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System Description



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Outstanding Features

Robust, reliable operation:	-Recordings continue even when the network goes down (and they will go down!)
	- Operates independently of type of computer, networking used
	-Computers do not depend on each other for recording
	-Each computer is independently controlled by light (optical couplers) eliminating electrical co-interference, spikes, glitches, and lightning-induced transients
	-Operates with ordinary computers and sound cards - no proprietary PCs needed.
	-Full, continuous hardware and software built-in-test (BIT)
	-Automatic, continuous monitoring of all recording computers ensures that all machines are recording reliably.
	-Military aircraft-style control bus operates the recording computers reliably even under adverse conditions or partial failures.
Universal, Open Standards:	-All files recorded in Microsoft(TM) .WAV and TrueSpeech(TM) .WAV formats, which are playable on any Windows computer
	-Does not require the person playing the file back to have custom hardware or software



Outstanding Features- continued

Low Life Cycle Cost:	-Low initial acquisition cost
	-Operates independently of type of computer and networking used
	-Proprietary computers or "maintenance" contracts not required
Longevity:	-Designed to operate reliably for many years -Gold contact million-cycle switches -Extremely low power consumption -Console control station uses an external UL-approved power module that is universally available -Optical coupled PC interfaces ensure that the computers will never be damaged from power-company voltage induced spikes or ESD(electrostatic discharge) via the Control Console -Optical coupled interfaces ensure that one computer cannot cause another computer to fail



System Block Diagram





HARDWARE COMPONENTS



DRS Control Console



PUSHBUTTONS and INDICATORS



Start Stop DRS 4-Channel Interface to Recording PCs



-One Interface required per recording system

-Automatically pre-configures the recording PC to the language and Machine Type (Machine "A" or Machine "B")

-Connects to standard DB-9 Serial port on recording PC

-Provides serial data and BIT commands to recording PC

-Controlled via an internal optical coupler by the harness



Start Stop DRS 4-Channel SYSTEM MONITOR



-One Interface required per DIGITAL RECORDING SYSTEM

-Provides independent, real-time System Status Information (Record, Pause, Stop, and Erase) to the Workstation PC's Database and Network Monitor (BIT) applications

-Controlled by the DRS Control Console, and connected via serial port to the Workstation PC



SOFTWARE COMPONENTS



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RECORDING PC's - Main Recording Software





RECORDING PC's – DRS Supervisor

-Launches the DRS Status Panel Software Automatically

-Shortcut to DRS Supervisor.exe should be located in the Windows Start Up Menu.





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WORKSTATION PC - Controls all parameters for the next Recording Session

DRS Workstation Recording Control



NOTE: The Recording Control may be co-located on the DRS Workstation/Server (recommended) or it may be located on a remote, independent machine if desired that you want to erase, and then click on the UPDATE button. Then, the next time the DRS Control Console ERASE pushbutton is physically pressed, all Recording PCs will simultaneously erase all file recordings in all languages that start with that particular name.

Click this button once you have everything set up the way you want it. The Recording PCs will then be able to "read" the drs.cfg file that is created on the "Server Drive"



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WORKSTATION PC - Maintains a Database of all Current and Past Recording Sessions

DRS Database

-The database file is saved in a standard Microsoft Access (.MDB) format for easy access, review, and editing by other popular database programs. Every time the operator initiates a new Recording Session by pressing the RECORD pushbutton on the DRS Control Console, the data base automatically reads the drs.cfg file from the server, and fills in the first three columns. When the operator presses the END SESSION pushbutton on the DRS Control Console, the End Time column is automatically filled in. Database is automatically updated at this time and saved.

Status Indicator reads the current state of the DRS Control Console and displays it here.

- 0 ×

🛃 DRS Database





WORKSTATION PC - At-a-Glance Graphical Status of the System's Health

Yellow Arrow shows

that is not ready.

location of the machine



providing a "heartbeat" that

says that it is capable of recording

Progress" Mode, neither

Machine "A" or "B" is

actively recording

(recommended) or it may be located on a remote, independent machine if desired



WORKSTATION PC - Simulates Entire Network for Troubleshooting or Partial Language Operation

Simulated LEDs flash when Recording Checkboxes are checked to simulate the "heartbeat" of a real Recording PC Machine



-PARTIAL LANGUAGE OPERATION: For example, suppose the Chinese machine is not intended to be used, but the Network Monitor will continue to beep and show a fault condition. To eliminate this, launch the Network Simulator and un-check every box. Now add checkmarks to Chinese Recording "A" and Ready/Not Ready Chinese "A" and "B". The Network Monitor will be "fooled" into thinking that the Chinese Machine is running normally, and will not show any alarms or faults during your recording session.

if desired, and then path letter of the Server would be entered here (e.g. 'R')



WORKSTATION PC - Status Panel Shows Current State of Control Console Status Panel for Workstation





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"Super User" **Features**

- To operate in Super User mode: 1). Click and drag the mouse pointer on the bottom edge of the DRS Status Panel Window to expand it vertically. 2). Check the small box next to "Super User".





