ICOM

SERVICE MANUAL

COMMUNICATIONS RECEIVER

IC-R3

Icom Inc.

INTRODUCTION

This service manual describes the latest service information for the **IC-R3** at the time of publication.

To upgrade quality, all electrical or mechanical parts and internal circuits are subject to change without notice or obligation.

DANGER

NEVER connect the receiver to an AC outlet or to a DC power supply that uses more than 16 V. Such a connection could cause a fire hazard and/or electric shock.

DO NOT expose the receiver to rain, snow or any liquids.

DO NOT reverse the polarities of the power supply when connecting the receiver.

DO NOT apply an RF signal of more than 20 dBm (100mW) to the antenna connector. This could damage the receiver's front end.

ORDERING PARTS

Be sure to include the following four points when ordering replacement parts:

1. 10-digit order numbers
2. Component part number and name
3. Equipment model name and unit name
4. Quantity required

<**SAMPLE ORDER**>

1140008440 S.IC	AK93C10A	IC-R3	LOGIC UNIT	5 pieces
8810009560 Screw	BT M2 x 6 ZK	IC-R3	Chassis	10 pieces

Addresses are provided on the inside back cover for your convenience.

REPAIR NOTES

1. Make sure a problem is internal before disassembling the receiver.
2. **DO NOT** open the receiver until the receiver is disconnected from its power source.
3. **DO NOT** force any of the variable components. Turn them slowly and smoothly.
4. **DO NOT** short any circuits or electronic parts. An insulated turning tool **MUST** be used for all adjustments.
5. **DO NOT** keep power ON for a long time when the receiver is defective.
6. **READ** the instructions of test equipment thoroughly before connecting equipment to the receiver.

TABLE OF CONTENTS

SECTION 1 SPECIFICATIONS

■ GENERAL

- Frequency range : 0.495–2450.095 MHz
- Mode : F3, A3, C3F (TV)
- No. of memory channel : 450 channels
- Frequency stability : ±6 ppm max. (–10˚C to +50˚)
- Tuning steps : 5, 6.25, 10, 12.5, 15, 20, 25, 30, 50, and 100 kHz
- Anntena connector : BNC (50 Ω)
- Power supply requirement :

Battery	Voltage
3 × alkaline cell	DC 4.5 V
3 × AA(R6) Ni-Cd	DC 3.6 V
1 × Li-ion	DC 3.7 V
External DC supply	DC 3.6–6.3 V

- Polarity : Negative ground
- Frequency resolution : 5 kHz, 6.25 kHz
- Current drain (at 4.5 V) : (Typical)

Receiving condition	Except converter	Converter area
Rated audio	210 mA	250 mA
Standby	140 mA	180 mA
Power saved (1:4)	65 mA	75 mA
TV reception	730 mA	780 mA
LCD lighting		
TV sound receiving	210 mA	250 mA

- Usable temperature range : –10˚C to +60˚C (–14˚F to +140˚F)
- Dimensions (projections not included) : 61(W) × 120(H) × 32.9(D) mm; 2 13/32(W) × 4 23/32(H) × 1 9/32(D) in
- Weight (w/ antenna and battery) : 300 (g); 10.6 (oz)
- External SP connector : 3-conductor 3.5(d) mm (1/8")/8 Ω
- Video/Audio OUT connector : 3-conductor 3.5(d) mm (1/8")/8 Ω

■ RECEIVER

- Receiver system : Tripple super heterodyne
- Intermediate frequencies : (Unit; MHz)

	AM, FM	WFM	C3F (TV)
1ST IF	240.1	240.1	241.85*1, 238.35*2
2ND IF	26.05	13.25	58.75
3RD IF	0.450	0.450	—

*1 30–799.995 MHz and 1321–2099.995 MHz range
*2 800–1320.995 MHz and 2100–2450.095 MHz range

- Converter frequency : 1291, 1320 or 1351 MHz (More than 1150 MHz)

- Sensitivity* : (except spurious points)

