



# Loveland Repeater Association Newsletter

The official organ of the Loveland Repeater Association--a non-profit organization supporting all aspects of Amateur Radio in the Loveland area.

<b>LRA Officers</b>	
<b>President.....</b>	<b>Dennis "Duff" Dyer, N9KKH, 593-9984, ddyer@lvld.hp.com</b>
<b>Vice-President.....</b>	<b>Ted Cline, N0RQV, 593-9303, ted_cline@hp.com</b>
<b>Secretary/Treasurer.....</b>	<b>Rick Kile, WB7THT, 962-9179,wb7tth@aol.com</b>
<b>Editor.....</b>	<b>Rick Kile, WB7THT, 962-9179,wb7tth@aol.com</b>
<b>FM Repeaters</b>	
<b>2 Meters.....</b>	<b>147.795/147.195 MHz (100 Hz Sub tone; 1* on, 0* off)</b>
<b>440.....</b>	<b>449.575/444.575 MHz (100 Hz Subtone; 1* on, 0* off)</b>
<b>Packet Node W0KKT/W6PQS.....</b>	<b>144.91 MHz</b>
<b>Interference Coordinator.....</b>	<b>Ted Cline, N0RQV, ted_cline@hp.com 593-9303</b>
<b>General Repeater Maintenance.....</b>	<b>Dennis "Duff" Dyer, N9KKH 593-9984, ddyer@lvld.hp.com</b>

**President's Corner**

**From Dennis "Duff" Dyer, N9KKH**

Ham radio links the world!!! A small statement but very true. I'm writing this from halfway around the world, in the small town of Geel, just outside of Brussels Belgium, and what do I see across from my hotel. A dipole strung from the roof of a house to the tree in the backyard. HAMS, you find them everywhere. Hopefully I'll get some time to drop across the street and do a face to face QSO, but even if I don't just seeing the antenna makes me feel a little closer to home.

I spoke with the folks about the star on the hill and it seems there are a lot of people that feel the same way we do. I got our name on the list of organizations that want to help out. Seems that the gentleman from the Jaycees still wants to be heavily involved and the winter holiday council s planning on helping. They're all hoping that with a few more people involved we won't ever come this close to not having it lit for christmas ever again. An area that we might be able to help with is putting lights up. The cost for the bucket truck each year has run about \$700 and a better solution or a donated bucket truck is needed. There was also some talk about possibly tapping into our electric and just paying us for the electricity. Seems they get charged \$12/month just for the electric service when it's only used for less than 1 month. That's more than the cost of electricity used for lighting the star. This might be the right niche for the club, the electricity costs. Or maybe helping out with the bulb replacement. Anyway, there is going to be some work details on the star this

summer, the powers at be have my name, and I'm sure we'll be called on to help out somehow.

Special THANKS to everyone for at the last meeting. We made some great decisions for the future direction of the club.

I'll see everyone the meeting. I hope that YOU will be there too! 73's Duff, N9KKH

**Next Meeting**

The next LRA meeting is scheduled for Saturday, 7 February 1998, at the Wayside Inn in Berthoud, CO. A buffet breakfast is served at 8:00AM and includes scrambled eggs, bacon, potatoes, biscuits and sausage gravy, french toast, and coffee for \$5.00. The business meeting starts at 9:00 AM.

The agenda this month includes discussion on replacing the primary 2 meter antenna at the repeater site, an update on the Loveland Star, video shot at the repeater site during a recent maintenance visit, and an ARRL video on ARES.

**January 98 Meeting Report  
From Rick Kile, WB7THT**

The meeting was called to order by President Dennis "Duff" Dyer, N9KKH. Following introductions, the treasurer's report was given by Rick Kile, WB7THT. The 1998 budget, as printed in the January newsletter, was reviewed and approved. Duff also gave a short repeater report, noting the repeater call sign had been changed to reflect the change in club president, and macros had been updated. Steve, WB0UWE, gave an ARES report. Severe weather

training will be held in late April or early May. Dennis Agosta, KB0RFA, gave a report on the status of the current licensing classes. The class was scheduled to be complete on 9 January, and plans were being made for classes to be held in the Spring.

