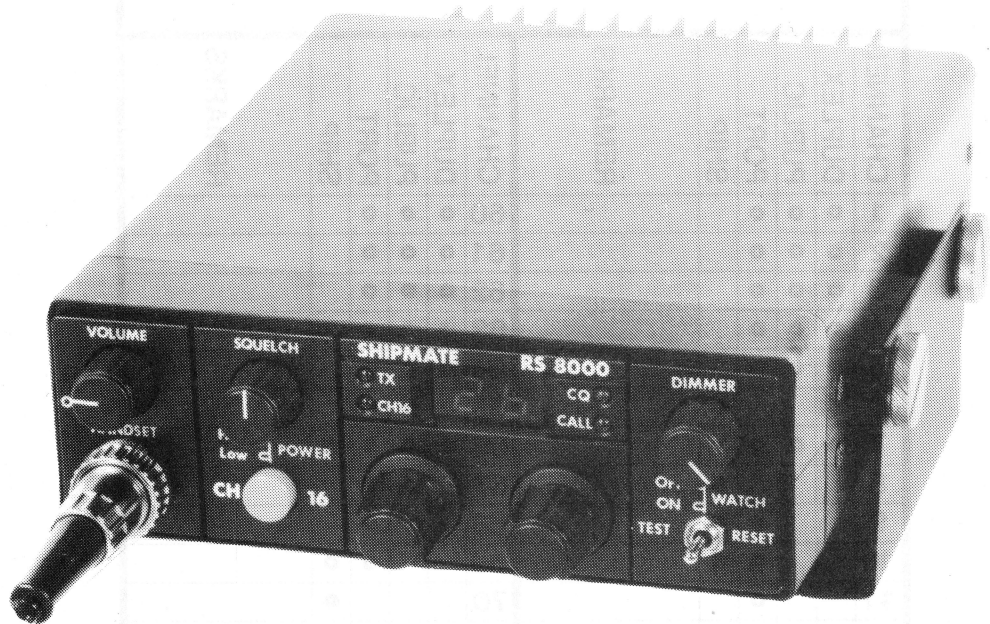


Service manual

SHIPMATE RS 8000

**Marine
VHF
Radiotelephone**



Service manual

NO: 9002 C

September 1983

| INTERNATIONAL MARINE VHF CHANNELS | | | | | |
|-----------------------------------|------------------|--------|------|------|---------|
| CHANNEL | DUPLEX | PUBLIC | PORT | SHIP | REMARKS |
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| 16 | SAFETY — CALLING | | | | |
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| CHANNEL | DUPLEX | PUBLIC | PORT | SHIP | REMARKS |
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| CHANNEL | DUPLEX | PUBLIC | PORT | SHIP | REMARKS |
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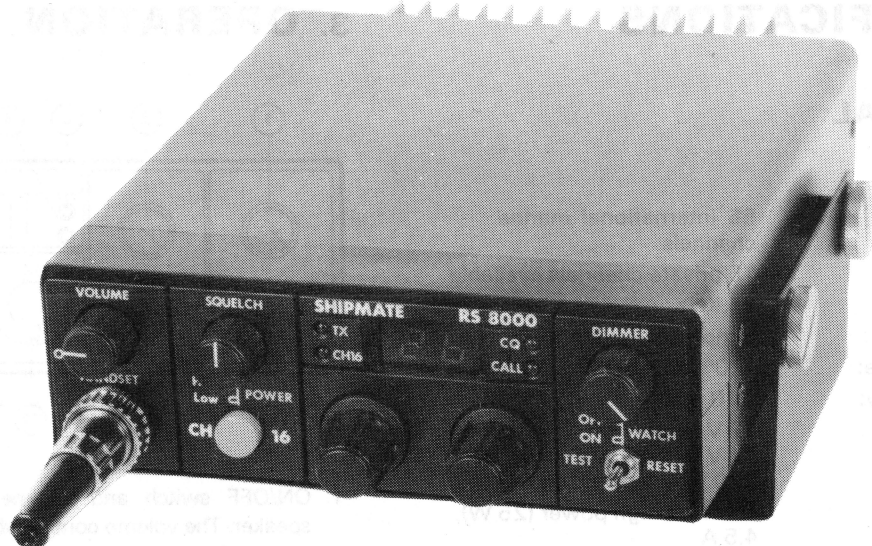


TABLE OF CONTENT

1. TABLE OF CONTENT
2. SPECIFICATIONS
 - 2.1. General
 - 2.2. Transmitter
 - 2.3. Receiver
 - 2.4. Selcall
3. OPERATION
4. INSTALLATION
5. FREQUENCY TABLES
6. MECHANICAL LAY OUT
7. BLOCKDIAGRAM
8. CIRCUIT DESCRIPTION
 - 8.1. General
 - 8.2. Receiver
 - 8.3. Synthesizer
 - 8.4. TX-driver
 - 8.5. Modulator
 - 8.6. TX-power amplifier
 - 8.7. Channel codes
9. ALIGNMENT
 - 9.1. Alignment of VCO
 - 9.2. Alignment of channel frequency
 - 9.3. Alignment of receiver RF and IF
 - 9.4. Alignment of TX-driver
 - 9.5. Alignment of VHF-PA
 - 9.6. Alignment of modulator
 - 9.7. Alignment of receiver AF and SQ
 - 9.8. Alignment and coding of SELCALL
10. OPTIONS
 - 10.1. 24 V regulator
 - 10.2. 220 V regulator
 - 10.3. Selcall
11. DIAGRAM
12. PARTS LISTS

2. SPECIFICATIONS

2.1. GENERAL

| | |
|----------------------|--|
| Channels: | 55 international marine channels 15 private channels available |
| Channel spacing: | 25 KHz |
| Mode of operation: | Simplex/Semiduplex |
| Temperature range: | -20°C to +55°C |
| Frequency stability: | ±10 ppm |
| Supply voltage: | 12 V Battery 24 V by separate converter 220 V by separate converter |
| Current drain: | Transmit high power (25 W), 4,5 A Transmit low power (1 W), 1,5 A Stand by 0,6 A |
| Dual Watch: | Channel 16 plus an operator selected channel |
| Aut. Ch. 16: | Separate push button for channel 16 |
| Weight: | 2,5 kg |
| Dimensions: | 56 x 160 x 210 mm |

All measurements according to CEPT.

2.2. TRANSMITTER

| | |
|--------------------|-----------------------------|
| Frequency range: | 155,0 MHz - 159,0 MHz |
| Power output: | 25 Watts, 1 W reduced power |
| Spurious emission: | -80 dB |
| AF response: | 6 dB/octave |
| Modulation: | ±5 KHz |
| Ant. impedance: | 50 ohms |

2.3. RECEIVER

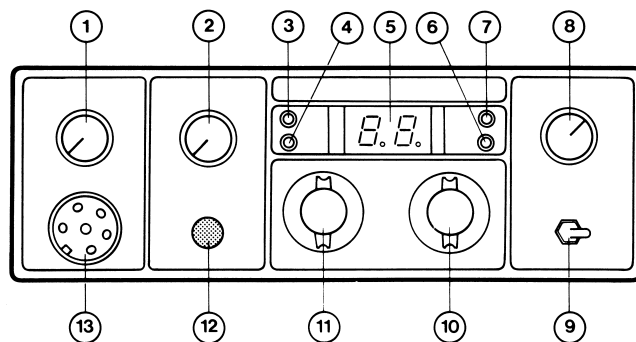
| | |
|------------------|--|
| Frequency range: | 155,0 MHz - 159,0 MHz 159,6 MHz - 163,6 MHz |
| Sensitivity: | 0,3 uV/12 dB SINAD |
| Intermodulation: | 70 dB |
| AF output power: | 4 W in 4 ohms |
| Squelch: | Adjustable from 6 dB to 20 dB SINAD |
| Distortion: | 3% |

2.4. SELCALL

| | |
|-------------|--|
| Alarm: | Acoustic signal in loudspeaker Light indication for received sel- call and/or for received CQ-call |
| Ext. Alarm: | Relay contact Max. 100 V Max. 1 A. Max. 10 VA |

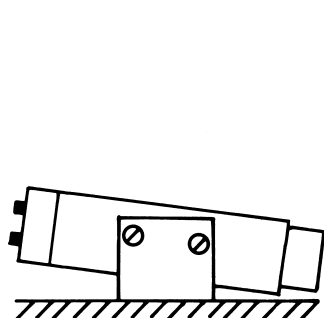
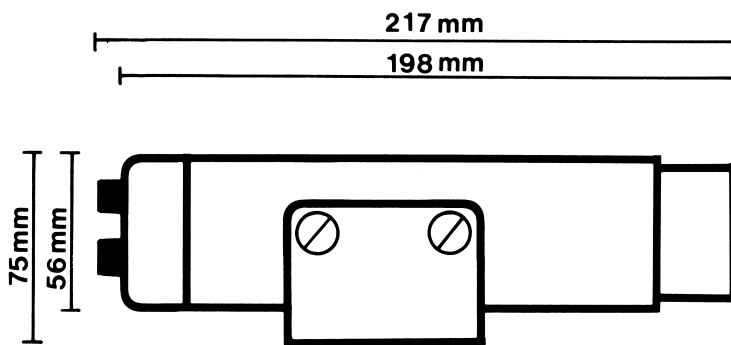
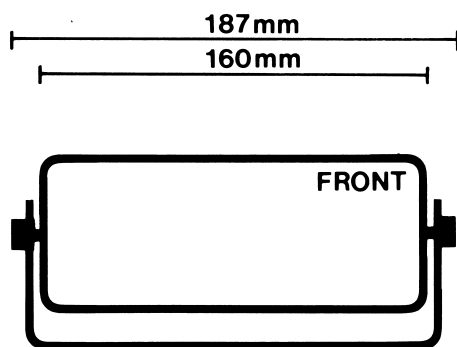
Build in automatic test facility for the selcall.

3. OPERATION

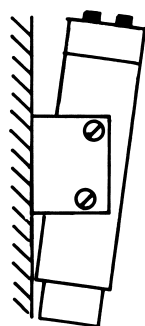


1. ON/OFF switch and volume control for external loudspeaker. The volume control will have no effect on the hand-set earphone level.
2. To mute the receiver noise in periods with no signal, the squelch control knob should be turned clockwise until noise cut-off occurs.
25 W transmitter power when the knob is pushed in.
1 W transmitter power when the knob is pulled out.
3. Transmitter indicator. Indicates that the transmitter is operating.
4. DUAL WATCH indicator. Indicates that the DUAL WATCH function is on. In this condition it is not possible to transmit.
5. Channel indicator.
6. CALL indicator. Indicates that a selective tone call has been received from a coast station.
7. CQ indicator. Indicates that a CQ/ALARM call has been received either from your own testbutton or from a coast station.
NB: Both these indicators will be illuminated if the SELCALL module is tested from the front panel test switch.
8. Dimmer control and DUAL WATCH switch. By means of the dimmer control the light intensity in the channel display and indicators can be regulated.
DUAL WATCH is on when the knob is pulled out.
DUAL WATCH is off when the knob is pushed in.
- 9A. TEST RESET switch for SELCALL.
By selecting the TEST position of this switch for approx. 1 sec. the SELCALL module can be tested. The CALL and CQ indicators will be illuminated and an alarm signal will be heard in the loudspeaker. By selecting the RESET position the CALL and CQ indicators will go off and the SELCALL module is reset.
- 9B. Optional extra U.S. channels.
If the SELCALL module is not fitted, a switch can be included in place of the SELCALL switch to select either U.S. or INTERNATIONAL channels.
10. Channel selector. Selects second channel digit.
11. Channel selector. Selects first channel digit.
12. CH 16 knob. When it is pushed the radiotelephone operates on the calling and distress channel. The channel display will indicate 16. The channel selector switches are overridden and the DUAL WATCH function is inhibited. By again pushing the CH 16 knob the radiotelephone reverses to the channel set by the channel selector switches.
13. Handset connector.

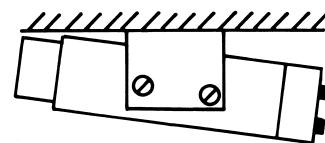
4. INSTALLATION



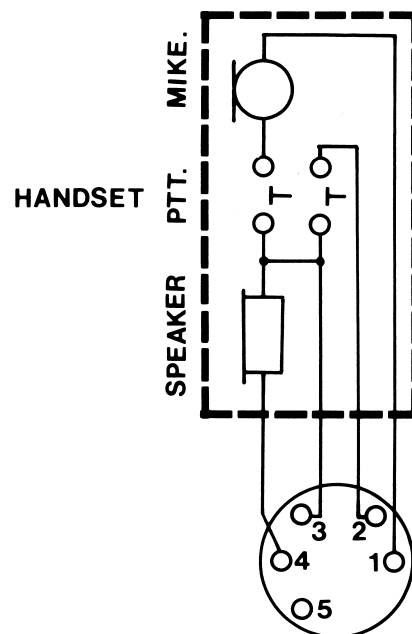
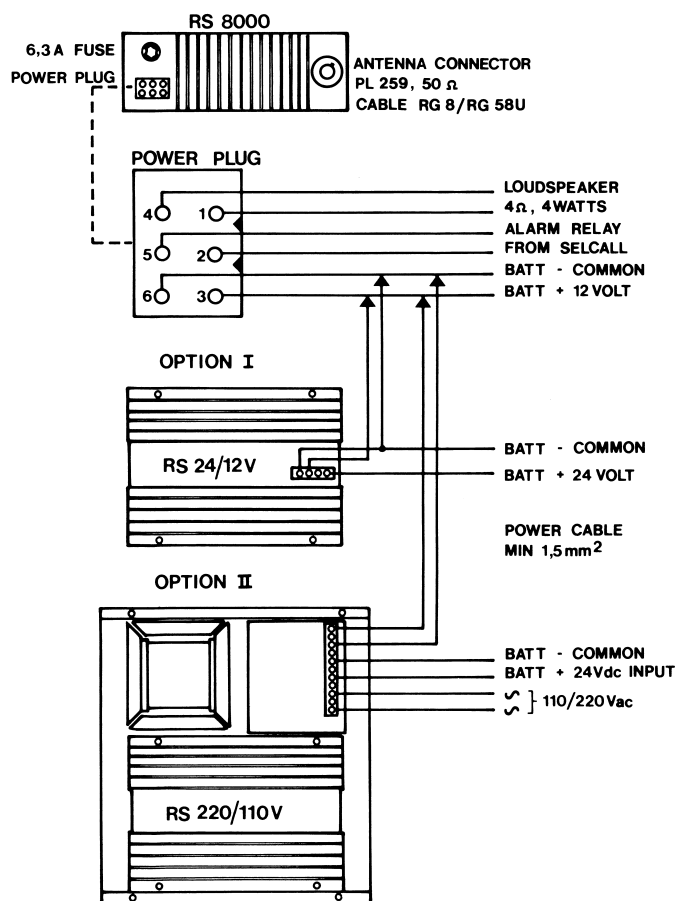
TABLE



