

# “Sat Buddy”™

## Satellite Signal Meter

### User Instructions



## DEFINITIONS

- LNB:** Low Noise Block amplifier. The portion of the antenna-dish that receives the high-frequency signal reflected from the dish and then down-converts it to the L-band (950-2150 MHz).
- IRD:** Integrated Receiver Decoder. Also referred to as the set-top box or satellite receiver. The IRD processes the digital data carried to it by the RF signal and then provides the baseband picture signal to the television.
- RF:** Radio Frequency signals
- Cable:** 75 Ohm coaxial cable
- Dish:** Oval shaped antenna hardware mounted on the exterior of the customer’s premises.

## INTRODUCTION

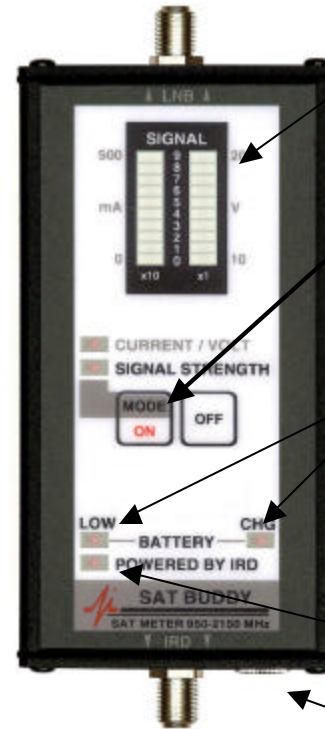
The Sat Buddy™ is a satellite signal meter that measures relative RF signal strength when connected to a dish antenna. It is designed to be used for installing and maintaining typical residential satellite systems. In addition to measuring relative RF signal strength, the Sat Buddy™ also measures LNB current and the voltage being supplied to the LNB. It can power the LNB using its rechargeable internal battery or it will allow the IRD power to run through it to the LNB.

Each Sat Buddy™ package contains:

- Sat Buddy™ meter
- Neoprene sheath with belt clip
- Wall plug transformer for charging battery
- Cigarette-lighter adapter for charging battery in automobile
- Instruction page

## OPERATION

Connect to LNB with short cable.



Connect to IRD with cable or use internal battery.

LED display indicates signal strength in the SIG STRENGTH mode or LNB current draw and LNB voltage while in the CURRENT/VOLT mode.

- First push of the ON/MODE button selects SIG STRENGTH mode.
- Second push activates audible tone (still in SIG STRENGTH mode.)
- Third push activates CURRENT/VOLT mode.

Indicates when battery is charging (CHG) and when battery voltage is low. LOW LED flashes the last 5-10 minutes of battery charge life before automatic shut off.

Indicates whether unit is powered by the IRD.

Battery charger plug in.

**Signal Strength Display:** While in the SIG STRENGTH mode, each segment of the left LED bargraph is equal to 10 segments of the right LED bargraph. Therefore, when aligning the dish for maximum signal strength, it is more important to have a higher LED segment illuminated on the left LED bargraph than on the right. Use the right side LED bar graph for fine alignment purposes and take care to not sacrifice the illumination of any left side LED segments.

**Signal Strength Audible Tone:** Initial activation of the audible tone provides a slow audio “beep”. When the Sat Buddy™ detects a stronger signal, it provides a faster “beep”. When the Sat Buddy™ receives the strongest signal, it provides a solid-tone. For the audible tone to work properly, it must see weak and stronger signals, therefore it is important to sweep the dish alignment from a weak signal through, and past the peak signal, and then back to peak, in order to get a solid tone.

Over-current detection: If the Sat Buddy™ detects an over-current situation, it will switch to CURRENT/VOLT mode and flash the highest LED segment on the CURRENT side. LNB power will be shut off except for re-testing every 4 seconds.

