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Local Events
on a "Live Wire"

Social and cultural involvement
through radio broadcasts
in cooperation with community groups

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Freies Radio Freudenstadt (Free Radio Freudenstadt) is a non-commercial community radio station located in the Black Forest, Germany. It serves small cities and the surrounding rural area, and is run by the non-profit organization Förderkreis Radio Freudenstadt, e.V.   In 2002, the station was awarded the State Media Prize for its overall programming and open access for diverse social groups.

DIGITAL DIALOGUES was a two-year project funded by the European Union within its Socrates-Grundtvig programme. It involved partners in Ireland, England, Finland, the Netherlands, Germany, Austria and Italy. Detailed information about all activities can be found on the project website at http://www.digital-dialogues.de

This handbook about live broadcasts of local events reflects work done in Germany and Austria and is also available in a German edition.

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1. Introduction: Getting local initiatives "on air"

Within the Socrates Project "Digital Dialogues", one focus of activity was learning to provide live broadcasts of public events on community radio. This handbook reports on the experience and describes methods used to make the preparation of such broadcasts more systematic – thus ensuring smooth running in "real time" on the air.

Local organisations may be very interested in live broadcasting from their events, because it helps them to reach a wider audience and gives them addition publicity and attention. Another possible effect: bringing local initiatives into direct contact with their community radio can trigger interest and lead to their active participation programming over longer periods of time. Successful teaming up of active groups inside and outside the radio station can result in better acquaintance, mutual recognition, and ultimately in a pooling of energies and a better contribution to social and cultural exchange on a local level.

Experience with live broadcasting direct from external locations was gathered in a small German city with a rural environment (Freudenstadt in the Black Forest) and in a large urban area (Vienna, Austria). The success of a live broadcast – this became particularly clear in the rural context – depends on more than just technical equipment and its proper handling. Close cooperation between the community radio and the group responsible for an event is essential, as are advance planning and good communication within the broadcasting team.

In the Black Forest, where clubs and organizations make a major contribution to public life, special emphasis was also placed on integrating teenagers and young adults from socially disadvantaged groups into the broadcasting teams. Also, opportunities for live broadcasting were offered to local organisations not otherwise involved in community radio. In the urban situation of Vienna, live broadcasts from outside the studio were also used as a means of generating income for the community radio station (see Appendix I of this handbook).

2. Objective: Teaming up for successful broadcasts

The project concentrated on the extensive coordination required in advance of an event and on practical mastery of the editorial work and technical applications required. Major attention was given to:

- public relations – establishing viable contacts with other organisations, planning a broadcast of an event and publicising it in advance through print media and radio
- teamwork – successful cooperation in the preparatory phase and during a broadcast
- editorial concerns – preparation of interviews, clips, text material to be spoken live, or suitable music to enhance the broadcast and fill programme gaps
- logistics – selection of proper equipment, testing and trouble shooting, coordination at the site of the event

3. Who can participate in a broadcasting team?

Radio volunteers are often absorbed in their own fields of interest: in creating programmes for particular interest groups, and in expressing their own cultural preferences, political opinions, or musical tastes. Recruiting community radio amateurs willing to invest their time and skills for others (whose interests differ) requires an open-minded approach. Some motivating factors:

- improving their own technical and editorial skills
- helping others to achieve more public recognition / supporting disadvantaged groups
- new forms of contact and involvement in local public life
- the excitement of dealing with a live broadcasting situation outside the studio
- contributing to a positive public image for the community radio project
- fun and satisfaction resulting from a successful team effort.

On the level of coordination and technical preparation, it is very useful to have at least one community radio employee who is very familiar with the live broadcasting situation and equipment, and who is flexible enough to respond diplomatically and pragmatically to special requests and problems presented by the external partners involved in individual broadcasts.

The partners from non-radio initiatives (with whom cooperative broadcasts are arranged) also play an important role, since they form the liaison from the radio team to an otherwise unfamiliar organization. It is of advantage if these partners have:

- reliable contacts within the partner organisation to those planning and running the event
- approval by organizers of the event (not working without their knowledge and input)
- ability to coordinate PR activities of the event management with those of the radio station: press releases, posters, flyers, etc.
- willingness to acknowledge the efforts of radio volunteers – as opposed to taking the radio team for granted as a functional unit "employed" for the event
- interest in the radio work itself, for example in participating in the broadcast as a radio announcer, interviewer, or "roadie".

4. Activities in advance of a live event

The most challenging aspect of live broadcasting from local events derives from the fact that every event is different: the programme is unique, the cooperation partners all have their own special interests, and the venue may or may not be familiar from a previous broadcast.

An event with a set agenda can be handled well, since the greater part of the programme sequence can be planned in advance. If the proceedings at an event cannot be reliably predicted, programme elements can be prepared in advance, later to be used flexibly. Some event managers will accommodate radio colleagues by agreeing on definite times and arrangements.

Example: A panel discussion with six participants talking about local environmental developments will begin at 3 o'clock, the moderator is aware that his panel will be "on air" and plans to accommodate radio listeners, addressing speakers by name and mentioning at intervals what organisations they represent.

Other broadcasts may depend entirely on planning done by the radio station. This is the case at informal events, or when the station itself is managing the event. Obviously, this transfers the emphasis of preparation work from dealing with a (more or less realistic) plan presented by an external partner to detailed organisation done exclusively by the radio team.

In all cases, one basic tenet should be observed. This is the starting point for preparing team members for any and all live broadcasts, it is a basic rule of thumb: The BROADCASTING sequence is not identical with the PROGRAMME sequence at the venue.

As apparent as this may seem, it addresses the most frequent misunderstanding about live-event broadcasts. Even experienced radio programmers make the initial mistake of equating the event programme with the radio programme and assuming that technical preparation is all that will be necessary.

A minimum of reflection will reveal that this can hardly apply: Spectators at an event can SEE what is happening, the radio audience needs a narrative in order to follow the event – description of sights, smells, and atmosphere. Also, at intervals, it is important to identify the radio station and inform listeners about the event, where it is taking place and what will be coming up next. Maybe they would like to stop by?

Inevitably, there will be gaps in an event programme that need to be filled on the radio – perhaps while the stage is being rearranged, a sound check completed, a guitar string replaced, or while everyone is busy eating lunch. A major speaker can be delayed in a traffic jam, or (particularly at an outdoor event) a thunderstorm may come up. In fact, even a broadcast from an indoor event can be interrupted by a thunderstorm (not that rare in the Black Forest).

For such unforeseeable situations, including breakdown of the telephone or cable connection during signal transfer, there must always be a person in the studio to serve as a controller and announcer. Ideally, however, the broadcasting team will not wait for unpredictable things to occur that force their hand, but rather will have discussed various options on programme elements of their own – keeping in mind that they represent more that just a technical medium for transmitting a sequence of events determined by others.

Imagining the broadcast
Quite the contrary: the overall broadcasting sequence, its attractiveness and accessibility for radio listeners will depend almost entirely on the team. It is their readiness and creativity that determine how the event will be presented on the radio (not the organisational skills of those managing the event).

