JEFFERSON CENTER

FOR EDUCATION AND RESEARCH POB 279 WOLF CREEK OR 97497

English & contacts for other languages:
541-955-9705 jeffctr@internetcds.com

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EQUIPMENT, LOGISTICS & AFFORDABLE STRATEGIES FOR BILINGUAL AND MULTILINGUAL MEETINGS

A BASIC OVERVIEW AND TECHNOLGY RESOURCE GUIDE

A Problem with a Solution

Working across languages is a watershed challenge facing social justice organizing in North America. To build a movement, we need small grassroots groups to easily and affordably convene multilingual meetings as a part of everyday activities. This Bulletin addresses some of the options in the technology and design of multilingual meetings. We also outline a set of unmet challenges in multilingual technology that we believe can best be addressed in a mutual effort. We suggest that with very modest funding a cross-organizational forum could tackle and solve these problems, which are not technologically difficult, but need coordination.

The basics for multilingual meetings

Meeting organizers need to design a situation in which all participating language group are satisfied that their interpretation needs are addressed fairly, given the resources of the organizers. Of the resources required, the most essential is an organizational commitment to a mission that includes working across languages. Other resources:

- *The appropriate technology (if any).*
- *Sufficient knowledge and money to borrow, rent, or buy interpretation/transmission equipment, and to pay interpreters.*
- *Interpreters who are capable of the vocabulary and speed necessary for the occasion.*

This Bulletin is designed to provide a brief look at realistic technological strategies for groups of different sizes and budgets. FM radio and infrared options are described, both low and high cost, through which simultaneous interpretation can be transmitted wirelessly to participants.

A human interpreter is needed in every one of the technologies described in this Bulletin—technology for real-time vocalized computerized interpretation is still years away.

The cost factor is the biggest stumbling block for many small non-profits. Cooperative networks that share databases of interpreters and loan equipment back-and-forth may go a long way to solve this problem. Non-profits, through cooperation, may be able to influence the design and production of affordable technology that meets our needs.

EFFERSON CENTER FOR EDUCATION AND RESEARCH *is a 501(c)(3) non-profit organization providing a multicultural forum for the discussion and nalysis of issues among people seeking a just and democratic future. We focus on topics in the Pacific West that are 1) structural to the economy and culture of the gion, 2) multicultural, 3) gender-inclusive, 4) environmentally sound, and 5) emerging issues of importance to low-income and other marginalized people.*

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MEETING THE NEEDS OF SMALL-BUDGET NON-PROFITS: WHAT'S MISSING? WHAT'S POSSIBLE?

Small social justice non-profits, community-based groups, and nformal networks of people organizing across languages need low-ost, portable, easy-to-use technology for simultaneously interpreted nultilingual meetings.

The technology exists. Easy-to-use and portable options are vailable ready-made from companies such as Gentner, Listen Tech-ologies, and Williams Sound, as well as others (described in the ollowing pages). The limitation? Each of these systems requires a ıajor investment in the range of $ 6,000 and up for a set of trans-ıitters and 50 receivers. In this high-cost range, FM transmitters re the cheapest, and infrared transmitters cost more (although there re other advantages in infrared for certain uses). These costs are ut of reach for most small, or even medium-sized social justice roups.

Worse, we've learned that once single organizations take the sk to buy such equipment, the investment has been so large that the roups won't take the risk of loaning it out, because they can't easily ford to replace individual components if they are broken. This means ıat a strategy to lower costs by shared equipment is nipped in the ıd. Access to multilingual meetings becomes unequal across re-ted movement organizations in the same area.

In some urban areas, and for groups with moderate budgets, the ɔmmercial rental market has responded with options (see page 4). ill, the cost-per-day may run in the $250 and up range, not count-g shipping costs for out-of-town use. This is affordable for occa-ɔnal meetings, but does not meet the test for everyday access.

ut-of-the-public band *vs.* In-the-public-band

The commercially-available ready-to-use FM-based systems, in ıich receivers cost from $81 to $199 each, operate outside the eryday commercial and public FM broadcast band of 88 to 107 :gahertz (MHz). Commercial systems generally transmit just above 16 MHz) and just below (72 Mhz) what we can hear on any FM lio we can buy over the counter. The advantage to this is clear—:re is no interference from other radio transmissions on the same quency, except the unlikely event of another micro-power trans-tter on the same channel within a few hundred yards. The sys-ıs are designed with set channels that don't drift. They are indeed y user-friendly.

Comparatively cheap alternative systems in the public/commer-l FM broadcast band—88-107 MHz—have been pieced together h good results. The Jefferson Center's access to this kind of sys-ı was via the Three Valleys Project in Portland, Oregon; an effort ded by the Rockefeller Foundation. In the mid-1990s, project :ctor Sharif Abdullah and partners in the project were challenged ome up with an affordable system that could promote communi-on among Spanish and English speaking residents of three small ıl Oregon communities. The resulting system (described on page ost $1350 for two small portable transmitter packs, fifty Sony kman radios, and a padded gym bag. Clear, crisp transmission ı the 100 yard or so range. The Jefferson Center purchased one ıese sets in 1997, and has been using it and loaning it out ever e.

The system Three Valleys designed—with the help of a college radio/electronics student—is not quite as user-friendly as the high-cost commercial systems, but (for perspective) takes only about ten or fifteen minutes to set up if instructions are read carefully or some-one who has used the system before is present. The original Sony Walkmans had a thumb-controlled dial (our set still has these) which can be knocked off frequency. One of the Three Valley Project orga-nizations (in Hood River), with assistance from the Three Valleys Project, has since replaced the original radios with a digital FM ra-dio that can be held to frequency with a set-button. This significantly improved quality-of-use for people wearing the headsets.

One of the innovations of the Three Valleys Project was to re-quire the (at-cost) purchasers of any of these public/commercial band sets to loan them out free-of-charge to other non-profit social justice groups. Because each of the components was easily replace-able for a low cost, the risk in loaning equipment was minimal.

And there's the rub...

The portable, battery-operated FM transmitter in the Three Valley's design (enhanced with an soldered-on wire antenna) was cheap and replaceable in the mid-1990s, but is now unavailable. Long story...but it has to do with the decline in using radio transmit-ters to help CD players talk to car radios. An extensive web-search came up with only extremely limited-range transmitters, which trans-mit about five or so feet (about the distance from a car's back seat to a car radio). We've called the FCC, and there doesn't seem to be any problem from their end *as long as there is no interference with licensed broadcast stations*. These are micro-power transmitters. What the FCC considers to be "low-power FM" (LPFM) is far above the power of the micro-transmitters in any of the interpretation-trans-mission systems described in this Bulletin.

The good news is that our community college radio colleagues assure us that not only is the technology for a portable transmitter easy and cheap, but that a set of radio-smart folks could design a more user-friendly FM 88-108 MHz band system in short order.

