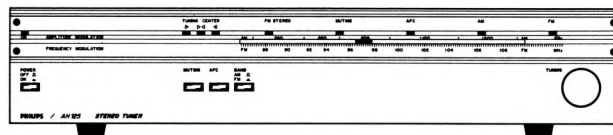


# Service Service Service



# Service Manual

Manual de Serviço  
Manual de Servicio  
Service Manual

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## ESPECIFICAÇÕES TÉCNICAS

Faixas de ondas . . . . . : AM 520 - 1610 KHz  
FM 88 - 108 MHz  
Frequência intermediária . . . . . : AM 455 KHz  
FM 10,7 MHz  
Antena FM . . . . . : 300  $\Omega$   
Alimentação . . . . . : 110/220V - 50/60 Hz  
Consumo . . . . . : 9 W  
Dimensões (mm) . . . . . : 420(L)x363(P)x87(A)

E

## ESPECIFICACIONES TÉCNICAS

Rango de ondas . . . . . : AM 520 - 1610 KHz  
FM 88 - 108 MHz  
Frecuencia intermedia . . . . . : AM 455 KHz  
FM 10,7 MHz  
Antena de FM . . . . . : 300  $\Omega$   
Alimentación . . . . . : 110/220V - 50/60 Hz  
Consumo . . . . . : 9 W  
Dimensiones (mm) . . . . . : 420(L)x363(P)x87(A)

GB

## TECHNICAL SPECIFICATIONS

Wave ranges . . . . . : AM 520 - 1610 KHz  
FM 88 - 108 MHz  
Intermediary frequency . . . . . : AM 455 KHz  
FM 10,7 MHz  
FM aerial . . . . . : 300  $\Omega$   
Power supply . . . . . : 110/220V - 50/60 Hz  
Power consumption . . . . . : 9 W  
Dimension (mm) . . . . . : 420(L)x363(P)x87(A)



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Subject to modification  
4806 725 17099  
Printed in Brazil

# PHILIPS

**ATENÇÃO**

1. As normas de segurança estabelecem que nas reparações o aparelho seja restaurado à sua condição original, e que as peças substituídas sejam idênticas às especificadas.
2. As tensões C.C. deverão ser medidas na posição "FM" (sem sinal) com "AFC" e "Muting" desligados, Ri do instrumento 40Kohms/V.

**AJUSTES****AFC**

- Conecte um capacitor de 220 nf do pino 16 do CI 477 para terra.
- Conecte um voltímetro (posição C.C.) entre R798 (tape) e a junção de R863 e R864, e ajuste R798 para 0Vc.c. (tolerância de  $\pm 30\text{mV}$ ).
- Remova o capacitor.

**ATENCIÓN**

1. Las normas de seguridad, exigen que el aparato cumpra con las condiciones originales y que los componentes de sustitución usados, sean idénticos a los especificados.
2. Las tensiones C.C. fueron medidas en la posición FM (sin señal) con "AFC" y "Muting" en la posición "off", Ri del instrumento 40Kohms/V.

**AJUSTES****AFC**

- Conecte un capacitor de 220 nf del pino 16 del C.I. 477 para tierra.
- Conecte un voltímetro (posición C.C.) entre R798 (tape) y la unión de R863 y R864, y ajuste R798 para 0Vc.c. (tolerancia de  $\pm 30\text{ mV}$ ).
- Retire lo capacitor.

**ATTENTION**

1. Safety regulations require that the receiver be restored to the original conditions and that spare parts applied should be identical to those specified.
2. The D.C. voltages have been measured in to "FM" position (no signal), with "AFC" and "Muting" off, Ri of the meter 40Kohms/Volt.

**ADJUSTS****AFC**

- Connect a 220 nf capacitor between the 16 point of IC 477 to ground.
- Connect a voltmeter (position DC) between R798 (tape) and junction of R863 and R864, and adjust R798 to 0Vdc (tolerance  $\pm 30\text{mV}$ ).
- Remove the capacitor.

**Muting**

- Coloque SK5 na posição "FM" (sem sinal).
- Chave de muting na posição "ON".
- Conecte um voltímetro (posição C.C.) no coletor de TS424, e ajuste R480 para 1Vc.c.(tolerância de  $\pm 100\text{mV}$ )

**Tuning Center**

- Sk5 na posição FM.
- Abrir a trilha entre C569 e R837.
- Conecte um capacitor de 220 nf entre a base e o emissor de TS472, e ajuste R488 com um voltímetro (posição C.C.) para 0Vc.c. (tolerância de  $\pm 20\text{mV}$ ).
- Fechar a trilha.