Over or under voltage detection: If the Sat Buddy™ detects a voltage from the IRD, greater than 20V or less than 10V while in the CURRENT/VOLT mode, it will flash either the highest or lowest LED segment on the VOLT side, respectively.

## DISH ALIGNMENT

- 1) Mount and adjust the dish per the instructions of the service provider and hardware manufacturer.
- 2) Connect the Sat Buddy™ to the LNB.
- 3) Adjust the dish alignment vertically and horizontally until signal strength is maximized on the Sat Buddy's™ display or its audible tone.

## SPECIFICATIONS

Frequency Range.....	950 to 2150 MHz
Impedance.....	75 Ohm
Measurable Input Level.....	-48 to -8 dBm total power -60 to -20 dBm per transponder
Insertion Loss.....	3 dB (950 to 1450 M Hz) 8 dB (1450 to 2150 MHz)
Size (HxWxD)/Weight.....	6.5" x 2.7" x 1.1", 1.5 lbs. (16.5 cm x 6.9 cm x 2.8 cm, 700g)
Operating Temperature.....	0° to 125° F (-17° to 50° C)
Connectors.....	Type F female
Power.....	Uses IRD power when connected, otherwise uses internal battery. IRD voltage loss through Sat Buddy™ is 1.3 V. Current consumed by Sat Buddy™ in 90 mA.
LNB Power from Sat Buddy™..	Uses internal battery voltage 12 to 16 V, current limited at 400 mA. Able to continuously power a typical single LNB (90 to 150 mA) for 1.3 hours.
Internal Battery Pack.....	Rechargeable 12 cell NiMH, 350mAh, 12-16 volts nominal. Automatic shut off when battery voltage drops to 12.0 volts.
Battery Charge Time .....	12 hours from wall charger
Wall Charger Output .....	12 VDC, 200 mA, center pin positive, 2.1mm I.D.

### Signal Measure Mode

- Signal Level Display ..... Bargraph LEDs left row x 10, right row x 1
- Audible Tone..... Dual beep rate with solid tone at peak

### Current/Voltage Mode

- LNB current draw..... 0 to 500 mA (each LED segment is 50 mA)
- LNB supply voltage..... 10 to 20 volts (each LED segment is 1V, above 9V)

Specifications subject to change without notice.

## BATTERY CHARGING

To obtain optimum battery performance, follow these guidelines:

- Do not charge your battery until the battery is almost completely discharged.
- While the unit is off, charge it overnight to obtain a full charge.
- Do not use a wall-transformer other than the one provided. Improper voltage or current input may damage the battery charge circuit and require non-warranted service work.

## WARRANTY

The Applied Instruments Sat Buddy™ has a limited warranty against defects in materials and workmanship for a period of twelve months. Applied Instruments agrees to repair or replace any assembly or component (except F-connectors, battery, and neoprene carrying case) found to be defective under normal use during this period. Applied Instruments' obligation under this warranty is limited solely to repairing the instrument proved to be defective within the scope of the warranty when returned to the factory. Transportation to the factory is to be arranged and prepaid by the customer. Authorization by Applied Instruments is required prior to shipment.

Applied Instruments assumes no liability for secondary charges or consequential damages and, in any event, Applied Instruments' liability for breach of warranty under any contract shall not exceed the purchase price of the instrument shipped, and against which a claim is made.

Any application recommendations made by Applied Instruments for the use of its products are based upon tests believed to be reliable, but Applied Instruments makes no warranty of the results to be obtained. This warranty is in lieu of all other warranties, expressed or implied, and no representative or person is authorized to represent or assume for Applied Instruments, any liability in connection with the sale of Applied Instruments products other than that set forth herein.

Please keep your receipt of purchase to verify purchase date.

If it becomes necessary to have your Sat Buddy™ serviced, contact:

Applied Instruments, Inc.  
5230 Elmwood Avenue  
Indianapolis, IN 46203  
Tel. (317) 782-4331  
Fax (317) 786-9665  
www.appliedin.com