TECHNICAL DETAILS ON FILE I/O



Recording PCs

DRS Server/Workstation

the 14

Recording PC's

DRS-2000 Digital Recording System for the Parliament of Aruba

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Server Drive

Letter for the

Database Program

"c"

└── "drs db.ini"∠

Overall File Transfer Roadmap



(File="*.now", where * = Record, End, Pause, Erase) = ("R:\" as seen by the rest of the network)

Broadcasts current Control Console Status

DRS Network Monitor: Listens to "Heartbeats" from Recording PCs



DRS STATUS PANEL FILE I/O



1) The DRS Status Panel executable ("DRS Status Panel.exe") when launched, will look for the server's "drs.cfg" file, and will be looking for it to be on drive "R:\" in the root level. If it can't find it, it will then give dialog boxes asking you if you want to use the default local cfg. File. The DRS Status Panel should look like this (except for the filenames, which may be different than shown):

🤮 DRS STATUS PANEL		_ 🗆 ×
<u>C</u> onfigure <u>A</u> bout <u>E</u> xit		
STATUS	MODE	ERASE
OK English A COM1: Lunced Action:	PAUSE SESSION OVER	SESSION ERASED:
Session 10:05:29 PM Started Total ET 00:00:48	Segment Time 10:12 MM:SS Last Paused Ending Time	Date/Time Erased
System Sep 02, 1998 Time 10:06:17 PM	Recording TrueSpeech Formal WAV (TM)	Save T.S. to Server C Extra Drive: C Drive: C



2) When the DRS Status Panel starts running, it creates the following subdirectories on both the local recording PC under "C:\DRS", as well as on the server's hard drive, under "R:\DRS:".

Name	Size Type	Modified
🗀 Arabic	File Folder	8/30/98 12:26 AM
🚞 Bit	File Folder	8/30/98 12:28 AM
🚞 Chinese	File Folder	8/30/98 12:26 AM
🚞 Database	File Folder	8/30/98 12:32 AM
🚞 English	File Folder	8/30/98 12:26 AM
C Floor	File Folder	8/30/98 12:26 AM
🚞 French	File Folder	8/30/98 12:26 AM
🚞 Logfiles	File Folder	8/30/98 12:26 AM
🚞 Russian	File Folder	8/30/98 12:26 AM
🗀 Spanish	File Folder	8/30/98 12:26 AM

Recordings are initiated as a series of sequentially numbered file names when the user presses "RECORD" on the console. The files are automatically copied as they are created to both the local recording PC's hard drive, as well as to the Server's hard drive. The File Naming convention is as follows:



1. First letter represents the language or audio source of the recording:

A=Arabic, C=Chinese, English, "_" (underscore) =Floor, F=French, R=Russian and S= Spanish.

2. Session Name entered from the DRS Workstation Console: Up to 5 alphanumeric characters long.

3. Sequential recording segment number. Automatically assigned by the DRS recording system.

Odd numbers (01,03,05...) come from Machine "A", while even numbers (02, 04, 06...come from Machine "B".

4. File name extension: ".wav for recordings, or ".log" for Logfiles.



3) LOGFILES

During a recording session, a "log file" is created. At the end of the recording session, the logfile is automatically copied to the directory "C:\DRS\Logfiles" on both the local recording PC, as well as to the server.

The file naming convention is:



1. First letter represents the language or audio source of the recording: A=Arabic, C=Chinese, English, "_" (underscore) =Floor, F=French, R=Russian and S= Spanish.

2. Session Name entered from the DRS Workstation Console: Up to 5 alphanumeric characters long.

3. Source of the logfile: Machine "A"= "A", and Machine "B"="B"

4. File name extension: always ".log" for Logfiles.

The logfiles are created in plain-text format (ASCII) and can be read with the Notepad application in Windows. The logfiles provide date-time event stamps and document every action the user or the DRS recording software generated during a recording session. The logfiles are compact, and can be viewed or e-mailed when technical support is required.



