

Radio Broadcasting System

For

Community Radio

Software for radio Automation for Agricultural Universities



World Development Foundation
And



Media Lab Asia

Note: The work was undertaken as part Media Lab Asia project entitled “Development of cost-effective solution for Community Radio Station and its deployment for livelihood generation”

Radio Broadcasting System

1. General

Present-day radio stations are successfully following the ever faster development of IT and incorporating its contributions in everyday work. Private commercial Radio Stations of modern time use complete digital chain. However, it is possible to use a hybrid system, using analog mixing cum on-air console and have the benefit of digital storage and processing. In this system, it is possible to record, store, preserve and broadcast the audio in the digital form. For this automation software is required. Most automation systems today offer the same basic set of features or functions. They all play back audio that is fed to the system via CD, microphone or from the studios. The software allows instant playback of items and they all offer some type of production interface. In addition to the basic features required, many systems offer options and features to fit the needs of a Radio station's unique situation.

Every modern radio station must have following components:

- Components for preparing and processing radio programme
- The system for digital production and broadcasting of the programme
- Database containing the data necessary for the storage of meta data
- Broadcasting of the radio programme through a scheduler

A typical radio station is shown below (Fig. 1):

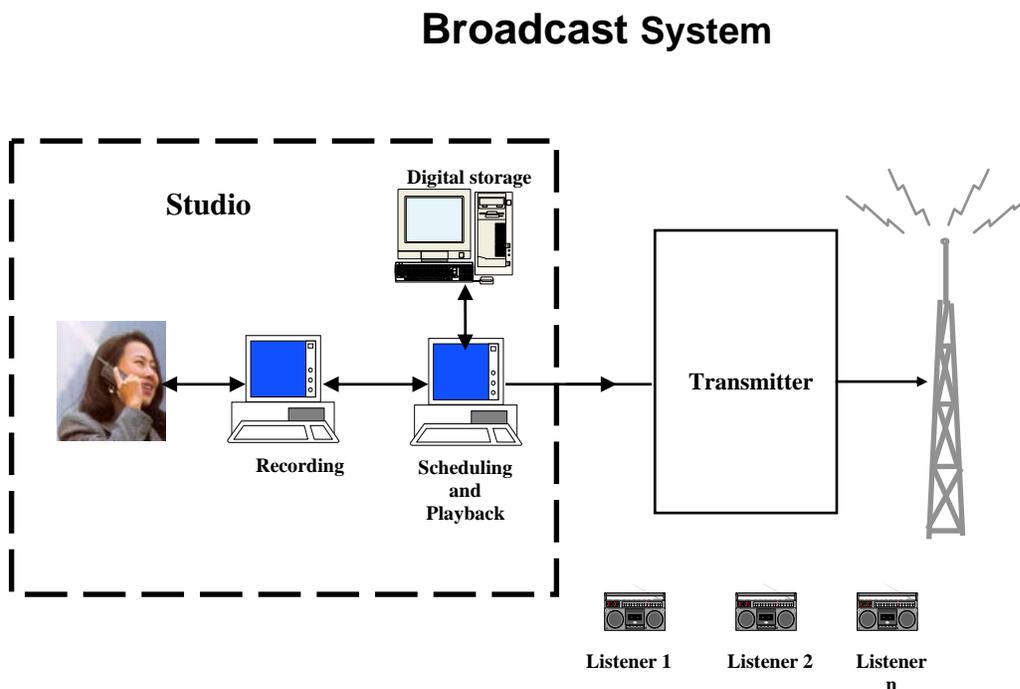


Fig.1 Typical broadcast system

2. About RBS

World Development Foundation with the association of Media Lab Asia has developed a radio automation package known as “Radio Broadcasting System” (RBS) (Fig. 2) that provides all these functionality. RBS is fully integrated radio automation software which turns the PC into a fully automated radio station. The only thing a station has to do is to import the audio files into the correct database, enter the metadata such as programme name, expert name etc. and RBS will play them in minutes. It combines research with cutting-edge technology to bring the power, features, and reliability that professional broadcasters require. RBS takes control of all aspects of broadcast and makes the sound professional while saving the time and money. With the flexibility, compatibility, and strong support network, RBS is specially developed keeping in view the needs of Universities, Colleges and educational institutes.

Keeping in view, the new policy of Govt. of India to allow the Community Radio Broadcasters to relay the advertisements, RBS has provision for booking of advertisement and mixing it with other programmes while making a play list. Station promos, effects, special broadcasts can also be included in the play list. It is also possible to generate daily production sheets and invoices for advertisement booking.

RBS is simple, easy to operate, focused for educational institutes and KVKs and can be easily personalized which includes incorporating universities logo, its name etc. WDF can also help in customizing the application for special individual needs.