**Muting**

- Coloque SK5 para posición FM (sin señal).
- Llave muting en la posición "ON".
- Conecte un voltímetro (posición C.C.) en lo coletor de TS424, y ajuste R480 para 1 Vc.c. (tolerancia  $\pm 100\text{mV}$ ).

**Tuning Center**

- Coloque SK5 en la posición "FM".
- Romper trilla entre C569 y R837.
- Conecte un capacitor de 220 nf entre la base y lo emisor de TS472, y ajuste R488 con un voltímetro (posición C.C.) para 0Vc.c. (tolerancia  $\pm 20\text{mV}$ ).
- Ligar la trilla.

**Muting**

- Put the SK5 to "FM" position (no signal).
- Switch "ON" the muting.
- Connect a voltmeter (position DC) on the collector TS424, and adjust R480 to 1Vdc (tolerance  $\pm 100\text{mV}$ ).

**Tuning Center**

- Put the SK5 to "FM" position.
- Open the track between C569 and R837.
- Connect a 220 nf capacitor between base and emitter TS472, and adjust R488 with a voltmeter (position DC), for 0Vdc (tolerance  $\pm 20\text{mV}$ ).
- Close the track.

# AM and FM adjusts (IF - RF)

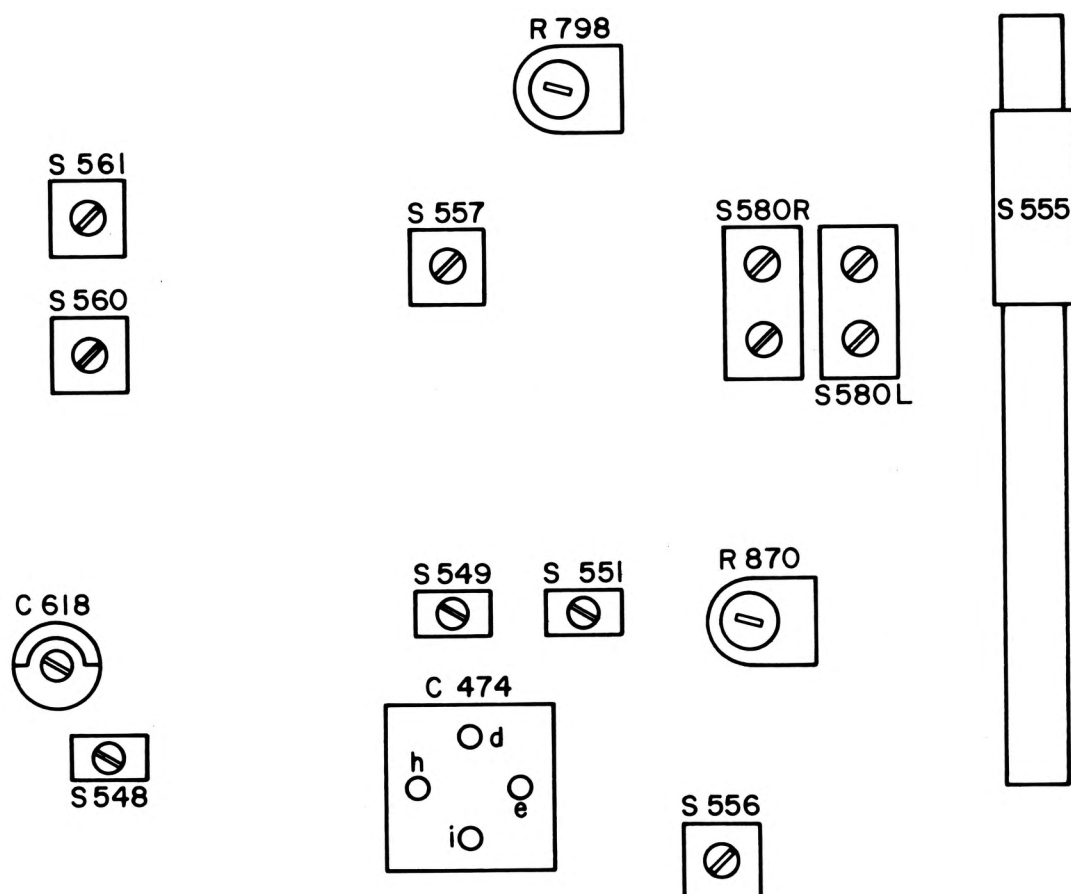
|                         |           |  |           |                |  |                                                       |
|-------------------------|-----------|--|-----------|----------------|--|-------------------------------------------------------|
| SK ...                  |           |  |           |                |  |                                                       |
| AM<br>520 a<br>1605 kHz | 515 kHz   |  | Max. cap. | S556           |  | <br>Max. ind.                                         |
|                         | 1622 kHz  |  | Min. cap. | C474 i         |  |                                                       |
|                         | 550 kHz   |  |           | S555           |  |                                                       |
|                         | 1500 kHz  |  |           | C474 h<br>S557 |  |                                                       |
| FM<br>88 a<br>108 MHz   | 87.2 MHz  |  | Max. cap. | S551           |  | Adjust for linearity and<br>simmetry of the "S" curve |
|                         | 108.5 MHz |  | Min. cap. | C474 e         |  |                                                       |
|                         | 88 MHz    |  |           | S548/S549      |  |                                                       |
|                         | 108 MHz   |  |           | C618/C474d     |  |                                                       |
|                         | 98 MHz    |  |           | S560<br>S561   |  |                                                       |

