

# ACTIVE TUNING ANTENNA SYSTEM

## ATAS-120

### Technical Supplement

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### Specifications

**Frequency Range:** 7/14/21/28/50/144/430 MHz Amateur Bands

**Height (Approx.):** 1.4 ~ 1.6 meters (4.59 ~ 5.24 feet)

**Weight (Approx.):** 900 g (1.98 lbs.)

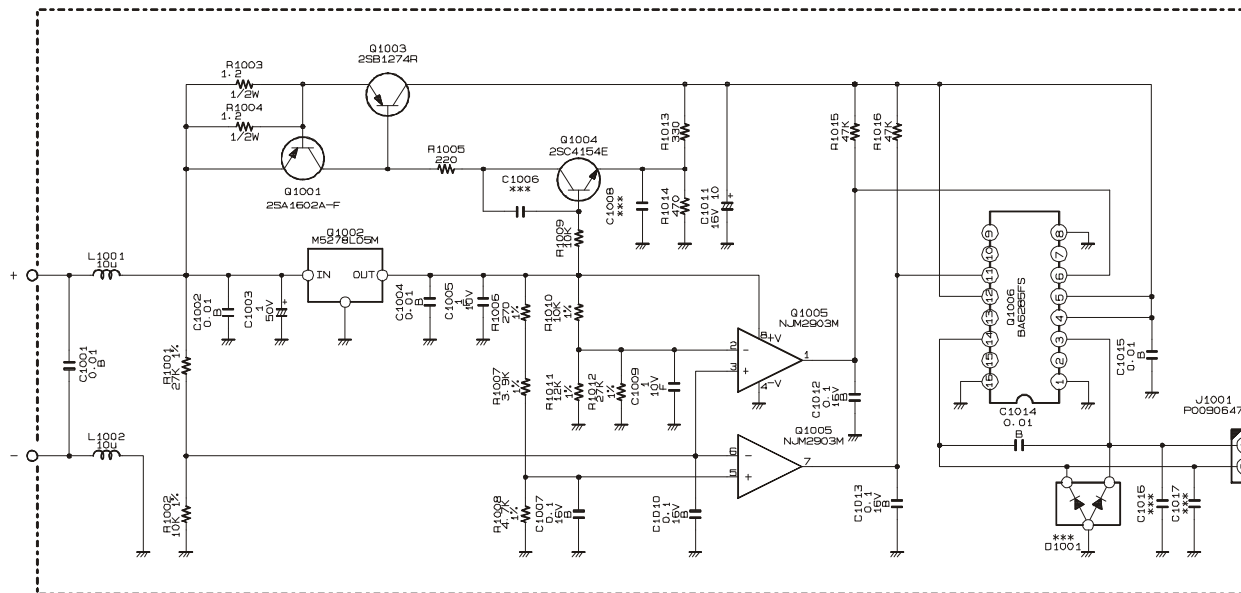
**Input Impedance:** 50-ohm

**Max. Input Power:** 120 Watts (SSB)

**Matched SWR:** Less than 2.0:1 (with proper counterpoise)

*(Specifications subject to change without notice or obligation)*

### Circuit Diagram



RA0084400  
ROT ASS'Y

S8002037  
COVER ASS'Y

RA0432500  
RUBBER RING

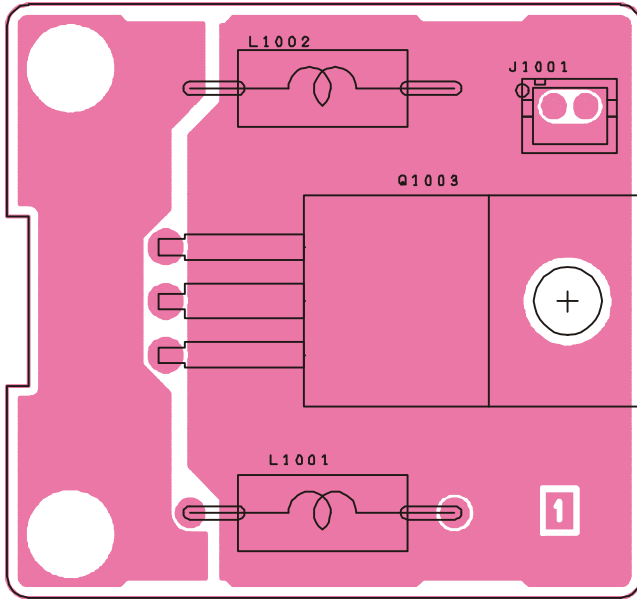
RA0431500  
TUBE

RA0432500  
RUBBER RING

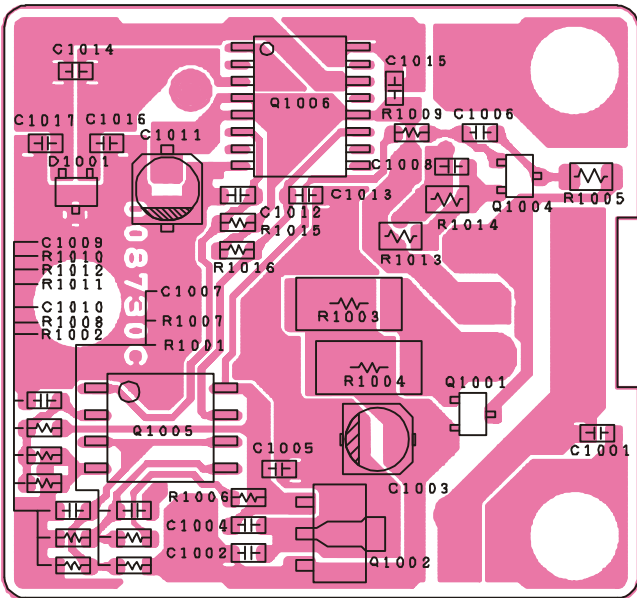


RA0437800 LABEL (ATAS-120)

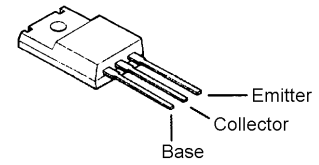
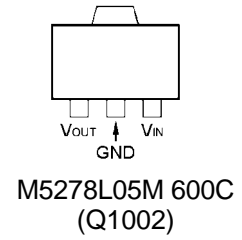
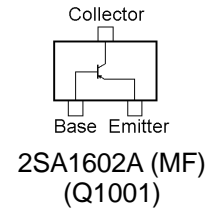
# Parts Layout



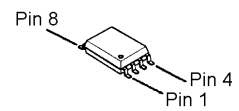
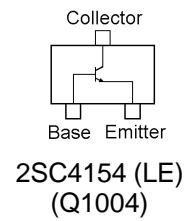
Side A



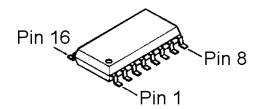
Side B



2SB1274R  
(Q1003)



NJM2903M  
(Q1005)



BA6285FS-E2  
(Q1006)