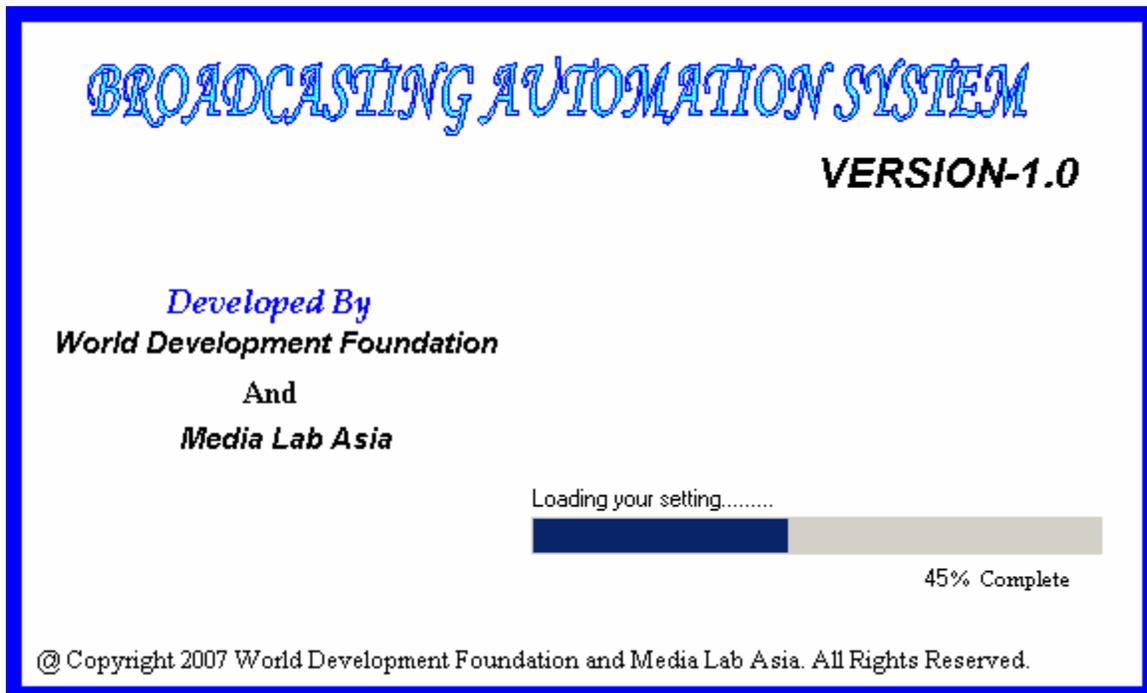


Fig.2 RBS software: Opening Screen

RBS can play a 24 hour automated radio station program with playlists, promos, jingles, advertisements etc. Database can be safeguarded by making easy database backups.

It is also possible to edit the database. This gives program directors, technicians, etc. a very powerful and versatile tool to accomplish day to day routine scheduling, editing, etc.

The major components are given below:

When the software is started, a screen is displayed (Fig. 3) which allows user to adjust the date and time which shall be used as the radio clock.

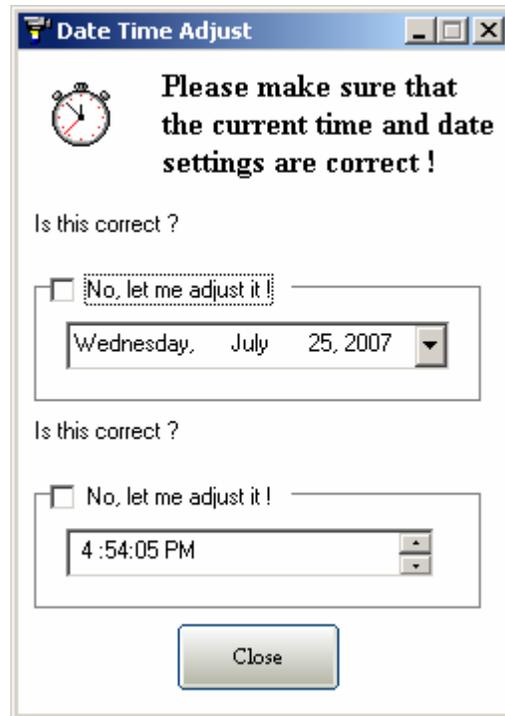


Fig. 3: Radio clock

After adjusting the date and time, if required, Screen shown in Fig. 4 is displayed which shows the various components of the RBS system. On the top horizontal menu, it has following options:

- File
- Studio
- Programme
- spots
- Promos
- Tools
- Option/Utility
- Help

On the vertical side, it has following options:

