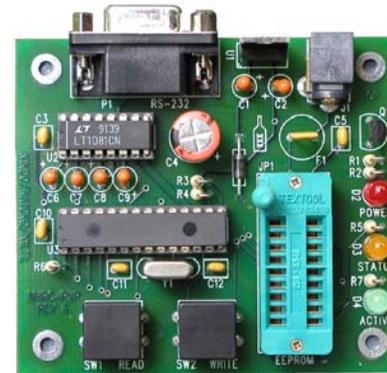


# NHRC

## REPEATER CONTROLLERS

Providers of High-Value, Low-Cost Repeater Controller Solutions

### Featured New Products



**NHRC-PXP**  
 EEPROM Programmer  
 for GE Phoenix SX and Delta SX  
 see page 2

**NHRC-Remote+**  
 Intelligent DTMF Remote Control  
 see page 19



# 2005 Product Catalog

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# NHRC-PXP

EEPROM Programmer  
for GE Phoenix SX and Delta SX

**NEW!**



(actual size 3.25" x 2.75")

The NHRC-PXP consists of a programmer pod and Windows (tm) based software. They are used together or separately to program General Electric Phoenix SX, Phoenix SX Scan, and Delta SX radios. (Note: the PXP does not support Delta SX combinations with a "downloading" control head, like S825.)

The programmer pod can be used without a computer to copy X2212s. It does this so fast, you will think it is broken. When coupled with the Phoenix, Phoenix Scan, and DeltaSX software, the NHRC-PXP will allow you to create new radio programs, edit existing programs, print a radio program report, and store radio programs in disk files. Click here to see a screenshot of the PhoenixScan software.

The NHRC-PXP software also includes a "raw mode" program that will allow the programmer pod to read and write X2212 data from binary disk files, and import Niles-compatible program files.

**The NHRC-PXP GE Phoenix SX/Delta SX  
EEPROM Programmer  
(Assembled and Tested):**

Special Introductory Price  
**\$149**  
plus shipping and handling

## NHRC-VSQ Volume / Squelch Card for GE MASTR II mobile radios



(actual size 7/8" x 1")

The NHRC-VSQ is an plug-in volume and squelch card for use in GE MASTR II mobile radios. Installation is a snap, the card plugs directly onto the PCB in the radio eliminating the need for extra wiring to the Control Head.

**The NHRC-VSQ Volume / Squelch Card  
(Assembled and Tested):**

**\$10**  
plus shipping and handling

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# NHRC-Remote+

Intelligent DTMF Remote Control

**NEW!**



(actual size 3.25" x 3.25")

Momentary or latching control of 8 loads  
CW confirmation of control eliminates guesswork  
CW ID keeps you compliant with FCC rules  
Unique ID allows up to 65,536 units to be operated from the same audio source  
LED Output, PTT, and DTMF indicators  
Extremely low power consumption

The NHRC-Remote+ is an intelligent remote controller that is ideal for use in many applications. The controller has eight (8) open-drain FET switches that can be configured for momentary or latched operation. The NHRC-Remote+ can operate with any receiver or transceiver and can be easily interfaced. When connected to a transceiver, the NHRC-Remote+ will give you CW confirmation of operation, and also provides a CW ID. The NHRC-Remote+ is fully programmable, settings for CW ID, ID timer, port control and port operating mode are all easily modified via DTMF command sequences and stored in non-volatile EEPROM in the  $\mu$ P. The NHRC-Remote+ is also available as a Partial Kit (includes: PCB, programmed  $\mu$ P and DTMF decoder).

**The NHRC-Remote+ Controller  
(Assembled and Tested or Partial Kit):**

**Assembled**      **Partial Kit**  
**\$89 / \$40**  
plus shipping and handling

## NHRC Contact Information

**Postal Address**  
NHRC Repeater Controllers  
415 Fourth Range Road  
Pembroke, NH 03275

**Telephone**  
603-485-2248

**Our phones are staffed from**  
6:00 PM to 9:30 PM Eastern Time,  
Monday to Thursday.

**Facsimile**  
603-210-2248

**General Information**  
[information@nhrc.net](mailto:information@nhrc.net)

**Sales & Order Status**  
[sales-support@nhrc.net](mailto:sales-support@nhrc.net)

**Hardware Support**  
[hardware-support@nhrc.net](mailto:hardware-support@nhrc.net)

**Software Support**  
[software-support@nhrc.net](mailto:software-support@nhrc.net)

**Catalog Request**  
[catalog-request@nhrc.net](mailto:catalog-request@nhrc.net)

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# NHRC-Squelch

Intelligent Carrier Activated Switch for Repeaters



(actual size 1 1/2" x 2 3/4")

The NHRC-Squelch is a microprocessor-controlled carrier-activated switch on a single circuit board. It is intended for use in repeater systems, to provide a source of the CAS signal independent of the radio's squelch circuitry.

