

**WD2XSH status report: December 1, 2010 - February 28, 2011****Prepared by Fritz Raab, W1FR, Experiment Coordinator****March 20, 2011****1. SUMMARY OF OPERATIONS**

This report provides a summary of WD2XSH activity during the winter of 2010 - 2011. The key statistics of our operations to during this period are:

- Number of QSOs: 0 additional, total 441;
- Number of reports via web site: 861 additional, total 13,031;
- Operating hours: 6,951 additional, total 90,024; and
- Number of interference complaints: 0.

All statistics are based upon the end of the reporting period (02/28/11). The logs were modified so that receive time is no longer included in the total hours.

**2. ADMINISTRATIVE**

A request for modification to add 461 - 478 kHz to our license was filed on January 3 and approved on February 24. This band matches the band supported by the FCC and CITELE, and WRC-12 new method B. It will allow us to demonstrate use of these frequencies for both WRC-12 and a subsequent petition to the FCC.

I authorized all stations to use this band from 465 to 478 kHz. Since the HA-DGPS just below this band has been a problem in the past, I thought it best to steer clear of its stations at 454 and 458 kHz.

**3. COMMUNICATIONS**

The locations and status of 500-kHz amateur/experimental stations in the USA are shown in Figure 1.

The lack of QSOs is disappointing. Nonetheless, there has been considerable activity in beacon operations with multiple listeners reporting.

Access to 461 - 478 kHz was approved on February 24. On February 25, station /10 (W4DEX) was transmitting a CW-beacon signal on 461.5 kHz. He was promptly received in Ohio (Figure 2), Tennessee, Minnesota, and Mississippi. WA1ZMS /31 was operating on the new band on Feb. 27. KN1H /38 and KW1I / 5 were on the air in early March.

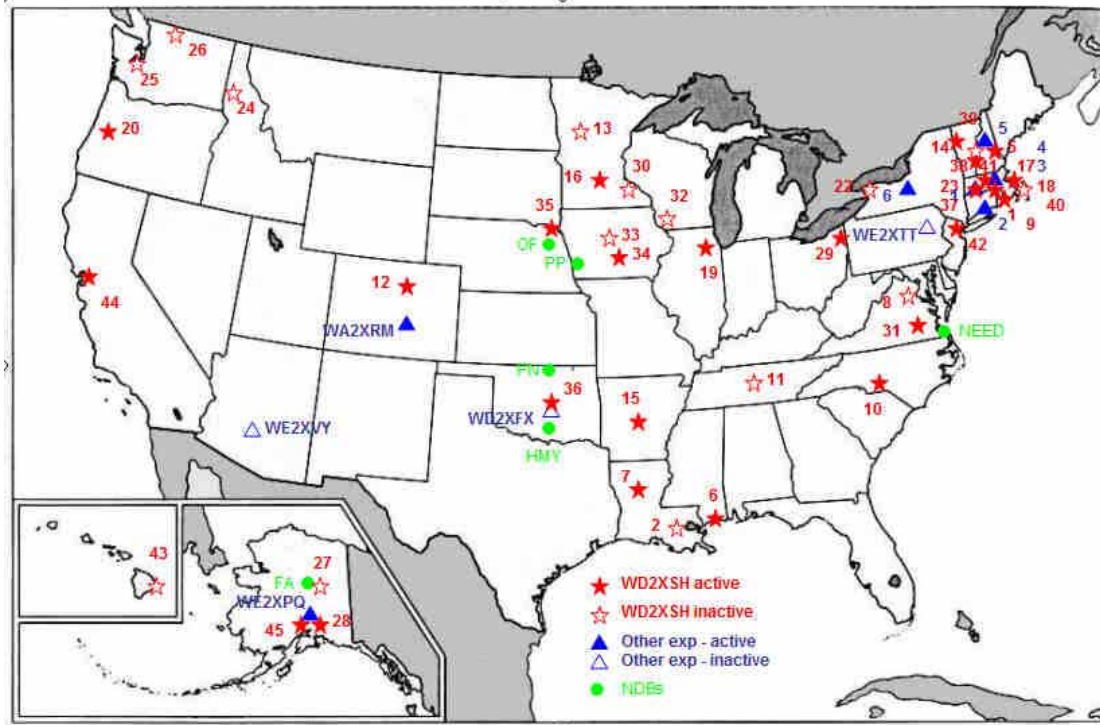


Figure 1. Locations and status of US 500-kHz experimental stations.