The problem seems to be whether there's a market, and/or the willingness of any coalition of potential users to cooperate with a willing set of designers.

What would most quickly expand bilingual meetings?

An affordable, non-technical, user-tunable, battery-operated, por-table transmitter in the 88-107 Mhz range would change everything.

How an affordable could be used to expand a movement

We need a system in which each component is individually cheap enough, and readily replaceable over the long term, that each of our groups will be willing to loan out the equipment to other social jus-tice organizations. A cheaply-purchased and easily loaned system could exponentially expand the use of bilingual meetings, and the potential for a powerful social justice movement. (Our low-tech sys-tems are routinely shipped out to groups between Seattle, Washing-ton, and Salinas, California.) Loan systems become even more im-portant when three-or-more language meetings take place, since ev-ery added language requires at least one more transmitter. The Jef-ferson Center borrows additional transmitters from the Three Val-leys network as necessary.

Low cost is essential. The price ceiling for small non-profits and community groups to be willing to buy a 2-transmitter/50 re-ceiver system (around $1500 to $2000) or a 1-transmitter/25 re-ceiver system ($ 950 or so) seems to be about the same as the cut-off point for systems that groups are also willing to loan out.

INTERPRETATION / TRANSMISSION EQUIPMENT

Technology makes it possible for a interpreter to speak into a nicrophone attached to a transmitter that will send his or her voice y radio or infrared waves to any participant wearing a receiver.

All but two of the systems described in this Bulletin transmit adio or infrared waves. The sound is caught by the members of the roup wearing FM or infrared receivers with earphones. Members f the group tune their receivers to the channel transmitting in the nguage they understand.

Receivers may be as simple as an everyday public-band FM dio with earphones, or as high-tech as a stethoscope-style infra-d headset. The interpreter need only speak softly into a sensitive icrophone, which can be adjusted to sit right in front of the mouth. ach participant in the meeting speaks as they normally would, us-g their voice to address the room at large. The interpreters sit in e same room as the participants.

These systems vary greatly in cost, and fall into three catego-s: small, portable, battery-powered FM transmitters; table-top, ig-in FM transmitters; and a variety of infrared transmitters.

FM transmissions travel through walls and can be picked up by yone nearby with a radio tuned to the right frequency.

Infrared is a line-of-sight technology in which all transmissions

within the room where the meeting is taking place. Infrared or -wired systems are preferred by many business users in order sure privacy.

Most comparatively low-cost systems these days work in a wireless environment (one exception is listed on pages 5 & 7), but higher end systems are still hard-wired. At the end of this section, we give brief mention to top-of-the-line wired systems that give each participant their own microphone as well as earphones. Each participant sits in front of a small desk console that is connected by wire to a central system. Many readers will have seen pictures of United Nations delegates using such a system.

Buy, Rent, Borrow?

As the necessity for multilingual meetings has become a more widely accepted reality, options for interpretation-transmission equipment have greatly increased. A balance among the factors of up-front costs, frequency of use, ease-of-use, and sound quality will determine most organization's decisions.

While the Jefferson Center recommends that organizations purchase their own set of equipment—preferably equipment that will be available on loan or very low-cost rent to other groups—the most easy-to-use commercial sound technology is still too expensive for small and mid-sized non-profits. As we will review below, there are some very useable low-cost alternatives. They require more (but not a lot) willingness to spend a few minutes (10-15 minutes) in set-up, and tangling with a few more wires (see page 6).

Buy

For groups that need frequent multilingual meetings as part of their everyday work in social justice, buying equipment—or being part of a small collaborative that cooperatively owns equipment—are the only practical alternatives. Cost is the barrier. We've been informed by radio tech people that there is no technological reason why cheap systems cannot meet the low-cost, easy-to-use, fine sound quality benchmark, except that (so we have been told) manufacturers are not sure there is a market. It may be up to all of us in the social justice community, and our local schools, health centers, etc., to make it clear that we are interested.

Rent

Rental may be the best option for occasional use. The equipment rental industry in many urban areas is beginning to respond to requests from mid-sized and larger non-profits for more-affordable

SUGGESTED "RULES OF THUMB" FOR POTENTIAL BUYERS

hoose a system you can afford over time.

You will need to replace individual components over the years.

You may want to expand the system.

hoose a multi-channel system whenever you have the choice

Optimal interpretation in many meetings requires more than one channel.

ick with systems that are tuned easily by non-technical people

Look for systems with dials, knobs, or buttons!

hen choosing receivers, select ones that have a digital or channel frequency lock if possible

Receivers with dials, such as an average over-the-counter FM radio, work fine if people are careful. However, the ability for e participant to lock a channel or frequency adds considerably to ease-of-use for all participants.

nsider if you will be willing to loan equipment out, or if you will reserve use only for your organization

What are the critical needs in your organzation and your region? What level of simple technical fiddling (changing cable nnectors, setting channels by digital selectors) can your staff accommodate? In terms of your organization's specific role in vement building, is it more effective to buy several cheap-but-less-streamlined systems, or one commerically streamlined out-the-box system?

short-term use. Equipment rentals will often allow groups to utilize high-end equipment that would be prohibitively expensive to purchase. Several equipment rental companies are listed below.

All the following companies operate nationally. Mention of specific companies is not intended as an endorsement, but only as an example of the kinds of places to seek out via the internet or phone book. Key words for further on-line searches can be identified through these websites.

Event Rental Communications, Portland OR www.eventrental.com
800-283-2666 (Wayne Lund—*wayne@eventrental.com*—has an expressed interest in developing low-cost rental accessibility)
Ametron Los Angeles CA www.ametron.com
323-466-4321 (provides several alternatives)
Global Equipment Network www.globalav.com
845-359-9598 (lots of alternatives, might be expensive)
AudioLinks www.audiolinks.com
800-322-0284 (small to mega-scale needs)

Borrow

As mentioned above, loan systems among non-profits are a practical way to expand accessibility to multilingual meetings.

FM SYSTEMS IN THE NON-BROADCAST BAND (72 MHz and 216 MHz ranges)

These commercial systems, used by tour guides, religious institutions, and in "assisted listening" situations, transmit their sound onto FM radio, but not in the "public broadcast band." The public FM radio band is where we pick up our radio stations from our homes or vehicles, between 88 MHz and 108 MHz. Outside of 88-108 MHz is reserved for other uses, which change as technology changes. For now, the 72 MHz and 216 MHz ranges are available for short-transmission uses.

Transmitting in 72 MHz or 216 MHz almost always guarantees low interference since, in most non-profit situations, there is very small chance of someone transmitting or listening nearby on the same channel. One-channel systems may be adequate for groups expecting to have a need only for bilingual (two language) capacity. When more languages are involved, or if bilingual meetings have complicated back-and-forth in both languages that are best handled on two frequencies (see page 8), or if nearby interference is likely —for instance, in a multi-room conference where rooms next to each other are using transmission systems—equipment with multiple transmitting and receiving channels is essential.