Frequency (MHz)	FM	WFM	AM
0.495 – 1.625	—	—	2.5 µV
1.625 – 5.0	0.56 µV		
5.0 – 30.0	0.4 µV		1.8 µV
30.0 – 76.0			—
76.0 – 108.0		1.8 µV	
108.0 – 118.0		—	
118.0 – 136.0			1.8 µV
136.0 – 175.0			—
175.0 – 222.0		1.8 µV	
222.0 – 330.0		—	1.8 µV
330.0 – 470.0	0.56 µV		—
470.0 – 770.0		2.5 µV	
770.0 – 800.0		—	
800.0 – 1300.0	0.79 µV		
1300.0 – 2000.0	1 µV		
2000.0 – 2300.0	1.4 µV		
2300.0 – 2450.095	2.5 µV		

* FM and WFM are measured at 12 dB SINAD; AM is measured at 10 dB S/N.

- Squelch Sensitivity :

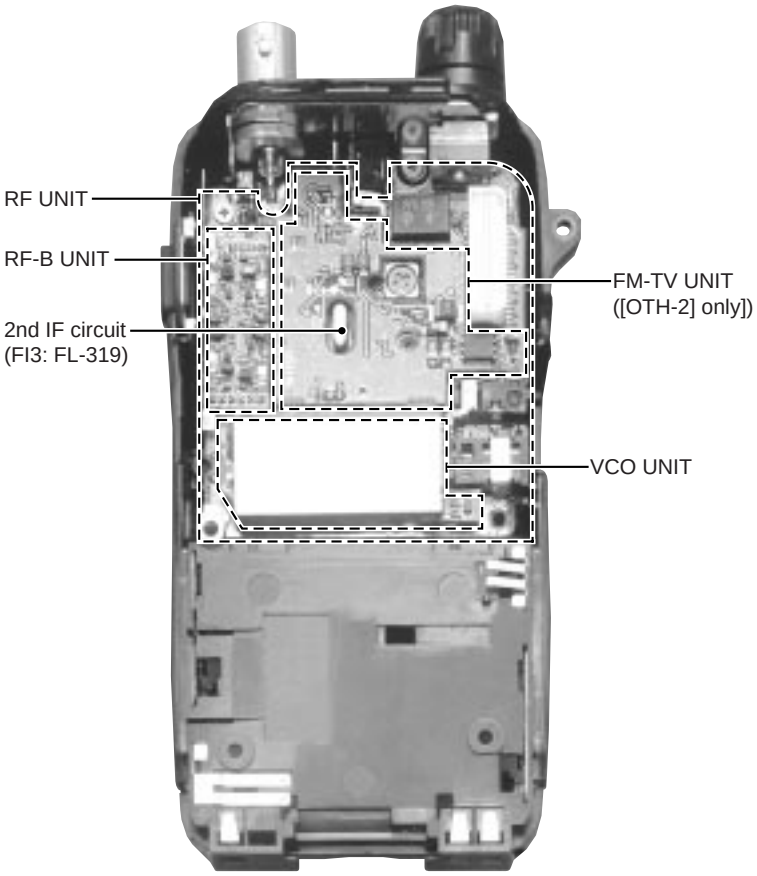
Frequency (MHz)	FM	WFM	AM
0.495 – 1.625	—	—	2.5 µV
1.625 – 5.0	0.56 µV		
5.0 – 30.0	0.4 µV		1.8 µV
30.0 – 76.0			—
76.0 – 108.0		10.0 µV	
108.0 – 118.0		—	
118.0 – 136.0			1.8 µV
136.0 – 175.0			—
175.0 – 222.0		10.0 µV	
222.0 – 330.0		—	1.8 µV
330.0 – 470.0	0.56 µV		—
470.0 – 770.0		10.0 µV	
770.0 – 800.0		—	
800.0 – 1300.0	0.79 µV		
1300.0 – 2000.0	1 µV		
2000.0 – 2300.0	1.4 µV		
2300.0 – 2450.095	2.5 µV		

- Selectivity :
  - AM / FM : more than 12 kHz/–6dB
    less than 30 kHz/–50 dB
  - WFM : more than 150 kHz/–6 dB
- Audio output power : 100 mW typical at 10% distortion with an 8 Ω load
- Audio output impedance : 8 Ω

