

Digital Voice Recorder

ACC's Digital Voice Recorder is a multichannel solid-state digital audio recorder, that remotely records and plays back audio for your repeater systems. The audio is digitized and stored in a large semiconductor memory array. Since the DVR is fully solid-state and there are no moving parts, it's ideal for use in remote locations and harsh environments - there's simply nothing to wear out.

No Compromise Audio

The DVR preserves the full audio fidelity of your repeater. Its highest quality level results in recordings indistinguishable from the original through your system. This is especially important when your "celebrity" or other favorite voices record IDs and other announcements - playback sounds just like they were there.

You decide

The DVR allows remote recording and playback of a number of variable length audio "tracks". You choose the quality level of different tracks, to select highest audio quality, or to conserve memory. You can select the highest quality of reproduction for your favorite IDs, and conserve memory by choosing a secondary level of audio quality for quickie mailbox messages. And the DVR uses only as much memory as the length of the message so you don't end up with "wasted space" when you record.

Easy to use mailbox

Now it's easy to leave messages for other repeater users without having to remember a lot of codes. To leave a voice message, enter a simple command and say who your message is for (like "Tom"), then say your message. To see if there are any messages for you, simply ask it with another command and it will list who has messages waiting ("Pete", "Joe", "Tom"). Tom can then retrieve his message by pressing number 3.

The DVR grows as your system grows

You have the option of starting with inexpensive and readily available memories from us or from your neighborhood computer outlet, and adding them a row at a time. As the price of memory falls and your needs increase, you can upgrade to the full megabyte to expand the recording time available, with no further hardware changes.

One, Two, Three

The DVR can be expanded to three-in-one. This means that one DVR can service three fully independent repeater systems, or two repeaters and the phone line*. Mailbox messages can even be cross-directed to other systems. All three channels can be recording or playing back at the same time.

Start out with the single channel DVR, knowing that you can upgrade anytime. Or go in together with other groups that share your site to reduce the cost all around. Some ingenious hams may even pay for their DVR by renting part of its' capabilities to commercial users that share the site.

Synergy

Your ACC RC-850 or RC-85 repeater controller and the DVR work together to enhance the value of each other. Any or all of the remotely programmable messages of the repeater controller may be made up of DVR audio tracks. That means many IDs, tail messages, and bulletin board announcements can be stored in the DVR at one time. With the '850 controller, the various messages can even be scheduled. And since a message can consist of several tracks joined together, each track can be used in more than one message to make the most of the recording time available.

Standalone, Too

If your repeater isn't fortunate enough to have an ACC controller, the DVR can still benefit your system by providing remotely recordable ID announcements and the voice mailbox. Logic strobe inputs can trigger playback of IDs, and users can access the mailbox with Touch-Tone commands.

Remember . . . that the synthesized speech on your controller is the "voice of the repeater". The Digital Voice Recorder supplements this voice so you can:

- Leave personalized messages for other users when they aren't around
- Announce holiday, birthday, and anniversary greetings
- Remind users of nets and meetings
- Provide directions to your hamfest or your meeting place
- Feature "celebrity" voices in your ID's
- Introduce newcomers to your repeater
- Provide critical information during emergency situations
- Send QST's and bulletins
- Create your own courtesy tones
- Check out the quality of your audio

*Access from the telephone can be achieved by connecting a DVR channel to the telephone interface of the controller.