Examples: Days or weeks before an event, team members can research individual topics and arrange interviews with persons who will be participating in it or who are partly responsible for it. Depending on the theme, opinion surveys among members of the audience may be a possibility. "Working the floor" at an event does require some information and reflection ahead of time, but is usually worthwhile. Live reporting in the form of a running narrative describing the scene and the crowd makes excellent listening if it is not superficial. Team members can use mobile recording units while moving around at the event, then return to the 'studio corner' and give their material to the colleagues for broadcasting at the next opportunity. Music or text relating to the event can be selected beforehand and used to fill programme gaps with thematically suited material.

For unexpected breaks, it is practical to have "patches" available, both in the studio and at the venue. They may consist of pre-produced interviews or clips – perhaps sections of a radio programme that was run in advance to announce the event can be re-cycled. Background information from flyers or posters is also useful, or simply notes jotted down on paper during the programme. And music can always be integrated well: it's never a mistake to have an extra CD already in the player, ready to go.

The challenge for the team consists in devising a plan of their own for the broadcast that will incorporate informative and entertaining elements, be flexible enough to allow for spontaneous adjustments, and allow enough technically leeway so that difficulties with equipment or signals won't 'spoil the pudding'. One or two persons will have to be responsible for decisions on short notice during a broadcast, and their means of communication with other team members will need to be arranged in advance.

This quick run-down on some typical problems and solutions suggests several central aspects of broadcasting preparation:

- clear assignment of roles
- steady flow of information and successful communication
- solid editorial planning resulting in:
- specific information about the equipment necessary for realisation

Improvisation will be easier and more productive if preparatory work is pursued as systematically as possible – our topic for the following pages.

Back to the beginning

The above summary focused on the immediate broadcasting situation. For a community radio station, however, preparation for such events is actually a long-term affair, and a major commitment in terms of finances and personnel. The chart on the following page attempts to place the individual broadcast in the context of this longer process. It begins with early stages such as fulfilling technical pre-requisites, establishing cooperation with local partners, or training volunteers and personnel, and extends to documentation and feedback, which are very important for continuing broadcasting activities. Individual work phases later will be discussed in fuller detail, leading back to the challenging and exciting situation of radio work from outside the studio in the context of community involvement.

Work phase	Goals / work steps	Methods, aids, notes
I fulfil basic pre-requisites: make live broadcasts technically feasible	choose standard method for signal transfer from external venue into studio: - telephone ("music taxi") - internet (server)	see section 7 and Appendix I on techniques of signal transmission, taking costs into account
II overall planning: select potential events for broadcasting and explore cooperation possibilities with local partners	- establish contacts to those organizing events - estimate value of live broadcasts for radio station / external partners / community life - weigh value of individual broadcast over against technical or financial hurdles - create tentative plan for broadcasting events over a period of months	- consult calendar of community events - compare with radio schedule: check for and exclude time conflicts - tap existing contacts to local organisations - read press clips on similar previous events
III recruit and train broadcasting teams	- demonstrate how PR, technical and editorial concerns interconnect - integrate team members from radio and partner organisation - correct or supplement broadcasting plan	- organise workshop on technical / organisational preparation - do "dry run" simulating live broadcast situation - offer workshop on editorial skills: interview, reporting, role of anchorperson
IV preparation for individual broadcast	- regular meetings of team - close contact with event management - pursue PR and liaison work	- follow COUNTDOWN chart (see section 5 of this hand-book for individual steps and task management)
V broadcast of event	- good radio listening - successful cooperation with local partners - on-going contacts - document teamwork and broadcast	- aim at flexible programming - integrate external cooperation partners - offer recording (CD) of broadcast to partners - gather feedback from team members, event managers, and radio listeners
VI evaluation of experience	- learn for future broadcasts	- recruit new team members

5. Recommendations for detailed time planning

Long-term planning – work phases I and II in the above chart – will depend largely on the local situation, so that on time frames will differ. Phases I and II must, however, be completed before preparation for individual broadcasts can set in – encompassing phases III, IV, and V.

A note on phases I and II – long-term commitment

Creating opportunities for live broadcasting of events will involve financial investment on the part of a community radio station. Also, a considerable investment of time and personal effort on the part of the staff and volunteers will be necessary in order to cultivate viable contacts with local organisations as potential partners for broadcasting events.

Technical options are discussed in greater detail in Section 7 and Appendix I. Whatever method is chosen for transferring the signal into the studio, the price is not only a financial factor: In the long run the human factor is even more important. So the decision to embark on live-broadcasting adventures should be backed by a majority of those active in the radio project. Their participation in a wide variety of ways will be essential for success. They may have contacts to local clubs or initiatives, or be skilled in public relations matters such as producing posters, flyers, and press releases. Perhaps they have technical skills and can contribute to mastering the equipment, or editorial skills helpful toward successful programming. And inevitably, the radio station's employees will need to devote paid working time to the live broadcasting efforts. These aspects are also discussed in the paper contributed by the Viennese partner (Appendix I, section 3 on "fundraising").

A consensus within the radio station to embark on such a project means much more than the simple and rather short-sighted assumption that live broadcasting is technically attainable (so "why not do it?"). The organisational burden should not be underestimated. In particular, the radio station will be perceived by external partners as a functioning unit, and should be able to fulfil this expectation. Live broadcasting involves a high degree of public exposure. To ensure that this exposure works to the advantage of the radio station and not to its disadvantage (for example, when internal conflicts are detrimental to the success of later events), close attention should be given to the factor of on-going commitment before investments are made. This also forms a basis for middle-range planning: contacting local organisations and seeking partners for events over a period of several months.

A chart to assist in phases III, IV, and V – planning individual events

Once this overall preparation is done, planning for particular broadcasts can begin. One outcome of the training and teamwork documented during the "Digital Dialogues" project is the following COUNTDOWN chart that can be used as an organisational aid and a training handout. It divides tasks into the fields of publicity, organisation, editorial and technical preparation, at the same time reflecting the interconnectedness of these aspects. Points can be dropped if not pertinent to the individual broadcasting situation. In Section 6 of this handbook, some individual work steps from this checklist will be commented on individually.