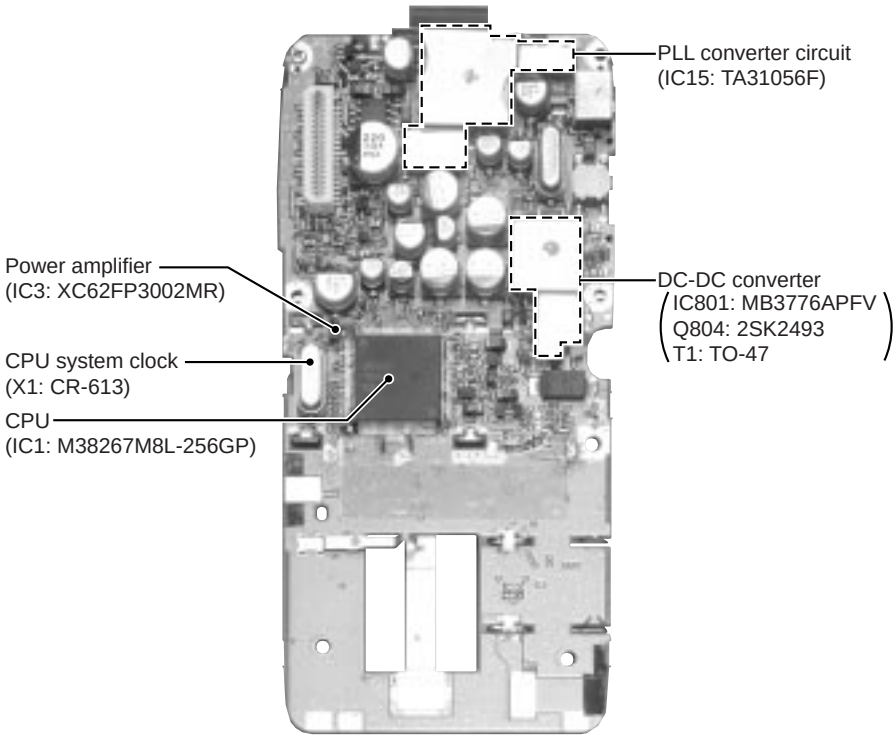
All stated specifications are subject to change without notice or obligation.

