

# PACK RATS'



**PACK RATS**

CLUB CALL: W3CCX

MT. AIRY VHF RADIO CLUB, INC.

# CHEESE BITS



MT. AIRY VHF RADIO CLUB., "THE PACK RATS", PHILADELPHIA, PA.

W3CCX

NET FREQUENCIES: 50.125, 144.150, 222.125, 224.58/222.98, 432.110, 903.100, 1296.100 MHz

AFFILIATED CLUB: AMERICAN RADIO RELAY LEAGUE

ARNS

Meetings: Third Thursday of each month at 8:00 PM  
Southampton Free Library, 947 E. Street Road  
Southampton, Pennsylvania 18966

SCANNED TO PDF BY BERT, K3IUV, 2013

VOLUME XXXV

AUGUST 1993

NUMBER 8

## THE PREZ SEZ

The Packrats have a reputation for homebrewing equipment - the performance required of our stations for serious CW/SSB operations often necessitates we build our own gear or modify surplus equipment for our needs. You simply can't buy everything you need to build a serious VHF station! Rats are often seen rummaging in boxes underneath hamfest tables looking for that missing component. And every good Rat attends the White Elephant Sale to see what can be found. Our meeting last month at Gary, WA2OMY's QTH was very well attended - Gary and auctioneer Bert, K3IUV always seem to provide a good time and a generous quantity of electronic gems.

This month's meeting is the Packrat Family Picnic on Saturday, August 21st at the home of Dave, N3CX. If you've been to Dave's picnic you know that the pool will be open and the corn will be excellent! And Dave can usually be persuaded to give a tour of the N3CX beacons! Please call Dave and Sylvia to let them know what you can bring.

If you'll be attending any hamfests please see Jim, WA3EHD so that you can distribute Hamarama flyers. John, KB3XG is coordinating our conference. This year we'll be at the Days Inn located minutes from the Bucks County Drive-In. We're looking for some assistance with conference prizes, please call 'XG if you can help.

Summer is an excellent time to do tower work. There are Packrats willing to help and it's usually more enjoyable if you have a hand. Contact any one of the officers to get an antenna party together!

I'll be looking for Packrats in the August UHF contest. This is a laid back contest on 222 and up that can help you judge those new station improvements. CU on the bands!

73

Paul Drexler, WB3JYO

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 (215) 355-5730

PACKRAT 222 MHz REPEATER - W3CCX/RPTR

222.98/224.58 MHz, Churchville, PA

OFFICERS: 1991-1992

PRESIDENT: WB3JYO, Paul Drexler  
 VICE-PRES: WB2OMY, Gary Hitchner  
 REC. SECR: WA3AQA, Walter Zumbach  
 TREASURER: WA3JUF, Dave Mascaro  
 COR. SECR: N3AOG, Dick Comly  
 DIRECTORS: N3EXA, Brian Taylor (1 YR)  
 K3ESJ, Bill Jaxheimer (1 YR)  
 WA3AXV, Ron Whitsel (2 YRS)  
 WB2YEH, Bob Fisher (2 YRS)


MONDAY NIGHT NETS

<u>TIME</u>	<u>FREQ.</u>	<u>NET CONTROL</u>
7:30 PM	50.125* MHz	K3EOD
8:00 PM	144.150 MHz	W2EIF
8:30 PM	222.125 MHz	WB2YEH
8:30 PM	224.58R MHz	K3ACR
9:00 PM	432.110 MHz	WA3AXV
9:30 PM	1296.100 MHz	WA3NUF
10:00 PM	903.100 MHz	N3AOG

\* Starting Sept. 1993 will be 50.150 MHz


COMMITTEE CHAIRMEN

LADIES' NIGHT: WA3YUE 215-666-1558  
 JUNE CONTEST: WB3DNI 215-672-5289  
 HAMARAMA: WB3JYO 609-538-1687  
 VHF CONFERENCE: KB3XG 215-270-3158



THE AMERICAN RADIO RELAY LEAGUE

**HUGH A. TURNBULL, W3ABC**  
 Director, Atlantic Division



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**K3WAJ**

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Graphic Design    Illustration    Production