- Studio
- Security
- Backup
- Restore
- Help

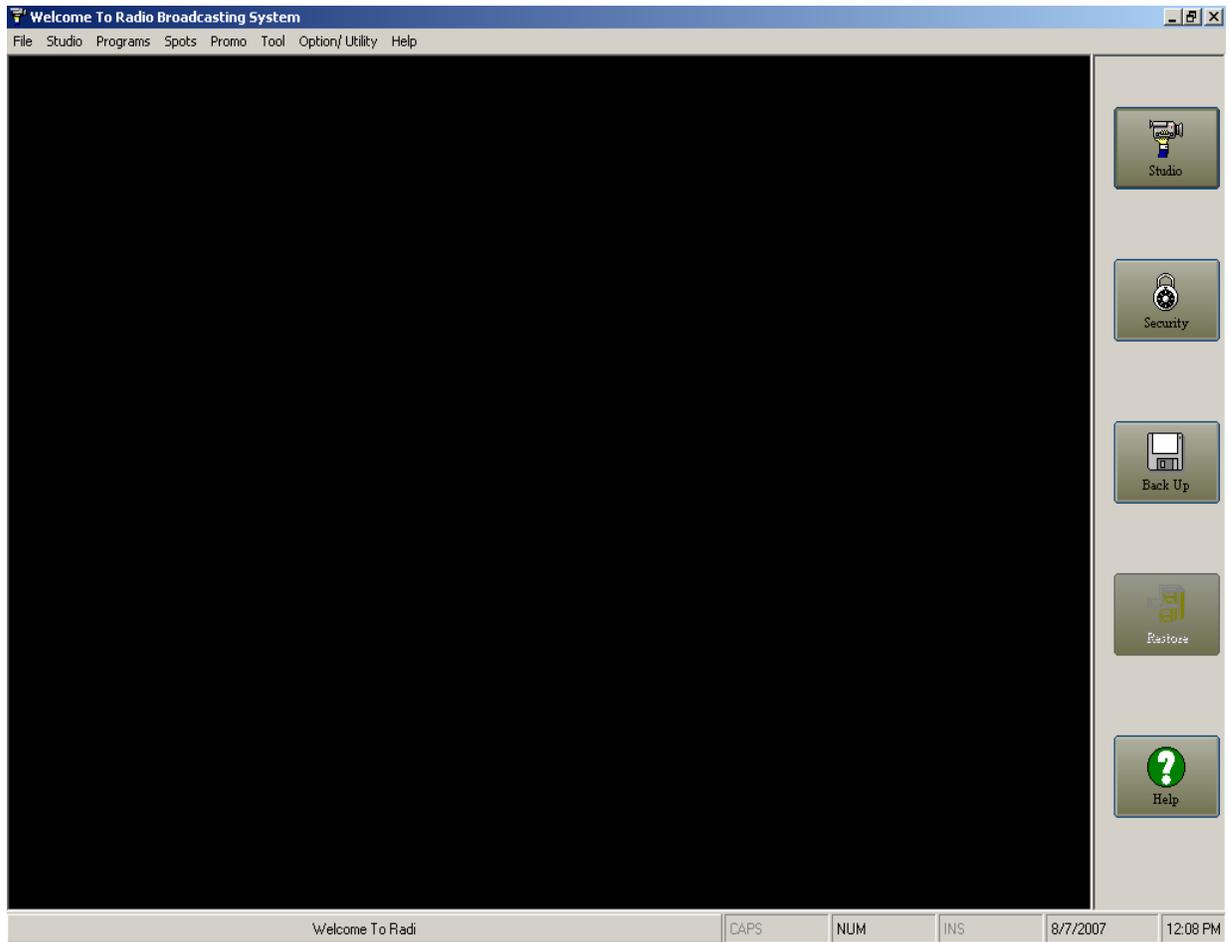


Fig.4: Main Screen

File menu has three options:

- Log in
- Log Out
- Exit

Selecting login provides following screen (Fig. 5):

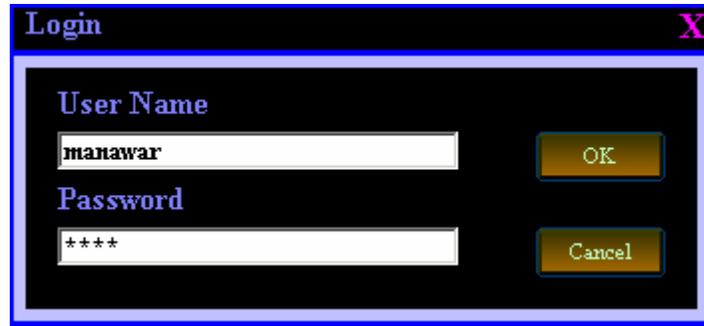


Fig.5: Log in Screen

After Log in, User can go to the Studio which is the heart of the RDS Software. The screen is shown in Fig. 6.