The commercial systems listed here are small, most are portable, very easy to use, and the headsets are fairly comfortable. The downside to these systems is cost, especially the cost of receivers, which is where expenses pile up fast. Listed in the adjacent boxes are some of the companies that manufacture these systems. *The companies listed are for informational purposes only, and do not cover the universe of companies that may manufacture similar equipment.*

FM PUBLIC BROADCAST BAND (88-108 MHz)

Small micro-transmitters, sending out a signal in the 25mW (one-quarter Watt) range in the public broadcast band are the most economical options listed in this Bulletin. Transmission is crisp within a meeting room or auditorium, and can offer clear sound that is acceptable for all-day use.

Micro-powered FM broadcast band transmitters are difficult to locate, even though the technology is readily available and cheap, as Dave McKeen of the Electronics Department of Rogue Community College has suggested.

As in all systems in this category, a tunable transmitter is the technical

72 MHz and 216 MHz Commercial Brands

Prices are listed for information and comparison purposes only, and can be expected to change. List prices may differ from dealer offers that include discounts or additional components.

Gentner Communications www.gentner.com
Phone 801-975-7200 or 1-800-945-7730 Fax: 801-977-0087
1825 Research Way Salt Lake City UT 84119

Multi-channel portable battery-operated transmitters
$405 "Venture-Express" (216 MHz)
Multi-channel receivers
$140 "Venture-6" (216 MHz)

Listen Technologies Corporation www.listentech.com
Phone: 801-233-8992 Fax: 801-233-8995
8535 South 700 West, Suite A Sandy UT 84070

Multi-channel portable battery-operated transmitter
$420 LT-700 (72 MHz and 216 MHz)
Multi-channel receivers
$ 89 (LR-300 —72 Mhz channels only)
$ 137 (LR-400 — 72 MHz and 216 MHz)

Williams Sound Corporation www.williamssound.com
Phone 800-328-6190 Fax: 952-943-2252
10399 West 70th Street Eden Prairie MN 55344-3459

Multi-channel, tabletop, plug-in, transmitters
$719 PPA-T20 (their only knob-tunable tabletop)
Multi-channel receivers
$ 127 each PPA-R7-4NA
Single-channel portable battery transmitters
$ 350 PPA-T16
Single-channel receivers
$ 81 PPA-R7

Telex Communications www.telex.com
"SoundMate" products
Phone: 612-887-5550 Fax: 612-884-0043
9600 Aldrich Avenue South Minneapolis MN 55420

Multi-channel tabletop transmitter
$600 ST-200 16 channel 72-75.9MHz
One-channel portable battery-operated transmitter
$505 TW-6 Transmitter
Multi-channel receivers
$232 SR-100 16-channel 72-75.9MHz

Phonic Ear www.phonicear.com
Phone: 800-227-0735 Canada: 800-263-8700
3880 Cypress Drive Petaluma CA 94954

Multi-channel tabletop transmitter
$490 PE 560T requires "tuning tool" (not easy)
One-channel portable battery-operated transmitter
$275 PE 300T
Multi-channel receivers
$199 PE 506R (requires tech to set channel?)

Sennheiser Tour Guide Systems
www. sennheiserusa. com
Phone: 860-434-9190 Fax: 860-434-1759
One Enterprise Drive Old Lyme CT 06371

Multi-channel portable battery-operated transmitter w/mic
$985 SKM 1030-7 (30-45 MHz)
Multi-channel receivers
$ 299 HDE 1030-3 (30-45 MHz)

CHART OF READILY AVAILABLE OPTIONS FOR FM-BASED INTERPRETATION-TRANSMISSION EQUIPMENT

Commercial Systems in the Non-Broadcast FM Band

(Assisted Listening, Tour Guide, or Simultaneous Interpretation Products)

PRICES ARE OFFERED FOR COMPARISON ONLY.
ACTUAL PRICES SUBJECT TO CONSTANT CHANGE AND WILL VARY BY DISTRIBUTOR.

Additional accessories, such as transmitter microphone and receiver earphones/headsets not included in most prices.

Source	Portable/ Batteries	Tabletop/ Plug-in	Single or Multiple Channel	Transmitter *(72MHz unless otherwise noted)*	Receivers *(72MHz unless otherwise noted)*	Single Channel 1 transmitter 25 receivers	Multichannel 1 transmitter 25 receivers	Multichannel 2 transmitters 50 receivers
Gentner	■		**Multiple**	**$ 405**	**$ 140** *(216 MHz)*		**$ 3,905**	**$ 7,810**
Listen Tech	■		**Multiple**	**$ 420**	**$ 89**		**$2,645**	**$ 5290**
Listen Tech	■		**Multiple**	**$ 420** *(72 & 216 MHz)*	**$137** *(72 & 216 MHz)*		**$ 3,845**	**$ 7,690** *(72 & 216 MHz)*
Williams Sound		■	**Multiple**	**$ 719**	**$127**		**$ 3,894**	**$ 7,788**
Williams Sound	■		*Single*	**$ 350**	**$ 81**	**$ 2,375**		
Telex	■		**Multiple**	**$ 505**	**$ 232**		**$ 6,400**	**$ 12,800**
Telex	■		*Multiple trans, Single receiver*	**$ 505**	**$ 85** *(1-channel)*	**$ 2,630**		
Phonic Ear		■	**Multiple**	**$ 650**	**$ 199**		**$ 5,625**	**$ 11,250**
Phonic Ear	■		*Single*	**$ 275**	**$ 108**	**$ 2,975**		
Sennheiser	■		**Multiple**	**$ 985** *(30-45 MHz)*	**$ 299** *(30-45 MHz)*		**$ 8,460**	**$16,920**

Kits for Transmitters in the FM Public Broadcast Band (88-108MHz)

Microphone and receiver earphones/headsets are included in these prices.

Ramsey Electronics (Kit)	■		**Multiple**	**$ 429** *(88-108 MHz)*	**$20** *(88-108 MHz)*		**$ 929**	**$ 1,858**

Portable Battery-Operated "Wired" System for 1 to 3 Listeners

Microphone and receiver earphones/headsets are included in these prices.

Radio Shack "Optimus" 33-1094B	■	*Single Channel*	*Interpreter Unit* **$ 9**	*Listener Headphones* **$ 9**	*Maximum of 3-listeners* **$ 36**	

piece that is hard to find. Headset receivers can be any brand of FM radios with headsets (radios with a digital tuner, and a frequency-set button are the best). Receivers should cost around $20. The Jefferson Center keeps about 50 on hand. The numbers of headsets, and therefore meeting participants, can be infinitely expanded by asking participants to bring their own radios.