Lynne D. Whitsel

209 Frog Hollow Road  
 Churchville, PA 18966  
 215 355-5730

Calendar of Coming Events -August 1993

- 7-8 ARRL UHF Contest. See July QST, page 109 for the rules.
- 8 Mid-Atlantic ARC Hamfest at the Bucks County Drive-In Theater on Rte 611 in Warrington, Pa., five miles north of Exit 27 of the Pa. Turnpike. Talk-In on 146.66/.06 and .52.
- 12 Perseids Meteor Shower predicted peak at 0115 UTC +/- 3 hours. See Aug. CQ page 62 for more details. This shower is predicted to be much bigger than normal.
- 12 Packrat Board of Directors meeting at the QTH of Brian, N3EXA. Call 215-257-6303 for directions.
- 13-15 The 19th Annual Eastern VHF/UHF/SHF Conference will be held at the Quality Inn, Vernon, CT. For information, contact Ron Klimas, WZ1V at 203-768-4758.
- 14-15 Maryland-D. C. QSO Party. See August QST, Page 103 for the rules.
- 15 The Delaware-Lehigh Amateur Radio Club Hamfest will be held at the Plainfield Township Fairground in Easton, PA. on PA 191. TI on 146.7R and .52. VE exams at 1 PM.
- 15 The Delmarva Hamfest will be held at the Delaware Technical & Community College In Georgetown, Delaware. Talk-in on 147.675/.075, and 224.24/.84.
- 18 Lunar Perigee.
- 21 The August meeting of the Packrats will be the PACKRAT FAMILY PICNIC with all Packrats, friends, wives, kids, etc. invited. The picnic will be held at the QTH of Dave, N3CX. Call Sylvia, Dave's XYL at 215-679-7293 if you wish to bring a covered dish to share. Start time is noonish. Bring your swim suits.
- 21 Ramapo Mtn ARC Hamfest in Oakland, NJ. Talk-in on 146.49/.19 and 146.52.
- 21-22 First weekend of the 7th ARRL Cumulative 10 GHz Contest. See page 113 of the June QST for rules. Second weekend is 18-19 Sept.
- 21-22 NJ QSO Party. See July QST, page 110 for the rules.
- 21-22 Valley Forge Hamshows 1993 will be held at the Valley Forge Convention Center, King of Prussia, PA. Sponsored by CQ Magazine and HamShows. This is apparently the first "Commercial" hamfest to be held. We're all accustomed to commercial computer shows but this is a first. Admission is \$7.00 if purchased before Aug. 1. I'm unaware if any of the profits will go to any local ham clubs and there are some competing local hamfests this weekend.
- 22 Moose ARC Ham and Computerfest will be held in Towson, MD. TI on 145.33 and 224.12.
- 28 Somerset County ARC Hamfest will be held at Manville Civil Defense Building in Franklin Park, NJ. TI on 448.175, 224.88, and 146.52.
- 29 Gloucester County ARC Hamfest at the 4-H Fairgrounds in Mullica Hill, N.J. Talk-in on 147.78/.18, 223.06/224.66 and 146.52.

(Continued on Page 4)

### TID BITS:

Wandering Richard Report #2. Got a line from Richard, K2EVV, while he was waiting for rice to be loaded in Lake Charles, LA. He has the concrete poured and hopes to get the ex XG tower up (in VA) and to be operational for the Jan 94 contest.

The San Bernardino Microwave Society reports setting a 10 GHz North American Overland record from Mt. Ashland Oregon to Mt. Pinos California on 18 July. The distance was 537.3 miles which was 58 miles longer than the previous record. Stations were W6HCC operated by Phil on Mt. Ashland (CN82PB) using a HB transverter, 15 watt TWTA and a 4 ft. dish. The Mt. Pinos (DM04KT) end had two separate stations with Chuck, WA6EXV, using a HB transverter, 40 watt TWTA and a 4 ft. dish and Dave, WA6OWD, using a HB transverter, 10 watt TWTA and a 4 ft. dish.

Rich, N0HJZ, in EN34 is looking for skeds on 2M for the Perseids shower. Call him at 612-934-7580.

