

Small(er) is Beautiful

Seiko broadens usage of
handheld language devices.

Have you seen those handheld translators? Ever wondered if anyone had any use for them? Seiko, long known for its success with low-cost high-tech for the masses, is aggressively promoting new pocket translators and language calculators. And this time, the addition of state-of-the-art linguistics, new design, and clever marketing may help these strange birds take flight.

In 1992, the Product Planning Group of Seiko Instruments decided to invest in a state-of-the-art language calculator. The goal was a handheld device with a microphone, into which a person could say a word or phrase in one language, and from which the device would return both an audible and visual representation of the term in the target language. Dubbed the Apollo Project, the device is "almost there" today, according to David Thomasson, Director of Marketing for the Consumer Products Division of Seiko.

Seiko Instruments' Consumer Products Division, based in Torrance, California, is the largest manufacturer of handheld language calculators. The company is headquartered in Tokyo, while most manufacturing is done in China.

The company's goal has always been to provide instant access to information in a small package. The initial target markets were business and recreational travelers. More recently, some educators have begun using them, particularly in teaching English as a Second Language. Seeing

these additional needs, Seiko fitted the early basic models with features like verb conjugation and basic "phrase checking."

Taking to the Airways

With an eye to niche markets, Seiko has exhibited its handheld calculators the last two years at the annual meetings of the International Airline Language Council. This organization was set up to teach languages to airline personnel so that they can better service passengers from around the world. Airline crew and flight attendants, in particular, must be able to communicate with passengers. If airline

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personnel don't speak the language, calculators are one way of making themselves understood. LAN Chile for example, hired 400 new flight attendants last year, none of whom speak English. Yet most of these attendants will end up flying to the US.

The calculator is one means of getting them to start learning English and at least making them understood. Among US airlines, United is working hard to create a bilingual staff. At the very least, flight attendants that don't speak Japanese can use the calculator to make themselves understood. United realizes that to be a world class airline, you need a staff proficient in, or at least familiar with, other languages.

The calculators enjoy increasing popularity with some business travelers who embrace "guerrilla linguistics"—exhibiting just enough knowledge of a language to get by or to make the other side entertain the possibility that you are actually conversant.

Targeting the US Market

In pursuing the US market, Thomasson was surprised at two developments. The market among Hispanics wishing to learn English exploded and sales in this sector exploded. Thomasson recalls a 1992 meeting for managers of retailer Office Depot. Conventional wisdom at that time held that the calculators had limited value outside of niche markets in Florida and California. The meeting marked a turning point, in that managers from other, relatively monolingual, parts of the US felt that there would be strong demand in their stores for the product.

In spite of growing interest, this is no easy sale. Thomasson has been disappointed in

sales of calculators in other languages, for example. Seiko is experiencing what a number of other language vendors are facing: "Americans don't seem much interested in learning another language unless they really have to," noted Jeffrey Norton of Audio-Forum, a leading publisher of foreign-language tapes.

Seiko's sales are in the millions of units and, while it seeks out specific industrial and education niches, it is also a mass marketer. Wal-Mart is its leading sales outlet, followed by Target, Walgreen's and various office superstores.

"We are a marketing and not an engineering company," states Thomasson. Their language calculators have improved in the six years from when the Apollo Project first started, as outside suppliers developed the technology they needed. Seiko's outside suppliers include some of the more notable names in the language business: Berlitz, Berkeley Speech Technologies, Lernout & Hauspie, Systran, and Wizcom of Israel.

Evolution and Engineering

In 1992 early language calculators were crude, slow, and expensive, with limited data-

bases and no verb conjugation. According to Thomasson, "translators can now scan words on a page and translate them instantly using advanced optical character recognition and data-compression technology, allowing the user to carry the equivalent of a 15-pound dictionary in a shirt pocket or purse. And all with much faster access to translations." Seiko estimates that a person can look up the translation of a word 10 times faster by using one of their calculators, than by using a standard dictionary, although a linguist using more specialized resources might look at such claims with some skepticism.

These small devices contain what not so long ago were state-of-the-art computers. Some run on CPUs that are miniaturized versions of what was used in early PCs.

The calculator has four basic components: CPU with program, ROM with data, display, and keyboard. A consumer can actually enter an incorrect verb form like "I am study" and after a moment receive

an answer—a "corrected" English entry and a translation.

Thomasson recalls that their early unit, the TR1, held 25,000 words and sold for US\$70.00. The latest models include vocabularies ranging up to 300,000 word and phrase translations (see feature box). Seiko has unveiled simple Translator models that include only the language-conversion ability. Others add on calculator, datebook, and similar PIN features. Other models include verb inflexion, as well as "talking" output. Their Speaking Translator, the SD4500, has a 100,000-word database and retails for around US\$100.00.

Seiko's most widely acclaimed product, just launched at the Consumer Electronic Show, is Quicktionary. This is a handheld device developed by an Israeli firm and licensed to Seiko.

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Seiko's Quicktionary

Available in French/English (Model QT800) and Spanish/English (QT1000).

How it works

Glide the Quicktionary over a word to scan it. The scanned word appears on the display with related translations, idioms, and phrases. Quicktionary recognizes over 400,000 words and expressions, and can instantly switch from language to language while reading a wide range of fonts of various sizes. Maximum scannable characters: 32.

Display contrast, letter and background color control for easy viewing.

Store and retrieve last 75 words translated.

Screen: 122 x 32 pixel (20 chars x 3 lines).

Scanner resolution: 300 DPI.

Scannable size: 8-14 points.

Scan words up to 2" (5 cm) in length.

Scanning speed: 1.5" (40 mm) per second.

Translation speed: 2-5 seconds.

Battery life approximately 3,000 scans, depending on length of scan.

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Quicktionary scans and automatically displays translations. It contains over 400,000 words and idioms, switches cleanly between source and target languages, and reads multiple font and type sizes. It is available in English, French, German, Dutch, Japanese, Spanish, and Italian. The device apparently got much attention at the CES, not least because of its low price tag: US\$200.00.

The Sharper Image is currently the major outlet for Quicktionary.

Dealing with Language Suppliers

In 1992, when Seiko began its push into the language field, it used the language department at the University of Southern California to provide its database. As the market demanded more sophisticated databases and morphology analysis, it sought out other suppliers. Berlitz not only provided a database, but also name recognition for the Seiko line.

In 1996, Seiko wanted to develop handheld calculators that processed and parsed both words and phrases. It decided to partner with a machine-translation software vendor, and considered Logos, Globalink, and Systran. Systran, located in neighboring La Jolla, California, had the technology Seiko desired. Under a licensing agreement signed by the two, Systran would provide linguistic data

and software for Seiko's handheld translation products. Systran received an initial fee for developing the databases and then royalties based on number of units sold.

For the speaking calculators Seiko initially selected Berkeley Speech Technologies, but as needs grew, began to rely on Lernout & Hauspie's technologies.

In a separate development, Seiko is partnering with Syracuse Language Systems, whose CD-ROM-based language-learning programs Seiko seeks to repackage in a more portable, miniaturized format. □