DR-800
Digital Voice WAV Player
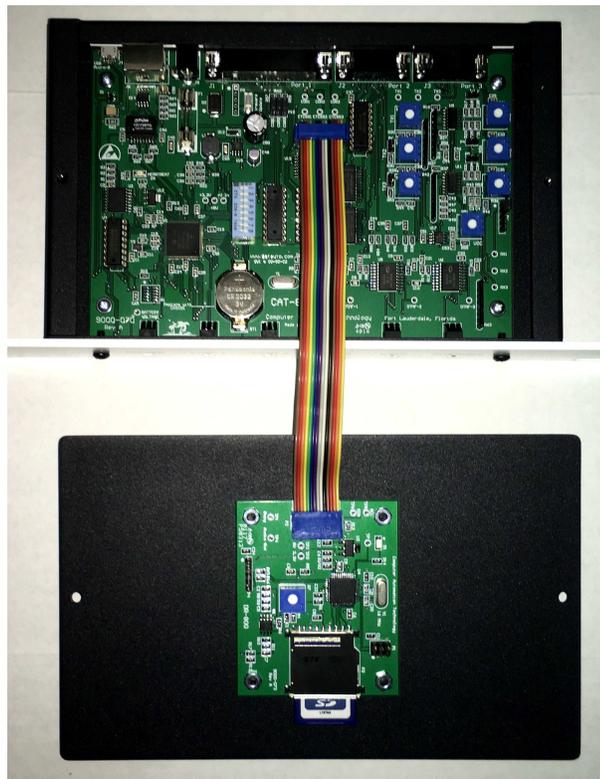
Instruction Manual

DR-800 Digital Voice WAV Player

The DR-800 plays prerecorded WAV files stored on a standard SD memory card. The Digital Voice Player will support 99 WAV files of any length limited only by the size of the SD memory card used.

Digital Voice WAV Player Installation

Mount the DR-800 on the under side of the cover. using the supplied drill template and hardware. Connect the ribbon cable to the P8 header on the CAT-800 board. The CAT-800 controller requires firmware Version 1.05 or greater.

Turn on the power and check the red LED on the DR-800 lights indicating the SD card has initialized. The SD memory card is supplied with the DR-800 has ten prerecorded tracks for test purposes. Track [T01.wav] is a repeater ID. Track [T02.wav] is a recording of the NOAA weather transmitter located in Miami Florida. Track [T03.wav] is a sample-meeting announcement. Track [T04.wav] is an aircraft cabin chime suitable to use as a unique courtesy tone. Track [T05.wav] is a Westminster chime suitable for used in the grandfather clock message. Track [T06.wav] is a warning tone. Track [T07.wav] is a tornado warning. Track [T08.wav] is a string of DTMF tones. Track [T09.wav] is a 1000 Hz test tone. Track [T10.wav] is a 400 Hz test tone.

Digital Voice WAV Player Adjustment

If you have access to a deviation meter, key-up and enter [72509] to play track #09. Adjust R7 on the DR-800 board for 3 KHz deviation at the transmitter output. If a deviation meter is not available, key-up and enter [72501] to play track #01. Adjust R7 so the track's audio level is the same as the repeater's receiver audio.

Turn the power off and remove the SD memory card. Insert the card in your computer's memory slot. Transfer your recorded WAV files to the card. Reinsert the card into the Digital WAV Player. Turn the power on.   Verify the red LED on the DR-800 board is lit. Fold the ribbon cable back on its self and close the cover.

WAV File Preparations
You can use any of the popular WAV file generator programs. The only requirement is that the file must be recorded in monaural with a sampling rate of 8000, 11025 or 16000 and be formatted in WAV (Microsoft) signed 16-bit PCM. There is very little difference in audio quality at the various sampling rates. A WAV file recorded with a 16000-sample rate uses approximately 2,000 KB per minute. This means the 16GB SD card supplied with the DR-800 can hold recordings in excess of sixty minutes.

WAV File Name Requirement
As you record the WAV files their filename must correspond to their track number. For example: The filename for track #1 must be "T01.wav" and the filename for track #99 must be "T99.wav".

NOTE: If you do not use all 99 tracks it is suggested that you save the existing default tracks for future testing and evaluation.

Digital Audio WAV Player Control
A control channel has been assigned to the WAV player. Zone 8 Channel 7 must be enabled for the WAV player to operate. This control channel is enabled at default.

Digital Audio WAV Player Demo
To play a track, key-up and enter the DIDITAL AUDIO WAV player prefix number [725] followed by the two-digit track number. The CAT-800 will key the transmitter and play the track. [725] is the default prefix number. This number can be changed using the [*510*] programming command.

NOTE: Digital audio tracks can also be integrated into user and event macros.

Program User Macro to Play Digital Voice WAV Track
Program User Macro #25 to play digital voice audio track #1 when a user sends the DTMF command [123]. Unlock the controller with the seven digit unlock number [1234567]. Key-up and send [*1425] followed by a [1] to enable the macro and [123] as the macro DTMF command control number and the string of internal commands to be executed. Un-key and the voice will say: "CONTROL OK." Example: Program Macro #25 with control number [123] to turn on PTT #1, Play track #1 and turn off PTT #1.

NOTE: Macro Control number [123] is the number entered by a repeater user to play track #01. At default Track #01 is programmed with a 30 second 1000 Hz test tone.

