong signal return (wide band of RED light) and it starts at 13 feet and ends at 16 feet, the correct depth is 13 feet or the shallowest leading edge of the return signal. Anything beyond the shallowest leading edge indicates the strength of the return signal.

**Reading Fish** - Fish will generally appear as separate targets from the bottom. A fish target can be displayed as RED, YELLOW, or GREEN, depending on the size of the fish and the location within the transmit beam. Larger fish located in the center of the beam (cone) can appear RED and will be displayed as a wider band on the display. Smaller fish or fish on the outside of the cone may appear green or even yellow. Fish moving through the transmit beam may change color as the return signal strengthens or weakens reflecting their location.

Fish that are right on the bottom can appear as part of the bottom. The best indication of a fish sitting right on the bottom is that the leading edge of the bottom return signal is either GREEN or possibly a dithering or flickering RED segment. It is important that the **GAIN** or sensitivity be kept to a minimum when displaying a strong bottom return. Too much GAIN will flood out the ability to differentiate targets and clutter the display.

**Reading Your Jig** - The LX-5i will pick up and display small objects like jigs, split shot, or swivels. When tuning the unit to display your lure or bait, lower the object to the desired depth and turn up the GAIN until you see the jig on the display. It is important that the GAIN be set so it displays the jig as you raise or lower it.

Sound waves emitted by the LX-5i bounce off targets and return with the strength of the targets' density. Denser targets return with a stronger signal, displayed as RED. Less-dense objects (small fish) return a medium-strength signal, displayed as GREEN. The least dense objects (weeds, bait-fish, lure) return a weak signal, displayed as YELLOW. Objects on the edge of the sound cone may appear as YELLOW. A fish moving through the cone may appear first as YELLOW then GREEN, then RED, depending on its size and how close to the center of the cone it moves.

**Dead Zone** - All sonar units will have a dead zone in certain circumstances. This occurs on sharp drop-offs where the transmit beam (cone) hits the shallower edge of the drop-off and returns before the deeper edge returns. This in effect creates an undisplayed area between the shallower and deeper water within the transmit beam. The 8 degree transmit option on the LX-5i will greatly reduce this effect.

### **A typical day on the ice with a Marcum...**

Based upon past experience, mapping GPS, or tips from other anglers you have selected a general area to fish. Confirm that you are in the proper depth before drilling a hole by pouring a small amount of water on the ice, turning the Marcum Flasher to the 20 foot range and then placing the face of the transducer on the wet ice. At first you get no depth reading, but remember that the water is possibly over 20 feet deep, so you change to the forty foot range. There it is; you can see that you are in 22 feet of water, a perfect depth for the panfish you are targeting today. You can even see what appears to be fish on the dial a couple feet off the bottom. Time to get out the auger and drill a hole!

Once the hole is drilled and the slush cleared, place the shuttle on the ice next to the hole, position the ducer arm so it is directly over the center of the hole, and position the ducer stopper on the ducer cable so the ducer hangs just below the surface of the water.

You have determined the depth to be just over 20 feet, so you power the unit on to the 40 foot range. Bait up and allow your jig to sink down the hole. Soon you can see the jig's progress as it sinks towards bottom. The jig's signal disappears when it gets to the bottom; you engage your reel and raise the jig up a couple of feet until you can see it on the display, hovering just above the bottom. Your small jig shows on the display as a thin line of green and yellow, and you can

see every movement of your rod tip telegraphed as the jig's signal moves up and down. Wait-- now there's another signal just below your jig! It starts out as green and yellow, but soon becomes red as it gets ever closer to your jig. You slow the jigging motion and now the red signal of the fish merges with your jig's signal and you feel a tap at the same time. You set the hook and soon a nice crappie is on the ice.