The Studio screen displays the following information:

- FM Station:** I H
- Title:** Income Tax
- Position:** 0.16
- Duration:** :00:33
- Date:** Wednesday, August 01, 2007
- Time:** 04:09:11 PM

#	Title	Agency Name	Product	Ad Company	Start Date	Time Slot
1	Nirma	DAVP	Consumer Goods	Nirma	7/30/2007	A
2	Indian Oil	Linatas	Petroleum	Indian Oil	7/7/2007	C
3	Income Tax	Linatas	tax	Income Tax	7/25/2007	B
4	Coca Cola	DAVP	Consumer Goods	Coca Cola	7/25/2007	B
5	Disaster	Linatas	Consumer Goods	Disaster	7/28/2007	B
6	LG	DAVP	Consumer Goods	LG	7/29/2007	A

#	Title	Duration
1	Fishing	:13:59
2	Indian Oil	:00:28
3	Nirma	:00:20
4	LG	:00:23
5	Success of Satisfaction	:59:25
6	Income Tax	:00:33
7	Coca Cola	:00:15
8	Suno Kahani	:17:23
9	Nirma	:00:20
10	Disaster	:00:29
11	Coca Cola	:00:15
12	Aahu ki khethi	:28:42
13	Disaster	:00:29
14	Income Tax	:00:33
15	Nirma	:00:20
16	Indian Oil	:00:28

Time	Title	Duration
04:08:55 PM	Income Tax	:00:33
04:08:48 PM	Success of Satisfaction	:59:25
04:08:48 PM	LG	:00:23
04:08:47 PM	Nirma	:00:20
04:08:46 PM	Indian Oil	:00:28
04:08:46 PM	Fishing	:13:59

Fig. 6: Studio Screen

It will be seen that this is basically having multiple screens. Screen F allows selection of previously stored Playlist/programs/commercials/promos. It also has facility for switching to the main screen, invoking a recorder/ invoking internet/ help/ contact us or exit screen. On appropriate selection, program/commercials/promos stored in database are displayed in screen A. Any one of them may be selected and brought to screen B. The playlist is prepared in Screen C. Either it can be played instantly or stored for later play

back. If a Playlist is selected, it is displayed in the screen C. On play back the history is displayed in screen D.

Screen E allows searches of various programmes from the database based on the search criteria. Screen G allows control of mike and also the volume etc. Screen H shows the programme/commercial/promo being played and the position. Screen I allows customization and also placement of logo.

If we go back to the main screen, the third selection allows to go to programme database. It provides two options:

- Add New
- Database

On Selection of Add New, Screen 7 gets displayed.

The screenshot shows a software window titled "Add Programme Into Database". Inside, there's a section labeled "Programme Details" with two columns of input fields. The left column includes fields for Program ID (containing '33'), Title, Program Name, Category (with a dropdown and 'New' button), Sub Category (with a dropdown and 'New' button), Anchor (with a dropdown and 'New' button), Accompanist 1 (with a dropdown and 'New' button), and Accompanist 2 (with a dropdown and 'New' button). The right column includes fields for Expert 1, Expert 2, Expert 3, Language, Right (with a dropdown and 'New' button), File Path (with a '>' button), and CD Number. At the bottom, there are three buttons: 'Update', 'Add', and 'Close'.

Fig. 7: Adding new programmes into Database

It is a simple screen for adding details of metadata about new programmes such as Programme Id, Title of the programme. Name of the programme, Category (Farming), Sub Category (Organic farming), Anchor, Accompanists, Expert's name, Language of the programme, right owner etc.

On selecting database, the Screen 8 gets displayed.