Fully assembled FM broadcast band transmitters at or under one Watt do not seem to be available inside the United States. Systems at the one Watt or above range should be used only with caution by technically-experienced users, as they are powerful enough to interfere with licenced broadcast stations for a considerable distance beyond a meeting room (see NOTE on this page). Systems that qualify as "low-power FM" (LPFM), in the 10-to-100 Watt power range, are far too powerful for the purposes described in this Bulletin. "Low-power" transmitters are full-fledged broadcast radio stations.

Several micro-powered transmitter systems are listed here, of which only one is practical for small or medium-sized non-profit use in the public FM broadcast band. It comes as a kit from Ramsey Electronics (see box below).

Tabletop system FM broadcast band

Ramsey Electronics, Inc. www.ramseykits.com
Phone: 800-446-2295 or 716-924-4560
793 Canning Parkway Victor NY 14564

Ramsey provides a wide variety of kits for FM and AM radio transmitters. The FM 100 product has performed well for the Jefferson Center. Ramsey's cheapest kits, the FM10 and FM25, are difficult to tune and sound quality is poor.

The FM100 is a table-top transmitter operating at 25 mW and fully tunable across the 88-108 FM dial. It has digital frequency lock, and excellent sound within an auditorium-sized range. The FM100 requires someone with basic electronics abilities to assemble (community college students have assembled ours). For a fully functional system, a good head-worn microphone and connecting cables are necessary additional purchases.

Using the FM100 as a transmitter, and FM radios as the receivers, is a system not as streamlined to use as the 72MHz and 216MHz commercial packages, but it works just fine. When participants have digital lock radios as opposed to thumb-dial tuners, the satisfaction of the participants is higher. We have used this system for all-day meetings with success. Its affordability has allowed us to loan out units with no qualms.

The weakness: This system is not as physically robust as most hand-held units. Good packing is required for shipping, and reasonable care is required in everyday handling.

FM 100 Super-Pro Synthesized Radio Station Kit
$249 (table-top plug-in power unit)
(A factory-assembled unit is available for export-only at $ 400.)
A good microphone (we use Audio-Technica PRO8H3 $160)
Cable and adapter $20

Transmitter: Total approx cost for Ramsey FM 100, assembled, fully functional w/ added microphone & cable: $ 429

Receivers: Multi-channel receivers (over-the-counter FM radios with headsets, preferably with digital frequency lock):
Around $20 each

NOTE: Anyone using any kind of public broadcast system is legally responsible to make sure that their transmissions are not interfering with licenced broadcast signals. If someone outside the meeting is trying to listen to their rhythm-and-blues station, and they get your bilingual meeting instead, you are operating illegally. Action can be taken against you. These situations can be easily avoided in most areas by making sure that you are transmitting in a "blank" spot on the radio dial.

Hand-held, battery-operated FM broadcast systems

There is no adequate battery-operated, portable, easily tunable, and reasonable-quality sound micro-transmitter currently available on the market in the 88-108 MHz public band. As mentioned several times in this Bulletin, there is a great need to develop an affordable system.

The *Archer Silent Transmitter* (RadioShack–no longer available) was a very good tunable (88 MHz to 93 MHz) option with the slight technical modification of a long flexible covered wire soldered in as an antenna. The Jefferson Center owns two modified Archer transmitters which we have used and loaned out repeatedly since 1997. The full assembly of the transmitting system is somewhat clumsy, requiring a small tape recorder to act as a sound board between the transmitter and our AudioTechnica PRO8HE microphones. This has caused some users familiar with streamlined commercial products to scoff at our cobbled-together system. These transmitter-sets have, however, performed well and faithfully in many meetings where other equipment was simply out of anyone's price range. Our systems were originally assembled by Three Valleys Project in Portland, Oregon, with the explicit intention of creating low-cost accessibility (see page 2).

We have not been able to locate any handheld, tunable transmitter that comes close to the Archer Silent Transmitter. Most micro-transmitters sold over the counter or available on the web are so weak as to be completely unusable. The most frequent product (and one of the only products) we found on the web or in retail stores was the SoundFeeder (about $20; with flexible whip antenna, around $35) (Sound Feeder 120 with optional antenna from Arkon Resources, Inc. 800-841-0884, Arcadia, CA *and other sources, including some retail outlets*). With the add-on antenna, this system sent out a weak signal for about 10 feet with barely adequate sound quality, and about 20 feet (with directional gaps) with extremely poor sound quality. *Things we don't know:* Is such a product possible to upgrade with a soldered-in wire antenna such as was used to modify the Archer Silent Transmitter?

INFRARED TRANSMISSION SYSTEMS

We have no direct experience with infrared, nor were we able to speak with any non-profits that had experience with infrared. The non-profits we contacted use FM radio systems. There are many infrared products on the market, indicating that such systems are used widely. Rental equipment firms usually have infrared technology available, and are a good source for trying out different systems. The set-up is similar to FM systems: the interpreter has either a portable or a base-station transmitter with a microphone, and participants wear receiver headsets. As in FM, one preset or multiple channel transmitters and receivers are available.

Infrared transmission is line-of-sight. Small infrared amplifiers are used in large auditoriums to move sound around pillars and other solid barriers. For use outdoors, specialized daylight infrared technology must be acquired.

The sources we've checked on the web indicate that infrared is at least 20 percent, and often far more expensive than the 72 MHz or 216

MHz systems described in this Bulletin. We've also heard of at least two organizations that started with infrared, and have since changed to FM radio frequency systems.

The advantage of infrared is security of transmission, as well as long-extended battery life in receivers (70 hours or more). Extremely high-end infrared systems (far beyond the price range of small or mid-sized non-profit organizations) are used with regularity in high-stakes business and political situations.

Companies listed in box below manufacture small and medium-size area infrared transmission equipment. They also manufacture and manage advanced technical systems.

Infrared Companies

Brähler www.brahler.com
Königswinter Germany
Phone: 49-0-2244-930-0 Fax: 49-0-2244-930-450
U.S. Partner/Distributor:
Conference Systems, Inc.
www.conferencesystems.com
Phone: 301-330-9090 Fax: 301-330-6901
202 Perry Parkway, Suite #5
Gaithersburg MD 20877
(Subsidiaries in San Francisco and Orlando)

IDB Ltd. www.idb.wales.com
Industrial Development Bangor
Phone: 44 (1248) 382749 Fax: 44 (1248) 372105
Dean Street Bangor Gwynedd
LL57 1UT United Kingdom

Sennheiser www. sennheiserusa. com
Phone: 860-434-9190 Fax: 860-434-1759
One Enterprise Drive Old Lyme CT 06371

Williams Sound Corporation
www.williamssound.com
Phone 800-328-6190 Fax: 952-943-2252
10399 West 70th Street
Eden Prairie MN 55344-3459

'IRED SYSTEMS

ıttery-operated portable hard-wired systems

These small, very cheap units are designed to pro- le audio transmission from one interpreter to one,), or a maximum of three listeners. The listeners are ked in a "daisy chain" fashion: one wire comes from interpreter, and listeners are hooked in with head- ; along the single wire.