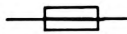
## Stereo Decoder

|    |              |  |  |       |  |                                    |
|----|--------------|--|--|-------|--|------------------------------------|
| FM | NO<br>SIGNAL |  |  | R 870 |  | FREQUENCY<br>COUNTER<br><br>19 kHz |
|----|--------------|--|--|-------|--|------------------------------------|

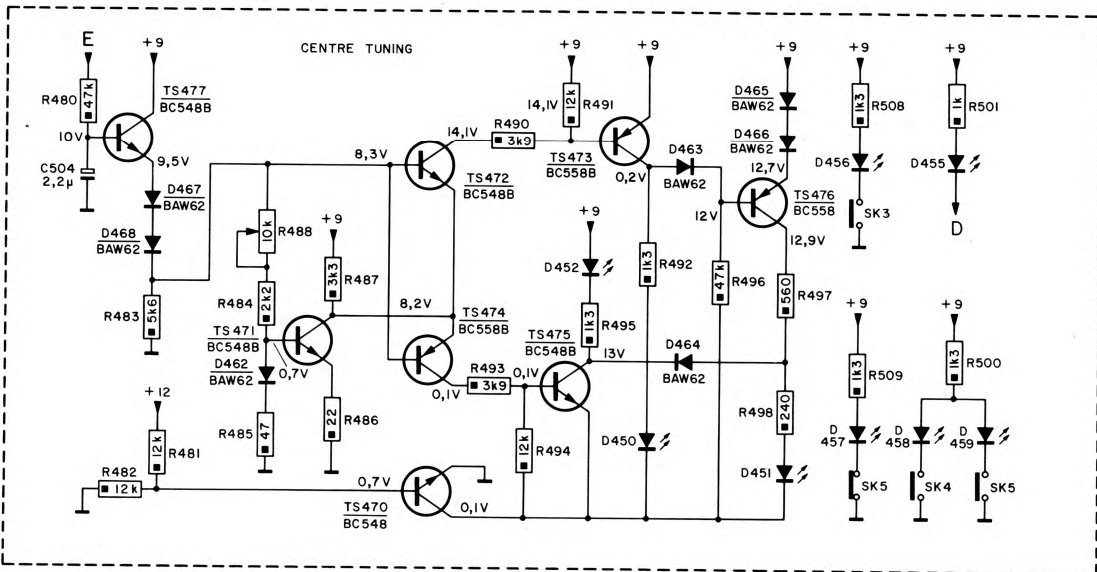
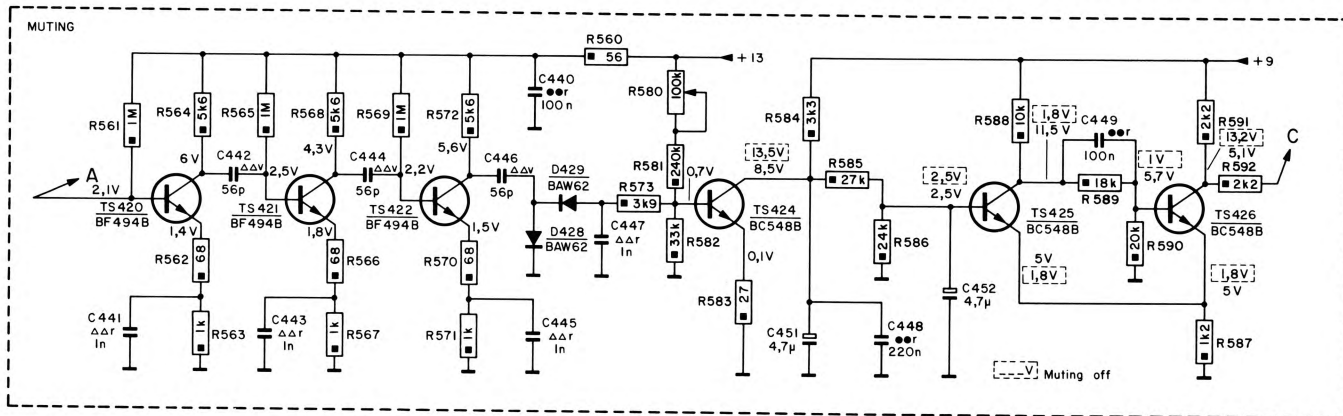
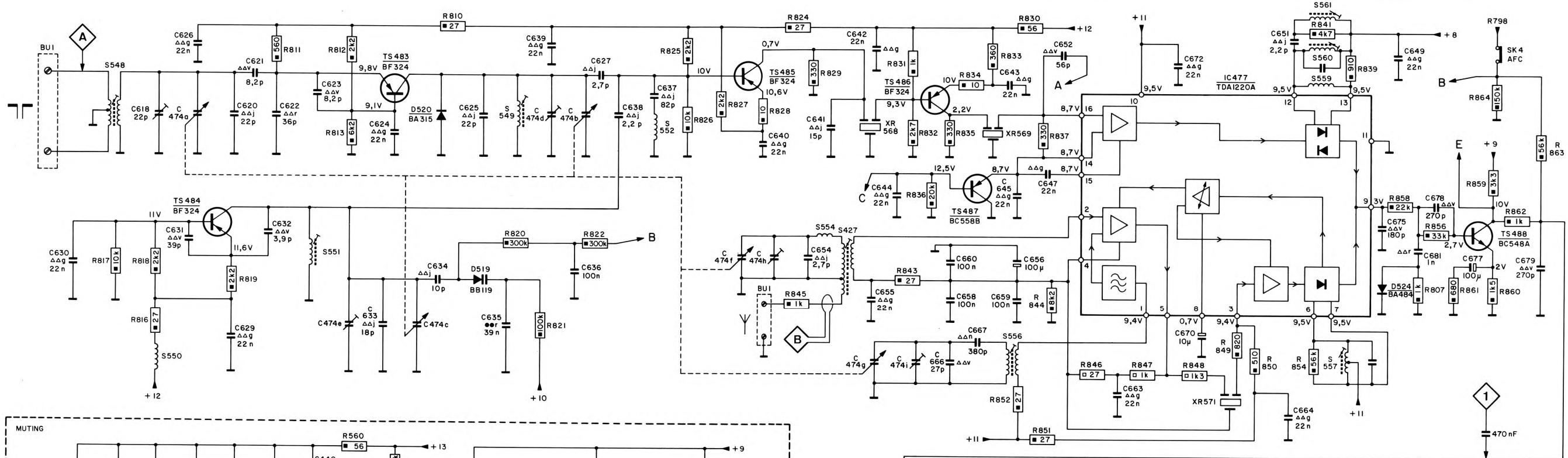
## 19kHz and 38kHz suppression