The rest of the business meeting was devoted to discussion on what the club wants to do in 1998. Ideas include setting up amateur radio displays at the 29th Street Post Office and at Hardee's. The Post Office display could be linked to foreign stamps on DX QSL cards. There was considerable discussion about setting up a station in the park during the 4th of July celebrations. Duff is going to see about reserving space. Duff is also doing some investigation into sponsoring the Loveland Christmas Star. The latest status on this is covered in The President's Corner. We also had some interest in setting up a special event station for Valentine's Day 1999.

The meeting finished up with show and tell by Duff, N9KKH, and Rick, WB7THT. Two different GPS receivers, and DeLorme Map 'N Go 3.0 and Street Atlas USA 5.0 software packages were on display.

**From our Secretary/Treasurer for December 1997  
From Rick Kile, WB7THT**

Our bank balance was \$2,049.94 on 29 January 98. This includes \$141.00 which has been donated to the Repeater Fund, and \$1,080 in membership renewals for 1998. Details of account activity through 29 January 98 are shown in the following table:

Beginning Balance as of 12/26/97	\$1,608.02
Credits	
Dues	\$480.00
Repeater Fund	\$31.00
Ham Class	\$31.00
50/50 Drawing	\$12.00
Debits	
Newsletter	(\$55.04)
Public Service	(\$15.29)
US West	(\$22.59)
Ham Class Treats	(\$18.16)
Bank Charges	(\$1.00)
New Balance as of 1/29/98	\$2,049.94

**Membership Renewal  
From Rick Kile, WB7THT**

The annual membership drive is underway. I have included the membership renewal form at the end of the newsletter, and will continue to do so for one more month. Our membership in 1997 was 113, including 26 family members, and 87 paid up members. Membership renewals through 26 January total 54 paid memberships and 13 family members, for a total of 67. As you can see, we still have quite a few membership renewals to go. Please take a few minutes to fill out your membership renewal form and send it in, or bring it to the next club meeting.

**Phase 3D Angling For Standby Status On Ariane  
From the ARRL Letter**

Phase 3D Project Leader and AMSAT-DL President Karl Meinzer, DJ4ZC, has "expressed a strong desire" to European Space Agency officials for a Phase 3D launch aboard Ariane 503, which is set for sometime in May. Meinzer met January 20 in Paris with ESA officials to discuss including Phase 3D aboard the third test flight of the Ariane 5 launch vehicle.

MSAT-NA Executive Vice President, Keith Baker, KB1SF, likened the situation to flying standby in order to get a seat on a fully booked airline flight. "That strategy often pays off" he added. Baker said this week that an international Phase 3D team has "been pressing ahead with getting the satellite flight ready" at the Phase 3D Integration Lab in Orlando, Florida. But he conceded that "things are still very fluid" regarding possible launch vehicles and a firm launch schedule for Phase 3D.

AMSAT says the ESA officials "indicated willingness to consider a launch on AR-503"; but made no commitments. There's a possibility that another payload might fly aboard AR-503 that would preclude Phase 3D. But, ESA did agree to take a look at what would be required to carry the Phase 3D payload. ESA also agreed to investigate other possible launch opportunities, including Ariane 4 flights. Another meeting is set for late February.

"ESA is making bona-fide efforts to identify a launch for us. I think we stand a good chance" he said after the meeting. Meinzer and AMSAT-NA officials have agreed that their job now is to get Phase 3D completed and tested, so that it will be ready to go if ESA gives the green light.--AMSAT News Service; Keith Baker, KB1SF

**Repeater Update  
From Dennis "Duff" Dyer, N9KKH**

As many of you know the repeater has been operating on reduced sensitivity over the last month. Last Saturday Steve, WB0UWE, Ted N0RQV and I went up to the site to see if we could fix the problem. Steve brought along a service monitor as our initial thoughts were a re-tuning of the front end was needed. After checking the receiver sensitivity and finding it very hot, we inspected connectors. We tightened up a few but Randy, WB6AVV and Rick, WB7THT were still reporting reduced performance, this time output power was poor as well. This led us to an inspection of the antenna system. SWR was high both into the cavities and the antenna. Output power of the transmitter finals was OK at 100 watts. Further investigation showed our antenna reporting a very high SWR and bad impedance match. Steve climbed the tower (it was snowing lightly by now) and inspected the antenna. Radials were missing and there was a rattling sound from inside the antenna. You guessed it, the antenna was bad. We brought the repeater back up on the air using the backup 2m antenna (the old packet ringo) and reports coming in were good. At the club meeting we will be discussing the purchase of a new antenna. Steve and Randy will have suggestions as to what our options are, but needless to say our repeater maintenance budget will probably be gone after this meeting. Special THANKS to Steve and Ted for helping out on Saturday.