These systems provide one-way simultaneous in- ɔretation to the wired individuals, but any partici- ion in the meeting by those individuals must be ıugh sequential/consecutive translation, delivered ally to the room by the interpreter. The microphones adequate; the interpreter needs to speak in a voice that will be clearly audible for a short distance. This has not proved to be a problem: primary-language participants quickly become accustomed to the background buzz of second-language interpretation. We list only one system here, but similar systems are probably available from other retail electronics suppliers.

Cheap 1-3 person portable "wired" system

Radio Shack Retail Outlets
Optimus 3-band equalizer stereo amplified "listener" 33-1094B

Standard-powered, hard-wired high-end conference systems

These professional systems are listed here only to provide a glimpse at the kind of systems utilized when full clarity, fully-interactive, many-language, simultaneous-interpretation systems are a necessity.

These systems provide each delegate with a listening device and a small desktop console including a gooseneck microphone. The systems are chained together with a hard wire, allowing all communications to be contained within the circle of delegates hooked to the wired system. Transmission of interpretation might be wireless, depending on the situation. The individual desktop console microphone has an "on/off" switch to allow side conversations.

These systems can be rented or purchased as small or large systems customized to the needs of the user. The control consoles and the interpreters are generally housed in a separate enclosure in order to not disturb the proceedings.

Major manufacturers of these systems have agents or network providers on every continent of the globe. Although these systems are entirely out of the range of small and medium-budget non-profits to rent or purchase directly, we are curious if there are any public universities or large non-profits that own such equipment, and are willing to allow access at discounted rates. We have no doubt that if such a venue were available in large urban areas or university communities, that it would have important occasional uses for social justice networks, including international meetings or multi-organizational alliances.

Professional Top-of-the-Line Wired Systems

Televic www.televic.com
Phone: 32-2-460 70 80 Fax: 32-2-460 71 28
Panoramastraat 36, 1780 Wemmel, Belgium

Brähler www.brahler.com
Königswinter Germany Phone: 49-0-2244-930-0 Fax: 49-0-2244-930-450
U.S. Partner/Distributor:
Conference Systems, Inc. www.conferencesystems.com
Phone: 301-330-9090 Fax: 301-330-6901
202 Perry Parkway, Suite #5 Gaithersburg MD 20877
(Subsidiaries in San Francisco and Orlando)

WHAT KIND OF MEETING? WHAT KIND OF INTERPRETATION?

A meeting with more than one language requires several design decisions. What kind of interpretation will be made available? How many pieces of equipment (if any) will be necessary?

Multilingual meetings are conducted with either sequential interpretation or simultaneous interpretation.

Sequential (or Consecutive) Interpretation

Sequential interpretation is the original no-technology solution. Each speaker talks for a few sentences, pauses, and waits for the interpreter to translate her or his words to the rest of the group. The method is slow and requires the interpreter to become a focal point of attention, as people typically look directly at the interpreter, not the original speaker, to comprehend what is being said. The nuances of the body language of the original speaker, which is a substantial portion of any of our speech, is diffused or lost.

Although the slowness of sequential interpretation frustrates people, in cases where tensions are high, sequential can help slow the pace. With fair and methodical interpretation, a meeting that could have spun out of hand with back-and-forth accusations can still go well.

If one is not sure of the capabilities of a simultaneous interpreter, or the quality of untested equipment, it is always good to have a back-up plan for a meeting that is intended to be simultaneous, but ends up being sequential.

Simultaneous Interpretation

Simultaneous interpretation allows the interpreter(s) to fade to the background, sometimes literally out of sight. When the interpretation is coming directly into people's headsets, with almost no lag time, participants can look directly at the person who is speaking a language the listener doesn't understand. This allows the listener to comprehend the body language as well as the vocal speech of the person talking.

Monolingual meetings *with one-way simultaneous*

In a monolingual meeting—one that is being conducted almost entirely in one language —simultaneous interpretation can be provided for a small-subset of second-language participants who listen in via one-way simultaneous interpretation through headset receivers. Most participants speak the majority language, and do not have headsets. If any one in the second-language group wants to make a comment, it must be interpreted sequentially, vocally, to the majority language group (see diagram, accompanying page). This arrangement does not allow full and equal participation by people speaking the second language.

This monolingual-with-simultaneous-on-the-side type of meeting may be the pragmatic solution to situations in which, first, there are so many participants who speak the dominant language, that the organizers don't have enough headsets for everyone; or, second, there may be only one or two participants who speak a different language within a large group of participants.

In the first case, this may just be the reality of logistics: not every organization has 100 or more headsets available. When more organizations purchase then loan/borrow equipment, this problem will diminish.

In the second case, when there are only a few people out of a large group, unless the majority language group has a collective commitment to a fully bilingual meeting, any attempts to have a fully simultaneous meeting tend to dissipate. Majority-language people get tired of the unused equipment and remove their headsets. If a second language person begins to speak, it takes a while for all the majority language people to get their equipment back on and adjusted. Although sequential interpretation for the second language is slow, the second-language speakers and listeners alike may prefer to endure a brief interlude of sequential as opposed to the majority group wearing little-used and uncomfortable equipment all day, or the break-in-sequence of the meeting as the majority scramble to put their equipment back on. Of course second-language speakers *are* being asked to wear uncomfortable equipment all day. Acknowledgment of this inequality is usually appreciated.

Bilingual meetings

In a fully bilingual meeting—conducted in two languages—simultaneous interpretation is provided for all speakers, and all participants wear headset receivers tuned to the language they best comprehend. Interpretation is directly from language A to language B or vice versa. For instance, in a Korean-Spanish meeting, when each interpreter is bilingual in both Korean and Spanish, there is virtually no lag time between when a person talks and when their words are interpreted.

With good equipment, and bilingual interpreters, two-language meetings are quite simple to set up. Participants adapt to the equipment easily, even when the meeting is long, because the back-and-forth among participants who normally can't understand one another becomes more important than the slight discomfort of the headsets.

One or two transmitters are necessary. If one interpreter at a time handles interpretation in both directions, interpretation can go out on one frequency. Participants can simply turn off their receivers when a participant is talking in the language they understand, then turn them back on when they need interpretation. In a long meeting, interpretation duties are usually split up; for instance, one person interpreting from Korean to Spanish, and the other interpreting from Spanish to Korean. In this instance, two transmitters work best, each one tuned to a different frequency, and carrying only one language. Participants keep their receivers "on" during the entire meeting, tuned to the frequency carrying their language.