# Parts List

| REF                   | DESCRIPTION     | VALUE  | V/W   | TOL | MFR'S DESIG      | VXSTD P/N | LOT. | SIDE |
|-----------------------|-----------------|--------|-------|-----|------------------|-----------|------|------|
| PCB with Compornents  |                 |        |       |     |                  | S8101372  |      |      |
| Printed Circuit Board |                 |        |       |     |                  | FR008730C |      | 1-   |
| C 1001                | CHIP CAP.       | 0.01uF | 50V   | B   | GRM39B103M50PT   | K22174823 | 1-   | B    |
| C 1002                | CHIP CAP.       | 0.01uF | 50V   | B   | GRM39B103M50PT   | K22174823 | 1-   | B    |
| C 1003                | AL.ELECTRO.CAP. | 1uF    | 50V   |     | ECEV1HS010SR     | K48170001 | 1-   | B    |
| C 1004                | CHIP CAP.       | 0.01uF | 50V   | B   | GRM39B103M50PT   | K22174823 | 1-   | B    |
| C 1005                | CHIP CAP.       | 1uF    | 10V   | F   | GRM39F105Z10PT   | K22105001 | 1-   | B    |
| C 1007                | CHIP CAP.       | 0.1uF  | 16V   | B   | GRM39B104K16PT   | K22124805 | 1-   | B    |
| C 1009                | CHIP CAP.       | 1uF    | 10V   | F   | GRM39F105Z10PT   | K22105001 | 1-   | B    |
| C 1010                | CHIP CAP.       | 0.1uF  | 16V   | B   | GRM39B104K16PT   | K22124805 | 1-   | B    |
| C 1011                | AL.ELECTRO.CAP. | 10uF   | 16V   |     | RV2-16V100MB55-R | K48120014 | 1-   | B    |
| C 1012                | CHIP CAP.       | 0.1uF  | 16V   | B   | GRM39B104K16PT   | K22124805 | 1-   | B    |
| C 1013                | CHIP CAP.       | 0.1uF  | 16V   | B   | GRM39B104K16PT   | K22124805 | 1-   | B    |
| C 1014                | CHIP CAP.       | 0.01uF | 50V   | B   | GRM39B103M50PT   | K22174823 | 1-   | B    |
| C 1015                | CHIP CAP.       | 0.01uF | 50V   | B   | GRM39B103M50PT   | K22174823 | 1-   | B    |
| J 1001                | CONNECTOR       |        |       |     | B2B-ZR           | P0090647  | 1-   | A    |
| L 1001                | M.RFC           | 10uH   |       |     | LAL04NA100K      | L1190138  | 1-   | A    |
| L 1002                | M.RFC           | 10uH   |       |     | LAL04NA100K      | L1190138  | 1-   | A    |
| Q 1001                | TRANSISTOR      |        |       |     | 2SA1602A-T11-1F  | G3116028F | 1-   | B    |
| Q 1002                | IC              |        |       |     | M5278L05M 600C   | G1093101  | 1-   | B    |
| Q 1003                | TRANSISTOR      |        |       |     | 2SB1274R         | G3212740R | 1-   | A    |
| Q 1004                | TRANSISTOR      |        |       |     | 2SC4154-T11-1E   | G3341548E | 1-   | B    |
| Q 1005                | IC              |        |       |     | NJM2903M(TE1)    | G1093090  | 1-   | B    |
| Q 1006                | IC              |        |       |     | BA6285FS-E2      | G1093249  | 1-   | B    |
| R 1001                | CHIP RES.       | 27k    | 1/16W | 1%  | RMC1/16 273FTP   | J24183273 | 1-   | B    |