Just received a letter from ex Rat, Jim, N3AHI down in Sugar Hill, GA. Jim is back into ham radio, mostly on the HF bands (250 countries) but also on 6M. He'll be operating with AB4RU, WS4F, WQ4V, WD4MBK and others from Roan Mt. at 6200 ft. during the September VHF contest.

The May/June issue of NTMS Feedpoint has an article by Peter, G4BCH, on a Combined Transition and Waveguide Switch for 10 GHz. Paul, N1BWT has an article on a Two-stage MMIC Amplifier for 5760 MHz. An unsigned article shows how to modify a Radio Shack HTX-100 10 meter rig for low power output of +10 dBm to drive transverters.

In the July issue of QEX, Zach, KH6CP/1 describes a "NO-Tune" 122 MHz Transverter. It's complete with artwork with all tuned circuits except the local oscillator being etched on G10 board. There's one board for the 194 MHz LO and two identical (in artwork) boards for the receive and transmit chains. The active parts are two transistors in the LO, a voltage regulator, and 8 MMIC's. Two receive configurations are available, one for low noise and the other for high intercept point. The transmit output level is +6dBm.

### Calendar of Coming Events -August 1993 Continued

- Aug
- 29 K2UYH 20th Anniversary Antenna Installation Get-Together. Al, K2UYH is celebrating the 20th anniversary of the installation of his 28 ft. dish at his QTH starting at 1 PM. All Packrats are invited and others that were there for the fun. Bring any pictures you may have of the event. Al will provide the liquid refreshments. Al's location for those with fading memories is 1621 Old Trenton Road in Trenton, NJ 08691. It's a mile or so north of the Mercer County Community College.
- 29 Yonkers ARC Hamfest/Computerfest will be held at the Yonkers Municipal Parking Garage, Yonkers, NY. TI on 146.865 and 440.15.
- 31 Lunar Apogee.
- Oct.
- 2 17th Annual Mid Atlantic VHF Conference at the Days Inn Motel, 245 Easton Road, Horsham, PA. 19044. Call the Inn at 215-674-2500 for room reservations. Conference reservations to PO Box 451, Montgomeryville, PA. 18936.
- 3 Hamarama 93 will be held at the Bucks County Drive In theater on Rte 611 north of Philadelphia in Warminster Pa. Yes, we're back!!!

## K2UYH 20th Anniversary Antenna Installation Get-Together

On 29 August, starting at 1 PM, Al, K2UYH is celebrating the 20th anniversary of the installation of his 28 ft. dish at his QTH north of Trenton, NJ. A lot of the Rats were there and are still around and even some are still active. Al invites all of the Packrats and all others that were there to join in his celebration. Bring any pictures you may have of the event. Al will provide the liquid refreshments. Al's location for those with fading memories is 1621 Old Trenton Road north of Trenton, NJ 08691. It's a mile or so north of Mercer County Community College. Some of you may remember that Al gave the Rats his old 432 MHz 20 foot stressed dish that was promptly installed at W3HQT's place up in Revere, Pa. With the equipment in the barn, the call of W3CCX went into many 432 EME logbooks. We even worked the Packrat HK1TL station during our DXpedition to Columbia back in 1976. It's been a long time hasn't it?

### June VHF QSO Party Reported Scores

<u>Station</u>	<u>Location</u>	<u>QSOs</u>	<u>Grids</u>	<u>Score</u>
W2SZ/1	FN32			1,350,000
N2WK				1,050,000
K1TR/3	FN21			809,669
W3CCX	FN21	1,715	331	797,710
AA9D	EN52	1,327	396	712,800
W0UC/9	EN44	1,074	353	443,015
VE3ONT				443,352
K3UA				360,396
WB0DRL				356,265
W4IY				311,580
KB0CV	EN34	788	306	291,924
K3MQH				274,518
W1TKZ				167,076