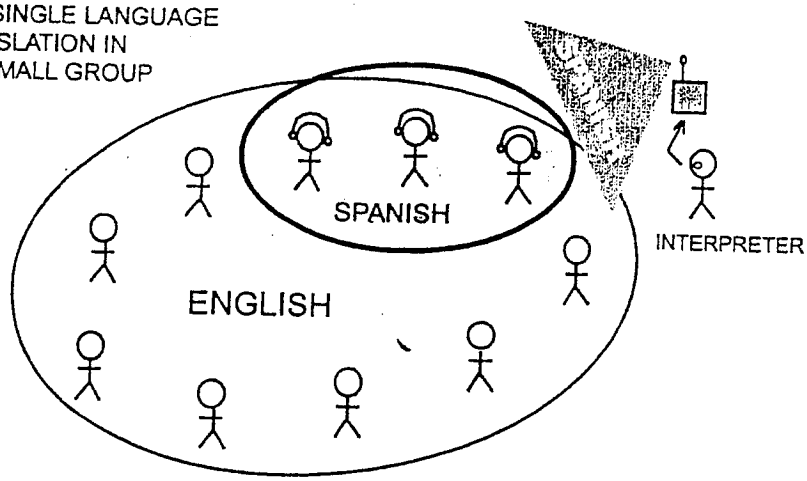
Multilingual meetings with more than two languages

In meetings conducted in three or more languages, logistics become more difficult for small or modest-budget organizations. For instance, a meeting including Arabic, Korean, and English: In a perfect world, there would be tri-lingual Arabic-Korean-English interpreters. In a less perfect world, there would be bilingual speakers in Arabic-Korean, Korean-English, and English-Arabic, a huge budget, and very sophisticated equipment. The United Nations has this capacity. In non-profit reality, there is usually one language that is shared by most interpreters; in this case, let's say it's English. In this instance, one needs at least one Arabic-English interpreter, and one Korean-English interpreter for the most basic arrangements.

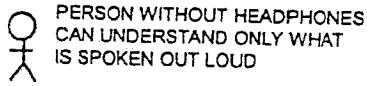
The "checker" *Consider assigning a specific person as the "checker" who will be responsible that equipment is working and on the right channel. The checker makes contact with all participants just before the meeting. During the meeting, the checker watches for participants who look confused or seem to have checked out. Many low-income participants who are reluctant to speak up in meetings will not let organizers know their equipment is malfunctioning unless the checker is paying attention.*

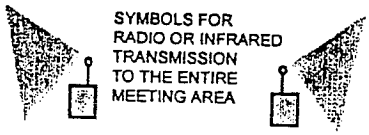
MONOLINGUAL MEETING

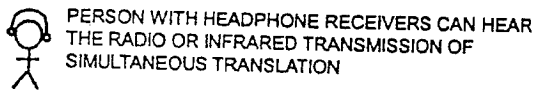
THE MAIN MEETING IS IN A SINGLE LANGUAGE
WITH SIMULTANEOUS TRANSLATION IN
A SECOND LANGUAGE TO SMALL GROUP



- Only a few people who don't understand the main language have headphone receivers
- Spanish speakers can simultaneously understand what English speakers are saying
- If Spanish-speakers wish to say something, the interpreter stops transmitting and interprets sequentially for the English speakers
- English speakers can participate in real time
- **Spanish speakers can only participate with stop-start sequential interpretation**

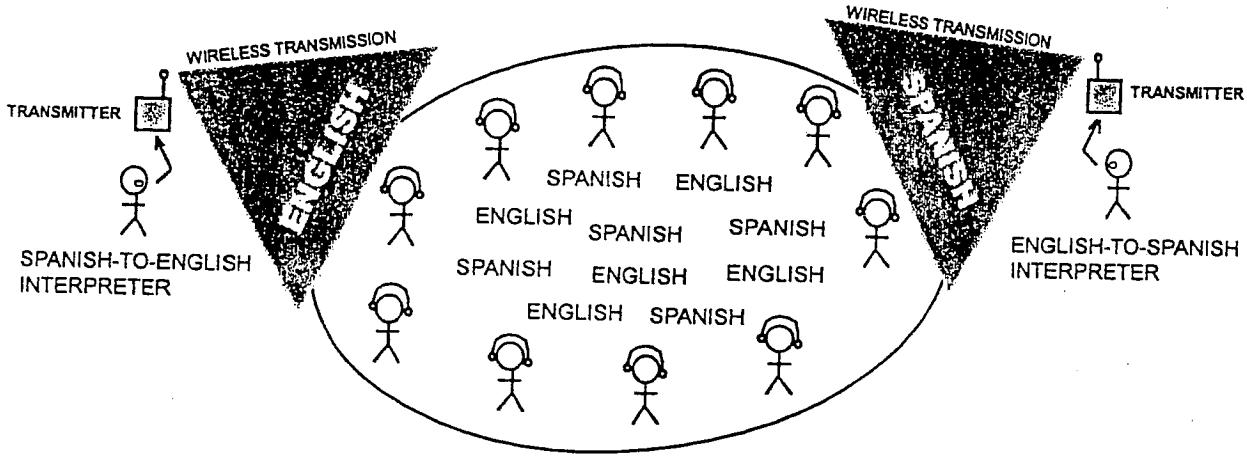




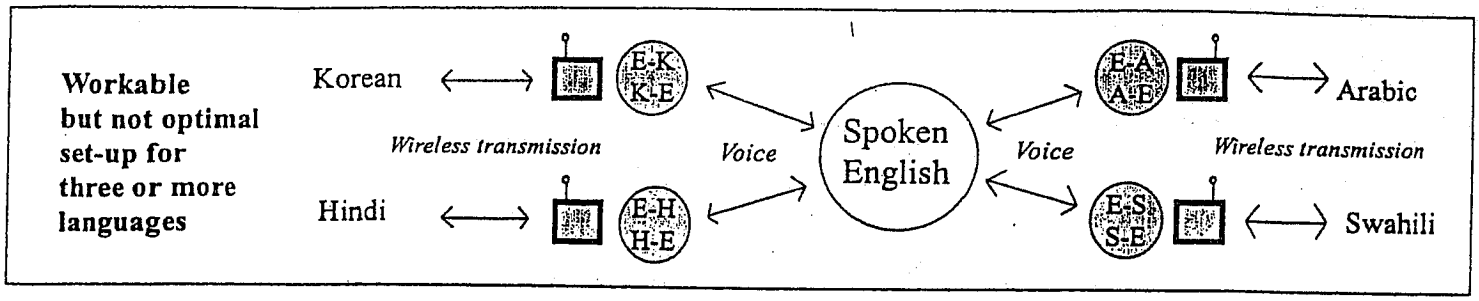


BILINGUAL MEETING

THE MEETING IS CONDUCTED
FREELY IN BOTH LANGUAGES



- The main meeting is conducted in both languages
- Everyone has headphone receivers
- Everyone who speaks will be interpreted simultaneously
- Everyone can listen to the simultaneous interpretation of the language of their choice
- **Everyone can be a part of the real-time conversation**



Two setups are suggested here, using the more economical types of systems outlined in this Bulletin. English becomes the central language. For a Korean speaker to understand an Arabic speaker, Arabic speech will first be interpreted into English, and then from English into Korean. To do this with the least lag-time possible, the English-to-Korean interpreter must be able to hear a clear version of the English that the Arabic-to-English interpreter is saying.