COUNTDOWN time remaining til event	work steps co-ordinator is resp. for meetings, commun,docum	publicity co-ordinator + team	organisation co-ordinator + team	editorial preparation	technical preparation
8 weeks	decision yes/no contact with management about overall planning	ask event management FRF (radio) on poster? register (radio) info-stand?	check for time conflicts name co-ordinator, recruit team	why broadcast? info/reports from prev.year? prominent guests?>contact	estimate effort/effect
6 weeks	meeting with management	agreement on presswork	who pays phone costs?	detailed plan of event	Info on techn. equip at venue
5 weeks	meeting of team make written summary of plans	plan flyer/poster? Will regular programmes be displaced? listener-info	discuss division of work, establish mailgroup inform colleagues	ideas for live broadcast...... background research? (eg previous events, goals, polit. or social aspects)	..and their techn. consequences Is more training required? (eg use of mobile studio or phone transmission equip)
4 weeks	meeting with management, names of contact persons in org. and at event	draft press report, check with management, produce radio trailer?	revised plan for event, estimate whether time planning is realistic	draft plan for broadcast, moderation from stage or radio mod.? guests?	visit venue, inspect phone line ..techn equip at event? ..contact with janitor?
4 weeks	meeting of team develop summary of tasks	invite guests of radio? item for radio website, flyer in production?	depending on event...... assign function within team	...how much editorial work? develop plan for broadcast: highlights?....include them in the publicity!	....how much radio equipment? draft equipment list inform editorial colleagues about possible techn. Limitations
3 weeks	meeting of team	integrate partners? distribute flyers/posters, broadcast trailer, check back with event management	recruit addit. Helpers, confirm division of toles, plan communication at event and from venue to studio	research interviews, name moderators at venue and in studio, integrate partners from organisation, plan audience interviews?	check equipment, make repairs, re-visit venue, plan locations of phone hook-up and mixer, table/pedestal required? cordless mikes/walkies OK?
2 weeks	meeting of team update task summary, include timeline for event	another press notice? flyers and website OK? trailer on air? info-stand planned? if so...	plan transportation and setup of equip, also ist return to radio! printed matter,handouts? table, decorations,tools?	recheck event timeline, confirm plan for broadcast, prepare moderation, ...integrate into broadcast? ...attract listeners to stand?	order phone access (ISDN), assign technical roles in team, prep. music patches for breaks ....organize blaster and electric cables (extension)
1 week	meeting of team task summary with names and phone numbers!	renew contact with event management	detailed plan for event, list functions of team members and phone nrs.	advance coverage on radio, contact interview partners,	complete equip. list, check all functions and connectors, battieries, software-adjustments
1-2 days	meeting of team		plan recording of broadc.	mod. for studio team	checklist and pack equip/tools
BLASTOFF!	transport and setup, event, return equip to radio	info-stand, new contacts for radio work?	overall co-ordination, con-tact with management	moderation und programme at venue and in studio	setup, troubleshooting, mixing, checklist before repacking
in the days after the event	team discussion, written document. of feedback	thanks to management, offer them a recording?	thank to helpers / reflect role assignments	evaluation / comparison of plan and actual sequence	save equipment list, do repairs, make copies of recording

6. Practical and didactic aspects

If possible, about two months in advance of a major event, preparations should set in. One method is to organise a workshop (one day) for members of several teams, with the goal of structuring their planning. Depending on the events, there may be emphasis placed on handling the equipment or on preparing programme content suitable to the occasion, or both. Existing contacts to the organisation responsible for a planned event can be discussed, along with the pros and cons of cooperating on a live broadcast. Interested members of the partner organisation can be integrated into such a workshop.

However, time conflicts with the normal radio programming of the station and time limitations of team members should be taken into account before making a final decision on a particular live broadcast. If major conflicts are foreseeable, it may be advisable to restrict the planning: Sometimes it is better to record sections of a event at the venue, then return to the studio and broadcast the material later (rather than insisting on real-time transmission).

This option of broadcasting recorded material a few hours or a day later can also solve another problem. Possibly, the managers of an event may fear that a simultaneous broadcast will reduce the number of audience members at the event itself. Delayed broadcasting may be attractive for local partners, and for the radio team it can also be of advantage: for example, in cases where not enough team members are available to handle a simultaneous broadcast.

From the outset, one or two person(s) should be responsible for the coordination of a broadcasting event – that is, for organising and documenting the team meetings, and as partner(s) for communicating with the external organisation involved. The role of a coordinator includes recruiting/integrating team members and dividing tasks within the team, as well as setting up a means for exchange among the participants as a supplement to the meetings – for example, in the form of an e-mail group.

When a live broadcast goes into planning, it is wise to recruit a team containing members with various skills. Ideally, there will be radio personnel or volunteers who already have some experience with the live broadcasting equipment, and others who are practiced as interviewers or as extemporaneous speakers on the microphone. Bringing these skills together into a well-functioning team is the main goal of an initial meeting or workshop launching the effort on a specific broadcast.

Should a planned event or a newly formed team require additional training, it can be offered during the time remaining before the event. This might be desirable when members of a cooperating organisation wish to become actively involved in the broadcast. One possibility would be to train interview techniques for a day, giving newcomers an opportunity to practice the "three-way" conversation typical to radio and to learn about legal aspects relevant to this form of public dialogue. Another one-day workshop could be offered to a team inexperienced at using the technical equipment. The participants can simulate the broadcasting situation in a "dry run" using all the typical elements of a mobile studio.

Establishing the need for such additional training, and organising it, is another job for the coordinator(s) of broadcasting events. This has far-reaching effects: training enables more radio volunteers to participate successfully in this type of broadcasting and improves the prospects for future events. External partners who are offered training may become more

interested in the radio project and consider creating regular programmes about the activities of their organisations or social groups.

In terms of social and cultural exchange, both of these effects correspond to the overall goals of local community media, integrating and empowering various groups to represent their interests "on air". There are also other ways to further such goals while organising live broadcasts from local events. One effective method is to invite radio volunteers and representatives of partner organisations to produce background shows in advance of an event. Interviews with studio guests can be broadcast during the days leading up to an event. This creates interest in the event and in the radio project among the general public, a synergetic effect that can benefit all parties. Another way to use live broadcasting events for publicizing radio activities is to set up an booth at the venue (with a radio, of course) offering information and programme schedules, as well as radio stickers, t-shirts, or whatever merchandise is available.

6.1. Typical difficulties encountered

Some general problems have been mentioned in preceding sections of this handbook. They will be summarised here and supplemented by further points that often come up.

- *Event and broadcast are never identical*

One standard mistake radio teams and external partners make is to assume that the envisioned programme sequence at an event will be identical to the broadcasting sequence. This is practically never true (for discussion see Section 4). Even the most painstakingly planned event programme will contain some slack, and unplanned delays occur as well. Besides, the radio team will need to insert messages for listeners not present at the event. There may be programme elements that merit live reporting in the form of narration for the radio listeners ("what does it look like?" "and what is that enticing smell?"). Another useful element is the live interview, which is heard by radio listeners but not by the audience at the venue.

Radio teams should regard their own broadcasting sequence as something they decide upon themselves, not just a carbon copy of the event. Long passages of the programme going over the PA-system at an event may be usable, but will not suffice to create an interesting radio show. "Be prepared" is the best advice: build or plan patches in advance that can be used flexibly. They may consist of interviews, music, or background information. They can even be pre-produced at the event itself, by a radio person moving around with a mobile unit and then returning to the mobile studio unit with freshly recorded material. This requires a certain amount of experience and careful notes on what has been recorded, since there is little time for searching or editing.

