

PRINTED CIRCUIT

APRIL 2008

Newsletter of the Joplin Amateur Radio Club

Vol. 18 No. 4

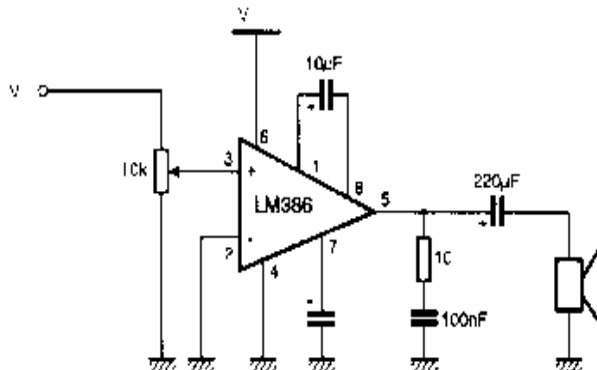
Build this Simple Battery Powered Modular Experimenter Audio Amplifier

**MISSISSIPPI ISLAND
SPECIAL EVENT STATION
APRIL 1, 2008**

Last month the easily built regenerative detector was introduced as a simple but surprisingly sensitive and selective receiver that would perform on *all HF bands*, and detect all modes from CW to FM. These little receivers have been around for almost 100 years and played an important role in early radio, when parts were rare and *very expensive*. A simple two tube design, would provide a window to the entire world of radio. Interestingly, the two tube design, often used the second tube as an audio amplifier, to bring the sound levels up to a respectable level so that everyone in the group could enjoy the programming via several headphones or better yet, a loudspeaker, another luxury of the day!

This circuit, employs that concept, and keeps it simple by employing a very common audio Integrated Circuit amplifier commonly known as the LM386. This little device will provide up to 46dB of gain and a whopping $\frac{1}{4}$ Watt of audio output into an 8 Ω speaker with little distortion and few components. It is designed here to be modular so that you can use it as a building block for other projects and experiments.

The circuit shown has the gain set for 200 with the capacitor connected between pins 1 and 8. Removing this capacitor reduces the gain of the amplifier to 20 (26dB), and may be preferred. This circuit is straightforward, but because of the high gains, try to keep the leads short.



All of the ground connections are wired to the negative terminal of the battery. The power (pin-6) input connection is tied to the receiver power just past the switch at the 10k resistor. The input grounds, and output grounds should be wired to the battery separately otherwise motorboating may occur, also a sign of a low battery.

The IC is an 8 pin DIP (dual inline package) and should be socketed for replacement. If you are unsure as to the pinout of the IC, search the web for a datasheet for the LM386-N. Viewed from the top, at the notched end, count counterclockwise 1 thru 8.

The bypass capacitor on pin 7, if used, should be 10 μ F. It may be omitted. The 10k pot should have an audio taper to allow for smooth sound level adjustment. Keep in mind, for future projects, that the input of this amplifier does not have a coupling capacitor, it is located in the receiver of this project.

'73 and have fun building! Jim Scott, WBØIYC

The St. Louis area Contesters Club once again is sponsoring the annual special event station operating from April Island, a small island in the Mississippi River located just North of St. Louis.

The call sign NØQTH will be used on all bands and modes 160-2 meters. Time of operation is a full 24 hour period 0000-2400 UTC, April 1, 2008.

Operators will include NØQTH, NØQSY, NØQRT, NØQTR and NØQSL.

NØQSY will operate only on Extra class frequencies, and will not move out of that part of the band. NØQRT will operate around the clock full 24 hours, NØQTR will do the loggings. You may QSL via NØQSL in call book.

Since it has not been determined if the island is in Missouri or Illinois, no credit for Worked All States will be given. The station will sign NØQTH/9/0 to make it official.

Sorry we couldn't confirm any last year's contacts, as all logs and equipment were lost when our small boat sank while en-route back to shore, luckily all of the operators survived.

In order to recover all costs from last year's tragedy, please enclose a check for \$5.00 for *each* QSL request per contact per band.

From St Louis area Contesters Club
via WØJRP

FSQRP OzarkCon QRP Conference
April 25 & 26, 2008 at the La Quinta Inn, Joplin, MO
Pre-register by 4/15/08. For more information visit:
<http://ozarkcon.com/ozarkcon.htm>

inside...