BULKHEAD



DECKHEAD

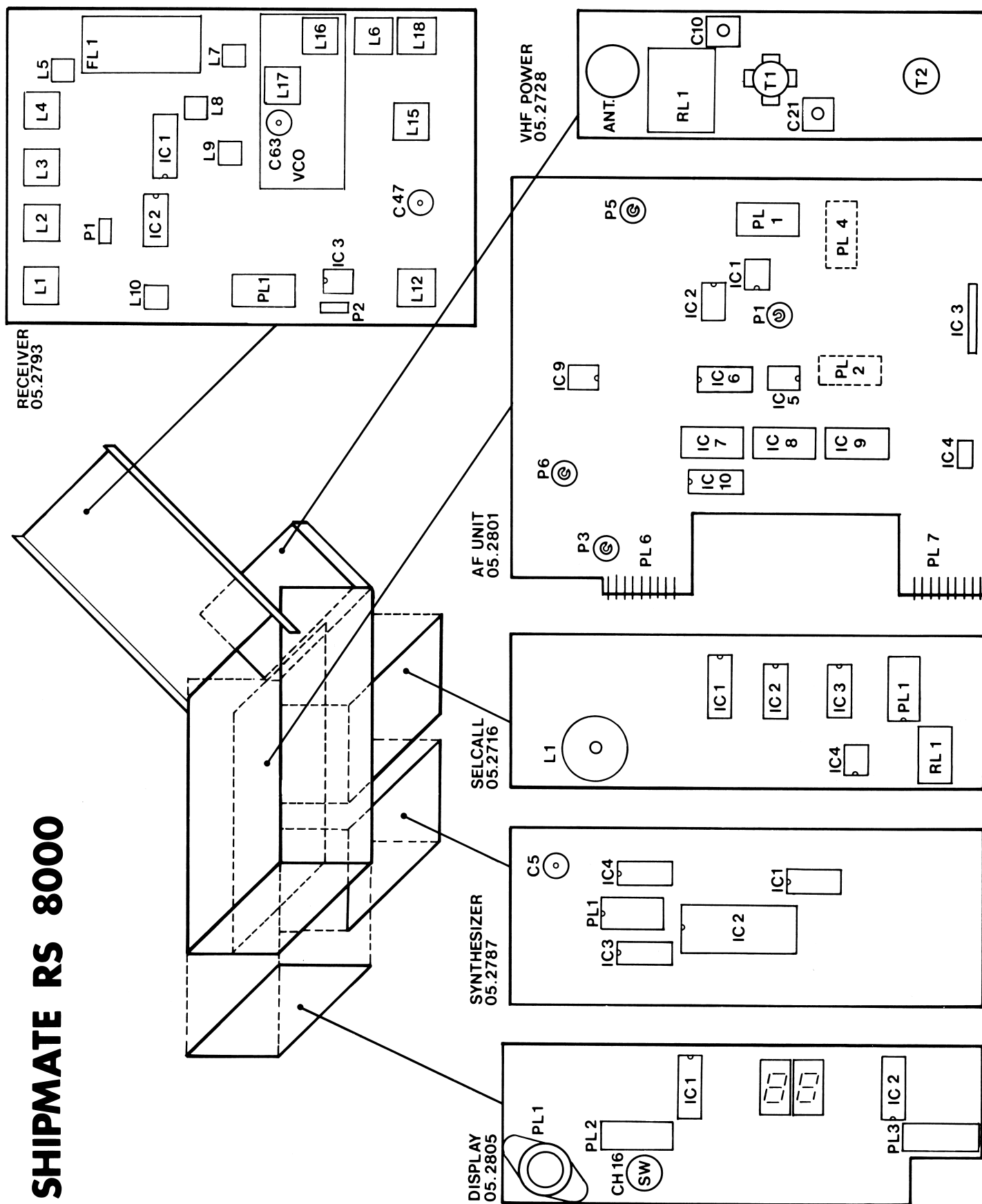


5. FREQUENCY TABLES

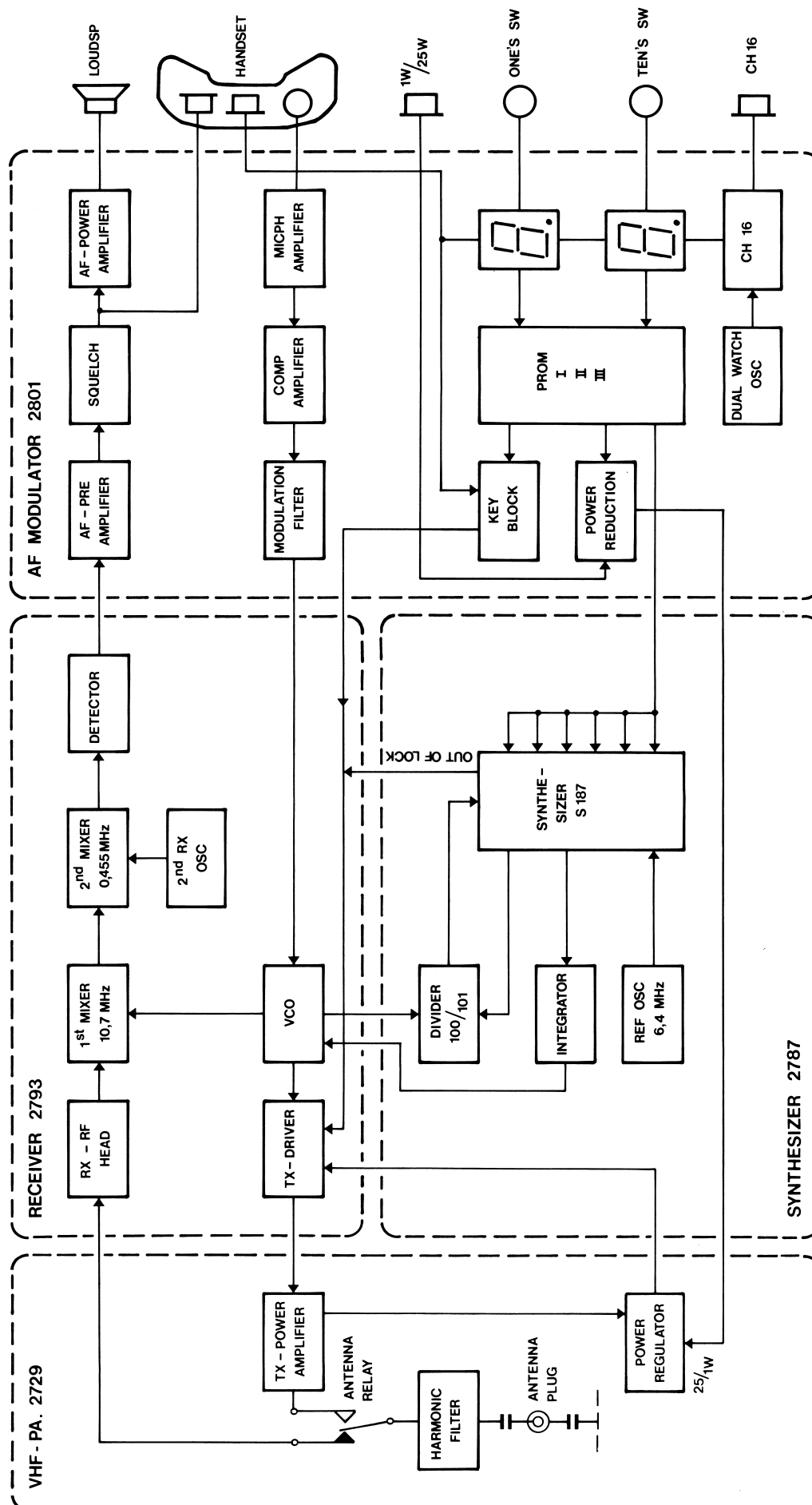
| CH | 156 MHz | | | | 157 MHz | | | | 158 MHz | | | | 159 MHz | | | | 160 MHz | | | | 161 MHz | | | | 162 MHz | | | | 163 MHz | | | | 164 MHz | | | | 165 MHz | | | | 166 MHz | | | | 167 MHz | | | | 168 MHz | | | | 169 MHz | | | | 170 MHz | | | | 171 MHz | | | | 172 MHz | | | | 173 MHz | | | | 174 MHz | | | | 175 MHz | | | | 176 MHz | | | | 177 MHz | | | | 178 MHz | | | | 179 MHz | | | | 180 MHz | | | | 181 MHz | | | | 182 MHz | | | | 183 MHz | | | | 184 MHz | | | | 185 MHz | | | | 186 MHz | | | | 187 MHz | | | | 188 MHz | | | | 189 MHz | | | | 190 MHz | | | | 191 MHz | | | | 192 MHz | | | | 193 MHz | | | | 194 MHz | | | | 195 MHz | | | | 196 MHz | | | | 197 MHz | | | | 198 MHz | | | | 199 MHz | | | | 200 MHz | | | | 201 MHz | | | | 202 MHz | | | | 203 MHz | | | | 204 MHz | | | | 205 MHz | | | | 206 MHz | | | | 207 MHz | | | | 208 MHz | | | | 209 MHz | | | | 210 MHz | | | | 211 MHz | | | | 212 MHz | | | | 213 MHz | | | | 214 MHz | | | | 215 MHz | | | | 216 MHz | | | | 217 MHz | | | | 218 MHz | | | | 219 MHz | | | | 220 MHz | | | | 221 MHz | | | | 222 MHz | | | | 223 MHz | | | | 224 MHz | | | | 225 MHz | | | | 226 MHz | | | | 227 MHz | | | | 228 MHz | | | | 229 MHz | | | | 230 MHz | | | | 231 MHz | | | | 232 MHz | | | | 233 MHz | | | | 234 MHz | | | | 235 MHz | | | | 236 MHz | | | | 237 MHz | | | | 238 MHz | | | | 239 MHz | | | | 240 MHz | | | | 241 MHz | | | | 242 MHz | | | | 243 MHz | | | | 244 MHz | | | | 245 MHz | | | | 246 MHz | | | | 247 MHz | | | | 248 MHz | | | | 249 MHz | | | | 250 MHz | | | | 251 MHz | | | | 252 MHz | | | | 253 MHz | | | | 254 MHz | | | | 255 MHz | | | | 256 MHz | | | | 257 MHz | | | | 258 MHz | | | | 259 MHz | | | | 260 MHz | | | | 261 MHz | | | | 262 MHz | | | | 263 MHz | | | | 264 MHz | | | | 265 MHz | | | | 266 MHz | | | | 267 MHz | | | | 268 MHz | | | | 269 MHz | | | | 270 MHz | | | | 271 MHz | | | | 272 MHz | | | | 273 MHz | | | | 274 MHz | | | | 275 MHz | | | | 276 MHz | | | | 277 MHz | | | | 278 MHz | | | | 279 MHz | | | | 280 MHz | | | | 281 MHz | | | | 282 MHz | | | | 283 MHz | | | | 284 MHz | | | | 285 MHz | | | | 286 MHz | | | | 287 MHz | | | | 288 MHz | | | | 289 MHz | | | | 290 MHz | | | | 291 MHz | | | | 292 MHz | | | | 293 MHz | | | | 294 MHz | | | | 295 MHz | | | | 296 MHz | | | | 297 MHz | | | | 298 MHz | | | | 299 MHz | | | | 300 MHz | | | | 301 MHz | | | | 302 MHz | | | | 303 MHz | | | | 304 MHz | | | | 305 MHz | | | | 306 MHz | | | | 307 MHz | | | | 308 MHz | | | | 309 MHz | | | | 310 MHz | | | | 311 MHz | | | | 312 MHz | | | | 313 MHz | | | | 314 MHz | | | | 315 MHz | | | | 316 MHz | | | | 317 MHz | | | | 318 MHz | | | | 319 MHz | | | | 320 MHz | | | | 321 MHz | | | | 322 MHz | | | | 323 MHz | | | | 324 MHz | | | | 325 MHz | | | | 326 MHz | | | | 327 MHz | | | | 328 MHz | | | | 329 MHz | | | | 330 MHz | | | | 331 MHz | | | | 332 MHz | | | | 333 MHz | | | | 334 MHz | | | | 335 MHz | | | | 336 MHz | | | | 337 MHz | | | | 338 MHz | | | | 339 MHz | | | | 340 MHz | | | | 341 MHz | | | | 342 MHz | | | | 343 MHz | | | | 344 MHz | | | | 345 MHz | | | | 346 MHz | | | | 347 MHz | | | | 348 MHz | | | | 349 MHz | | | | 350 MHz | | | | 351 MHz | | | | 352 MHz | | | | 353 MHz | | | | 354 MHz | | | | 355 MHz | | | | 356 MHz | | | | 357 MHz | | | | 358 MHz | | | | 359 MHz | | | | 360 MHz | | | | 361 MHz | | | | 362 MHz | | | | 363 MHz | | | | 364 MHz | | | | 365 MHz | | | | 366 MHz | | | | 367 MHz | | | | 368 MHz | | | | 369 MHz | | | | 370 MHz | | | | 371 MHz | | | | 372 MHz | | | | 373 MHz | | | | 374 MHz | | | | 375 MHz | | | | 376 MHz | | | | 377 MHz | | | | 378 MHz | | | | 379 MHz | | | | 380 MHz | | | | 381 MHz | | | | 382 MHz | | | | 383 MHz | | | | 384 MHz | | | | 385 MHz | | | | 386 MHz | | | | 387 MHz | | | | 388 MHz | | | | 389 MHz | | | | 390 MHz | | | | 391 MHz | | | | 392 MHz | | | | 393 MHz | | | | 394 MHz | | | | 395 MHz | | | | 396 MHz | | | | 397 MHz | | | | 398 MHz | | | | 399 MHz | | | | 400 MHz | | | | 401 MHz | | | | 402 MHz | | | | 403 MHz | | | | 404 MHz | | | | 405 MHz | | | | 406 MHz | | | | 407 MHz | | | | 408 MHz | | | | 409 MHz | | | | 410 MHz | | | | 411 MHz | | | | 412 MHz | | | | 413 MHz | | | | 414 MHz | | | | 415 MHz | | | | 416 MHz | | | | 417 MHz | | | | 418 MHz | | | | 419 MHz | | | | 420 MHz | | | | 421 MHz | | | | 422 MHz | | | | 423 MHz | | | | 424 MHz | | | | 425 MHz | | | | 426 MHz | | | | 427 MHz | | | | 428 MHz | | | | 429 MHz | | | | 430 MHz | | | | 431 MHz | | | | 432 MHz | | | | 433 MHz | | | | 434 MHz | | | | 435 MHz | | | | 436 MHz | | | | 437 MHz | | | | 438 MHz | | | | 439 MHz | | | | 440 MHz | | | | 441 MHz | | | | 442 MHz | | | | 443 MHz | | | | 444 MHz | | | | 445 MHz | | | | 446 MHz | | | | 447 MHz | | | | 448 MHz | | | | 449 MHz | | | | 450 MHz | | | | 451 MHz | | | | 452 MHz | | | | 453 MHz | | | | 454 MHz | | | | 455 MHz | | | | 456 MHz | | | | 457 MHz | | | | 458 MHz | | | | 459 MHz | | | | 460 MHz | | | | 461 MHz | | | | 462 MHz | | | | 463 MHz | | | | 464 MHz | | | | 465 MHz | | | | 466 MHz | | | | 467 MHz | | | | 468 MHz | | | | 469 MHz | | | | 470 MHz | | | | 471 MHz | | | | 472 MHz | | | | 473 MHz | | | | 474 MHz | | | | 475 MHz | | | | 476 MHz | | | | 477 MHz | | | | 478 MHz | | | | 479 MHz | | | | 480 MHz | | | | 481 MHz | | | | 482 MHz | | | | 483 MHz | | | | 484 MHz | | | | 485 MHz | | | | 486 MHz | | | | 487 MHz | | | | 488 MHz | | | | 489 MHz | | | | 490 MHz | | | | 491 MHz | | | | 492 MHz | | | | 493 MHz | | | | 494 MHz | | | | 495 MHz | | | | 496 MHz | | | | 497 MHz | | | | 498 MHz | | | | 499 MHz | | | | 500 MHz | | | |
|----|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|--|---------|--|--|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| 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

6. MECHANICAL LAY OUT

SHIPMATE RS 8000



7. BLOCKDIAGRAM



8.7. CHANNEL CODES

| CHANNEL | | PROM I | | | | PROM II | | | | | PROM III | | | | |
|----------|-----|--------|----|----|-----|---------|----|----|----|-----|----------|-----|-------|----|----|
| Receiver | ADR | M4 | M2 | M1 | A32 | ADR | A4 | A8 | A2 | A64 | ADR | A16 | Simpl | M8 | BL |
| 0 | 240 | 1 | 1 | 1 | 1 | 135 | 1 | 1 | 1 | 1 | 240 | 1 | 1 | 1 | 1 |
| 1 | 248 | 1 | 1 | 1 | 1 | 143 | 0 | 0 | 0 | 1 | 248 | 0 | 1 | 0 | 0 |
| 2 | 244 | 0 | 0 | 0 | 0 | 199 | 0 | 0 | 0 | 0 | 244 | 0 | 1 | 1 | 0 |
| 3 | 252 | 0 | 0 | 0 | 0 | 207 | 1 | 0 | 0 | 0 | 252 | 0 | 1 | 1 | 0 |
| 4 | 242 | 0 | 0 | 0 | 0 | 166 | 0 | 1 | 0 | 0 | 242 | 0 | 1 | 1 | 0 |
| 5 | 250 | 0 | 0 | 0 | 0 | 175 | 1 | 1 | 0 | 0 | 250 | 0 | 1 | 1 | 0 |
| 6 | 246 | 1 | 0 | 0 | 1 | 231 | 0 | 0 | 0 | 0 | 246 | 1 | 0 | 0 | 0 |
| 7 | 254 | 0 | 0 | 0 | 0 | 239 | 1 | 0 | 0 | 0 | 254 | 1 | 1 | 1 | 0 |
| 8 | 241 | 1 | 0 | 0 | 1 | 151 | 0 | 1 | 0 | 0 | 241 | 1 | 0 | 0 | 0 |
| 9 | 249 | 1 | 0 | 0 | 1 | 159 | 1 | 1 | 0 | 0 | 249 | 1 | 0 | 0 | 0 |
| 10 | 208 | 1 | 0 | 0 | 0 | 133 | 0 | 0 | 0 | 1 | 208 | 0 | 0 | 0 | 0 |
| 11 | 216 | 1 | 0 | 0 | 0 | 141 | 1 | 0 | 0 | 1 | 216 | 0 | 0 | 0 | 0 |
| 12 | 212 | 1 | 0 | 0 | 0 | 197 | 0 | 1 | 0 | 1 | 212 | 0 | 0 | 0 | 0 |
| 13 | 220 | 1 | 0 | 0 | 0 | 205 | 1 | 1 | 0 | 1 | 220 | 0 | 0 | 0 | 0 |
| 14 | 210 | 1 | 0 | 0 | 0 | 165 | 0 | 0 | 0 | 1 | 210 | 1 | 0 | 0 | 0 |
| 15 | 218 | 1 | 0 | 0 | 0 | 173 | 1 | 0 | 0 | 1 | 218 | 1 | 0 | 0 | 0 |
| 16 | 214 | 1 | 0 | 0 | 0 | 229 | 0 | 1 | 0 | 1 | 214 | 1 | 0 | 0 | 0 |
| 17 | 222 | 1 | 0 | 0 | 0 | 137 | 1 | 1 | 0 | 1 | 222 | 1 | 0 | 0 | 0 |
| 18 | 209 | 0 | 0 | 0 | 0 | 149 | 0 | 0 | 0 | 1 | 209 | 0 | 1 | 1 | 0 |
| 19 | 217 | 0 | 0 | 0 | 0 | 157 | 1 | 0 | 0 | 1 | 217 | 0 | 1 | 1 | 0 |
| 20 | 224 | 0 | 0 | 0 | 0 | 134 | 0 | 1 | 0 | 1 | 176 | 0 | 1 | 1 | 0 |
| 21 | 232 | 0 | 0 | 0 | 0 | 142 | 1 | 1 | 0 | 1 | 184 | 0 | 1 | 1 | 0 |
| 22 | 228 | 0 | 0 | 0 | 0 | 198 | 0 | 0 | 0 | 1 | 180 | 1 | 1 | 1 | 0 |
| 23 | 236 | 0 | 0 | 0 | 0 | 206 | 1 | 0 | 0 | 1 | 188 | 1 | 1 | 1 | 0 |
| 24 | 226 | 0 | 0 | 0 | 0 | 166 | 0 | 1 | 0 | 1 | 178 | 1 | 1 | 1 | 0 |
| 25 | 234 | 0 | 0 | 0 | 0 | 174 | 1 | 1 | 0 | 1 | 186 | 1 | 1 | 1 | 0 |
| 26 | 230 | 0 | 0 | 0 | 1 | 230 | 0 | 0 | 0 | 1 | 182 | 0 | 1 | 1 | 0 |
| 27 | 238 | 0 | 0 | 1 | 0 | 238 | 0 | 0 | 0 | 0 | 190 | 0 | 1 | 1 | 0 |
| 28 | 225 | 0 | 0 | 1 | 0 | 134 | 1 | 0 | 0 | 0 | 177 | 0 | 1 | 1 | 0 |
| 29 | 233 | 1 | 1 | 1 | 1 | 158 | 1 | 1 | 1 | 1 | 185 | 1 | 1 | 1 | 1 |