Note: I will be making a trip up to the repeater after Saturdays meeting if anyone wants to go along. Weather permitting.

Note: Ted shot a video of the repeater site that we will show at the club meeting.

### Upcoming Swapfest Information

February 15, 1998: Aurora Repeater Assoc., Brighton, CO

Contact: Wayne Heinen, N0POH

PO Box 473411, Aurora, CO 80047-3411

303-699-6335; E-mail: nrclog@aol.com

May 2, 1998: Pikes Peak RAA, Colorado Springs, CO

Contact: Ron Deutsch, NK0P

4305 Ridgeland Dr., Colorado Springs, CO 80918

May 30, 1998: Northern Colorado ARC, Loveland, CO

Contact: Michael Robinson, N7MR

2236 Silver Trails Dr., Fort Collins, CO 80526

970-282-1167

### February Contest Information

Delaware QSO Party, Feb 7-9

FYBO Winter QRP Field Day, Feb 7-8, QRP Only

Kansas QSO Party, Feb 7-8

Ten Ten International Net Winter Phone QSO Party, Feb 7-8;

Vermont QSO Party Feb 7-8; Novice Roundup, Feb 13-16;

World Wide RTTY WPX Contest, Feb 14-15

YL-OM Contest (phone) Feb 14-16. (CW: Feb 21-23.);

CQC Winter QRP QSO Party, Feb 22-23

RSGB 7 MHz Contest Feb 21-22, CW only

North Carolina QSO Party, Feb 28-Mar 1.

### Solar Update

#### From the ARRL Letter

Solar scribe Tad Cook, K7VVV Seattle, Washington, reports: Solar activity increased this week over last, but not by much. Average sunspot numbers were up by 17 points, and average solar flux was also higher, but by less than five points. Average solar flux for the previous 90 days rose from 96 to 97, and the daily flux was above the average for that day on five out of seven days. This indicates a moderate general upward trend in solar flux values.

Solar flux peaked at 108.3 on January 25 but now is headed down to the low 90s. For January 30 through February 1 flux values are projected at 94, 93 and 91. A coronal mass ejection earlier on January 25 should cause unsettled conditions on the last two days of January, but the A index is only expected to rise to around 20. This is enough to cause problems over polar radio paths and in higher latitudes, however. Solar flux is expected to bottom out around 90 between February 5-9, then rise up near 100 again later in the month.

Sunspot numbers for January 22 through 28 were 37, 57, 88, 104, 99, 98, and 89 with a mean of 81.7. The 10.7-cm flux was 93, 96.9, 97.5, 108.3, 100, 100.8, and 96.6, with a mean of 99, and estimated planetary A indices were 4, 3, 4, 9, 3, 6, and 2, with a mean of 4.4.

The January 1998 issue of "Scientific American" contains an interesting article on the Ulysses mission, which is returning new data on high latitude solar magnetic fields. NASA has a web site for this mission at: <http://ulysses.jpl.nasa.gov/>

Another NASA project of interest to solar observers is the Advanced Composition Explorer (ACE), launched last summer. The February, 1998 issue of "Monitoring Times" magazine has an informative article on solar weather and the ACE mission. The Goddard Space Flight Center ACE web site is at: <http://www.gsfc.nasa.gov/ace/ace.html>

### Considerate Operator's Frequency Guide From The ARRL

The following frequencies are generally recognized for certain modes or activities (all frequencies are in Mhz). Nothing in the rules recognizes a net's, group's or any individual's special privilege to any specific frequency. Section 97.101(b) of the Rules states that "Each station licensee and each control operator must cooperate in selecting transmitting channels and in making the most effective use of the amateur service frequencies. No frequency will be assigned for the exclusive use of any station." No one "owns" a frequency.

