The Sony 5510: Is It the One and Only Learning Lab for You?

This is the first in a series of exclusive J.E.T.T. surveys showcasing state-of-the-art learning laboratory systems. It is not the intent or aim of J.E.T.T. to "sell" or endorse any of the systems we feature; we wish to present these systems in an informative and factual light.

Life, as we know it, does not offer us a perfect "anything," and that goes for learning laboratory systems as well. None of the systems surveyed did everything all of its endusers wanted it to do, nor were all of the functions—of which the systems are capable—needed or used by every enduser.

It may, indeed, be unreasonable to think that a "perfect" learning laboratory will ever exist; perhaps, not so unreasonable to hope that, if enough educators in the United States communicate their pedagogical goals and needs—which are not necessarily identical to those of others around the world—to manufacturer and distributors of these systems, a more flexible learning laboratory will someday exist, that is to say, a learning laboratory that can be *specifically tailored* to provide what is instructionally valid—no more, no less—for a *particular* learning environment.

Our nationwide poll of distributors, endusers, and dealers of learning laboratory systems shows that with the rekindled interest in the learning of foreign, second, and native languages, sales of state-of-the-art learning laboratories have improved; numerous institutions and organizations are either replacing out-dated equipment, expanding existing facilities, or installing learning laboratories for the first time.

The J.E.T.T. poll was conducted among distributors, endusers, and dealers of the major learning laboratories available in the U.S. market. In preparation of our poll, we developed three survey instruments—a distributor questionnaire, a dealer questionnaire, and an enduser questionnaire—together with corresponding cover letters explaining the purpose and intent of the survey, namely, to inform our readers about the major learning laboratory systems in a feature article dedicated to each system in that survey.

All three questionnaires were purposely descriptive, that is, oriented toward the elicitation of factual data and not toward analyzation of causes and effects.

We began our poll by sending a questionnaire with cover letter to the distributors of the major laboratory systems. Some of the best-selling state-of-the-art learning labs are manufactured by foreign companies overseas and distributed by a national U.S. distributor.

The questionnaire was addressed to the appropriate presidents or authorized representatives of the companies involved. In our cover letter, we asked for the following: 1) a list of all U.S. installations where the latest model of the lab was operational; and, 2) a list of authorized dealers who service and/or install the equipment across the country.

As soon as we received enduser and dealer lists, we sent out the appropriate question-

naires. At an enduser installation closest to us in proximity, we arranged for a "hands on" demonstration of the equipment by the endusers who use the equipment on a regular basis and have done so for more than four months.

The information in each learning laboratory feature is derived entirely from the questionnaires, our "hands on" experiences with the equipment, and our background research.

The J.E.T.T. poll is limited to the United States of America; not included in this poll are distributors, dealers, and endusers outside the U.S.

Endusers completing our questionnaires—unlike distributors and dealers—often attached letters cautioning J.E.T.T. readers not to assume that the learning laboratory they had picked as the best was necessarily the best system for everyone.

Said one enduser, "When we were trying to pick the best learning lab for our program, I was reminded of something the president of Cornell used to say about trying to decide what is best for you: 'Picking the best is more like identifying a future spouse than picking a stock for investment. When you encounter the one for you, you'll know it.' " But, like a spouse, we might add, your 'pick' of a learning laboratory is very likely to be one you and others will have to 'live with' for some time to come. It would seem to be the better part of valor and virtue not to 'rush into it.'

How do the majority of prospective endusers go about preparing themselves to 'encounter' the right lab for them?

Theoretically, a person could buy a state-of-the-art learning laboratory sight unseen. Although theoretically possible, such an approach is a highly unlikely one for today's educational professionals involved in learning laboratory selection; any learning laboratory system on the market represents a substantial monetary investment. Schools and organizations in the market for such systems usually require well-documented justification for purchasing one system as opposed to another.

According to the J.E.T.T. poll, most endusers surveyed first learned about available learning lab systems from exhibitors' displays at the major national educational conferences and conventions. Often, all major learning laboratory manufacturers or distributors have abbreviated versions of the equipment on display, together with brochures and literature "selling" their labs as the best choice for today's education, training, and learning.

When a prospective buyer picks up a learning lab brochure at such a conference display, he or she may discover what one enduser found: ". . . at the end of the brochure was the eager and willing hand of the lab sales rep who seemed overly anxious, more than willing and able, to hand out glittering generalities about what his lab could do, incredible negative claims about all the things the competition could not do, and, to top it all off, he gave the most fascinating, whiz-bang demonstration of the equipment . . . it all went by me so fast that all I remember is the glitz and glitter of little diodes that went blinkideeblink with the lights . . ."

Anyone who expresses interest in learning laboratories at such conferences will, in all likelihood, receive follow-up correspondence, follow-up literature, follow-up phone calls, and even follow-up visits from the authorized dealers of the various systems or the manufacturers' representatives.

As one interested prospective enduser learned: "The learning lab business is very competitive, often intensely "hard" sell . . . it is easy to fall for the hard sell and end up missing the facts about *if* and *how* the equipment will meet the learning goals of a particular program or curriculum . . . . my advice to anyone in the market for a learning lab? Guard against the hard sell by asking the hard, tough questions that will give you all the 'facts' you need to help you decide if the lab will do everything your learning objectives demand. . ."

Giving our readers information that is useful in asking the "hard" questions about how a particular learning laboratory meets specific

learning objectives is the overriding purpose of the J.E.T.T. learning laboratory features.