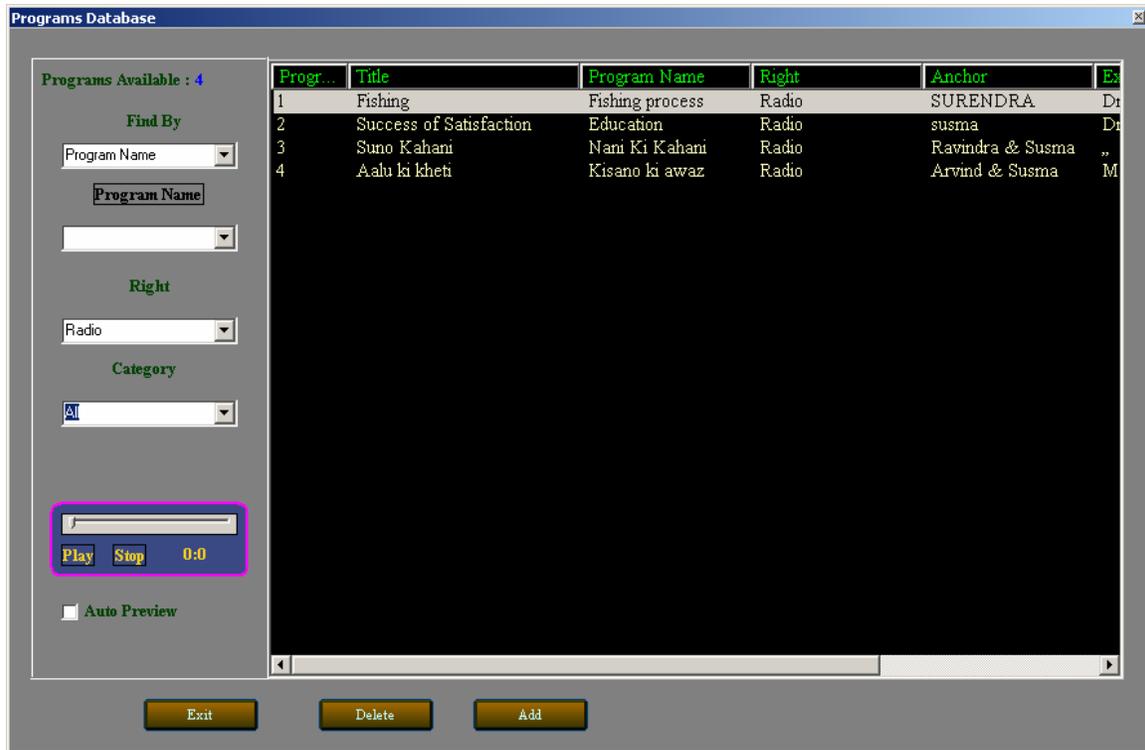


Fig. 8: Programme database

The main screen shows the details of the programmes in the database namely Title, Programme name, right etc. On the left side screen, facility for sorting on programme name, right, category etc. has been provided. There is also facility for playback of a programme. Any programme can be deleted, or added by invoking the previous screen from here.

The fourth and fifth menus of the main screen are for commercials and promos which allow similar facilities for adding new commercials/promos and viewing their databases. The screens are shown in Figs. 9 to 14.

Fig. 9: Screen for adding new commercials

The details about the new Agency can be entered in the screen shown in Fig. 10

Fig. 10: Form for entering new agency details

The details about the new Company can be entered in the screen shown in Fig. 11

Company Details

Id Number :

Company Name :

Address 1 :

Address 2 :

Address 3 :

Pin Code :

Phone Number :

E-Mail :

ADD

Exit

Fig. 11: Form for entering new company details

Commercial Database

Commercial Available : 6

Find By

Agency Name

Agency Name

Play Stop 0:0

Auto Preview

Title	Agency Name	Product Name	Add Company	Start Date
Nirma	DAVP	Consumer Goods	Nirma	7/30/2007
Indian Oil	Linatas	Petroleum	Indian Oil	7/7/2007
Income Tax	Linatas	tax	Income Tax	7/25/2007
Coca Cola	DAVP	Consumer Goods	Coca Cola	7/25/2007
Disaster	Linatas	Consumer Goods	Disaster	7/28/2007
LG	DAVP	Consumer Goods	LG	7/29/2007

