

## REMTECH GENERAL PRICE LIST

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All REMTECH systems come with a powerful PC with “Red Hat” Linux operating system. A simplified real-time version of our color presentation package (see item 10) is part of the basic configuration.

For a formal quote please consult REMTECH or one of its authorized representatives.

Each item is quoted in both US Dollars and in Euros, as REMTECH accepts payment in either one of these currencies.

### **BASIC CONFIGURATIONS:**

Items 1, 2, 3, 4                    Acoustic wind profilers (Doppler Sodars)

All our Sodars come complete with basic software and are capable of measuring three-dimensional wind speed with up to 300 vertical layers. The average ranges are given herein for the following conditions: 40 dBA ambient noise, 15° C air temperature and 70 % humidity.

All minimum measurement heights are given for use on a open field.

REMTECH Sodar systems are composed of a Phased Array (PA) antenna and of an electronic case. The electronic case is low power (25 W for PA0, 25 W for PA1, 50 W for PA2 and 190 W for PA5) and can be used either outdoors (with an optional outdoor kit, item 7.3) or indoors. It can be powered on battery or on AC power. It includes a dedicated notebook computer.

The standard configuration of our Sodars includes a 50 meters mu-metal shielded antenna cable, an antenna heater (requiring AC power for operation) and a printer.

PA1 and PA5 are designed for up to 15 frequencies coding on each tilted beam during one «beep» while PA0 and PA2 use up to 9 frequencies.

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Item 1: PA0

The antenna is made of 52 piezo-electric transducers, operating at 3.5 KHz. Active antenna size is 40 cm x 40 cm.

The minimum measurement height is 15 meters.

The average range is 600 meters.

USD 53,200.00

EUROS 37,200.00

For lower range applications such as wind energy siting studies and low-level wind shear detection at airports, special versions are available at significantly lower prices. Please consult us.

Item 2: PA1

The antenna is made of 52 piezo-electric transducers, operating at 2.25 KHz. Active antenna size is 65 cm x 65 cm.

The minimum measurement height is 25 meters.

The average range is 1,300 meters.

USD 89,550.00

EUROS 62,620.00

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Item 3:

### PA2

In the case of a very noisy site (exceeding 65 dBA), a PA2 Doppler Sodar is recommended. The PA2 is effective up to 75 dBA. For further specifications, please see page 13.

The antenna is made of 196 piezo-electric transducers operating at 2.25 KHz. Active antenna size is 130 cm x 130 cm.

The minimum measurement height is 25 meters.

The average range is 1,500 meters.

USD 107,640.00

EUROS 75,270.00

Item 4:

### PA5

This is a high power PA1, which uses 52 antenna elements like the PA0 and PA1. Unlike the PA0 and PA1, the transducers are compression drivers (in place of piezo-electric transducers) operated at 0.8 KHz and the antenna dimensions are increased accordingly. Active antenna size is 180 cm x 180 cm.

The minimum measurement height is 50 meters.

The average range is 3,500 meters.

USD 161,910.00

EUROS 113,220.00

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Item 5: Radio-Acoustic Sounding Systems (RASS)

For use with a PA2 or a PA5 for air temperature measurement.  
It consists of two six foot diameter parabolic dishes and dedicated outdoor HF transceivers.

USD 85,550.00

EUROS 59,820.00

Item 6: ADCP : Acoustic Doppler Current Profiler (Doppler Sonar)

It is a vessel-mounted system.  
It is made of a single 52-element emission/reception transducer with electronic beam steering to allow for measurement along 5 axes, and a cable to the signal-processing electronics. The computer performs calculations similar to those performed by our Doppler Sodars, which use acoustic waves for remote measurement of wind.

USD 103,820.00

EUROS 72,600.00

The corresponding data from external sensors (such as heading, pitch and roll sensors or from positioning systems such as Loran C or GPS) can be input into REMTECH RS232 PC port using ASCII code. The interfacing software will be provided for free. If sensors do not have this capability or if the customer wants them to be provided, please consult REMTECH.