|  |        |  |  |        |  |                   |
|--|--------|--|--|--------|--|-------------------|
|  | 19 kHz |  |  | S580 R |  | BU 2<br>Min. ind. |
|  |        |  |  | S580 L |  |                   |
|  | 38 kHz |  |  | S580 R |  |                   |
|  |        |  |  | S580 L |  |                   |



|  |                      |                | - DIVERSOS -                                                                          |                      |                |
|-----------------------------------------------------------------------------------|----------------------|----------------|---------------------------------------------------------------------------------------|----------------------|----------------|
| C433                                                                              | Cer. 4,7 nf x 1400 V | 4806 120 17152 | SK1                                                                                   |                      | 4806 276 17040 |
| C451/2                                                                            | Elco 4,7 µf x 40 V   | 4806 124 27237 | SK2                                                                                   |                      | 4806 272 17030 |
| C474                                                                              | Variável             | 4806 125 47003 | SK3/4/5                                                                               |                      | 4806 276 27014 |
| C504                                                                              | Elco 2,2 µf x 63 V   | 4806 124 27006 | BU1                                                                                   |                      | 4806 267 37043 |
| C607                                                                              | Elco 1000 µf x 40 V  | 4806 124 27255 | BU2                                                                                   |                      | 4806 267 37042 |
| C618                                                                              | Trimmer 22 pf        | 4806 125 57003 | XR568/9                                                                               | Cer. Filter 10,7 MHz | 4806 242 77003 |
| C650                                                                              | Elco 0,47 µf x 63 V  | 4806 124 27241 | XR571                                                                                 | Cer. Filter 455 KHz  | 4806 242 77013 |
| C656/77                                                                           | Elco 100 µf x 10 V   | 4806 124 27238 | S580 R/L                                                                              | MPX Filter           | 4806 242 77021 |
| C667                                                                              | Styr. 380 pf x 160 V | 4806 120 37071 |    |                      |                |
| C670                                                                              | Elco 10 µf x 16 V    | 4806 124 27246 |                                                                                       |                      |                |
| C673                                                                              | Elco 100 µf x 16 V   | 4806 124 27217 |                                                                                       |                      |                |
|  |                      |                | S411                                                                                  |                      | 4806 145 37032 |
|                                                                                   |                      |                | S427                                                                                  |                      | 4806 158 67024 |
|                                                                                   |                      |                | S548                                                                                  |                      | 4806 156 27072 |
|                                                                                   |                      |                | S549                                                                                  |                      | 4806 156 27073 |
|                                                                                   |                      |                | S550/59/64                                                                            |                      | 4806 157 47044 |
|                                                                                   |                      |                | S551                                                                                  |                      | 4806 156 37019 |
|                                                                                   |                      |                | S552                                                                                  |                      | 4806 158 27002 |
|                                                                                   |                      |                | S554                                                                                  |                      | 4806 157 47010 |
|                                                                                   |                      |                | S556                                                                                  |                      | 4806 156 37020 |
|                                                                                   |                      |                | S557                                                                                  |                      | 4806 153 17039 |
|                                                                                   |                      |                | S560/1                                                                                |                      | 4806 153 57008 |
|                                                                                   |                      |                |    |                      |                |
|                                                                                   |                      |                | R480                                                                                  | Trimpot 100 K Ω      | 4806 100 17043 |
|                                                                                   |                      |                | R488/870                                                                              | Trimpot 10 K Ω       | 4806 100 17042 |
|                                                                                   |                      |                | R489                                                                                  | Trimpot 1 K Ω        | 4806 100 17039 |
|                                                                                   |                      |                | R798                                                                                  | Trimpot 2K2          | 4806 100 17040 |
|  |                      |                |  |                      |                |
| D424, 451/5                                                                       | Led green            | 4806 130 37178 | CI477                                                                                 | TDA 1220 A           | 4806 209 87075 |
| D425,450/2,456/7/8/9                                                              | Led red              | 4806 130 37179 | CI479                                                                                 | LM 1310              | 4806 209 87076 |
| D428/9,462/3/4/5,466/7/8                                                          | BAW 62               | 4806 130 37005 |  |                      |                |
| D515/6, 537                                                                       | BAX 18A              | 4806 130 37107 |                                                                                       |                      |                |
| D511/2/3/4                                                                        | BZX 79/C15V          | 4806 130 37044 |                                                                                       |                      |                |
| D517                                                                              | BB 119               | 4806 130 37094 |                                                                                       |                      |                |
| D519                                                                              | BA 315               | 4806 130 37015 |                                                                                       |                      |                |
| D520/8/9                                                                          | BZX 79/C9V1          | 4806 130 37055 |                                                                                       |                      |                |
| D522                                                                              | BA 484               | 4806 130 37214 |                                                                                       |                      |                |
| D524                                                                              | BZX 79/C12V          | 4806 130 37042 |                                                                                       |                      |                |
| D527                                                                              |                      |                | VL413                                                                                 | 125mA/Ret            | 4806 253 27025 |

