

Power Tracker™ Manual

Multi Mode Reader

The device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.

WARNING: This equipment has been tested and found to comply with the limits for Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference in which case the user will be required to correct the interference at his own expense.

The user is cautioned that changes and modifications made to the equipment without approval of the manufacturer could void the user's authority to operate this equipment.

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1. Introduction

Congratulations on purchasing your AVID Power Tracker Multi Mode Reader. Your unit is one of a family of patented readers that can be used with one or more of the following radio frequency identification tags: AVID coded tags, Fecava coded tags, Trovan coded tags, and ISO FDXB coded tags.

2. Functional Description



Figure 1 Power Tracker

Power Tracker II reads AVID and Fecava coded tags.

Power Tracker IV reads AVID, Fecava and Trovan coded tags.

Power Tracker V reads AVID, Fecava and ISO FDX/b coded tags.

Power Tracker VI reads AVID, Fecava, Trovan, ISO FDX/b coded tags.

2.1.POWER Switch

The *POWER Switch* is located on the top right side of the reader and turns the unit ON and OFF. Press the *POWER Switch* once and the unit will turn ON. The LCD will display "AVID ID READY" and the reader will produce a beep. Press the *POWER Switch* again to turn the unit OFF. The LCD will go blank.

WHEN NOT IN USE, TURN THE READER OFF. The reader will sound a "reminder" beep every 3 minutes when powered on and not in use.

2.2.READ Switch

The *READ Switch* is located on the top left side of the reader and is used to scan for an ID tag. Press and hold down the *READ Switch* to seek an ID tag. The LCD will display "LOOKING". When the reader locates and reads an ID tag, it will display the ID tag number and sound two high-pitched beeps. The LED will flash continuously for up to 5 seconds, or until you release the *READ Switch*.

When you release the *READ Switch* the LCD will continue to display the found ID tag number. If the reader has not located an ID tag, it will sound a low-pitched single beep, and the LCD will display "NO ID FOUND".

As soon as an ID tag number is found and displayed on the LCD, the reader stops looking for another ID tag. The *READ Switch* must be pressed each time a new ID tag is to be read.

2.3.LCD Display

The *LCD* is located on the top center of the reader. It displays reader functions and ID tag numbers.

The *LCD* displays the following messages:

“AVID ID READY”	Displays when reader is first turned ON and battery is OK.
“LOOKING”	Displays when seeking an ID tag.
“NO ID FOUND”	Displays after termination of “LOOKING” when no valid ID tag is read.
“LOW BATTERY”	Displays when low battery is sensed, either when the unit is switched ON or instead of “LOOKING” when the READ Switch is depressed.

AVID*123*456*789 Sample display for a valid AVID ID tag.

2.4.BATTERY Compartment

The *BATTERY Compartment* is located on the back of the reader. When you do not intend to use the reader for an extended period of time, remove the battery and store the reader and battery in a dry location protected from sunlight, high heat and humidity.



Figure 2 Battery Compartment

To open, rotate the battery cap counterclockwise. To close, rotate the battery cap clockwise.

WARNING: MAKE SURE THE BATTERY IS INSERTED IN THE PROPER DIRECTION (Figure 2). INCORRECT POSITION CAN DESTROY THE BATTERY AND READER. USE ONLY AVID APPROVED NIMH RECHARGEABLE BATTERY. DISPOSE OF BATTERY WITH EXTREME CARE AND IN ACCORDANCE WITH LOCAL REGULATIONS. BATTERY MAY EXPLODE IF DISPOSED OF IN FIRE OR WATER.

2.5.BATTERY Charger

The Power TrackEr comes equipped with an AVID NiMH battery charger. The charger will charge the AVID NiMH battery in 14 to 16 hours. It is recommended

that each new battery be fully charged.

To charge an AVID NiMH battery, inspect the charger to insure that no foreign materials are in the charging area or on the charging contacts. Connect the transformer to the charger and plug in. The light on the charger will begin to pulse. Place the battery, positive anode end first (Figure 3), into the top of the charger. The light will stop pulsing. After approximately 2 hours, the light will begin to pulse again. This indicates that the charger is operating normally, it does not mean the battery is fully charged. The battery will need to be charged an additional 12 to 14 hours.

Caution: Do not use around water. Do not allow the charger to get wet. Keep the charger on a clean, dry area and insure that dirt, dust, and foreign objects are kept out of the hole and off of the charging contacts. Do not try charging any other battery except the AVID supplied NiMH battery.

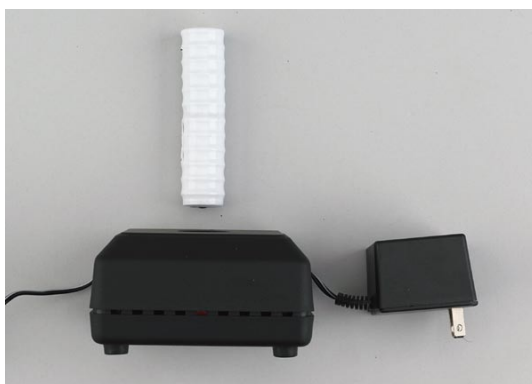


Figure 3 Nicad Battery Charger

2.6.PC Interface / AC Power Adapter Cable

The connector is a standard DB-9 and provides for an external power connection as well as a PC connection to the reader. It can only be used with an AVID AC Power Adapter (AVID4004). To use a DB-25 connector, use a commercially available DB-9 to DB-25 adapter.