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Item 7: Miscellaneous hardware options

Item 7.1: One set of two modems

USD 950.00  
EUROS 660.00

Item 7.2: Trailers for Sodars

Item 7.2.1: For PA2

For PA2/RASS

USD 3,720.00  
EUROS 2,600.00

USD 13,240.00  
EUROS 9,250.00

Item 7.2.2: For PA5

For PA5/RASS

USD 4,100.00  
EUROS 2,870.00

USD 14,560.00  
EUROS 10,180.00

Item 7.3: Outdoor kit for Sodar electronic case (this kit is needed if the application requires that the electronic case remains outdoors).

USD 2,990.00  
EUROS 2,090.00

Item 7.4: Additional acoustic enclosure for PA0

USD 4,220.00  
EUROS 2,950.00

Item 7.5: Solar power system for PA0 or PA1

USD 4,620.00  
EUROS 3,230.00



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Item 10.5: Wind roses calculation

USD 2,530.00

EUROS 1,770.00

Item 10.6: Range statistics calculation

USD 2,530.00

EUROS 1,770.00

**SODAR MEASURING CAPABILITY SOFTWARE ENHANCEMENTS:**

(Refer to page 13 for curves showing performance enhancements)

Item 11: 6 dB improvement of signal processing.  
This is equivalent to 4-fold the power output. It comes as standard with the PA5.  
(SOD and SON)

USD	8,150.00
EUROS	5,700.00

Item 12: Extended frequency coding.  
It gives a signal processing improvement of up to 10 dB (equivalent to 10-fold the output power). It is standard with the PA5.  
Requires item 11.  
(SOD and SON)

USD	13,570.00
EUROS	9,490.00

Item 13: Further extended frequency coding (up to 15 frequencies). Available only with PA1 and PA5. It gives a signal improvement of up to 9 dB (equivalent to 8-fold the output power).  
Requires items 11 and 12.  
(SOD and SON)

USD	12,670.00
EUROS	8,860.00

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**DATA PROCESSING (REAL AND DELAYED TIME) SOFTWARE OPTIONS :**

Item 15: Sigma w computation  
(SOD and SON)

USD 3,860.00

EUROS 2,700.00

Item 16: Sigma u and Sigma v computation  
(SOD and SON)

USD 3,860.00

EUROS 2,700.00

Item 16 gives a USD 2,200.00 / EUROS 1,540.00 credit on item 17.

Item 17: Sigma theta computation (requires item 15)  
(SOD and SON).

USD 4,870.00

EUROS 3,410.00

Item 18: Automatic temperature inversion/thermocline detection (requires items 15 and 17)  
(SOD and SON).

USD 5,050.00

EUROS 3,530.00

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Item 19: Automatic mixing height/depth calculation (requires items 15, 17)  
(SOD and SON).

USD 4,940.00

EUROS 3,450.00

Item 20: Automatic stability classification (requires items 15, 17 and 18)  
(SOD).

USD 5,820.00

EUROS 4,070.00

Item 21: Reynolds stress calculation (requires items 15, 16, 17 and 18)  
(SOD and SON).

USD 8,810.00

EUROS 6,160.00

Item 22: Turbulent mechanical dissipation rate coefficient calculation  
(SOD and SON)

USD 5,480.00

EUROS 3,830.00

Item 23: Vertical turbulent eddy coefficient calculation (requires items 15,  
21 and 22)  
(SOD and SON).

USD 8,970.00

EUROS 6,270.00

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Item 24: Lapse rate estimation (requires items 15, 17 and 18). This option is available only with REMTECH Doppler Sodars. It is extremely useful for complex terrain modeling.

It gives results, which are less accurate than using a R.A.S.S. and over a shorter range (especially on noisy sites).