| CHANNEL | | PROM I | | | | PROM II | | | | | PROM III | | | | |
|----------|-----|--------|----|----|-----|---------|----|----|----|-----|----------|-----|-------|----|----|
| Receiver | ADR | M4 | M2 | M1 | A32 | ADR | A4 | A8 | A2 | A64 | ADR | A16 | Simpl | M8 | BL |
| 60 | 160 | 1 | 1 | 1 | 0 | 130 | 1 | 1 | 1 | 1 | 160 | 1 | 1 | 0 | 0 |
| 61 | 168 | 1 | 1 | 1 | 1 | 138 | 0 | 0 | 1 | 1 | 168 | 0 | 1 | 0 | 0 |
| 62 | 164 | 0 | 0 | 0 | 0 | 194 | 0 | 0 | 1 | 0 | 164 | 0 | 1 | 1 | 0 |
| 63 | 172 | 0 | 0 | 0 | 0 | 202 | 1 | 0 | 1 | 0 | 172 | 0 | 1 | 1 | 0 |
| 64 | 162 | 0 | 0 | 0 | 0 | 162 | 0 | 1 | 1 | 0 | 162 | 0 | 1 | 1 | 0 |
| 65 | 170 | 0 | 0 | 0 | 0 | 170 | 1 | 1 | 1 | 0 | 170 | 0 | 1 | 1 | 0 |
| 66 | 166 | 0 | 0 | 0 | 0 | 226 | 0 | 0 | 1 | 0 | 166 | 1 | 1 | 1 | 0 |
| 67 | 174 | 1 | 0 | 0 | 1 | 234 | 1 | 0 | 1 | 0 | 174 | 1 | 0 | 0 | 0 |
| 68 | 161 | 1 | 0 | 0 | 1 | 146 | 0 | 1 | 1 | 0 | 161 | 1 | 0 | 0 | 0 |
| 69 | 169 | 1 | 0 | 0 | 1 | 154 | 1 | 1 | 1 | 0 | 169 | 1 | 0 | 0 | 0 |
| 70 | 128 | 1 | 0 | 0 | 0 | 128 | 0 | 0 | 1 | 1 | 128 | 0 | 0 | 0 | 0 |
| 71 | 136 | 1 | 0 | 0 | 0 | 136 | 1 | 0 | 1 | 1 | 136 | 0 | 0 | 0 | 0 |
| 72 | 132 | 1 | 0 | 0 | 0 | 192 | 0 | 1 | 1 | 1 | 132 | 0 | 0 | 0 | 0 |
| 73 | 140 | 1 | 0 | 0 | 0 | 200 | 1 | 1 | 1 | 1 | 140 | 0 | 0 | 0 | 0 |
| 74 | 130 | 1 | 0 | 0 | 0 | 160 | 0 | 0 | 1 | 1 | 130 | 1 | 0 | 0 | 0 |
| 75 | 138 | 1 | 1 | 1 | 1 | 168 | 1 | 1 | 1 | 1 | 138 | 1 | 1 | 1 | 1 |
| 76 | 134 | 1 | 1 | 1 | 1 | 224 | 1 | 1 | 1 | 1 | 134 | 1 | 1 | 1 | 1 |
| 77 | 142 | 1 | 0 | 0 | 0 | 232 | 1 | 1 | 1 | 1 | 142 | 1 | 0 | 0 | 0 |
| 78 | 129 | 0 | 0 | 0 | 0 | 144 | 0 | 0 | 1 | 1 | 129 | 0 | 1 | 1 | 0 |
| 79 | 137 | 0 | 0 | 0 | 0 | 152 | 1 | 0 | 1 | 1 | 137 | 0 | 1 | 1 | 0 |
| 80 | 176 | 0 | 0 | 0 | 0 | 131 | 0 | 1 | 1 | 1 | 224 | 0 | 1 | 1 | 0 |
| 81 | 184 | 0 | 0 | 0 | 0 | 139 | 1 | 1 | 1 | 1 | 232 | 0 | 1 | 1 | 0 |
| 82 | 180 | 0 | 0 | 0 | 0 | 195 | 0 | 0 | 1 | 1 | 228 | 1 | 1 | 1 | 0 |
| 83 | 188 | 0 | 0 | 0 | 0 | 203 | 1 | 0 | 1 | 1 | 236 | 1 | 1 | 1 | 0 |
| 84 | 178 | 0 | 0 | 0 | 0 | 163 | 0 | 1 | 1 | 1 | 226 | 1 | 1 | 1 | 0 |
| 85 | 186 | 0 | 0 | 0 | 0 | 171 | 1 | 1 | 1 | 1 | 234 | 1 | 1 | 1 | 0 |
| 86 | 182 | 0 | 0 | 0 | 1 | 227 | 0 | 0 | 1 | 1 | 230 | 0 | 1 | 1 | 0 |
| 87 | 190 | 0 | 0 | 1 | 0 | 235 | 0 | 0 | 1 | 0 | 238 | 0 | 1 | 1 | 0 |
| 88 | 177 | 0 | 0 | 1 | 0 | 147 | 1 | 0 | 1 | 0 | 225 | 0 | 1 | 1 | 0 |
| 89 | 185 | 1 | 1 | 1 | 1 | 155 | 1 | 1 | 1 | 1 | 233 | 1 | 1 | 1 | 1 |

| | | | | | | | | | | | | | | | |
|----|-----|---|---|---|---|-----|---|---|---|---|-----|---|---|---|---|
| P0 | 144 | 1 | 1 | 1 | 1 | 129 | 1 | 1 | 1 | 1 | 192 | 1 | 1 | 1 | 1 |
| P1 | 152 | 1 | 1 | 1 | 1 | 137 | 1 | 1 | 1 | 1 | 200 | 1 | 1 | 1 | 1 |
| P2 | 148 | 1 | 1 | 1 | 1 | 193 | 1 | 1 | 1 | 1 | 196 | 1 | 1 | 1 | 1 |
| P3 | 156 | 1 | 1 | 1 | 1 | 201 | 1 | 1 | 1 | 1 | 204 | 1 | 1 | 1 | 1 |
| P4 | 146 | 1 | 1 | 1 | 1 | 161 | 1 | 1 | 1 | 1 | 194 | 1 | 1 | 1 | 1 |
| P5 | 154 | 1 | 1 | 1 | 1 | 169 | 1 | 1 | 1 | 1 | 202 | 1 | 1 | 1 | 1 |
| P6 | 160 | 1 | 1 | 1 | 1 | 225 | 1 | 1 | 1 | 1 | 198 | 1 | 1 | 1 | 1 |
| P7 | 158 | 1 | 1 | 1 | 1 | 233 | 1 | 1 | 1 | 1 | 206 | 1 | 1 | 1 | 1 |
| P8 | 145 | 1 | 1 | 1 | 1 | 145 | 1 | 1 | 1 | 1 | 193 | 1 | 1 | 1 | 1 |
| P9 | 153 | 1 | 1 | 1 | 1 | 153 | 1 | 1 | 1 | 1 | 201 | 1 | 1 | 1 | 1 |

| | | | | | | | | | | | | | | | |
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| 16RA | 143 | 1 | 0 | 0 | 0 | 248 | 0 | 1 | 0 | 1 | 143 | 1 | 0 | 0 | 0 |
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| CHANNEL | | PROM I | | | | PROM II | | | | | PROM III | | | | |
|----------|-----|--------|----|----|-----|---------|----|----|----|-----|----------|-----|----|----|----|
| Transmit | ADR | M4 | M2 | M1 | A32 | ADR | A4 | A8 | A2 | A64 | ADR | A16 | RP | M8 | BL |
| 0 | 112 | 1 | 1 | 1 | 1 | 7 | 1 | 1 | 1 | 1 | 112 | 1 | 1 | 1 | 1 |
| 1 | 120 | 1 | 0 | 0 | 0 | 15 | 1 | 0 | 0 | 1 | 120 | 1 | 1 | 1 | 0 |
| 2 | 116 | 1 | 0 | 0 | 0 | 71 | 0 | 1 | 0 | 1 | 116 | 1 | 1 | 1 | 0 |
| 3 | 124 | 1 | 0 | 0 | 0 | 79 | 1 | 1 | 0 | 1 | 124 | 1 | 1 | 1 | 0 |
| 4 | 114 | 1 | 0 | 0 | 1 | 39 | 0 | 0 | 0 | 1 | 114 | 0 | 1 | 1 | 0 |
| 5 | 112 | 1 | 0 | 1 | 0 | 47 | 0 | 0 | 0 | 0 | 122 | 0 | 1 | 1 | 0 |
| 6 | 118 | 1 | 0 | 1 | 0 | 103 | 1 | 0 | 0 | 0 | 118 | 0 | 1 | 1 | 0 |
| 7 | 126 | 1 | 0 | 1 | 0 | 111 | 0 | 1 | 0 | 0 | 126 | 0 | 1 | 1 | 0 |
| 8 | 113 | 1 | 0 | 1 | 0 | 23 | 1 | 1 | 0 | 0 | 113 | 0 | 1 | 1 | 0 |
| 9 | 121 | 1 | 0 | 1 | 0 | 31 | 0 | 0 | 0 | 0 | 121 | 1 | 1 | 1 | 0 |
| 10 | 80 | 1 | 0 | 1 | 0 | 5 | 1 | 0 | 0 | 0 | 80 | 1 | 1 | 1 | 0 |
| 11 | 88 | 1 | 0 | 1 | 0 | 13 | 0 | 1 | 0 | 0 | 88 | 1 | 1 | 1 | 0 |
| 12 | 84 | 1 | 0 | 1 | 0 | 69 | 1 | 1 | 0 | 0 | 84 | 1 | 1 | 1 | 0 |
| 13 | 92 | 1 | 0 | 1 | 1 | 77 | 0 | 0 | 0 | 0 | 92 | 0 | 1 | 1 | 0 |
| 14 | 82 | 1 | 0 | 1 | 1 | 37 | 1 | 0 | 0 | 0 | 82 | 0 | 1 | 1 | 0 |
| 15 | 90 | 1 | 0 | 1 | 1 | 45 | 0 | 1 | 0 | 0 | 90 | 0 | 0 | 1 | 0 |
| 16 | 86 | 1 | 0 | 1 | 1 | 101 | 1 | 1 | 0 | 0 | 86 | 0 | 1 | 1 | 0 |
| 17 | 94 | 1 | 0 | 1 | 1 | 109 | 0 | 0 | 0 | 0 | 94 | 1 | 0 | 1 | 0 |
| 18 | 81 | 1 | 0 | 1 | 1 | 21 | 1 | 0 | 0 | 0 | 81 | 1 | 1 | 1 | 0 |
| 19 | 89 | 1 | 0 | 1 | 1 | 29 | 0 | 1 | 0 | 0 | 89 | 1 | 1 | 1 | 0 |
| 20 | 96 | 1 | 0 | 1 | 1 | 6 | 1 | 1 | 0 | 0 | 48 | 1 | 1 | 1 | 0 |
| 21 | 104 | 1 | 0 | 1 | 0 | 14 | 0 | 0 | 0 | 1 | 56 | 0 | 1 | 1 | 0 |
| 22 | 100 | 1 | 0 | 1 | 0 | 70 | 1 | 0 | 0 | 1 | 52 | 0 | 1 | 1 | 0 |
| 23 | 108 | 1 | 0 | 1 | 0 | 78 | 0 | 1 | 0 | 1 | 60 | 0 | 1 | 1 | 0 |
| 24 | 98 | 1 | 0 | 1 | 0 | 38 | 1 | 1 | 0 | 1 | 50 | 0 | 1 | 1 | 0 |
| 25 | 106 | 1 | 0 | 1 | 0 | 46 | 0 | 0 | 0 | 1 | 58 | 1 | 1 | 1 | 0 |
| 26 | 102 | 1 | 0 | 1 | 0 | 102 | 1 | 0 | 0 | 1 | 54 | 1 | 1 | 1 | 0 |
| 27 | 110 | 1 | 0 | 1 | 0 | 110 | 0 | 1 | 0 | 1 | 62 | 1 | 1 | 1 | 0 |
| 28 | 97 | 1 | 0 | 1 | 0 | 6 | 1 | 1 | 0 | 1 | 49 | 1 | 1 | 1 | 0 |
| 29 | 105 | 1 | 1 | 1 | 1 | 30 | 1 | 1 | 1 | 1 | 57 | 1 | 1 | 1 | 1 |

| CHANNEL | | PROM I | | | | PROM II | | | | | PROM III | | | | |
|----------|-----|--------|----|----|-----|---------|----|----|----|-----|----------|-----|----|----|----|
| Transmit | ADR | M4 | M2 | M1 | A32 | ADR | A4 | A8 | A2 | A64 | ADR | A16 | RP | M8 | BL |
| 60 | 32 | 1 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 32 | 1 | 1 | 1 | 0 |
| 61 | 40 | 1 | 0 | 0 | 0 | 10 | 1 | 0 | 1 | 1 | 40 | 1 | 1 | 1 | 0 |
| 62 | 36 | 1 | 0 | 0 | 0 | 66 | 0 | 1 | 1 | 1 | 36 | 1 | 1 | 1 | 0 |
| 63 | 44 | 1 | 0 | 0 | 0 | 74 | 1 | 1 | 1 | 1 | 44 | 1 | 1 | 1 | 0 |
| 64 | 34 | 1 | 0 | 0 | 1 | 34 | 0 | 0 | 1 | 1 | 34 | 0 | 1 | 1 | 0 |
| 65 | 42 | 1 | 0 | 1 | 0 | 42 | 0 | 0 | 1 | 0 | 42 | 0 | 1 | 1 | 0 |
| 66 | 38 | 1 | 0 | 1 | 0 | 98 | 1 | 0 | 1 | 0 | 38 | 0 | 1 | 1 | 0 |
| 67 | 46 | 1 | 0 | 1 | 0 | 106 | 0 | 1 | 1 | 0 | 46 | 0 | 1 | 1 | 0 |
| 68 | 33 | 1 | 0 | 1 | 0 | 18 | 1 | 1 | 1 | 0 | 33 | 0 | 1 | 1 | 0 |
| 69 | 41 | 1 | 0 | 1 | 0 | 26 | 0 | 0 | 1 | 0 | 41 | 1 | 1 | 1 | 0 |
| 70 | 00 | 1 | 0 | 1 | 0 | 00 | 1 | 0 | 1 | 0 | 0 | 1 | 1 | 1 | 0 |
| 71 | 8 | 1 | 0 | 1 | 0 | 8 | 0 | 1 | 1 | 0 | 8 | 1 | 1 | 1 | 0 |
| 72 | 4 | 1 | 0 | 1 | 0 | 64 | 1 | 1 | 1 | 0 | 4 | 1 | 1 | 1 | 0 |
| 73 | 12 | 1 | 0 | 1 | 1 | 72 | 0 | 0 | 1 | 0 | 12 | 0 | 1 | 1 | 0 |
| 74 | 2 | 1 | 0 | 1 | 1 | 32 | 1 | 0 | 1 | 0 | 2 | 0 | 1 | 1 | 0 |
| 75 | 10 | 1 | 1 | 1 | 1 | 40 | 1 | 1 | 1 | 0 | 10 | 1 | 1 | 1 | 1 |
| 76 | 6 | 1 | 1 | 1 | 1 | 96 | 1 | 1 | 1 | 0 | 6 | 1 | 1 | 1 | 1 |
| 77 | 14 | 1 | 0 | 1 | 1 | 104 | 0 | 0 | 1 | 0 | 14 | 1 | 1 | 1 | 0 |
| 78 | 1 | 1 | 0 | 1 | 1 | 16 | 1 | 0 | 1 | 0 | 1 | 1 | 1 | 1 | 0 |
| 79 | 9 | 1 | 0 | 1 | 1 | 24 | 0 | 1 | 1 | 0 | 9 | 1 | 1 | 1 | 0 |
| 80 | 48 | 1 | 0 | 1 | 1 | 3 | 1 | 1 | 1 | 0 | 96 | 1 | 1 | 1 | 0 |
| 81 | 56 | 1 | 0 | 1 | 0 | 11 | 0 | 0 | 1 | 1 | 104 | 0 | 1 | 1 | 0 |
| 82 | 52 | 1 | 0 | 1 | 0 | 67 | 1 | 0 | 1 | 1 | 100 | 0 | 1 | 1 | 0 |
| 83 | 60 | 1 | 0 | 1 | 0 | 75 | 0 | 1 | 1 | 1 | 108 | 0 | 1 | 1 | 0 |
| 84 | 50 | 1 | 0 | 1 | 0 | 35 | 1 | 1 | 1 | 1 | 98 | 0 | 1 | 1 | 0 |
| 85 | 58 | 1 | 0 | 1 | 0 | 43 | 0 | 0 | 1 | 1 | 106 | 1 | 1 | 1 | 0 |
| 86 | 54 | 1 | 0 | 1 | 0 | 99 | 1 | 0 | 1 | 1 | 102 | 1 | 1 | 1 | 0 |
| 87 | 62 | 1 | 0 | 1 | 0 | 107 | 0 | 1 | 1 | 1 | 110 | 1 | 1 | 1 | 0 |
| 88 | 49 | 1 | 0 | 1 | 0 | 19 | 0 | 1 | 1 | 1 | 97 | 1 | 1 | 1 | 0 |
| 89 | 57 | 1 | 1 | 1 | 1 | 27 | 1 | 1 | 1 | 1 | 105 | 1 | 1 | 1 | 1 |
| P0 | 16 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 64 | 1 | 1 | 1 | 1 |
| P1 | 24 | 1 | 1 | 1 | 1 | 9 | 1 | 1 | 1 | 1 | 72 | 1 | 1 | 1 | 1 |
| P2 | 20 | 1 | 1 | 1 | 1 | 65 | 1 | 1 | 1 | 1 | 68 | 1 | 1 | 1 | 1 |
| P3 | 28 | 1 | 1 | 1 | 1 | 73 | 1 | 1 | 1 | 1 | 76 | 1 | 1 | 1 | 1 |
| P4 | 18 | 1 | 1 | 1 | 1 | 33 | 1 | 1 | 1 | 1 | 66 | 1 | 1 | 1 | 1 |
| P5 | 26 | 1 | 1 | 1 | 1 | 41 | 1 | 1 | 1 | 1 | 74 | 1 | 1 | 1 | 1 |
| P6 | 32 | 1 | 1 | 1 | 1 | 97 | 1 | 1 | 1 | 1 | 70 | 1 | 1 | 1 | 1 |
| P7 | 30 | 1 | 1 | 1 | 1 | 105 | 1 | 1 | 1 | 1 | 78 | 1 | 1 | 1 | 1 |
| P8 | 17 | 1 | 1 | 1 | 1 | 17 | 1 | 1 | 1 | 1 | 65 | 1 | 1 | 1 | 1 |
| P9 | 25 | 1 | 1 | 1 | 1 | 25 | 1 | 1 | 1 | 1 | 73 | 1 | 1 | 1 | 1 |
| 16TA | 15 | 1 | 0 | 1 | 1 | 120 | 1 | 1 | 0 | 0 | 15 | 0 | 1 | 1 | 0 |

9. ALIGNMENT

9.1 ALIGNMENT OF VCO

Necessary measuring equipment:

Voltmeter and RF probe or RF voltmeter.

Check supply voltage 13.2 V.

Check output from 5V and 10V (9.5V) regulators.

Connect voltmeter to TP3 - VCO - DC (receiverboard).

