IPICO SPORTS LITE READER

USER'S MANUAL

HOW TO USE THIS MANUAL

TIME:OUT

WHY DOES THE ELITE READER NEED RECEIVER MODULES?
TIME:OUT

When tags enter the radio-frequency field generated by the antenna mats for use with the reader, they emit a signal that eventually turns into a unique twelve (12) character alphanumeric tag ID. The Receiver modules decode these signals and 'decode' these signals into tag IDs.

Time:Out boxes explain the purpose of or the need for certain recurring or significant concepts that are fundamental to the operation of the IPICO Sports Elite Reader. These are intended for users that are new to RFID or to IPICO Sports products.

FAST:TRACK

NEED AN EXTERNAL SWITCH OR ROUTER, BUT THERE'S NO POWER NEARBY?
FAST:TRACK

The Power Supply Module has a small, green plastic extension that has positive and negative lead connectors. Leads from a modified power cable can be joined to this connection by fastening the appropriate lead to the correct lead connector. This will allow a switch or router to be powered by the reader itself. For instructions regarding modifying a cable to use this connector, contact IPICO Sports support.

Fast:Track boxes showcase a tip or trick that highlights additional reader functionality that is beyond the scope of basic operations. These boxes are provided for advanced users of IPICO Sports products.

NOTIFICATIONS AND ADVISEMENT

FCC IDENTIFICATION   VHYIP3458A

This device complies with Part 15 of the United States Federal Communications Commission rules and regulations, indicating that the operation of the IPICO Sports Lite Reader is subject to the following conditions:
- ▪ This device may not cause harmful interference.
- ▪ The device must accept any interference received including interference that may cause undesired operation.

PRECAUTIONS AND CONSIDERATIONS FOR FIRST USE

Before first use and any use after a long period of disuse, address the following considerations:
- ▪ Fully charge the reader's internal battery before the first use of the reader.
- ▪ Fully charge the reader's internal battery before events.
- ▪ The reader's internal battery should be fully charged every two months when not in active use.

The purpose of this document is to detail the functional parts, operations and capabilities of the IPICO Sports Lite Reader. Note that the operation of the IPICO Sports Lite Reader can be affected by the environment in which the reader device is operating. Users should read this manual fully in order to obtain optimal system performance.

TABLE OF CONTENTS

1 LITE READER OVERVIEW

LITE READER OVERVIEW

WHAT ELSE IS IN THE BOX?

A

LEXAR FIREFLY
USB Drive
2.0 GB; USB 2.0
Documentation included

MASCOT CHARGER
3-Step AC Charger
More information in
Appendix A

C

B

**EXTERNAL BATTERY
CONNECTOR CABLE**
Crocodile clip

E

**CAT-5e NETWORK
CABLE**

USB A/B CABLE

D

LITE READER OVERVIEW

A ▶

LEXAR FIREFLY USB DRIVE

A 2 GB Lexar brand 'Firefly' USB drive has been provided with the reader. This drive contains all of the documentation needed to operate and maintain the reader. After having copied all of the documents and manuals contained on the drive, it is recommended that the drive is used to log the reader's results data while using the Lite reader.

B ▶

EXTERNAL BATTERY CONNECTOR CABLE

In addition to powering the IPICO Sports Lite reader on internal battery, supplemental battery power may be provided by using an external 12-volt battery. Examples of these batteries include standard car batteries or 'deep-cycle' marine batteries. Use this cable to connect an external battery to your Lite reader.

C ▶

MASCOT CHARGER

Use this charger to charge the internal battery of the IPICO Sports Lite reader between uses. Best use practices regarding the Mascot charger are detailed further in section #.

D ▶

CAT-5E NETWORK CABLE

While the IPICO Sports Lite reader logs data to the provided USB memaory stick (or a third party memory stick matching the specifications in Appendix #), the Lite reader will also broadcast reader data through a network cable. To access this networking capability, the provided cable or a cable with similar specifications must be used.

E ▶

USB A/B CABLE

A USB 'A/B' type cable is provided with the IPICO Sports Lite reader to be used in the event that IPICO Sports staff or other authorized repair staff may need to access the Lite reader's maintenance capabilities. Use of thsi cable will only occur if maintenance or other dianostic functions are needed.

LITE READER OVERVIEW

LITE READER OVERVIEW

TAG READ L.E.D.

A

Visually registers tag read signals when the IPICO Sports Lite reader is powered and connected to antenna mats. Uses a green or red read indication pattern.

RECEIVER CHANNEL B CONNECTIOR

C

When connecting antenna mats, the round co-axial type connector from the antenna mat connected to **Transmitter B Connector** should be connected using the **Reciever B Connector**.

EXTERNAL TRIGGER CONNECTOR

E

Used for connecting external triggering switches to the IPICO Sports Lite reader. The connection is a standard one-quarter inch (1/4") connection. Signals sent from this switch will create file time markers.

READER POWER L.E.D.

G

Reports the power status of the IPICO Sports Lite reader, when powered.

POWER SUPPLY CONNECTOR

I

Charging socket for connecting the Mascot 3-Step charger. Can also be connected to an external battery using the Crocodile-clip cable packaged with the IPICO Sports Lite reader.

TRANSMITTER CHANNEL B STATUS

K

Displays the status of the IPICO Sports Lite reader antenna mat tuning state for the antenna mat connected to Transmitter Channel A using a green or red tuned/detuned indication pattern.

RECIEVER CHANNEL A CONNECTIOR

B

When connecting antenna mats, the round co-axial type connector from the antenna mat connected to **Transmitter A Connector** should be connected using the **Reciever A Connector**.

USB MAINTENANCE CONNECTOR

D

Reserved for mainteance and diagnostic use by IPICO Sports staff or an IPICO Sports authorized repair representative.

TRIGGER BUTTON

F

Finalizes and restarts the USB memory stick writing process. In addition, the **Trigger Button** may be used to insert file time markers.

ETHERNET CONNECTOR

H

Transmits data via Category 5e or compatible Ethernet cable. Use of the cable provided with the IPICO Sports Lite reader is encouraged. Other cables are recommended to be tested prior to event-day use.

TRANSMITTER CHANNEL A STATUS

J

Displays the status of the IPICO Sports Lite reader antenna mat tuning state for the antenna mat connected to Transmitter Channel A using a green or red tuned/detuned indication pattern.

INTERNAL BATTERY CHARGE STATUS

L

Displays the charge status of the IPICO Sports Lite reader internal battery on a red-yellow-green continuum, green indicating charged status, red indicating depleted status.

LITE READER OVERVIEW

ANTENNA CALIBRATION SWITCH

M
Manually runs the antenna mat tuning process in the event that either Transmitter Channel A or Transmitter Channel B are detuned.

USB MEMORY STICK CONNECTOR

N
Connects a compatible USB 2.0 memory stick for data logging during the course of an event. When removed, the tag data seen during the event will be written to the USB stick for use with scoring software.

LOCAL AREA NETWORK STATUS L.E.D.

O
Displays the network connectivity status of the Lite reader using an off-red-green indicator pattern. The L.E.D. will become active red when a cable is connected, and green when transmitting data.

TRANSMITTER CHANNEL A CONNECTOR

P
When connecting antenna mats, the flat grey Hirschmann type connector from the antenna mat connected to **Reciever A Connector** should be connected using the **Transmitter A Connector**.

TRANSMITTER CHANNEL B CONNECTOR

Q
When connecting antenna mats, the flat grey Hirschmann type connector from the antenna mat connected to **Reciever B Connector** should be connected using the **Transmitter B Connector**.

ON / OFF ROCKER SWITCH

R
Supplies power to the IPICO Sports Lite reader when switched to the left or **ON** position, and removes system power when switched to the right or **OFF** position.

LITE READER OVERVIEW

<div style="border:2px solid black; padding:10px">
IP ADDRESS

10.19.1.51 PORT 10000
</div>

<div style="border:2px solid black; padding:10px">
SERIAL NUMBER

</div>

WHAT ARE THESE LABELS?

When shipped, the IPICO Sports Lite reader will arrive with some configuration details set as default. One of these parameters, network (or I.P.) address will be set. While it may not be exactly what is seen in the above image, the IPICO Sports Lite reader will have a labeled address used to connect to the Lite reader. Using this address will be detailed later in this manual in Section #.

If any issues or questions arise about the operation of a Lite reader, each reader is serialized and given a unique serial number. This number is also included as part of the title plate located on the top of the Lite reader. Communications regarding a given Lite reader should include this serial number such that IPICO Sports staff can find or categorize any service or sales records relating to the given Lite reader.

2 ANTENNA MAT OVERVIEW

ANTENNA MAT (2.5 METER MAT)
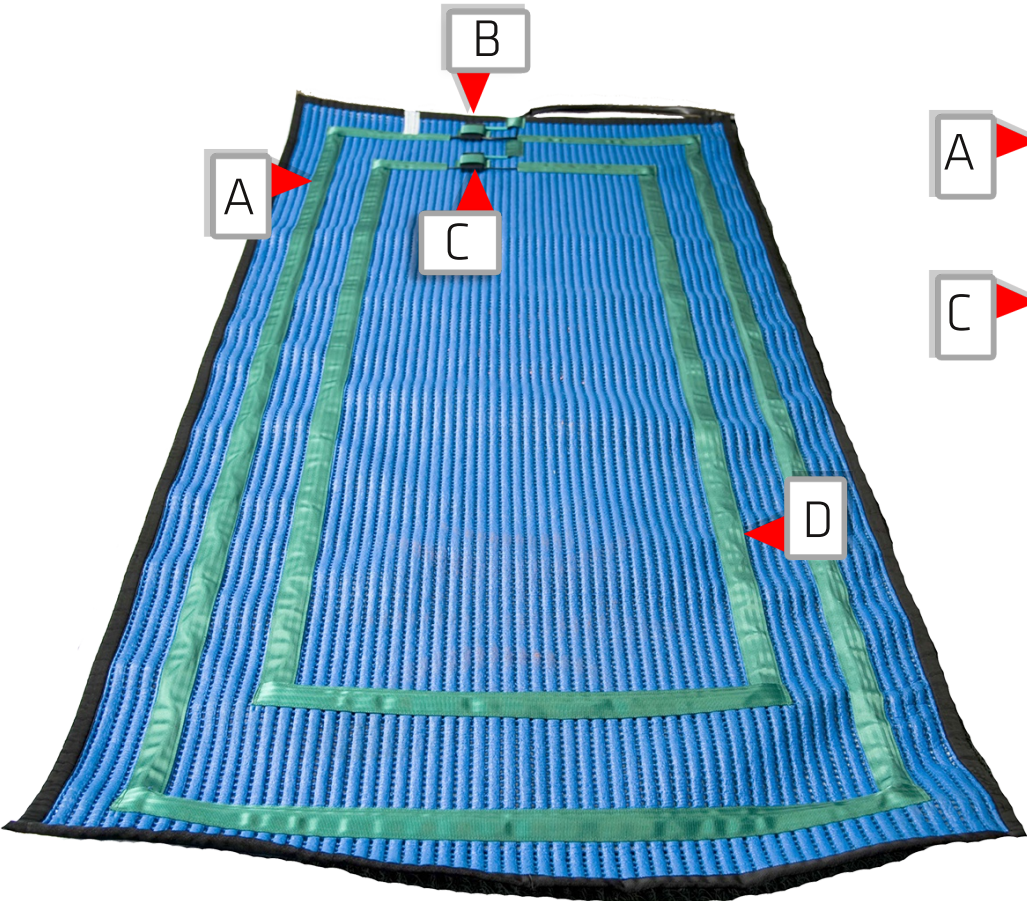
TRANSMIT LOOP
A Antenna loop transmitting the power-up signal to IPICO Sports tags.

TRANSMIT JUNCTION
Circuitry box that powers and operates the **transmit loop**. **B**

RECEIVE JUNCTION
C Circuitry box that powers and operates the **recieve loop**.

RECEIVE LOOP
Antenna loop receiving IPICO Sports tag read signals. **D**

TIME:OUT

WHAT ARE THESE MATS FOR? WHY ARE THEY REFERRED TO AS 'ANTENNA MATS'?
TIME:OUT

Simply, these mats are, themselves, antennas that are attached to a mat form to help you, as a timer, use and transport them. These antennas, when connected to a reader, generate a radio field.

When tags enter this field, they emit a signal that the reader turns into the tag IDs with which you may be familiar.

ANTENNA MAT (2.5 METER MAT)

2.5 meter antenna mats can be set up in one of two configurations, both pictured at right. They are referred to as either:

- ▪ **'Series'** - used to accomodate high-volume split, start or finish points (letter **A**)
- ▪ **'Parallel'** - used to accomodate lower-volume split or finish points (letter **B**)

Note that, if configured in **series** layout, to recieve best results the antenna mats must be overlapped on the outer, or transmit loop, resulting in approximately one (1) foot of overlap (30 centimeters). This overlap is pictured below.

2.5 meter antenna mats are distributed in four colors, and the IPICO Sports Lite reader comes with a two-color set. The four colors and their significance relates to cabling lengths such that the above configurations can be set up. The next page details how the color-coding of the antenna mats contributes to set up.

ANTENNA MAT (2.5 METER MAT)

5m

5m

10m

10m

RED YELLOW

5 M CABLING

BLUE GREEN

10 M CABLING
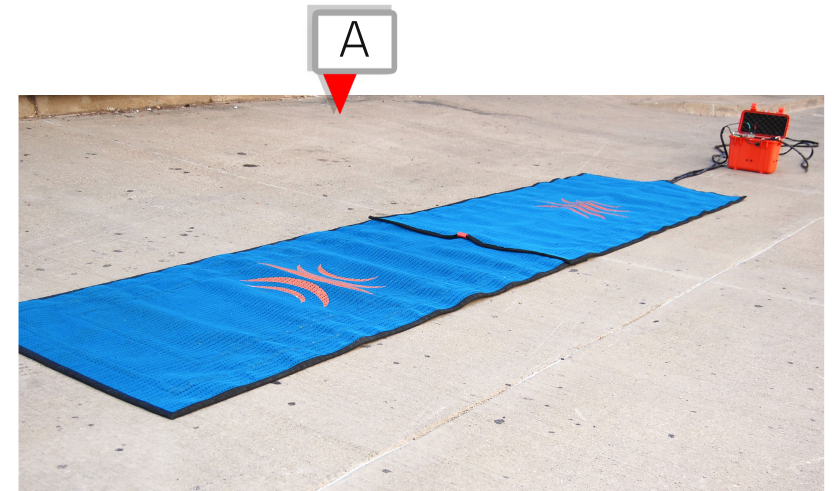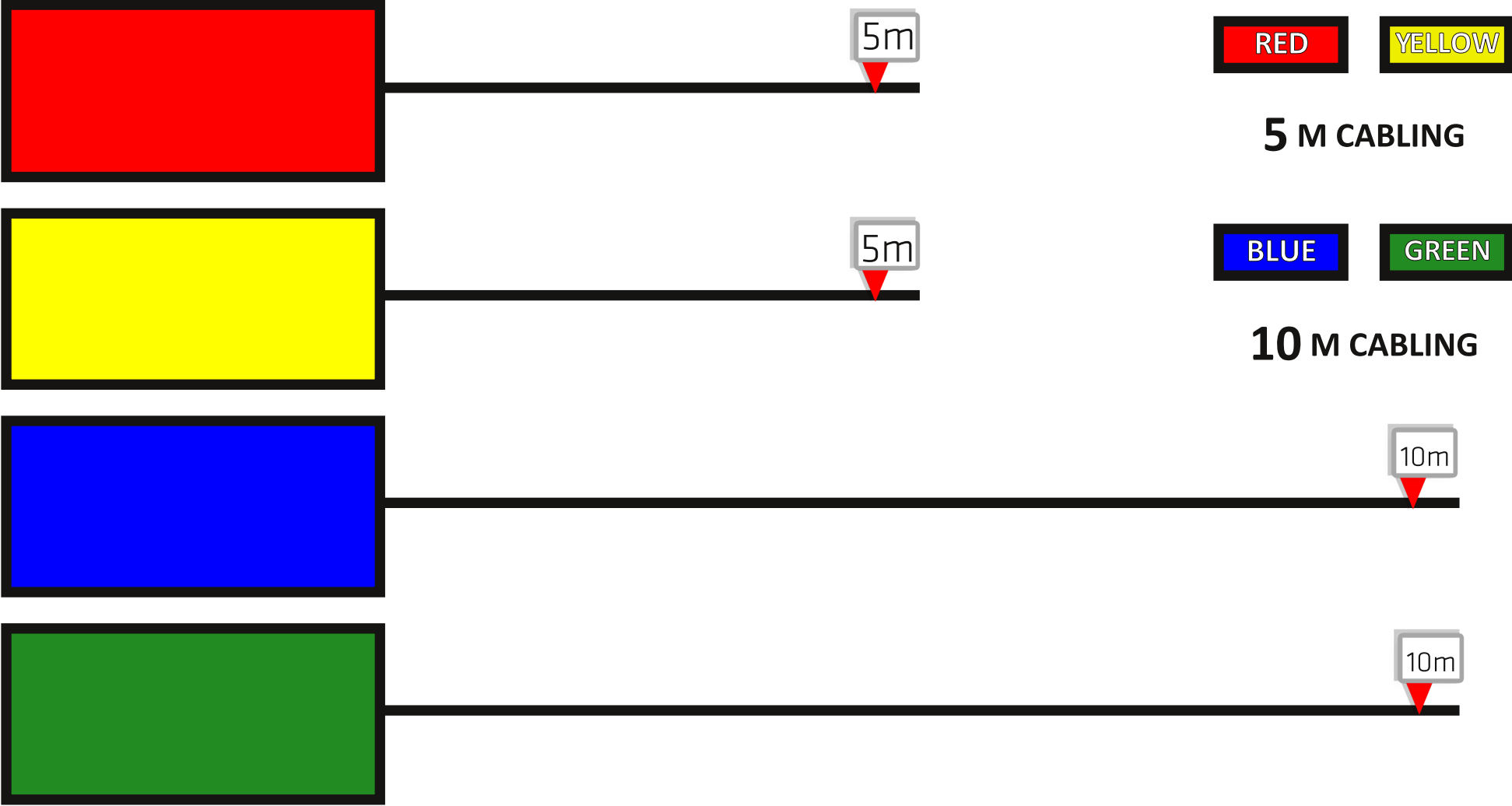
ANTENNA MAT (2.5 METER MAT)

With these lengths in mind, when using antenna mats in a **series** configuration, place the mat with the longer cabling (**blue**/**green**) first, and then place the second mat with shorter cabling (**red**/**yellow**) on top of the cabling of the longer mat, as illustrated by the figure at the right.