To do that, we begin each of our features by examining the company line, that is, the system's literature; secondly, we look at what the distributor claims; and, finally, we share with you what authorized dealers and endusers say about the learning laboratory of their choice.

However, before we begin, the editors of J.E.T.T. gratefully acknowledge everyone who provided us with information, especially the many endusers who gave so generously of their time to let us know about their learning laboratory. Without all of you, this survey would have been impossible.

Since the purpose of this survey is not to identify all of you by name, we shall not name and line all of you up like little ducks in a row. After all, you know who you are, and we know to whom we owe a debt of gratitude.

The Sony LLC-5510 Intermedia System

The name itself—S-O-N-Y—brings to mind an array of professional, industrial, and consumer electronics, not to mention the now-famous "Sony—the One and Only" advertising slogan. Sony enjoys a high level of 'name' recognition, and even people who know nothing about learning laboratories when asked "Does Sony manufacture a learning lab?" almost always guess "Yes."

No enduser in our survey—when he or she began looking at the Sony learning laboratory—was given an invitation and airline ticket to Tokyo to begin the selection process at Sony headquarters; instead, for most endusers, familiarization with the Sony lab included looking at the Sony LLC-5510 System Brochure, a slick, seventeen page, public relations piece.

The brochure receives high marks for its design, layout, photography, graphics, and information-rich description of what Sony calls its "LLC-5510 System, Sony's new computer-controlled Intermedia System—evolutionary control console with CRT Touch Switch Function."

The picture on the brochure's cover shows a unique console configuration among learning laboratories (See the Sony advertisement in this issue): a dressed up cathode ray tube (CRT) display touch screen which "requires only the touch of a finger at the appropriate location on the CRT screen. . . ."

Overall, few people who have seen the console can deny that the LLC-5510 configuration makes for a sleek, uncluttered, and spacious teacher control station—as, indeed, the brochure claims.

In the brochure, Sony reminds the reader that "its wealth of technology and know-how have gone into creating the superior LLC-5510 Language Learning System."

Futhermore, in letters larger than the text, the brochure states that "thanks to sophisticated modern computer technology, Sony brings to life the concept of the ideal classroom." Perhaps, in a future issue of J.E.T.T., we could discuss what does and does not constitute the "ideal" classroom in American education of the 1980's and beyond.

The control console of Sony's "ideal classroom" is divided into two well-defined and distinctive rectangles: The CRT touch screen and the Main Function Switches.

"The frequently used switches are conveniently located," states the brochure, "at the right of the CRT screen." When touched, the main function switches activate the following functions or operations: transfer, instruct, analyze, edit, line select, video monitor, audio level meter, instructor mic level adjusting switch, room speaker level adjusting switch, headphone/speaker adjusting switch, intercom switch, manual scan monitor, All Call switch, and Print Out switch for the thermal printer.

The CRT screen and the function switches work together. Touching the Transfer Func-

tion Switch brings up on the CRT the Transfer Screen. The Transfer Screen shows "the positioning of the display touch switches for all student seats, the master tape recorder control buttons, and the program material channel select buttons and so on. This screen is used mainly to distribute program materials." All the operations—and only those—having to do with the distribution of up to four separate programs to up to four separate groups are displayed in the Transfer Screen, that is, "only necessary operations are displayed on the CRT screen . . . and with the touch of a finger . . . can be set into action."

A fast copy function "lets you copy tapes at 4 times normal speed. Select the 4 times normal speed or the standard speed when copying from the master recorder to the student recorder, or from the master recorder-1 to the master recorder-2."

The brochure notes, however, that "the fast copy function can only be done when the system configuration consists of the LLC-5510 (console), ER-5062 (master recorder model) and ER-5060 (student recorder model) units." Sony also configures the LLC-5510 with ER-5052 master recorders and ER-5030 student recorders, neither of which has the 4 times fast copy capability.

The master recorders at the LLC-5510 console have no visible, physical control buttons on them, and they are paired or twin mechanism units; the control buttons appear on the CRT whenever a function screen contains operations involving their use. The master recorders not only look different than the student carrel recorders, they also differ electronically and, therefore, are not interchangeable.

Touching the Instruct Function Switch brings up one of two possible CRT screens which provide all the operations in the "various monitoring patterns of student practice and intercommunication for intensive instruction of random paired or grouped students." As is the case with all the various screens, here, too, all the switches necessary appear in various colors and configurations on the CRT screen.

Touching the Analyze Function Switch brings up one of two possible screens which, "in addition to the conventional analyzing functions . . . features an 'A-A' or audio-active mode for language learning. Questions are directed from the master tape recorder to the students' headsets, to be answered by pressing one of five buttons, numbered from one to five." The touch pad on each student recorder—which is the location of the touch control switches for machine operation—doubles as a 1-5 button selector in the analyze or testing mode.

In the Analyzer Set-up, statistics about the test and the group being tested can be made to come up on the CRT screen, sent out to a video classroom monitor, or printed out by the thermal printer for a hardcopy record.

Statistics displayed or printed out include response ratio, answer distribution, student's score/rank, student/problem table, answer table, response curve, and response ratio/time.

Touching the Edit Function brings up one of two edit screens. The Edit Screen (Program) is used to "make evaluation, record tapes of students, cue signals for high-speed program search, and insert pauses."