Select CH88 162.025 MHz VCO 151.325 MHz highest. RX frequency.

Adjust C63 to TP3 = 7.5 volt.

Key the transmitter CH88 157.425 MHz.

Check voltage in TP3 to be 4-6 V.

Select CH6 156.300 MHz VCO 145.600 MHz lowest. RX frequency.

Check voltage in TP3 to be 1.5-2.5 V.

Connect voltmeter with RF probe to output of L18 (RF-input on synthesizer).

Select CH88.

Adjust L16, L18 to max. output - minimum 400 mV RMS.

Check the voltage in TP3 again 7.5 V.

NB: When installing private channels, check that VCO-DC never exceed 1-8 VDC.

9.2 ALIGNMENT OF CHANNEL FREQUENCY

Necessary measuring equipment:

Frequency counter.

50 ohm dummy load.

Connect frequency counter to the dummy load.

Select CH18 and key the transmitter LOW POWER.

Adjust C5 in 6.4 MHz oscillator Synthesizer module (through hole in AF board).

Frequency must be 156.900.0 Mhz \pm 100 Hz.

9.3 ALIGNMENT OF RECEIVER RF AND IF.

Necessary measuring equipment:

Signal generator.

Distortion meter.

Oscilloscope.

Select CH18 161.500 MHz (VCO = 150.800 MHz).

Connect distortion meter across the loudspeaker terminals.

Connect signal generator to the antenna connector and tune it to 161.500.0 MHz modulated with 1 KHz \pm 3 KHz deviation.

Connect oscilloscope to TP1, frequency 455 MHz and sensitivity 0.1 V/cm.

Use a non-loading test probe.

Increase the signal generator output until you see a signal in TP1.

Tune L9, L8, L7, L6, L5, L4, L3, L2 and L1 to max. signal in TP1.

If the signal in TP1 exceeds 500 mV pp, the signal generator output must be reduced.

L5 and L7 are tuned to minimum distortion of the loudspeaker output.

Be sure that the generator still is exactly on the frequency.

L10 is tuned to max. signal in the loudspeaker.

L6 is tuned 1 turn down (clockwise).

The sensitivity at 12 dB SINAD or S/N must be better than 0.4 μ V (0.8 μ V EMF).

Select CH11 156.550 MHz (VCO = 145.850 MHz).

Tune P1 to best sensitivity. At 12 dB SINAD or S/N the sensitivity must be better than 0.4 μ V (0.8 μ V EMF).

9.4 ALIGNMENT OF TX-DRIVER.

Necessary measuring equipment:

Voltmeter and RF probe or a watt-meter.

Connect a 47 ohms resistor or watt-meter to the Tx-driver output and measure the voltage or power.

Select CH18 (156.900 Mhz) and key the transmitter.

Tune L15, C47 and L12 to max. output minimum 3 V/50 ohms - 180 mW.

9.5 ALIGNMENT OF VHF-PA.

Necessary measuring equipment:

VHF power meter.

Connect the power meter to the antenna connector.

Select CH18 (156.900 MHz).

At 10.8 V supply voltage tune C21 and C10 to max. output power.

At 15.0 V supply voltage adjust output power to 25 W with P2 on receiver module.

Output power must be 20W \pm 2W at 12.0 V supply voltage.

Normal drive in MFR 238 gives a transmitcurrent for the total set at 4-4.5 A.

Switch to reduced power.

Output must be 0.5W-1W.

This can be adjusted by changing R89 on AF module.

9.6 ALIGNMENT OF MODULATOR.

Necessary measuring equipment:

Tone generator.

Oscilloscope.

Deviation meter.

50 ohm dummy load.

Select CH18 and key transmitter on LOW POWER.

Connect deviation meter to the dummy load.

Connect tone generator to the microphone terminals.

Input 1 KHz 100 mV pp (35 mV RMS) on the terminal.

Turn P6 in middle position.

Check the compressor function. Signal in TP1 must be 2-5 V.

Adjust P5 to a deviation on \pm 4.5 KHz.

Reduce tone generator input to 3.5 mV RMS on the terminals.

Adjust P6 to a deviation on \pm 3 KHz.

P6 can be readjusted to the actual microphone level.

Check that the max. deviation still is \pm 4.5 KHz when the receiver module is locked in the correct position and the TX-power is on maximum.

9.7 ALIGNMENT OF RECEIVER - AF AND SQ.

Necessary measuring equipment:

Signal generator.

Oscilloscope.

Select CH16 156.800 MHz.

1 KHz mod. \pm 3 KHz dev. 1 mV ant.

Adjust P3 to a telephone level of 600 mVpp.

Disconnect the signal generator.

Set SQ potm. in center position.

Adjust P2 to threshold level.

9.8. ALIGNMENT AND CODING OF SELCALL.

Necessary measuring equipment:

AF generator.

Frequency counter.

RF generator.

Oscilloscope.

Adjust the AF generator using a frequency counter to the first tone in the code.

Connect the AF generator to the modulation input of the RF generator - CH16 deviation ± 1 KHz.

Short circuit pin 15-16 IC1.

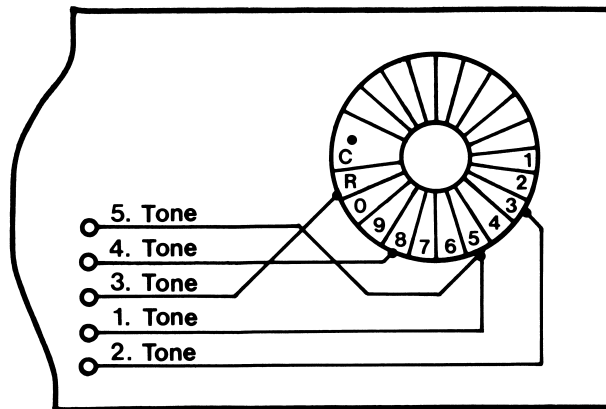
Connect oscilloscope to TP1 and adjust L1 to maximum signal.

Disconnect the short circuit pin 15-16 IC1.

Connect oscilloscope to TP3.

Time of high level 12-15 m sec. determined by R4.

Time of low level 210-290 m sec. determined by R8.



THE CODE ON THE LAYOUT DRAWING IS :

53R85 = 53385

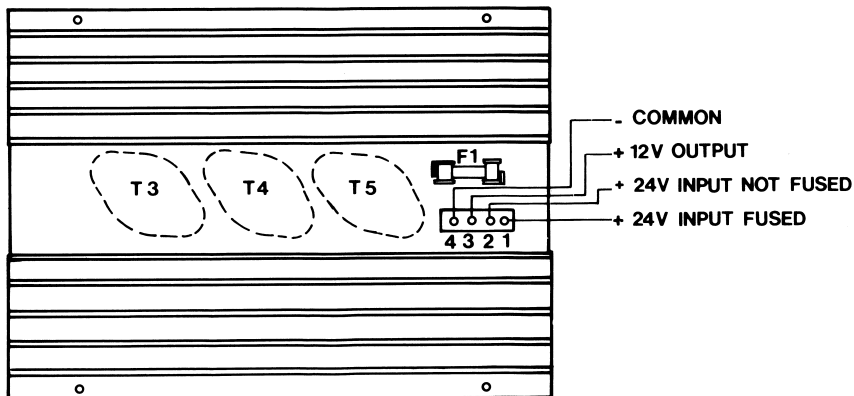
Tone Frequency

| | | | | | |
|---|---------|---|---------|---|---------|
| 1 | 1124 Hz | 4 | 1358 Hz | 8 | 1747 Hz |
| 2 | 1197 Hz | 5 | 1446 Hz | 9 | 1860 Hz |
| 3 | 1275 Hz | 6 | 1540 Hz | 0 | 1981 Hz |
| | | 7 | 1640 Hz | R | 2110 Hz |

10. OPTIONS

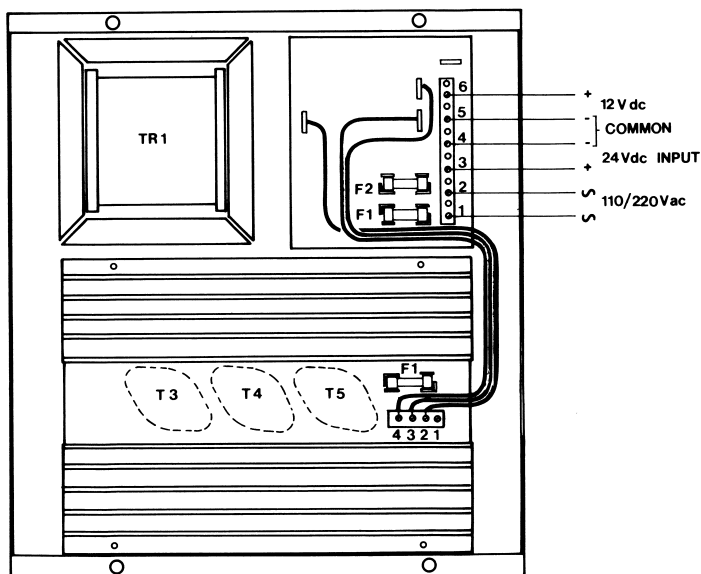
10.1. 24V REGULATOR

RS 24/12V



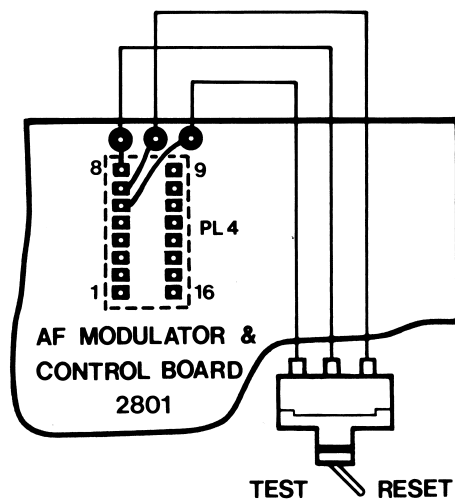
10.2. 220V REGULATOR

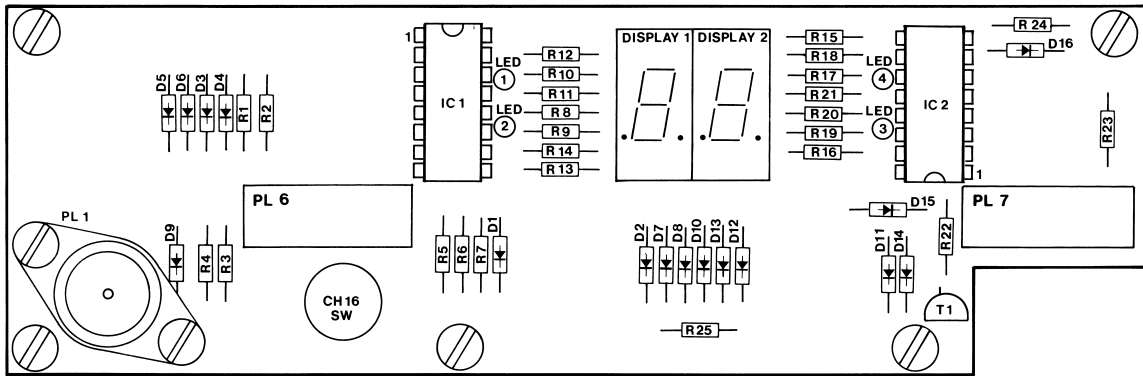
RS 220/12V



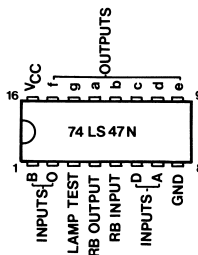
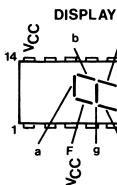
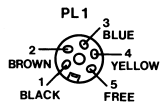
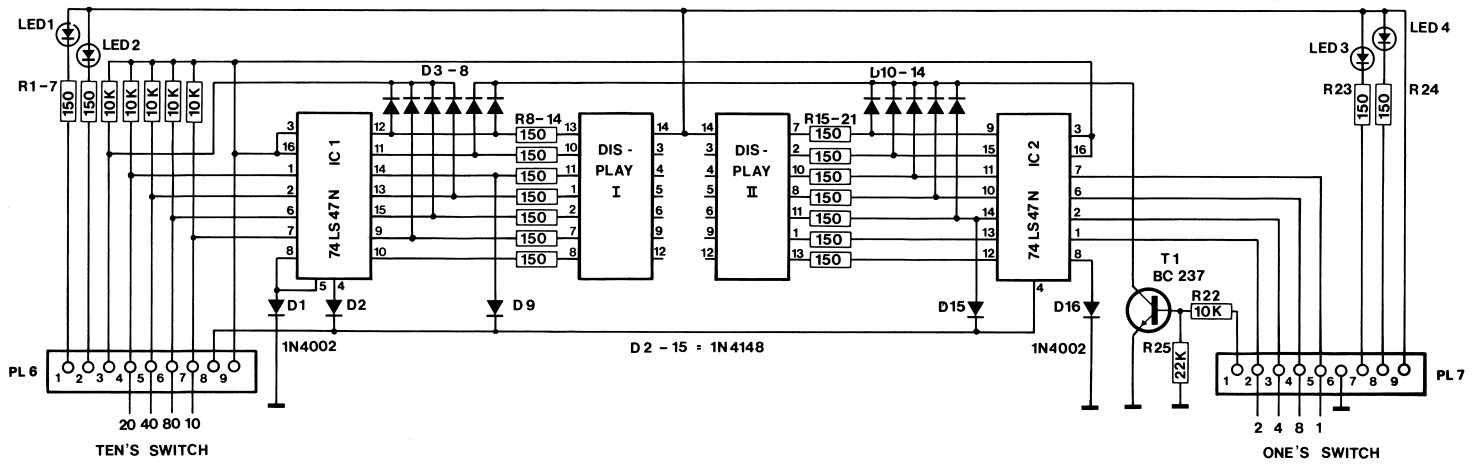
10.3. SELCALL

TEST ON/OFF SWITCH
FOR SELCALL

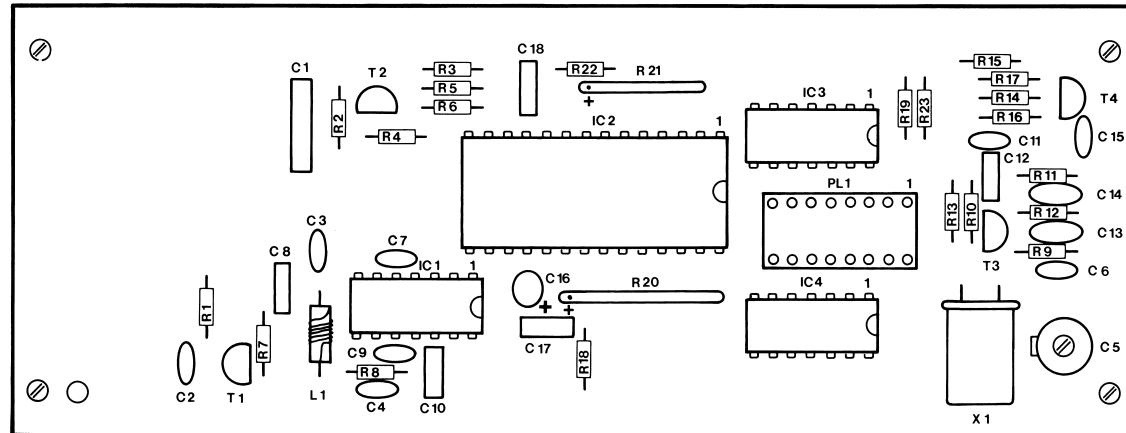




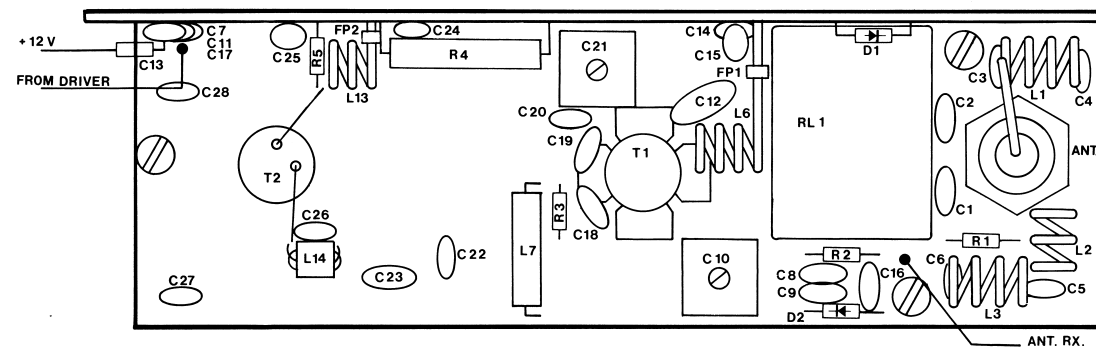
DISPLAY 2805
DRAWING No. 80.2805



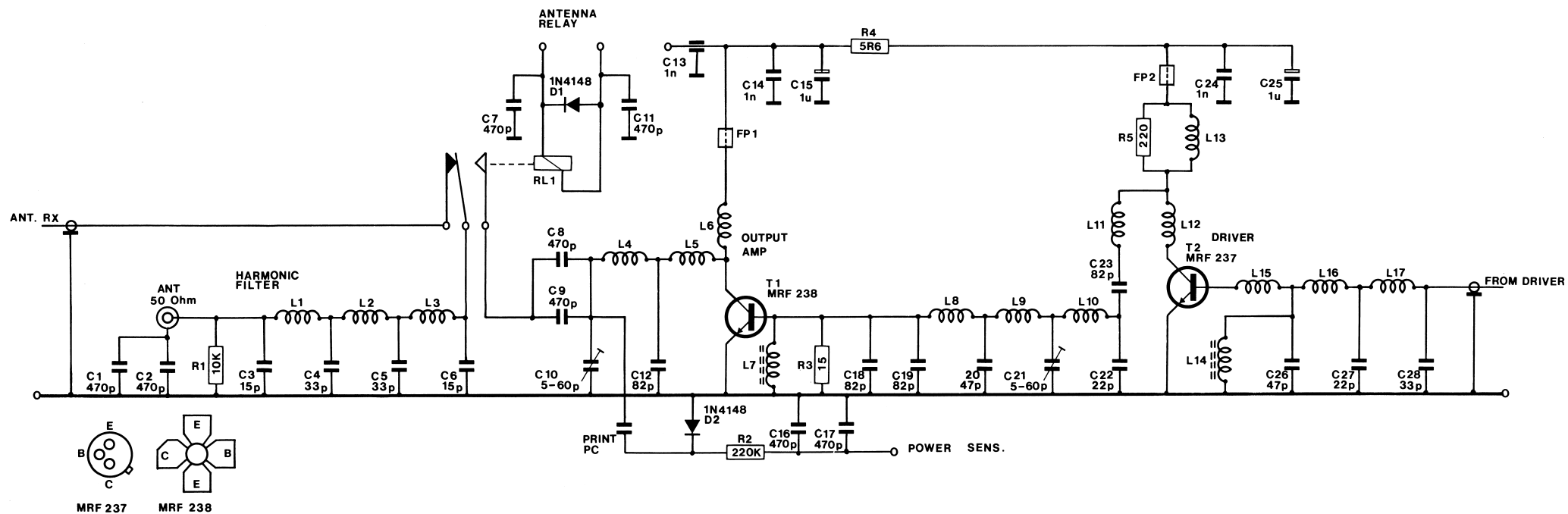
DISPLAY CIRCUIT 2805
DIAGRAM No. 92.7035