Nevertheless, it can be considered as a cost efficient solution considering the difference in price between item 24 and R.A.S.S. (SOD)

USD	17,830.00
EUROS	12,470.00

Item 25: Plume dispersion model (real time):

In case of an accidental release of pollutants in the lower atmosphere, REMTECH offers a real-time software program that runs on the SODAR computer and takes full advantage of SODAR data: JASMINE.

(SOD)

USD	18,550.00
EUROS	12,970.00

Item 26: Software for Wind Shear Calculation according to ICAO Circular 186-AN/122.

The wind shear is calculated as the wind vector change in Knots per 100 feet. It is reported in four classes (light, moderate, strong, severe) for each altitude layer.

USD	6,340.00
EUROS	4,430.00

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**INSTALLATION/TRAINING:**

The Phased Array systems (whether Sodars or Sonars) are so easy to install and use that the user can perform the installation without the assistance of a REMTECH engineer on site. As an alternative, we suggest that the end-users come to REMTECH for a maximum of one or two days to acquire training in the use of the system before it is shipped. This training is free of charge and again, this service is not really needed in most cases.

However, installation and training can take place on a customer's site, if required, at a rate of USD 190.00/ EUROS 130.00 per hour, plus travel and accommodation expenses, which would be invoiced at real cost plus 10 %.

**DISCOUNT POLICY:**

If you purchase 2 to 4 systems, a 5 % discount will be applied to the total configuration price of each system. If the total cost of optional software purchased is over USD 15,730.00/ EUROS 11 000,00, an additional 10 % discount on software alone will apply, with a 20 % discount available on software purchases of over USD 31,460.00/ EUROS 22 000,00 and 30 % if over USD 62,920.00 / EUROS 44,000.00.

In addition special prices are available for OEM, consultants and Universities. Please consult REMTECH.

Special conditions are offered to our past A0 customers.

We have decided to partially apply similar conditions to any owner of a non-Remtech three-dimensional Doppler Sodar. Please contact REMTECH.

**LEASE/PURCHASE CONDITIONS:**

Leasing is available at 10 % of the total configuration price per month, payable at the beginning of each month (this excludes packing, transport, installation, etc. expenses). If the system is purchased at the end of the lease, and then 90 % of the amount already paid will be credited to the total purchase price.

Leasing is restricted to only certain countries. Please consult REMTECH.

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### DELIVERY TIME:

2 to 3 months from the date of receipt of the order for PA0, PA1, PA2, PA5 and RASS.

3 to 4 months from the date of receipt of the order for Sonar.

### GENERAL CONDITIONS OF SALE:

See our document DC 83/107, which can be sent on request.

Prices do not include packing and freight expenses.

### PACKING:

Packing (using high quality wooden cases) is quoted as follows:

PA0	USD 360.00	€ 250,00
PA1	USD 730.00	€ 510,00
PA2	USD 920.00	€ 640,00
PA5	USD 1,630.00	€ 1140,00
RASS	USD 2,360.00	€ 1650,00
SONAR	USD 630.00	€ 440,00