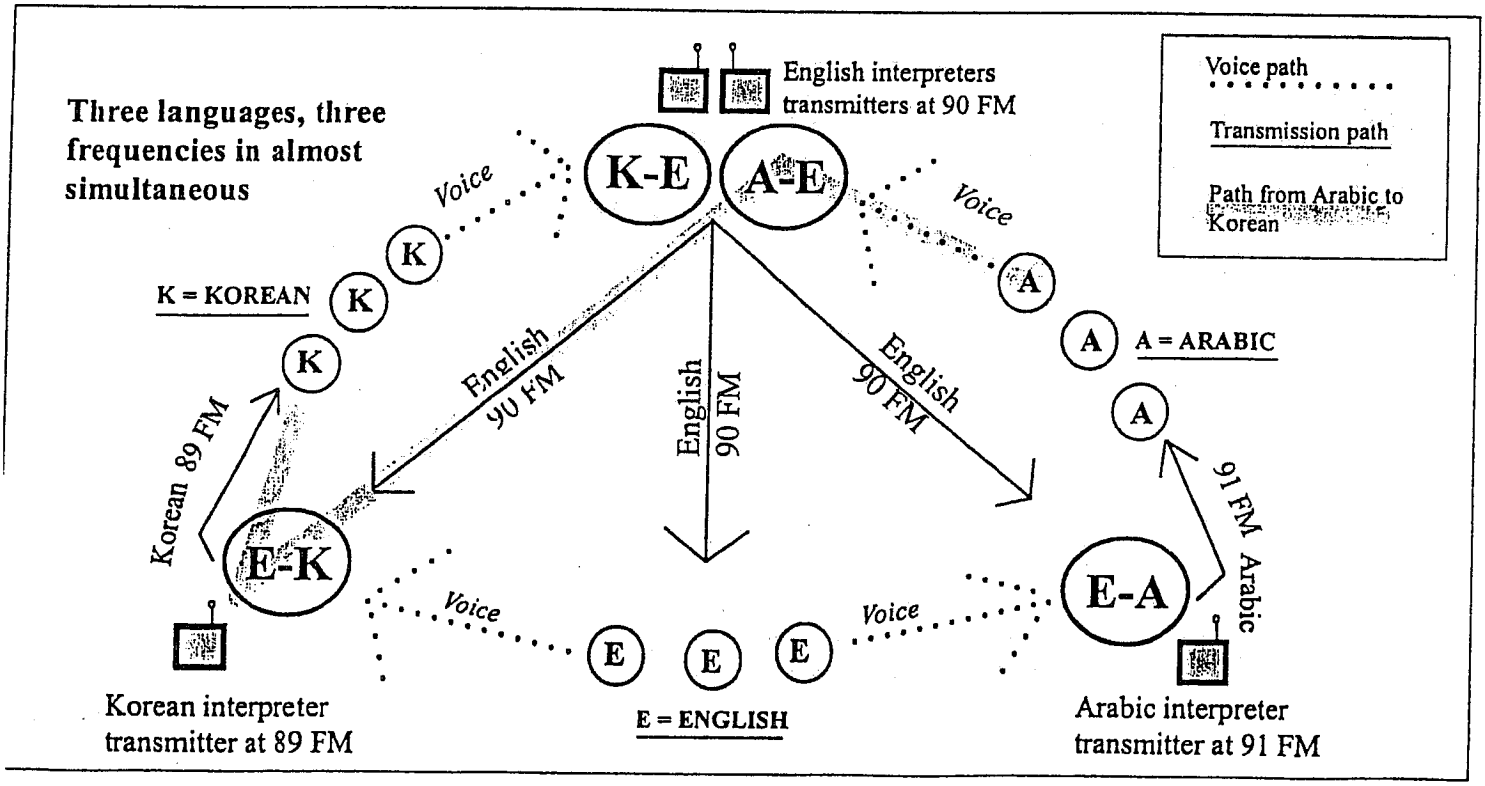
The least optimal solution: When costs and availability of equipment can only meet minimum requirements, the meeting can be run with English interpreted verbally in the open air (no radio or infrared transmission), as sketched in the diagram above. An interpreter responsible for English-to-"x" listens to the vocal speech of participants, then transmits the "x" interpretation wirelessly to the group that does not understand English. In this system, as many languages as are desired can be added to the meeting with the addition of one more transmitter, and one more "x"-to-English interpreter. This can be a bit noisy and awkward, but it works.

Better solution: For three-language meetings, another awkward-but-workable solution is to provide each interpreter with an earphone that feeds them the transmitted version of the simultaneous interpretation into English of the other interpreter. The second interpreter then transmits the English-to"x" version into the third language. For instance, when (as sketched below) an Arabic speaker vocalizes a comment, the Arabic-to-English interpreter translates softly into a radio microphone, transmitting the English interpretation on FM 90. The Korean-to-English interpreter listens to the English on FM 90 through an earphone, and, at the same time, softly interprets the English into Korean into a radio microphone transmitting at FM 89. Korean language participants listen in to the Korean on FM 89.

The time-lag is greater than in direct simultaneous, and some meanings get diluted by passing through two interpretations. However, the result, with adept interpreters, is still far superior to the agonizing slowness of sequential interpretation in three languages, and is less stress on the interpreter than trying to listen to vocalized English interpretations, as in the example described above. A minimum of four sets of transmitters on three different frequencies are necessary, and four interpreters, as sketched in the diagram below. In the example, one interpreter is responsible for Arabic-to-English, a second English-to-Arabic, a third Korean-to-English, and a fourth from English-to-Korean.

This system can be expanded into more languages as long as each non-English language is filtered through English. Every "x"-to-English transmitter needs to transmit English on the same channel, while each English-to-"x" transmission needs its own channel.

We've discovered that some interpreters who are excellent at two-language meetings find the three-or-more language meetings too chaotic – mostly because it can be hard to keep track of what is happening in the meeting *and* listen to an intermediate English interpretation *and* turn it into a third language. This is especially the case for languages that have a subject-verb structure opposite of one another, for instance, Laotian as opposed to English. Try to make sure interpreters clearly understand the set-up well before the meeting, and give the system a trial run before participants are present.



INTERPRETERS

Without one or more good interpreters, a multilingual meeting cannot succeed. This is unequivocally true of a simultaneously interpreted meeting. A good simultaneous interpreter is worth their weight in gold, while an inadequate simultaneous interpreter can create havoc. Participants typically protest over inadequate simultaneous and ask to revert to sequential stop-start interpretation. In the worst situations, a different interpreter is recruited directly from the participants, but the original interpreter demands payment. In other words, inadequate simultaneous interpreters are a major liability. If an organization is dealing with a new interpreter, and can't be sure that interpreter can successfully carry off simultaneous, a back-up plan for a smooth transition to sequential is prudent. This includes a plan to accommodate a change of pace in the meeting.