- *Not every club member can speak for the whole club*

Often a radio volunteer will have informal contact to a member of an external organisation or group who wishes to "arrange" a live broadcast for a particular event. However, it may be that the rest of the organisation has no idea of these plans! Therefore, it is recommended that the coordinator and/or other members of a potential broadcasting team establish direct contact to those responsible for organising an event (not only to one member of the organisation). Thus,

explicit agreements can be made on publicity such as posters and press releases, and information about the programme sequence at the event will be more reliable.

Incidentally, the same problem can occur in reverse: A radio team member sitting at the mixing table during an event may not be the ideal person to give an interview to the local newspaper – too busy and too absorbed. It can be wise to delegate press contacts to one person on the team.

- *Individuals underestimate the broadcasting situation*

Particularly when cooperating with local organizations, radio teams encounter (or include) persons who are active in various functions at one and the same time. It is essential to take this into account when assigning roles for a live broadcast: someone responsible for proceedings on the stage, for example, can assume only a marginal role in the radio work. But important persons can appear in a live broadcast as guests for interviews, or radio reporters can visit them at work – in the kitchen, backstage, or elsewhere "behind the scenes".

Partners from external organizations usually have no experience that would enable them to size up the broadcasting situation. They are entirely dependent on the radio crew to estimate realistically what needs to be done. For this reason, open and frequent communication with the event managers in advance of the broadcasting date is of great importance. Often, the most active members of an organization are also those interested in the radio broadcast. During an event, however, they may be much too busy to contribute.

- *Why, that's "no problem" at all!*

The previous point on underestimating the practical situation applies to radio persons, as well. Perhaps a team member will report that there is a telephone line at the venue, which can be used for signal transfer, "no problem". This makes it sound as if the telephone question can be checked off on the to-do list, but is really only a starting point: Is it a digital line or a broadband hook-up? Will the radio be allowed to use it? Who will be paying the telephone bill? How far is the phone socket from the spot where the mobile studio can be set up? Information and communication are required to answer these questions, and the same principle applies generally: "no problem" translates into "better get on it"!

- *We forgot the …………!!*

Depending on the geographical distance from venue to studio, it can be difficult or impossible to replace equipment that is defective, or to fetch material and tools that are missing. One way of dealing with this is to develop a standard equipment list and to revise or expand it when preparing for a particular event (this is described in Section 9, and a typical list is shown in Appendix II). Few community stations have access to a van with a mobile studio, so it is assumed that the team will pack and transport only components they expect to need, and the most important spare parts. The equipment will vary according to the nature of an event: at a rock-concert, fewer (but higher quality) components will be required than at a trade fair where many different sound sources have to be dealt with. Technical team members should remain in close contact with the editorial colleagues during the preparation phase.

6.2. On individual phases of preparation

It is always difficult to find the proper balance between making things sound much simpler than they actually are, and making everything sound terribly complicated. Achieving that balance can be challenging when an inexperienced team is preparing for a live broadcasts from venue that no one is familiar with. The best support comes from colleagues who can report on past experience – this can reassure newcomers that, on the one hand, everything is manageable, and on the other, show that good preparation is the key to success. The following points show some ways of dealing with standard difficulties in preparation and training.

- *Phase I – fulfilling technical pre-requisites*

The development of new, inexpensive technologies usable for real-time radio signals has been extremely rapid in recent years, first involving digital telephone lines and now expanding to computer applications via Ethernet or more advanced broadband connections. Due to this on-going development and the fact that high-speed transmission cables may be universally available in some locations, but not at all in others, it is recommended that a radio station considering this investment gather the most recent data available. In addition to the general background given in Section 7, up-to-date advice is best obtained from community radio colleagues working in similar geographical areas. If possible, on-site visits should be organised, rather than relying on e-mail correspondence, since personal contact makes it easier to overcome the obstacles created by technical brand names, acronyms, and insider lingo.

- *Phase II – overall planning of events and cooperation schemes*

Those active in community media are often people who are also engaged in other social, cultural, or political activities at the local level. Pooling their interests and personal contacts to establish cooperation with external groups and organisations is therefore only a starting point in planning live broadcasts as a frequent feature of radio programming: If new, non-mainstream groups are to be included and integrated with their live events, then additional sources of information will be indispensable. On request, most community administrations provide a list of registered non-profit organisations, and unregistered groups can be located through other channels such as church, neighbourhood or youth centres, social services for migrants, senior citizens' initiatives, schools and other educational institutions. Some communities also offer a yearly calendar in which planned events are listed. This helps prevent time conflicts, and can be of great value to radio programmers. Information about attractive possibilities for live broadcasts can also be gleaned from local newspapers, particularly from reports on the yearly general meetings of clubs and organisations.

Once some potential dates have been identified and compared with the radio schedule, contact with the managing organisations can be initiated. Or, working the other way, particular groups can be approached and asked to suggest occasions for possible cooperation. In this process of weighing dates and alternatives, sometimes additional in-put from an outside source can be useful. If necessary, a short search in the back volumes or computer archive of the local newspaper may provide information about similar events an organisation or group has handled previously.

Constructing a tentative plan for live broadcasts reasonably spaced over a period of months – with an average of no more one event per month – will help to avoid stressful short-term preparation stints and still leave capacity available for spontaneous decisions on new events that come up unexpectedly. Also, overall planning of this kind will improve the balance of different types of events being covered, counteracting the lopsidedness that may result if radio volunteers bring in individual suggestions and ad-hoc decisions are made. In the latter case, the group dynamics at the radio meeting might become too strong a determinant.

- *Phase III – recruiting and training teams*

With several months and as many broadcasts in mind, participants for a one-day workshop can be recruited among radio personnel and volunteers, and also among members of partner organisations. This day can be devoted to forming teams for two (or maximally three) the individual events and working through the countdown chart to give participants an idea of individual preparatory steps they can undertake. After the very first workshop of this type, there will probably be some participants who already have experience with live broadcasting. Others will have general radio routine, and some will have no previous radio know-how at all. One way to bridge this gap at the outset is to ask the more experienced participants to share some high point (or low point) of a previous live broadcast with the group. This gives the group a general idea of what can go right or wrong in the live situation.

Following such a spontaneous feedback round (if feasible) and a general introduction by the trainer, the individual teams can work in smaller groups, making sure to document their discussion, their role assignments, their unanswered questions and their work plan for the following weeks. If the workshop contains an editorial/organisation AND a technical training unit, it is advisable to have all participants attend both parts. This will help them to appreciate their colleagues' work, to develop a sense of the interdependence of the two realms and the importance of frequent communication. (An excellent editorial idea can only be realized if the technical equipment and team members can support it, and the most refined technical set-up is useless if no interesting content is running through it.)

Another point to be discussed in a preparatory workshop is the possibility of further training, both in technical and in editorial matters. If desired, such training should be offered within a few weeks of this initial workshop to supplement and reinforce what has already been learned.

One topic of interest might be a technical equipment run, including preparation of equipment list, testing equipment at the station, packing and transporting it to a location that has the proper telephone or cable line (may be in the same building, but should not be on the same telephone system), setting up the equipment there and sending a test signal into the studio, finally repacking and check-listing the equipment for return to studio.