Exit **Delete** **Add**

Fig. 12: Screen for commercial database

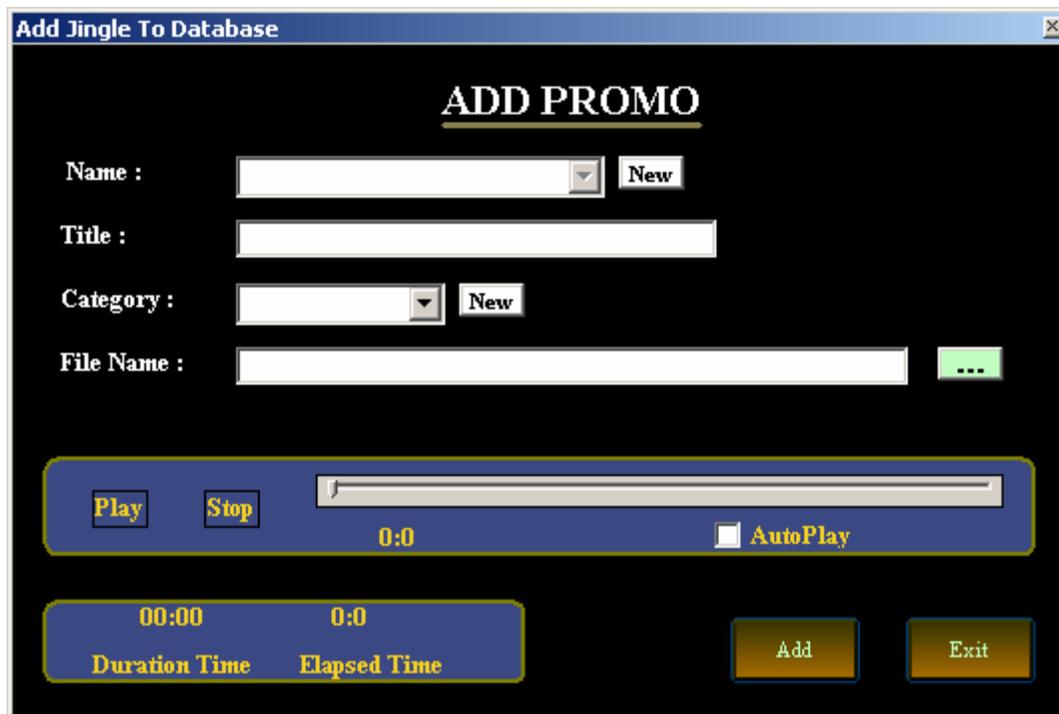


Fig. 13 Screen for adding new Promos

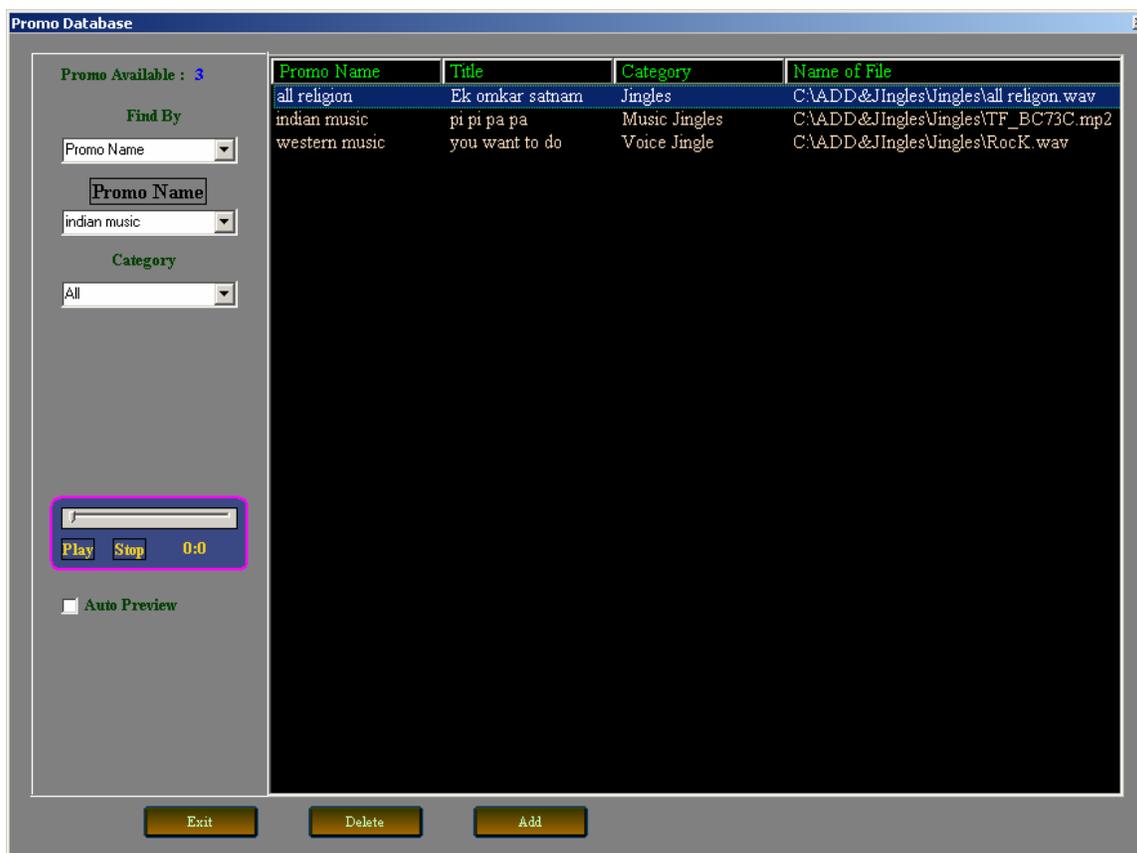


Fig. 14: Screen for Promo database

The 6th menu of the main screen provides two facilities:

- Start Ripping
- Start Editing

Start Ripping

This allows song tracks to be captured from CD. It uses CDex, a utility for extracting sound files from CDs in the CD-ROM drive, and for converting WAV files into several other (compressed) formats, like the popular MP3 format (Fig. 15).