|       |                                                                                                                                                                                                                                                                                                                                                     |
|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TS-D: | 420 - 467 - 462 - 421 - 484 - 422 - 472 - 428 - 473 - 450 - 483 - 520 - 465 - 462 - 476 - 455 - 456 - 425 - 485 - 486 - 511 - 512 - 424ab - 425 - 515 - 480 - 522 - 490ab                                                                                                                                                                           |
| TS-D: | 468 - 477 - 471 - 470 - 474 - 429 - 475 - 452 - 463 - 464 - 451 - 424 - 519 - 457 - 458 - 459 - 426 - 487 - 513 - 514 - 529 - 528 - 516 - 482 - 517 - 481 - 527 - 488                                                                                                                                                                               |
| IC-S: | 548 - 550 - 551 - 549 - 552 - 554 - 427 - 479 - 556 - 477 - 559 - 557 - 560 - 561 - 564                                                                                                                                                                                                                                                             |
| C:    | 630 - 618 - 626 - 444 - 621 - 622 - 632 - 623 - 624 - 633 - 625 - 635 - 639 - 452 - 638 - 637 - 640 - 443ab - 642 - 644 - 686 - 667 - 660 - 643 - 645 - 604 - 652 - 647 - 607 - 663 - 687 - 672 - 610 - 664 - 691ab - 649 - 678 - 692ab - 679 - 650                                                                                                 |
| C:    | 504 - 441 - 442 - 631 - 443 - 620 - 629 - 446 - 440 - 445 - 447 - 634 - 451 - 442 - 636 - 627 - 449 - 641 - 654 - 680 - 666 - 658 - 659 - 603 - 605 - 656 - 684 - 685 - 683 - 670 - 609 - 651 - 690ab - 612 - 675 - 681 - 682 - 677 - 673 - 693ab                                                                                                   |
| R:    | 561 - 564 - 817 - 485 - 818 - 816 - 568 - 566 - 486 - 819 - 570 - 811 - 490 - 494 - 812 - 580 - 581 - 582 - 492 - 496 - 810 - 497 - 820 - 586 - 821 - 822 - 825 - 591 - 592 - 828 - 824 - 829 - 843 - 832 - 835 - 852 - 830 - 851 - 844 - 802 - 873 - 803 - 873 - 870 - 850 - 841 - 854 - 809 - 797 - 867 - 858 - 882ab - 864 - 859 - 862 - 883ab   |
| R:    | 480 - 483 - 562 - 563 - 565 - 488 - 567 - 487 - 569 - 571 - 572 - 493 - 491 - 813 - 560 - 573 - 495 - 583 - 498 - 584 - 585 - 508 - 509 - 588 - 500 - 501 - 589 - 590 - 826 - 827 - 587 - 845 - 831 - 836 - 834 - 833 - 874 - 837 - 846 - 847 - 805 - 848 - 849 - 804 - 876ab - 798 - 799 - 839 - 807 - 881ab - 856 - 857 - 861 - 860 - 884ab - 863 |

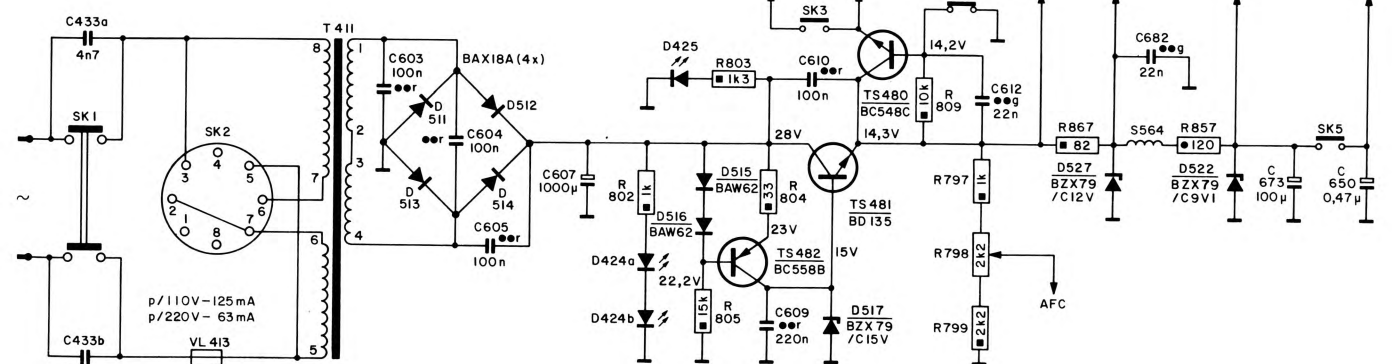


●●● Polyester  
 ▲▲▲ Ceramic  
 ■ Styroflex  
 ■ Metal film 0,33W  
 ● Carbon 0,5W