Keep in mind that the overlap, as picture above, must overlap the **transmit** loops of the antenna mats in series, and this overlap should be between one (1) foot (30 centimeters).

Always run the any cabling which needs to be run under the antenna mats along the center of the mat.

Network cables, power cables (including extension cables) and other conductive cabling, if not run properly under the mat, can cause interference. If any additional cabling must be run underneath the mats, ensure that it is squarely run under the center of the mats.
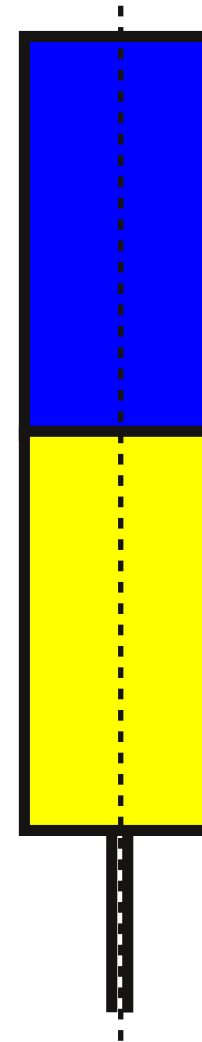
ANTENNA MAT (5 METER MAT)

TRANSMIT LOOP

A Antenna loop transmitting the power-up signal to IPICO Sports tags.

RECEIVE JUNCTION

B Circuitry box that powers and operates the **recieve loop**.

RECEIVE LOOP

C Antenna loop receiving IPICO Sports tag read signals.

RECEIVE LOOP

D Antenna loop receiving IPICO Sports tag read signals.

RECEIVE JUNCTION

E Circuitry box that powers and operates the **recieve loop**.

TRANSMIT JUNCTION

F Circuitry box that powers and operates the **transmit loop**.
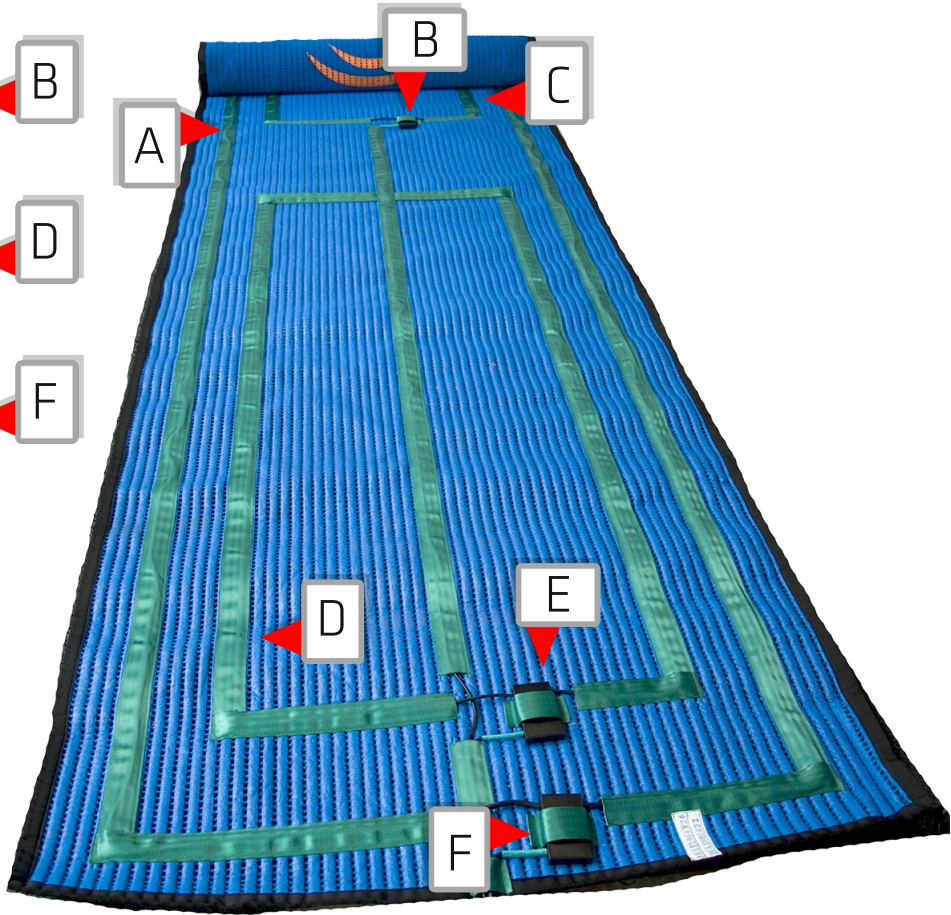
FAST:TRACK

WILL THE FREQUENCIES TRANSMITTED CAUSE AN ISSUE WITH OTHER DEVICES?
FAST:TRACK

There is no need to be concerned about frequency interaction. All IPICO Sports sytems are low-power, low-frequency. The frequency spectrum used by the readers and mats is far outside of common frequencies used by every day devices such as cellular phones.

ANTENNA MAT GENERAL GUIDELINES

To ensure that the operating environment for the IPICO Sports Lite Reader, the following recommendations and precautions should govern the use of reader units at course sites. Because the IPICO Sports Lite reader is a radio-frequency identification system (RFID), environmental factors can play a part in the performance of the system. To ensure that any adverse environmental conditions are mitigated, note the following guidelines:

▪ Timing mats should always be placed .5 m (2 ft.) away from any large objects that could be considered conductive (metals, et al.). This will ensure that the radio field produced by the timing mats will operate as desired.

▪ Some environments are composed of materials that are inhibitive to radio frequency field operation. There is nothing that can be done to mitigate circumstances that may arise in these situations. The best practice should environmental variables become an issue is to attempt to move the system and mats until a desirable signal strength can be reached. Usually this movement is not more than a few feet or meters.

▪ Any changes that need to be made to the reader or antenna mat configuration can be done while the reader is powered; removing and reconnecting antenna mats will not impact the reader's performance.

▪ Ensure that the reader properly tunes after any alterations or movement of the antenna mats.

3 INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

EXAMPLE EVENT AND RESULTS PRODUCTION PROCESSES

▪ **Participant registration**

The collection of participant information such as name, age, gender, address, contact, event for which the participant is registered, and all other desired information. This information should be used to assign bib numbers to the participants.

▪ **Tag/"Chip" registration ("Bib-Chip" file)**

A reference created to identify which tags or "chips" are associated with a given participant. This process and its importance is covered in more detail in the following pages.

▪ **Data collection**

The process of capturing at-event readings taken from the IPICO Sports Lite reader that contain information such as tag or "chip" ID number, the date and time at which a reading was reported and other technical information used in conjunction with your registration data (participant registration, tag/"chip" registration) to produce results using scoring software.

▪ **Results production**

Combining all of the above elements into reports or postings that show participant-readable results whether in the form of overal finish lists, team scores or other requested formats.

Because race results production methods vary between available software packages, this manual will only cover the first three (3) points listed above. Additional resources for specific scoring software programs are available from IPICO Sports.

aa00058001f5fbec01001108210542441e70
aa00058001f5fbec01011108210542441e71
aa00058001f5fbec01011108210542442845
aa00058001f5fbec01011108210542442c70
aa00058001f5fbec01011108210542443644
aa00058001f5fbec01001108210542443643
aa00058001f5fbec01011108210542444403f
aa00058001f5fbec01011108210542444544
aa00058001f5fbec01001108210542445342
aa00058001f5fbec01011108210542445343
aa00058001f5fbec01001108210542445b71
aa00058001f5c48a000111082105582232e2
aa00058001f6093d01011108210602530a1aa
aa00058001f5b6c60001110821060318814df
aa00058001f5e6b7010111082106053911e5
aa00058001f5e6b7010111082106053911c17

1 Sarah Smith	6	1	1:35.2	15	0:00.0	1:22:04.9
2 Gregg Smith	13	4	1:47.0	19	0:00.0	1:37:00.1
3 Linda Smith	19	2	1:40.0	14		1:22:03.0
4 John Smith	1	3	1:42.9	11		1:22:01.2
5 Bill Smith	8	5	1:50.0	18		1:36:58.2
6 Harry Smith	10	6	1:53.2	10		1:21:56.5
7 Will Smith	18	7	1:56.4	17		1:36:55.0
8 Phil Smith	17	8	1:59.7	16		1:36:53.5

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

STEPS 1 & 2: REGISTRATIONS

PARTICIPANT REGISTRATION
It is essential that registration be conducted according to an organized method. As will be portrayed in the following pages, a large part of the work of creating the conditions of a successful event happens before the event starts with properly entered and formatted data so that when an event timer's role in the process begins, all necessary data is easily usable, readable and accessible. Some event organizers may choose to employ a service that collects and allows for data to be exported according to their vendor-specific standard, others will simply take paper registrations and convert them to a spreadsheet or other documentation format.

IPICO Sports recommends that, from the onset of registration, a standard format (whether vendor or timer-driven) be put into place so that data conforms to the criteria of being usable, readable and accessible.

TAG REGISTRATION
Two types of tag (or "chip") registrations exist: "standing," or "inventory" registrations and "per-event" registrations. Simply, this registration file is a list of tags ("chips") to be used in a given event or set of events. If the same bib number range is to be used in multiple events (or all events) a "standing" or "inventory" approach can be taken; tags can be scanned and registered once and numbered according to the desired range. This file should be stored in an easily accessible place so that it can be reused in the future. When individual events require new bib number ranges, tags will need to be prepared according to this new bib range, and the process will have to be performed per-event.

Successive pages will describe the technical need for tag (or "chip") registration, as well as practices that IPICO Sports customers and staff have found to be benchmarks for preparing a successful event.

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

TIME:OUT

WHAT IS A "BIB-CHIP" FILE?

TIME:OUT

Events using tag systems have two registration files - the first, or the actual participant data that is either generated or gathered by an event organizer or an event timer and the second being a so-called "bib-chip" file. The "bib-chip" file is the record that makes the connection between the participant with, for example, bib number one (1) and tag/"chip" number one (1). Scoring software requires both, and will make the association between the two.

FAST:TRACK

WHAT IS IPICO SPORTS' BIB-CHIP FORMAT?

FAST:TRACK

Most formats are dictated by whichever scoring software is being used. However, it is common that these software packages use CSV or comma-separated value type files. The software provided by IPICO Sports, Tag Scanner, produces a CSV file, but various software packages may require different formats. At the very least, it is important that one column contains bib information, and the other a tag/"chip" ID.

CREATING THE "BIB-CHIP" FILE
STEP ❶

The creation of the "bib-chip" file is a piece of the process that can be done as far ahead as time will allow. When participant data is downloaded or fully gathered, creating this file will allow the two participant records to be linked by scoring software.

IPICO Sports recommends that tags , in an amount in excess of ten-twenty (10-20) percent of the events participants, be registered in a given event's "bib-chip" file if race-day registration or some form of ad hoc registration is planned. For example, an event expecting 500 participants should have 550-600 tags ("chips") registered in the event's "bib-chip" file.

To help with this process, IPICO Sports recommends the use of the Registration Reader, a system accessory, that saves the need to fully setup an IPICO Sports Lite reader system and, instead, allows tags to be scanned and registered over a desk or table top. The Registration Reader can also be used at events or registration expositions to quickly solve problems or test tags.. To order one, they can be ordered by calling IPICO Sports. This device will be used in the following examples.
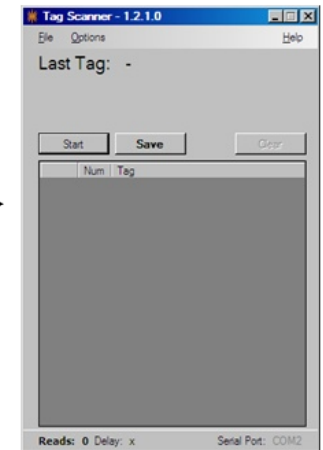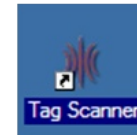
INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

CREATING THE "BIB-CHIP" FILE

STEP **2** To use the IPICO Sports Registration reader, follow the installation instructions that arrived with the reader. These are provided on an insert included in the packaging.

Once installed, complete the installation of necessary software, "Tag Scanner," from the USB 2.0 memory stick included with the IPICO Sports Lite reader.

Once installed, a shortcut will be placed on the installed computer's desktop, the same as the picture at left.

While other software solutions support the use of the IPICO Sports Registration Reader, these can only be supported on a case-by-case basis.

A software program titled "Tag Scanner," that is provided with the reader, will be demonstrated in the following examples.

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

A

B

Provides options for you to cus
functionality of your computer, i
up network connections and us

C

'CLASSIC' VIEW

D

'CATEGORY' VIEW

System

LOCATING THE DEVICE MANAGER
WINDOWS XP

CREATING THE "BIB-CHIP" FILE

STEP **3a**

Though the IPICO Sports Registration reader is a Universal Serial Bus (USB) device, it is actually connected using what is called a "virtual serial port," or "COM" port. When connected to a computer, the IPICO Sports Registration Reader will be assigned one of these ports.

The most reliable way to find what port Windows XP has assigned to a Registration reader is to use the 'Device Manager.'

▪ Locate the 'Settings' menu in the Windows Start menu (letter **A**), and find the 'Control Panel' option (letter **B**).
▪ If in 'Classic' view, locate the 'System' entry among the field of icons (marker **C**).
▪ If in 'Category' view, locate the 'Performance and Maintenance' category.The 'System' option is contained therein (letter **D**).
▪ Double-click the 'System' icon when found.
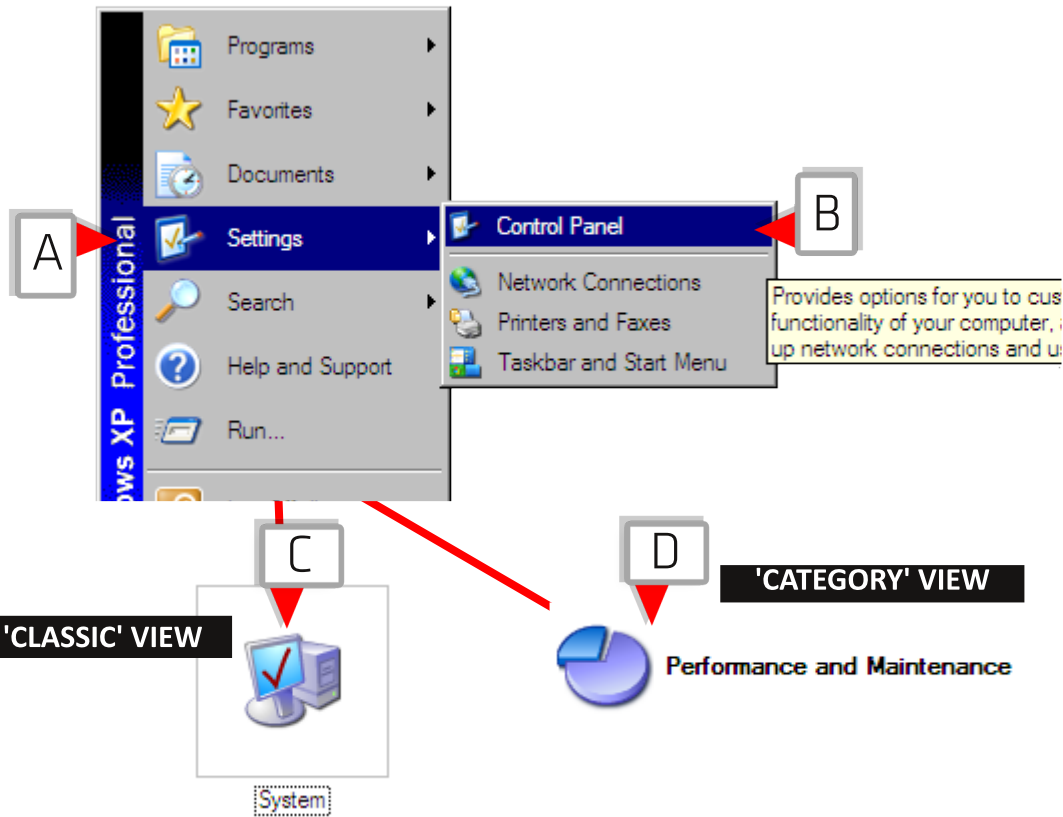
LOCATING THE DEVICE MANAGER
WINDOWS XP

CREATING THE "BIB-CHIP" FILE

STEP **3b**

▪ The 'System Properties' window will open. Locate the 'Hardware' tab (letter **A**).

▪ On the 'Hardware' tab, the first entry will be for the 'Device Manager.' Click the 'Device Manager' button (marker **B**).

▪ The 'Device Manager' will open. The tree of options will contain 'Ports (COM & LPT)' click the '+' to expand the entry (letter **C**).

▪ Depending upon the product edition currently in use, the entry for the IPICO Sports Registration reader may appear in one of two formats, either:

Silicon Labs CP210x...

OR

IPICO DF RR

▪ The number in parentheses that comes after the entry in the device tree (for example, 'COM3') is the address. Make note of it.

▪ Click the 'X' in the upper right corner to close the Device Manager and 'OK' or 'Close' on all accompanying windows.