### JULY PROPAGATION REPORT

By Dave, N3CX

During the period of 3 to 9 July we had lots of good propagation on 6M to the midwest. Grids worked were EM41, DM90, EL59, EM35, EM18, EM33 and DM78. Also worked Haiti, HH7PV. There's a new beacon on 222.051 in FN31. It sends "WB2IEY/Beacon FN31 Hudson Watershead VHF Society PLS QSL PO Box 7 Maryknoll NY 10545" then it's off for 25 to 30 seconds before repeating. On 432 on July 16, stations in EN90 and 91 were coming in well. Worked WB8JAY near Akron. My new 2304 Amp is working FB-80 watts out. Also the N3CX beacon is about to be updated to a 5-6 watt amp. (Ed Note: 6 meter activity continues at least through July with Spain and the Azores coming through. It was irritating that a station in MD felt compelled to assist the 5 stations setting right on top of the Spain station and telling the 5's not to use CW and what their signal reports were from the Spanish station. I don't know that the 5's were hearing or not but it was hard to make a contact with "helpers" on frequency that had already made their contact.

### CHANGE OF ADDRESS

Paul Randolph, WB3HHO  
1084 Kipling Road  
Rydal, PA. 19046  
215-886-0701

## 6 Meter Net Frequency Change

By Al, K3EOD

Starting in September, the Monday night 6 Meter net will change frequency from 50.125 to 50.150 MHz. Although we've had the net on this frequency for many years, we are shifting it since it is also the 6 Meter calling frequency. Tune-up and check that we're really there sometime. The net is at 7:30 PM EST or EDT every Monday night.

### SWAP SHOP

Send non commercial swap shop items to the editor.

FOR SALE: 5.7 GHz, 25 watt TWTA, -24v, 7 amp, fully metered, \$125.00. 5.7 to 6.3 GHz Microwave sources with internal oven, \$30.00. Various isolators and filters for 5.7 GHz, 2 ft. GG214 cables with N conn, 6x8x1 in and 3x8x1 in sealed boxes and 15 dB, 1watt coax attenuators with N connectors. Call Pat, WB3DNI at 215-672-5289.

FOR SALE: Brand New, never used, linemans belt, size 38, \$50.00. Tower wall support, \$25.00. 36 ft. aluminum extension ladder, \$150.00. Call Paul, WB3HHO at 215-886-0701.

FOR SALE: 432/50 MHz MM Module, \$100, Kenwood 3530 222 MHz Transceiver, \$280.00, Midland 13-509 220 FM Transceiver \$150.00, plus many antennas, hardline, dish antennas. Call for details. Marty, WB2GEZ at 609-758-8865.

FOR SALE: AM 6154 Amp converted to 2M, new tube, 560 watts out, \$250.00. Cushcraft 4218XL Boomer with trigonal reflector removed and two additional directors added per K1FO modification, \$75.00. Call Mark, WB2JHG, at 609-654-4441, weekends only.

FOR SALE: 10 GHz transverter and under 1 dB NF preamps. Contact Microwave Committee Components Service, Peter Suckling, 314A Newton Rd., Rushden, Northants, NN10 OSY, UK. Telephone is +44 933 411446.

### COMMERCIAL AD

LOOP YAGIS: 902 MHz 33 element \$89 kit, \$109 assembled and tested. 1296 MHz 45 element, \$89 kit, \$109 assembled and tested. 1296 MHz 55 element "Sooper Looper" \$99 kit, \$124 assembled and tested. 2304 MHz 45 element \$75 kit, \$89 assembled and tested. Also available: element and hardware kits for the above. 2 and 4-way power dividers. Discount on complete arrays. Solid State Linear Power Amps, 13 VDC: 1296 - 8W in 35W out \$315, 1W in 20W out \$265, 4W in 70W out \$695. GaAs FET Preamps: 903 MHz .8dB NF \$90, 1296 MHz .8 dB, 2304 MHz 1 dB max NF \$140. SHF SYSTEMS No-tune Transverter kits, w/144 MHz IF now available for 903 through 3456 MHz. Write or call for complete catalog. DOWN EAST MICROWAVE, Bill Olson, W3HQT, Box 2301 RR-1, Troy, Maine. For information and orders telephone (207) 948-3741.