The NHRC-Squelch requires discriminator audio as its only input, and continuously evaluates the amount of noise that is present. Extremely quiet signals are subject to instant squelch action, noisier signals increase the amount of hysteresis in the squelch action, resulting in progressively longer delays as signal quality degrades. This allows the repeater to properly "follow" weak mobiles as they fade from "mobile flutter."

The NHRC-Squelch has four unique delay levels, automatically selected by the microprocessor. The delay times can be lengthened to accommodate the slower fade exhibited by the low VHF bands by installing a single jumper. The CAS detect output can be jumper configured for active low or active high, and can be inverted.

Setup of the NHRC-Squelch is a snap, simply apply 8 to 15 VDC, ground, and discriminator audio, the NHRC-Squelch has one lead for the CAS output. No test equipment is required to adjust the audio levels, the built-in LEDs indicate correct setup.

Note that the NHRC-Squelch does not provide audio muting, all NHRC Repeater Controllers already feature audio muting.

The NHRC-Squelch is comparable with all NHRC Repeater Controllers, and any other vendors repeater controllers, provided the controller properly provides audio muting based on the CAS input.

**The NHRC-Squelch  
(Assembled and Tested):**

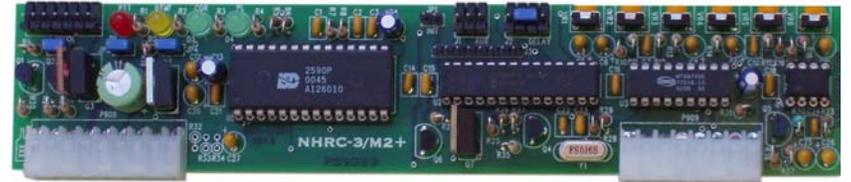
# \$69

plus shipping and handling

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# NHRC-3/M2+ Repeater Controller

An Integrated Repeater Controller for GE MASTR II  
Mobile / Base Radios with Real Stored Speech



(actual size 1 5/8" x 8")

The NHRC-3/M2+ is a version of our popular NHRC-3+ Repeater Controller that plugs in to a GE MASTR II radio.

## NHRC-3/M2+ Features

Plugs in inside a General Electric MASTR II mobile with no complicated wiring. Fits in Base Stations, too!

A single connector interfaces an optional CommSpec TS-64 for full CTCSS encode and decode.

4 user-recordable, non-volatile voice messages:

Initial ID Message, Normal ID Message, Timeout Message and Tail Message  
"Intelligent" ID algorithm.

3 Operating Modes:

Duplex Repeater Controller, Simplex Repeater Controller or Link Controller  
Touch-Tone remote control and programming.

Hang timer, ID timer, Timeout timer, and CW ID stored in non-volatile memory.

Audio gating allows use of non-squelched receiver audio.

LED CAS, PTT, and DTMF indicators.

CAS, CAS and CTCSS, CAS or CTCSS and DTMF Access Modes

Dedicated Fan Control/Digital output.

6 Programming Commands / 29 Control Operator Settings / 2 Saved Setups

Two Digital Inputs:

Courtesy Tone Select 1 and Courtesy Tone Select 2.

Four Digital Outputs.

Connector for optional Communications Specialists TS-64 CTCSS Decoder.

Supports optional NHRC-DAD digital audio delay for squelch tail elimination/reduction and total muting of DTMF.

**The NHRC-3/M2+ Repeater Controller  
(Assembled and Tested):**

# \$189

plus shipping and handling

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# NHRC-4/M2 Repeater Controller

An Integrated Repeater Controller  
for GE MASTR II Mobile / Base Radios  
with Secondary Linking Port



(actual size 1 1/2" x 7 3/8")

The NHRC-4/M2 is a version of our popular NHRC-4 Repeater Controller that plugs in to the GE MASTR II.