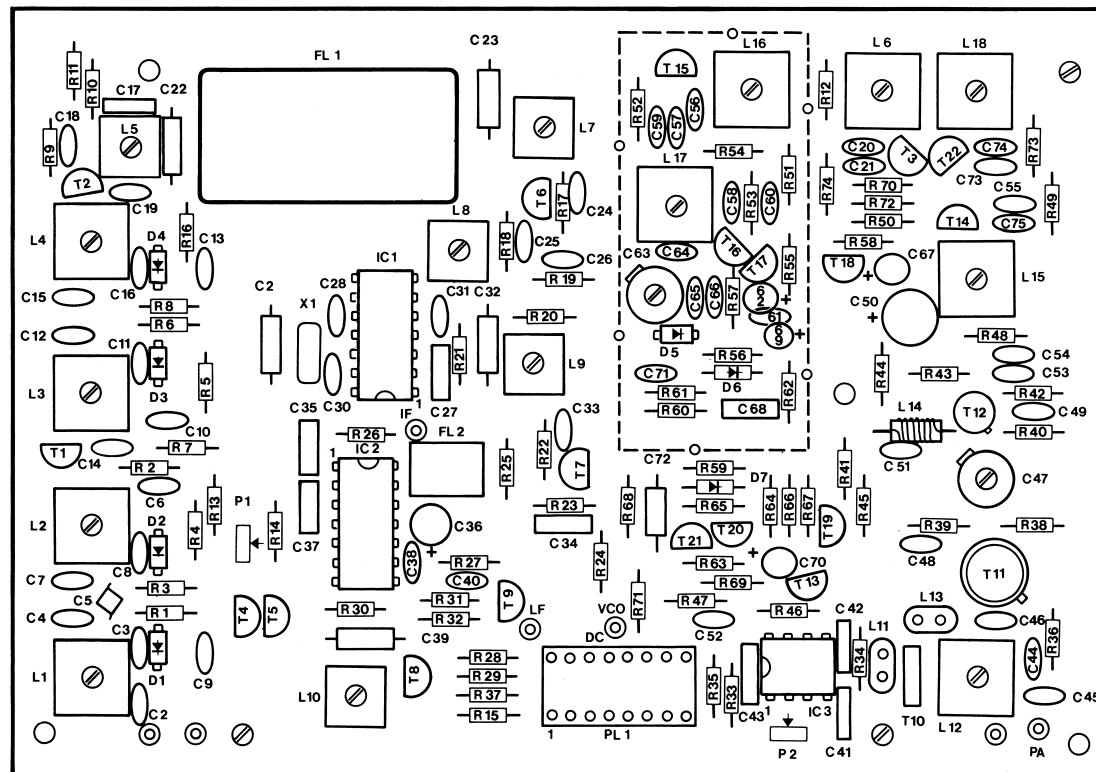
SYNTHESIZER 2787
DRAWING No. 80.2787



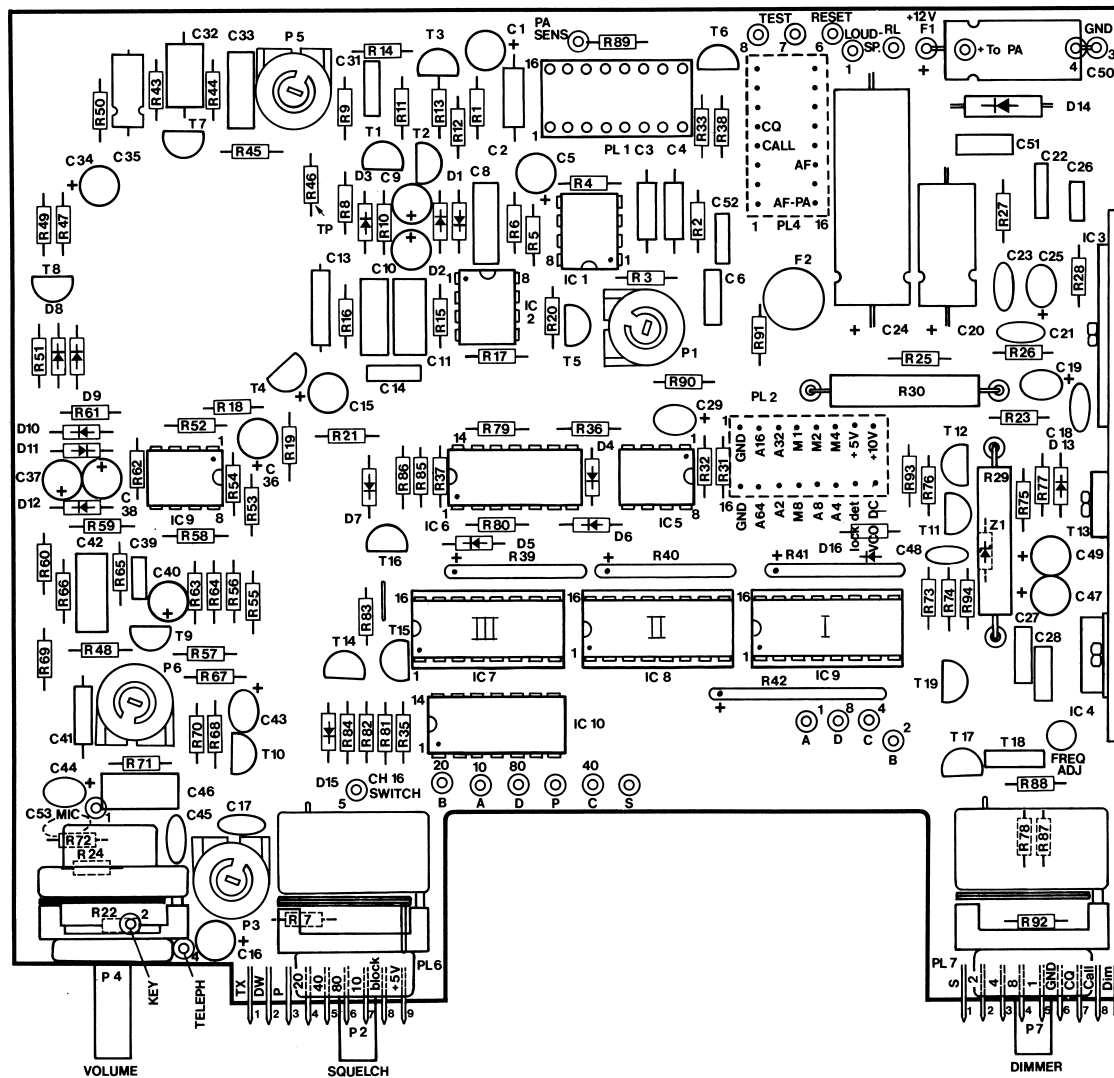
VHF. PA. 2728 & 2729
DRAWING No. 80.2729



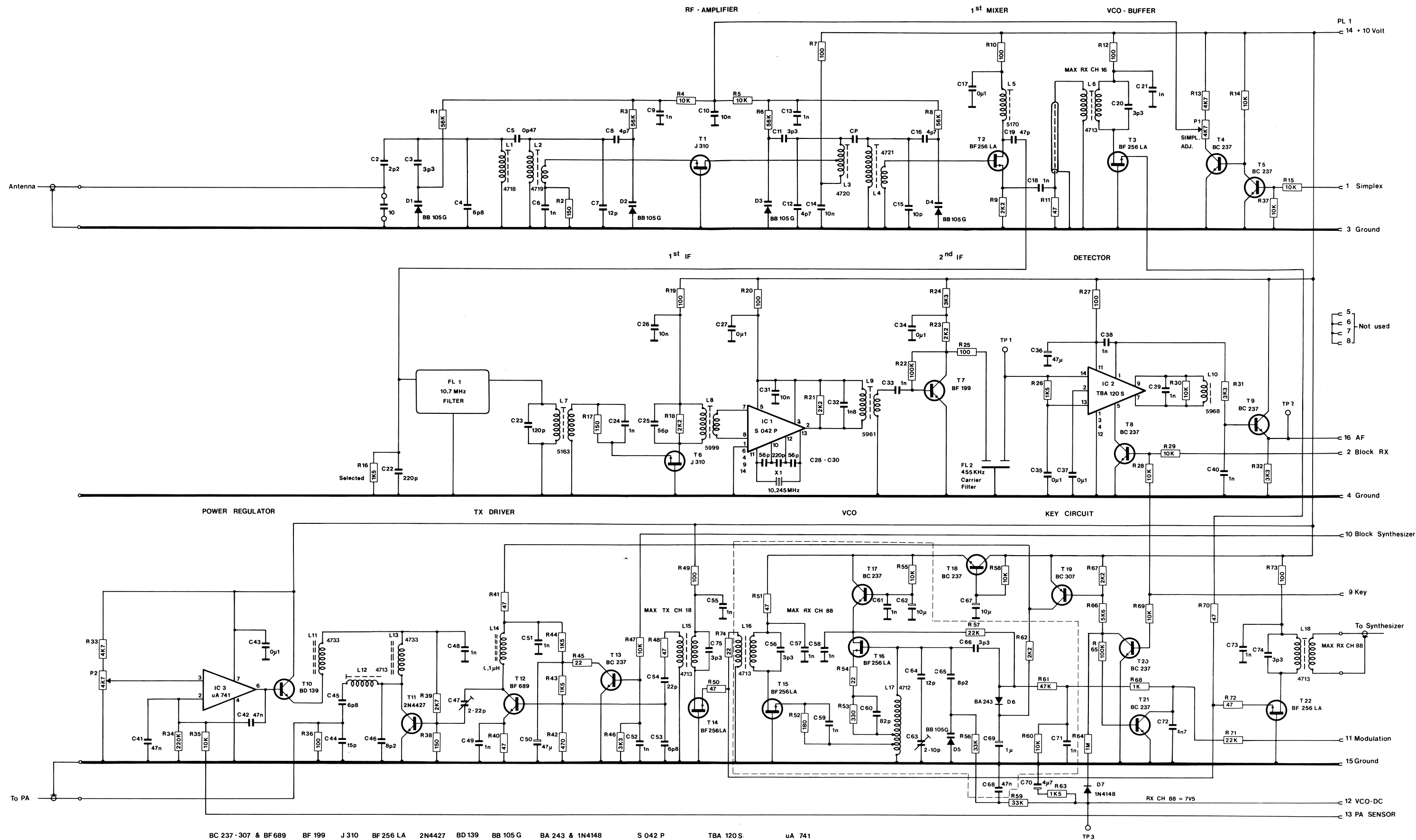
VHF. PA. 2728 & 2729
DIAGRAM No. 92.7032



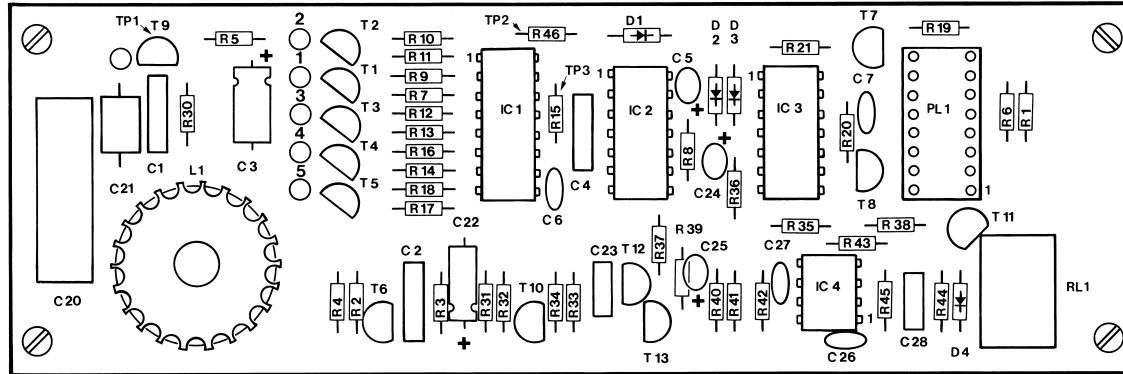
RECEIVER, DRIVER & VCO 2793
DRAWING No. 80.2793



AF MODULATOR & CONTROL BOARD 2801A
DRAWING No. 80.2801A

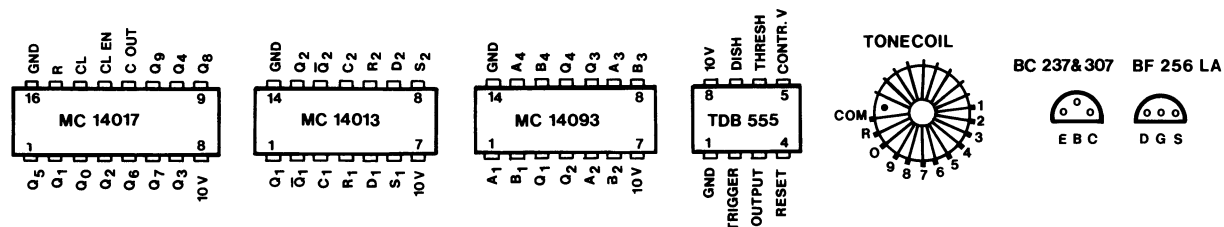
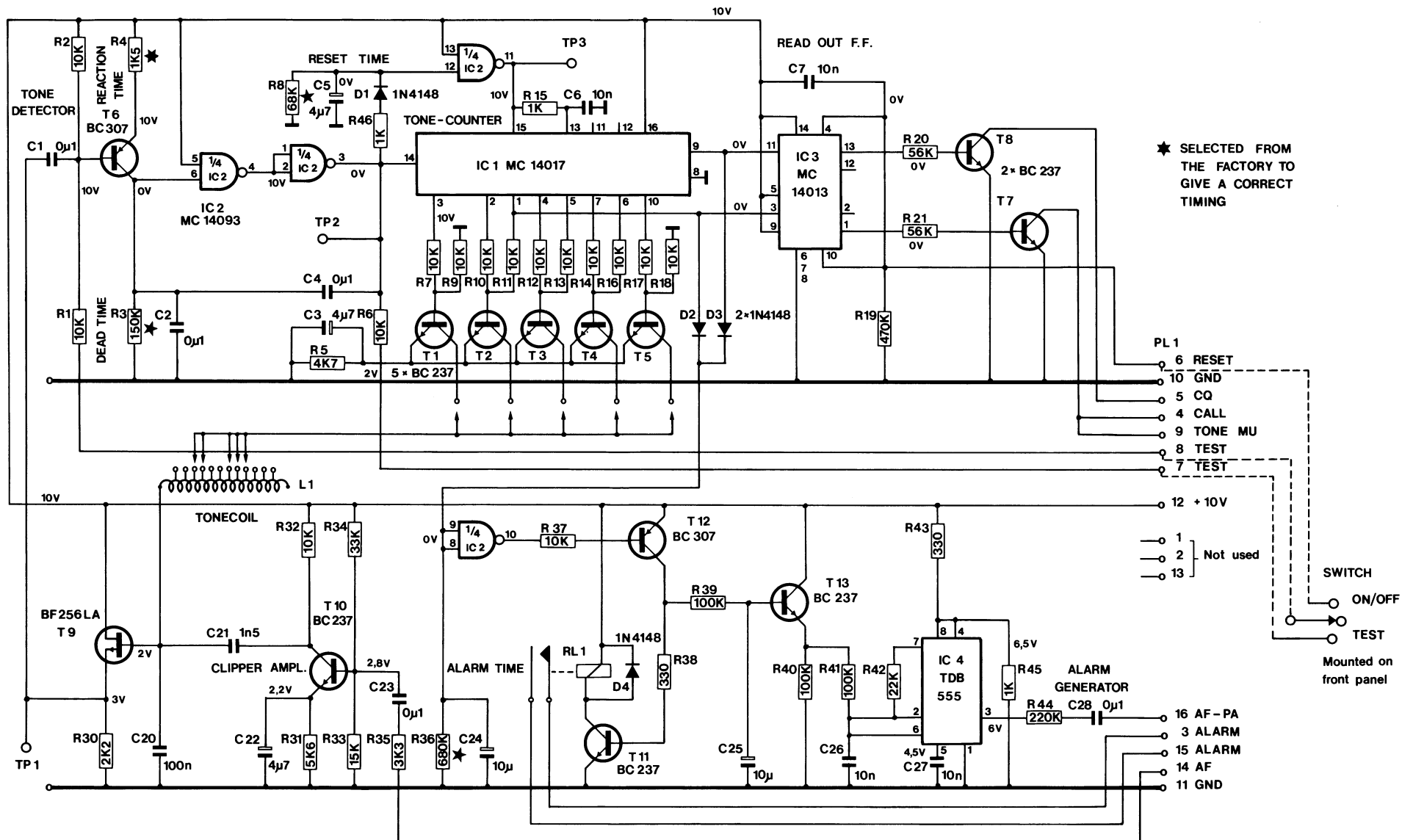