SECTION 2 INSIDE VIEWS

• RF, RF-B, VCO AND FM-TV UNITS



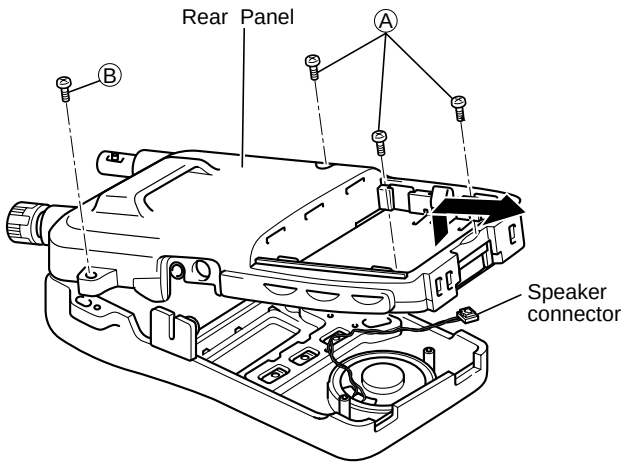
• LOGIC UNIT



SECTION 3 DISASSEMBLY INSTRUCTIONS

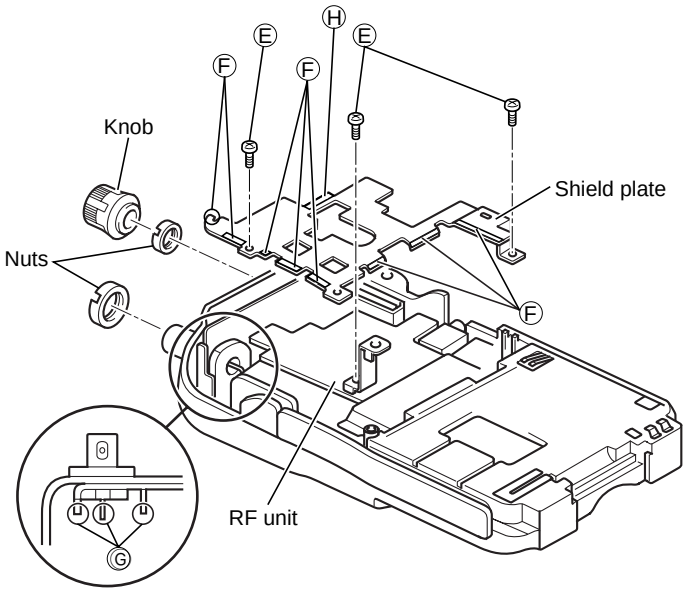
• REMOVING THE REAR PANEL

① Unscrew 3 screws, Ⓐ.
② Unscrew 1 screw, Ⓑ.
③ Remove the rear panel in the direction of the arrow.
④ Unplug speaker connector to separate front panel and rear panel.



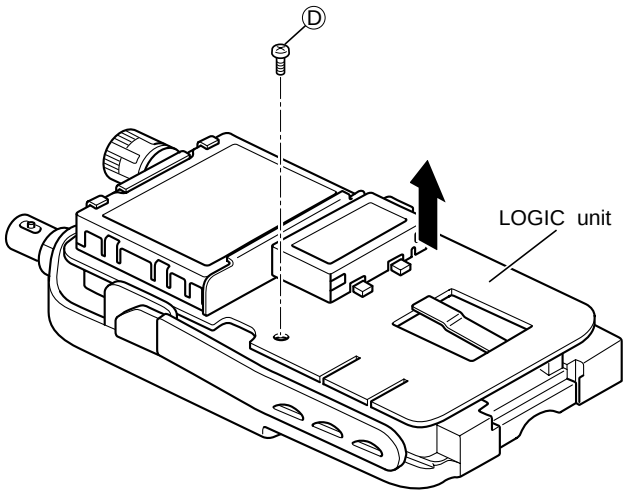
• REMOVING THE RF UNIT

① Remove the 1 knob and unscrew 2 nuts.
② Unscrew 3 screws, Ⓔ, and unsolder 8 points, Ⓕ. Unsolder 1 points, Ⓗ ([OTH-2] only).
③ Remove the shield plate.
④ Unsolder 3 points, Ⓖ, and remove the RF unit.



• REMOVING THE LOGIC UNIT

① Unscrew 1 screw, Ⓓ.
② Remove the LOGIC unit in the direction of the arrow.



SECTION 4 CIRCUIT DESCRIPTION

4-1 RECEIVER CIRCUITS

4-1-1 RF SWITCHING CIRCUIT (RF UNIT)

(1) Below 1150 MHz

The RF signals from the antenna connector pass through the band switching diode (D2) and an attenuator (D12, D13). The signals are then applied to the RF circuit which suppress out-of-band signals via the band switching diode (D911).

(2) Above 1150 MHz

The RF signals from the antenna connector pass through the limitter (D1), band switching diode (D909) and high-pass filter (C932–C936, C963, C964, L911, L912, L914). The filtered signals are applied to the AF amplifier (IC14, pin 1), and are then applied to the convertor circuit (IC13, pin 1). Above 1150 MHz RF signals are mixed with "CONLO" signal from CONV VCO circuit for convertion into below 1150 MHz RF signals at the converter circuit (IC13). The converted signals are output from IC13 (pin 6), and are then applied to the RF circuit which suppress out-of-band signals.

4-1-2 RF CIRCUIT (RF AND RF-B UNITS)

The RF circuit amplifies the received signals within the range of frequency coverage and filters out-of-band signals.

(1) 0.495 MHz–29.995 MHz

RF signals (0.495 MHz–29.995 MHz) from the RF switching circuit pass through a low-pass filter (C321–C325, L81, L82). The filtered signals are amplified at an RF amplifier (Q3) passing through each low-pass, bandpass, high-pass filter depending on the receiving frequency. The amplified signals are then applied to the 1st mixer circuit (IC1) via the band switching diode (D10).

The signals below 1.9 MHz pass through a low-pass filter (C344–C347, L89, L90) between the band switching diode (D4, D7), and are then applied to the RF amplifier circuit (Q3).

The 1.9 MHz–14.995 MHz signals pass through the band switching diode (D5) and bandpass filter (C332–C341, L85–L88), and are then applied to the RF amplifier circuit (Q3) via the band switching diode (D8).