4) Configuration and INI Files

A.) "DRSPAN2.INI" -Used by the DRS Status Panel

During installation, this file is copied to the Windows directory, normally C:\Windows. The file is automatically updated each time "DRS Status Panel.exe" runs, and is saved upon exit or shutdown with the most current configuration.





4) Configuration and INI Files (continued)

B.) "DRSDEFAULT.CFG" -Used by the DRS Status Panel

During installation, this file is copied to the Windows directory, normally C:\Windows. It is a backup (data source) file that is copied to the local hard drive root and renamed as "drs.cfg" (c:\) and used in cases where the DRS Status Panel cannot find the server's hard drive root (e.g. "r:\) copy of the file "drs.cfg". The DRS Status Panel will alert the operator that it can't find the server file drs.cfg, and will ask if they want to load the "default" configuration for this recording, or else manually copy a "drs.cfg" file in the root of the local hard drive via floppy or otherwise.







4) Configuration and INI Files (continued)

C.) "DRS.CFG" -Generated by the DRS Recording Control Software

This file is generated whenever the operator clicks on the UPDATE button on the DRS Recording Control application. The nominal drive letters to which this generated file is sent = "r:\" and the local hard drive "c:\". If you enter another drive letter in the "Server Drive Letter" box (e.g. "s") before clicking on UPDATE, then recording configuration file drs.cfg will be sent not only to the local hard drive root (c:\) of the machine on which you are running the DRS Recording Control application, but also to the root of the entered drive (e.g. "s:\").

(ASCII TEXT FILE FORMAT)





4) Configuration and INI Files (continued)

D.) BIT FILES -Generated by the DRS Status Panel

These 1-byte long files are automatically generated and deleted on the Server's r:/DRS/BIT subdirectory about once per second to form a "heartbeat" signal whenever the DRS Status Panel is running. This heartbeat is detected by the Network Monitor and reports the health status of each Recording PC:

"I'm Healthy and Ready to Record" file:





DRS DATABASE FILE I/O



Configuration and INI Files:

A.) "drs_db.ini" FILEGenerated and read by the DRS Database

This file normally resides in the c:\Windows directory of the PC in which the DRS Database application is stored. It tells the Database program the path where to look for the database itself, stored in the /DRS/Database subdirectory as "drs2.mdb".

File contents (ASCII): "C"

B.) "drs2.mdb" FILE-Read and modified by the DRS Database

This file normally resides in the (server drive:)/DRS/Database subdirectory as "drs2.mdb". It contains the entire database for all Recording Sessions. It is a standard Microsoft (TM) Access Format Database file, and may be read or edited by Microsoft Access or other applications that can read the .mdb format.



DRS WORKSTATION STATUS PANEL FILE I/O



Communication File:

The Workstation Status Panel's function is to independently communicate the current state (last button pressed) of the DRS Control Console. This information is communicated to the DRS Network Monitor and DRS Database applications via the (server drive:)/DRS/BIT subdirectory. A single 1-byte long file is dynamically created and deleted to reflect the current state of the DRS Control Console:



One and only one of these files will appear in the (server drive:)/DRS/Bit subdirectory at a time.



NOTES



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NOTES

1). Logfiles are not erased; they accumulate until you manually erase them. If the same session name is used over again (another recording is made with the same file name as previously, using the UPDATE button to purposely record on top of the old one), the logfile will overwrite the previous logfile of the same name when the recording is over

2) Server Recordings will not be erased.

3) If a new recording session is initiated without changing the session name first, the DRS Status Panel will refuse to record over the existing session. However, if you click on the UPDATE button in the DRS Recording Control panel without changing the session name, then the DRS Status Panel will allow you to record over the existing files. If you do this, please note that currently the software overwrites the existing recordings on a one-by-one basis. It does not carte-blanche erase the previous recording session files before it begins. If "Suppress Warnings" is un-checked on the DRS Status Panel Configure menu, then the system will overwrite existing recordings with the same name, without asking first.

4) Be sure that the recording PCs have had Windows (TM) installed with all multimedia options checked. To verify, go to START, SETTINGS, CONTROL PANEL, ADD/REMOVE PROGRAMS, then WINDOWS SETUP. Make sure that all MULTIMEDIA options have been installed & checked (Click on DETAILS).