**TNC Club Project?
Hamfest Calendar / Classifieds**

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TNC Anyone? Thoughts on a Club Project

Several people have suggested that the club should build a project together as a group. Building a project can be fun and educational, especially if it has usefulness in the 'ol shack. Supervised kit building can teach concepts, construction techniques, and build fraternity, all at the same time. It is a great opportunity for newer hams to get a piece of equipment on the air using a digital mode that would add additional value to their VHF-FM stations! Did I forget to mention mentoring by club members!

The **TNC-X** is an entry-level packet TNC (terminal node controller) of modern design that can find a home in most Ham Shacks. A kit is offered which is simple enough that someone new to soldering could learn from it without being overwhelmed. As a club project, you can gain knowledge from the experts, and see first hand how projects are built. In addition, you will learn about Packet Radio; how it works (about protocols, error detection and recovery), and experience the benefits of digital modes of communications vs analog. All of this will improve your capabilities for EMCOMM (Emergency Communications) message traffic, and enhance your troubleshooting skills. By building your own equipment, you will learn what each circuit element does and how they work together as a system, plus it will be easy on *your pocketbook!*

The kit sells for \$83.00 which includes the kit with all parts, instructions, a USB port, PLUS a predrilled enclosure! Compared with other (assembled) TNCs costing \$200.00 and up! Expansion modules can be purchased that allow you further capabilities: APRS Tracking, Digipeating, etc. The basic kit costs \$48, but \$83 gets the kit with a predrilled case and USB upgrade. A group discount is available, and Scott Electronics has offered to pick up the freight for a group order. One or two evenings will be needed to build the kit, based on the number of people in the group.

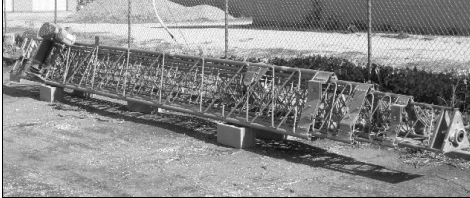
The TNC connects a PC running PACKET to a radio. The PC must have a USB, or serial port for its connection. The packet software can be any of a number of shareware programs for the PC such as WinTNC. Anything supporting KISS mode will work, WIN-APRS, UI-View, PR4WIN, among others. You can also run AGWPE. The packet program and drivers will all be made available to everyone in the group.

Let's discuss doing the project at the next meeting. Information about TNC-X can be found on the web at: <http://www.tnc-x.com>

HAM EQUIPMENT FLEA MARKET

NOTE: INDIVIDUAL LISTINGS ARE \$1 PER MONTH, FREE FOR JARC MEMBERS. FS / WTB SPACE IS ALLOCATED BY DATE RECEIVED. COMMERCIAL AD SPACE IS AVAILABLE FOR A NOMINAL CHARGE.

For Sale - 72 ft. Motorized Crank-up Tower



Mfg. by US Tower Corporation, this model includes tilt over capability. Rated for over 30 ft² wind load to handle large antenna arrays. Weight 1800 lbs. FOB Joplin. \$4000 O.B.O.

John Stucka, N3JM, 609-653-3021
jstucka0@yahoo.com

02/2008

For Sale - iCom 551 6m All Mode XCVR

Nice little 6 meter rig with Passband Tuning Unit, VOX, and FM modules (all are installed). Whopping 10W output, and I will include a cut dipole with enough coax to get you started on the Magic Band. Table top unit 120VAC / 12VDC Clean & good shape w/manuals. Asking \$350

Jim Scott 417-781-2211, email wb0iyc@arrl.net

02/2008

For Sale - 1/4W 5% Hobbist Resistor Paks

Carbon Film Resistor Assortments consisting of 10 each of the twelve values within one decade totaling 120 resistors. Value range in package: **1.0, 1.5, 2.2, 2.7, 3.3, 3.9, 4.7, 5.6, 6.8, 7.5, 8.2, 9.1**

Five ranges of kits available, and each pak is \$2 10-91Ω, 100-910Ω, 1.0K-9.1KΩ, 10K-91KΩ, 100K-910KΩ Buy all five and postage is free!