| R 1002                | CHIP RES.       | 10k    | 1/16W | 1%  | RMC1/16 103FTP   | J24183103 | 1-   | B    |
| R 1003                | CHIP RES.       | 1.2    | 1/2W  | 5%  | RMC1/2 1R2JTE    | J24275129 | 1-   | B    |
| R 1004                | CHIP RES.       | 1.2    | 1/2W  | 5%  | RMC1/2 1R2JTE    | J24275129 | 1-   | B    |
| R 1005                | CHIP RES.       | 220    | 1/10W | 5%  | RMC1/10T 221J    | J24205221 | 1-   | B    |
| R 1006                | CHIP RES.       | 270    | 1/16W | 1%  | RMC1/16 271FTP   | J24183271 | 1-   | B    |
| R 1007                | CHIP RES.       | 3.9k   | 1/16W | 1%  | RMC1/16 392FTP   | J24183392 | 1-   | B    |
| R 1008                | CHIP RES.       | 4.7k   | 1/16W | 1%  | RMC1/16 472FTP   | J24183472 | 1-   | B    |
| R 1009                | CHIP RES.       | 10k    | 1/16W | 5%  | RMC1/16 103JATP  | J24185103 | 1-   | B    |
| R 1010                | CHIP RES.       | 10k    | 1/16W | 1%  | RMC1/16 103FTP   | J24183103 | 1-   | B    |
| R 1011                | CHIP RES.       | 12k    | 1/16W | 1%  | RMC1/16 123FTP   | J24183123 | 1-   | B    |
| R 1012                | CHIP RES.       | 27k    | 1/16W | 1%  | RMC1/16 273FTP   | J24183273 | 1-   | B    |
| R 1013                | CHIP RES.       | 330    | 1/10W | 5%  | RMC1/10T 331J    | J24205331 | 1-   | B    |
| R 1014                | CHIP RES.       | 470    | 1/10W | 5%  | RMC1/10T 471J    | J24205471 | 1-   | B    |
| R 1015                | CHIP RES.       | 47k    | 1/16W | 5%  | RMC1/16 473JATP  | J24185473 | 1-   | B    |
| R 1016                | CHIP RES.       | 47k    | 1/16W | 5%  | RMC1/16 473JATP  | J24185473 | 1-   | B    |

# Mechanical Details (Exploded Views & Mechanical Parts)

| Screw List |           |                           |      |
|------------|-----------|---------------------------|------|
| No.        | VXSTD P/N | Description               | Qty. |
| ①          | U00105002 | PAN HEAD SCREW M2X5NI     | 4    |
| ②          | U02204001 | PAN HEAD SCREW SM2.6X4    | 3    |
| ③          | U20306002 | BINDING HEAD SCREW M3X6NI | 1    |
| ④          | S8001866  | BINDING HEAD SCREW M3X6NI | 2    |
| ⑤          | S8001867  | BINDING HEAD SCREW M4X8NI | 6    |
| ⑥          | S8002041  | OVAL HEAD SCREW M3X3      | 3    |
| ⑦          | S8001863  | OVAL HEAD SCREW M2X6      | 1    |
| ⑧          | U60300302 | HEX NUT N3NI              | 1    |
| ⑨          | U76008002 | WASHER AW8                | 1    |
| ⑩          | U81055020 | E RING ETW-6              | 1    |
| ⑪          | U91304001 | HEX SOCKET SET SCREW M3X4 | 1    |
| ⑫          | U91306001 | HEX SOCKET SET SCREW M3X6 | 1    |
| ⑬          | S8002036  | HEX SOCKET SET SCREW M4X7 | 2    |
| ⑭          | S8001862  | NYLON WASHER T=1.0        | 6    |

| Description      | VXSTD P/N |
|------------------|-----------|
| LENCH F/SCREW    | S8002042  |
| LABEL (ATAS-120) | RA0437800 |