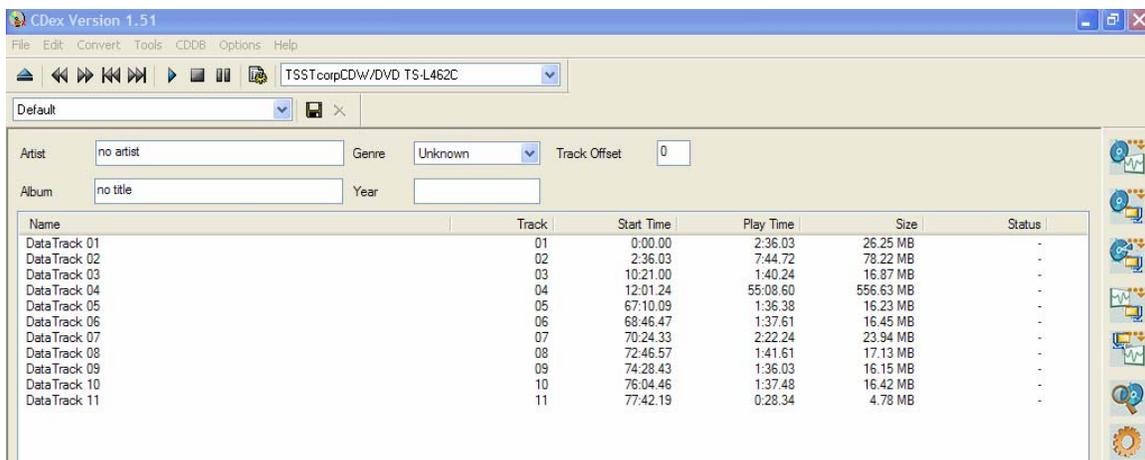


Fig.15 CDex Ripping software

Start Editing / Recording Software

It has two versions of audio editing software namely based on Audacity (Fig.13). However, any other third party editing software can be integrated based on user's choice.



Fig.16 Audacity audio editing software

For quick recording, the package has its own recorder (Fig.17)

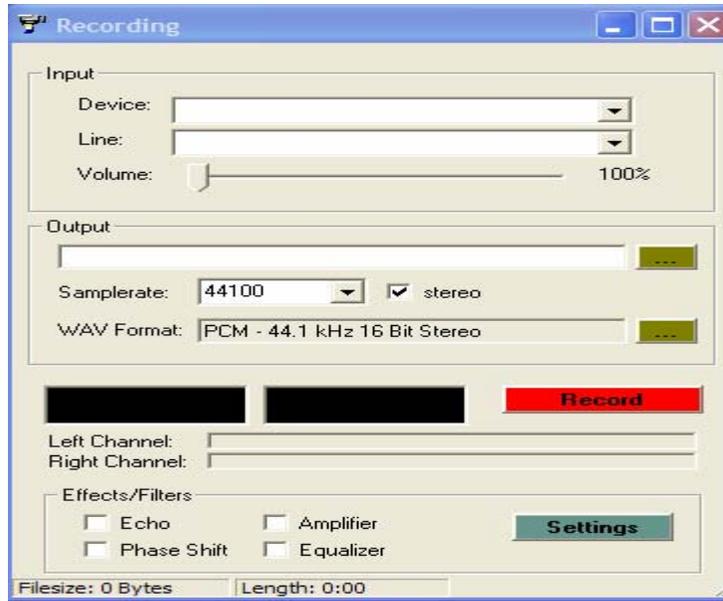


Fig. 17 RBS recorder

The screen option /Utility provides following facilities:

- Report
- Security
- Backup
- Restore

Report

RBS also enables the creation of reports on the programmes broadcasted, which can be used as a basis for paying royalties to authors and performers (Fig. 18). The report is basically a daily log sheet giving details of programmes/advertisements/promos broadcast between given two dates.



Fig. 18 RBS Reports

The format of the reports are given in Fig.19 and Fig. 20

Radio Automation System

Date/time of Print :- 08/02/2007 04:17:12 PM

Radio Station Station Name

Programs List

Title	Date/Time	Duration	File Path
Fishing	8/2/2007 3:00:30	13:59	c:\datasong\sample1.mp3
Success of	8/2/2007 3:30:42	30:13	c:\datasong\sample2.MP3
Suno Kahani	8/2/2007 3:48:05	17:22	c:\datasong\sample3.mp3
004 GEET = MERE	8/2/2007 4:16:46	28:42	f:\Rafi Songs\004 GEET =