Jim Scott 417-781-2211, email wb0iyc@arrl.net

02/2008

For Sale - LEXMARK Printer Model 515

In good shape, USB port printer. It may need printer cartridge. Asking \$25 OBO.

John Tudenham WØJRP, 417-624-8058
email: w0jrp@earthlink.net

01/2008

WTB - High Power Dummy Load - Must be rated for use up to 1kW. Intermittent service is okay, continuous preferred. Can-Tenna or any brand, if reasonable price.

Contact Rob George WØTTM, 417-671-9420
email: rob.george@scottelectronic.com

01/2008

Did You Know?

Club members can list items to buy and sell for free! See information in the Classified Ad section.

Area HAMFESTS and EVENTS

NOTE: LISTINGS ARE PROVIDED AS THEY BECOME AVAILABLE AND ARE NOT VERIFIED FOR CORRECTNESS. SEE BACK PAGE FOR SUBMISSIONS.

5 Apr 2008 - Fort Smith, AR

Hanging Judge Hamfest 2008, presented by the Fort Smith Area Amateur Radio Club
Columbus Acres, 10203 Columbus Acres Road
Fort Smith, AR. 6,500 SqFt A/C Building
w/free parking. Adm: \$8 (adv.), \$10, (door);
Talk-In: 146.94- ; 146.64 (PL 88.5); 444.500
Contact: Dennis R. Burton, N5DRB
Phone: 479-648-083, Email: n5drb@cox.net
<http://www.hangingjudgehamfest.com>

12 Apr 2008 - Mount Vernon, MO

Springtime Hamfest, sponsored by the Ozark Amateur Radio Society (OARS)
Senior Center, 425 N. Main St., Mt. Vernon.
Talk-In: 146.97- (no tone)
Contact: Julie Frank, KDØBSK
Ph: 417-440-9438, Email: jules@guebiz.com
<http://W00AR.com>

12 Apr 2008 - Joplin, MO Joplin ARC

Spring Tailgater, Ewert Part, 7th and Illinois Ave. 8 AM till Noon, Free, Bring your own table and chair. Always free coffee and donuts.

19 Apr. 2008 - Kansas City, MO

HAMBASH 2008, Ararat Shrine ARC
5100 Ararat Drive, KCMO, Talk-In: 145.130
Contact: Dave Hinkley, KA0SOG
Phone: 816-525-4826 Email: ka0sog@arrl.net
<http://www.hambash.com>

19 Apr 2008 - Belton, TX Temple ARC

Ham EXPO, Talk-In 146.82- (PL 123.0)
<http://www.beltonhamexpo.org/>

25-26 Apr 2008 - Joplin, MO OzarkCon

FSQRP presents Ozarkcon QRP Conference
La Quinta Inn, 3320 Range Line, Joplin, MO
Registration: 4pm Friday, 7am Saturday
<http://www.ozarkcon.com/ozarkcon.htm>

26 Apr 2008 - Springdale, AR


2008 Superfest, Benton County Radio Ops.
Jones Center for Families, 606 East Emma St.,
Springdale, AR, Talk-In: 145.29 (PL 110.9)
Contact: Jay Harrison, KC0CNB
Ph: 479-631-7727 Email: Texgun19@cox.net
<http://bentoncoradiooperators.org>