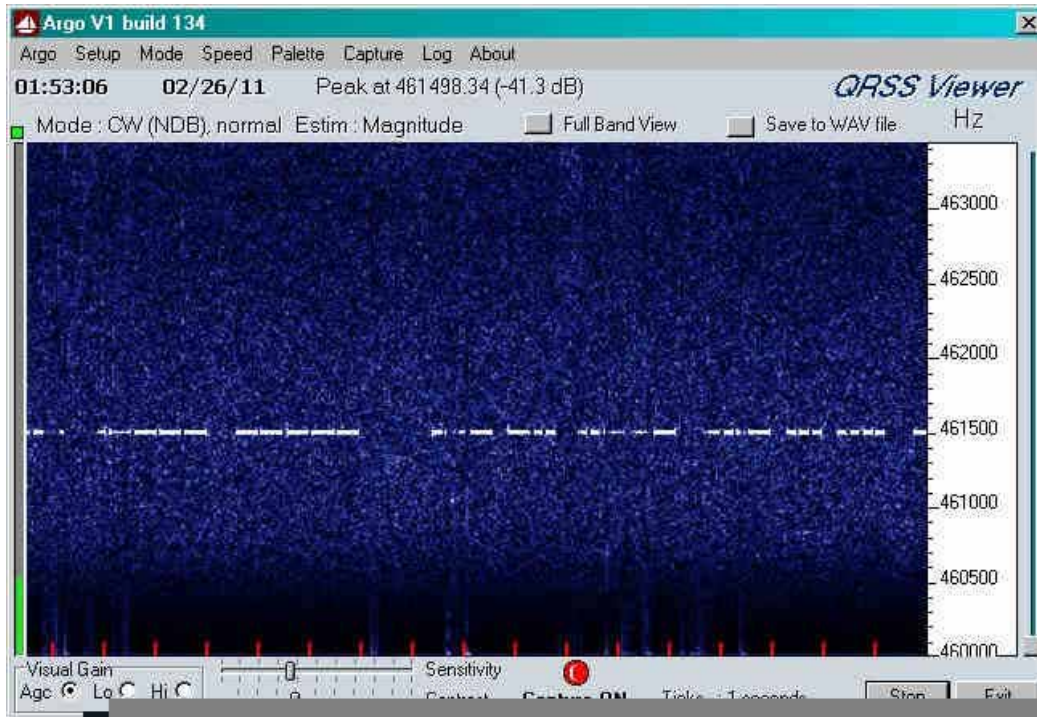


Figure 2. Signal from /10 on 461.5 kHz received by /29 in Ohio.

Ralph Wallio W0RPK /34 has organized a set of ground-wave tests that is on-going. These tests involve WSPR transmissions to obtain SNR and CMSK transmissions to verify communication capability.

### 4. ACTIVITIES

W6THT and KL7AJ are looking into the possibility of compiling a book with descriptions of the various 500-kHz stations.

### 5. INTERFERENCE

There have been no reports of interference, however, we are continuing to monitor three potential interference problems:

- NDB OF continues to operate on 510 kHz.
- We continue to hear NEED on 505 kHz from time to time.
- NDB FA continues to operate on 510 kHz.

I have asked the operators to monitor the new band from 461 to 478 kHz for any signs of activity by others.

### 6. OTHER US EXPERIMENTAL LICENSES

The frequency bands of US and foreign amateur and experimental licenses are shown in Figure 3. The parameters of U.S. experimental licenses are given in Appendix B, and the known unlicensed (part-15) operators are given in Appendix E.