High-speed search allows fast and accurate location of tape programs. According to the brochure, "to locate the beginning of desired program material . . . Sony has developed a new computer-controlled 'High-Speed Search' function. By placing an absolute address on the tape, that point can be quickly and automatically located at the touch of a button. Tape counter numbers are automatically recorded as addresses and, in playback mode, these addresses are displayed to allow rapid retrieval of necessary portions of the tape."

The Edit Screen (Copy) is used when "tape copying is required between master recorders." It is possible to copy at normal and 4 times normal speed from master tape re-

corder-1 to master tape recorder-2 by touching the 4x copy position on the CRT Edit (Copy) Screen. Copy capabilities between master tape recorder-3 and master tape recorder-4 (which are not standard with the LLC-5510 but are available) is possible at normal speed only.

Touching the Line Select Function Switch brings up the Line Select Screen which "is used for audio and video line inputs/outputs selection and for audio level adjustment via six audio inputs to four audio outputs or via two video inputs to two video outputs. Video programs can be monitored on the CRT display (in NTSC systems only.)"

The brochure goes on to note that "monitoring of video software on the display using the Video Monitor Switch is possible in areas using the NTSC TV standard . . . in PAL system areas, composite video signals cannot be monitored on the CRT display." To monitor PAL or video signals of other video standards, press the Video Monitor switch. For standards other than NTSC, an optional multi-standard monitor is needed.

The LLC-5510 has one twin-pin jack (600 ohms) headset microphone input and one standard jack (600 ohms) microphone input (both −60dB); it has four master recorder 12-pin (120k ohms) inputs (all −5dB); and 48 12-pin connector (300 ohms) monitor/intercom inputs (all at 0 dB).

The LLC-5510 has one twin-pin (8 ohms) headphone output (−19dB), 48 12-pin (47 ohms) intercom outputs, 48 12-pin (250 ohms) program outputs (0 dB), five (1k ohm) recording outputs (−5dB), 1 built-in (8 ohm) monitor speaker (0.5W), and two room speaker terminals (8 ohm, 5W each).

The frequency response of the LLC-5510 ranges from 100-10,000 Hz (+0, −3dB) for program, 100-7,000 Hz for intercom, and the signal-to-noise ratio is 42 dB.

The power requirements of the LLC-5510 are AC 110-120, 220-240V, 50/60 Hz; its power consumption is quoted at 550W.

The assembled dimensions (The LLC-5510 in its LD-5510 desk) are 47¼ × 35½ × 31½ inches; it weighs about 227 pounds in its assembled dimensions.

The Sony LLC-5510 control console with its CRT touch screen and main function switches comes with peripheral equipment designed exclusively to be used with it. It is the peripheral equipment "with detailed Functions . . . that create a superior LLC-5510 System," according to the brochure.

Peripheral Equipment

Master Tape Recorder (MTR) ER-5052 is of compact design with a built-in 8-bit Control Processing Unit (CPU) and a twin-mechanism master recorder. This master recorder, "together with the control console . . . enables you to use a high-speed search to find the desired program, as well as program editing and recording of student's practice and evaluation of students. . . ."

The sibling MTR, ER-5062, is "a one chip CPU incorporated master recorder . . . enabling the instructor to create four-track material tapes with automatic editing function and fast copy function (4 times normal speed) . . . some of the ER-5062's advanced features include a high-speed search function that finds the desired materials quickly and easily."

The student carrel tape recorders designed exclusively for the LLC-5510 system are the ER-5030 series, and the ER-5060 or fast copy student tape recorders.

The ER-5030 student recorder is a "single-chip CPU developed especially for educational applications . . . special functions like the sentence repeating function and the ANALYZE answering function make for effective language lessons."

The ER-5060 student recorder does what the ER-5030 cannot do, namely, fast copy at 4 times normal speed, and it offers students a two-sentence repeat and a program select.

Both the master deck series and the student deck series are 4-track, 2-channel systems

with one record/playback and one erase head each. The master decks weigh about eleven and three-quarter pounds each, and the student decks weigh about five pounds.

The frequency response range is approximately 50-10,000 Hz for all recorders, and the signal-to-noise ratio is 40 dB on the student recorders and 42 dB on the master recorders.

Overall dimensions of the master recorders is 12½ × 6⅝ × 5⅝ inches; for the student recorders the dimensions are 11⅞ × 4¾ × 5⅝ inches.

The RN-550 Thermal Printer with its built-in CPU is a peripheral dot printer designed exclusively for the LLC-5510 system. The semi-graphic print-out system makes hard copies of data displayed on the CRT screen. The print configuration of the RN-550 is character, 5 × 7 dot matrix, 280 dots/line with a printing width of 40 columns. The characters consist of numerals, alphabet, special characters, and kana characters. Approximately 8⅜ × 5½ × 9⅛ inches, the RN-550 weighs about eight and a half pounds.

In addition to the peripherals, Sony offers accessories or optional equipment for a more complete system.

Optional Accessories

Headset: The HS-95 headset uses an electret condenser microphone and is designed specifically for use with this system. Field repairable, in pastel colors to match the system's color scheme, the headset weighs about 7 ounces.

Visual Display System (VID): The VID, together with the VID-5020 projection stand, simplifies the "televising of photographs, charts, diagrams, opaque materials, transparencies, and slides. Two separate reflector lamps insure a sharp, clear image even under normal room lighting conditions. They are movable and may be adjusted for optimum shading and contrast.

The high-resolution CCD color camera provides . . . color definition. The zoom lens with six times magnification allows even small type in a dictionary to be projected with . . . clarity . . . The VID-5020 includes provisions for the Ektagraphic slide projector. The projected slides may be superimposed with letters, diagrams, numbers or symbols . . . when not in use, the projector shelf is hinged to fold up into a closed position."