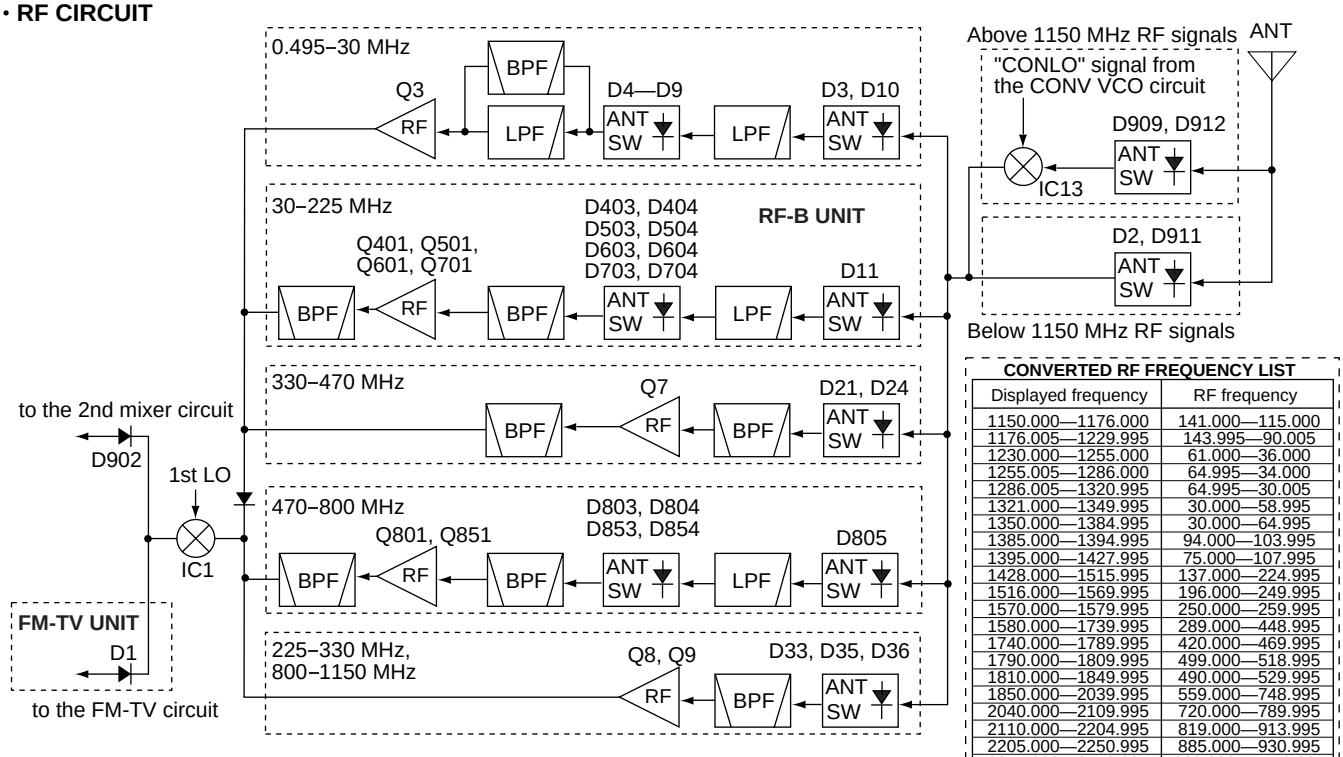
The 15 MHz–29.995 MHz signals pass through the band switching diode (D6) and high-pass filter (C326–C330, L83, L84) and are then applied to the RF amplifier circuit (Q3) via the band switching diode (D9).

(2) 30 MHz–224.995 MHz (RF-B UNIT)

RF signals (30 MHz–64.995 MHz, 65 MHz–107.995 MHz, 108 MHz–173.995 MHz, 174 MHz–224.995 MHz) from the RF switching diode (RF unit; D11) are passed through the low-pass filter (RF unit; C12–C17, L57–L59). The filtered signals pass through the each bandpass filters and RF amplifier depending on the receiving frequency. The signals are then applied to the 1st mixer circuit (RF unit; IC1).