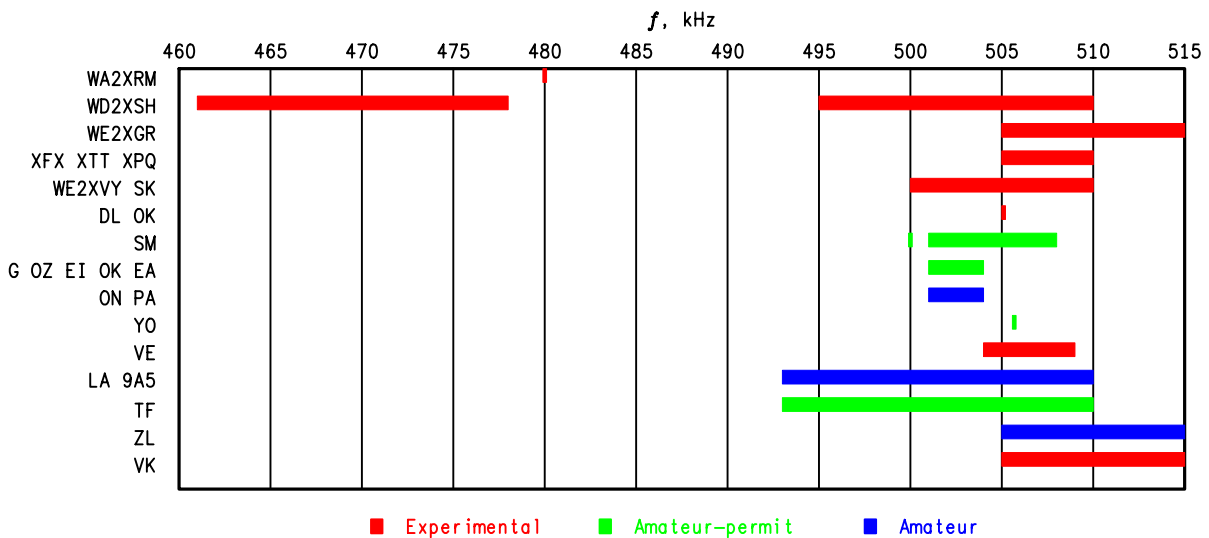


Figure 4. Worldwide amateur activity at 500 kHz.

## 7. INTERNATIONAL AMATEUR ACTIVITIES

Six Spanish amateurs have received permission to operate in the band from 501 to 504 kHz.

## 8. HERITAGE (MUSEUM) OPERATIONS

Appendix D identifies the known heritage stations in the USA.

## 9. REGULATORY AND WRC-12

### WRC Proposals

At the WRC Conference Preparatory Meeting on Feb. 18, the Plenary dropped method A (495 - 510 kHz) from the proposed methods for resolution 1.23 as there was no support from any administration. This leaves 472 - 487 kHz (new method A) and 461-469 plus 471-487 kHz (new method B) as viable options for a new amateur band.

The IMO appears happy that amateurs will not be granted access to 495 - 505 kHz. However, based upon the COMSAR meeting in February, they continue to oppose both methods A and B.

## 10. PLANS

Activity is expected to decrease as summer brings more QRN and shorter nights. Several stations are planning to work on modifications to allow operation in the new lower-frequency band.

I am working on the processing the results from the ground-wave tests conducted in summer 2010. W0RPK's ground-wave tests will continue through March.

## APPENDIX A. WD2XSH STATISTICS

| STATION  | CALL  | STATUS   | 11/30/10 |      | 02/28/11 |      | LAST LOG |
|----------|-------|----------|----------|------|----------|------|----------|
|          |       |          | HOURS    | QSOs | HOURS    | QSOs |          |
| WD2XSH/1 | W1NZR | Inactive | 14       | 7    | 14       | 3    | 02/11    |
| WD2XSH/2 | W5TVW | Inactive | 13       | 22   | 13       | 22   | 07/07    |
| WD2XSH/5 | KW1I  | ON       | 24       | 48   | 44       | 54   | 01/11    |
| WD2XSH/6 | W5THT | ON       | 7700     | 156  | 8156     | 159  | 02/11    |