LD-550 Desk Assembly: This assembly is coordinated with the console unit and allows for storage of peripheral equipment such as a TV monitor, VCR, etc.

PTU-5 Power Supply: This power unit is an exclusively designed component for the LLC-5510 system. A single unit provides sufficient power for 48 student recorders. For 64 student positions, a second PTU-5 is required as well as the LU-664 student expansion unit.

Video Tape Recorders: Sony offers U-Matic video tape recorders VO 5630—the multi-standard unit—and the VO 5600—the American NTSC standard unit—for incorporation into the LLC-5510 system.

Color Video Monitors: Sony has four, three in the multi-standard format and one in NTSC. The NTSC video monitor is the 20" PVM-1910; the multi-standard color video monitors are the 20" PVM-2020QM, the 13" PVM-1371QM and the 13" PVM-1271Q. The PVM-1910 and the PVM-1271Q are AC 120V; the other two are AC 220V.

CAX-50 Computer Adapter: Developed by Sony's U.S. distributor, Educational Electronics Corporation (EEC), this interface is for use with the Sony series 5000 recorders, and "adapts Sony audio cassette recorders to most microcomputers, providing random access audio, allowing unrestricted branching for feedback and reinforcement, and translates commands from the computer and controls the cassette recorder functions. . . . It can also command the recorder to GOTO a specific audio segment, play it, and when finished, stop. After listening to the audio passage, the student may be presented with a question on the CRT. Based on his response,

which is input through the keyboard, the recorder can be instructed to repeat a segment, go to the next one or skip ahead. . . . The CAX-50 receives signals from an electronic circuit in the Sony recorder which translates into tape position . . . the instructional program is originated by entering . . . commands in BASIC or any authoring system program compatible with the microcomputer."

Although the literature is helpful, it is incomplete. When the literature raises a question which is not clearly answered in the neatly arranged paragraphs, the reader cannot ask the page for clarification and hear the page respond, "Well, it's like this. . . ."

Such being the case, we contacted the national distributor for the Sony LLC-5510, Educational Electronics Corporation, P.O. Box 339, Inglewood, California 90306-0339, and sent a questionnaire designed to answer questions the literature raises.

Our distributor questionnaire to EEC was completed by Bernard C. Keach, Sr., President of EEC. Here's how Mr. Keach answered our questions about the LLC-5510 learning laboratory.

Q.: *What generation of this laboratory system is currently available for purchase?*

A.: Second

Q.: *Is the lab produced domestically or imported from overseas?*

A.: Imported

Q.: *In order to purchase this lab, must a customer go through an authorized dealer or can the lab be ordered directly from the manufacturer?*

A.: Either, but suggest dealer for local support and service. We support dealer.

Q.: *How many years has this manufacturer been manufacturing learning laboratory systems?*

A.: 25 years

Q.: *In what part of the world can most learning laboratories of this current model be found?*

A.: Japan

Q.: *In what part of the U.S. are the greatest number of this current version of the lab to be found?*

A.: OK, West Coast

Q.: *What one feature of this lab is its greatest selling point?*

A.: Color coded touch screen. System has no mechanical operating switches. Microcomputer controlled, using a floppy disk to load the desired program.

Q.: *In terms of number of student positions, what is the capacity of one console?*

A.: 64, 80 special orders

Q.: *How many different program sources can be transmitted at once to students at normal speed?*

A.: 4 audio, 1 video

Q.: *How many different program sources can be transmitted at once to students at four times normal speed?*

A.: 2

Q.: *List (use one word or phrase) all the separate functions that can be performed by the teacher console. . .*

A.: Monitor, Intercom, All Call, Evaluation, Testing, Analyzing, Program Transfer, AA, Library, Pairing, Grouping, auto and manual scan, model voice, conference, editing, duplicating, dubbing, cue record and search, video control and auto test.

Q.: *Into how many groups can the console divide the student positions at any one time?*

A.: 5

Q.: *Describe the nature of the automatic monitor of student positions?*

A.: Progress through selected group or entire class on set time (1-90 sec) as determined by instructor.

Q.: *In what function(s) is complete remote control of student recorders possible?*

A.: All Call, Group Call, Intercom, Manual Transfer

Q.: *Can the console be operated by two teachers simultaneously, permitting division of the entire student positions into two separate units?*

A.: No

Q.: *Do the console source (master) cassette decks have "real" time counters?*

A.: No, they have ANSI standard 2x counters.

Q.: *Is it possible to copy audio between and among all program sources at normal and 4x speed?*

A.: 4 machines at normal; two of them at 4x

Q.: *Does the console permit "live" testing in which an instructor asks the questions and then sets the student machines into record, thereby recording only the student answer on the master track?*

A.: Yes

Q.: *Describe the console in terms of its electronics. . .*

A.: Highly advanced computerized design, software driven, floppy disk loaded.

Q.: *If something goes wrong with the console—other than power supply failure—can the student decks be put into library—even if they were not in library prior to console collapse—and will they continue to function independently of the collapsed console?*

A.: Yes

Q.: *Is your laboratory system designed specifically for classroom learning or independent learning?*

A.: Either one

Q.: *What feature of your lab makes it unlike any other system on the market?*

A.: Touch screen-software driven, no mechanical switches or knobs.

Q.: *List and describe in detail all the optional and peripheral equipment available with your laboratory. . .*

A.: Printer, keyboard, second disk drive, video switching, video disk, etc.