### LIMIT OF VALIDITY OF PRICES:

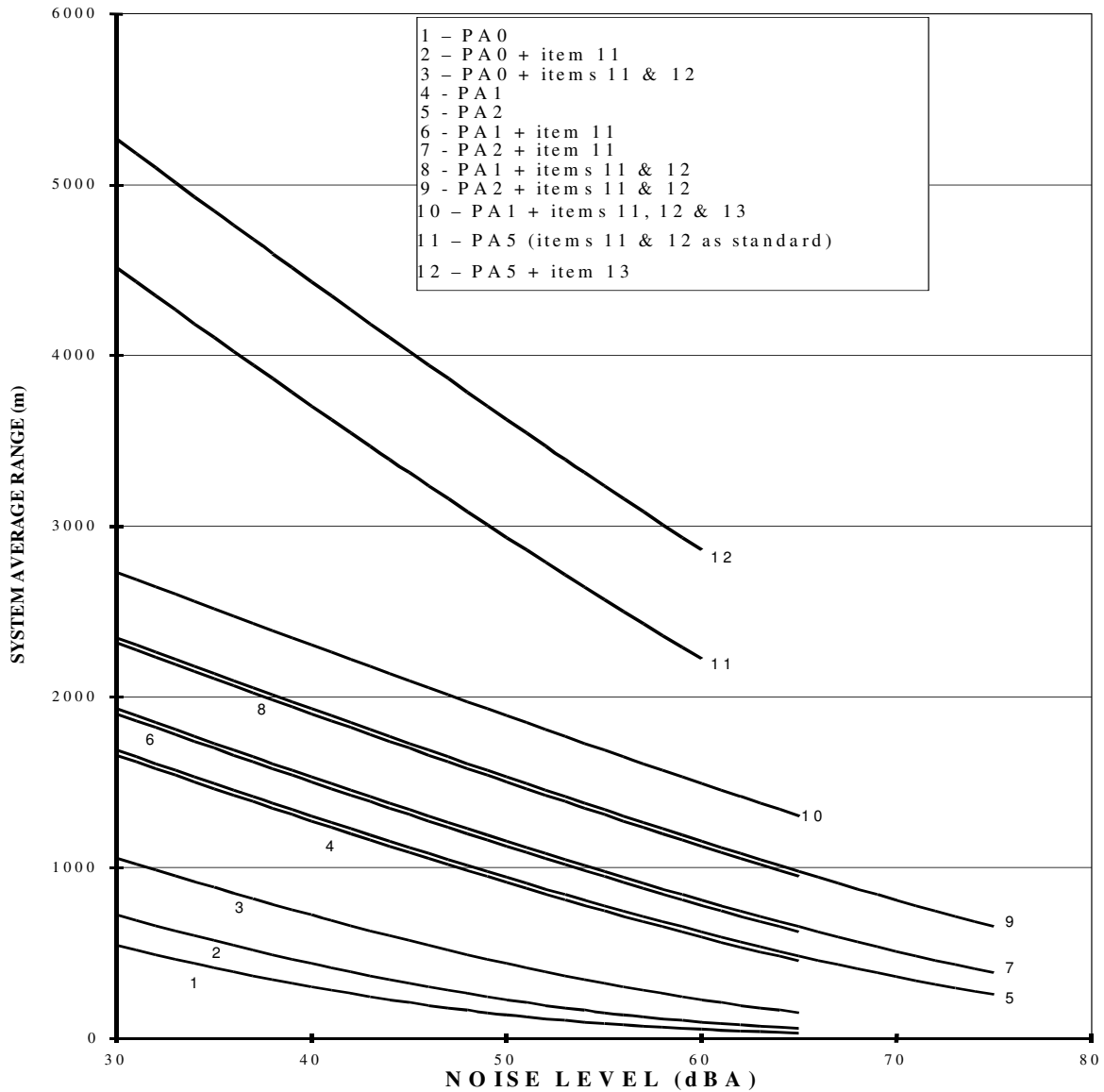
This price list is effective on November 1, 2007. REMTECH may change prices after this date without notice to all list holders.

This price list expires upon issuance of a new price list.

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SODAR PERFORMANCES VERSUS ENVIRONMENTAL NOISE LEVELS  
(WITH SOFTWARE VERSION V 8.17)

The curves below correspond to average altitude range in standard atmospheric conditions (15°C, 70% Humidity) versus ambient noise. Average is defined as reaching or exceeding a given altitude 50% of the time.



Lower frequency used for PA5 allows much higher ranges because the sound roundtrip attenuation is much lower. However the ambient noise is higher at lower frequencies, which explains the lower maximum noise limit when compared to PA1 and PA2.

The PA2 operates at the highest limits of ambient acoustic noise.