\* g - 40 V  
 j - 100 V  
 n - 160 V  
 r - 250 V  
 v - 500 V

Tension measured with  
 Electronic Voltmeter  
 into position FM

SK 3 - Muting  
 SK 4 - AFC  
 SK 5 - AM - FM

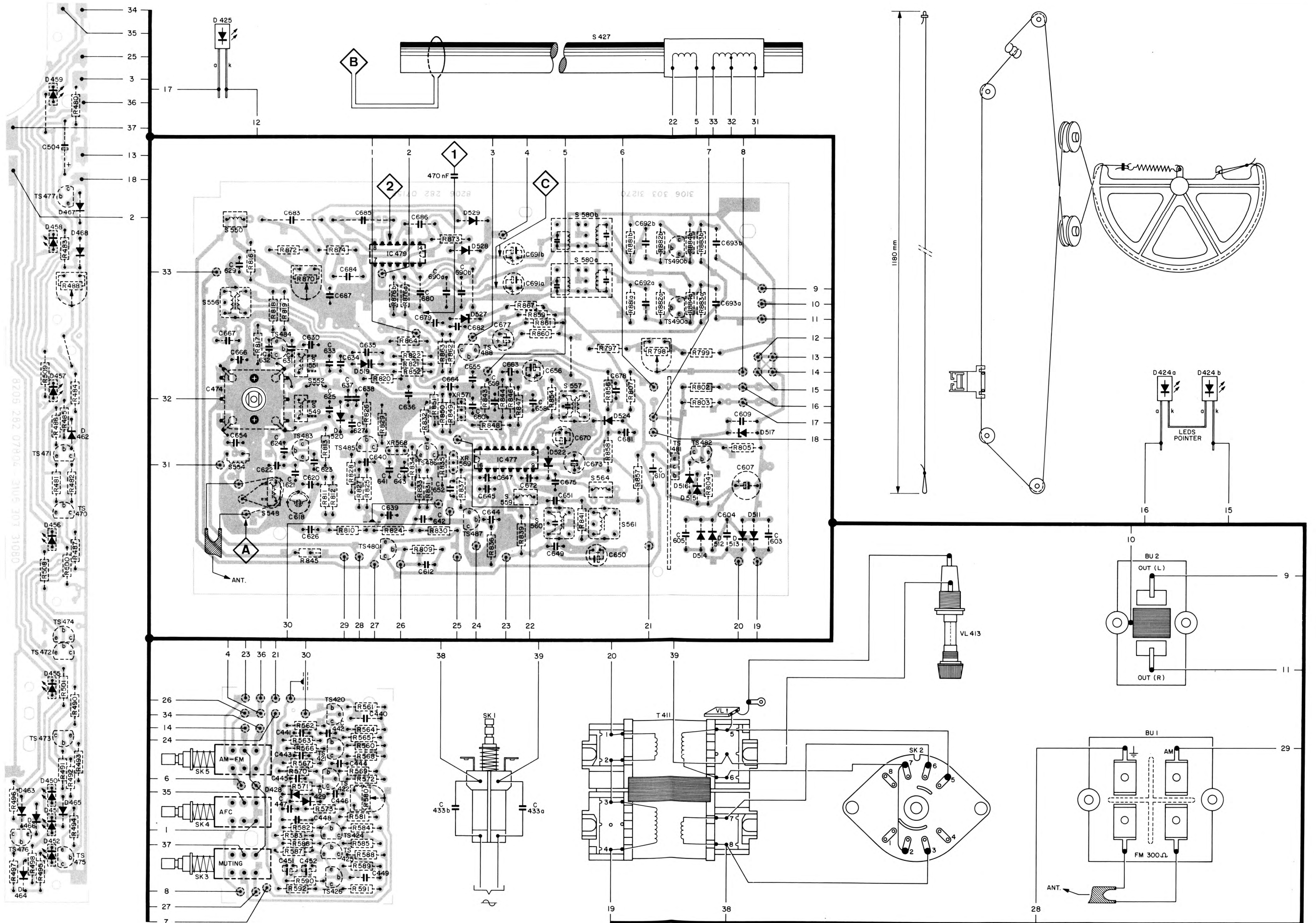


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|-------------------------------------------------------------------|----------------|
| Antena de FM. . . . .                                             | 4806 303 57001 |
| Articulação da antena OM. . . . .                                 | 4806 417 17069 |
| Botão de sintonia . . . . .                                       | 4806 413 57044 |
| Cabo de rede . . . . .                                            | 4806 321 17018 |
| Conjunto frente . . . . .                                         | 4806 454 47030 |
| Fundo de escala . . . . .                                         | 4806 466 77032 |
| Gabinete . . . . .                                                | 4806 447 47001 |
| Guia da antena OM (fix. na caixa). . . . .                        | 4806 404 27044 |
| Guia das teclas . . . . .                                         | 4806 532 57104 |
| Isolador para chave "SK2" . . . . .                               | 4806 325 87024 |
| Mancal da antena OM (fix. na guia). . . . .                       | 4806 404 27046 |
| Mola das teclas . . . . .                                         | 4806 492 57116 |
| Mola para tração . . . . .                                        | 4806 492 37230 |
| Pé. . . . .                                                       | 4806 462 77065 |
| Polia . . . . .                                                   | 4806 528 87073 |
| Ponteiro . . . . .                                                | 4806 450 87056 |
| Porta fusível. . . . .                                            | 4806 256 37004 |
| Protetor do transformador . . . . .                               | 4806 325 87041 |
| Suporte fix. Led "ON" . . . . .                                   | 4806 404 67089 |
| Suporte fix. Leds (Stéreo, Muting, AFC, AM, FM, Tuning) . . . . . | 4806 404 67091 |
| Suporte para mola das teclas . . . . .                            | 4806 404 67075 |
| Tambor de sintonia . . . . .                                      | 4806 528 87080 |
| Tampa. . . . .                                                    | 4806 447 47002 |
| Teclas (ON/OFF, Muting, AFC, AM/FM). . . . .                      | 4806 410 47030 |
| Tira Acrílica frontal c/impressão . . . . .                       | 4806 454 47031 |
| Trava (fix. tira acrílica). . . . .                               | 4806 413 97013 |
| Tubo da antena OM. . . . .                                        | 4806 404 27045 |