Q.: *How many power supplies are standard with your laboratory system?*

A.: One for decks, one for console

Q.: *Describe every source jack on the console. . .*

A.: 4 audio, 2 video, 1 headset

Q.: *Describe in detail the microprocessor that runs the console. . .*

A.: Z80 x 3

Q.: *List and describe all the functions of the student deck. . .*

A.: Play, FF, Rewind, Repeat, Recap, Stop, Drill, master record (optional) answer selection 1-5

Q.: *What feature(s) does your student deck have that make it unlike any other available on the market?*

A.: Sheet switches, no head to tape contact in repeat. Act as responders in analyze mode.

Q.: *Are your decks designed specifically to be rack-mounted for remote control or are they designed to be mounted in carrels only?*

A.: Carrels only.

Q.: *Do you manufacture a line of carrel furniture to house your laboratory—both console and student decks?*

A.: Decks—no; console—yes

Q.: *Does console cut off all power to any student deck not in use?*

A.: Power to student decks may be turned off by instructor as desired.

Q.: *Do student decks have "real" time counters?*

A.: No, they have ANSI standard 2x counters.

Q.: *If student decks are computer interfaceable, what kind of interface is required?*

A.: CAX-50

Q.: *Describe in detail the visual display capabilities of your lab system. . .*

A.: CRT is integral part of console and displays, in color, all graphics for lab control plus information on programming, testing, functions, student status, etc. Display shows only those controls required at that particular time thereby simplifying operation. This display is a high resolution RGB. Additionally, the console has built-in video switching so the CRT may display standard NTSC television signals. The CRT is basically a Sony PVM series monitor.

Q.: *What is the signal-to-noise ratio of the student decks?*

A.: 45 dB using Sony standard, higher or lower values depend on measurement

Q.: *What are the power requirements of the student decks?*

A.: ±19V

Q.: *What is the recording bias of the student decks?*

A.: 159 KHz

Q.: *Describe the tape transport of the student deck. . .*

A.: 2 motor-2 solenoid Sony mechadeck design is used in several Sony models. In the past 3-4 years, Sony has built more than 12,000 of these ER-5000 series booth recorders, plus as many or more of other models.

Q.: *What type of connector does the headset have?*

A.: Dual mini plug

Q.: *What are the headphone and microphone impedances of the headset?*

A.: Headset: 8 ohm. Microphone: 600 ohms

Q.: *What is the sound pressure level of the headset?*

A.: Approximately 106 db

Q.: *What is the frequency range of the headset?*

A.: 88 dB/MW

Q.: *Once the lab system has been purchased, who installs it?*

A.: Dealer or enduser

Q.: *The warranty period for all parts and labor is how long?*

A.: 1 year on parts; 90 days labor; 3 year console circuit board exchange

Q.: *The prospective buyer of this lab deals primarily with an authorized dealer, the manufacturer, or the distributor?*

A.: Authorized dealer

Q.: *How many authorized language laboratory dealers are there for this lab system nationwide?*

A.: Not available

Q.: *An engineer thoroughly familiar with this system is stationed where?*

A.: Inglewood, California

Q.: *How many institutions nationwide are currently using this laboratory system on a daily instructional basis?*

A.: 300 worldwide

Q.: *Is there a nationwide network of dealers conveniently located across the country for this laboratory system?*

A.: Yes

Q.: *What is the name, address, phone number of the "point" person prospective buyers can contact about this laboratory system?*

A.: Bernie Keach, Sr.
Educational Electronics, Corp.
213 North Cedar
Inglewood, California 90301
(213) 677-8167, 671-2636

Distributors, like manufacturers, are primarily concerned with selling their products, and as many of those as possible; were it not so, they would not be profitable businesses. Today's educator will rarely meet the manufacturers of learning laboratories; however, he or she will not only meet but in all likelihood work with the authorize

dealer—when the equipment is considered for purchase, installed, and serviced.

When J.E.T.T. asked Bernard Keach, Sr. of EEC for a list of his authorized dealers for the LLC-5510, he said, "In regard to our dealer list, we would prefer to have any inquiries referred directly to us. We want to be aware of those interested parties so we can be sure the correct person at our dealer is properly servicing the prospective customer . . . we work very closely with our dealers and the customer to assure a satisfactory and reliable Sony installation." In short, we did not receive a dealer list from EEC.

The contact persons at the enduser installations were delighted to give us the names and addresses of their authorized Sony dealers; so, we compiled our own list and sent dealer questionnaires to the names/addresses we had been given.

The response rate of the dealers surveyed was 25%. If we were to speculate why the response rate was so low, a multiple choice test question comes to mind:

Question: Why was the response rate of authorized Sony dealers in the J.E.T.T. LLC-5510 poll only 25%?

1. Upon receiving the questionnaire, dealers called EEC and were told not to return the questionnaire but to get out there and sell labs.
2. Authorized Sony dealers are so busy selling the LLC-5510, they have no time to fill out questionnaires.
3. Authorized Sony dealers are men and women of action, not of words.
4. Authorized Sony LLC-5510 dealers prefer to read electronic schematics instead of questionnaires.
5. All of the above.

Since the dealer is, in a personal sense, the critical part of the product (how does a person relate to a corporate entity such as Sony or EEC?), we thought it would be helpful to our readers to understand more fully the view of the technical point-person "who puts it all together," and who, most likely, would be called upon when the equipment fails to operate. Low dealer response rate notwithstanding, here is how dealers perceive the LLC-5510 system they sell and service.