## NHRC-4/M2 Features

- Plugs in inside a General Electric MASTR II radio without complicated wiring.
- Secondary port can be remote base, link radio or slaved duplex repeater
- "Intelligent" ID algorithm
- A single connector interfaces a CommSpec TS-64 (not supplied) for full CTCSS encode and decode on the primary (MASTR II) port
- Distinctive Courtesy Tones can indicate channel activity:
  - Primary receiver courtesy tone
  - Primary receiver courtesy tone, secondary port transmit enabled
  - Secondary receiver courtesy tone
  - Secondary receiver courtesy tone, secondary port transmit enabled
  - Primary receiver courtesy tone, secondary receiver active, alert mode selected
- 1 Digital output:
  - Fan control (runs when transmitter on and n minutes after)
  - On/Off/Pulse commands
  - Open-collector output
- Touch-Tone remote control and programming
- Hang timer, ID timer, Timeout timers, Fan Timer, and CW messages stored in non-volatile memory
- Individual audio gating on each port allows use of non-squelched receiver audio
- LED CAS, PTT, and DTMF indicators for primary port
- LED CAS and PTT indicators for secondary port
- Both ports support optional NHRC-DAD digital audio delay for squelch tail elimination/reduction and total muting of DTMF
- Extremely low power consumption

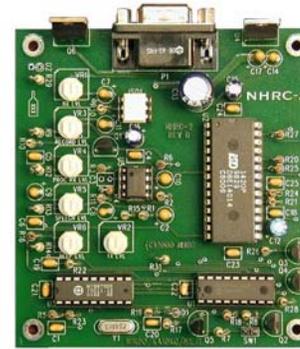
The NHRC-4/M2 Repeater Controller  
(Assembled and Tested):

# \$189

plus shipping and handling

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# NHRC-2 Repeater Controller



(actual size 3 1/2" x 3 3/4")

The NHRC-2 is an inexpensive repeater controller with real stored speech and DTMF remote control. It is available assembled or as a partial kit, which contains the printed circuit board, a *programmed* PIC16F84, a MT8870 DTMF decoder, and a complete manual. The manual contains ordering information for all the remaining parts needed to build the controller. Typical cost for building an NHRC-2 (including the partial kit itself) is around \$60.

## NHRC-2 Features

- 4 stored voice messages
  - Initial ID
  - Normal ID
  - Timeout
  - Tail or courtesy beep message
- "Intelligent" ID algorithm.
- 3 Operating Modes:
  - Duplex Repeater Controller
  - Simplex Repeater Controller
  - Link Controller
- Touch-Tone remote control and programming.
- Hang timer, ID timer, Timeout timer.
- Extremely low power consumption.
- Can be built for less than \$60.00 (US).

**Back by popular demand,  
assembled and tested  
NHRC-2 controllers!**

The NHRC-2 Repeater Controller  
Assembled Partial Kit

# \$129 / \$35

plus shipping and handling

**Kits Include:**  
Programmed uP  
Etched & Drilled PCB  
DTMF Decoder IC

Be sure to visit the NHRC Web Site at:  
<http://www.nhrc.net>

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## NHRC-6 Features

Two radio ports

Can support the following configurations:

Two duplex repeaters

Duplex repeater with link radio

Two back-to-back simplex radios

Carrier, Carrier and CTCSS, Carrier or CTCSS and DTMF Access Modes

"Intelligent" ID algorithm

55 Control Operator Settings

Six User Commands

Five saved setups

Distinctive Courtesy Tones indicates active receiver ports

Dedicated Fan Control Output/Digital Output

Touch-Tone remote control and programming

Hang timer, ID timer, Timeout timers, Fan Timer, and CW messages stored in non-volatile memory

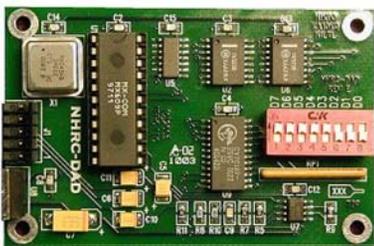
Individual audio gating on each port allows use of non-squelched receiver audio

Jumper-selectable receiver de-emphasis

LED CAS, CTCSS, PTT, and DTMF indicators for each port

Connectors for each port to attach optional NHRC-DAD Digital Audio Delays, to fully mute DTMF and help eliminate Squelch Crashes

## NHRC-DAD Digital Audio Delay



(actual size 2" x 3")