In a search for an interpreter who fits the needs of a particular constituency, three questions usually come to the fore: How does one identify or locate interpreters? How does one know a particular interpreter can do the job? How much is this going to cost?

Identifying interpreters

Most times a community organization does not need a Berlitz-level interpreter. Gifted community members, local professionals, or students can fill the role. The first and unwavering rule for a successful interpreter must be that *during the segment of time they are responsible for interpretation, their only role is to interpret.* They should not participate in the meeting during their interpretation time. As obvious as this sounds, this is a point that gets lost on all but the best community-involved interpreters once a meeting gets controversial.

Good-to-excellent interpreters can sometimes be found among groups one might overlook for reasons, such as young people who are bilingual, but who may not excel in school or other activities that are not purely verbal. One the Jefferson Center's best interpreters was a young woman just out of high school who accompanied her sister to a meeting to listen. When one of the interpreters was not able to work, she said she'd give it a try although she'd never done it before. When she began, Cambodian light lit up around the room—she was very, very good. This was true for a young man whose writing and graphic abilities were minimal and had trouble in school or getting satisfactory work, but excelled at verbal tasks. He could seamlessly turn Spanish into English or vice versa. He eventually became a very well-paid professional interpreter. These are individuals with special gifts, and we can compensate them as best we can in order to recognize the importance young bilingual people who can fill these roles.

On the other hand, some professional interpreters are a disaster. One who may be fine at translation or sequential interpretation in particular professions or non-simultaneous situations may not be able to do adequate simultaneous translation at all, even with pre-meeting preparatory work on vocabulary. Unfortunately some such inadequately-skilled individuals may go out of their way to assure an organization that they are experienced and capable of simultaneous interpretation.

Sharing resources and references

Word-of-mouth, calling other organizations who know good interpreters, and sharing databases of simultaneous interpreters are the best approach to assuring that an interpreter can do the job. There is a shortage of reference systems for excellent interpreters among social justice non-profits in most regions. Referral processes tend to be very informal, and one often has to have a good knowledge of organizational networks to even find the right people to ask.

Creating a more formal network for interpreter references is a task for regional non-profits to think about as partners, in order to assemble databases to connect good interpreters with community groups. Establishing a large pool of references is important, since people tend to come and go, especially young people and students of all ages. Such a reference system can assure a group that they have at least one interpreter who can do a good job with simultaneous. This also frees up the possibility of bringing in a new person—say a young person—who is untried, but may prove to be talented. In this way the pool can constantly be expanded, and we can show young people the value they bring to the community.

Pitfalls

References can have their drawbacks, of course, and at no time is this more true than when grassroots people volunteer themselves or their friends. Although we've been introduced to outstanding interpreters through such references, we've also encountered two major pitfalls.

The first hazard is the community-based activist—or the friend who they highly recommend—who is intimately involved or has strong opinions on the subject of the meeting. The lure of getting involved in the discussion, and forgetting to interpret, is all too common among community-based interpreters. Having several interpreters who can give each other breaks helps some with this situation, as long as people refrain from participation during their interpretation shift.

The other hazard we've encountered is the community-based person—or the friend who they highly recommend—who is primarily interested in the high hourly rate interpreters can get paid. The Jefferson Center works in a variety of rural communities. We hold meetings in new places fairly often, and we've run into this problem more than once. Granted, one never has to hire such a person again; however, people who are not competent to do simultaneous interpretation, but who are lured by the possibility of fast money, are more common than one might wish to think.

A good reference system among trusted networks offers a buffer from meeting disasters.

Can the interpreter do the job you need, especially if specialized vocabulary or abstract concepts as necessary?

Will your meeting require everyday language, including slang that is specific to a particular national or regional group? Will it require a more formal approach, and a vocabulary that is appropriate for civic affairs, health issues, or politics? Or will it require a highly technical approach, including abstract concepts that would be a challenge to any audience in their own language?

For an everyday language meeting, will a young person with a

high school vocabulary and understanding of the world work just fine, or do you need a person with more maturity and a nuanced appreciation of a complex community issue?

For more formal venues on specialized issues, the requirements an interpreter will fulfill will of course shift towards someone familiar with specialized vocabulary and context.

In the case of technical or abstract concepts, the interpreter has a tough challenge. She or he must not only convey the literal meaning spoken, but also be able to maintain a consistent thread through abstract concepts over the course of complicated dialogues or negotiations. This is likely to require one or more highly trained and educated interpreters. For example, the possibility of a conversation between a recent immigrant Latino community and a Native American tribal group about conflicts that involve treaty rights may require extremely talented interpreters who can convey through interpretation the cultural spin on people's comments as well as the legal concepts behind three different legal systems: the country of immigrants' origins, the United States, and tribal governments.

How much is this going to cost?

Cost of interpretation typically ranges between zero and $60 an hour, with more money required for highly technically trained people. The Jefferson Center pays between $28 per hour for multiple-day events, and $35 per hour for short events ($40 per hour in difficult situations). Some interpreters contribute part of their rate, and we pay only a portion. *However, the most cost effective interpreter is the person who can do the job appropriate to the needs of the particular meeting, whatever the cost*—whether volunteer or expensive. A talented young college student is likely to do a better job than a Berlitz-trained professional in a meeting focused on high school students.

Paying as reasonable a rate as possible is well worth the investment, even for a low-budget organization. Well-done interpretation is a demanding task, requiring intense focus, and a combination of listening and verbal skills that most people do not have. The success of our multilingual community organizing depends on interpreters' skills. Paying a good rate demonstrates to young people the value we give to fluent bilingual skills. For perspective, $70 for a two-hour meeting can sound extremely expensive to a very low-budget group, but if a well-organized two-hour meeting transforms the communication and organizing potential between two groups of people who otherwise could not easily communicate, it's a bargain.

Of course many communities will have people who will volunteer to interpret. When skilled people want to volunteer, and can successfully do the job, it's a major contribution. However, because well-done interpretation is so demanding, and because volunteers cannot participate in the meeting while interpreting, volunteers can easily get burned out. Recognizing the skilled nature of interpretation by offering payment is a gesture of respect.

Fundraising

Including explicit budget categories for interpretation and translation in grant proposals acknowledges that interpretation and translation are expensive, but essential. The more groups who help funders' networks understand why a proportionally high interpretation/translation budget line is vital, the greater chance we have of building a movement for social change that easily moves across barriers of language within North America, as well as across borders around a diversely multilingual world.

JEFFERSON CENTER
POB 279
Wolf Creek OR 97497

SUSAN WILLIAMS
HIGHLANDER CENTER
1959 HIGHLANDER WAY
NEW MARKET TN 37820