Several persons within a team should be acquainted with the software handling during a live broadcast from an external location. Depending on the method of signal transfer practiced by the station, training and practice sessions can be arranged. Not only will the team members need a certain amount of routine in order to successfully feed their signals onto a digital telephone line or a live-streaming server: Usually, terms of access such as registration and passwords must also be arranged in advance of a broadcasting date (see Appendix I).

When it comes to the editorial content of the planned broadcasts, topics of interest for further training might include: interview technique, mastering the role of radio "MC" or anchorperson, pre-production of clips or patches with material relevant to the event, speech training with the microphone, or – in case of politically or personally delicate themes – legal background about radio work.

- *Phase IV – preparation for the individual broadcast*

On the basis of the preparatory training, broadcasting teams should conduct regular meetings and cultivate close contacts to those managing the planned event. There are some details that need to be addressed early on: Is there a stage programme than can be piped onto the radio with only a few breaks to be filled in, or will it be an informal event with few fixed programme elements and large blocks of time to be filled by the team – with music, interviews, prepared clips? What equipment does that require, and what state of repair is it in?

How does the physical layout at the venue influence the team's planning – where will it be possible to set up the radio's mixing table, in what physical relation to the telephone/cable jack and to the stage or centre of events? If the event managers are using their own mixer (usually the case): how will it be connectable to the radio mixer? Should the team set up additional microphones of its own that only feed into the radio system, not into the local PA? (in general, yes). How will communication during the event be organised: Will the radio announcer/anchorperson have sight contact to people on the stage or on the floor? What acoustic contact will he or she have to colleagues at the venue and in the studio?

Alongside such technical considerations, there are questions of coordination to be approached early in the preparation. Need any regular radio programmes be cancelled or re-scheduled due to the live broadcast? Will publicity be handled together with the event managers? If prominent (for example, political) guests are invited, or if live performances are planned: Do the guests agree to have their appearances broadcast? Would they agree to an interview?

As becomes apparent from these few examples, most details about a planned event will have ramifications for all aspects of the radio team's work: whether organisational, technical, or editorial. This intertwining of details and decisions can best be mastered through frequent communication among team members. Needless to say, a climate of mutual respect in the team will enhance this process greatly and lead to a more successful broadcasting experience for all participants. Those involved in training and coordinating the broadcasting teams should give close attention to the interaction within the group.

Surely, this applies to all aspects of community media activity, but in this particular case deserves special mention. The group interaction will be subject to some additional stress during real-time broadcasting, while at the same time accommodating another local group which has its own communicative habits and (perhaps) hierarchical structures. This can be a complicating factor, particularly in such an exposed public situation. For this reason a positive team atmosphere within the radio group is a significant asset in approaching live events, since it will encourage collegial solidarity in the face of rather unpredictable processes at the venue.

- *Phase V – broadcast and feedback*

Not all the details contained in the countdown chart can be treated individually here, and certainly there are aspects of preparation that cannot be covered in such a schematic way. The chard is intended to cover a variety of situations and to remind team members to communicate regularly during the time leading up to a broadcast.

Two recommendations would be, however, that those responsible for the four tasks outlined in the countdown chart – publicity, organisation, editorial and technical preparation – run through their task column in the last days before the broadcast and double-check to ensure that no major factor has been neglected. And: Get out that crystal ball! There are always difficulties that can't be foreseen, only intuitively anticipated on the basis of experience.

The event itself, ideally, can be good fun with lots of spontaneous feedback from members of the audience at the venue or on the radio – and there has to be at least one person in the studio during the broadcast to react to breakdowns of the incoming signal and to pick up calls from listeners. After the event is over, it is very important that the broadcasting team make notes on the day and hold a feedback meeting as soon as possible. This is valuable information for future teams and should be documented systematically. If the feedback meeting must be delayed, a simple questionnaire can be employed to capture first impressions directly after the event (for an example, see Appendix III).

One more detail that can be planned in advance to avoid stress: Alongside the live broadcast, the programme sequence must be documented so that copies of certain sections can be given to the partner organisation and monitored by the team. Planning this in advance will reduce unnecessary work and enable the team to evaluate its own efforts better.

7. Technical requirements

At the venue of a live event, a radio team preparing a broadcast will need to set up a mobile studio, which can be pieced together inexpensively using basic audio components: mixing table, microphone(s), additional sound sources such as CD and/or minidisk player, cassette deck, headphones. Some means of communication within the team at the venue and to colleagues back in the studio must also been arranged. Certain investments may be necessary, for example in high-quality microphones, in walkie-talkies, or in special headphones which shut out the "floor" sound at a venue and enable the person working the radio's mixing table to monitor the signal being passed on into the studio. Exactly which equipment will be required in an individual case depends on the nature of the event and the venue, and on the programme planning for the broadcast. For tips on equipment preparation, see Section 9.

More sophisticated technology is needed to transfer the radio signal from the venue – that is, out of the radio's mobile mixing table – into the studio, where it can be transmitted directly or remixed with other signals such as announcements or music. This equipment will not vary from one broadcast to another, but be used again and again in the same configuration. Criteria for the choice of a transfer method include sound quality and stability, as well as convenience in handling and the cost of the equipment.

As mentioned above (see Section 6.2. Phase I), developments in this area of communication technology are so rapid that these comments, written in autumn 2003, may soon be outdated. Since new technical solutions in this field generally tend to be cheaper than older ones, any information on signal transfer is prone to constant update. Two methods will be discussed here: the older method is applied in Freudenstadt (Germany), in a rural environment; the newer is employed in an urban situation, in Vienna (Austria) where most venues supply state-of-the-art telephone connections that support more recent technology. A station planning to acquire the necessary equipment will nevertheless be well advised to check for newer developments that may be cheaper and simpler to use.

7.1. Historical background

To a lay person, it might seem that "all you would need" for live broadcasting from any geographical point would be a mobile power source and a transmitter to feed your signal into. However, apart from military applications and "pirate" stations working illegally, this has never been feasible. First of all, a station needs an approved frequency for its broadcasts, and secondly, the reception on this frequency must be as reliable as possible for the audience. This requires that the transmitter be stationary, so that topographic conditions are constant. Media authorities on state, national, and international levels are therefore responsible for allotting frequencies and licenses, and for avoiding interference among the many signals being broadcast.

Before digital phone lines were available, signal transmission from a live event into the studio was handled on separate radio frequencies that had to be individually approved – a process that made broadcasting from external venues practically accessible only to large stations and networks. Probably for reasons of quality, even these broadcasters used cable connections as extensively as possible. And the occasional interview or live report via telephone and acoustic coupler, with its typical scratchy character, became one of the aesthetic "signatures" of radio. Even in the age of high fidelity, reduced sound quality was tolerated for reasons of directness.