Plugs directly into any NHRC Repeater Controller

User programmable delay time settings of 64, 128, 256, 512 or 1024 milliseconds

Will reduce or eliminate Squelch Tails and completely mute DTMF

Can be interfaced to other Manufacturers' Controllers

The NHRC-DAD is a true Digital Audio Delay board for use with any NHRC Repeater Controller (except the NHRC-2). It will help reduce or eliminate Squelch Tail noise and will completely mute out DTMF on your repeated audio. Delay time settings are user programmable for 64, 128, 256, 512, or 1024 milliseconds of delay by jumpers on the PCB. The use of surface mounted (SMT) components allows for a very compact design, PCB size is only 2" x 3", so the board is easily mountable in your repeater. The NHRC-DAD consumes little power, drawing less than 100mA.

**The NHRC-DAD Digital Audio Delay  
(Assembled and Tested):**

# \$89

plus shipping and handling

**Be sure to visit our GE MASTR II Info Site at:  
<http://www.nhrc.net/mastr2>**

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# NHRC-4/MVP Repeater Controller

An Integrated Repeater Controller

for GE MVP Mobile Radios with Secondary Linking Port



(actual size 1 1/2" x 7 3/8")

The NHRC-4/MVP is a specialized version of our NHRC-4 linking repeater controller, designed for installation inside a General Electric Custom MVP transceiver. The controller installs in place of the GE channel-guard board.

The controller has a "primary" and a "secondary" radio port. The primary port is used for the controlling repeater, and the secondary port can be used for a remote base, link radio, or "slaved" repeater. Unique courtesy tones provide feedback of the input source and link state.

The controller is programmable by sending DTMF sequences. The CW ID, hang time, ID timer, timeout timer and tail message counter can all be programmed by the user. All programming is password-protected, and is stored in non-volatile EEPROM memory.

## NHRC-4/MVP Features

Easily installs into a Custom MVP, producing a complete, compact repeater. Secondary port can be remote base, link radio or slaved duplex repeater.

"Intelligent" ID algorithm.

Distinctive Courtesy Tones can indicate channel activity:

Primary receiver courtesy tone.

Primary receiver courtesy tone, secondary port transmit enabled.

Secondary receiver courtesy tone.

Secondary receiver courtesy tone, secondary port transmit enabled.

primary receiver courtesy tone,

secondary receiver active, alert mode selected.

1 Digital output:

Fan control (runs when transmitter on and n minutes after).

On/Off/Pulse commands.

Open-collector output.

Touch-Tone remote control and programming.

Hang timer, ID timer, Timeout timers, Fan Timer, and CW messages stored in non-volatile memory.

Individual audio gating on each port allows use of non-squelched receiver audio.

LED CAS, PTT, and DTMF indicators for primary port.

CAS and PTT indicators for secondary port.

Extremely low power consumption.

**The NHRC-4/MVP Repeater Controller  
(Assembled and Tested):**

# \$189

plus shipping and handling

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# NHRC-3+ Repeater Controller

Repeater Controller with Real Stored Speech



(actual size 3 1/2" x 3 3/4")

The NHRC-3+ is a new, dramatically improved version of NHRC's popular NHRC-3 Repeater Controller. The NHRC-3+ offers many improvements over the NHRC-3, including simplified programming, a CTCSS input, multi-tone courtesy tones, a fan control output, four digital outputs and two courtesy tone select inputs.

The NHRC-3+ continues the tradition set by the NHRC-2 and NHRC-3. It has a tremendous amount of functionality packed in a design with a very low parts count, resulting in exceptional reliability at an affordable price.

- Easily integrates with any repeater.
- Two Operating Modes:
  - Duplex Repeater Controller
  - Simplex Repeater Controller
- 4 user-recordable, non-volatile voice messages:
  - Initial ID Message
  - "Normal" ID Message
  - Timeout Message
  - Tail Message/Custom Courtesy Tone
- CAS, CAS and CTCSS, CAS or CTCSS and DTMF Access Modes
- "Intelligent" ID algorithm.
- Dedicated Fan Control/Digital output.
- 6 Programming Commands.
- 29 Control Operator Settings.
- Two saved setups.
- Touch-Tone remote control and programming.