|           |          |             |        |     |       |    |       |
|-----------|----------|-------------|--------|-----|-------|----|-------|
| WD2XSH/7  | W5JGV    | ON          | 7769   | 1   | 8292  | 1  | 02/11 |
| WD2XSH/8  | N4ICK    | Inactive    | 0      | 0   | 0     | 0  | -     |
| WD2XSH/9  | W2ILA    | Inactive    | 10     | 26  | 10    | 27 | 05/10 |
| WD2XSH/10 | W4DEX    | ON          | 1722   | 26  | 1744  | 25 | 02/11 |
| WD2XSH/11 | WS4S     | Inactive    | 810    | 12  | 810   | 12 | 11/10 |
| WD2XSH/12 | AI8Z     | ON          | 21622  | 24  | 23387 | 25 | 02/11 |
| WD2XSH/13 | KOJO     | SK          | 997    | 7   | 997   | 7  | 08/08 |
| WD2XSH/14 | W1FR     | ON          | 347    | 8   | 377   | 8  | 02/11 |
| WD2XSH/15 | W5OR     | ON          | 7731   | 2   | 1722  | 26 | 02/11 |
| WD2XSH/16 | WEOH     | ON          | 1146   | 14  | 1184  | 16 | 02/11 |
| WD2XSH/17 | AA1A     | ON          | 7668   | 23  | 10540 | 2  | 02/11 |
| WD2XSH/18 | N1EA     | Inactive    | 3935   | 0   | 3959  | 0  | 04/08 |
| WD2XSH/19 | K9EUI    | ON          | 1383   | 3   | 1339  | 3  | 02/11 |
| WD2XSH/20 | N6LF     | ON          | 2241   | 7   | 2296  | 7  | 02/11 |
| WD2XSH/21 | WORW     | Dropped     | 652    | 0   | 652   | 0  | 02/11 |
| WD2XSH/22 | WB2FCN   | Inactive    | -      | -   | -     | -  | -     |
| WD2XSH/23 | K2ORS    | Inactive    | 112    | 0   | 112   | 1  | 08/09 |
| WD2XSH/28 | KL7Q     | ON          | 43     | 3   | 46    | 6  | 02/11 |
| WD2XSH/29 | KN8AZN   | ON          | 2575   | 5   | 309   | 5  | 02/11 |
| WD2XSH/31 | WA1ZMS   | ON          | 6370   | 8   | 8504  | 7  | 02/11 |
| WD2XSH/34 | WORPK    | OFF (Moved) | 153    | 1   | 153   | 1  | 02/11 |
| WD2XSH/35 | KOHW     | ON          | 11     | 0   | 11    | 0  | 02/11 |
| WD2XSH/36 | W5GHZ    | ON          | 1180   | 0   | 1180  | 0  | 08/10 |
| WD2XSH/37 | W1XP     | ON          | 5188   | 17  | 5680  | 17 | 02/11 |
| WD2XSH/38 | KN1H     | ON          | 1259   | 0   | 1524  | 2  | 02/11 |
| WD2XSH/41 | W1HK     | ON          | 13     | 11  | 14    | 0  | 01/11 |
| WD2XSH/42 | K2LRE    | ON          | 10     | 4   | 10    | 2  | 02/11 |
| WD2XSH/44 | AC6QV    | ON          | 43     | 0   | 33    | 0  | 02/11 |
| WD2XSH/45 | KL7UW    | ON          | 687    | 6   | 173   | 6  | 02/11 |
| TOTAL     | 02/28/10 | 19 ON       | 49,286 | 404 |       |    |       |
| TOTAL     | 05/31/10 | 20 ON       | 60,648 | 405 |       |    |       |
| TOTAL     | 08/31/10 | 22 ON       | 72,844 | 434 |       |    |       |
| TOTAL     | 11/30/10 | 22 ON       | 83,073 | 441 |       |    |       |
| TOTAL     | 02/28/11 | 22 ON       | 90,024 | 441 |       |    |       |

**Notes:**

Operating hours and QSOs are derived from logs through February 28, 2011. The statistics in this appendix were compiled by Ralph Wallio WORPK using the Excel logs submitted by the stations. WORPK conducted a review of the logs and removed receive-only hours. Decreases in the number of operating hours or QSOs from the previous total indicate correction of errors. Several stations are off the air because of health or equipment problems. "ON" means operation within the past year. Stations who do not submit logs each month are subject to an automatic QRT order and must remain off the air until their log has been brought up to date.