That was easy, let's try again. Back down goes the jig, but this time let's see how this zoom function works. You again have the jig positioned a couple feet off the bottom. You press the ZOOM button and the display splits in half. You can still plainly see your jig, but it is shown just above the bottom about in the middle of the right side of the display. You know that you have to move the zoom window, so you press the DOWN button and two small yellow lights appear at the very top of the right side of the display. You hold the DOWN button, and the lights scroll down until they get to the bottom. Now you can still see your jig on the right side, but it is also visible on the left side as well, only on the left side it is greatly magnified. Your attention is now focused 100 percent on the Zoom Window, and soon a larger signal is once again closing in on your jig. The large red signal overtakes your jig, and as soon as you set the hook you can tell this one is larger than the first. You slowly pump the fish to the surface, but before the fish gets to the ice you reach down with your free hand and lift the ducer out of the way. The big crappie fills up the entire hole and you quickly grab it by the lower lip as soon as its head comes out of the water.

## BATTERY CHARGER TROUBLESHOOTING

A majority of inquiries that come to our office are battery or battery charger related. Battery failure can be caused by a fault in the charging system, and many times the issue is with the fuse on the wiring harness. If you suspect your battery is not being charged, follow these troubleshooting tips:

1. When the charger is plugged into the **WALL ONLY** it should show a green light. If there is no light showing, confirm that the outlet is good. If the outlet is good, it is very likely that the charger itself is faulty.
2. If the charger is plugged into the **BATTERY ONLY** it should show a green light. If it does not show a green light, it is likely that the charger is not making contact with the battery. The most likely reason for this is a faulty fuse on the wiring harness. This fuse is a 2-amp automotive fuse, and it should be replaced with a 2 or 3-amp fuse available anywhere that sells auto parts. The fuse can blow out if there is a short in the charging system, or if the plug end of the wiring harness comes in contact with a battery terminal.
3. When the charger is plugged into both the wall **and** the battery, there should be a red light showing on the charger. A red light showing indicates that the charger is in contact with the battery and is actively charging the battery. Once the battery has reached a voltage level that is considered "fully charged" the red light should change to green. If after 24 hours the light has not changed to green there is no cause for alarm! Remember that when the light is red, the battery is being charged, and you will be able to use your system.
4. If the charger is plugged into the wall and battery, and you get a blinking light on the charger, it is very likely that the battery is faulty and should be replaced

## Open Water Set-Up

The LX-5i is an excellent sonar unit for open-water use. To convert the LX-5i from an ice system to an open water unit, remove the LX-5i powerhead, gimbal bracket and power cord from the softcase. The gimbal bracket can be mounted on any flat surface. The unit should be mounted in a location that is free from other electrical apparatus to eliminate interference. If interference is observed, reposition the unit until optimum performance is obtained. Your boat's 12-volt DC electrical system can be used to power the unit. Lowest noise will be obtained by direct connection to the battery. The LX-5i is protected from accidental polarity reversals. No damage will result from an incorrect battery hook-up.

The ice-fishing transducer supplied with the Ice System is not designed for open-water use. There are two transducer choices for use in open water. The high-speed transducer is designed for transom mounting (outside the hull) and reads depth while the boat is on plane. The puck-style transducer is most often mounted on the bottom of a trolling motor or epoxied into the hull of a fiberglass boat.

### High-Speed Transducer Installation

High-Speed transducers are designed to be mounted on the transom of a boat. If properly installed, you will be able to read depth, weeds, and fish while the boat is on plane. Transducer mounting location is critical for optimum performance of the LX-5i sonar unit. The mounting location should be free of any white water or turbulence resulting from rivets, ribs or hull strakes. It is preferable to mount the transducer at least 18 inches from the centerline of the boat to avoid turbulent water resulting from the outboard motor. The transducer is wedge-shaped and should be mounted with the leading edge mounted against the transom. The leading edge of the transducer should be mounted flush with bottom of the boat. This can be best achieved by using a flat object like a ruler and holding it flat along the bottom of the boat and matching the bottom of the transducer to the bottom of the boat.