The advent of digital sound and telephone technology changed all that, making it possible to feed not only spoken language, but also music in acceptable quality through cable connections that are almost universally available in the public telephone network. Today, major broadcasters use wireless transmission via satellite. This technology is, however, not yet practicable for local or private applications. Wireless telephones may be in general use, but every cell phone owner knows how unreliable and "spotty" reception can be. And aesthetic criteria have changed along with the technology: The general public, now accustomed to music listening on a high qualitative level, would hardly tolerate lower fidelity – even from their local community media.

7.2. Options

Piping a prepared radio signal out of a mixing table and into a digital telephone line requires encoding, which is performed by additional hardware and software at the external location. On the receiving end, at the radio studio, decoding is necessary so that the radio signal can be broadcast normally. This method is recommended in areas where digital telephone service is generally available or can be arranged inexpensively for a particular occasion. Digital phone

(ISDN) connections can handle up to 56 kilobit per second on each of two lines (in some countries, up to 64).

The equipment necessary to feed a stereo radio signal into such a telephone connection is a kind of "black box" containing a small specialized computer unit for conversion of analog into digital signals, with the appropriate software and an integrated high-speed modem. It has various brand names and nicknames that differ from one country to another, such as "music taxi" or "codec gateway". It is relatively expensive, but used equipment is occasionally sold by larger radio stations now switching over to the following, more modern alternative.

In some regions, particularly urban areas, telephone services have developed beyond the ISDN standard. Different norms and names apply in various countries: Ethernet, network cable, DSL and broadband are some common terms for connections that peak at higher bit-rates than ISDN. If at least 64 kilobit per second are supported on each of two channels, then the expensive "black box" mentioned above is superfluous. For live broadcasting from external locations into the studio, it will suffice to set up two conventional PCs, one at either end of the high-speed connection handling the "live-stream". At the venue, the radio signal is fed onto an internet server, and from there it is picked up in the studio for broadcast.

This method is employed regularly by the "Digital Dialogues" partner in Vienna (see detailed description in Appendix I). It has, in fact, been so successful that the community radio in the Austrian capital is able to offer live broadcasting of events as a paid service, and is able to use the same equipment to participate in international live-streaming events. Many community stations today already have the necessary equipment, either in the office or in the studio, where they may have a constant live-stream (webcast) of their programme feeding into the internet alongside their conventional (FM) terrestrial transmission. No additional investment is required, provided that one basic condition is fulfilled: The connections readily available from venue to studio must perform at the rate of (at least) 64 kb/sec on both right and left channels. Otherwise, "stuttering" will occur.

8. Aids for trainers

For use in a preparatory workshop or in planning broadcasts, the countdown chart (*excel*) included in Section 5 of this handbook can be extracted and modified to suit the local situation. A digital version (.pdf) in English or German can be downloaded at
http://www.digital-dialogues.de
Clicking through the website from the opening page to Action 3 will provide access to this chart and other training aids / reports. And in the database of the project's web page there are also practical aids that may be used in further training on additional topics.

Aid on technical preparations leading up to an individual broadcast is included in Section 9, as well as Appendix I on livestreaming. For applications involving digital phone lines, one useful training aid was a colour printout with computer screenshots. Such a booklet can be prepared in advance by a trainer or radio employee by running through the software settings necessary to set up signal transfer and producing individual images of the display shown on

the equipment at each step in the process. This will simplify training, and team members later setting up a signal transfer will have a handy brochure to refer to as a visual aid – one page/picture for each step in set-up. This is much easier to use than a text explanation, which can be clumsy to apply in a situation involving time pressure.

A screenshot showing that the ISDN telephone line is set up and ready for broadcasting.

9. Practical aids for team members

Setting up radio equipment outside of a controlled studio environment will involve compromises and improvisation. Some questions that typically come up are mentioned in Section 6.2 of this handbook (Phase IV and V). Also, the countdown chart given in Section 5 points out individual steps that can be undertaken to achieve the main working goal: The editorial planning of the broadcasting sequence and the technical preparation of the mobile equipment should go hand-in-hand. Otherwise, it will almost inevitably happen that programme elements need be cancelled due to lacking or defective equipment, or that extensive effort will have been invested in transporting and setting up equipment that later remains unused at the venue.

In order to avoid preparing too much or too little equipment, here are two suggestions:

- Maintain close contact with colleagues who are working on the content of the planned broadcast. Find out what kind of material they will be using and what they know about the programme sequence at the event. This way, it will be easier to decide which components will be absolutely necessary, and which might be optional. Some typical considerations: If patches are being produced in advance to fill programme gaps, will they be on cassettes, minidisk, CDs or in mp3 files? Are live interviews from the floor planned? Using wireless microphones or a long microphone cable to get the material into the mixing table? How will communication from the mixer to colleagues elsewhere be handled? And just in case: it might be wise to take along a portable recording unit. Then, if connections at the venue don't work properly, interviews from the floor can be recorded and broadcast with minimal delay.

- Develop an equipment list that can be re-used from one broadcasting occasion to another. At each event, make notes about what was missing, or was prepared but not used at all. When beginning preparation for a new broadcast, take a fresh copy of your standardized list along and visit the venue. Talk to the technical staff there if possible. Find out what equipment the event management is planning to use, and where. Taking that into account, decide on a location for your mobile studio, remembering to check the distance to the phone or cable socket. Individualize your standard equipment list to suit the coming event, adding or deleting components as information comes in from your editorial colleagues about their plans for the broadcasting sequence. The list will help in packing the equipment for transport, and is also handy when re-packing after the event, so that nothing is left behind (for an example, see Appendix II).

10. Evaluation

Ways of evaluating the training and preparation for a live broadcast from an external venue:
- response from audience members at the venue and from radio listeners
- feedback within the team
- broadcasting outcomes
- ongoing relationships with external cooperation partners.

Feedback among the team members should be exchanged as soon as possible after the event and briefly documented in writing. It is possible to use a short questionnaire (for an example, see Appendix III of this handbook). This can be particularly valuable if time is short, or if the interaction within the team is strained and individuals may be hesitant to speak freely.

On the whole, team feedback has indicated that the success of a broadcast and the satisfaction of the active participants are greater when the team accepts a clear division of roles – that is to say, when the division of labour was successful. In cases where one or two persons attempt to handle all aspects of planning, this tends to result in insufficient preparation and lack of communication, as well as loss of motivation and general frustration among the rest of the

team. On the other hand, teams working on a basis of mutual respect and open communication can manage broadcasts successfully with a minimum of written preparation.

The broadcasts themselves illustrate these observations: Solidarity within the team is actually audible on the radio. Short pauses are then filled with music or informative messages; the atmosphere remains relaxed and good-humoured even when delays or mishaps occur. The responses of cooperating partners also corroborate this. Those broadcasts carried out by a well-disposed radio team are also the ones that have prompted the most positive feedback from the event managers and audiences. This is expressed, among other ways, in the wish of a partner organisation to continue cooperation on the occasion of another event.

If a broadcast is less successful, one deficit can often be identified in the documentation. When communication within a team is not functioning well, notes are no longer taken, e-mails and summaries are never written, feedback and evaluation are avoided. In such a case, the coordinator or trainer can write a short commentary as a form of self-evaluation. This is important because the main function of documentation and evaluation is to provide subsequent teams preparing broadcasts with a broader base of experience to profit from.