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August 93 Send to: SUBSCRIPTION/ADVERTISING MANAGER:

Bob Fischer, WB2YEH  
7258 Walnut Avenue  
Pennsauken, NJ 08110

TESTS ON AN INTEGRATED RF FRONT END

By Gary, WA2OMY

While looking through the microwave trade journals the past several months I have noticed an increasing amount of RF devices coming on the market in plastic packages with low prices. Most of these devices are aimed at the cellular and personal communication market, however most are wideband and have amateur applications. A very good example advertised a few months ago is the NE/SA600 1 GHz LNA and mixer manufactured by Philips Semiconductor.

At first glance of the data sheet, it looks like the device is designed specifically for 900 MHz communications since this is the frequency where the manufacture decided to published the data, however the mixer will operate from 2 meters through 2304 MHz! The following summary of the features of the chip which make it very convenient for ham use.

A block diagram and some other data from the manufacturers data sheets is also included.

1. Small size, the chip and surrounding circuitry occupy approximately 1 square inch.
2. The LNA has a NF of about 2 dB, which may not be state of the art but again convenient since it is on the chip. In any case it can be bypassed or used for a second gain stage.
3. 50 ohm LNA input and output. The mixer has 50 ohm LO and RF ports and an open collector IF, easily matched with 2 or 3 components to 50 ohms. See schematic.
4. 5 volt DC operation.
5. Low LO power requirements, it will operate with a LO as low as -10 dBm.

The following data was measured in the lab on a sample device. It should give you an idea what the device can do on the ham bands.

LNA DATA

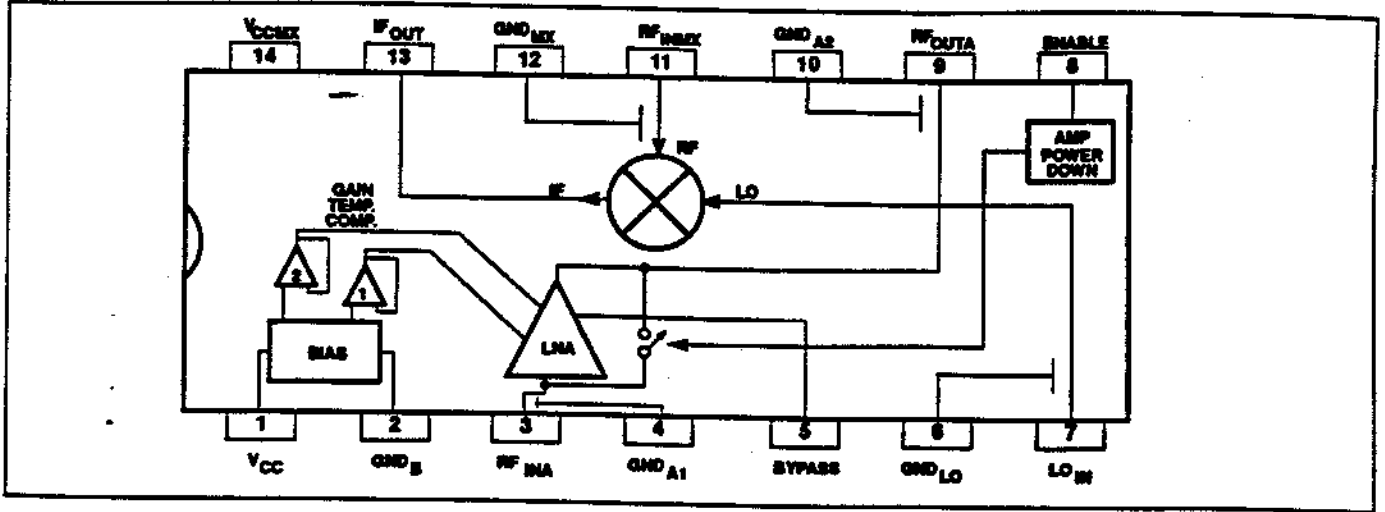
<u>Freq (MHz)</u>	<u>Gain (dB)</u>	<u>Input Pwr</u>	<u>1dB Comp at Input</u>	<u>NF (dB)</u>
144	27.7	-35 Dbm	-30 dBm	-
903	14.9	-35 Dbm	-20 dBm	2.1
1296	9.7	-25 Dbm	-15 dBm	3.0
2304	Not usable			