Q.: *Describe how you view the installation of the LLC-5510. . .*

A.: Very simple to install and set up. All connectors are preassembled and no custom wiring or soldering is required. This results in a clean, uncluttered installation.

Q.: *From a dealer's point of view, what do you like most about the LLC-5510?*

A.: Ease of installation and customer reaction when he or she begins working with the console and discovers its simplicity of operation. The LLC-5510 performs many more functions than our older Sony consoles, yet it is uncluttered and very user-friendly.

Q.: *Describe your relationship with EEC, the national Sony AV distributor?*

A.: I am a dealer under contract with EEC to sell and service Sony audio-visual products. EEC supports its dealers.

Q.: *Describe how you go about selling the LLC-5510 learning lab. . .*

A.: I sell the LLC-5510 by showing customers all aspects of the system. Competing against sellers who spend a lot of time putting down your product is often difficult. I refuse to stoop to their level, even though many buyers accept the negative selling approach. Smart people, it seems to me, don't fall for negative selling, and I'd rather deal with smart people. . .

Q.: *Describe your customers' reaction to the CRT and the 5000 series Sony student recorders. . .*

A.: Usually, they are surprised that the lab is not a computer monster. Their reactions are positive once they discover the console's many capabilities and its simplicity of operation; students seem to react positively to the recorders as well.

Q.: *Why do you think your customers buy the LLC-5510 instead of another lab?*

A.: It takes longer for me to sell a lab today than years ago. The decision to buy today is not a hasty one; some of my customers really look at what's out there . . . it seems to me they buy the LLC-5510 after comparing all the systems available, and then buy the LLC-5510 because they think it is best-suited to their needs.

Endusers of the LLC-5510

Without the views of the endusers, the people at whose door the buck stops, the picture of the LLC-5510 is decidedly incomplete.

Nearly 60% of the LLC-5510 installations surveyed responded to the J.E.T.T. enduser questionnaire. What follows are the survey results from that poll.

U.S. Location of LLC-5510

(State)
Pennsylvania
California
Massachusetts
Indiana
Wisconsin
Connecticut
Washington, D.C.
New Jersey
Oregon
Georgia

The Sony LLC-5510 has been available in Japan much longer than it has in the U.S. market.

According to EEC, most of the installations are in California. For an up-to-date list of LLC-5510 locations, contact Bernie Keach, Sr., EEC, 213 North Cedar, Inglewood, CA 90301.

Other Labs Considered

(Brand)	(% of Endusers)
Tandberg	87%
Revox	50%
EMD	25%
PH-Electronics	13%
Digital	13%
Telex	13%

While they were in the market for learning labs, most installations responding to our survey indicated that the two learning labs most often also considered were the Tandberg IS-10 (which J.E.T.T. will feature in an upcoming issue) and the Studer-Revox laboratory.

Sources of Information*

(Source)	(% of Endusers)
On-site visits to LLC-5510 locations/installations	25%
Demonstrations by vendors at conferences/conventions	75%
Brochures/literature	25%
Recommendations by users	30%
Ads in language journals	35%

*most endusers consulted more than one source

Good choices are based on good data. The respondents in our survey did not confine themselves to a single source of information about the learning laboratories they were considering.

Although most of them saw the lab demonstrated at educational conferences, 25% indicated that a visit to an "operational" lab was not only helpful but necessary.

Said one enduser, "The console and two machines in an exhibit hall is not very realistic."

Number of Student Positions

(Position)	(% of Endusers)
200 or more	13%
100 or more	13%
60 or more	25%
30 or more	25%

Large installations—those with 100 or more student positions—do not exist often and, when they do, they tend to be at large, state universities. Most LLC-5510 installations range from 15-64 positions.

No. of LLC-5510 Consoles

(Console)	(% of Endusers)
1	all
2	25%
3 or more	none

Since the standard LLC-5510—without special order—is up to 64 student positions, large labs have two consoles.

No. of persons using LLC-5510 on daily basis

(Persons)	(% of Endusers)
95-100	13%
150-200	25%
300-600	25%
800-1000+	25%
Varies	13%

Fifty percent of LLC-5510 installations have three hundred or more persons—mostly students—using the system on a daily basis. These facilities are open 8-12 hours per day, five or six days per week.

Series of Student Recorders

(Model)	(% of Endusers)
ER-5030	50%
ER-5060	50%
Both	13%

Although most enduser installations install the same series of student carrel recorders, a small percentage have both: the normal copy ER-5030's and the fast copy ER-5060's.

LLC-5510 User Profile*

(Type)	(% of Endusers)
High school students	13%
College foreign language students	64%
Faculty/teaching assistants	13%
ESL students	13%
High school teachers	13%

*some have several types

Based on our survey, the LLC-5510 is used most often by foreign language learners at the college or university level.

This, undoubtedly, comes as no surprise to Sony. It claims to have built in special features that are particularly applicable to foreign language learning applications, namely, evaluation and analyzation of aural and oral language proficiency, the model voice, and the statistical package that comes with the ANALYZE function screens.

LLC-5510 Installation Date

(Year)	(%)
1985	13%
1986	87%

All installations in the survey are relatively new—most having been installed and operational in 1986. Over 50% of respondents stated, "... we are still learning how to use our LLC-5510...."