RECEIVER, DRIVER & VCO 2793
 DIAGRAM No. 92.7031

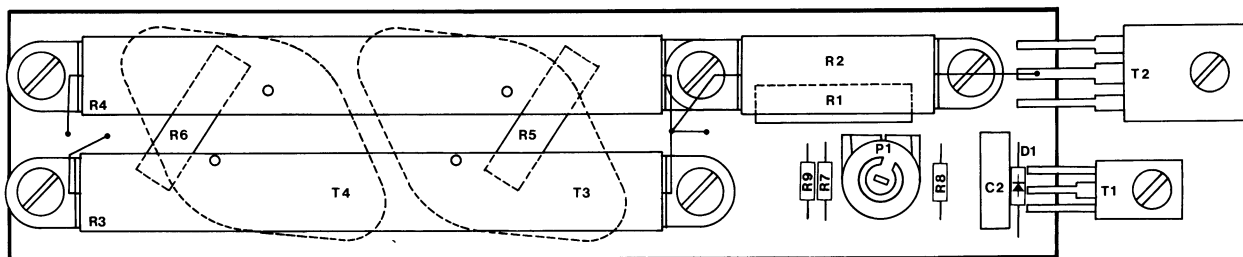


SELCALL 2716A
DRAWING No. 80.2716A

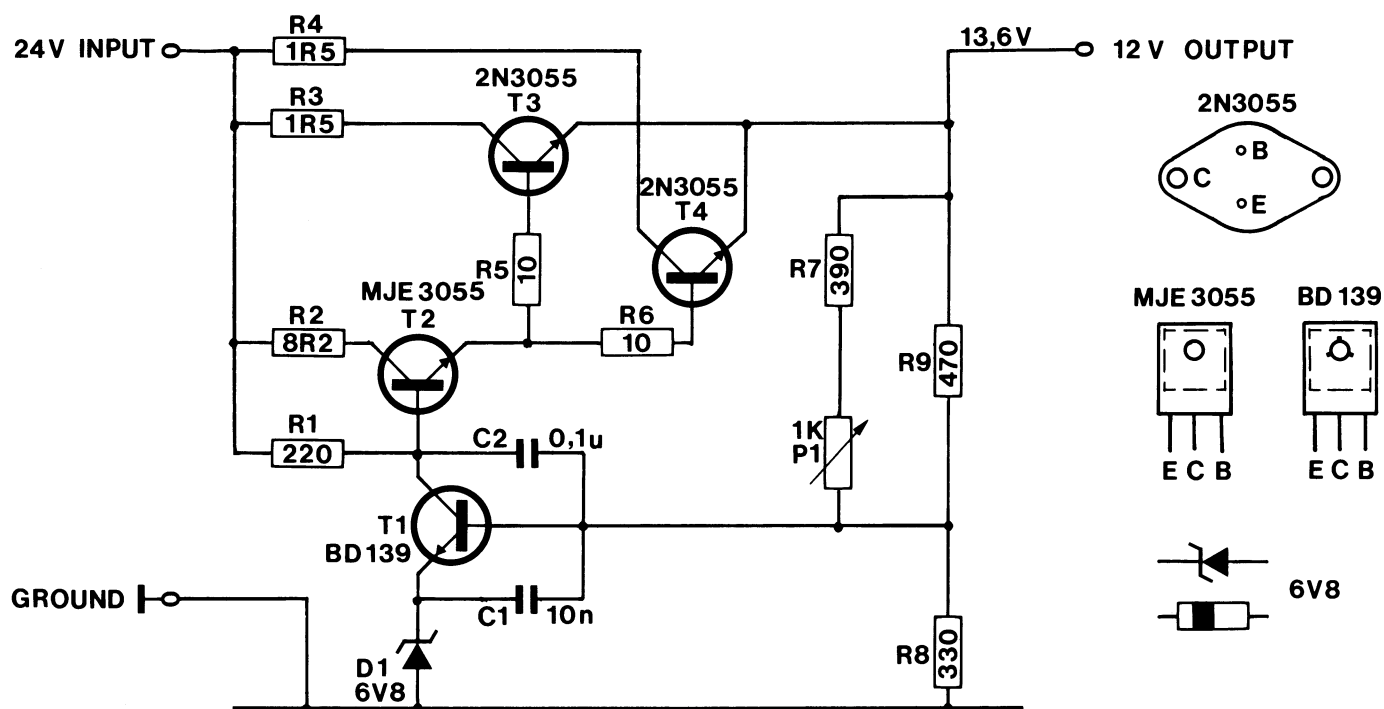


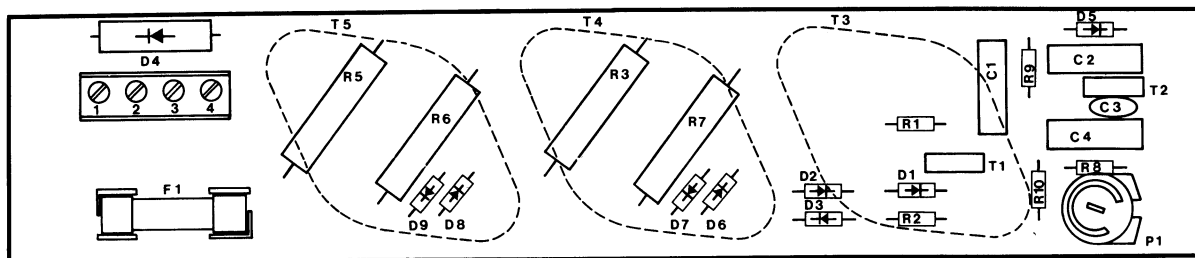


SELCALL 2716 A
 DIAGRAM No. 92.7006A



24V REGULATOR 2708
DRAWING No. 80.2708



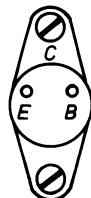


24-12V REGULATOR 2754
DRAWING No. 80.2754

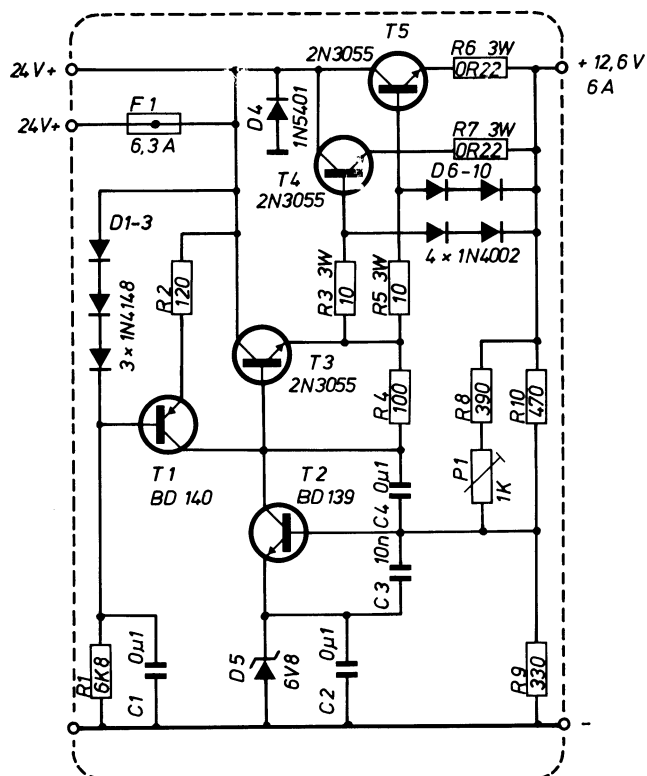
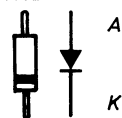
BD 139 & BD 140



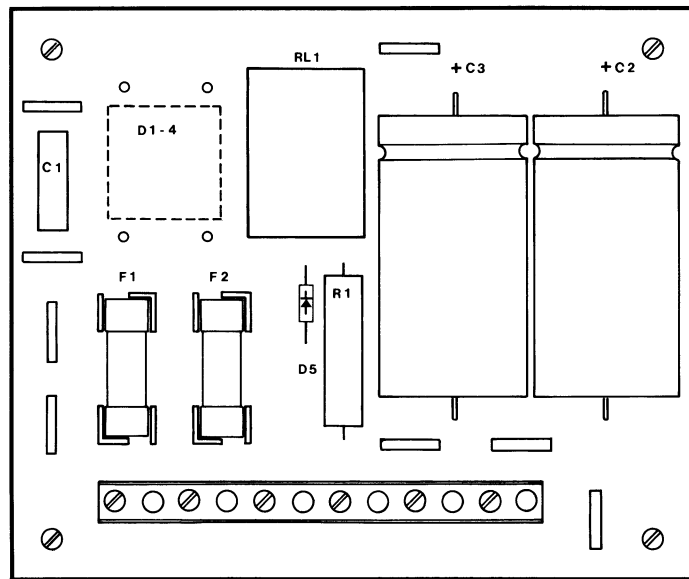
2N3055



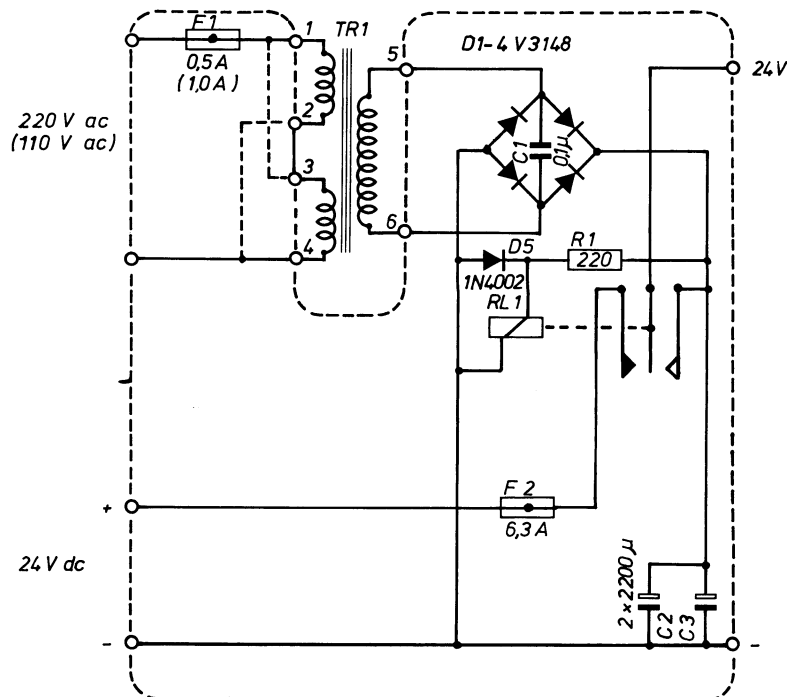
1N4002 & 1N4148



RS 24-12V REGULATOR 2754
DIAGRAM No. 92.7018



220-24V REGULATOR 2755
DRAWING No. 80.2755



RS 220-24V REGULATOR 2755
DIAGRAM No. 92.7017

DISPLAY CCT. 2805

12. PARTS LISTS

| | | | | | | | |
|-------|----------------------|-----------------|----------------|-----------|-----------------|---------|----------|
| R1 | Resistor | 150 ohm Philips | 2322 211 13151 | IC1 | Integrated cct. | Texas | 74LS 47N |
| R2 | Resistor | 150 ohm Philips | 2322 211 14151 | IC2 | Integrated cct. | Texas | 72LS 47N |
| R3 | Resistor | 10 Kohm Philips | 2322 211 13103 | | | | |
| R4 | Resistor | 10 Kohm Philips | 2322 211 13103 | | | | |
| R5 | Resistor | 10 Kohm Philips | 2322 211 13103 | Display 1 | | Philips | CQY 81 |
| R6 | Resistor | 10 Kohm Philips | 2322 211 13103 | Display 1 | | Philips | CQY 81 |
| R7 | Resistor | 10 Kohm Philips | 2322 211 13103 | | | | |
| R8 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R9 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R10 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R11 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R12 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R13 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R14 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R15 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R16 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R17 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R18 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R19 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R20 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R21 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R22 | Resistor | 10 Kohm Philips | 2322 211 13103 | | | | |
| R23 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R24 | Resistor | 150 ohm Philips | 2322 211 13151 | | | | |
| R25 | Resistor | 22 Kohm Philips | 2322 211 13223 | | | | |
| D1 | Diode | Siemens | 1N4002 | | | | |
| D2-15 | Diode | Siemens | 1N4148 | | | | |
| D16 | Diode | Siemens | 1N4002 | | | | |
| LED 1 | Light emitting diode | Litronic | RC 209 | | | | |
| LED 2 | Light emitting diode | Litronic | RC 209 | | | | |
| LED 3 | Light emitting diode | Litronic | RC 209 | | | | |
| LED 4 | Light emitting diode | litronic | RC 209 | | | | |
| T1 | Transistor | Siemens | BC 237 | | | | |

SYNTHESIZER 2787

| | | | | | | | | |
|-----|-----------------|------------------|-----------------|-----|-----------------|----------|-----------|-----------------|
| R1 | Resistor | 180 ohm Philips | 2322 211 13181 | C15 | Capacitor cer. | 22p | Ferroperm | 9/0116,9 |
| R2 | Resistor | 1 Kohm Philips | 2322 211 13102 | C16 | Capacitor tan. | 10uF | ITT | 399E106M0 168C |
| R3 | Resistor | 10 ohm Philips | 2322 211 13109 | C17 | Capacitor sieb. | 100n | Siemens | B37449 F6104 S2 |
| R4 | Resistor | 220 ohm Philips | 2322 211 13221 | C18 | Capacitor sieb. | 100n | Siemens | B37449 F6104 S2 |
| R5 | Resistor | 1 Kohm Philips | 2322 211 13102 | | | | | |
| R6 | Resistor | 4,7 Kohm Philips | 2322 211 13472 | | | | | |
| R7 | Resistor | 330 ohm Philips | 2322 211 13331 | T1 | Transistor | Motorola | | J 310 |
| R8 | Resistor | 100 ohm Philips | 2322 211 13101 | T2 | Transistor | Siemens | | BF 199 |
| R9 | Resistor | 47 Kohm Philips | 2322 211 13473 | T3 | Transistor | Siemens | | BF 199 |
| R10 | Resistor | 33 Kohm Philips | 2322 211 13333 | T4 | Transistor | Siemens | | BC 237 |
| R11 | Resistor | 1,5 Kohm Philips | 2322 211 13152 | | | | | |
| R12 | Resistor | 10 ohm Philips | 2322 211 13109 | | | | | |
| R13 | Resistor | 100 ohm Philips | 2322 211 13101 | IC1 | Integrated cct. | Siemens | | S 89 |
| R14 | Resistor | 4,7 Kohm Philips | 2322 211 13472 | IC2 | Integrated cct. | Siemens | | S 187 B |
| R15 | Resistor | 33 Kohm Philips | 2322 211 13333 | IC3 | Integrated cct. | Siemens | | 7407 |
| R16 | Resistor | 220 ohm Philips | 2322 211 13221 | IC4 | Integrated cct. | Siemens | | 7407 |
| R17 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | | | | | |
| R18 | Resistor | 10 ohm Philips | 2322 211 13109 | | | | | |
| R19 | Resistor | 10 Kohm Philips | 2322 211 13103 | L1 | Coil | R&S | | |
| R20 | Resistor | 10 Kohm Rohm | RM8 103J | | | | | |
| R21 | Resistor | 10 Kohm Rohm | RM6 103J | | | | | |
| C1 | Capasitor poly. | 0,1u Philips | 2222 344 21104 | | | | | |
| C2 | Capacitor cer. | 1n Draloric | EDRU 5 | | | | | |
| C3 | Capacitor cer. | 1n Draloric | EDRU 5 | | | | | |
| C4 | Capacitor cer. | 1n Draloric | EDRU 5 | | | | | |
| C5 | Capacitor trim. | 2-22p Philips | 2222 808 11229 | | | | | |
| C6 | Capacitor cer. | 33p Ferroperm | 9/0121,8 | | | | | |
| C7 | Capacitor cer. | 1n Draloric | EDRU 5 | | | | | |
| C8 | Capacitor sieb. | 100n Siemens | B37449 F6104 S2 | | | | | |
| C9 | Capacitor cer. | 1n Draloric | EDRU 5 | | | | | |
| C10 | Capacitor sieb. | 100n Siemens | B37449 F6104 S2 | | | | | |
| C11 | Capacitor cer. | 1n Draloric | EDRU 5 | | | | | |
| C12 | Capacitor sieb. | 100n Siemens | B37449 F6104 S2 | | | | | |
| C13 | Capacitor cer. | 150n Ferroperm | 9/0121,8 | | | | | |
| C14 | Capacitor cer. | 150n Ferroperm | 9/0121,8 | | | | | |

VHF PA 2728 & 29

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|-----|------------------------|---------------------|----------------|-----|----------------|-----------------|-------------------|
| R1 | Resistor | 10 Kohm Philips | 2322 211 13103 | T1 | Transistor | Motorola | MRF 238 |
| R2 | Resistor | 220 Kohm Philips | 2322 211 13224 | T2 | Transistor | Motorola | MRF 237 |
| R3 | Resistor | 15 ohm Philips | 2322 211 13159 | | | | |
| R4 | Resistor | 5,6 ohm Radio Parts | 145130 | | | | |
| R5 | Resistor | 220 ohm Philips | 2322 211 13221 | RL1 | Relay | Siemens | V23027 A0002 A101 |
| C1 | Capacitor cer. | 470p | 9/0129,9 | L1 | Coil | R&S | |
| C2 | Capacitor cer. | 470p | 9/0129,9 | L2 | Coil | R&S | |
| C3 | Capacitor cer. | 15p | 9/0116,9 | L3 | Coil | R&S | |
| C4 | Capacitor cer. | 33p | 9/0115,9 | L4 | Coil Stripline | | |
| C5 | Capacitor cer. | 33p | 9/0116,8 | L5 | Coil Stripline | | |
| C6 | Capacitor cer. | 15p | 9/0116,9 | L6 | Coil | R&S | |
| C7 | Capacitor cer. | 470p | 9/0129,9 | L7 | Coil | 2,2uH Ferroperm | 1583 |
| C8 | Capacitor cer. | 470p | 9/0129,9 | L8 | Coil Stripline | | |
| C9 | Capacitor cer. | 470p | 9/0129,9 | L9 | Coil Stripline | | |
| C10 | Capacitor trim. | 5-60p | 2222 809 08003 | L10 | Coil Stripline | | |
| C11 | Capacitor cer. | 470p | 9/0129,9 | L11 | Coil Stripline | | |
| C12 | Capacitor cer. | 82p | 9/0121,9 | L12 | Coil Stripline | | |
| C13 | Capacitor feed through | In | 9/0138,58 | L13 | Coil | R&S | |
| C14 | Capacitor cer. | In | EDRU 5 | L14 | Coil | R&S | |
| C15 | Capacitor tan. | 4,7u | TAG 4R7M25 SP | L15 | Coil Stripline | | |
| C16 | Capacitor cer. | 470p | 9/0129,9 | L16 | Coil Stripline | | |
| C17 | Capacitor cer. | 470p | 9/0129,9 | | | | |
| C18 | Capacitor cer. | 82p | 9/0121,9 | | | | |
| C19 | Capacitor cer. | 82p | 9/0121,9 | | | | |
| C20 | Capacitor cer. | 82p | 9/0121,9 | | | | |
| C21 | Capacitor trim. | 5-60p | 2222 809 08003 | | | | |
| C22 | Capacitor cer. | 22p | 9/0116,9 | | | | |
| C23 | Capacitor cer. | 82p | 9/0121,9 | | | | |
| C24 | Capacitor cer. | In | EDRU 5 | | | | |
| C25 | Capacitor tan. | 4,7u | TAG 4R7M25 SP | | | | |
| C26 | Capacitor cer. | 47p | 9/0116,8 | | | | |
| C27 | Capacitor cer. | 22p | 9/0116,9 | | | | |
| C28 | Capacitor cer. | 33p | 9/0116,8 | | | | |