Another difficulty to be faced is that of conducting training in such a way that it is applicable to the wide variety of broadcasting situations later to be managed. There are enormous differences in the events and the venues, and thus the editorial and technical challenges can vary greatly. Experience has shown that workshops concentrating on the live broadcasting (technical) equipment may be unsuited for beginners: In fact, the most successful participants in these workshops were those who already had extensive experience with studio equipment and with editorial tasks of various kinds. They are also more pragmatic than beginners, that is, more able to size up a broadcasting situation realistically and make plans that can actually be carried out. A certain amount of diplomacy is necessary in order to avoid frustration: encouraging newcomers to participate, but also informing them frankly about the limitations they will almost surely encounter.

Appendix I

Technical Innovation in Broadcasting Live Events:
Signal Transfer from Venue to Studio via Internet

with a note on financial considerations
and the situation of community radio stations

The following excursus, written in 2003, documents experience gathered by the Free Radio in Vienna (Radio Orange 94.0): firstly, on using the internet to transfer the programme from a live event into a radio studio for broadcasting, secondly, on training, and thirdly, on using of live broadcasting as a method of generating income for a community radio station.

1. <u>Live broadcasting with the aid of the internet</u>

Transferring a signal via internet-stream into the studio is technologically more up-to-date than the "music taxi" method (via telephone line), and also significantly cheaper: the equipment usually costs less than half the price of a "music taxi".

a) Computers

All that is needed - alongside the usual audio-equipment (microphones, mixer etc.) – are two computers with access to the internet, one in the studio and one at the site of the event being broadcasted. In most cases, a community radio station will already be equipped with computers and internet for administrative purposes, further reducing the cost of live broadcasting in the long run. The computers should have following specifications (minimum):

> 5 gB … harddisc
> 64 mB … RAM
> 300 mHz … processor
> *sound card*
> *network card*

These specifications are nothing exceptional. In general, computers not older than 5 years will do nicely, with room to spare. It is possible to work with lower capacity, but it is not recommendable. The lower the capacity of the computers, the more likely certain problems will occur, for instance frequent interruptions of your live-stream.

b) Types of connections

It is very important to pay close attention to the type of connection available, both at the studio and at the location from which the live broadcast is coming in. There are two main possibilities, with some variation from one country or region to another: one can use either an internet connection via *broadband* (DSL, network cable, ethernet) or a connection via ISDN telephone line.

Transferring the signal into the studio via internet live-stream only makes sense with a broadband connection: For a stable live-stream, it must be able to transport at least 64kilobit/sec on each of two channels. (ISDN peaks lower, at 56 kb/sec). Thus, it may be theoretically possible to use a modem and an ISDN line for connecting the two computers, but the risk of interruptions in the signal is rather high. In order to reduce that risk, one can broadcast in mono (see below). Thus, if only ISDN is available, transferring the signal via "music taxi" will produce better quality.

A word on such slower connections (under 64k), suitable for use with "music taxi" or "audio-codec". Here, the signal coming out of the mixer at the live event is relayed through a converter or modem and into the ISDN telephone line (which is a double line, enabling stereo). In the studio, the signal coming off the ISDN line again passes through a converter and then into the studio mixer / broadcasting equipment. "Taxi" equipment is expensive, but has the advantage that it can be used wherever there is an ISDN telephone line.

Nevertheless, state-of-the-art live broadcasting via internet transfer from an external venue into the studio remains economically more reasonable. At the studio end, a radio station can also use a broadband hook-up for many other tasks, for example for up- and downloading audio archives. On the other end on the line, at the venue: In a city like Vienna, nearly all indoor events suited for live broadcasting will take place at locations offering a broadband connection. When it comes to outdoor events, the problem of finding an adequate socket to plug into exists independent of the method, live-stream or "taxi".

c) Set-up, software, procedure

Of the two computers, the one with the higher capacity should be located at the studio. Once a community radio station starts to use digital technology (e.g. for automated jingles, programmed play lists, etc.) it will put its best computer in the studio anyway. The procedure is similar to broadcasting via "music taxi": One person must remain in the studio to put the incoming live-stream on air. That person should be in telephone contact with those setting up the stream at the event. Aside from the different socket / plug, the requirements at the location of the live event are the same as for the "music taxi". Handling the technical equipment does not require any specific IT skills. Any person that can be trained in handling the "taxi" can be trained just as easily in setting up a live- stream.

The software necessary for a live-stream is available for free. Both computers need a *winamp* player (free download at: http://www.winamp.com) or a similar tool. Secondly, the computer at the location of the live event needs a streaming programme (e.g. *shoutcast*, free download at: http://www.shoutcast.com/download/broadcast.phtml).

The *winamp* player at the external location receives the audio signal being picked up and mixed at the live event, and *shoutcast* sends it to the stream-server address. If the radio station does not have its own server, it can use the *shoutcast* server. This service is also free. The person in the studio simply clicks on the stream address and the *winamp* player in the studio relays the signal out of the computer and onto to the broadcasting line.

On the *shoutcast* homepage, one can find detailed instructions on how to set up a live-stream. Persons with computer experience will be able to use these instructions and learn to handle the software by trial and error. Beginners will need training and support by an experienced person (for comments see section 2 of this appendix). After a couple of live broadcasts, the trainee will be able to set up the stream alone.

Brief directions for setting up the stream at a live event:

Click *winamp* player - then a right mouse-click on the *winamp* interface – then click *preferences / plug-ins / DSP Effect / shoutcast source.* Under *input* one can regulate the live audio signal on the *open mixer.* This is where the quality of the audio signal is determined. It can be tested on the studio computer (or on any computer connected to the internet with a *winamp* player installed) before putting it on air. Under *output* (on the *shoutcast* interface) one needs to enter the stream address.

Also under *output,* it is necessary to adjust the transfer rate according to the bit-rate of the internet connection being used. Terrestrial broadcasting quality corresponds to a transfer rate of 56 kb/sec. There is no point in choosing a higher transfer rate. Also, the bit-rate of the internet connection should be higher than the one chosen in the *shoutcast* interface, otherwise the stream might be unstable and subject to interruptions ("stuttering"). That is why a bit-rate of 64 kb/sec (minimum) is recommended for the internet connection in order to achieve normal terrestrial broadcasting quality. If the connection has a lower transfer rate, one must also choose a lower rate in the *shoutcast* interface. Any transfer rate lower than 40kb/sec means that a stereo signal will be converted into mono.