It's good practice--and plain old common sense--for any operator, regardless of mode, to check to see if the frequency is in use prior to engaging operation. If you are there first, other operators should make an effort to protect you from interference to the extent possible, given that 100% interference-free operation is an unrealistic expectation in today's congested bands.

1.800-1.830: CW, data and other narrowband modes

1.810: QRP CW calling frequency

1.830-1.840: CW, data and other narrowband modes, intercontinental QSOs only

1.840-1.850: CW; SSB, SSTV and other wideband modes, intercontinental QSOs only

1.850-2.000: CW; phone, SSTV and other wideband modes

3.560: QRP CW calling frequency

3.590: RTTY DX

3.580-3.620: Data

3.620-3.635: Automatically controlled data stations

3.710: QRP Novice/Technician CW calling frequency

3.790-3.800: DX window

3.845: SSTV

3.885: AM calling frequency

3.985: QRP SSB calling frequency

7.040: RTTY DX QRP CW calling frequency

7.080-7.100: Data

7.100-7.105: Automatically controlled data stations

7.110: QRP Novice/Technician CW calling frequency

7.171: SSTV

7.285: QRP SSB calling frequency

7.290: AM calling frequency

10.106: QRP CW calling frequency  
10.130-10.140: Data  
10.140-10.150: Automatically controlled data stations  
14.060: QRP CW calling frequency  
14.070-14.095: Data  
14.095-14.0995: Automatically controlled data stations  
14.100: NCDXF/IARU beacons  
14.1005-14.112: Automatically controlled data stations  
14.230: SSTV  
14.285: QRP SSB calling frequency  
14.286: AM calling frequency

18.100-18.105: Data  
18.105-18.110: Automatically controlled data stations

21.060: QRP CW calling frequency  
21.070-21.100: Data  
21.090-21.100: Automatically controlled data stations  
21.340: SSTV  
21.385: QRP SSB calling frequency

24.920-24.925: Data  
24.925-24.930: Automatically controlled data stations

28.060: QRP CW calling frequency  
28.070-28.120: Data  
28.120-28.189: Automatically controlled data stations  
28.190-28.225: Beacons  
28.385: QRP SSB calling frequency  
28.680: SSTV

29.000-29.200: AM  
29.300-29.510: Satellite downlinks  
29.520-29.580: Repeater inputs  
29.600: FM simplex  
29.620-29.680: Repeater outputs

#### Notes:

ARRL band plans for frequencies above 28.300 MHz are shown in The ARRL Repeater Directory and The FCC Rule Book. For detailed packet frequencies, see QST, September 1987, page 54, and March 1988, page 51. NCDXF/IARU beacons operate on 14.100, 18.110, 21.150, 24.930 and 28.200 Mhz.

#### **Winter Games special event From The ARRL Letter**

Special event station 8N0WOG will operate from February 7 through February 22 during the XVIII Olympic Winter Games in Nagano Japan. The station will be sponsored by the Japan Amateur Radio League and will be available for operation by amateurs from any country. If you're planning to be in Nagano for the games, don't forget your Amateur Radio license. 8N0WOG will be at the Nagano City Warm-Hearty (Fureai-Fukushi) Center, 1714-5, Midori-cho, Nagano.

Operating hours will be 0930 until 2100 JST. HF bands will include 160 through 10 meters, SSB and CW. The station also will operated on VHF and UHF. For more information, contact Kimihiko Koyanagi, JA0TBJ, e-mail: ja0tbj@mx2.nisiq.net

#### **WB5LUA opies Lunar Prospector From The ARRL Letter**

Well-known VHF-UHF-EME enthusiast Al Ward, WB5LUA, monitored the recently launched Lunar Prospector on 2273 MHz on January 11. Using his 2.3 GHz EME antenna, Ward first heard the beacon just as the spacecraft was nearing the moon's orbit. The next day, he heard the Prospector as it was orbiting the moon. Ward reports moon elevation from his QTH in Texas (EM13QC) was 14.1 degrees and azimuth was 77.4 degrees. "I was surprised as to the signal strength. It was no stronger than it was prior to orbiting the moon," Ward said in an Internet posting. "It was my understanding that the Prospector would deploy an omnidirectional antenna while on its way to the moon and then deploy a higher-gain directional antenna while in orbit." [At week's end, John Yurek, K3PGP, reported that, as far as he can determine, the spacecraft had been switched to the higher-gain antenna.