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|----|-------|-----|--------|
| D1 | Diode | ITT | IN4148 |
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RECEIVER, DRIVER & VCO 2793

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|-----|------------------------|------------------|----------------|-----|----------|------------------|----------------|
| R1 | Resistor | 56 Kohm Philips | 2322 211 13563 | R38 | Resistor | 150 ohm Philips | 2322 211 13151 |
| R2 | Resistor | 150 ohm Philips | 2322 211 13151 | R39 | Resistor | 2,7 Kohm Philips | 2322 211 13272 |
| R3 | Resistor | 56 Kohm Philips | 2322 211 13563 | R40 | Resistor | 47 ohm Philips | 2322 211 13479 |
| R4 | Resistor | 10 Kohm Philips | 2322 211 13103 | R41 | Resistor | 47 ohm Philips | 2322 211 13479 |
| R5 | Resistor | 10 Kohm Philips | 2322 211 13103 | R42 | Resistor | 470 ohm Philips | 2322 211 13471 |
| R6 | Resistor | 56 Kohm Philips | 2322 211 13563 | R43 | Resistor | 1,5 Kohm Philips | 2322 211 13152 |
| R7 | Resistor | 100 ohm Philips | 2322 211 13101 | R44 | Resistor | 1,5 Kohm Philips | 2322 211 13152 |
| R8 | Resistor | 56 Kohm Philips | 2322 211 13563 | R45 | Resistor | 22 ohm Philips | 2322 211 13229 |
| R9 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R46 | Resistor | 3,3 ohm Philips | 2322 211 13332 |
| R10 | Resistor | 100 ohm Philips | 2322 211 13101 | R47 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R11 | Resistor | 47 ohm Philips | 2322 211 13479 | R48 | Resistor | 47 ohm Philips | 2322 211 13479 |
| R12 | Resistor | 100 ohm Philips | 2322 211 13101 | R49 | Resistor | 100 ohm Philips | 2322 211 13101 |
| R13 | Resistor | 4,7 Kohm Philips | 2322 211 13472 | R50 | Resistor | 47 ohm Philips | 2322 211 13479 |
| R14 | Resistor | 10 Kohm Philips | 2322 211 13103 | R51 | Resistor | 47 ohm Philips | 2322 211 13479 |
| R15 | Resistor | 10 Kohm Philips | 2322 211 13103 | R52 | Resistor | 180 ohm Philips | 2322 211 13181 |
| R16 | Selected in final test | | 2322 211 13103 | R53 | Resistor | 330 ohm Philips | 2322 211 13331 |
| R17 | Resistor | 150 ohm Philips | 2322 211 13151 | R54 | Resistor | 22 Kohm Philips | 2322 211 13229 |
| R18 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R55 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R19 | Resistor | 100 ohm Philips | 2322 211 13101 | R56 | Resistor | 33 Kohm Philips | 2322 211 13333 |
| R20 | Resistor | 100 ohm Philips | 2322 211 13101 | R57 | Resistor | 22 Kohm Philips | 2322 211 13223 |
| R21 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R58 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R22 | Resistor | 100 Kohm Philips | 2322 211 13104 | R59 | Resistor | 33 Kohm Philips | 2322 211 13333 |
| R23 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R60 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R24 | Resistor | 3,3 Kohm Philips | 2322 211 13332 | R61 | Resistor | 47 Kohm Philips | 2322 211 13473 |
| R25 | Resistor | 100 ohm Philips | 2322 211 13101 | R62 | Resistor | 2,2 Kohm Philips | 2322 211 13222 |
| R26 | Resistor | 1,5 Kohm Philips | 2322 211 13152 | R63 | Resistor | 1,5 Kohm Philips | 2322 211 13152 |
| R27 | Resistor | 100 ohm Philips | 2322 211 13101 | R64 | Resistor | 1 Mohm Philips | 2322 211 13118 |
| R28 | Resistor | 10 Kohm Philips | 2322 211 13103 | R65 | Resistor | 100 Kohm Philips | 2322 211 13104 |
| R29 | Resistor | 10 Kohm Philips | 2322 211 13103 | R66 | Resistor | 5,6 Kohm Philips | 2322 211 13562 |
| R30 | Resistor | 10 Kohm Philips | 2322 211 13103 | R67 | Resistor | 2,2 Kohm Philips | 2322 211 13222 |
| R31 | Resistor | 3,3 Kohm Philips | 2322 211 13332 | R68 | Resistor | 1 Kohm Philips | 2322 211 13102 |
| R32 | Resistor | 3,3 Kohm Philips | 2322 211 13332 | R69 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R33 | Resistor | 4,7 Kohm Philips | 2322 211 13472 | R70 | Resistor | 47 ohm Philips | 2322 211 13479 |
| R34 | Resistor | 220 Kohm Philips | 2322 211 13224 | R71 | Resistor | 22 Kohm Philips | 2322 211 13223 |
| R35 | Resistor | 10 Kohm Philips | 2322 211 13103 | R72 | Resistor | 47 ohm Philips | 2322 211 13479 |
| R36 | Resistor | 100 ohm Philips | 2322 211 13101 | R73 | Resistor | 100 ohm Philips | 2322 211 13101 |
| R37 | Resistor | 10 Kohm Philips | 2322 211 13103 | R74 | Resistor | 22 ohm Philips | 2322 211 13229 |

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|-----|---------------------|----------|-----------|------------------|-----|------------------|-------|-----------|-------------------|
| P1 | Potentiometer trim. | 4,7 Kohm | Philips | 2322 410 05056 | C35 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 |
| P2 | Potentiometer trim. | 4,7 Kohm | Philips | 2322 410 05056 | C36 | Capacitor ellyt. | 47u | ITT | 45 42 00 130 |
| | | | | | C37 | Capacitor sieb. | 0,1u | Siemens | 1337 449 F6104 S2 |
| C2 | Capacitor cer. | 2,2p | Ferroperm | 9/0116,9 | C38 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C3 | Capacitor cer. | 4,7p | Ferroperm | 9/0116,9 | C39 | Capacitor sty. | 1n | Philips | 2222 426 41002 |
| C4 | Capacitor cer. | 6,8p | Ferroperm | 9/0116,9 | C40 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C5 | Capacitor cer. | 0,47p | Ferroperm | 9/0110,9 | C41 | Capacitor sieb. | 47n | Siemens | B37 449 F6473 S2 |
| C6 | Capacitor cer. | 1n | Draloric | EDRU 5 | C42 | Capacitor sieb. | 47n | Siemens | B37 449 F6473 S2 |
| C7 | Capacitor cer. | 12p | Ferroperm | 9/0116,9 | C43 | Capacitor sieb. | 0,10 | Siemens | B37 449 F6104 S2 |
| C8 | Capacitor cer. | 4,7p | Ferroperm | 9/116,9 | C44 | Capacitor cer. | 15p | Ferroperm | 9/0116,9 |
| C9 | Capacitor cer. | 1n | Draloric | EDRU 5 | C45 | Capacitor cer. | 6,8p | Ferroperm | 9/0116,9 |
| C10 | Capacitor cer. | 10n | Draloric | EDRU 5 | C46 | Capacitor cer. | 8,2p | Ferroperm | 9/0116,9 |
| C11 | Capacitor cer. | 3,3p | Ferroperm | 9/0116,9 | C47 | Capacitor trim. | 2-22p | Philips | 2222 808 11229 |
| C12 | Capacitor cer. | 4,7p | Ferroperm | 9/0116,9 | C48 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C13 | Capacitor cer. | 1n | Draloric | EDRU 5 | C49 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C14 | Capacitor cer. | 10n | Draloric | EDRU 5 | C50 | Capacitor ellyt. | 47u | ITT | 454200130 |
| C15 | Capacitor cer. | 10p | Ferroperm | 9/0116,9 | C51 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C16 | Capacitor cer. | 4,7p | Ferroperm | 9/0116,9 | C52 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C17 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 | C53 | Capacitor cer. | 6,8p | Ferroperm | 9/0116,9 |
| C18 | Capacitor cer. | 1n | Draloric | EDRU 5 | C54 | Capacitor cer. | 22p | Ferroperm | 9/0116,9 |
| C19 | Capacitor cer. | 47p | Ferroperm | 9/0116,8 | C55 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C20 | Capacitor cer. | 3,3p | Ferroperm | 9/0116,9 | C56 | Capacitor cer. | 3,3p | Ferroperm | 9/0116,9 |
| C21 | Capacitor cer. | 1n | Draloric | EDRU 5 | C57 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C22 | Capacitor sty. | 220p | Philips | 2222 427 42201 | C58 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C23 | Capacitor sty. | 120p | Philips | 2222 427 41201 | C59 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C24 | Capacitor cer. | 1n | Draloric | EDRU 5 | C60 | Capacitor cer. | 82p | Draloric | EDRU 5 |
| C25 | Capacitor cer. | 56p | Ferroperm | 9/0116,8 | C61 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| C26 | Capacitor cer. | 10n | Draloric | EDRU 5 | C62 | Capacitor tan. | 10u | ITT | TAG 10M25 SP |
| C27 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 | C63 | Capacitor trim. | 2-10p | Philips | 2222 808 11109 |
| C28 | Capacitor cer. | 56p | Ferroperm | 9/0116,8 | C64 | Capacitor cer. | 12p | Ferroperm | 9/0116,9 |
| C29 | Capacitor sty. | 220 | Philips | 2222 427 42201 | C65 | Capacitor cer. | 8,2p | Ferroperm | 9/0116,9 |
| C30 | Capacitor cer. | 65p | Ferroperm | 9/0116,8 | C66 | Capacitor cer. | 3,3p | Ferroperm | 9/0116,9 |
| C31 | Capacitor cer. | 10n | Draloric | EDRU 5 | C67 | Capacitor tan. | 10u | ITT | TAG 10M25 SP |
| C32 | Capacitor sty. | 1,8n | Draloric | 2222 425 41802 | C68 | Capacitor sieb. | 47n | Siemens | B37 449 F6473 S2 |
| C33 | Capacitor cer. | 1n | Draloric | EDRU 5 | C69 | Capacitor tan. | 1u | ITT | TAG IRO35 SP |
| C34 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 | C70 | Capacitor tan. | 4,7u | Kemet | T399C475M0168C |
| | | | | | C71 | Capacitor cer. | 1n | Draloric | EDRU 5 |

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|-----|----------------|------|-----------|----------------|-----|-----------------|-----------|-------------|
| C72 | Capacitor sty. | 4,7n | Philips | 2222 425 44702 | IC1 | Integrated cct. | Siemens | So42 P |
| C73 | Capacitor cer. | 1n | Draloric | EDRU 5 | IC2 | Integrated cct. | Siemens | TBA 120 S |
| C74 | Capacitor cer. | 3,3p | Ferroperm | 9/0116,9 | IC3 | Integrated cct. | Siemens | ua 741 |
| C75 | Capacitor cer. | 3,3p | Ferroperm | 9/0116,9 | | | | |
| D1 | Diode | | Siemens | BB 105 G | X1 | Crystal | R&S | 10,245 MHz |
| D2 | Diode | | Siemens | BB 105 G | | | | |
| D3 | Diode | | Siemens | BB 105 G | FL1 | Crystal-filter | R&S | 10,700 MHz |
| D4 | Diode | | Siemens | BB 105 G | | | | |
| D5 | Diode | | Siemens | BB 105 G | L1 | Coil | R&S | 4718 |
| D6 | Diode | | Siemens | BA 243 | L2 | Coil | R&S | 4720 |
| D7 | Diode | | Siemens | 1N4148 | L3 | Coil | R&S | 4720 |
| | | | | | L4 | Coil | R&S | 4721 |
| | | | | | L5 | Coil | NEOSID | 5170 |
| T1 | Transistor | | Siemens | J 310 | L6 | Coil | R&S | 4713 |
| T2 | Transistor | | Texas | BF 256 LA | L7 | Coil | NEOSID | 5163 |
| T3 | Transistor | | Texas | BF 256 LA | L8 | Coil | NEOSID | 5999 |
| T4 | Transistor | | Siemens | BC 237 | L9 | Coil | NEOSID | 5961 |
| T5 | Transistor | | Siemens | BC 237 | L10 | Coil | NEOSID | 5968 |
| T6 | Transistor | | Siemens | J 310 | L11 | Coil | R&S | 4733 |
| T7 | Transistor | | Siemens | BF 199 | L12 | Coil | R&S | 4713 |
| T8 | Transistor | | Siemens | BF 237 | L13 | Coil | R&S | 4733 |
| T9 | Transistor | | Siemens | BC 237 | L14 | Coil, drossel | Ferroperm | o, 1uH 1588 |
| T10 | Transistor | | Siemens | BD 139 | L15 | Coil | R&S | 4713 |
| T11 | Transistor | | Mototola | 2N4427 | L16 | Coil | R&S | 4713 |
| T12 | Transistor | | Siemens | BF 689 | L17 | Coil | R&S | 4712 |
| T13 | Transistor | | Siemens | BC 237 | L18 | Coil | R&S | 4713 |
| T14 | Transistor | | Texas | BF 256 LA | | | | |
| T15 | Transistor | | Texas | BF 256 LA | | | | |
| T16 | Transistor | | Texas | BF 256 LA | | | | |
| T17 | Transistor | | Siemens | BC 237 | | | | |
| T18 | Transistor | | Siemens | BC 237 | | | | |
| T19 | Transistor | | Siemens | BC 307 | | | | |
| T20 | Transistor | | Siemens | BC 237 | | | | |
| T21 | Transistor | | Siemens | BC 237 | | | | |
| T22 | Transistor | | Texas | BF 256 LA | | | | |

AF MODULATOR & CONTROL BOARD 2801

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|-----|----------|---------------------|----------------|-----|----------|------------------|----------------|
| R1 | Resistor | 4,7 Kohm Philips | 2322 211 13472 | R38 | Resistor | 2,2 ohm Philips | 2322 211 13228 |
| R2 | Resistor | 5,6 Kohm Philips | 2322 211 13562 | R39 | Resistor | 10 Kohm Rohm | RM6 103 J |
| R3 | Resistor | 82 Kohm Philips | 2322 211 13823 | R40 | Resistor | 10 Kohm Rohm | RM6 103 J |
| R4 | Resistor | 10 Kohm Philips | 2322 211 13103 | R41 | Resistor | 10 Kohm Rohm | RM6 103 J |
| R5 | Resistor | 10 Kohm Philips | 2322 211 13103 | R42 | Resistor | 10 Kohm Rohm | RM8 103 J |
| R6 | Resistor | 33 Kohm Philips | 2322 211 13333 | R43 | Resistor | 22 ohm Philips | 2322 211 13229 |
| R7 | Resistor | 1,5 Kohm Philips | 2322 211 13152 | R44 | Resistor | 100 ohm Philips | 2322 211 13101 |
| R8 | Resistor | 100 Kohm Philips | 2322 211 13104 | R45 | Resistor | 12 Kohm Philips | 2322 211 13123 |
| R9 | Resistor | 8,2 Kohm Philips | 2322 211 13822 | R46 | Resistor | 12 Kohm Philips | 2322 211 13123 |
| R10 | Resistor | 1 Kohm Philips | 2322 211 13102 | R47 | Resistor | 330 Kohm Philips | 2322 211 13334 |
| R11 | Resistor | 470 Kohm Philips | 2322 211 13474 | R48 | Resistor | 22 Kohm Philips | 2322 211 13223 |
| R12 | Resistor | 10 Kohm Philips | 2322 211 13103 | R49 | Resistor | 100 ohm Philips | 2322 211 13101 |
| R13 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R50 | Resistor | 1 Kohm Philips | 2322 211 13102 |
| R14 | Resistor | 220 Kohm Philips | 2322 211 13221 | R51 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R15 | Resistor | 150 Kohm Philips | 2322 211 13154 | R52 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R16 | Resistor | 22 Kohm Philips | 2322 211 13223 | R53 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R17 | Resistor | 10 Kohm Philips | 2322 211 13103 | R54 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R18 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R55 | Resistor | 1 Kohm Philips | 2322 211 13102 |
| R19 | Resistor | 4,7 Kohm Philips | 2322 211 13472 | R56 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R20 | Resistor | 100 Kohm Philips | 2322 211 13104 | R57 | Resistor | 220 Kohm Philips | 2322 211 13224 |
| R21 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R58 | Resistor | 220 Kohm Philips | 2322 211 13224 |
| R22 | Resistor | 180 Kohm Philips | 2322 211 13184 | R59 | Resistor | 2,2 Kohm Philips | 2322 211 13222 |
| R23 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | R60 | Resistor | 6,8 Kohm Philips | 2322 211 13682 |
| R24 | Resistor | 100 ohm Philips | 2322 211 13101 | R61 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R25 | Resistor | 220 Kohm Philips | 2322 211 13224 | R62 | Resistor | 220 Kohm Philips | 2322 211 13224 |
| R26 | Resistor | 68 ohm Philips | 2322 211 13689 | R63 | Resistor | 10 Kohm Philips | 2322 211 13103 |
| R27 | Resistor | 2,2 ohm Philips | 2322 211 13228 | R64 | Resistor | 3,3 Kohm Philips | 2322 211 13332 |
| R28 | Resistor | 100 ohm Philips | 2322 211 13101 | R65 | Resistor | 470 Kohm Philips | 2322 211 13474 |
| R29 | Resistor | 2,7 ohm Radio Parts | 14 51 26 | R66 | Resistor | 47 Kohm Philips | 2322 211 13473 |
| R30 | Resistor | 2,7 ohm Radio Parts | 14 51 26 | R67 | Resistor | 1 Kohm Philips | 2322 211 13102 |
| R31 | Resistor | 100 Kohm Philips | 2322 211 13104 | R68 | Resistor | 150 ohm Philips | 2322 211 13151 |
| R32 | Resistor | 10 Kohm Philips | 2322 211 13103 | R69 | Resistor | 1 Kohm Philips | 2322 211 13102 |
| R33 | Resistor | 10 Kohm Philips | 2322 211 13103 | R70 | Resistor | 2,2 Kohm Philips | 2322 211 13222 |
| R34 | Not used | | | R71 | Resistor | 15 Kohm Philips | 2322 211 13153 |
| R35 | Resistor | 2,2 ohm Philips | 2322 211 13228 | R72 | Resistor | 470 ohm Philips | 2322 211 13471 |
| R36 | Resistor | 1 Kohm Philips | 2322 211 13102 | R73 | Resistor | 82 ohm Philips | 2322 211 13829 |
| R37 | Resistor | 10 Kohm Philips | 2322 211 13103 | R74 | Resistor | 100 ohm Philips | 2322 211 13101 |