- Hang timer, ID timer, Timeout timer, Fan Timer, and CW messages stored in non-volatile memory.
- Two Digital Inputs
  - Courtesy Tone Select 1.
  - Courtesy Tone Select 2.
- Four Digital Outputs.
- Receiver audio gating allows use of non-squelched receiver audio.
- Jumper-selectable receiver de-emphasis.
- LED CAS, CTCSS, PTT, and DTMF indicators. LED's can be disabled for low-power applications.
- Connector for optional NHRC-DAD Digital Audio Delay, to fully mute DTMF and help eliminate Squelch Crashes.
- Connector for optional Communications Specialists TS-64 CTCSS Decoder.
- Extremely low power consumption.

**The NHRC-3+ Repeater Controller  
(Assembled and Tested):**

# \$169

plus shipping and handling

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# NHRC-6 Dual Repeater Controller

Advanced Dual Repeater Controller



(Actual size is 4.5 x 4.0")

The NHRC-6 is an advanced, low cost dual repeater controller. It has a highly integrated design, using state-of-the-art components, which results in a powerful controller with a low parts count. This increases reliability and lowers cost.

This controller can be used for two duplex repeaters, a duplex repeater with a link radio, or to build a bi-directional cross band repeater with simplex radios.

The NHRC-6 has two radio ports. Each radio port supports a receiver and a transmitter. Each receiver is individually configurable. Receiver configuration includes such parameters as receiver enable (on/off), access mode (CAS, CAS and CTCSS, CAS or CTCSS, and DTMF,) timeout timer enable, and DTMF muting. Each receiver can specify which transmitter(s) will be used to repeat the receiver's audio.

Each transmitter is also individually configurable. Transmitter controls include transmitter enable (on/off), hang time enable, courtesy tone enable, ID enable and selection of one of two CW ID messages.

The architecture of the NHRC-6 allows the controller to be used in a variety of different applications. These applications include simultaneous control of two repeaters, each with it's own ID message, control of a repeater with a link radio, including linking modes compatible with IRLP and full-duplex link environments, as well as the controller forming a "bridge" in conjunction with two simplex radios, allowing simple and reliable linking of completely separate radio systems.

**The NHRC-6 Dual Repeater Controller  
(Assembled and Tested):**

# \$219

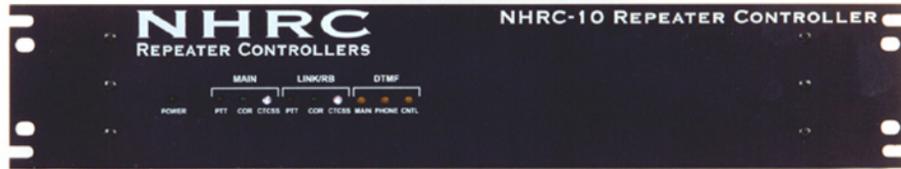
plus shipping and handling

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# NHRC-10 Accessories

## NHRC-10/CAB

2U Rack Chassis for the NHRC-10 Repeater Controller



Front Panel



Back Panel

Available for the NHRC-10 Repeater Controller is a 2U Rack Chassis. This chassis is specifically designed to house the NHRC-10. There are also locations available to mount two NHRC-DAD Digital Delay boards inside the chassis.

## NHRC-10/CAB

# \$89

plus shipping and handling

## NHRC-10/DOUT

8 port Digital Output board for the NHRC-10 Repeater Controller

Also available for the NHRC-10 is an 8 port Digital Output board. This board easily installs onto the NHRC-10 controller to provide 8 Digital Outputs. 8 LEDs provide an indication that a port is active. A pigtail connector is supplied with the board to allow for interfacing to the optional NHRC-10/CAB.



NHRC-10 shown mounted in the NHRC-10/CAB with optional NHRC-10/DOUT and NHRC-DAD boards installed

## NHRC-10/DOUT

# \$59

plus shipping and handling

**Sign-up for the NHRC User Community Mailing List**  
**Visit <http://www.nhrc.net> for more details.**

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# NHRC-4 Repeater Controller

Duplex Controller with Secondary Linking Port



(actual size 3 1/4" x 3 3/4")

The NHRC-4 is an inexpensive linking repeater controller. The controller has a "primary" and a "secondary" radio port. The primary port is used for the controlling repeater, and the secondary port can be used for a remote base, link radio, or "slaved" repeater. Unique courtesy tones provide feedback of the input source and link state.

The controller is programmable by sending DTMF sequences. The CW ID, hang time, ID timer, timeout timer and tail message counter can all be programmed by the user. All programming is password-protected, and is stored in non-volatile EEPROM memory.