▪ If having difficulty with the previous steps, consult the installation instructions that came with your IPICO Sports Registration reader. If issues persist, contact IPICO Sports.
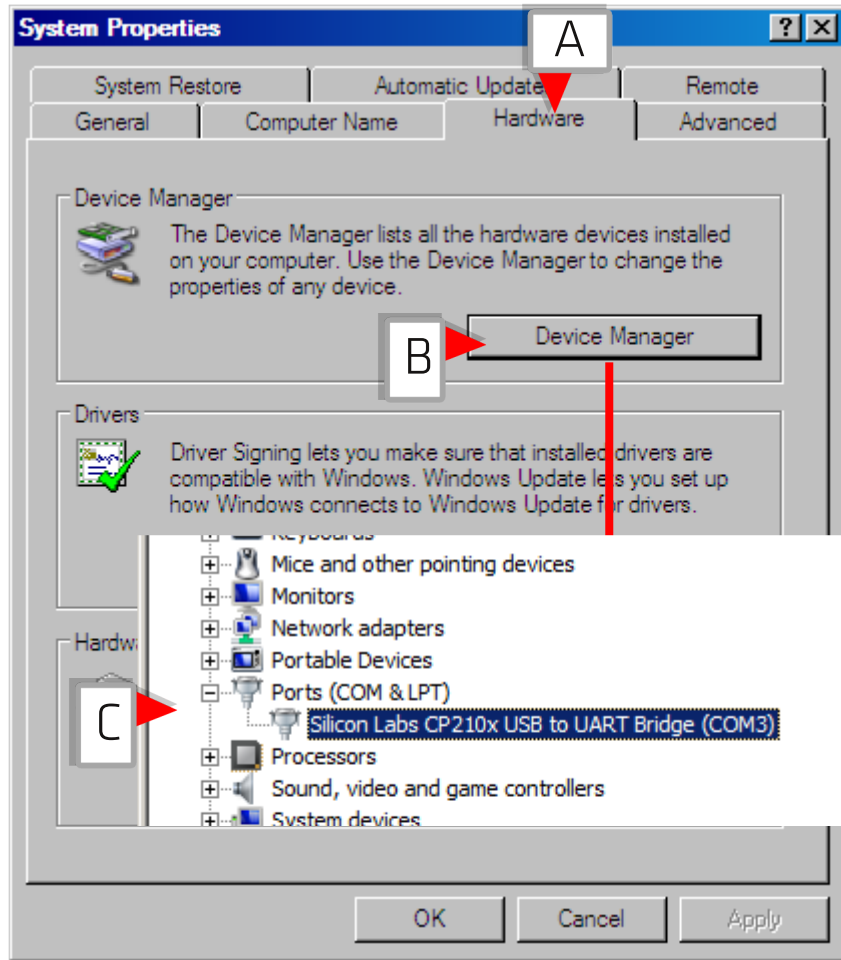
INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

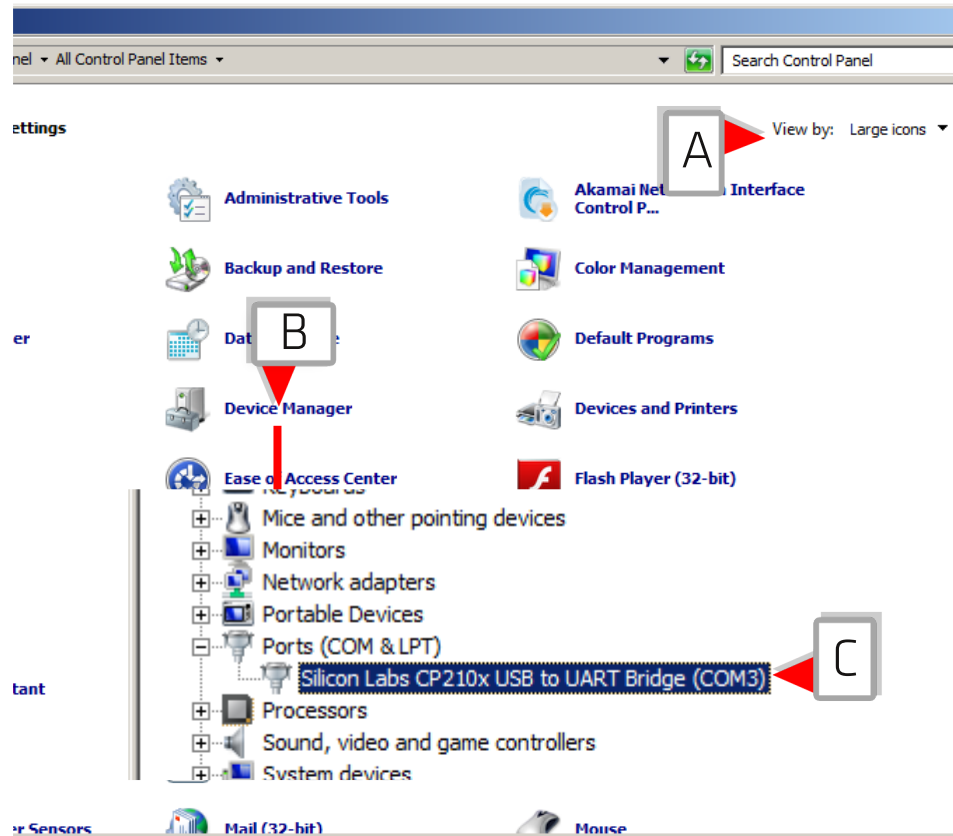# LOCATING THE DEVICE MANAGER WINDOWS VISTA/7

CREATING THE "BIB-CHIP" FILE

STEP **3a**   To set up the necessary networking, examples from Microsoft Windows XP, Windows Vista and Windows 7 are provided.
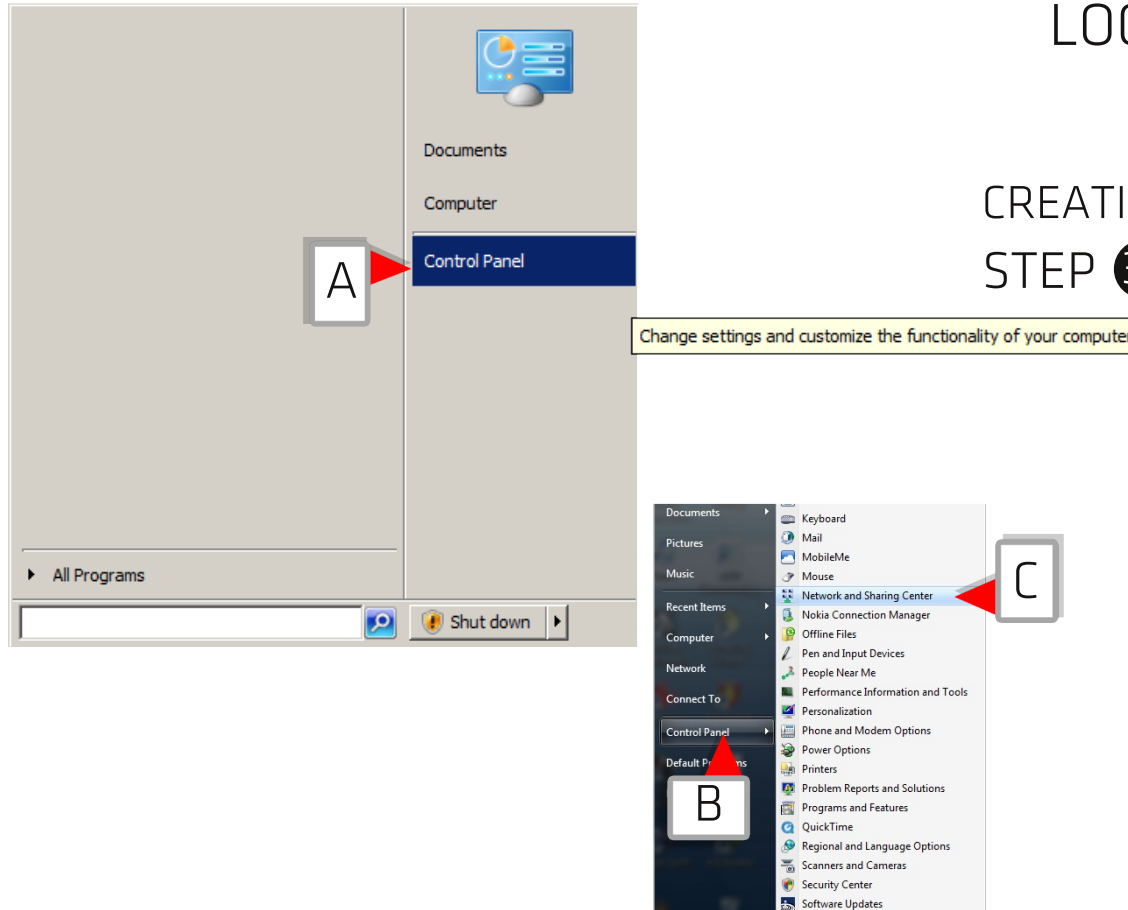
▪ Depending on configuration, the Windows Start Menu may either have a direct link to the control panel window (letter **A**) or will have an additional sub-menu (letters **B** and **C**).
▪ Clicking on the 'Control Panel' option will open the window on the next page.
▪ If the Start Menu contains a sub-menu, locate the 'Network and Sharing Center.' Click on the icon for the 'Network and Sharing Center.'

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

LOCATING THE DEVICE MANAGER WINDOWS VISTA/7

CREATING THE "BIB-CHIP" FILE

STEP **3b**

▪ The 'Device Manager' is a main item (letter **B**) in the Windows Vista and Windows 7 Control Panel. It is easiest to find   by switching the 'View by' menu (letter **A**) to either 'small icons' or 'large icons' ('large icons' pictured).
▪ The 'Device Manager' will open. The tree of options will contain 'Ports (COM & LPT)' click the '+' to expand the entry (letter **C**).
▪ Depending upon the product edition currently in use, the entry for the IPICO Sports Registration reader may appear in one of two formats, either:

        Silicon Labs CP210x...

             OR

        IPICO DF RR

▪ The number in parentheses that comes after the entry in the device tree (for example, 'COM3') is the address. Make note of it.
▪ Click the 'X' in the upper right corner to close the Device Manager and 'OK' or 'Close' on all accompanying windows.

# INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

CREATING THE "BIB-CHIP" FILE

STEP **4**

▪ The "virtual serial port" (or "COM" port) assigned in the "Device Manager" should be visible under the "Options" menu's "Serial Port" option. If not, click the "Refresh" choice (letter **C**) to refresh the list and update the Tag Scanner window.

▪ Once the correct "COM" port has been selected by left clicking the correct, click the "Start" (letter **E**) button to begin the tag/"chip" scanning process.

▪ If problems persist, please contact IPICO Sports.
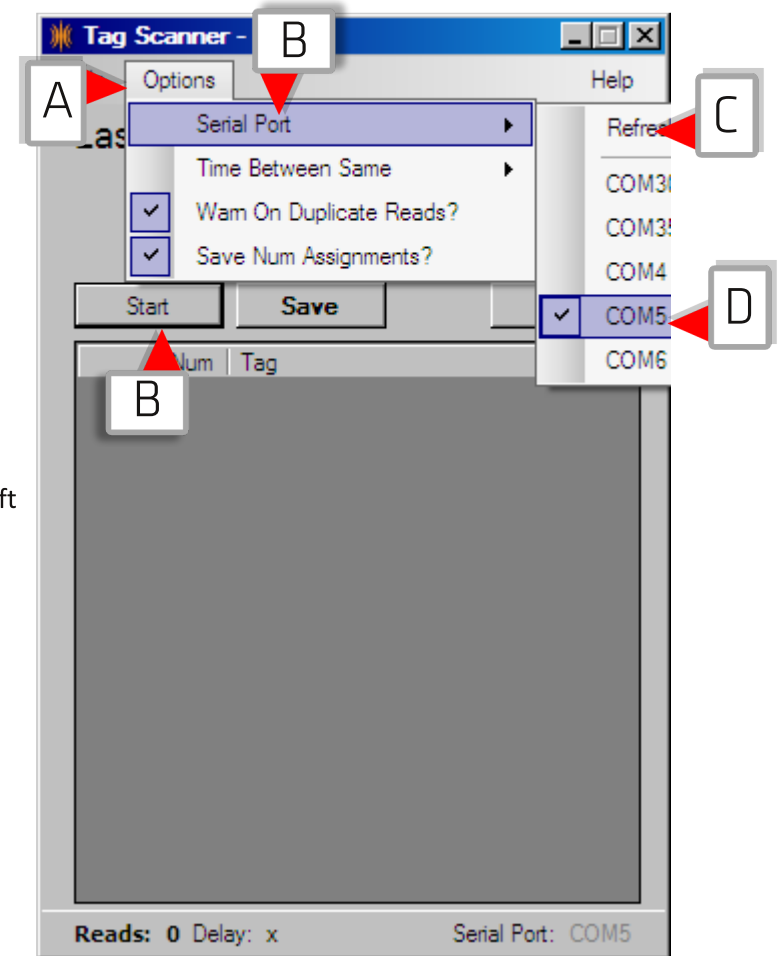
INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES
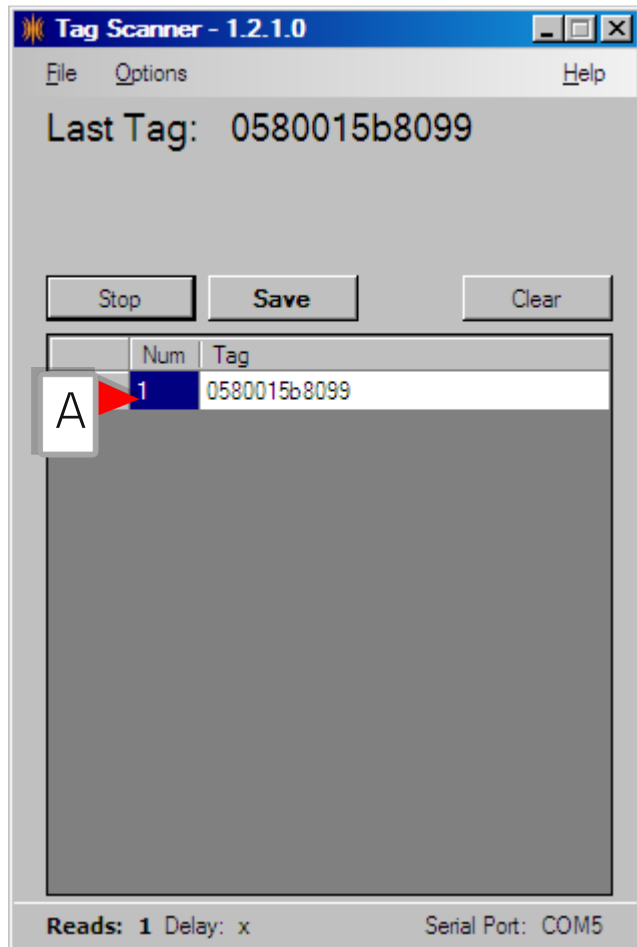
CREATING THE "BIB-CHIP" FILE
STEP ❺

▪ Pass a tag over the surface of the IPICO Sports Registration Reader. This will start tag registration.

▪ Initially, the window will begin numbering tags ("chips") from a bib number (located in the "Num" column) from number one (1). This can be changed by double-clicking in the "Num" field (letter **A**), and changing this number to the bib number desired. This will begin to increment tags from this new number.

▪ The right-most column, the most recently scanned tag ID will populate, adding rows for each tag successively from the top.

Tag Scanner does not have an 'auto-save' feature; be sure to save scanned tags throughout the process to ensure that, in the event of program closure, any unsaved work is not lost.

Each save will save all of the data entered, not just the changes made. Save one last time at the end of scanning all tags ("chips") to capture all data.

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

Bib	First Name	Last Name	Gender	Age
1	John	Smith	M	32
2	Jane	Smith	F	45
3	Greta	Smith	F	67
4	George	Smith	M	15
5	Hank	Smith	M	36
6	Sarah	Smith	F	67
7	Terri	Smith	F	78
8	Bill	Smith	M	98
9	Tom	Smith	M	20
10	Harry	Smith	M	25
		Smith	F	47
		Smith	F	10

#1

CREATING THE "BIB-CHIP" FILE

STEP **4**

As pictured in the set of diagrams at right, the newly-created "bib-chip" (or, "bib-tag") file has a tag ("chip") entry for number one (1), and the scoring software into which it is imported will then make a connection to participant number one (1), as illustrated. This correlation is true for tag two (2) and participant two (2), as scoring software packages will make the connection between the two entries.

#1

1	05800160cd3f
2	05800160d1a7
3	58001606914
4	0580015e70cd
5	058001610b33
6	58001610355
7	0580016042b8
8	0580015ab747
9	0580015ff9ab
10	05800160fe45
11	0580015b0720
12	05800160be56
13	0580016102a4

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

STEP 3: DATA COLLECTION

The IPICO Sports Lite reader offers two methods of data collection:
A. USB 2.0 memory stick
B. Ethernet streaming connection / "live" results

IPICO Sports recommends that both methods be used during all events.

USB memory stick

To record all tag readings during an event, a USB memory stick less than four (4) GB (gigabytes) in memory size should be used. Detailed in a previous section, this method will create a file named "TAGDATA.TXT" in which all of the tag readings for an event will be listed in plain-text format. This USB memory stick should be inserted before the start of the event, remaining inserted throughout. Once the event has completed, according to the removal procedure detailed in a previous section as well as the succeeding pages, remove the memory stick to access the data for scoring. A USB 2.0 2 GB memory stick is provided with the reader.

Ethernet streaming connection / "live" results

The IPICO Sports Lite reader also has the ability to stream data "live" through an Ethernet network connection. This method is used to produce up-to-the-second results as well as provide for announcer or live screen/scoreboard functionality. Specific steps must be taken to set this up, and they are detailed in the following pages. A Category 5e Ethernet cable is provided with the reader, though any compatible type of cable may be used.