2-3 May 2008 - Sioux City, IA

Midwest Division Convention -Hamboree 2008

APRIL 2008

Joplin Amateur Radio Club Meetings and Events

<i>Sun</i>	<i>Mon</i>	<i>Tue</i>	<i>Wed</i>	<i>Thu</i>	<i>Fri</i>	<i>Sat</i>	
		1  HAPPY APRIL FOOLS DAY!	2 19:30 -20:30 JARC SLOW SCAN NET 147.21 MHz	3 17:30 THURSDAY NITE OUT - TBA - PIZZA INN OR EL VAQUERO SOUTH MAIN ST., JOPLIN	4	5 09:00 BREAKFAST - STEAK & SHAKE	
6	7 19:30 JARC MON NITE NET 147.21 MHz WQJN REPEATER NET CONTROL - N9HGF	8 19:30 JARC BUSINESS MEETING RED CROSS @ 4TH & JACKSON	9 19:30 -20:30 JARC SLOW SCAN NET 147.21 MHz	10 17:30 THURSDAY NITE OUT - TBA - PIZZA INN OR EL VAQUERO SOUTH MAIN ST., JOPLIN	11	12 09:00 BREAKFAST - STEAK & SHAKE	
13	14 19:30 JARC MON NITE NET 147.21 MHz WQJN REPEATER NET CONTROL - N9HGF	15 FINAL DAY TO REGISTER FOR OZARKCON QRP CONFERENCE LA QUINTA - JOPLIN	16 19:30 -20:30 JARC SLOW SCAN NET 147.21 MHz	17 17:30 THURSDAY NITE OUT - TBA - PIZZA INN OR EL VAQUERO SOUTH MAIN ST., JOPLIN	18	19 09:00 BREAKFAST - STEAK & SHAKE	
20	21 19:30 JARC MON NITE NET 147.21 MHz WQJN REPEATER NET CONTROL - N9HGF	22 19:30 JARC PROGRAM MEETING TBA	23 19:30 -20:30 JARC SLOW SCAN NET 147.21 MHz	24 17:30 THURSDAY NITE OUT - TBA - PIZZA INN OR EL VAQUERO SOUTH MAIN ST., JOPLIN	25 OZARKCON QRP CONFERENCE LA QUINTA - JOPLIN	26 OZARKCON QRP CONFERENCE LA QUINTA - JOPLIN 09:00 BREAKFAST - STEAK & SHAKE	
27	28 19:30 JARC MON NITE NET 147.21 MHz WQJN REPEATER NET CONTROL - N9HGF	29	30 19:30 -20:30 JARC SLOW SCAN NET 147.21 MHz	<div style="border: 2px solid black; padding: 10px; width: fit-content; margin: auto;"> <p>Note: Due to repeater problems, some schedules have been postponed.</p> </div>			

Meeting Times, Testing, and other Club Information

The Joplin Amateur Radio Club, Inc., a Missouri *not-for-profit* organization, meets on the second and fourth Tuesdays of each month at the Red Cross Building, in the North room at 7:30 PM. Enter from the West side of the facility. The building is handicap accessible.

The club organizes and participates in annual operating events, assists area agencies with communications, and offers testing and training classes for advancement in amateur radio. It also sponsors the JARC Hamfest each year in August.

The club maintains two 2m repeaters.
WØIN - 147.210+ MHz (open)
WØIN South - 145.390- MHz (91.5 Hz)

Point your browser to the club website for event information, photos of past events, and links to other ham sites.
<http://www.joplin-arc.org>

Hot topics are discussed at the Saturday morning breakfasts, where members gather about 9:00 a.m. at the Steak & Shake restaurant located on the north outer road at I-44 and Range Line Road, next to the Olive Garden restaurant.

2008 CLUB OFFICERS:

President: Andy Gabbert	KAØTUD
Vice Pres. Bill Reynolds	N6HXI
Treasurer: Jim Johannes	NØZSQ
Secretary: Jim Scott	WBØIYC

VE TESTING SCHEDULE

Volunteer Examiner testing is held on the first Monday of each month except holidays at St. Paul's United Methodist Church, 2423 W. 26th St. in Joplin, MO. Sign up starts at 6:30 p.m. testing begins promptly at 7:00 p.m.

For additional details, or special accommodations contact Martin, WD6FIC (918-919-0188).

ABOUT THE NEWSLETTER

This club newsletter offers an open forum for the amateur radio community in the four-state area. *Your* comments and contributions are always invited. Items for publication, including classified ads and amateur radio related articles, may be sent to the **JARC Printed Circuit**, P.O. Box 2983, Joplin, MO 64803-2983, or *ascii text* email to: wb0iyc@arri.net

Deadline for submissions is the 15th of the month preceding the month of publication. Non-Commercial Classified ads are run free for JARC members, \$1 each, otherwise. Classified ad space is available at \$12/pg/month, pro-rated for fractional parts to 1/6pg.

All submissions accepted, *email ASCII text is preferred*. All items will be edited for spelling, content, and space limitations as required.

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P.O. Box 2983
Joplin, Missouri 64803-2983