## NHRC-4 Features

- Easily integrates with any repeater
- Secondary port can be remote base, link radio or slaved duplex repeater
- "Intelligent" ID algorithm
- Distinctive Courtesy Tones can indicate channel activity:
  - Primary receiver courtesy tone
  - Primary receiver courtesy tone, secondary port transmit enabled
  - Secondary receiver courtesy tone
  - Secondary receiver courtesy tone, secondary port transmit enabled
  - Primary receiver courtesy tone, secondary receiver active, alert mode selected
- 1 Digital output:
  - Fan control (runs when transmitter on and n minutes after)
    - On/Off/Pulse commands
    - Open-collector output
- Touch-Tone remote control and programming
- Hang timer, ID timer, Timeout timers, Fan Timer, and CW messages stored in non-volatile memory
- Individual audio gating on each port allows use of non-squelched receiver audio
- LED CAS, PTT, and DTMF indicators for primary port
- LED CAS and PTT indicators for secondary port
- Extremely low power consumption

## The NHRC-4 Repeater Controller

Assembled

Partial Kit

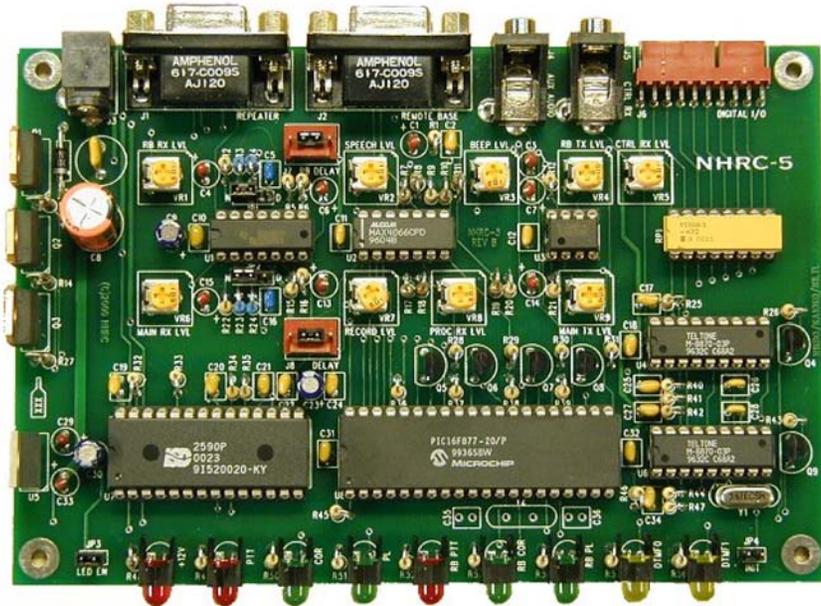
# \$159 / \$40

plus shipping and handling

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# NHRC-5

Repeater Controller with Secondary Linking Port  
and Real Stored Speech



(actual size 4" x 6")

The NHRC-5 is a linking repeater controller with real stored speech. Its highly integrated design, built with state-of-the-art components, results in a powerful controller with a low parts count. This increases reliability and lowers cost.

The controller has a "primary" and a "secondary" radio port. The primary port is used for the controlling repeater, and the secondary port can be used for a remote base, link radio, or "slaved" repeater. Unique courtesy tones provide feedback of the input source and link state.

The controller is programmable by sending DTMF sequences. The CW ID, hang time, ID timer, timeout timer and tail message counter can all be programmed by the user. All programming is password-protected, and is stored in non-volatile EEPROM memory.

**The NHRC-5 Repeater Controller  
(Assembled and Tested):**

# \$249

plus shipping and handling

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## NHRC-10 Features

### True Speech

- Four real speech ID messages you record yourself.
- Three real speech tail messages you record yourself.
- More than 90 real speech canned words used for controller messages and prompts.
- Speech can be custom recorded for local language support.
- Six slot voice mailbox.
- Audio test mode records user's audio and replays to user.

### Autopatch

- Full duplex autopatch.
- 250 autodial slots.
- 16 area codes supported with grant/deny access control to each exchange.
- Ten Emergency autodial slots.
- "Reverse Patch" & DTMF control over telephone.
  - Dedicated DTMF receiver for telephone control.