Options with LLC-5510

(Type)	(% having it)
Printer	100%
VID (Visual Display System)	25%
Open reel recorder	13%
VCR	13%
Monitors	26%
CAX-50 (computer interface)	25%

Like computers, learning laboratories are unbundled systems with more optional than standard equipment. Even items that seem essential to the enduser are "extra." This is a way to give the consumer what he or she wants; it is also a way to increase the cost of the system.

The RN-550 thermal printer is a peripheral piece of equipment every respondent in our survey did not want to be without. Apparently, hard copy print-outs of the statistics the LLC-5510 can print out are important to the endusers in our survey.

Future expansions*

(Type)	(% who are planning)
Integration of video-vcr's	62%
More video	13%
CAX-50's with micros	37%
CAX-50's	13%

*some plan several types

All endusers in our survey plan to expand their LLC-5510 learning lab systems.

Over 50% of installations surveyed will integrate some type of video capabilities with the system. The small percentage that already has video installed and working, plans to expand and add video.

LLC-5510 Dealer Support and Service

(Type)	(% of Endusers)
Prompt, courteous, efficient	37%
Excellent	50%
Very Good	13%

Of the installations responding to our survey, all of them said they were very pleased with the service and support from their local authorized Sony dealers. There are no discouraging words to be heard about dealers who installed the LLC-5510 at the installations in our survey.

Dealings with EEC, the National Distributor

(Kind)	(% of Endusers)
Supportive, cooperative	13%
Excellent due to local dealer	37%
No problems	13%
Slow to supply dealer	13%
Remote but cordial	13%
Slow to react after the sale	13%

Although very pleased with their local dealers, not every enduser at the installations surveyed was as pleased with the relationship he or she enjoys with Educational Electronics Corporation, the national distributor for Sony Audio-Visual products.

Even the percentage who considered their relationship to be excellent, qualified it by saying that this was due primarily to the local authorized dealer.

Best feature of Headset*

(Feature)	(% of Endusers)
Comfort	25%
Sound quality	62%
Lightweight	13%
Sensitivity	25%

*some valued more than one

The one feature most appreciated and valued about the HS-95 headset is its sound quality.

Endusers valued the clarity of the voice reproduction, especially in their foreign language applications where the "sounds" are critically important for those trying to learn a language.

Which is more important to you, the LLC-5510's technical specs or its instructional functions?

(Type)	(% of Endusers)
Instructional	62%
Technical	13%
Both	25%

Although not easy to separate in terms of importance, most of the endusers who responded to our survey considered the instructional functions of the LLC-5510 to be more important than the technical specifications.

If you could send a 'wish' list to Sony about the LLC-5510, what would you wish for?

(Wish)	(% Endusers)
In-house modification of control software	25%
Faster than 4x copy speed	25%
Conference button function similar to all call	13%
Library could be set aside and 'locked' during other functions	25%
Digital tape search for master tape	13%
Does more than anyone needs	25%
Cassette lid locks	13%

*some had more than one wish

Wishes about the LLC-5510 ranged from wanting access to source codes for the control software, "... so that I could modify it myself with 2-80 assembly language..." to a wish that the student recorders had lid locks.

With regard to the lid locks... a customized lid lock system can be installed in the LLC-5510 system student decks.

The editors of J.E.T.T. recommend that if a prospective enduser wants lid locks for the Sony student recorder, he or she contact EEC. Contact the editor of J.E.T.T. for information about installations that have the customized lid lock system in place and operational.

Outstanding LLC-5510 Features

(Feature)	(% of Endusers)
Software controlled can be changed	37%
Video capabilities	25%
Computer compatibility	13%
Wide range of functions	25%
Expandability	13%
Compatible w/existing equipment	13%

What did endusers consider to be the features that were most impressive about the LLC-5510? Two features—software controlled and wide range of functions—impressed over 50% of enduser installations responding to our poll.

A most impressive feature by itself, the video capability of the system stands out as an important consideration among endusers of the LLC-5510. It appears video in learning is becoming a force in education and training.

Student Reaction to the LLC-5510

(Type)	(% of Installations)
Overwhelmingly positive	25%
Like it	25%
Good	25%
Enthusiastic	13%
Praise it	13%

Endusers responding to our survey report that student or learner reaction to the LLC-5510 system at their installations is positive.

A part of this positive reaction is due to the fact that in over 50% of the installations, students compared it to the learning laboratory they had used prior to the LLC-5510.

Most-often used LLC-5510 Function

(Type)	(% of Endusers)
Library	50%
Transfer	37%
Monitor	25%
Audio-Active (AA)	13%

In the J.E.T.T. poll, we tried to give our readers a sense of what is being done with the LLC-5510 most often at this time. LIBRARY is it 50% of the time.

Types of LLC-5510 Program Sources

(Type)	(% of Endusers)
4 cassette sources only	25%
2 cassette sources only	25%
2 cassette/open reel	13%
2 cassette/VID/video/VCR	13%
2 cassette/2 VCR's	13%
Reel-to-reel-cassette/video	13%

Judging by the endusers who responded to our poll, the 'audio only' learning laboratory program source may be a thing of the recent past.

More and more endusers are adding other program sources or planning to add them in the near future.

We have known for years that learning occurs more rapidly and retention of what is learned improves as more senses are involved in the learning process.

Instructional Uses of LLC-5510*

(Type)	(% of Endusers)
Oral testing/group conference	25%
Conversation practice	13%
Scanning student practice	25%
Multiple choice testing	13%
Pronunciation practice	13%

*some indicated more than one

Since most respondents indicated that the instructional functions of the LLC-5510 were more important than its technical specifications, we tried to find out to what instructional uses they were putting the system.