The 30 MHz–64.995 MHz signals pass through the band switching diode (D403) and bandpass filter (D401), and are then amplified at the RF amplifier (Q401). The amplified signals pass through the bandpass filter (D402) and band switching diode (D404).

• RF CIRCUIT



CONVERTED RF FREQUENCY LIST

Displayed frequency	RF frequency
1150.000—1176.000	141.000—115.000
1176.005—1229.995	143.995—90.005
1230.000—1255.000	61.000—36.000
1255.005—1286.000	64.995—34.000
1286.005—1320.995	64.995—30.005
1321.000—1349.995	30.000—58.995
1350.000—1384.995	30.000—64.995
1385.000—1394.995	94.000—103.995
1395.000—1427.995	75.000—107.995
1428.000—1515.995	137.000—224.995
1516.000—1569.995	196.000—249.995
1570.000—1579.995	250.000—259.995
1580.000—1739.995	289.000—448.995
1740.000—1789.995	420.000—469.995
1790.000—1809.995	499.000—518.995
1810.000—1849.995	490.000—529.995
1850.000—2039.995	559.000—748.995
2040.000—2109.995	720.000—789.995
2110.000—2204.995	819.000—913.995
2205.000—2250.995	885.000—930.995
2251.000—2450.095	960.000—1159.095

The 65 MHz–107.995 MHz signals pass through the band switching diode (D503) and bandpass filter (D501), and are then amplified at the RF amplifier (Q501). The amplified signals pass through the bandpass filter (D502) and band switching diode (D504).

The 108 MHz–173.995 MHz signals pass through the band switching diode (D603) and bandpass filter (D601), and are then amplified at the RF amplifier (Q601). The amplified signals pass through the bandpass filter (D602) and band switching diode (D604).

The 174 MHz–224.995 MHz signals pass through the band switching diode (D703) and bandpass filter (D701), and are then amplified at the RF amplifier (Q701). The amplified signal pass through the bandpass filter (D702) and band switching diode (D704).

(3) 330 MHz–469.995 MHz
RF signals (330 MHz–469.995 MHz) from the RF switching circuit pass through the band switching diode (D21) and a bandpass filter (C19–C27, L2–L5, L39). The filtered signals are amplified at an RF amplifier (Q7), and then passed through the bandpass filter (D22, D23). The filtered signals are then applied to the 1st mixer circuit (IC1) via the band switching diode (D24).

(4) 470 MHz–799.995 MHz
RF signals (470 MHz–799.995 MHz) from the RF switching circuit pass through the band switching diode (D805) and a low-pass filter (C321–C325, L81, L82). The filtered signals are passed through each bandpass filter and RF amplifier depending on the receiving frequency. The amplified signals are then applied to the 1st mixer circuit (IC1) via the band switching diode (D804 or D854) respectively.

The 470 MHz–599.995 MHz signals pass through the band switching diode (D803) and bandpass filter (D801), and are then amplified at the RF amplifier (Q801). The amplified signals pass through the bandpass filter (D802) and band switching diode (D804).

The 600 MHz–799.995 MHz signals pass through the band switching diode (D853) and bandpass filter (D851), and are then amplified at the RF amplifier (Q851). The amplified signals pass through the bandpass filter (D852) and band switching diode (D854).

(5) 225 MHz–329.995 MHz AND 800 MHz–1149.995 MHz
RF signals (225 MHz–329.995 MHz and 800 MHz–1149.995 MHz) from the RF switching circuit pass through the band switching diode (D33). The signals are passed through each bandpass filter and RF amplifier depending on the receiving frequency. The amplified signals are then applied to the 1st mixer circuit (IC1) via the band switching diodes (D35 or D36) respectively.

The 225 MHz–329.995 MHz signals pass through the bandpass filter (C40–C43, C395, C396, L58, L59), and are then amplified at the RF amplifier (Q9). The amplified signals pass through the band switching diode (D35).

The 800 MHz–1149.995 MHz signals pass through the bandpass filter (C46–C49, C51–C54, L11–L14), and are then amplified at the RF amplifier (Q8). The amplified signals pass through the band switching diode (D36).