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

USB MEMORY STICK

USB MEMORY STICK

STEP **1** To record times, the IPICO Sports Lite reader is shipped with a 2.0 GB USB 2.0 memory stick.

▪ Insert this stick into the **USB Memory Stick connection** (letter **A**) The Lite reader will emit a sequence of two tones to indicate that the device is writing to the USB memory stick.
▪ During the course of an event, the Lite reader will write all tags read to this memory stick in the form of a plain-text file called TAGDATA.txt. This is the file from which the event is scored.

Other brands and sizes of USB memory sticks can be used with the IPICO Sports Lite reader. However, all memory sticks used with the reader must conform to both of the following guidelines:
    1. USB memory sticks must be USB 2.0
    2. The USB memory stick must be less than or equal to four (4) GB in size

IPICO Sports recommends that all USB memory sticks purchased for use with the IPICO Sports Lite reader be formatted using the FAT32 memory format.

CAN OTHER USB MEMORY STICKS BE USED?
FAST:TRACK

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

USB MEMORY STICK

USB MEMORY STICK

STEP **2**

After your testing or event has finished, the data on the USB memory stick can be used for scoring after the device has been ejected properly.

▪ To properly eject the USB memory stick from the IPICO Sports Lite reader, press and hold the **Trigger button** (letter **A**),
▪ Wait for the reader to emit four (4) short tones. This indicates that the TAGDATA.TXT file on the USB memory stick has been finalized and can be used for scoring.

Failure to properly eject the USB memory stick according to these guidelines will cause data to remain unwritten and may be unrecoverable.

In the event that the USB memory stick is removed from the system without following these ejection steps, the reader does not push all temporary memory to the storage media and will not finalize the file.
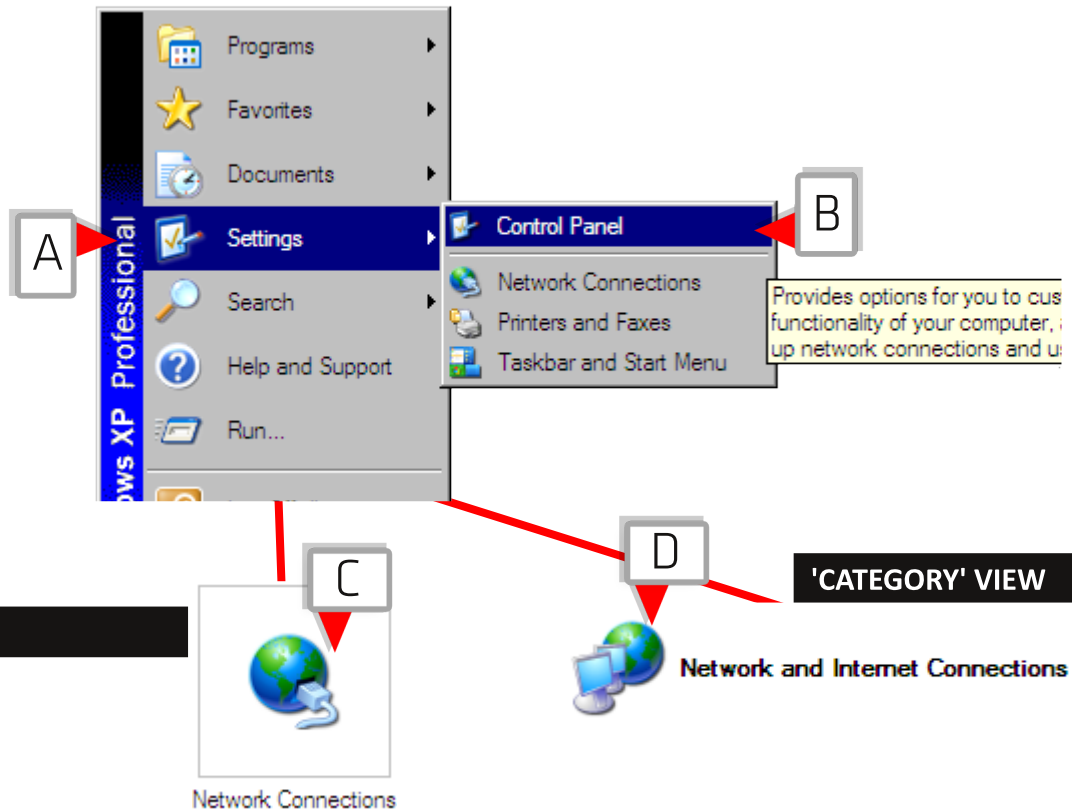
INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES
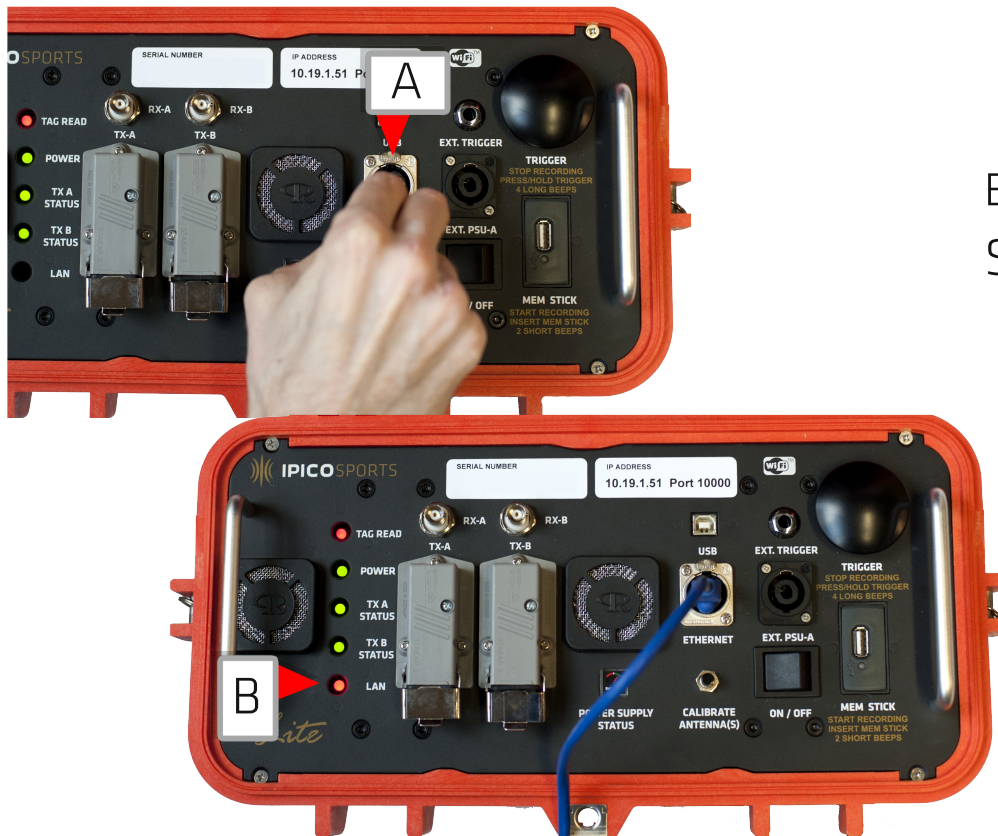
ETHERNET STREAMING / "LIVE"

ETHERNET STREAMING/"LIVE"
STEP ❶

With the IPICO Sports Lite reader powered:

▪ Connect a Category 5e or compatible network cable to the Ethernet connector (one is provided with the accompanying Lite reader shipping materials).
▪ Connect the other end of the Ethernet cable to a computer.
▪ When both are connected, the LAN L.E.D. light on the left side of the reader instrument panel will return a red light.
▪ This L.E.D. operates in the same manner as the Tag Read L.E.D. light, and will momentarily take on an amber color when data is being transferred from the IPICO Sports Lite reader to a connected device.

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

IP ADDRESS

10.19.1.51 PORT 10000

WHAT IS AN "IP (INTERNET PROTOCOL) ADDRESS"?
TIME:OUT

What information is needed to decipher and find a street address? Mainly, a city, state, street and street number are needed. Think of an IP address this same way.

An IP address is a marker indicating that a device occupies specific digital "real estate." In order for a computer to be able to find its way to a reader, it needs to be addressed in a similar family, or occupy a space on the same digital "street." Using the idea of street addresses, the '10.19.1' is much like the state, city and street where the reader is located. The '51' (or whatever digits are occupying the space after the last decimal) is the unique 'street number.'

So, to make the reader discoverable, the computer to whch it is connected must mimic this structure.

ETHERNET STREAMING / "LIVE"

ETHERNET STREAMING/"LIVE"
STEP **2**

IPICO Sports Lite reader units are pre-addressed when shipped in a given IP address family, starting at 10.19.1.51. When ordering additional units, this address will automatically be incremented; custom addressing is available upon request.

Other IPICO Sports products will ship pre-addressed in IP address range starting from 10.19.1.51 and extending through 10.19.1.254. Because of this, IPICO Sports recommends that computers and other network devices that need access to the reader are addressed from 10.19.1.1 to 10.19.1.50.
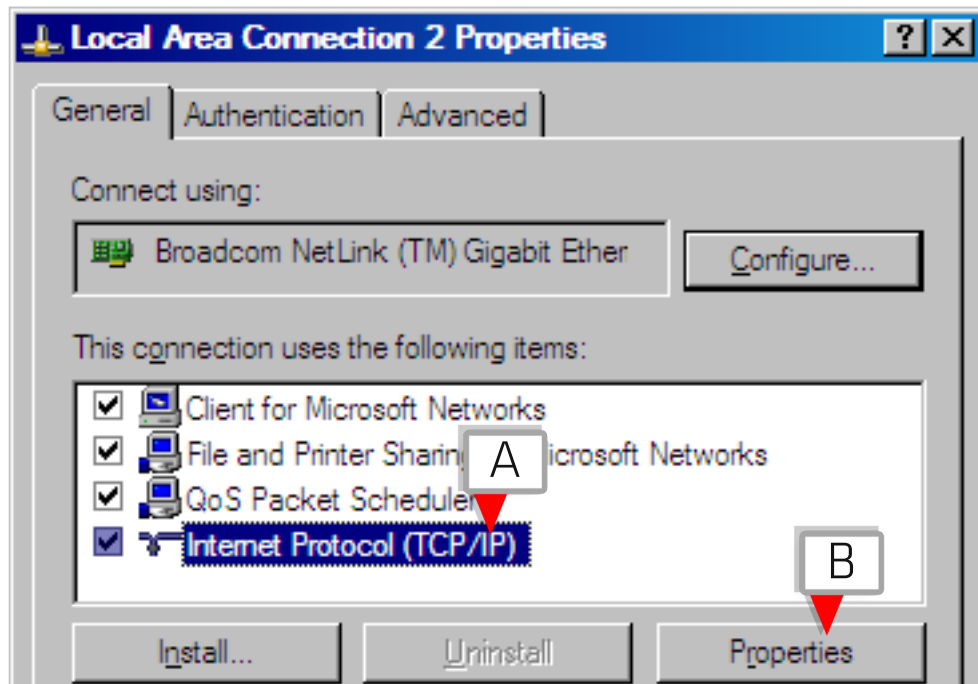
INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

ETHERNET STREAMING / "LIVE" WINDOWS XP

ETHERNET STREAMING/"LIVE"

STEP **2a** To set up the necessary networking, examples from Microsoft Windows XP, Windows Vista and Windows 7 are provided, starting with Windows XP.

▪ Locate the 'Control Panel.' This can usually be found from the Windows XP Start Menu, as pictured at left (letters **A** and **B**)

▪ Depending on configuration, the Control Panel may display in one of two ways - 'Classic' (marker **C**) or 'Category' (letter **D**) view.
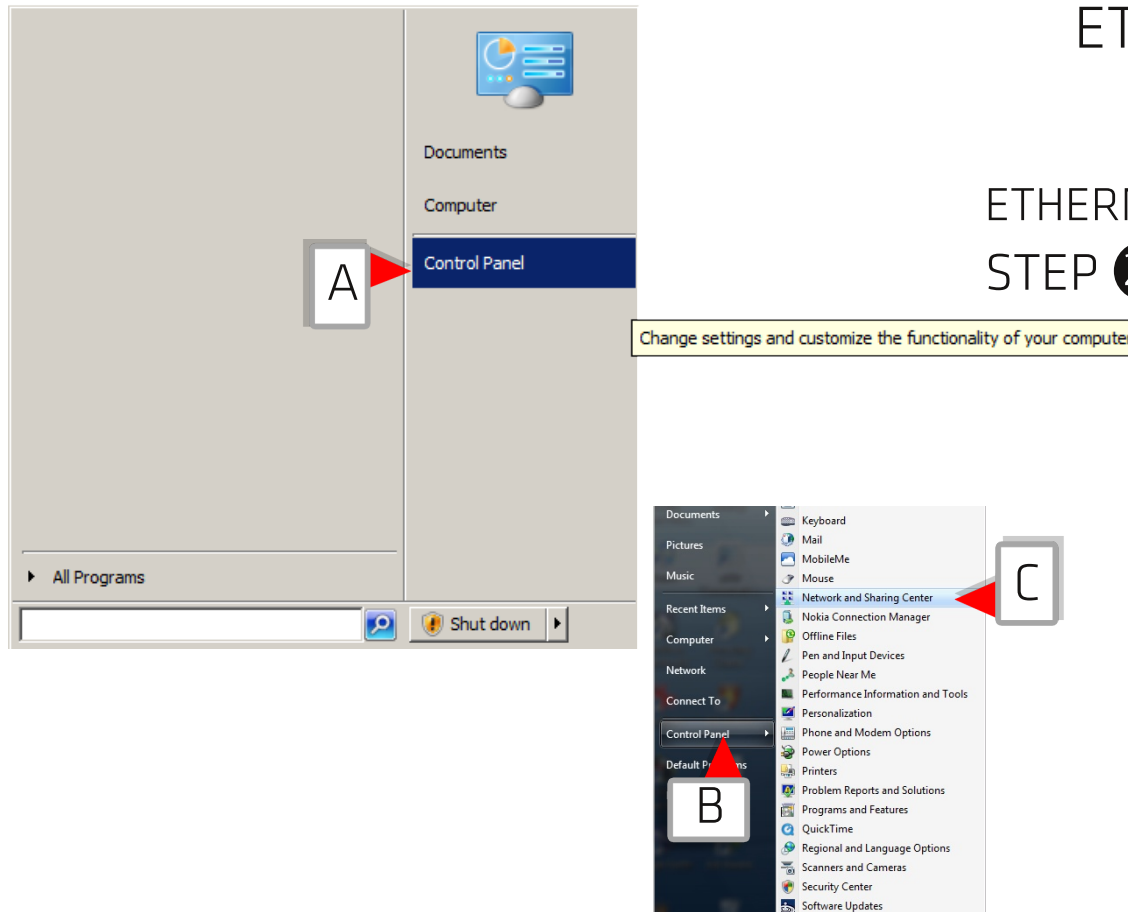
INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES
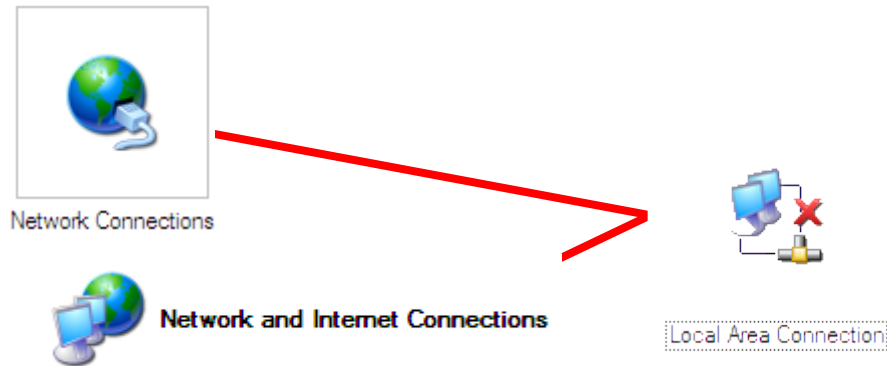
ETHERNET STREAMING / "LIVE" WINDOWS XP

ETHERNET STREAMING/"LIVE"
STEP ❷b

▪ Click the icon labeled "Network Connections."
▪ The Windows XP "Network Connections" screen should contain at least one item with the title "Local Area Connection." Right-click on this connection.
▪ From the context window, click "Properties."
▪ The window that results will be a status window for the connection. From the scroll menu in the middle of the window, select 'Internet Protocol TCP/IP' (letter **A**).
▪ With 'Internet Protocol TCP/IP' selected, click the "Properties" button (marker **B**).
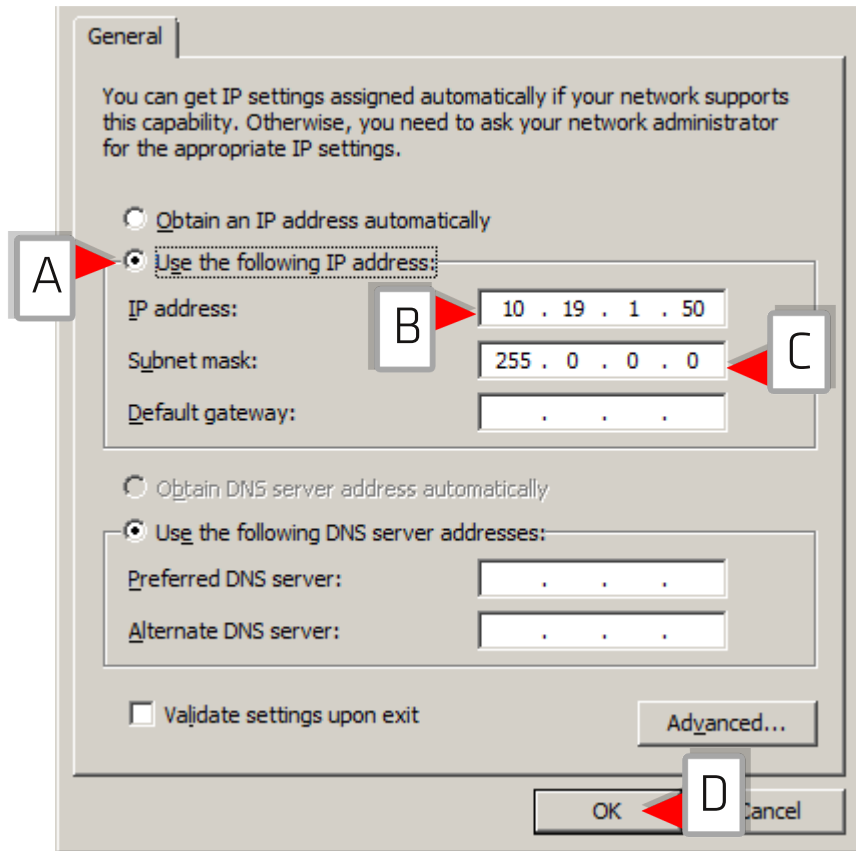
ETHERNET STREAMING / "LIVE" WINDOWS XP

ETHERNET STREAMING/"LIVE"

STEP **2c**

▪ Click the radio button indicated by letter **A** (at left) to manually set the network address.