*14 25 1 * 123 * 6611 3601 6610	
Command	Definition
*14	Event Macro Programming Command
25	Event Macro Table Position
1	Enable Event Macro
*	Separator
123	DTMF Command To Play 1000 Hz Tone
*	Separator
6611	Turn On PTT#1 and WAV Audio Switch
3601	Play Track #01
6610	Turn Off PTT#1 and WAV Audio Switch

Digital Audio WAV Track Internal Command Table

PLAY DIGITAL AUDIO WAV TRACK	36XX	01-30
PLAY DIGITAL AUDIO WAV TRACK (Stop Track with Kerchunk)	37XX	01-30
PTT#1 AND AUDIO SW [WAV PLAYER TO TX1]	661X	0=OFF 1=ON
PTT#2 AND AUDIO SW [WAV PLAYER TO TX2]	662X	0=OFF 1=ON
PTT#3 AND AUDIO SW [WAV PLAYER TO TX3]	663X	0=OFF 1=ON
PTT#1–PTT#2 AND AUDIO SW [WAV PLAYER TO TX1-TX2]	671X	0=OFF 1=ON
PTT#1–PTT#3 AND AUDIO SW [WAV PLAYER TO TX1-TX3]	672X	0=OFF 1=ON
PTT#1-PTT#2-PTT#3 AND AUDIO SW [WAV PLAYER TO TX1-TX2-TX3]	673X	0=OFF 1=ON
PTT AND WAV AUDIO SW FROM ACTIVE PORT	674X	0=OFF 1=ON
PTT#1 AND AUDIO SW [WAV PLAYER TO TX1]	661X	0=OFF 1=ON
PTT#2 AND AUDIO SW [WAV PLAYER TO TX2]	662X	0=OFF 1=ON
PTT#3 AND AUDIO SW [WAV PLAYER TO TX3]	663X	0=OFF 1=ON
PTT#1–PTT#2 AND AUDIO SW [WAV PLAYER TO TX1-TX2]	671X	0=OFF 1=ON
PTT#1–PTT#3 AND AUDIO SW [WAV PLAYER TO TX1-TX3]	672X	0=OFF 1=ON
PTT#1-PTT#2-PTT#3 AND AUDIO SW [WAV PLAYER TO TX1-TX2-TX3]	673X	0=OFF 1=ON
PTT AND WAV AUDIO SW FROM ACTIVE PORT	674X	0=OFF 1=ON

Program Event Macro #29 Timed Message #1 to Play Track #3

Unlock the controller with the seven digit unlock number [1234567]. Key-up and send [*1729] followed by a [1] to enable the macro followed by the string of internal commands to be executed. Un-key and the voice will say: "CONTROL OK."

*17 29 1 * 6611 3603 6610	
Command	Definition
*17	Event Macro Programming Command
29	Event Macro Table Position
1	Enable Event Macro
*	Separator
6611	Turn On PTT#1 and WAV Audio Switch
3603	Play Track #03
6610	Turn Off PTT#1 and WAV Audio Switch

Timed Message #1 repeats every five minutes. To change the repeat time to once every twenty minutes unlock the controller with the seven digit unlock number [1234567]. Key-up and send [*607*1200] for 1200 seconds.

NOTE: Control Zone 7 Channel 5 must be enabled for Timed Message #1 to function. This control channel is not defaulted on. Key-up and enter [100751].

Program Event Macro #20 Port #1 Courtesy Tone as an Aircraft Cabin Chime

Unlock the controller with the seven digit unlock number [1234567]. Key-up and send [*1720 1 * 6611 3604 6610]. Un-key and the voice will say: "CONTROL OK."

Program Event Macro #33 Grandfather Clock Message to Play Westminster Chimes
Unlock the controller with the seven digit unlock number [1234567]. Key-up and send [*1733 1 * 6611 3605 6610 6311 3008 6310]. Un-key and the voice will say: "CONTROL OK."

Reprogram Voice Message #8
In voice message #8 remove the words "cat eight-hundred" and replace them with your call letters.

Example: Replace "cat eight-hundred" with "W4XYZ"

*31 08 890 004 920 930 960 830 482 100 103	
Command	Definition
*31	Voice Message Programming Command
08	Voice Message Number
890	Say the Word [W]
004	Say the Number [4]
920	Say the Word [X]
930	Say the Word [Y]
960	Say the Word [Z]
830	Say the Word [THE]
838	Say the Word [TIME]
482	Say the Word [IS]
100	Say the [TIME OF DAY]
103	Say the [SALUTATION]

WAV File Generation

If you do not have a program to generate WAV files for the DR-800 may I suggest a program called: Audacity 2.1.2. This program was used to generate the default test WAV files of tracks #1, #2, #3, #4 and #5. This is an open source program available on the Internet for down loading at www.audacityteam.org

Set the recording to MONO and the sample rate to 8000, 11025 or 16000. Adjust the record level to peak around "−12". Press the red circle to start recording and the yellow square to stop the recording. Press the green arrow to play the recording. If you are satisfied with the recording click "File". In the drop down box click "Export Audio". Save the recording to the SD memory card. Remember the filename must be T01.wav to T30.wav depending on your track assignment.

NOTE: Not all SD memory cards will initialize in the WAV player. Before you transfer WAV files to the card plug it in, if the red LED lights your good to go.