**APPENDIX B. US EXPERIMENTAL LICENSES**

| CALL   | NUMBER | QTH          | f, kHz                 | ERP, W | DATES               | NOTES |
|--------|--------|--------------|------------------------|--------|---------------------|-------|
| WA2XRM | 1      | CO           | 480                    | 100    | 01/01/09 - 01/01/14 |       |
| WD2XSH | 43     | CONUS        | 495 - 510<br>461 - 478 | 20     | 09/13/06 - 08/01/15 |       |
| WE2XGR | 5      | New Engl and | 505 - 515              | 200    | 09/05/07 - 09/01/12 |       |
| WE2XFX | 1      | OK           | 505 - 510              | 20     | 07/27/07 - 07/26/12 |       |
| WE2XTT | 1      | PA           | 505 - 510              | 1500*  | 09/08/08 - 09/01/13 |       |
| WE2XPQ | 1      | AK           | 505 - 510              | 50     | 06/05/08 - 06/01/13 |       |
| WE2XVY | 1      | AZ           | 500 - 510              | 200    | 12/09/08 - 12/01/10 | SK    |
| WF2XAU | 1      | FL           | 505 - 510              | 10     | 06/23/09 - 01/01/10 | Exp.  |

\* RF output to antenna

**APPENDIX C. FOREIGN AMATEUR/EXPERIMENTAL BANDS**

| COUNTRY        | TYPE     | BAND, kHz       | ERP, W           |
|----------------|----------|-----------------|------------------|
| Sweden         | NoV      | 500, 501 - 508  | 20 CW, SSB, data |
| Germany        | Exp      | 505.0 - 505.2   | 9                |
| Czech Republic | Exp      | 501-504, 505.60 | 10               |
| UK             | NoV      | 501 - 504       | 10               |
| Belgium        | Amateur  | 501 - 504       | 5                |
| Canada         | Exp      | 504 - 509       | 20               |
| Norway         | Am/Herit | 493 - 510       | 100 (RF) CW only |
| Romania        | NoV      | 505.68          | 100 (RF)         |
| Denmark        | NoV      | 501 - 504       | 20               |
| Ireland        | NoV      | 501 - 504       | 10 CW, PSK-31    |
| Netherlands    | Amateur  | 501 - 504       | 5                |
| Iceland        | NoV      | 493 - 510       | 100 CW           |
| New Zealand    | Amateur  | 505 - 515       | 20 200 Hz        |
| Croatia        | Exp      | 493 - 510       |                  |
| Australia      | Exp      | 505 - 515       |                  |
| Spain          | NoV      | 501 - 504       | 5 100 Hz         |

**APPENDIX D. HERITAGE STATIONS**

| CATEGORY | CALLSIGN | FREQUENCIES   | OPERATOR / QTH                   |
|----------|----------|---------------|----------------------------------|
| Coastal  | KSM      | 500, 426      | MRHS, Bolinas, CA                |
|          | KFS      |               |                                  |
|          | KPH      | 500, 426      | MRHS, Bolinas, CA                |
|          | KLB      | 500, 488      | Seattle, WA                      |
|          | WLO      | 500, 438      | Mobile, AL                       |
| New      | WNE      | 500, 472      | NEHRS, Stoneham, MA              |
|          | KDR      | 500, 482      | Bellevue, WA                     |
|          | WFT      | 500, 486      | KZ4RV, Palmeto, FL               |
| USCG     | NMC      | 500, 448, 472 | Bolinas, CA                      |
|          | NMN      | 500, 448, 468 | Chesapeake, VA                   |
|          | NOJ      | 500, 416, 470 | Kodiak, AK                       |
| Ships    | KKUI     |               | SS American Victory              |
|          | KYVM     |               | SS Red Oak Victory               |
|          | KECW     |               | SS Lane Victory                  |
|          | KXCH     |               | SS Jeremiah O'Brien              |
|          | KHRC     |               | SS Matsonia                      |
|          | NWVC     | 500, 512      | LST325, Evansville, IN           |
|          | NTTH     | 500, 512      | USS Cassin Young, Charleston, MA |
| Foreign  | LGQ      | 493 - 510     | Rogaland, Norway                 |
|          | LM500LGN | 493 - 510     | Bergen, Norway                   |

**APPENDIX E. US PART-15 OPERATORS**

| $f$ , kHz | ID | QTH            | OPERATOR |
|-----------|----|----------------|----------|
| 510.1     | HI | Monroe, CT     |          |
| 510.903   | EH | East Haven, CT | K1RGO    |

**APPENDIX F. CANADIAN 500-kHz STATIONS**

| CALL   | OP     | QTH                        | STATUS   |
|--------|--------|----------------------------|----------|
| VX9BDQ | VE7BDQ | Delta, BC (near Vancouver) | Active   |
| VX9MRC | VO1NA  | Torbay, NFLD               | Active   |
| VX9ZZZ | VE1ZZ  | Nova Scotia                | Active   |
| VX90HH | VE30HH | Richmond Hill, Ontario     | Inactive |