MIXER DATA

<u>RF Freq.</u>	<u>LO Freq.</u>	<u>IF Freq.</u>	<u>LO Level</u>	<u>Conv. Loss</u>	<u>1dB Comp Pt</u>
1296 MHz	1152 MHz	144 Mhz	+5 dBm	5.4 dB	-5 dBm
1296 MHz	1152 MHz	144 MHz	-5 dBm	6.4 dB	-
903 MHz	759 MHz	144 MHz	+5 dBm	4.2 dB	- 5 dB
903 MHz	759 MHz	144 MHz	-5 dBm	5.0 dB	
2304 MHz	2160 MHz	144 MHz	+5 dBm	7.3 dB	-2 dBm

One problem which is still under investigation is the ability to upconvert. I have tried it with poor results. Since the construction of the chip is a collector output at IF, it may not be able to act as an input. The IC is available at Arrow Electronics, 1-800-93-ARROW, in small quantities. Arrow will accept credit card orders so the availability looks good. Total cost is around \$6.00 however they have a \$25.00 minimum order. I would think this circuit would be excellent for a second converter for a microwave setup or a weather converter etc. HAPPY EXPERIMENTING!

**BLOCK DIAGRAM**



Product specification

**NE/SA600**

**1GHz LNA and mixer**

SYMBOL	PARAMETER	TEST CONDITIONS	LIMITS		UNITS
			-50	+50	
<b>LNA (V<sub>CC</sub> = V<sub>CCMX</sub> = +5V, T<sub>A</sub> = 25°C; Enable = H; Test Figure 1, unless otherwise stated.)</b>					
S <sub>21</sub>	Amplifier gain	900MHz	14.9	16	17.1
S <sub>21</sub>	Amplifier gain in 1dB mode	Enable = LO, 900MHz	-0.0	-7.5	-4.9
ΔS <sub>21</sub> /ΔT	Gain temperature sensitivity enabled	900MHz	-0.008		dB/°C
ΔS <sub>21</sub> /ΔT	Gain temperature sensitivity in 1dB mode	Enable = LO, 900MHz	-0.014		dB/°C
ΔS <sub>21</sub> /Δf	Gain frequency variation	900MHz ± 1.5KHz	-0.014		dB/MHz
S <sub>12</sub>	Amplifier reverse isolation	900MHz	-47	-42	-47
S <sub>11</sub>	Amplifier input match	900MHz	-11	-10	-9
S <sub>22</sub>	Amplifier output match	900MHz	-16.9	-16	-13.2
P <sub>1dB</sub>	Amplifier input 1dB gain compression	900MHz	-21.2	-20	-18.8
IP <sub>3</sub>	Amp input 3rd-order intercept (1dB mode)	Test Fig. 2, 900MHz	-11.8	-10	-8.6
	Amp input 3rd-order intercept (1dB mode)	Test Fig. 2, 900MHz, Enable = LO	-28		-28
	Amplifier noise figure	900MHz	1.9	2.2	2.5
	Amp noise figure without 15nH inductor at input	900MHz	1.7	2.0	2.3
LOn	Amplifier turn-on time	Enable LO → H		30	ns
		Coupling = 100pF		9	ns
		Coupling = 0.01pF			
loff	Amplifier turn-off time	Enable H → Lo		10	ns
		Coupling = 100pF			
		Coupling = 0.01pF			
<b>Mixer (V<sub>CC</sub> = V<sub>CCMX</sub> = +5V, T<sub>A</sub> = 25°C; Enable = H; I<sub>LO</sub> = 10Hz @ 0dBm, I<sub>RF</sub> = 900MHz, I<sub>F</sub> = 100MHz; Test Fig. 1, unless otherwise stated.)</b>					
V <sub>OC</sub>	Mixer voltage conversion gain	R <sub>L1</sub> = R <sub>L2</sub> = 1kΩ	9.6	10.4	11.3
P <sub>CO</sub>	Mixer power conversion gain	R <sub>L1</sub> = R <sub>L2</sub> = 1kΩ	-3.05	-2.8	-2.18
S <sub>11RF</sub>	Mixer input match	900MHz	-23	-20	-17
NF <sub>M</sub>	Mixer SSB noise figure	Test Fig. 3, 900MHz, I <sub>F</sub> = 80MHz	12.2	14	15.8
P <sub>1dB</sub>	Mixer input 1dB gain compression	900MHz	-6.3	-4	-3.7
IP <sub>3RT</sub>	Mixer input third order intercept	900MHz	+6	+4	+7
IP <sub>3BT</sub>	Mixer input second order intercept	900MHz	+19	+20	+22
G <sub>ISO-F</sub>	Mixer RF feedthrough	900MHz, C <sub>S</sub> = 3pF	-7		-7
G <sub>ISO-F</sub>	Mixer LO feedthrough	900MHz, C <sub>S</sub> = 2pF	-10		-10
G <sub>ISO-F</sub>	Mixer LO feedthrough	900MHz	-33		-33
G <sub>ISO-F</sub>	Local oscillator to mixer input feedthrough	900MHz	-24		-18
S <sub>11LO</sub>	LO input match	900MHz	-20		-20
G <sub>ISO-F</sub>	Local oscillator to RF input feedthrough	900MHz	-48		-48
G <sub>ISO-F</sub>	Filter feedthrough	900MHz	-28		-28
<b>LNA + Mixer (V<sub>CC</sub> = V<sub>CCMX</sub> = +5V, T<sub>A</sub> = 25°C; Enable = H; I<sub>LO</sub> = 10Hz @ 0dBm, I<sub>RF</sub> = 900MHz, I<sub>F</sub> = 100MHz; Test Fig. 1, unless otherwise stated.)</b>					
P <sub>CO</sub>	Overall power conversion gain			19.4	dB
NF	Overall noise figure			3.5	dB
IP <sub>3</sub>	Overall input 3rd-order intercept			-19	dBm