The AVID Interface/Power cable is 4 feet in length. You may add additional cable to the PC side by using the following connection chart:

Signal	DB-9 Pin #
AC ADAPT	1
TXD1	2
RXD1	3
GND	5
DSR	6
GND (DWA)	9

Table 1 RS-232 Serial Cable Pin Assignment

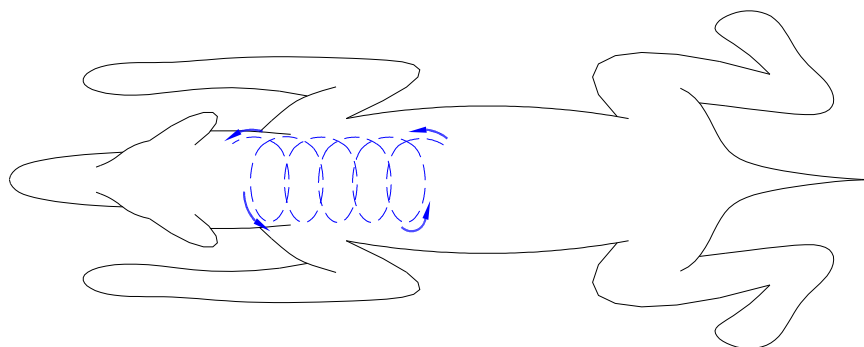
2.7.READ Antenna

The *READ Antenna* is located on the bottom of the reader and is the interface between the reader and the ID tag. The *READ Antenna* emits a low frequency electromagnetic signal to activate the ID tag.

3. Normal Operations

3.1.How To Read an ID Tag

To read an ID tag with the AVID Power Tracker Reader, position the reader directly on the subject with the READ Switch depressed and search for the ID tag with slow circular motions shown in the Scanning Pattern diagram below. Scan slowly, moving the reader in a circular pattern while the reader toward the head starting from the middle of the back. When the reader locates an ID tag, it will display the number on the LCD, sound the beeper and flash the green LED.



Scanning Pattern

Scanning Technique

The orientation of the reader antenna to the ID tag affects the range and ability to read. It is recommended to move the reader antenna in a circular motion so that at some point you are energizing the chip(tag) with a greater strength magnetic field making it easier to find the microchip.

3.2.Interference from RF Sources and Metal Objects

The AVID Power Tracker Reader senses variations in electromagnetic fields in order to read ID signals from the ID tags. Computer terminals, video screens and metal can reduce the read range of the reader.

If you are experiencing a decrease in reading distance, the reader is probably being affected by electromagnetic interference. Try moving locations.

4. Use With Computers

4.1. Serial Connection

Attach the reader to your PC using the AVID PC Interface / AC Power Adapter Cable (AVID4011, Figure 4).



Figure 4 AVID Interface/Power Cable (AVID4011)

Open the PC's serial port using the following PC interface parameters:

baud rate:	9600 (Power Tracker II 2400 baud)
parity:	None
data bits:	8
stop bits:	1
handshake:	None

All characters displayed on the LCD are also sent to the reader's serial port, through the RS-232 cable to a PC or printer. All text strings are sent out by the reader as ASCII text followed by CR/LF.

WARNING: USE ONLY THE AVID INTERFACE CABLE WITH THE POWER TRACKER. USE ONLY THE AVID AC POWER ADAPTER (AVID4004).

THE USE OF ANY OTHER CABLE OR AC POWER ADAPTER COULD CAUSE PERMANENT DAMAGE TO THE READER.

4.2. Software

AVID Reader Wedge. This application supports reading tags with the Power Tracker. Tag data is entered directly to Windows base applications without copying or typing in the tag number. This application requires a serial connection to a PC.

5. Specifications

Operating Frequency	125 kHz / 128kHz / 134.2 kHz
Battery	AVID Nicad rechargeable batteries only
Battery Life	Approximately 3,000 read operations per recharge, assuming 2 seconds per read operation
FCC Information	PT II FCC ID: IOL-125-AV1003 PT IV FCC ID: IOL-125-AV1023 PT V FCC ID: IOL-125-AV1025 PT VI FCC ID: IOL-125-AV1026
AC Power Adapter	Input: 110 volts, 60Hz or 220 volts, 50Hz Output: 8.4VDC @ 500ma. Interface cable required: AV4011
Display	16 character LCD
Operating Temperature	0° to 50°C (32° to 122°F)
Storage Temperature	-20° to 65°C (-4° to 149°F)

6. Warranty and Service

The AVID Power TrackKer Multi Mode Reader is warranted against defects in material and workmanship, under normal use and service, for a period of 1 year from the date of shipment from AVID. This warranty will not apply if repairs, parts or adjustments are required due to accident, neglect, damage during transportation, or causes other than ordinary use. AVID's sole responsibility under this warranty shall be, at AVID's option, to either repair or replace any product, which fails during the warranty period. In no event shall AVID be liable for any indirect or consequential damages or loss of profits.

A **Return Material Authorization (RMA)** number must be issued before a unit is returned to AVID for service. Contact AVID for a **RMA** number or other service questions. (951) 371-7505.