Attach the mounting hardware to the high-speed transducer as shown in the instructions included with the transducer. Hold the transducer, with attached mounting hardware, to the transom of the boat (flush to the bottom) and mark the center of the holes on the transom. Drill the appropriate-size holes and attach the transducer to the transom. Tilt the rear of the transducer between 2 and 5 degrees below the transom to ensure solid contact with the water when the boat is on plane.

More-detailed installation instructions are included with the high-speed transducer and mounting hardware. Do not mount the transducer next to the propeller. Turbulence from the propeller may cause disruption in the sonar display. In-hull mounting is designed for achieving high-speed sonar readings in fiberglass boats.

### Puck Transducer Installation

Puck-style transducers can be mounted on the bottom of a trolling motor, epoxied in the hull of a fiberglass boat, or mounted to a suction cup for portable use. Mounting to a trolling motor is achieved with the use of a large, adjustable stainless steel hose clamp available at most hardware or automotive stores.

Slots are included in the puck transducer for passing the clamp through and then around the motor. Align the transducer so that it is perfectly centered from right to left on the bottom of the motor. If the transducer is tilted or angled, you won't receive a signal on your sonar display.

For through-hull mounting, the transducer must be mounted in the layer of fiberglass that is in direct contact with the water. This is best achieved by mounting the transducer in the area surrounding the bilge pump in the transom area of the boat. Some boats have false bottoms or floors. Mounting the transducer in a location not in direct contact with the water will result in dead air space and no sonar reading. Once the correct area is located, the transducer is installed using a good grade of marine epoxy. For more-detailed installation information, refer to the directions included with the puck transducer.

### Product Performance Specifications

**Battery Draw** - The LX-5i has a current draw between 350 and 400mA per hour. To extend the battery life, recharge the battery after every use.

Output Power . . . . .	2500 watts peak to peak
Depth Ranges . . . . .	20, 40, 80, & 160 feet
Transmit Frequency . . . . .	200 KHz
Current Draw . . . . .	350 mA
Operating Voltage . . . . .	10.5 to 15 volts (12-volt DC)
Display Colors . . . . .	Red, Yellow, Green
Transducer Cone Angle . . . . .	Dual Beam (8 & 20 degrees) Puck and High Speed for open water use – 20 degree.
Target Separation . . . . .	2.15 inches (20-foot depth scale) 3/4 inch in SuperFine Line Mode (20 foot depth scale)

### TWO YEAR WARRANTY

Marcum warranties this product to be free from defects in materials and workmanship for two years from the date of purchase. This warranty applies to customers who properly complete the online product registration form found on the MarCum Technologies Website: [www.marcumtech.com/support](http://www.marcumtech.com/support)

If you are unable to use the internet, please fill out and submit the enclosed warranty registration card to be eligible for the two year warranty. MarCum Technologies will repair or replace any components that fail in normal use. Failures due to abuse, misuse, unauthorized alteration, modification, or repair are not covered. The warranty is valid only for the original owner who purchases the unit from an authorized dealer. An original sales receipt dated within the warranty period is required for all warranty claims.

In an effort to best serve our customers, MarCum Technologies has set a standardized battery warranty policy. Battery warranty coverage requires a proof of purchase. Please see our website, [www.marcumtech.com/support](http://www.marcumtech.com/support), for full details.

## How to Obtain Service

If your unit is malfunctioning, check the FAQ section of our website. You may find that the solution to your problem is something you can resolve yourself. If you need to send it in, there is no need to contact our office. Getting repairs made is as simple as going to our website, clicking on the Support page, and then filling out the Warranty Service Form. If your unit is under warranty, be sure to attach a picture/scan of your proof of purchase with date included. If your system is out of warranty, we have several flat-rate fees that will cover the cost of repairs, including parts and labor. Once you have completed the Warranty or Flat-Rate repair, package the unit as described on the website and ship it to us.

There is no need for an authorization or reference number, just make sure that you have included your contact info and a brief description of the issue on a note in the box.

If you do not have the ability to use the Internet, you may also fill out the warranty service form included in the box with your unit. If you enclose this form in the box with your unit there is no need to contact our office, just include the filled out form in the shipping box.