### APPENDIX G. COMMUNICATION RECORDS

The reception and QSO distances below have been compiled by Ralph Walio WØRPK.

| STATION   | CW    | QRSS  | DI G I T | WSPR  | WOLF  | SSB   | QSO   |
|-----------|-------|-------|----------|-------|-------|-------|-------|
| WD2XSH/1  | 56    | --    | --       | --    | --    | --    | 56    |
| WD2XSH/2  | 778   | --    | --       | --    | --    | --    | 775   |
| WD2XSH/5  | 1,508 | 1,508 | --       | --    | --    | --    | 1,315 |
| WD2XSH/6  | 3,434 | 6,679 | --       | --    | --    | --    | 2,079 |
| WD2XSH/7  | 3,212 | 3,212 | 1,951    | 4,866 | --    | --    | 266   |
| WD2XSH/9  | 1,155 | --    | --       | --    | --    | --    | 649   |
| WD2XSH/10 | 3,767 | 4,369 | 701      | 5,305 | --    | --    | 747   |
| WD2XSH/11 | 1,039 | 4,515 | --       | --    | --    | --    | 884   |
| WD2XSH/12 | 1,811 | 1,811 | 1,306    | 2,357 | --    | --    | 1,696 |
| WD2XSH/14 | 1,467 | 1,467 | --       | --    | --    | --    | 747   |
| WD2XSH/15 | 930   | 1,432 | --       | 1,420 | --    | --    | 377   |
| WD2XSH/16 | 1,535 | 854   | 1,074    | 718   | --    | --    | 1,089 |
| WD2XSH/17 | 3,668 | 4,032 | --       | 4,611 | --    | --    | 1,308 |
| WD2XSH/18 | 3     | --    | --       | --    | --    | --    | --    |
| WD2XSH/19 | 1,814 | 465   | 392      | --    | --    | --    | 782   |
| WD2XSH/20 | 4,737 | --    | --       | --    | --    | --    | 2,301 |
| WD2XSH/23 | 1,185 | --    | --       | --    | --    | --    | 690   |
| WD2XSH/28 | 91    | --    | --       | --    | --    | --    | 91    |
| WD2XSH/29 | 687   | 1,048 | 669      | 1,090 | --    | --    | 669   |
| WD2XSH/31 | 2,057 | 3,348 | --       | --    | --    | --    | 751   |
| WD2XSH/34 | 1,060 | --    | 669      | 273   | --    | --    | 669   |
| WD2XSH/35 | 1,321 | --    | --       | --    | --    | --    | 1,209 |
| WD2XSH/36 | --    | --    | --       | --    | --    | --    | --    |
| WD2XSH/37 | 1,098 | --    | --       | 3,489 | --    | --    | 467   |
| WD2XSH/38 | 1,468 | 1,468 | --       | 524   | --    | --    | 238   |
| WD2XSH/41 | 14    | --    | --       | --    | --    | --    | 14    |
| WD2XSH/42 | 731   | --    | --       | --    | --    | --    | 357   |
| WD2XSH/44 | 2     | --    | --       | --    | --    | --    | --    |
| WD2XSH/45 | 96    | --    | --       | 2,893 | --    | --    | 91    |
| WE2XGR/1  | 2,293 | 473   | 473      | --    | --    | 1,286 | 975   |
| WE2XGR/2  | 3,771 | 4,137 | 1,407    | 4,735 | 3,747 | 1,209 | 3,379 |
| WE2XGR/3  | 686   | 3,700 | 1,476    | 4,650 | 670   | 671   | 670   |
| WE2XGR/5  | 174   | 527   | --       | --    | --    | --    | 174   |
| WE2XGR/6  | 4,253 | 1,205 | --       | 4,870 | --    | 994   | 3,713 |
| WA2XRM    | 623   | 2,441 | --       | --    | --    | --    | --    |
| WE2XPQ    | 96    | 1,335 | --       | --    | --    | --    | --    |
| VX9BDQ    | 2,695 | 2,461 | --       | 2,086 | --    | --    | --    |
| VX9MRC    | 2,325 | --    | --       | --    | --    | --    | 1,986 |
| VX9ZZZ    | 2,505 | --    | --       | --    | --    | --    | 2,505 |