Pages: 1

Fig. 19: Production log sheet

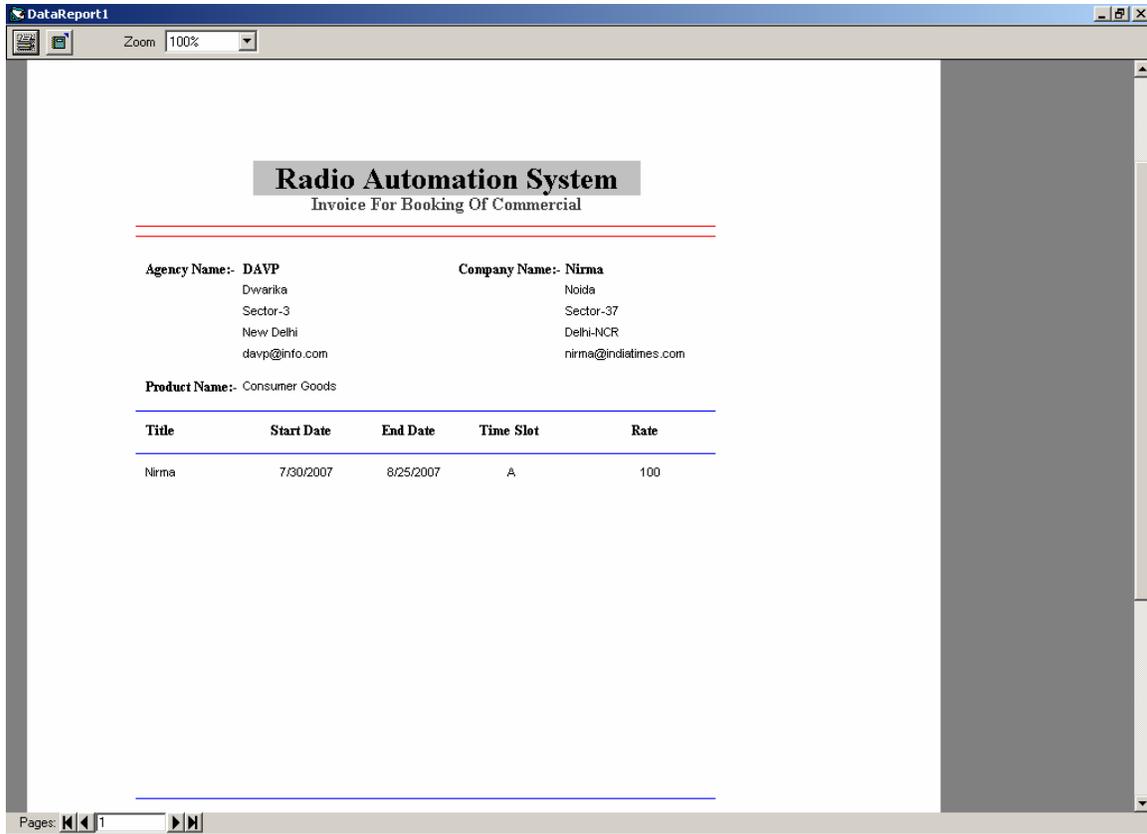


Fig. 20 Advertisement payment invoice

The report in Fig. 20 has to be invoked from screen shown at Fig. 9.

Security

This allows new users to be created (Fig. 19)

New User X

User Name

Password

Re-Enter Password

OK

Cancel

Fig. 19: creation of new users for the system

Backups

In this screen you can make a backup of your RBS databases (Fig. 20).

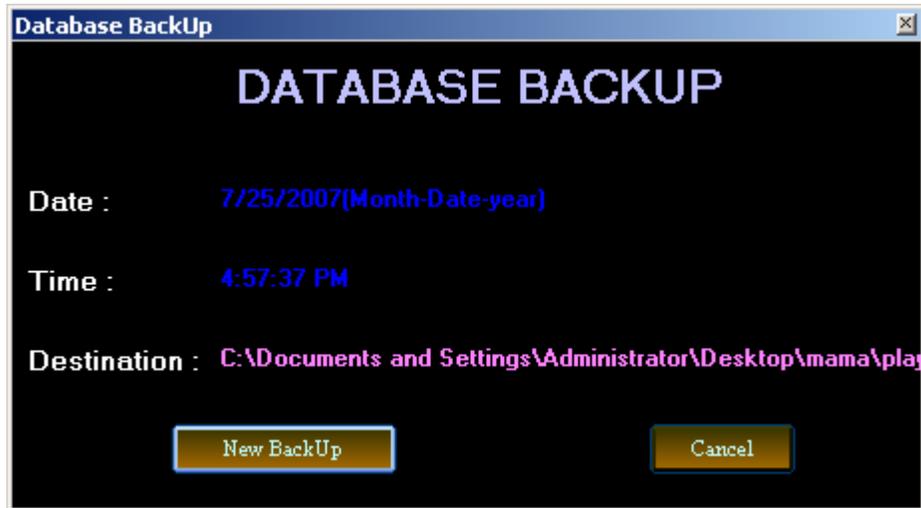


Fig. 20 Database backup

Restore

This utility allows restoration of database (Fig. 21).



Fig. 21 Database restoration utility

The last screen is the help, which provides on-line manual and also about the programme rights.

3. Technical Characteristics

Work Environment: Windows XP, Web browsers: Internet Explorer

Database: MS Access

Capacity: unlimited, depending on the capacity of the hardware

Additional Services

Together with the installation and support of the RBS system, we offer:

- User training
- Work organization or help with the work organization
- Help with the data processing or execution of the data processing
- Manual data input from classical media (catalogue leaflets)
- Large amount atomized manual data input and data manipulation
- Digitalization
- Building radio stations
- Consulting

4. About Media Lab Asia

Media Lab Asia under Ministry of IT, Govt. of India helps the dissemination of innovations and technology that benefit the greatest number of the underprivileged population. It has conducted research and developed innovative technology for the benefit of poor and rural masses.

5. About World Development Foundation

World Development Foundation (WDF) is a knowledge-based, global foundation with a commitment to enrich and sustain the lives and livelihoods of poor and excluded people throughout the world. WDF strives to empower the poor by providing education and training with the use of Radio, TV and the Internet. It also conducts research and seminars on social and economic issues. All these efforts are aimed at one goal, namely, Life Enrichment of the Poor and Socially Challenged.