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| R75 | Resistor | 1 Kohm Philips | 2322 211 13102 | C9 | Capacitor ellyt. | 10u | Matsushita | 45 4200 170 |
| R76 | Resistor | 470 ohm Philips | 2322 211 13471 | C10 | Capacitor ellyt. | 1u | Matsushita | 45 4200 370 |
| R77 | Resistor | 1 Kohm Philips | 2322 211 13102 | C11 | Capacitor poly. | 10n | Philips | 2222 344 55103 |
| R78 | Resistor | 47 Kohm Philips | 2322 211 13479 | C12 | Capacitor poly. | 0,22u | Philips | 2222 344 21224 |
| R79 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | C13 | Capacitor sty. | 3,3n | Philips | 2222 425 43302 |
| R80 | Resistor | 10 Kohm Philips | 2322 211 13103 | C14 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 |
| R81 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | C15 | Capacitor ellyt. | 1u | Matsushita | 45 4200 370 |
| R82 | Resistor | 1,5 Kohm Philips | 2322 211 13152 | C16 | Capacitor ellyt. | 10u | Matsushita | 45 4200 170 |
| R83 | Resistor | 3,3 Kohm Philips | 2322 211 13332 | C17 | Capacitor cer. | 10u | Draloric | EDRU 5 |
| R84 | Resistor | 3,3 Kohm Philips | 2322 211 13332 | C18 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| R85 | Resistor | 10 Kohm Philips | 2322 211 13103 | C19 | Capacitor tan. | 22u | ITT | TAG 22M25 SP |
| R86 | Resistor | 1 Kohm Philips | 2322 211 13102 | C20 | Capacitor ellyt. | 100u | Philips | 2222 016 36101 |
| R87 | Resistor | 10 Kohm Philips | 2322 211 13103 | C21 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| R88 | Resistor | 560 ohm Philips | 2322 211 13561 | C22 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 |
| R89 | Resistor | 22 Kohm Philips | 2322 211 13223 | C23 | Capacitor cer. | 1n | Draloric | EDRU 5 |
| R90 | Resistor | 2,2 ohm Philips | 2322 211 13228 | C24 | Capacitor ellyt. | 470u | Philips | 2222 032 16471 |
| R91 | Resistor | 2,2 ohm Philips | 2322 211 13228 | C25 | Capacitor tan. | 22u | ITT | TAG 22M25 SP |
| R92 | Resistor | 8,2 Kohm Philips | 2322 211 13822 | C26 | Capacitor sieb. | 47n | Siemens | B37 F6473 S2 |
| R93 | Resistor | 10 Kohm Philips | 2322 211 13103 | C27 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 |
| R94 | Resistor | 10 Kohm Philips | 2322 211 13103 | C28 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 |
| P1 | Potentiom. | 10 Kohm Philips | 2322 410 30507 | C29 | Capacitor tan. | 22u | ITT | TAG 22M25 SP |
| P2 | Potentiom. | 10 Kohm Rowido | 813 342 SPEC. | C30 | Capacitor cer. | 10n | Draloric | EDRU 5 |
| P3 | Potentiom. | 470 ohm Philips | 2322 410 03353 | C31 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 |
| P4 | Potentiom. | 22 Kohm Rowido | 803 301 SPEC. | C32 | Capacitor sty. | 1,5n | Philips | 2222 426 41502 |
| P5 | Potentiom. | 4,7 Kohm Philips | 2322 410 03356 | C33 | Capacitor poly. | 10n | Philips | 2222 344 55103 |
| P6 | Potentiom. | 10 Kohm Philips | 2322 410 30507 | C34 | Capacitor ellyt. | 10n | Matsushita | 45 4200 170 |
| P7 | Potentiom. | 10 Kohm Rowido | 813 342 SPEC. | C35 | Capacitor ellyt. | 4,7u | ITT | 45 4020 199 |
| | | | | C36 | Capacitor ellyt. | 1u | Matsushita | 45 4200 370 |
| | | | | C37 | Capacitor ellyt. | 10u | Matsushita | 45 4200 170 |
| C1 | Capacitor ellyt. | 1u Matsushita | 45 4200 370 | C38 | Capacitor ellyt. | 1u | Matsushita | 45 4200 370 |
| C2 | Capacitor sty. | 1n Philips | 2222 427 41001 | C39 | Capacitor sieb. | 0,1u | Siemens | B37 449 F6104 S2 |
| C3 | Capacitor sty. | 220p Philips | 2222 427 42201 | C40 | Capacitor ellyt. | 10u | Matsushita | 45 4200 170 |
| C4 | Capacitor sty. | 1n Philips | 2222 427 41001 | C41 | Capacitor sty. | 1n | Philips | 2222 427 41001 |
| C5 | Capacitor ellyt. | 10u Matsushita | 45 4200 170 | C42 | Capacitor poly. | 33n | Philips | 2222 344 55333 |
| C6 | Capacitor sieb. | 0,1u Siemens | B37449 F6104 S2 | C43 | Capacitor tan. | 10u | ITT | TAG 10M25 SP |
| C7 | Capacitor cer. | 470p Ferroperm | 9/0129,9 | C44 | Capacitor tan. | 22u | ITT | TAG 22M25 SP |
| C8 | Capacitor poly. | 10n Philips | 2222 344 55103 | C45 | Capacitor cer. | 1n | Draloric | EDRU 5 |

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|-----|------------------|------|------------|------------------|------|-----------------|---------|-----------|
| C46 | Capacitor poly. | 15n | Philips | 2222 344 55153 | T12 | Transistor | Siemens | BC 237 |
| C47 | Capacitor ellyt. | 10u | Matsushita | 45 4200 170 | T13 | Transistor | Siemens | BD 140 |
| C48 | Capacitor cer. | 10n | Draloric | EDRU 5 | T14 | Transistor | Siemens | BC 237 |
| C49 | Capacitor ellyt. | 10u | Matsushita | 45 4200 170 | T15 | Transistor | Siemens | BC 237 |
| C50 | Capacitor ellyt. | 100u | Philips | 2222 016 36101 | T16 | Transistor | Siemens | BC 237 |
| C51 | Capacitor sieb. | 47n | Siemens | B37 449 F6473 S2 | T17 | Transistor | Siemens | BC 307 |
| C52 | Capacitor sieb. | 47n | Siemens | B37 F6473 S2 | T18 | Transistor | Siemens | BD 139 |
| | | | | | T19 | Transistor | Siemens | BC 237 |
| D1 | Diode | | ITT | 1N4148 | IC1 | Integrated cct. | Texas | MC 1458 |
| D2 | Diode | | ITT | 1N4148 | IC2 | Integrated cct. | Texas | MC 1458 |
| D3 | Diode | | ITT | 1N4148 | IC3 | Integrated cct. | Siemens | TDA 1037 |
| D4 | Diode | | ITT | 1N4148 | IC4 | Integrated cct. | Texas | 7805 |
| D5 | Diode | | ITT | 1N4148 | IC5 | Integrated cct. | Texas | TDB 0555 |
| D6 | Diode | | ITT | 1N4148 | IC6 | Integrated cct. | Texas | 74LS33 |
| D7 | Diode | | Siemens | AA 116 | IC7 | Integrated cct. | Harris | PROM 7611 |
| D8 | Diode | | ITT | 1N4148 | IC8 | Integrated cct. | Harris | PROM 7611 |
| D9 | Diode | | ITT | 1N4148 | IC9 | Integrated cct. | Harris | PROM 7611 |
| D10 | Diode | | ITT | 1N4148 | IC10 | Integrated cct. | Texas | 74LS33 |
| D11 | Diode | | ITT | 1N4148 | | | | |
| D12 | Diode | | ITT | 1N4148 | | | | |
| D13 | Diode | | ITT | 1N4148 | | | | |
| D14 | Diode | | Philips | 5401 | | | | |
| D15 | Diode | | ITT | 1N4148 | | | | |
| D16 | Diode | | ITT | 1N4148 | | | | |
| Z1 | Diode, zener | | Siemens | 8,2V | | | | |
| T1 | Transistor | | Siemens | BC 307 | | | | |
| T2 | Transistor | | Siemens | BC 237 | | | | |
| T3 | Transistor | | Siemens | BC 307 | | | | |
| T4 | Transistor | | Siemens | BC 237 | | | | |
| T5 | Transistor | | Siemens | BC 237 | | | | |
| T6 | Transistor | | Siemens | BC 237 | | | | |
| T7 | Transistor | | Siemens | BC 237 | | | | |
| T8 | Transistor | | Siemens | BC 237 | | | | |
| T9 | Transistor | | Texas | BF 256 LA | | | | |
| T10 | Transistor | | Siemens | BC 237 | | | | |
| T11 | Transistor | | Siemens | BC 237 | | | | |

SELCALL 2716 A

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|-----|------------------------|------------------|----------------|-----|------------------|----------------|-----------------------|
| R1 | Resistor | 10 Kohm Philips | 2322 211 13103 | R46 | Resistor | 1 Kohm Philips | 2322 211 13102 |
| R2 | Resistor | 10 Kohm Philips | 2322 211 13103 | | | | |
| R3 | Selected in final test | | | | | | |
| R4 | Selected in final test | | | | | | |
| R5 | Resistor | 4,7 Kohm Philips | 2322 211 13472 | C1 | Capacitor poly. | 0,1u Philips | 2222 344 21104 |
| R6 | Resistor | 10 Kohm Philips | 2322 211 13103 | C2 | Capacitor poly | 0,1u Philips | 2222 344 21104 |
| R7 | Resistor | 10 Kohm Philips | 2322 211 13103 | C3 | Capacitor ellyt. | 4,7u ITT | 45 40 20 199 |
| R8 | Selected in final test | | | C4 | Capacitor poly | 0,1u Philips | 2222 344 21104 |
| R9 | Resistor | 10 Kohm Philips | 2322 211 13103 | C5 | Capacitor tan. | 4,7u ITT | TAG 4R7M25 SP |
| R10 | Resistor | 10 Kohm Philips | 2322 211 13103 | C6 | Capacitor cer. | 10n Draloric | EDRU 5 |
| R11 | Resistor | 10 Kohm Philips | 2322 211 13103 | C7 | Capacitor cer. | 10n Draloric | EDRU 5 |
| R12 | Resistor | 10 Kohm Philips | 2322 211 13103 | C20 | Capacitor sty. | 100n Rifa | PFE 216 00610F |
| R13 | Resistor | 10 Kohm Philips | 2322 211 13103 | C21 | Capacitor sty. | 1,5n Philips | 2222 425 41502 |
| R14 | Resistor | 10 Kohm Philips | 2322 211 13103 | C22 | Capacitor ellyt. | 4,7u ITT | 45 40 20 199 |
| R15 | Resistor | 10 Kohm Philips | 2322 211 13103 | C23 | Capacitor sieb. | 0,1u Siemens | B37449 S2 |
| R16 | Resistor | 1 Kohm Philips | 2322 211 13102 | C24 | Capacitor tan. | 10u ITT | TAG 10M25 SP F6104 S2 |
| R17 | Resistor | 10 Kohm Philips | 2322 211 13103 | C25 | Capacitor tan. | 10u ITT | TAG 10M25 SP |
| R18 | Resistor | 10 Kohm Philips | 2322 211 13103 | C26 | Capacitor cer. | 10n Draloric | EDRU 5 |
| R19 | Resistor | 470 Kohm Philips | 2322 211 13103 | C27 | Capacitor cer. | 10n Draloric | EDRU 5 |
| R20 | Resistor | 56 Kohm Philips | 2322 211 13474 | C28 | Capacitor sieb. | 0,1u Siemens | B37449 F6109 S2 |
| R21 | Resistor | 56 Kohm Philips | 2322 211 13563 | | | | |
| R30 | Resistor | 2,2 Kohm Philips | 2322 211 13222 | D1 | Diode | Siemens | 1N4148 |
| R31 | Resistor | 5,6 Kohm Philips | 2322 211 13562 | D2 | Diode | Siemens | 1N4148 |
| R32 | Resistor | 10 Kohm Philips | 2322 211 13103 | D3 | Diode | Siemens | 1N4148 |
| R33 | Resistor | 15 Kohm Philips | 2322 211 13153 | D4 | Diode | Siemens | 1N4148 |
| R34 | Resistor | 33 Kohm Philips | 2322 211 13333 | | | | |
| R35 | Resistor | 3,3 Kohm Philips | 2322 211 13332 | | | | |
| R36 | Selected in final test | | | T1 | Transistor | Siemens | BC 237 |
| R37 | Resistor | 10 Kohm | 2322 211 13103 | T2 | Transistor | Siemens | BC 237 |
| R38 | Resistor | 330 Kohm | 2322 211 13331 | T3 | Transistor | Siemens | BC 237 |
| R39 | Resistor | 100 Kohm | 2322 211 13104 | T4 | Transistor | Siemens | BC 237 |
| R40 | Resistor | 100 Kohm | 2322 211 13104 | T5 | Transistor | Siemens | BC 237 |
| R41 | Resistor | 100 Kohm | 2322 211 13104 | T6 | Transistor | Siemens | BC 307 |
| R42 | Resistor | 22 Kohm | 2322 211 13223 | T7 | Transistor | Siemens | BC 237 |
| R43 | Resistor | 330 Kohm | 2322 211 13331 | T8 | Transistor | Siemens | BC 237 |
| R44 | Resistor | 220 Kohm | 2322 211 13224 | T9 | Transistor | Texas | BC 256 LA |
| R45 | Resistor | 1 Kohm | 2322 211 13102 | T10 | Transistor | Siemens | BC 237 |

24V REGULATOR 2708

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|-----|-----------------|----------|----------|----|------------------|----------------|----------------|----------------|
| T11 | Transistor | Siemens | BC 237 | R1 | Resistor | 3w, 220 | ohm Philips | 2322 211 13221 |
| T12 | Transistor | Siemens | BC 307 | R2 | Resistor | 6w, 8,2 | ohm Diplomatic | 146132 |
| T13 | Transistor | Siemens | BC 237 | R3 | Resistor | 17w, 1,5 | ohm Diplomatic | 149123 |
| | | | | R4 | Resistor | 17w, 1,5 | ohm Diplomatic | 149123 |
| | | | | R5 | Resistor | 3w, 10 | ohm Philips | 2322 211 13109 |
| L1 | Tonecoil | R&S | | R6 | Resistor | 3w, 10 | ohm Philips | 2322 211 13109 |
| | | | | R7 | Resistor | 390 | ohm Philips | 2322 211 13391 |
| | | | | R8 | Resistor | 330 | ohm Philips | 2322 211 13331 |
| | | | | R9 | Resistor | 470 | ohm Philips | 2322 211 13471 |
| IC1 | Integrated cct. | Mototola | MC 14017 | P1 | Potentiom. trim. | 1 Kohm Philips | | 2322 410 03354 |
| IC2 | Integrated cct. | Motorola | MC 14093 | | | | | |
| IC3 | Integrated cct. | Motorola | MC 14013 | | | | | |
| IC4 | Integrated cct. | Texas | TDB 555 | | | | | |
| | | | | C1 | Capacitor cer. | 10n | Draloric | EDRU 5 |
| | | | | C2 | Capacitor poly. | 0,1u | Philips | 2222 344 21104 |
| | | | | T1 | Transistor | | Siemens | BD 139 |
| | | | | T2 | Transistor | | Motorola | MJE 3055 |
| | | | | T3 | Transistor | | Siemens | 2N3055 |
| | | | | T4 | Transistor | | Siemens | 2N3055 |
| | | | | D1 | Diode, zener | | Siemens | 6,8V |

RS 24-12 2754

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|-----|----------|-------------|---------|----------------|
| R1 | Resistor | 6,8 Kohm | Philips | 2322 211 13682 |
| R2 | Resistor | 120 ohm | Philips | 2322 211 13121 |
| R3 | Resistor | 3w,10 ohm | Philips | 2322 211 13109 |
| R4 | Resistor | 100 ohm | Philips | 2322 211 13101 |
| R5 | Resistor | 3w,10 ohm | Philips | 2322 211 13109 |
| R6 | Resistor | 3w,0,22 ohm | Philips | 145 105 |
| R7 | Resistor | 3w,0,22 ohm | Philips | 145 105 |
| R8 | Resistor | 390 ohm | Philips | 2322 211 13391 |
| R9 | Resistor | 330 ohm | Philips | 2322 211 13331 |
| R10 | Resistor | 470 ohm | Philips | 2322 211 13471 |

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|----|----------------------|--------|---------|----------------|
| P1 | Potentiom. pre. set. | 1 Kohm | Philips | 2322 410 03354 |
|----|----------------------|--------|---------|----------------|

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|----|-----------------|------|----------|----------------|
| C1 | Capacitor poly. | 0,1u | Philips | 2222 344 21104 |
| C2 | Capacitor poly. | 0,1u | Philips | 2222 344 21104 |
| C3 | Capacitor cer. | 10n | Draloric | EDRU 5 |
| C4 | Capacitor poly. | 0,1u | Philips | 222 344 21104 |

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|-------|--------------|--|---------|--------|
| D1 | Diode | | ITT | 1N4148 |
| D2 | Diode | | ITT | 1N4148 |
| D3 | Diode | | ITT | 1N4148 |
| D4 | Diode | | Philips | 1N5401 |
| D5 | Diode, zener | | Siemens | 6,8V |
| D6-10 | Diode | | ITT | 1N4002 |

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|----|------------|--|---------|--------|
| T1 | Transistor | | Siemens | BD 140 |
| T2 | Transistor | | Siemens | BD 139 |
| T3 | Transistor | | Siemens | 2N3055 |
| T4 | Transistor | | Siemens | 2N3055 |
| T5 | Transistor | | Siemens | 2N3055 |

RS 220-24 2755

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|------|------------------|------------|-------------|----------------|
| R1 | Resistor | 3w,220 ohm | Philips | 2322 211 13221 |
| C1 | Capacitor poly. | 0,1u | Philips | 2222 344 21104 |
| C3 | Capacitor ellyt. | 2200u | Frako | 108 333 |
| C4 | Capacitor ellyt. | 2200u | Frako | 108 333 |
| D1-4 | Diode, bridge | | Radio Parts | UJ148M 004380 |
| D5 | Diode | | ITT | 1N4002 |