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|                                                                   |                |
|-------------------------------------------------------------------|----------------|
| Antena de FM. . . . .                                             | 4806 303 57001 |
| Articulación de la antena OM. . . . .                             | 4806 417 17069 |
| Botón de sintonia . . . . .                                       | 4806 413 57044 |
| Cordón de alimentación . . . . .                                  | 4806 321 17018 |
| Conj. frente . . . . .                                            | 4806 454 47030 |
| Parte inferior de la placa dial . . . . .                         | 4806 466 77032 |
| Conj. caja. . . . .                                               | 4806 447 47001 |
| Guía de la antena OM (fij. en la caja). . . . .                   | 4806 404 27044 |
| Guía de las teclas. . . . .                                       | 4806 532 57104 |
| Aislador para llave "SK2" . . . . .                               | 4806 325 87024 |
| Soporte de la antena OM (fij. en la guía) . . . . .               | 4806 404 27046 |
| Muelle de las teclas . . . . .                                    | 4806 492 57116 |
| Muelle para sintonia. . . . .                                     | 4806 492 37230 |
| Pata . . . . .                                                    | 4806 462 77065 |
| Polea. . . . .                                                    | 4806 528 87073 |
| Aguja del dial . . . . .                                          | 4806 450 87056 |
| Soporte para fusible. . . . .                                     | 4806 256 37004 |
| Protector del transformador . . . . .                             | 4806 325 87041 |
| Soporte fij. Led "ON" . . . . .                                   | 4806 404 67089 |
| Soporte fij. Leds (Stereo, Muting, AFC, AM, FM, Tuning) . . . . . | 4806 404 67091 |
| Soporte para muelle de las teclas . . . . .                       | 4806 404 67075 |
| Polea del dial . . . . .                                          | 4806 528 87080 |
| Tapa. . . . .                                                     | 4806 447 47002 |
| Teclas (ON/OFF, Muting, AFC, AM/FM). . . . .                      | 4806 410 47030 |
| Placa dial impresa. . . . .                                       | 4806 454 47031 |
| Traba (fij. placa dial) . . . . .                                 | 4806 413 97013 |
| Tubo de la antena OM . . . . .                                    | 4806 404 27045 |



|                                                                   |                 |
|-------------------------------------------------------------------|-----------------|
| FM aerial . . . . .                                               | .4806 303 57001 |
| Hinge for AM aerial . . . . .                                     | .4806 417 17069 |
| Button for tuning . . . . .                                       | .4806 413 57044 |
| Mains flex . . . . .                                              | .4806 321 17018 |
| Front cabinet . . . . .                                           | .4806 454 47030 |
| Lower scale . . . . .                                             | .4806 466 77032 |
| Cabinet . . . . .                                                 | .4806 447 47001 |
| Guide for AM aerial (fix. in to cabinet) . . . . .                | .4806 404 27044 |
| Push-button guide . . . . .                                       | .4806 532 57104 |
| Insulator for switch "SK2" . . . . .                              | .4806 325 87024 |
| Support for AM aerial (fix. in to guide) . . . . .                | .4806 404 27046 |
| Spring for push-button . . . . .                                  | .4806 492 57116 |
| Spring for tuning . . . . .                                       | .4806 492 37230 |
| Foot . . . . .                                                    | .4806 462 77065 |
| Pulley . . . . .                                                  | .4806 528 87073 |
| Pointer . . . . .                                                 | .4806 450 87056 |
| Holder fuse . . . . .                                             | .4806 256 37004 |
| Transformer protector . . . . .                                   | .4806 325 87041 |
| Support fix. Led "ON" . . . . .                                   | .4806 404 67089 |
| Support fix. Leds (Stereo, Muting, AFC, AM, FM, Tuning) . . . . . | .4806 404 67091 |
| Support for spring of the push-button . . . . .                   | .4806 404 67075 |
| Drum for tuning . . . . .                                         | .4806 528 87080 |
| Cover . . . . .                                                   | .4806 447 47002 |
| Push button (ON/OFF, Muting, AFC, AM/FM) . . . . .                | .4806 410 47030 |
| Acrylic strip for tuning . . . . .                                | .4806 454 47031 |
| Clamp (fix. acrylic strip) . . . . .                              | .4806 413 97013 |
| Tube for AM aerial . . . . .                                      | .4806 404 27045 |