The uses that emerged were most-often qualified by "we are still learning and experimenting with the system . . . we will be using other instructional functions in the near future. . . ."

Do teachers find CRT touch screen intimidating?

(Response)	(% of Endusers)
Yes	0%
No	63%
Yes, at first	37%

Much is said about 'computerphobia' or fear of computers. Apparently, teachers at surveyed installations are not phobic about CRT touch screens.

Why was LLC-5510 selected at your institution?*

(Reason)	(% of Endusers)
Flexibility/versatility	75%
Video/audio/computer capabilities	25%
Expandability	13%
Greatest number of options	25%
Lab of the future	13%

*some gave more than one

The most-often given reason by people surveyed for selecting the LLC-5510 is its flexibility. It appears that there is a general feeling that a software based system will not become obsolete.

Said one enduser, "Like my WordPerfect word processing program for which I just received an update allowing me to do more things, I fully expect Sony to do likewise with the LLC-5510."

Who services your LLC-5510?

(Person)	(% of Endusers)
Authorized dealer	87%
We will	13%

It was somewhat surprising to us that a small percentage of enduser installations will service and maintain the LLC-5510 themselves.

Problems with LLC-5510

(Type)	(% of Endusers)
Minor	13%
Major	13%
None	75%

Endusers in our survey were surprisingly candid about any problems with the system. Said one enduser, "The system's terrific; no problems, but ask me in a year or two." We might.

Problems with Headset*

(Type)	(% Endusers)
No way to reduce mic sensitivity	25%
Factory defect in left ear piece (replaced by dealer)	50%
No way to turn off when placed in booth	25%
Color (gets dirty)	13%
No problems	25%

*some had more than one

The HS-95 headset had a factory defect which made it extremely easy to break off the left ear piece.

All of the installations that experienced any type of breakage reported the ear piece problem.

Since it is a factory defect, it is our understanding that the headsets having the defect will be replaced free of charge.

Half of those in our survey reporting the problem also indicated it was quickly solved by the local dealer.

Once the LLC-5510 had been selected, did the proposal go up for bid?

(Response)	(% of Endusers)
Yes	25%
No	75%

The bidding process, a reality for many state and government installations, was not a reality for the majority of LLC-5510 buyers in our survey.

Gordon W. Allport was of the opinion that "if you want to know how people feel, what they experience and what they remember, what their emotions and motives were, and the reasons for acting as they do, why not ask them?"

The J.E.T.T. poll conducted among distributor, endusers, and dealers of the Sony LLC-5510 Intermedia Learning Laboratory System in the United States did exactly that: We asked those who sell and those who have purchased and use the LLC-5510 how they feel about it, what their experiences with it have been, and their reasons for selecting it as their learning laboratory.

The J.E.T.T. survey of the Sony LLC-5510 was not intended nor designed as research to uncover significant interrelationships among phenomena, but rather as a fact-finding approach to uncover data about the status of this particular learning laboratory system in its natural setting, namely, the institutions that are using it in foreign language study, the training of teachers and teaching assistants, and in second language acquisition.

The editors of J.E.T.T. are all too familiar with the advantages and disadvantages of the questionnaire as an adequate source of survey information. We tried to minimize the disadvantages as much as possible.

In posing the questions, we tried to word them as unambiguously as possible, thereby hoping to keep misinterpretation of the questions by the respondents minimal; even under ideal conditions, however, meanings are in people not in words.

We tried to avoid the misinterpretation that often results when people are unable to answer questions; since the questionnaires were all sent to persons equal to the task (they were involved with the selection and are involved with the LLC-5510 on a regular basis), we felt that this type of misinterpretation would not be problematic.

The major disadvantage of the questionnaire—the problem of non-returns—is part of every survey that uses questionnaires. Our return rate of nearly 60% of LLC-5510 installations is considered "good." We would have preferred a 100% return.

While the reasons that underlie non-re-

sponse undoubtedly vary from situation to situation, we assume that non-respondents in our survey are different from the respondents. Remembering the principles of educational testing and measurements, we also conclude that "this difference may have a definite bearing on the validity of the results obtained."

In her article in this issue about authoring systems, Harvard's Judith Frommer makes a point about computers that is worth paraphrasing about state-of-the-art learning laboratories.

Like computers, many educators are fascinated by the technology of learning laboratories and use them without really knowing why; others are traumatized by them and refuse to consider using them in spite of potential benefits.

In both cases the technology is preventing the individual from assessing the pedagogical advantages of learning laboratories. Furthermore, popular approaches to learning laboratories include adapting courses to the capabilities of a given system in order to get the most out of the machines.

If learning laboratories are to serve education, teachers should first analyze their courses and—given the capabilities of the learning laboratory—decide in what way it can help them achieve their pedagogical goals. The teacher's question should not be: What kind of impressive things can this learning laboratory do? but How can this learning laboratory help my students learn more effectively in the context of our learning situation?

We have come full circle. We end our feature with the same question we posed in the beginning: The Sony 5510: Is it the one and only learning lab for you? Our aim has been to provide *you* with useful information to help *you* decide if this system can help *you* achieve your pedagogical goals and objectives. *You* must decide if it can do that, and if it can do it better than any other learning laboratory.

In closing, we paraphrase the philosopher and wonder: Are we educators sitting under a tree dreaming we are manipulating and using machines to do what we want them to do, or are the machines programming and manipulating us in their own image?