2. Workshops / Training for live broadcasts

In the "Digital Dialogues" handbook on webcasting (accessible under http://www.digital-dialogues.de) chapter 5.2.c. gives a detailed workshop outline based on the free *Linux* streaming-software *dyne:bolic.* This outline can also be applied for *shoutcast*. Although the method of live-streaming can be easily taught and applied, it should be taken into account that certain difficulties typical for computer technology and its applications are likely to occur.

a) Trainers

It's necessary for trainers to have a thorough computer background. During live-streaming, unforeseen problems can occur that an experienced computer user will be able to handle. Trainers should be well acquainted with basics like BIOS, audio settings and network settings.

b) Facilities

One important question is whether or not trainees will have sufficient opportunity to practice the method. Most likely, the radio station will have to offer not only organisational help, but also computer equipment, supervision and individual support. Teaching this method therefore appears only reasonable at a radio station that has resources available in these areas.

c) Flexibility

Livestreaming offers various possibilities and is attractive in many ways, not only for live broadcasts (see also handbook on webcasting and use of archives for programme exchange). Workshops on the technique may trigger new interests among radio volunteers that can present an organisational challenge to the staff/station. The station should be prepared to support to such new ideas, otherwise attending workshops could turn out to be rather frustrating for participants.

3. Live-broadcasting as a means of fundraising

Live broadcasting certainly is a possibility for cooperation with local initiatives, NGOs etc. Broadcasting directly from an event is a service that free/community radio stations can offer to groups with limited financial means, whereas public or commercial media will rarely be able to offer such service, due to the cost. While the technique of livestreaming reduces the costs of equipment, the personnel costs remain. All in all, live broadcasting is quite a task – one that can easily be underestimated. It demands thorough preparation at the location, in addition to organisational and editorial preparation of various topics surrounding the live event. Also, the live event will most likely be of considerable length, and may include pauses in the programme.

One factor frequently forgotten: It is not that easy to make a live broadcast interesting for the radio audience, who can only hear – not see – what is occurring. Therefore, the radio team in charge needs experience in producing radio programmes, and they need editorial skills. This means that the team should to be offered training, and also that the communication within the radio station must function well. For a radio station like Orange 94.0 with 500 radio volunteers and programming around the clock, it is also an administrative task to clear the airtime required for a live broadcast. Other regular shows may have to be cancelled on the day of the event or re-scheduled for another date.

Since the financial situation of community radios is rather tight all over Europe, it is essential to discuss costs realistically. On the other hand, offering live broadcasting as a service to the community can be a tool for fundraising, if the costs are calculated properly. A radio station that employs digital technology does not require any additional infrastructure for live broadcasting. The bill for a live broadcast, however, must include a percentage of that infrastructure, as well as a pragmatic estimate of working hours. As indicated above, there is a great deal of secondary work surrounding a live broadcast. Also, live broadcasting depends to a significant extent on the communicative infrastructure within the radio station as a whole, which in itself is costly to maintain.

Live broadcasting takes advantage of and depends on a complex infrastructure, which a community radio station of a certain size has to maintain at any rate. If a certain percentage of these infrastructure costs are included in the fee for a live broadcast, then live broadcasting can help to fund the infrastructure as a whole. Depending on circumstances that differ from station to station and from event to event, a live broadcast lasting three hours should generate income of at least 1000 Euros. Anything below that won't cover the expenses, assuming that the radio station has paid employees preparing and handling the event.

Of course this leads to a political question. From our point of view at *Orange*, the main purpose of free radio is to provide open access to radio as a medium, especially for underrepresented groups. Live broadcasting as a means of fundraising is obviously not comparable to live broadcasting as a tool of cooperation with groups whose financial framework is limited.

In some cases, though, local officials / institutions may be very interested in this service. Whatever the situation, the content of the live event will have to be compatible with the political values of the radio station. Most likely, the cooperation partners relevant for fundraising through live broadcasting will not be community initiatives or private organisations and enterprises, but rather public agencies and functionaries who have a budget for public events.

Wolfgang Kemptner, Radio Orange 94.0, Vienna

Appendix II

Equipment list for a live broadcast from an external venue

This list was used for preparing a broadcast from the ecological trade fair in Freudenstadt in the Black Forest. The signal transfer was handled via ISDN phone line. Since a panel discussion was planned, the mobile studio was set up offside the panel to accommodate the microphones. This meant that the distance from the radio mixer to the phone socket was greater than usual (therefore: 100m cable). Tables and chairs were available at the venue for both the mobile studio and an information booth. Note that in addition to technical equipment, material for publicity work about the radio was included.

COMPONENTS
- mixing table
- large flight case containing:
  audio codec (music taxi)
  CD player
  receiver for wireless microphones
- small flight case containing
  cassette deck
  CD player
- correct connecting cables for all the above
  (audio components to mixing table: 10 cables plus reserve)
- 3 fader cables for automatic start of audio components (quarter-inch jack) 2 short, 1 long

MICROPHONES AND ACCESSORIES
- 3 stationary mikes (sphere) for panel discussion
- 2 wireless mikes (in their case, with black and red wind protectors)
- 1 stationary mike (kidney) for radio announcer next to mixer
- 2 new block batteries (9 V) for wireless mikes
- 4 new mignon batteries (1,5 V) for stationary mikes

- 3 microphone cables for panel (10–20 meters, XLR to quarter-inch jack)
- 1 microphone cable for announcer (3.5 mm to quarter-inch jack)
- extension cable for radio announcer's microphone (20 meters)
- 3 microphone stands (table) for panel
- 1 high microphone stand

FOR ISDN CONNECTION
- NTBA for audio codec with connecting cable
- cable roll for ISDN extension (XLR, blue, 100 meters)

ADDITIONALS
- 2 headphones
- 2 walkie-talkies
- boom-box
- cable drum (220 V)
- 3 3-way extension cords (220 V)
- additional cables and adapters as a reserve
- screw drivers (normal and Philips head)
- small tool kit
- voltmeter
- wire clippers
- needle-nose pliers
- duct tape
- scissors
- radio banner with cord for hanging
- radio t-shirts for team
- progamme info and other radio handouts

Appendix III

Questionnaire for team members (radio volunteers) after completing a live broadcast

About your team experience on this live broadcast……………………………………………..page 1

During the preparatory phase, was it clear to you what your role within the team was (what tasks would be your job before and during the event)?

yes   partly   no

Did you feel prepared for this role?

yes   partly   no

comments_____

During the event, were there tasks to be attended to that no one had thought of in advance?

yes   no

what tasks?_____

In your opinion, was the division of labour successful, so that all team members had jobs they could manage?

yes   partly   no

Did you enjoy working together in the team on this broadcast?

yes   partly   no

Is there anything you think should definitely be done differently next time?

yes   no

what?_____

Would you like to participate in such a live broadcast again?

yes   maybe   no

comments_____

About cooperation with external partners planning events………………………………………...page 2

The event and broadcast took place on (date)_____

In your estimation, was the event itself a success?

yes   partly   no

comments_____

Do you think the broadcast was successful?

yes   partly   no

What purpose did it serve for the radio?_____

for the external partner?_____

Did you have direct contact with the people organizing the event?

yes   marginally   no

Do you think the radio station should continue and expand this type of cooperation?

yes   not sure   no

In what way?_____

Other groups you could visualize cooperating with:

_____

_____

Additional comments

_____

_____

_____