MarCum TECHNOLOGIES

LX-3TCi
Multicolor Sonar

User Manual

www.marcumtech.com

Introduction

Thank you for purchasing the MarCum LX-3TCi multicolor sonar. The LX-3TCi incorporates same great sonar technology as its predecessor the LX-3tc, but now with the addition of improved viewability provided by the flat screen. Standard features include a patented flexible zoom that can be set anywhere between surface and bottom, a patent pending TrueColor display, 2000 watts of peak-to-peak power, patented signal interference rejection and target separation down to 1 inch. Our goal to set the industry standard for performance while maintaining the highest level of reliability was achieved with the release of this exciting new flasher. Please read this manual carefully before using your LX-3TCi system. Only by reading this manual can you realize the maximum benefit from your purchase — enjoy your new LX-3TCi flasher!

General Description

The LX-3TCi multi-color sonar unit utilizes three different colors within its display to differentiate between densities of objects. Each of the three colors is represented by a separate LED on the display board. This ***TrueColor*** display eliminates the blending of two colors to make a third and results in ultra-crisp signals that greatly enhances target identification. The use of different colors in defining return signals is meant to be informative in indicating the size of fish, type of bottom or location of weeds. The interpretation of these signals improves with experience and use in the field.

Your Marcum is water and weather resistant and is designed to be used in the outdoors, but in extreme weather conditions, care should be taken to shield the monitor from driving rain and boat spray. At no time should your Marcum be allowed to be in direct contact with water, and if it does get wet, every attempt should be made to get your system dried off as soon as possible.

Getting Started

Look behind the display and hook up the LX-3TCi's 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 change a battery or transducer. Your LX-3TCi 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 Marcum Digital Sonar will operate for 10 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.

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 YOUR 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. To extend battery life, recharge the battery after every use.

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-3TCi 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 Marcum LX-3TCi 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-3TCi 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.

READING THROUGH ICE

The LX-3TCi 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 the depth displayed digitally, and a signal showing the bottom (and fish) on whichever sonar windows you have open. 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-3TCi utilizes a combination of control knobs (Gain & Range) and keypad (IR) and (ZM) 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-3TCi on or off, as well as choosing the correct depth range. The LX-3TCi 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.

Interpreting the different rings of numbers around the dial:
When on the 20' range, simply go by the white numbers. 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. 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.

Gain Knob - The Gain knob controls the amount of sensitivity required by the unit to pick up objects like bottom, weeds, fish, smaller bait-fish, or small 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 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, 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 in close proximity. When other sonar units are causing interference to the display of the LX-3TCi, activate the IR feature by depressing the IR key located on the face of the LX-3TCi. When you press the key, a beep will be heard. There are 12 levels of interference rejection that can be used to knock out competing signals, 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-3TCi 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-3TCi 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. The 80-foot range allows 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-3TCi 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-3TCi 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. 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- or10-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 are not bottom huggers and 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.

Simulator - The LX-3TCi 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 (jigging) 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, ORANGE 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 ORANGE or even GREEN. 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 ORANGE 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.

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.

Reading Your Jig - The LX-3TCi will pick up and display small objects like jigs, spilt 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-3TCi 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.

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 your 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 shows 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 it has been over 24 hours and the light is not green, the first thing you should do is unplug the charger and turn on your Digital Sonar. The Digital Sonar has a built-in voltmeter; it shows as one of the gauges. How different batteries will react with a charger isn’t 100% possible to predict, but after 24 hours your battery should be charged to around 13 volts. If your unit turns on and has a voltage level over 12 volts, there is no need for concern, you should go fishing! If it is not at or above 12 volts after charging you should consider replacing the battery. 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 Marcum Flasher is an excellent sonar unit for open-water use. To convert the flasher from an ice system to an open water unit, remove the power- head, gimbal bracket and power cord from the shuttle and softcase. The gimbal bracket can be mounted on any flat surface in your boat. 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.

Marcum flashers are 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 flasher. 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.

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. 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. For the best readings, 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.

Battery Draw - The LX-3TCi has a current draw between 300 and 350mA per hour. With a standard 9-amp hour battery, the LX-3TCi should last between 18 and 22 hours if fully charged. To extend the battery life, recharge the battery after every use.

Cone Angle Coverage - The cone angle of all LX-3TCi transducers is 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 cover- age is a circle approximately 10'wide).

Product Performance Specifications

Output Power	2000 watts peak to peak
Depth Ranges	20, 40, 80, & 160 feet
Transmit Frequency	200 Khz
Current Draw	300 mA
Operating Voltage	10.5 to 15 volts (12-volt DC)
Display Colors	Red, Yellow, Green
Transducer Cone Angle	20 degrees (all transducers)
Target Separation	2.15 inches (20-foot depth scale) 1 inch in Zoom 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

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, 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 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 a high volume of calls, making it impossible to get to all customers who phone in. For this reason, strongly consider using the on-line form or email rather than calling. In your email, please provide your name, complete address, and phone #. Please indicate what model Marcum you have, approximate date of purchase, and what has gone wrong with it.

OUR ADDRESS

MARCUM TECHNOLOGIES
ATTN: SERVICE DEPT.
3943 QUEBEC AVE NORTH
MINNEAPOLIS, MN 55427

Please send your email inquiries to service@versae.com

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

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 or by calling **763-512-3987**

OTHER GREAT PRODUCTS FROM VERSA ELECTRONICS

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 LX-7 is the perfect combination of macro features and micro precision.

Showdown 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 ne 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

Using an 8" LCD display, the 825sd 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 hunt for underwater treasures, locate the "spot on the spot", 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
TECHNOLOGIES

www.marcumtech.com

MARCUM TECHNOLOGIES
3943 QUEBEC AVE NORTH
MINNEAPOLIS, MN 55427

MarCum User Manuals are available for download from www.marcumtech.com.