NOTE:  
 1. All measurements include the effects of the NE/SA600 Evaluation Board (see Figure) unless otherwise noted. Measurement system impedance is 50Ω.  
 2. Standard deviations are estimated from design simulations to represent manufacturing variations over the life of the product.  
 3. With a short 15nH inductor at the input of the LNA, the value of S<sub>11</sub> is typically -15dB.



### 1993 MID ATLANTIC VHF CONFERENCE

I know it's still mid-summer, but it's not too soon to make your reservation for the 1993 Mid Atlantic VHF Conference. The conference, our 17th annual one, will be held on Saturday, October 2, 1993 at the Days Inn motel, 245 Easton Road (Rte 611) in Horsham Pa, just north of Philadelphia, Pa.. Horsham is just 3 miles south of our annual hamfest (HAMARAMA) being held the next day, Sunday at the Bucks County Drive-In Theater. site

Please make reservations at the Days Inn before September 17 by calling 215-674-2500 or FAXing 215-674-0145. Mention "The Packrats" for special room rates. The cost of food at the conference will be a bit more reasonable this year since there is "Otto's" German restaurant on the other side of the hotel parking lot with a dining room large enough to accommodate everyone. Otto's features meals between \$5.00 and \$10.00 and guaranteed to fill your gut. This will give you more money to spend on VHF and Microwave goodies that you find at the hamfest the next day.

All speakers have not been finalized yet but stay tuned to Cheesebits for additional announcements. As usual, we will have an outstanding set of speakers with a diverse and challenging talks in the VHF and Microwave areas. If you have any questions or if you or someone you know would like to be considered for giving a talk in one of the open time slots available, write me or give me a call.

73.

John Sorter, KB3XG  
Conference Chairman  
1993 Mid-Atlantic VHF Conference  
PO Box 451  
Montgomeryville, PA. 18936  
(215) 270-3185

#### Health and Welfare

Carl, K3DLS, is at the Willowcrest-Bamberger Nursing Home that is part of the Einstein Hospital complex. Carl had a stroke and is in the recovery process. Send him a card at Broad Street and Tabor Road, Philadelphia, Pa. 19141. Carl is in room 310-A and the phone number is 215-456-8736.