### Link Port

- Allows remote base, link radio, or slave repeater to be connected.
- Unique courtesy tones indicate link/remote base status.
- Link port can have DTMF control.
- Frequency-agile HF remote base with voice command confirmation of most ICOM HF radios, including the IC-706MkIIIG

### Other Features

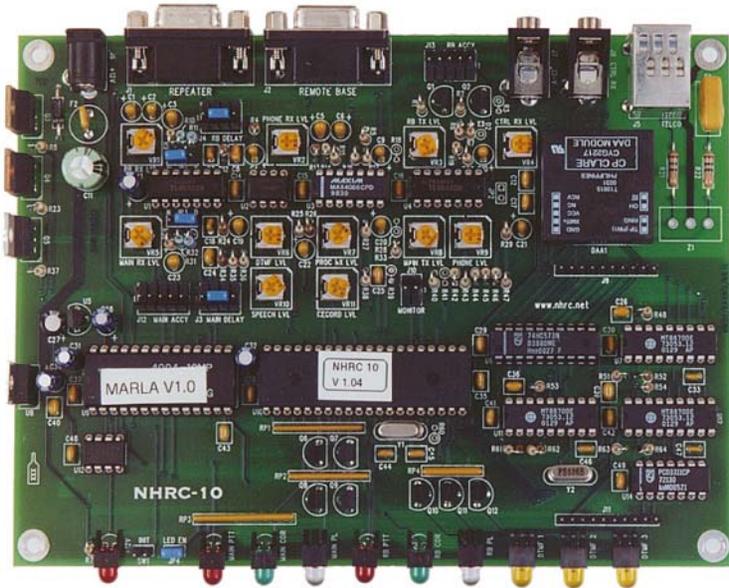
- Separate control receiver audio input with dedicated DTMF receiver.
  - DTMF receiver is available for link port if control receiver is not installed.
- LiTZ & 911 message support.
  - Will play dedicated voice message in response to LiTZ or 911 tones to tell user how to use emergency autodials, etc.
- Transmitter fan control output.
- Thirteen timers.
- Over 70 control operator functions.
- Five saved setup states.
- Real sine wave audio tones.
- DTMF access mode.
- "Carrier", "Carrier and CTCSS", and "Carrier or CTCSS" access modes.
- Granular security allows tailored control operator access.
- DTMF pad test.

### Options

- NHRC-10/DOUT - Eight port Digital Output Board - \$59
- NHRC-10/CAB - 19" Aluminum Rack Mount Cabinet - \$89
- Alternate "Canned" Words Voicing (Male Voice, Synthesized Male or Synthesized Female Voice) - Please Inquire

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# NHRC-10 Advanced Repeater Controller



(actual size 5 5/32" x 7")

The NHRC-10 Advanced Repeater Controller is the flagship of the NHRC product line. It features the latest in microprocessor and digital voice recorder technology at an affordable price. Highlights of the features on the NHRC-10 include up to ten (10) minutes of real stored speech messages, full duplex Autopatch, a link port for remote base or link radio, three (3) DTMF decoders (eliminates sharing problems), six (6) voice mailboxes, and CI-V remote control of ICOM® radios. Also, a variety of options are available for the NHRC-10, including an eight (8) port digital output board, a 19" rack mount enclosure, and alternate voicing for the pre-recorded vocabulary (female voice is default).

**The NHRC-10 Advanced  
Repeater Controller  
(Assembled and Tested):**

# \$449

plus shipping and handling

NHRC Repeater Controllers • 415 Fourth Range Rd. • Pembroke, NH 03275  
email: [information@nhrc.net](mailto:information@nhrc.net) • phone: 603-485-2248 • <http://www.nhrc.net>