▪ Before shipping, IPICO Sports will address reader products beginning at 10.19.1.51. It is recommended that any additional network devices occupy addresses 1 - 50. In this example, set the 'IP Address' field (letter **B**) equal to '10.19.1.50' - this will ensure that the computer is outside the default address range.

▪ After finishing the IP address, press the Tab key. This will   automatically populate the 'Subnet Mask' field (letter **C**) with   either 255.0.0.0 or 255.255.255.0 - either of these values are acceptible. If considering advanced networking that would involve changing this field, contact IPICO Sports.

▪ When finished with these values, it is not necessary to fill in any of the other fields on the screen. Click the "OK" button (marker **D**).

▪ When returned to the "Properties" window click "Close."

ETHERNET STREAMING / "LIVE" WINDOWS VISTA/7

ETHERNET STREAMING/"LIVE"
STEP **2a**

To set up the necessary networking, examples from Microsoft Windows XP, Windows Vista and Windows 7 are provided.

▪ Depending on configuration, the Windows Start Menu may either have a direct link to the control panel window (letter **A**) or will have an additional sub-menu (letters **B** and **C**).
▪ Clicking on the 'Control Panel' option will open the window on the next page.
▪ If the Start Menu contains a sub-menu, locate the 'Network and Sharing Center.' Click on the icon for the 'Network and Sharing Center.'

ETHERNET STREAMING / "LIVE" WINDOWS VISTA/7

ETHERNET STREAMING/"LIVE"

STEP 2b

▪ Again, depending on configuration, the Windows Control Panel may be either set up as a 'Category View' or 'Classic View.' It is simpler to find the 'Network and Sharing Center' using the 'Classic View.' Choose the 'Classic View' option at the left of the Control Panel window.

▪ If, in Windows 7, the Control Panel is set up to be displayed in 'Category,' 'Large' or 'Small' icons, choosing 'Large icons' or 'Small icons' (letter **B**) will ease finding the 'Network and Sharing Center' (marker **A**).

▪ Once having located the 'Network and Sharing Center,' click on it to enter the 'Network and Sharing Center' menu, pictured at bottom-left.

▪ At the left side of the window, a set of links highlights available options. Locate and click the option to 'Manage network connections' (marker **C**). In Windows 7, this link may be read 'Change adapter settings.'
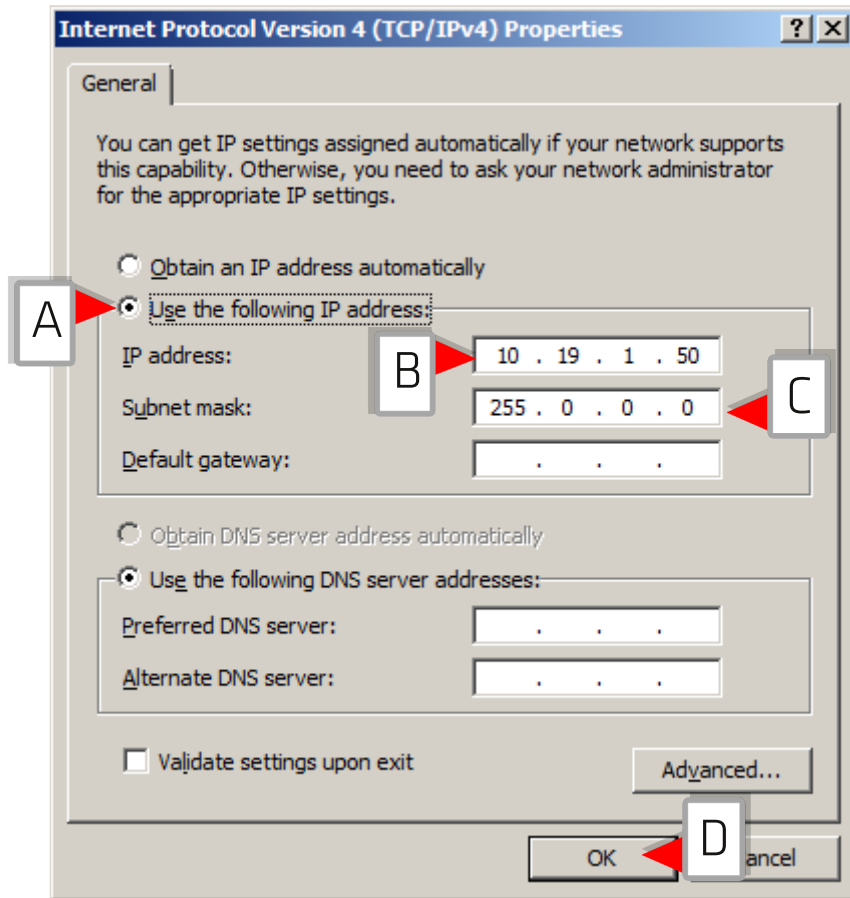
ETHERNET STREAMING / "LIVE" WINDOWS VISTA/7

ETHERNET STREAMING/"LIVE"
STEP 2c

▪ The window that opens details all of the network adapter connections that are currently installed and enabled on the computer. Among these will be a 'Local Area Connection,' (letter **A**) this represents a wired Ethernet connection. Right-click on it and select 'Properties' from the context menu.

▪ In the resulting 'Properties' window, locate and select the entry for 'Internet Protocol Version 4 (TCP/IPv4)' (letter **B**) in the scrolling box at the center.

▪ Highlighting the entry, click the 'Properties' button (marker **C**).

ETHERNET STREAMING / "LIVE" WINDOWS VISTA/7

ETHERNET STREAMING/"LIVE"

STEP **3d**

▪ Click the radio button indicated by letter **A** (at left) to manually set the network address.

▪ Before shipping, IPICO Sports will address reader products beginning at 10.19.1.51. It is recommended that any additional network devices occupy addresses 1 - 50. In this example, set the 'IP Address' field (letter **B**) equal to '10.19.1.50' - this will ensure that the computer is outside the default address range.

▪ After finishing the IP address, press the Tab key. This will automatically populate the 'Subnet Mask' field (letter **C**) with either 255.0.0.0 or 255.255.255.0 - either of these values are acceptible. If considering advanced networking that would involve changing this field, contact IPICO Sports.

▪ When finished with these values, it is not necessary to fill in any of the other fields on the screen. Click the "OK" button (marker **D**).

▪ When returned to the "Properties" window click "Close."

INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES

In order to ensure complete data capture, IPICO Sports recommends that both methods covered be used during all events.

USB memory stick

Depending upon the scoring software chosen, the steps necessary to import the TAGDATA.TXT file captured on a USB memory stick will be different. If available, consult the IPICO Sports 'Getting Started Guide' or manual for your chosen scoring product.

Ethernet streaming connection / "live" results

Similarly, the steps needed to open a connection to the IPICO Sports Lite reader will vary between scoring software packages. If available, consult the IPICO Sports 'Getting Started Guide' or manual for your chosen scoring product. There are, however, settings that will be common among scoring packages.

IP ADDRESS

A ▶ **10.19.1.51 PORT 10000** ◀ **B**

⚠ If both methods of data capture are not used during an event, the support that IPICO Sports will be able to provide may be limited, and the ability to produce results may be hampered.

A ▶ IP ADDRESS

For a more detailed discussion explaining IP addresses, refer to earlier in this section. However, processes that allow scoring software to listen "live" to data transmitted from the IPICO Sports Lite reader will need the IP address of the given reader from which data is to be streamed. The address is provided on a label on the instrument panel of the Lite reader.

B ▶ PORT NUMBER

The second detail needed by scoring software to interpret streaming data from the IPICO Sports Lite reader is the port number. By default, this number is '10000' for the IPICO Sports Lite reader. Changing this number is possible, though should only be done in cases of necessity. To determine whether or not changing the port number is applicable, contact IPICO Sports before making changes to this setting.

4 SYSTEM SETUP AND USE

SYSTEM SETUP AND USE

Before using the IPICO Sports reader for the first time or for any other events, charge the reader. This is done using the Mascot Charger that was highlighted on page 2. To charge the reader, here are a few principles and rules to keep in mind:

▪ The connector on the Mascot Charger must inserted, then turned and locked in place. When locked into place, the connector will lock firmly into place, indicating a solid connection.
▪ Once charged, the reader will operate for between seven (7) and eight (8) hours on internal battery.
▪ Fully restoring charge (from empty to full battery) will take a period of eight (8) hours. Depending upon the charge remaining on the reader, the charging process may take less time. During charging the LED located on the Mascot charger will be orange in color. When finished, this LED will transition to green in color. This indicates that charging is complete.
▪ Do not, under any circumstance, operate the IPICO Sports Lite Reader with the Mascot Charger inserted. The charger is not designed for this purpose. If the Lite reader is being used for an event that will last longer than the reader's battery life, alternative powering methods may be used. These will be detailed at the end of the chapter along with other advanced operational topics.

Do not, under any circumstance, operate the IPICO Sports Lite Reader with the Mascot Charger inserted.

The charger is not designed for this purpose. If the Lite reader is being used for an event that will last longer than the reader's battery life, alternative powering methods may be used.

SYSTEM SETUP AND USE

STEP ①

Turn the Lite reader **ON/OFF** rocker switch (letter A) to the ON position. The reader will produce two sets of tones:
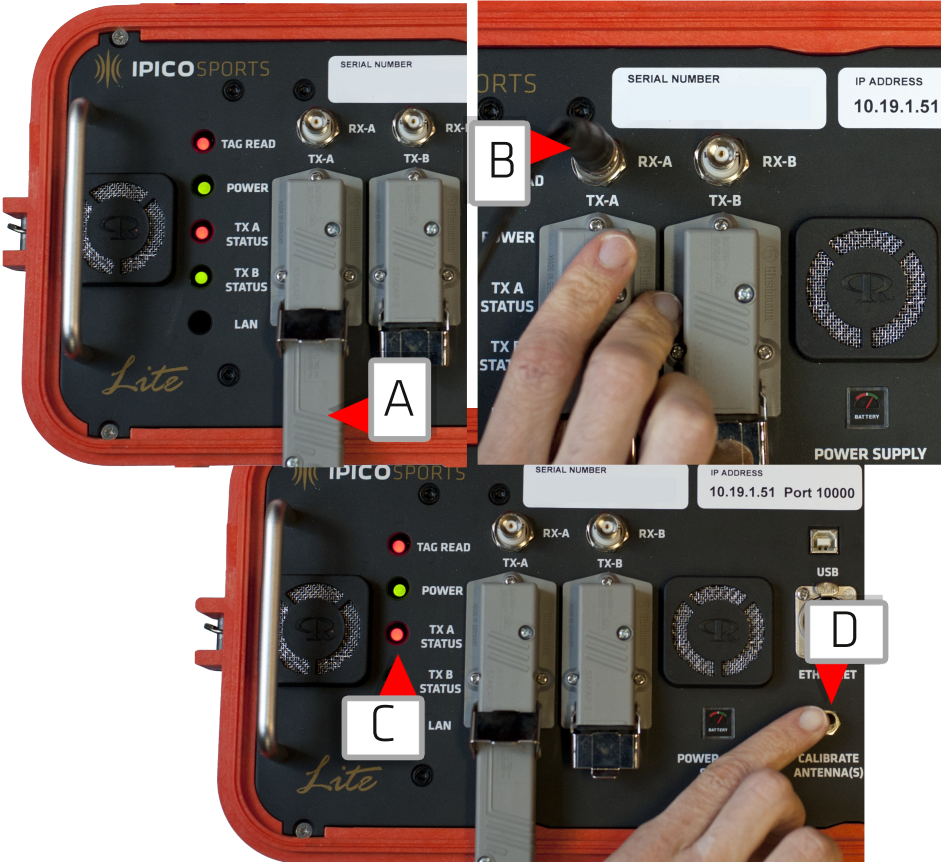
Solid tone indicates that the Lite reader's receiver module is starting. It will continue until the module has started.

Rapid tone indicates that the Lite reader's transmitter is tuning. The Lite reader will need to tune:
　　at startup
　　whenever an antenna mat is connected or disconneced

SYSTEM SETUP AND USE

STEP 2

- Connect one or both antenna mats, connecting the long, flat grey connector to the connector indicated by marker **A** and the circular connector to the connection highlighted by letter **B**.
- The Lite Reader will issue the same rapid tone heard at start-up accompanied by the **channel LED indicator** (marker **C**) turning red.
- After a short period of time, the reader will automatically tune, however to manually initiate this process press the **Calibrate Antennas switch** (letter **D**), tuning the reader.

WHY DOES THE READER NEED TO 'TUNE'?

TIME:OUT

The IPICO Sports Lite reader is a radio-frequency device and operates on a given set of frequencies that need to be synchronized in order to transmit and receive signals to and from tags. Tuning ensures that the frequencies used by the reader are being properly transmitted so that data can be received.

SYSTEM SETUP AND USE

STEP **3** To record times, the IPICO Sports Lite reader is shipped with a 2.0 GB USB 2.0 memory stick.

▪ Insert this stick into the **USB Memory Stick connection** (letter **A**) The Lite reader will emit a sequence of two tones to indicate that the device is writing to the USB memory stick.

▪ During the course of an event, the Lite reader will write all tags read to this memory stick in the form of a plain-text file called TAGDATA.txt. This is the file from which the event is scored.

SYSTEM SETUP AND USE

A

B

Do not remove the USB drive from the IPICO Sports Lite reader while data collection is in progress or is still ongoing.

During an event, this USB memory stick captures reads as they occur, removing it from the system improperly or prematurely will result in incomplete or unusable data.

STEP 4   The system is now ready to accept tag readings.

▪ When tags pass over the antenna mats, will respond to the tag read with an audible signal per read. These reads will be stored to the USB 2.0 memory stick inserted, and when finished can be imported into scoring software or viewed on a laptop.
▪ As tag readings are taken by the IPICO Sports Lite reader, and if using a USB 2.0 memory stick with a read/write LED indicator, the USB drive and the two state (red/green) light below the USB stick will flicker when reads or other data is being are being   written to it (marker **B**).
▪ This will be accompanied by the **Tag Read Indicator** (letter **A**) lso changing state from red to an amber color for every read that the IPICO Sports Lite reader processes as well as an audible indication that a rag has been read.

SYSTEM SETUP AND USE

STEP **5**   With the IPICO Sports Lite reader powered:

▪ Connect a Category 5e or compatible network cable to the Ethernet connector (one is provided with the accompanying Lite reader shipping materials).
▪ Connect the other end of the Ethernet cable to a computer.
▪ When both are connected, the LAN L.E.D. light on the left side of the reader instrument panel will return a red light.
▪ This L.E.D. operates in the same manner as the Tag Read L.E.D. light, and will momentarily take on an amber color when data is being transferred from the IPICO Sports Lite reader to a connected device.

SYSTEM SETUP AND USE
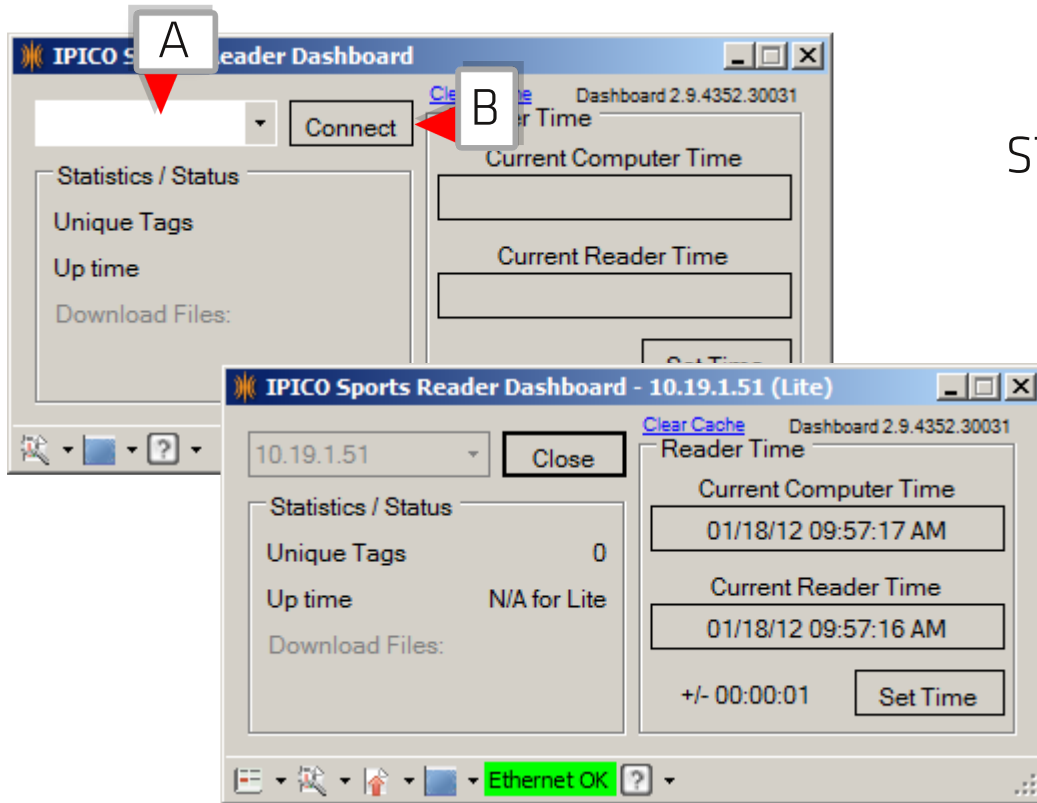
STEP 6

The IPICO Sports Lite reader contains and internal clock that runs independent from the main power of the reader. As part of reader use, this clock should be checked before use and calibrated to current time when appropriate.