Some people are more comfortable calling for shipping instructions. During peak ice season we sometimes receive high volumes of calls, making it impossible to get to all customers who phone in. For this reason, strongly consider using our online form or email rather than calling. In your email, please provide your name, complete address, and cell phone #. Please indicate what model Marcum you have, approximate date of purchase, and what has gone wrong with it.

***Please send your email inquiries to [service@versae.com](mailto:service@versae.com)***

If you are unable to use email or internet, you may call us at **763-512-3987**. Our office hours are Monday - Friday, 8 - 4 Central Time  
International callers may use 888-778-1208.

## OUR ADDRESS:

MARCUM TECHNOLOGIES

ATTN: SERVICE DEPT.

3943 QUEBEC AVE NORTH

MINNEAPOLIS, MN 55427

The customer is responsible for shipping costs associated with returning the unit to Marcum Technologies. Marcum will pay for shipping the repaired unit back to the customer while it is still under warranty. All out of warranty services will be charged a fee for service and shipping which must be paid in advance. The unit should be securely packed and shipped "pre-paid freight" and insured to Marcum Technologies. It is the customer's full responsibility to track their products sent out in the mail or other forms of delivery service. Marcum Technologies will not be liable for packages lost en route to us.

Unless specified otherwise, do not include batteries or other accessories when returning the product for repair. MarCum Technologies will not be responsible for lost or damaged accessories. Turnaround time can vary, on average it is about 1 week.

## ACCESSORIES

**Soft pack**—This is the red pack that protects your flasher from the elements.

**Shuttle**—This is the plastic base that your flasher is mounted to.

**Transducer Arm**—This is what holds your ducer cable. Having an extra one on hand is not a bad idea; clumsy friends have been known to break these.

**Ice Transducer**—If you have lost or damaged your ducer you can buy one from us or premium retailers. If you think your ducer quit working, you should contact customer service before buying a new one.

**Stopper**—This suspends your ice ducer in the hole along with the ducer arm.

**12 volt Battery** - Batteries don't last forever, buying an extra one is cheap insurance that you will always be able to use your Digital Sonar

**Power Cord** - This connects your flasher to the battery

**Universal Charging System** - This includes a charger and a fused wiring harness

**These items can be ordered off our website, [www.marcumtech.com](http://www.marcumtech.com) or by calling 763-512-3987**

## OTHER GREAT PRODUCTS FROM MARCUM TECHNOLOGIES

### LX-7

The LX-7 Digital Sonar takes DNA from other fine MarCum sonars—you might say it was “bred” for excellence. Because the LX-7 is digital, we can pack it full of more features than have ever been found in an ice sonar before. With an 8” customizable dashboard display, superior target separation, 12-level interference rejection, dual-beam transducer, expandable zoom, and much, much more, the LX7 is the perfect combination of macro features and micro precision.

### Troller 2.0

The new Showdown Troller Digital Fish Finder is a palm-sized sonar device with full size performance. For use in either ice-fishing or open water situations...quickly “troll” from hole to hole while ice-fishing or shoot through your canoe or kayak in order to find fish and the correct depth. As a scouting tool it has no equal; the ultimate in portability is matched to ShowDown’s proven Crystal-Quick® vertical display. The sonar instantly locks on to bottom, and clearly displays the location of fish and your lure, anywhere in the water column.

### VS825SD

An 8” LCD display will deliver the sharpest, most vivid display possible. On-Screen displays of Camera Direction, Depth, Temp and Battery Voltage take all of the guess work out of your camera position so your new VS825sd can be used to observe fish in their natural habitat or learn how fish react to your lure or bait presentation. The applications are endless, and it’s never been easier or more fun to view.

# **MarCum**

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**TECHNOLOGIES**

*www.marcumtech.com*

**MARCUM TECHNOLOGIES  
3943 QUEBEC AVE NORTH  
MINNEAPOLIS, MN 55427**



*MarCum User Manuals are available for download from  
[www.marcumtech.com](http://www.marcumtech.com).*