We're saddened to report the death of Helen Brick, the XYL of Frankie, W3SAO. Helen was the first editor of Cheesebits.

Another sad late report is that George, K3KMN, and family were involved in a fatal fire resulting in George's wife and mother-in-law's death and George surviving with burns over 30% of his body.

#### TID BITS (Contd):

Jerry Becker, WA8R/9, in Lawrenceburg, Indiana (EM79NE) is looking for skeds on 6 thru 2304 MHz. His phone is 812-637-2624(H) and 606-283-5000(W). He has a 1 watt beacon on 50.062 MHz and a 15 watt beacon on 144.295 located in Northern Kentucky (EM79QB).

Got a postcard from wandering Richard, K2EVW, from Port Said, Egypt. What's the grid square there? I think this was the one we had to scrap from the June contest 6 meter log because no one would believe it. CU in the Sept. Contest. The card has a nice view of the Suez Canal Administration Building. Rich says "best regards to all the Rats".



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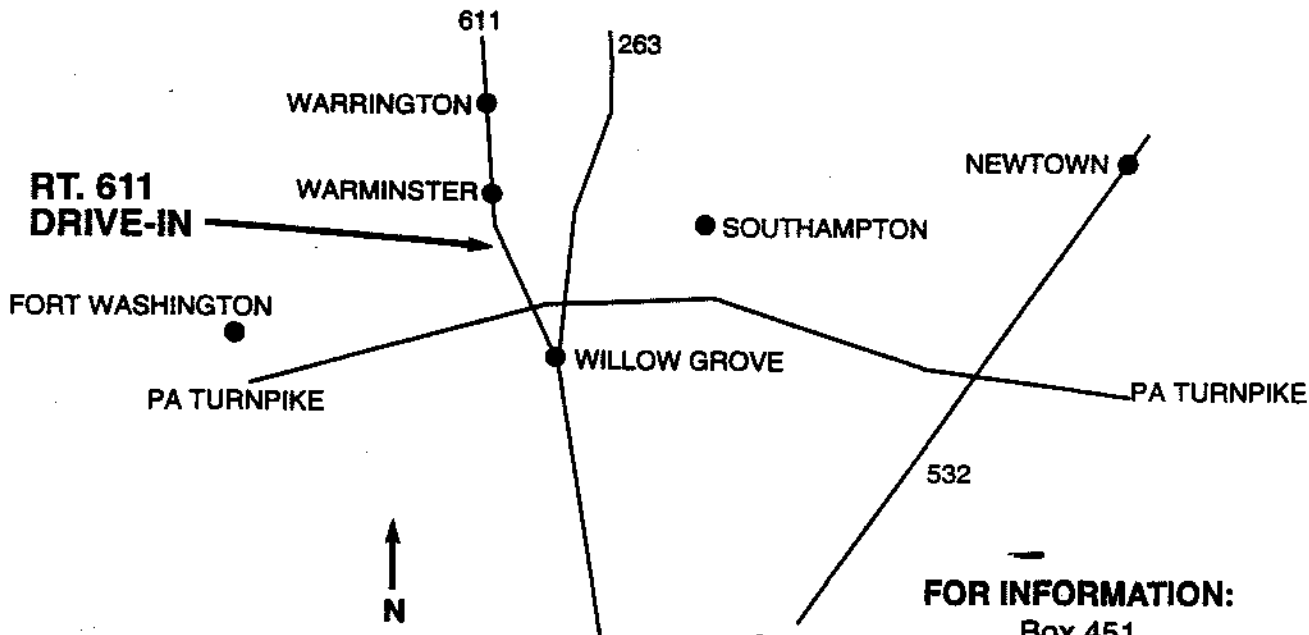
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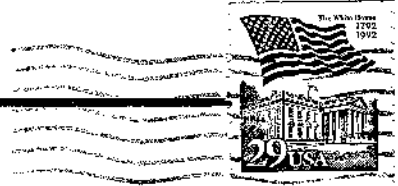
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