▪ IPICO Sports distributes the Lite reader with a USB 2.0 memory stick that contains documentation and applications for use with the reader unit.
▪ One of these is "Dashboard." To install Dashboard, click and drag it from the USB 2.0 memory stick to a chosen destination where it can be easily accessed.
▪ Double-click the "Dashboard" icon to launch the application.
▪ Use field **A** to input the IP address of the reader to which connection is desired. When input, click the 'Connect' button, shown by marker **B**.

SYSTEM SETUP AND USE
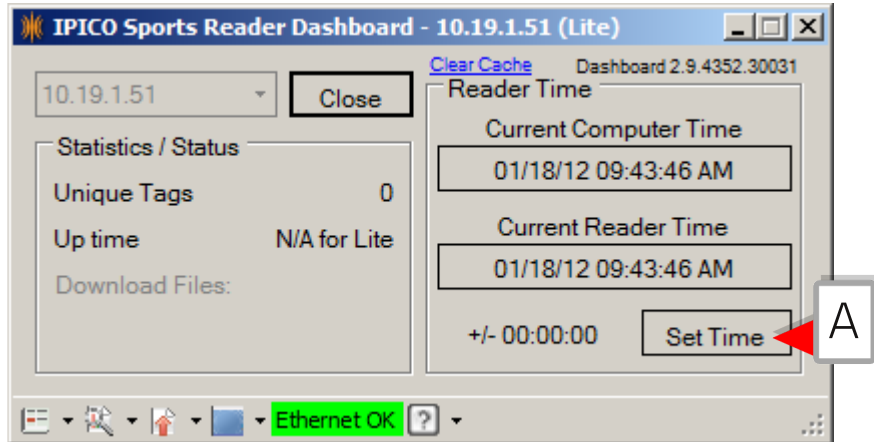
IPICO SPORTS READERS USE TIME OF DAY INSTEAD OF 'ELAPSED TIME.'
TIME:OUT

The IPICO Sports family of reader products operate as clocks, and not as stopwatches. This means that, for each reader in use at a given event, the times set must agree in order to accurately report athlete 'sightings,' or tag reads, and to make sense of them in the context of time. To accomplish this, designate one source (usually one computer) as 'master time,' and set all readers to use this time.

IPICO Sports provides the 'Dashboard' tool to accomplish this.

STEP **6a**   While the Dashboard can perform many other functions, the primary use of the application is to set the time of day on the reader.

> ▪ After establishing a successful connection to a reader with Dashboard, click the 'Set Time' button (marker **A**).
> ▪ Clicking the 'Set Time' button will send the current time of the connected computer to the reader and set them equal.

Setting the reader time should be done using only the computer designated as the 'master clock,' and once set accurately for an event should not be changed.

Do not, under any circumstance, change the reader time once event data has been collected. This will change the time frame used by scoring software to produce results.

SYSTEM SETUP AND USE

A

STEP ⑤ After your testing or event has finished, the data on the USB memory stick can be used for scoring after the device has been ejected properly.

▪ To properly eject the USB memory stick from the IPICO Sports Lite reader, press and hold the **Trigger button** (letter **A**),
▪ Wait for the reader to emit four (4) short tones. This indicates that the TAGDATA.TXT file on the USB memory stick has been finalized and can be used for scoring.

Failure to properly eject the USB memory stick according to these guidelines will cause data to remain unwritten and may be unrecoverable.

In the event that the USB memory stick is removed from the system without following these ejection steps, the reader does not push all temporary memory to the storage media and will not finalize the file.

SYSTEM SETUP AND USE

TAGDATA.TXT

)58001f5fbec01001108210542441e70
)58001f5fbec01011108210542441e71
)58001f5fbec01011108210542442845
)58001f5fbec01011108210542442c70
aa00058001f5fbec01011108210542443644
aa00058001f5fbec01001108210542443643
aa00058001f5fbec0101110821054244403f
aa00058001f5fbec01011108210542444544
aa00058001f5fbec01001108210542445342
aa00058001f5fbec01011108210542445343
aa00058001f5fbec01001108210542445b71
aa00058001f5c48a000111082105582232e2
aa00058001f6093d010111082106025301aa
aa00058001f5b6c6000111082106031814df
aa00058001f5e6b701011108210605391e5
aa00058001f5e6b701011108210605391c17

STEP **6**

Inserting the USB memory stick into a computer, it will contain the file icon pictured at the left, the TAGDATA.TXT icon. Opening this file will show the data collected.

This data is meant for scoring software to interpret. It contains all of the essential information needed for your software to produce results in conjunction with your registration as well as your bib-tag file.

These files, and the process that you will go through to prepare for an event will be detailed in the next section of this manual, section 4 - **INTEGRATING THE IPICO SPORTS LITE READER INTO EVENT PROCESSES**.

5 SYSTEM CARE

SYSTEM CARE
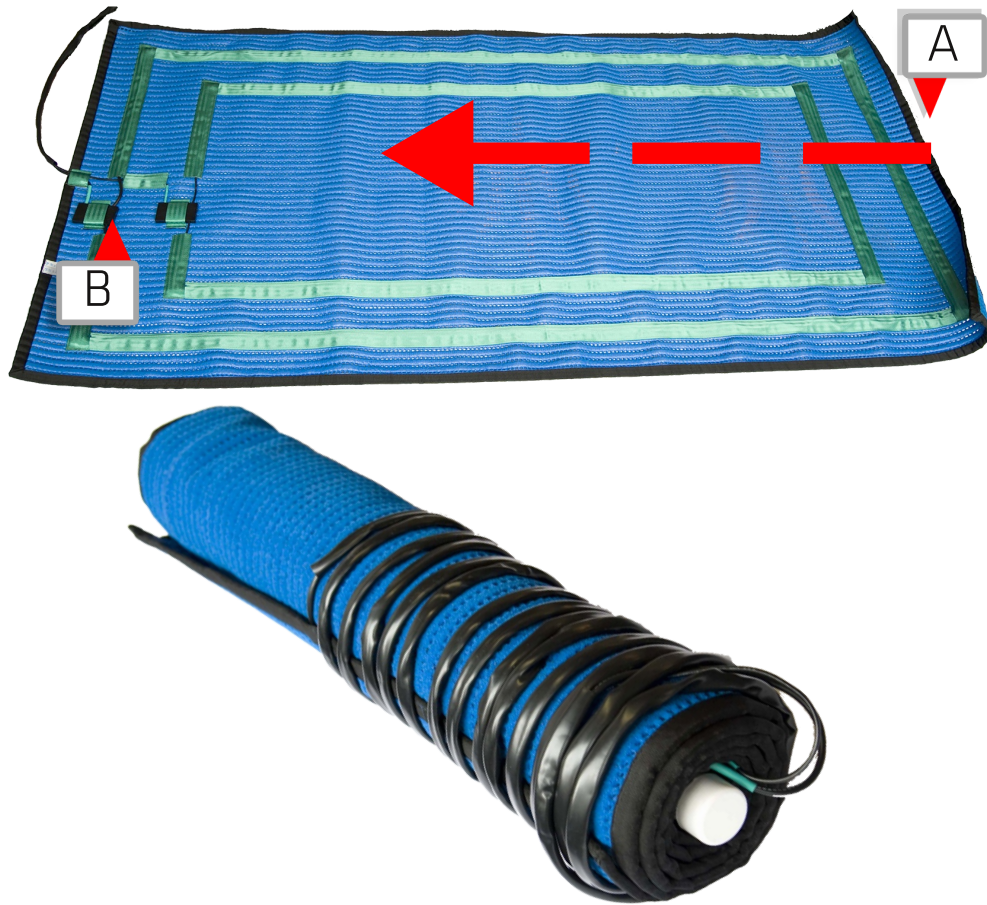
ANTENNA MAT CARE

▪ When rolling antenna mats to be replaced into mat bags, IPIC0 Sports recommends using the PVC tubing included with the mat to roll gently from the uncabled end to the cabled end with the mat oriented on the reverse (bottom) side. This minimizes cable strain.

▪ Roll the mat in the direction indicated at left from the end indicated by marker **A** to the end indicated by letter **B**.

▪ When finished rolling, antenna mat cabling should be wrapped around the rolled mat as illustrated in the picture at the bottom right.

▪ Replace the antenna mat in the bag of the corresponding size and color.

SYSTEM CARE

ANTENNA MAT CARE

IPICO Sports antenna mats may be cleaned when used on event days during inclement weather or after gathering dirt over an extended period of use. To clean the mats:

▪ Disconnect the antenna mats from any readers or other connection sources.
▪ Using a garden hose or other cleaning tool, wash the mats thoroughly (avoid using abrasive cleaning products; common dish soap and water will be sufficient).
▪ When finished, find a dry location in which to spread out the antenna mat and let it air dry.

SYSTEM CARE

LITE READER CARE

If using the IPICO Sports Lite reader for an event, IPICO Sports recommends that:

▪ The Lite reader unit be fully charged using the Mascot 3-step charger packaged with the reader, dedicating a full nine (9) hours to charging the reader unit.

▪ At full charge, the IPICO Sports Lite reader internal battery will last between seven (7) and eight (8) hours depending on event factors.

▪ To extend the life of the internal battery of the reader, any twelve (12) volt battery can be connected using the 'Crocodile' clip connector shipped with the reader. If used, this battery should be connected from the beginning of the event so that the reader can effectively manage power.

▪ When using the 'Crocodile' clip battery connector, ensure that the connector is turned to the right until it locks into place. This ensures that that battery connection has been made.

▪ Ensure that the 'Crocodile' clip battery connector has also been connected to the correct poles of the battery. The **red** (letter **A**) clip should connect to the positive pole, and the **black** clip (marker **B**) to the negative pole. These will be labelled on the battery as well.

If using the IPICO Sports Lite reader after an extended period of disuse (two (m)onth sor more):

▪ The reader's internal battery should be fully charged so that internal battery will remain in correct and working order.

SYSTEM CARE

SITUATIONAL CARE GUIDELINES

In the case that the IPICO Sports Lite reader is being used on a day when there is a chance for inclement weather:
▪ Ensure that the reader is covered. This can be done using durable and leak-free tarpaulins or waste bags.
▪ The IPICO Sports Lite reader, when closed and sealed completely is water-tight. If unable to cover the entire reader unit, cover as much as possible.

If the reader is exposed to moisture:
▪ Ensure that it is kept away from the ventilation fans. If possible, remove the USB memory stick following proper removal procedure and power off the reader unit. Giving the unit adequate time to dry, turn the reader on and resume use.
▪ If currently operating, do not attempt to close the lid of the reader case as this may damage antenna mat cables or other connections made to the reader. First, unplug all cabling, power off the reader, and then close the lid.
▪ When moisture has entered the reader, power off the unit discontinue use until such time that it can be verified as completely dry.

SYSTEM CARE

SITUATIONAL TROUBLESHOOTING GUIDELINES

CASE **The reader is not powering**
▪ Ensure that the reader has been charged for a proper amount of time. From completely dischanged to fully charge, this charge cycle should be between seven (7) and eight (8) hours of continuous charging with the reader unit powered **OFF**.

CASE **The reader powers, but will not tune or otherwise normalize to accepted startup conditions**
▪ In the case that the reader unit is not tuning (**TX A** or **TX B STATUS LED INDICATOR** remains RED), press the **CALIBRATE ANTENNAS SWITCH** to start the tuning process manually.
If antenna mats are not connected, restart the reader by switching the **ON/OFF ROCKER SWITCH** to the **OFF** position, and then return it to the **ON** position.
▪ Else, restart the reader by switching the **ON/OFF ROCKER SWITCH** to the **OFF** position, and then return it to the **ON** position.

CASE **The reader is not accepting tag readings**
▪ If antenna mats are connected, ensure that the **TX A** and **TX B STATUS LED INDICATOR** lights are GREEN. If not the case, press the **CALIBRATE ANTENNAS SWITCH** to start the tuning process manually.
▪ If attempting to verify readings via Ethernet cable, ensure that all proper networking rules have been followed. See *SECTION 4* for guidelines.

CASE **The reader is not accepting tag readings**
▪ Simply disconnect the USB Memory stick and reinsert it. This should trigger the normal audible signal routine.

CASE **The situation does not fit any of the listed cases above or all steps have been tried and no resolution found**
▪ Contact IPICO Sports at your earliest convenience.

A   APPENDIX: CHANGING READER OPERATING SETTINGS

CHANGING READER OPERATING SETTINGS

LITE READER MANAGEMENT CONSOLE

(READER SERIAL AB000250 AND EARLIER)

Some settings of the IPICO Sports Lite reader unit may be changed using the product's built-in web console.

With the IPICO Sports Lite reader powered and connected to a computer via a category 5e Ethernet cable (or compatible):

▪ Open a web browsing session using a preferred browsing client (examples include Google Chrome, Mozilla Firefox or Microsoft Internet Explorer), and type the IP address of the Lite reader unit into the address bar. Press the enter key once the address has been entered.
▪ The reader will respond with a screen that resembles what is pictured at right. This screen may vary in appearance depending on the web browsing client in use.
▪ By default, no username or password is required, though the reader can be configured to require it.

CHANGING READER OPERATING SETTINGS

LITE READER MANAGEMENT CONSOLE

(READER SERIAL AB000250 AND EARLIER)

The main interface screen of the Lite reader management console is pictured at left. The available options are as follows:

Overview
Reader network details

Basic Settings
Advanced network relationship details

Network Settings

Advanced Network Settings †

Serial Settings †
Advanced network and communications settings

Operating Settings †
Settings governing the unit's WIFI mode

Accessible IP Settings, Auto-warning Settings, Digital IO, Serial Command Mode †

Change Password
Apply all changes made on previous screens

Load Factory Default
Recall default as-shipped reader settings

Save/Restart
Recall default as-shipped reader settings

† Contact IPICO Sports before changing these settings, as they may impact system operations.

CHANGING READER OPERATING SETTINGS

CHANGING THE LITE READER IP ADDRESS

(READER SERIAL AB000250 AND EARLIER)

Some settings of the IPICO Sports Lite reader unit may be changed using the product's built-in web console.

With the IPICO Sports Lite reader powered and connected to a computer via a category 5e Ethernet cable (or compatible):

▪ Open a web browsing session using a preferred browsing client (examples include Google Chrome, Mozilla Firefox or Microsoft Internet Explorer), and type the IP address of the Lite reader unit into the address bar. Press the enter key once the address has been entered.
▪ The reader will respond with a screen that resembles what is pictured at right. This screen may vary in appearance depending on the web browsing client in use.
▪ By default, no username or password is required, though the reader can be configured to require it.

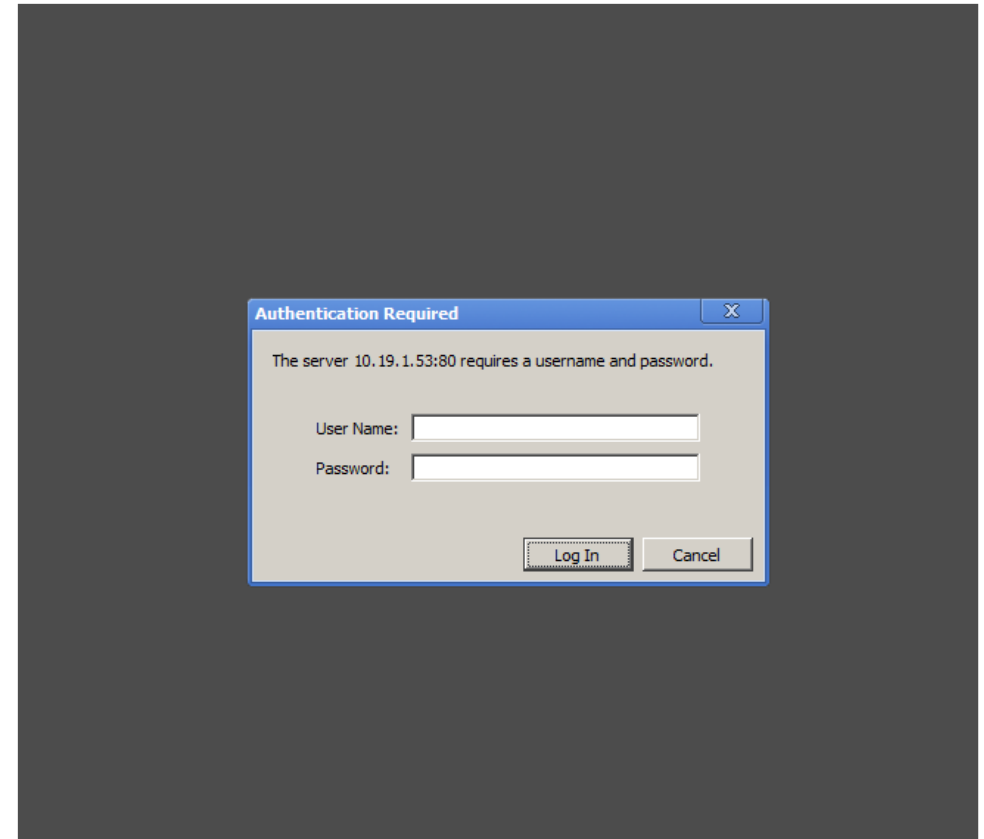# CHANGING READER OPERATING SETTINGS

LITE READER MANAGEMENT CONSOLE

(READER SERIAL AB000251 AND LATER)

Some settings of the IPICO Sports Lite reader unit may be changed using the product's built-in web console.