Ward said he also had made provisions to receive the Prospector with righthand circular polarization (RHCP) as opposed to the normal left hand circular polarization (LHCP) used for receiving 2304 MHz EME. He found signals were "definitely being received better using RHCP as compared to LHCP." Using a 500-Hz bandwidth, he says he measured the main carrier at 10 to 15 dB above the noise. "The main carrier appears to have no discernible modulation on it. Both subcarriers have a series of dashes followed by a couple of dots and then periodic rough sounding tones which are most likely digitized information regarding flight conditions," he reported. Ward says he tracked the Prospector on January 12 when it went behind the moon on one orbit. "The Doppler was slowly going up in frequency by a few kilohertz when, all of a sudden, the signal went up in frequency a few hundred Hertz," he observed. Ward said the frequency stayed there for a few seconds then the signal dropped out as the spacecraft went around to the moon's dark side. Ward said he learned of this "hook effect" from Paul Wilson, W4HHK, who monitored some of the first Apollo transmissions on 2287.5 MHz in 1971. Ward says he'd like to record the phenomenon. Yurek also has received the Prospector's signal using a 12-foot dish. Yurek has posted Prospector information and some sample audio recordings of the main carrier and subcarrier on the Web at: <http://www.qsl.net/k3pgp/>

See <http://www.qsl.net/k3pgp!/Start/lpsounds.htm> (K3PGP's Web page) for recordings of the received signal. Signals were received using a 5-meter dish and RHCP. Receive noise figure was 0.4 dB at the feed. LNA device was a Hewlett Packard ATF-36077.

### **LOVELAND REPEATER ASSOCIATION**

Amateur Radio Licensing Class

Loveland's Amateur Radio club, the Loveland Repeater Association, will be presenting an 11-week training class for people interested in obtaining their FCC Amateur Radio Technician Class license. Amateur Radio Operators, also known as Ham Radio Operators, are able to communicate with other operators around the world through a wide variety of radio modes. Hams are also an essential part of our communities support team in times of emergency or disaster.

The LRA has offered training classes since 1995, and has had a very high success rate. The Technician license does not require any Morse Code proficiency, and the material covered is well within the grasp of people without technical backgrounds. Previous radio or electronics experience is not required. The lectures are designed to supplement a very readable textbook, and cover such topics as Basic Electrical Theory, Amateur Radio Operating Procedures, FCC Rules and Regulations, Simple Circuits and Antennas. The eleven week schedule includes the test session and an introductory session designed to get new hams on the air as soon as they receive their license.

Classes will begin Friday, February 13, 1998, from 7-9 PM, and will be held on consecutive Friday evenings at the Red Cross building in Fort Collins. Cost of the course is \$25.00 to cover the cost of the textbook and handouts.

For more information, contact Dennis Agosta at 203-2708 (days), 669-4103 (evenings), or via email at dennis@duke.com.

**LOVELAND REPEATER ASSOCIATION  
MEMBERSHIP APPLICATION**

NAME		CALL	
ADDRESS			
CITY		STATE	ZIP
PHONE	LICENSE CLASS	UNDER 18 Y N	ARRL MEMBER Y N
PACKET ADDRESS		E-MAIL ADDRESS	

DUES: Family Membership \$20.00    *NEW FAMILY MEMBERS ARE*  
Under 18       \$ 5.00       *PRO-RATED AT \$1.75/MONTH*

\*\*\***USE BACK OF FORM FOR ADDITIONAL FAMILY MEMBERS**\*\*\*

INCLUDES 2 **FREE** MACROS

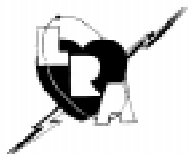
Contact: Duff, N9KKH 593-9984

MAKE CHECKS PAYABLE TO **LRA**

Loveland Repeater Association  
P.O. Box 1733  
Loveland, CO 80539-1733

TOTAL ENCLOSED DUES
---------------------

Loveland Repeater Association  
P.O. Box 1733  
Loveland, CO  
80539-1733



Amateur Radio Serving the Community  
Since 197