## NHRC-5 Features

- Secondary port for remote base, link radio or slaved duplex repeater
- Control Receiver Input
- Two Separate DTMF Receivers
- Primary Receiver
- Control Receiver or Secondary Receiver
- User Audio Test Mode allows Repeater User to hear their own audio.
- CAS, CAS and CTCSS, CAS or CTCSS and DTMF Access Modes
- Auxiliary Audio Input for weather receiver, site audio, etc...
- "Intelligent" ID algorithm
- 44 Control Operator Settings
- 6 User Commands
- Two saved setups
- 90 Seconds of Real Speech in Seven Stored Voice Messages:
  - Initial ID
  - Normal ID 1
  - Normal ID 2
  - Timeout Message
  - Tail Message/Courtesy Tone Track
  - "Link On" message
  - "Link Off" message
- Distinctive Courtesy Tones can indicate channel activity and link status
- Four Digital Inputs
- Auxiliary Audio CAS
- Site Alarm
- Courtesy Tone Select 1
- Courtesy Tone Select 2
- Four Digital Outputs
- Dedicated Fan Control Output/Digital Output
- Touch-Tone remote control and programming
- Hang timer, ID timer, Timeout timers, Fan Timer, and CW messages stored in non-volatile memory
- Individual audio gating on each port allows use of non-squelched receiver audio
- Jumper-selectable receiver deemphasis
- LED CAS, CTCSS, PTT, and DTMF indicators for each port
- Connectors for each port to attach optional NHRC-DAD Digital Audio Delays, to fully mute DTMF and help eliminate Squelch Crashes
- Extremely low power consumption

**NHRC is your source for High-Value,  
Low-Cost Repeater Controller Solutions.**

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# NHRC-7 Bridging Repeater Controller

Advanced Dual Repeater Controller



(actual size 4" x 6")

The NHRC-7 is an enhanced version of NHRC's popular NHRC-6 repeater controller. It includes all the features of the NHRC-6, and adds an additional DTMF decoder for a dedicated control receiver input, four digital inputs for alarm and/or telemetry, flexible CTCSS encoder control, and up to four digital outputs for control applications. Just like the NHRC-6, this controller can be used to control two duplex repeaters, a duplex repeater with a link radio, or it can be used to create a variety of radio bridging applications, including a bi-directional cross band repeater with simplex or duplex radios.

The NHRC-7 has two radio ports. Each radio port supports a receiver and a transmitter. Each receiver is individually configurable. Receiver configuration includes such parameters as receiver enable (on/off), access mode (CAS, CAS and CTCSS, CAS or CTCSS, and DTMF.) timeout timer enable, and DTMF muting. Each receiver can specify which transmitter(s) will be used to repeat the receiver's audio. Each transmitter is also individually configurable. Transmitter controls include transmitter enable (on/off), hang time enable, courtesy tone enable, ID enable and selection of one of two CW ID messages. The architecture of the NHRC-7 allows the controller to be used in a variety of different applications. These applications include simultaneous control of two repeaters, each with its own ID message, control of a repeater with a link radio, including linking modes compatible with IRLP and full-duplex link environments, as well as the controller forming a "bridge" in conjunction with two transceivers, allowing simple and reliable linking of completely separate radio systems.

## The NHRC-7 Bridging Repeater Controller (Assembled and Tested):

# \$249

plus shipping and handling

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email: [information@nhrc.net](mailto:information@nhrc.net) • phone: 603-485-2248 • <http://www.nhrc.net>

## NHRC-7 Features

Two radio ports.

Three DTMF decoders:

Radio 1

Radio 2

Control Receiver

Can support the following configurations:

Two duplex repeaters.

Duplex repeater with link radio.

Two back-to-back transceivers.

Carrier, Carrier and CTCSS, Carrier or CTCSS and DTMF Access Modes.  
"Intelligent" ID algorithm.

Flexible CTCSS Encoder Control.

56 Control Operator Settings.

Eight User Commands.

Five saved setups.

Distinctive Courtesy Tones indicates active receiver ports.

Dedicated Fan Control Output/Digital Output.

Four digital inputs for alarm and/or telemetry.

Two or Four digital outputs for remote control applications.

Touch-Tone remote control and programming.

Hang timer, ID timer, Timeout timers, Fan Timer, and CW messages stored in non-volatile memory.

Individual audio gating on each port allows use of non-squelched receiver audio.

Jumper-selectable receiver de-emphasis.

LED CAS, CTCSS, PTT, and DTMF indicators for each port.

Connectors for each port to attach optional NHRC-DAD Digital Audio Delays, to fully mute DTMF and help eliminate Squelch Crashes.

## NHRC-CAB 2



Available as an option for the NHRC-5 and NHRC-7 Repeater Controllers is the NHRC-CAB 2 a 1U Rack Chassis. This chassis can also be used to house the NHRC-2, NHRC-3+, NHRC-4 and NHRC-6 Repeater Controllers with minor modifications.

The NHRC-CAB 2  
Rack Chassis for the NHRC-5 and NHRC-7  
Repeater Controllers:

# \$60

plus shipping and handling

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