With the IPICO Sports Lite reader powered and connected to a computer via a category 5e Ethernet cable (or compatible):

▪ Open a web browsing session using a preferred browsing client (examples include Google Chrome, Mozilla Firefox or Microsoft Internet Explorer), and type the IP address of the Lite reader unit into the address bar. Press the enter key once the address has been entered.
▪ The reader will respond with a screen that resembles what is pictured at right. This screen may vary in appearance depending on the web browsing client in use.
▪ By default, no username or password is required, though the reader can be configured to require it. Click the "Log In" button to continue to the main screen of the web console.

CHANGING READER OPERATING SETTINGS
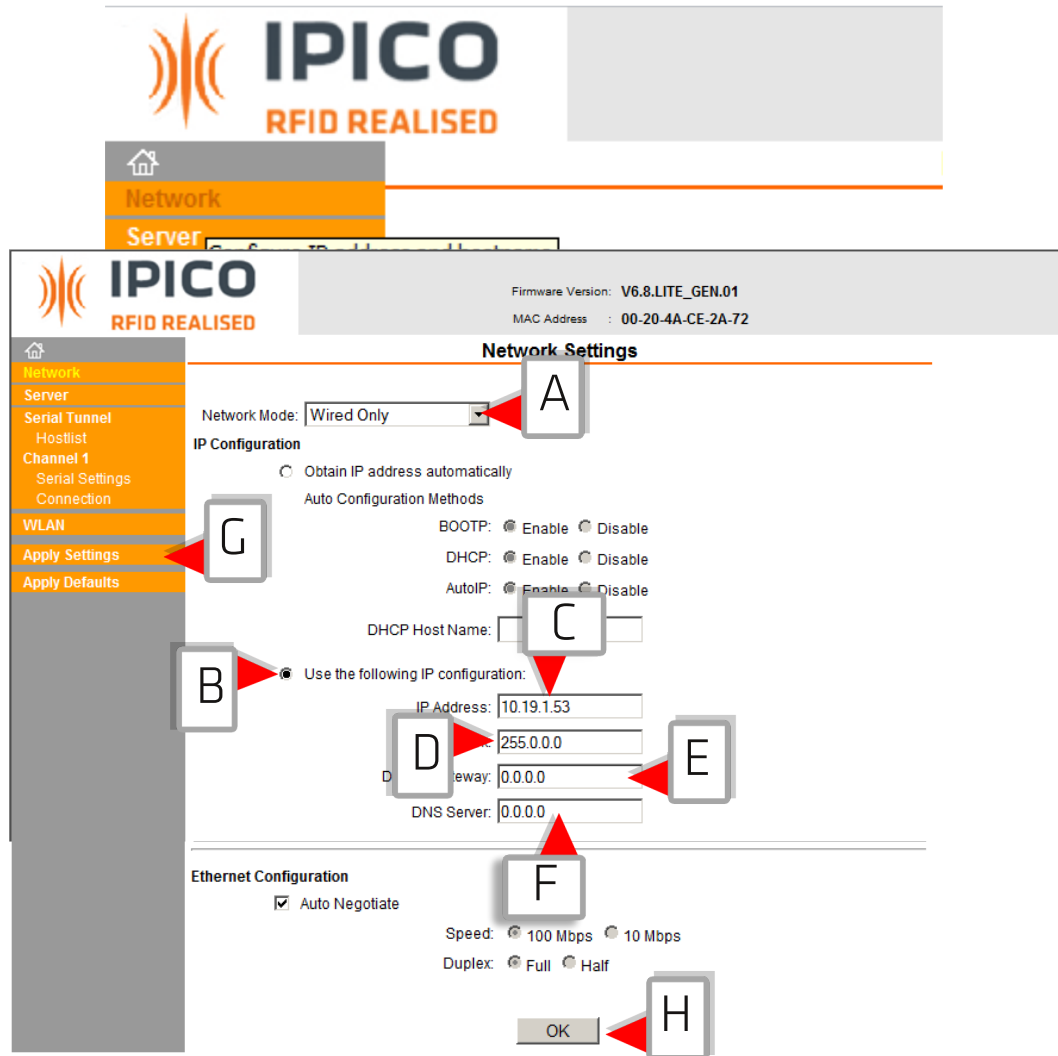

LITE READER MANAGEMENT CONSOLE

(READER SERIAL AB000251 AND LATER)

The main interface screen of the Lite reader management console is pictured at left. The available options are as follows:

Network
Reader network details

Server †
Advanced network relationship details

Serial Tunnel †
Serial configuration settings

Channel 1
Advanced network and communications settings

WLAN
Settings governing the unit's WIFI mode

Apply Settings
Apply all changes made on previous screens

Apply Defaults
Recall default as-shipped reader settings

† Contact IPICO Sports before changing these settings, as they may impact system operations.

.

CHANGING READER OPERATING SETTINGS

CHANGING THE LITE READER IP ADDRESS

(READER SERIAL AB000251 AND LATER)

LITE READER MANAGEMENT CONSOLE

STEP ❶

▪ The 'Wired Only' setting in field **A** ('Network Mode') should remain set as 'Wired Only.'

▪ If not already selected, select the radio button indicated by marker **B**, to 'Use the following IP configuration'.

▪ Field **C** contains the IP address that will be assigned to the reader. Change this field to the desired value.

> Note: If changing away from your PC's current network family, '10.19.1.' or equivalent, this change will need to be made to all PCs and network devices requiring access to this reader.

▪ Fields **D**, **E** and **F** should remain set to their default unless another value is known or is needed.

▪ When finished, scroll to the bottom of the screen and click the '**OK**' button (letter **H**); this will save changes made. To apply these settings, click the link highlighted by marker **G**.

CHANGING READER OPERATING SETTINGS

ENABLING WIFI MODE

(READER SERIAL AB000251 AND LATER)

LITE READER MANAGEMENT CONSOLE

STEP **1**

▪ If in any other section of the Management Console, return to the 'Network' page by clicking the link (highlighted by marker A) to return to the 'Network Settings' menu.

▪ To enable the Lite reader WIFI mode, click the 'Network Mode' drill-down menu, and select 'Wireless Only.'

▪ The IP address set on this page will remain the Lite reader's IP network address once the reader has been set to WIFI mode.

▪ After confirming that this is the desired address, click the 'OK' button (marker D).

▪ To configure more advanced details such as network display name (SSID), click the WLAN link indicated by letter E.

CHANGING READER OPERATING SETTINGS

FAST:TRACK

IPICO SPORTS RECOMMENDATION FOR WIFI USE WITH TWO OR MORE LITE READER UNITS

Each of the Lite reader units in WIFI mode will create individual, distinct 'hotspots.' This means that each essentially will operate independently. When using two or more readers to which a single connection is desired, IPICO Sports recommends the use of an external WIFI bridge. For recommendations and setup assistance, contact IPICO Sports.

ENABLING WIFI MODE

(READER SERIAL AB000251 AND LATER)
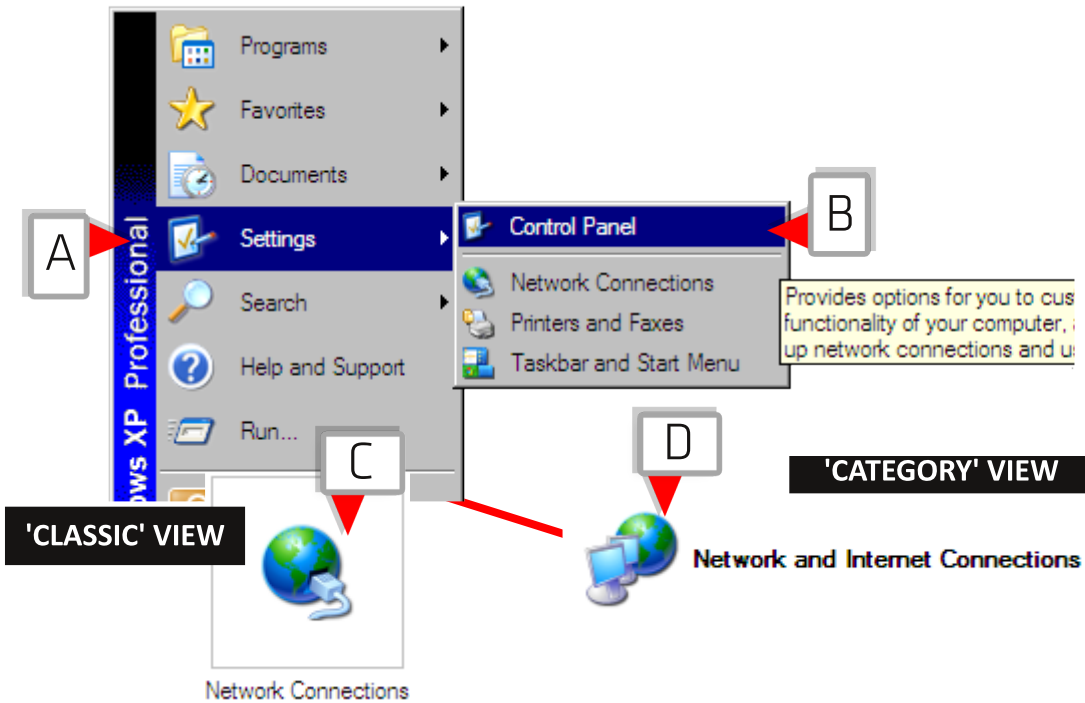
LITE READER MANAGEMENT CONSOLE

STEP **2**

▪ The 'Network Name (SSID)' field (letter **A**) represents the name that will appear to all devices capable of discovering WIFI signals. By default it is 'IPICO LITE' followed by the serial number of the reader unit on which WIFI has been enabled.

▪ Natively, the WIFI network is not secured. If network security is desired, the 'Security' field (marker **B**) will enable wireless network security. This will allow for password and encryption values to be set.

▪ Once the desired settings have been made, scroll to the bottom of the page and click the 'OK' button (letter **C**).

▪ To apply all of the changes made on both the 'Network' and 'WLAN' screens, click 'Apply Settings,' marked by letter **D**. This will turn off the reader's 'Wired' mode and will make connections available to the reader solely through WIFI.

CHANGING READER OPERATING SETTINGS

A

B

C

D

'CLASSIC' VIEW

'CATEGORY' VIEW

ENABLING WIFI MODE
WINDOWS XP

(READER SERIAL AB000251 AND LATER)

WIFI STREAMING

STEP **1a** To set up the necessary networking, examples from Microsoft Windows XP, Windows Vista and Windows 7 are provided, starting with Windows XP.
▪ Locate the 'Control Panel.' This can usually be found from the Windows XP Start Menu, as pictured at left (letters **A** and **B**)
▪ Depending on configuration, the Control Panel may display in one of two ways - 'Classic' (marker **C**) or 'Category' (letter **D**) view.

⚠ **If using WIFI mode, network changes will need to be made to any wireless network adapters needing access to the reader.**

Similar to instructions provided earlier in this manual, the next several pages will detail the configuration steps that need to be taken to communicate to the reader unit via the reader's WIFI capability.
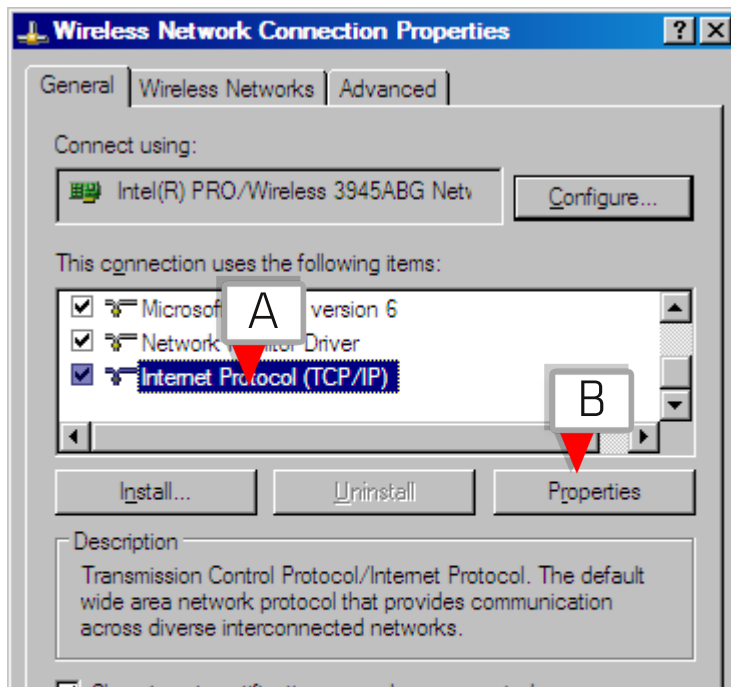
CHANGING READER OPERATING SETTINGS
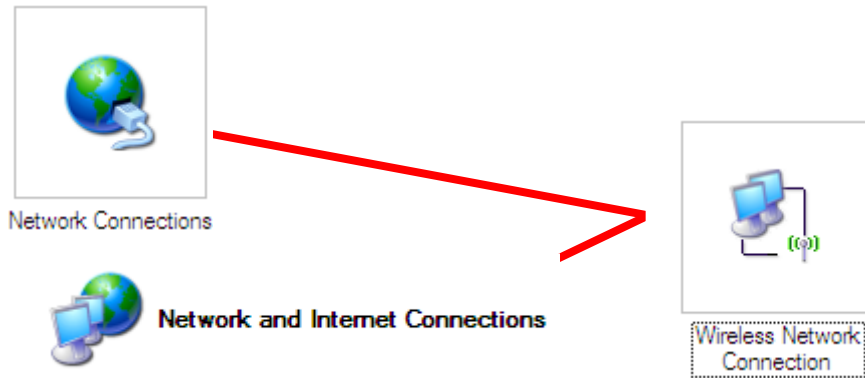
ENABLING WIFI MODE
WINDOWS XP

WIFI STREAMING
STEP ②a

▪ Click the icon labeled "Network Connections."
▪ The Windows XP "Network Connections" screen should contain at least one item with the title "Wireless Network Connection." Right-click on this connection.
▪ From the context window, click "Properties."
▪ The window that results will be a status window for the connection. From the scroll menu in the middle of the window, select 'Internet Protocol TCP/IP' (letter **A**).
▪ With 'Internet Protocol TCP/IP' selected, click the "Properties" button (marker **B**).

CHANGING READER OPERATING SETTINGS
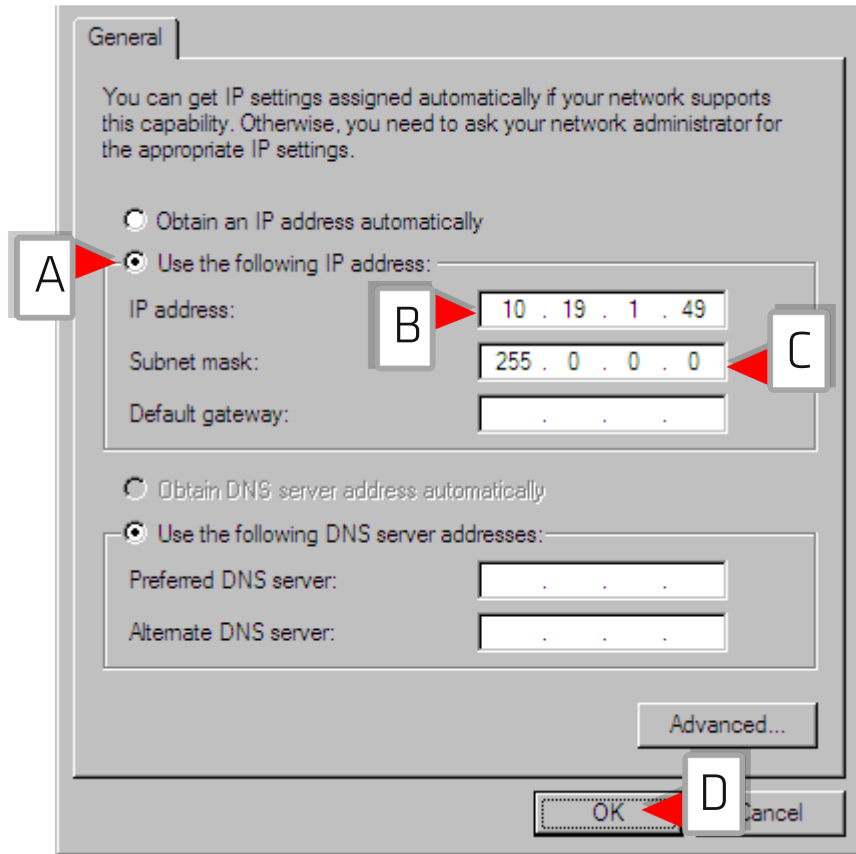
When setting multiple network adapters, ensure that the addresses issues are unique, as no two adapters should share the same address or unique 'space.'

See manual page **38** to review the reasons for this change.

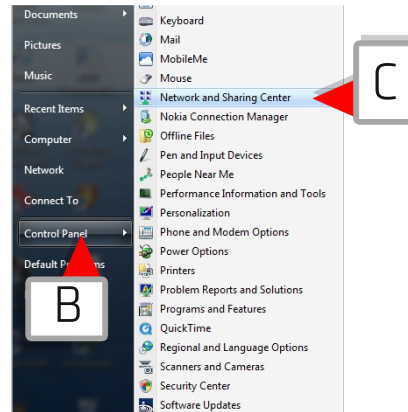# ENABLING WIFI MODE WINDOWS XP

WIFI STREAMING
STEP 3a

▪ Click the radio button indicated by letter **A** (at left) to manually set the network address.