Features / Benefits

- **Solid state, fully electronic operation**
 - High reliability in harsh environments
- **Direct digital recording – 64K bit/second PCM**
 - Outstanding audio quality, just like the original
 - 3db bandwidth 150–3800 Hz, 1.5% distortion
 - Selectable software data compression for extended recording time at somewhat lower quality levels
 - No vocabulary restrictions of synthesized speech
- **Up to three independent record/playback channels**
 - Supports up to three independent systems for cost effective operation
 - Allows cross-directed voice mail
 - Makes most efficient use of a common memory resource
 - Permits simultaneous record/playback operations on all three channels
- **Dynamic allocation of memory**
 - Recording takes only as much memory as required (unlike fixed length track recording which wastes memory)
 - Helps make the most of memory available
 - No playback "dead time"
 - 128 addressable "tracks" independent of mailbox operation
- **Uses industry standard 64K and 256K dynamic RAM chips**
 - Compatibility with 256K chips allows recording time extension
 - Accommodates up to 1 megabyte memory (8 megabits)
 - Recording time may be extended with "home computer" memory chips
- **Direct interface to RC-850 and RC-85 Repeater Controllers**
 - Playback of various tracks specified with message editor allows use with ID's, tail messages, courtesy tones, Emergency Autodial responses, etc.
 - Tracks may be joined together for messages – a track may be used in several messages increasing effective "playback" time
- **Available in variety of configurations**
 - Select the configuration you need and can afford
 - Assembled/tested board, or in rack mount enclosure
 - Choice of memory size – may be upgraded with standard memory chips at any time
 - Choice of one, two, or three audio channels, factory upgradeable
- **High reliability, low power design**
 - All IC's socketed in gold machine contact sockets
 - Uses advanced Low Power Schottky and CMOS logic families for minimum current drain
 - Easy to battery backup for audio storage during main power outage

Specifications

Memory: Audio memory expandable from 64K byte to 1M byte

Four optional rows of memory chips, each row consists of eight 4164 or 41256 type dynamic RAM chips, 200 ns or faster*

Recording Time:

Highest Quality Level - up to 120 seconds

Intermediate Quality Level - up to 250 seconds

Lowest Quality Level - up to approximately 360 seconds

[up to approximately 2-6 minutes depending on quality level of each track and total amount of memory installed]

Effective playback time is larger since individual tracks may each be used in several messages

Audio Tracks:

128 variable length tracks (0-360 seconds each, total limited by amount of memory installed)

Record operation initiated with Touch-Tone commands

Playback initiated with ASCII serial commands (supplied by RC-850 and RC-85 controllers), logic strobes, or Touch-Tone commands

Voice Mailbox:

Up to 64 variable length mailbox messages (limited by memory size)

Touch-Tone activated entry and retrieval

Two step message entry process - say who the message is for, then say the message

Easy message retrieval - ask who messages are stored for, then ask for your message

Record Audio Inputs and Playback Audio Outputs:

1, 2, or 3 (depending on number of channels); adjustable levels

Command Interface:

Record operation - Touch-Tone (independent decoder per channel)

Playback operation - ASCII serial commands, strobe inputs, Touch-Tone

Repeater Controller Interface:

Four wires (record audio, playback audio, command, status)

Repeater Controller Supported Remotely Recordable Messages:

ID Messages - 16 / scheduled (RC-850); 7 (RC-85)

Tail Messages - 13 / scheduled (RC-850); 3 (RC-85)

Emergency Autodial Responses - 10 (RC-850 and RC-85)

Bulletin Board Messages - 5 (RC-850); 2 (RC-85)

Alarm Messages - 4 (RC-850); 1 (RC-85)

Courtesy Tones - 12 (RC-850)

Scheduled Event Messages - 5 (RC-850)

Multichannel Option:

Independent record/playback electronics, Touch-Tone command decoder, and serial interface port per channel

Power: 12.6V ±10%, 1.5A max.

Board Size: 8.5" x 12"

Cabinet Size: 19" rack mount, 2.5" high

*The unit is designed to work with standard 200 ns or faster 4164 and 41256 memory devices. The warranty applies only to memory supplied by the factory.

Pricing

| | |
|---|--------|
| Assembled and tested DVR board (single channel) - expandable to three channels, no audio memory - expandable to 1M byte) | \$750 |
| DVR in rack-mount cabinet | \$1050 |
| 64K byte memory (row of 64K bit chips) [256K bit chips not available from the factory at this time] | \$75 |
| Second independent channel | \$200 |
| Third independent channel | \$200 |