▪ Before shipping, IPICO Sports will address reader products beginning at 10.19.1.51. It is recommended that any additional network devices occupy addresses 1 - 50. In this example, set the 'IP Address' field (letter **B**) equal to '10.19.1.49' - this will ensure that the computer is outside the default address range.

▪ After finishing the IP address, press the Tab key. This will automatically populate the 'Subnet Mask' field (letter **C**) with either 255.0.0.0 or 255.255.255.0 - either of these values are acceptible. If considering advanced networking that would involve changing this field, contact IPICO Sports.

▪ When finished with these values, it is not necessary to fill in any of the other fields on the screen. Click the "OK" button (marker **D**).

▪ When returned to the "Properties" window click "Close."

CHANGING READER OPERATING SETTINGS
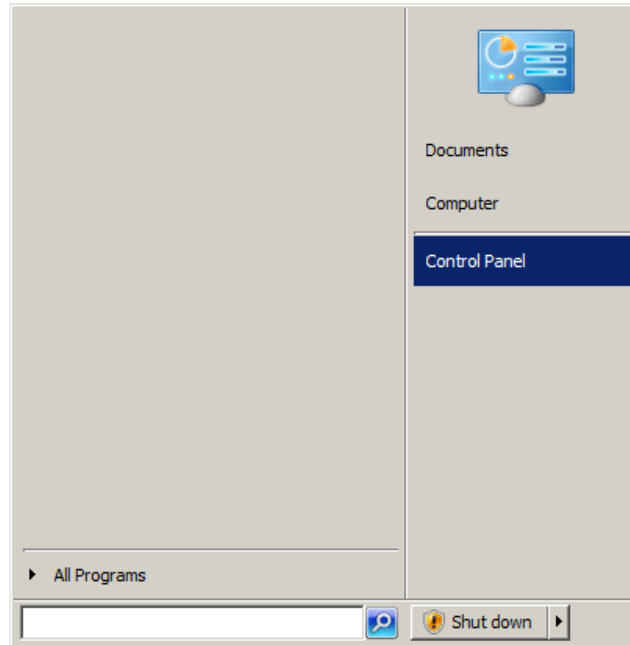
ENABLING WIFI MODE
WINDOWS VISTA/7

(READER SERIAL AB000251 AND LATER)

WIFI STREAMING

STEP **1b**

To set up the necessary networking, examples from Microsoft Windows XP, Windows Vista and Windows 7 are provided.

▪ Depending on configuration, the Windows Start Menu may either have a direct link to the control panel window (letter **A**) or will have an additional sub-menu (letters **B** and **C**).
▪ Clicking on the 'Control Panel' option will open the window on the next page.
▪ If the Start Menu contains a sub-menu, locate the 'Network and Sharing Center.' Click on the icon for the 'Network and Sharing Center.'
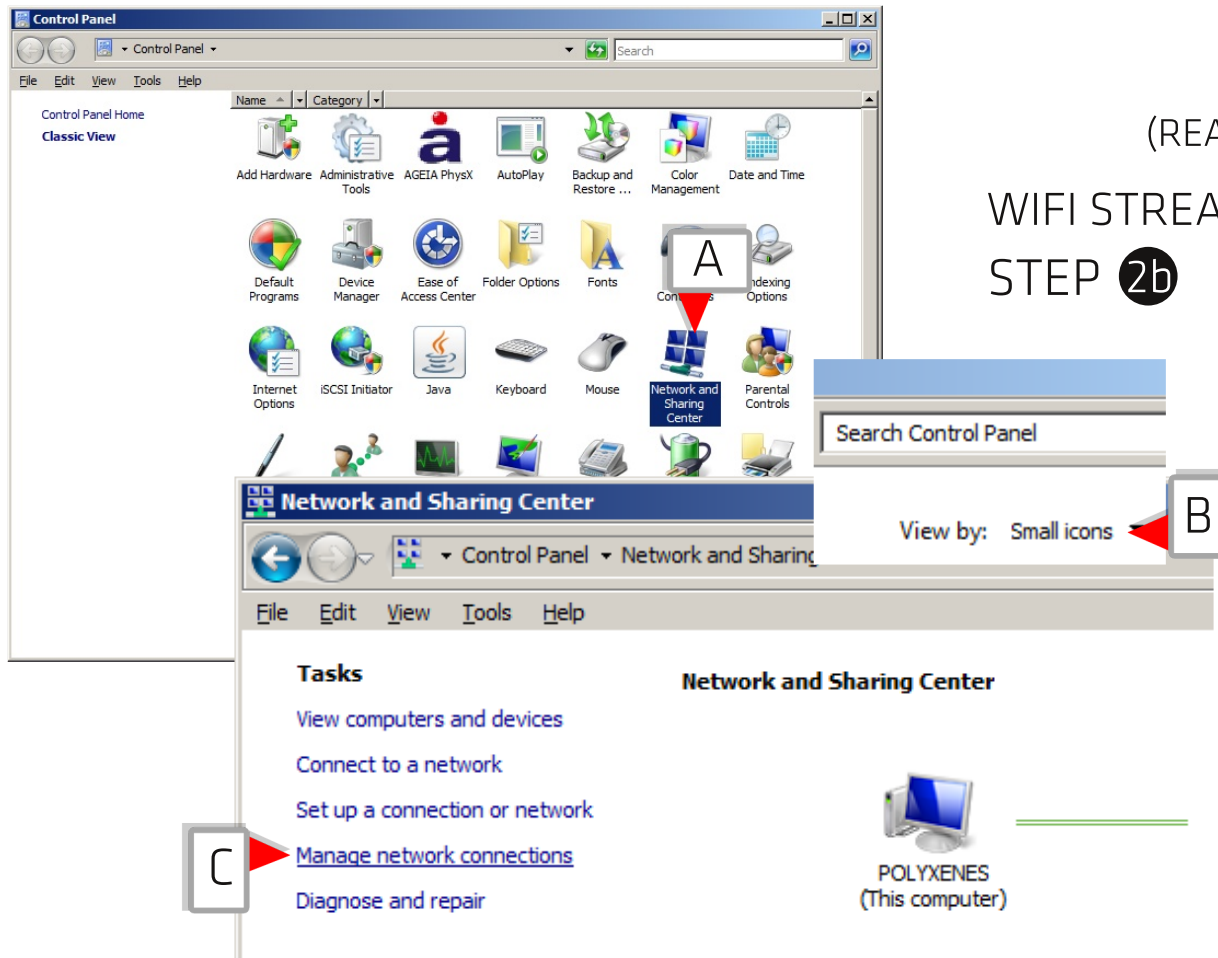
CHANGING READER OPERATING SETTINGS

ENABLING WIFI MODE
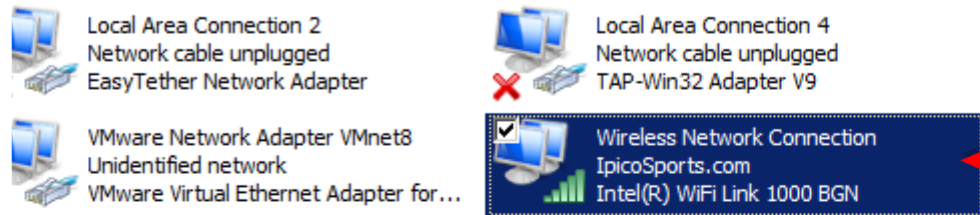## WINDOWS VISTA/7

(READER SERIAL AB000251 AND LATER)

WIFI STREAMING
STEP 2b

▪ Again, depending on configuration, the Windows Control Panel may be either set up as a 'Category View' or 'Classic View.' It is simpler to find the 'Network and Sharing Center' using the 'Classic View.' Choose the 'Classic View' option at the left of the Control Panel window.

▪ If, in Windows 7, the Control Panel is set up to be displayed in 'Category,' 'Large' or 'Small' icons, choosing 'Large icons' or 'Small icons' (letter **B**) will ease finding the 'Network and Sharing Center' (marker **A**).

▪ Once having located the 'Network and Sharing Center,' click on it to enter the 'Network and Sharing Center' menu, pictured at bottom-left.

▪ At the left side of the window, a set of links highlights available options. Locate and click the option to 'Manage network connections' (marker **C**). In Windows 7, this link may be read 'Change adapter settings.'
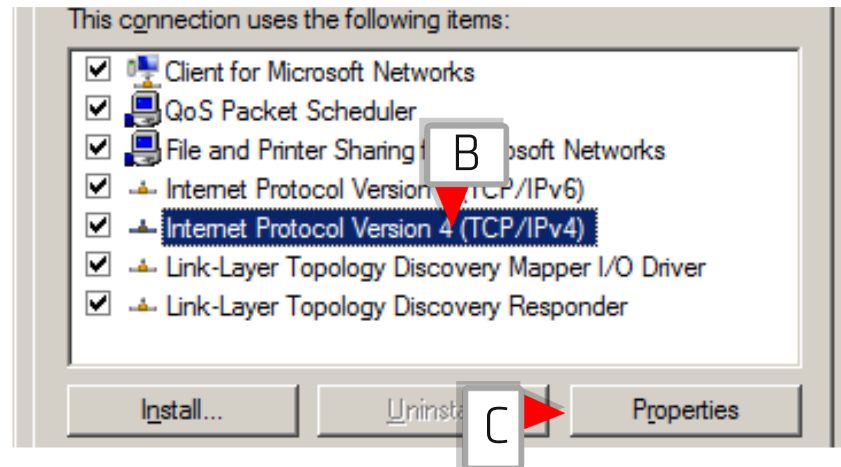
CHANGING READER OPERATING SETTINGS

ETHERNET STREAMING / "LIVE" WINDOWS VISTA/7

(READER SERIAL AB000251 AND LATER)

WIFI STREAMING

STEP 3b

▪ The window that opens details all of the network adapter connections that are currently installed and enabled on the computer. Among these will be a 'Wireless Network Connection,' (letter **A**) this represents a wireless Ethernet connection. Right-click on it and select 'Properties' from the context menu.

▪ In the resulting 'Properties' window, locate and select the entry for 'Internet Protocol Version 4 (TCP/IPv4)' (letter **B**) in the scrolling box at the center.

▪ Highlighting the entry, click the 'Properties' button (marker **C**).

CHANGING READER OPERATING SETTINGS
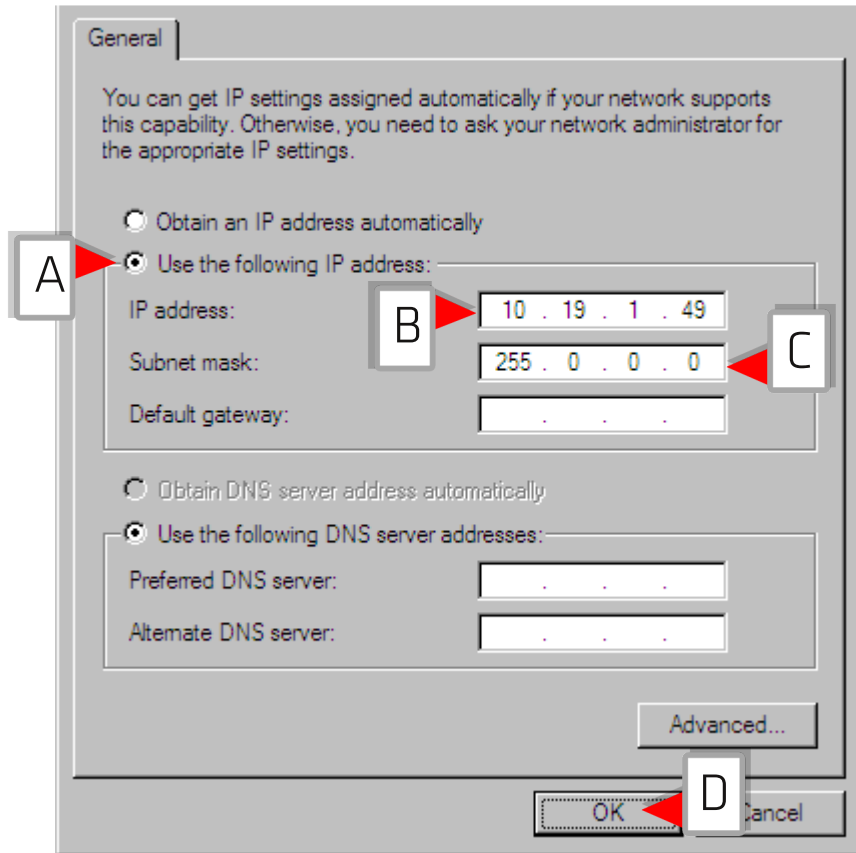
When setting multiple network adapters, ensure that the addresses issues are unique, as no two adapters should share the same address or unique 'space.'

See manual page **38** to review the reasons for this change.

ETHERNET STREAMING / "LIVE" WINDOWS VISTA/7

(READER SERIAL AB000251 AND LATER)

WIFI STREAMING

STEP **3a**

▪ Click the radio button indicated by letter **A** (at left) to manually set the network address.

▪ Before shipping, IPICO Sports will address reader products beginning at 10.19.1.51. It is recommended that any additional network devices occupy addresses 1 - 50. In this example, set the 'IP Address' field (letter **B**) equal to '10.19.1.49' - this will ensure that the computer is outside the default address range.

▪ After finishing the IP address, press the Tab key. This will   automatically populate the 'Subnet Mask' field (letter **C**) with   either 255.0.0.0 or 255.255.255.0 - either of these values are acceptible. If considering advanced networking that would involve changing this field, contact IPICO Sports.

▪ When finished with these values, it is not necessary to fill in any of the other fields on the screen. Click the "OK" button (marker **D**).

▪ When returned to the "Properties" window click "Close."

B APPENDIX: CHECKLISTS FOR READER PERFORMANCE AND MAINTENANCE

CHECKLIST FOR READER PERFORMANCE

☐ **Reader powers on**

☐ **Reader intermittent startup tones cease after five (5) seconds**

☐ **The needle of the POWER SUPPLY STATUS gauge indicates an appropriate charge level (may vary depending on how long reader has been charged)**

☐ **Reader LED indicator lights are:**

LIGHTS   AUDIBLE TONES

TAG READ [RED]   TX A STATUS [GREEN]   LAN [RED]   NONE
POWER [GREEN]   TX B STATUS [GREEN]

☐ **When mats are connected, pressing the 'Calibrate Antennas' switch returns the reader to the following conditions**

LIGHTS   AUDIBLE TONES

TAG READ [RED]   TX A STATUS [GREEN]   LAN [RED]   NONE
POWER [GREEN]   TX B STATUS [GREEN]

☐ **Reader accepts and returns the correct time of day**

☐ **When USB inserted, the reader emits two (2) short tones (this indicates the reader is writing to the USB memory stick)**

☐ **When mats are connected and tags are read, the TAG READ LED indicator briefly becomes AMBER**

☐ **When mats are connected and tags are read and the USB memory stick is in use, the indicator light below the USB memory stick is briefly RED**

☐ **When mats are connected and tags are read and 'live' streaming (networking) is connected, the LAN LED indicator briefly becomes AMBER**

☐ **When mats are connected and tags are read and 'live' streaming (networking) is connected, scoring software is receiving data**
DETERMINING HOW THIS IS REPRESENTED IN SCORING SOFTWARE VARIES FROM PACKAGE TO PACKAGE; CONSULT ANY MANUALS RECEIVED WITH THE SOFTWARE IN USE IF TROUBLESHOOTING

CHECKLIST FOR READER MAINTENANCE

☐ **Fully charge reader battery after long periods of disuse**
THIS IS TYPICALLY DEFINED AS THE READER NOT BEING USED FOR THE PERIOD OF TWO (2) MONTHS OR MORE

☐ **Fully charge the reader battery before all events, even if an external battery or power source is to be used at an event site**

☐ **Store the reader unit and antenna mats in a warm, dry location when not in use: reader unit closed tightly, antenna mats in provided bags**

☐ **When packing antenna mats, follow procedures detailed in** *SECTION 5* **of this manual**

☐ **If desired, contact IPICO Sports regarding the performance of a system maintenance check (costs may apply)**

D APPENDIX: WARRANTY INFORMATION

WARRANTY INFORMATION

INITIAL WARRANTY COVERAGE

The IPICO Sports Initial Warranty is included with a reader purchase. This is valid for **one calendar (1) year** from the product purchase date, issues that arise with the equipment are covered.

WHAT PRODUCTS ARE COVERED BY THIS WARRANTY?
Lite reader
Antenna mats

WHAT IS COVERED?
Repairs that come about due to equipment malfunctioning in the field.
Costs of ground return shipping for repairs or inspections. If the reader's returned needs to be expedited, the difference between the chosen method of shipping and what it would have cost for IPICO Sports to ship the equipment back via standard ground shipping will be charged.

WHAT ISN'T COVERED?
Damage or the need for repair caused by an act of nature or accident involving the equipment. This includes, but is not limited to, water damage, accidental drops, or other mishandling of equipment.
Damage or need for repair based on repairs or maintenance not performed by IPICO Sports or an authorized party.
Costs of shipping a reader to IPICO Sports for service.

IS THE WARRANTY TRANSFERRABLE?
The initial warranty is transferrable as the warranty is issued and bound the serial number of the product being serviced.

EXTENDED WARRANTY COVERAGE IS AVAILABLE FOR PURCHASE. CONTACT IPICO SPORTS TO INQUIRE ABOUT EXTENDED WARRANTY PACKAGES.

IPICO SPORTS CONTACT INFORMATION

IPICO Sports

311 S.W. Water St.
Peoria, IL 61602
+1 309.672.6442
www.ipicosports.com

support@ipicosports.com