4-1-3 1ST MIXER CIRCUIT (RF UNIT)

The 1st mixer circuit converts the received RF signals to a fixed frequency of the 1st IF signal with a PLL output frequency. By changing the PLL frequency, only the desired frequency will pass through the bandpass filters at the next stage of the 1st mixer.

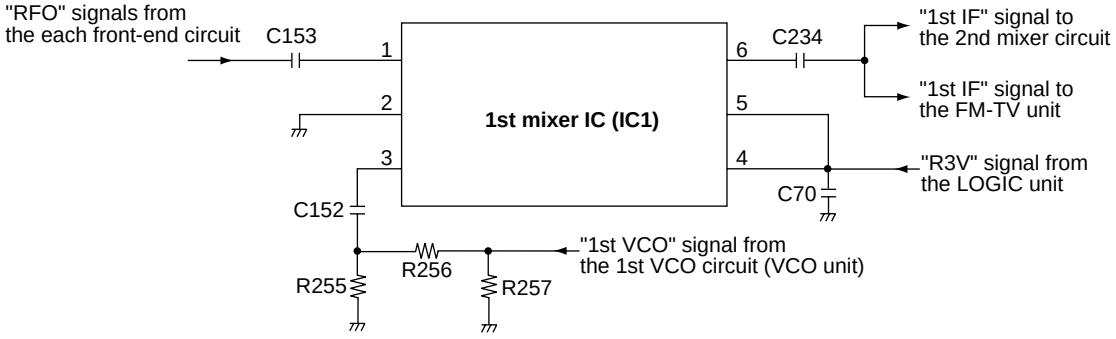
The filtered or amplified RF signals from each RF circuit are mixed with 1st LO signal at the 1st mixer circuit (IC1) to produce each 1st IF signal depending on the receiving frequency. The 1st IF signal is output from pin 6, and passed through the bandpass filter (FI904) to suppress unwanted harmonic components. The filtered 1st IF signal is applied to the 2nd mixer circuit.

	FM, AM, WFM	C3F (TV)
1ST IF	240.1 MHz	241.85*[1], 238.35*[2] MHz

*[1] 30–799.995 MHz and 1321–2099.995 MHz range
*[2] 800–1320.995 MHz and 2100–2450.095 MHz range

The 1st LO signals are generated at the 1st VCO (VCO unit; Q22, Q23, D62) and are applied to the 1st mixer (IC1, pin 3) directly or passed through the doubler circuit (Q26) after being amplified at the buffer amplifier (VCO unit; IC4).

• 1ST MIXER CIRCUIT (RF UNIT)



4-1-4 1ST IF AND 2ND MIXER CIRCUITS (RF UNIT)

The 2nd mixer circuit converts the 1st IF signal to a 2nd IF signal.

The filtered each 1st IF signal from the bandpass filter are mixed with the 2nd LO signal at the 2nd mixer circuit (IC10, pin 1) to produce each 2nd IF signal depending on the receiving frequency.

In AM and FM mode, the 2nd IF signal (26.5 MHz) passes through the band switching diode (D71) and bandpass filter (FI3). The filtered signals are then amplified at the 2nd IF amplifier (Q41), and are applied to the demodulator circuit.

In WFM mode, the 2nd IF signal (13.25 MHz) passes through the band switching diode (D72) and bandpass filter (FI4). The filtered signal is then amplified at the 2nd IF amplifier (Q41), and is applied to the demodulator circuit.

In TV mode, the 2nd IF signal (58.75 MHz) passes through the band switching diode (D901) and is then applied to the 2nd IF amplifier (Q857). The amplified signal passes through the bandpass filter (FI901), and is applied to the demodulator circuit.

4-1-5 DEMODULATOR CIRCUITS (RF UNIT)

The demodulator circuit converts the 2nd IF signal into AF signals or video signals.

(1) AM, FM AND WFM MODE

The each 2nd IF signals from the 2nd IF amplifier (Q41) are applied to the 3rd mixer section of the FM IF IC (IC2, pin 16) and are then mixed with the 3rd LO signal for conversion into a 450 kHz 3rd IF signal.

IC2 contains the 3rd mixer, limiter amplifier, quadrature detector and S-meter detector, etc. A frequency from the PLL reference oscillator (VCO unit; IC3) is used for the 3rd LO signal (12.80 MHz).

• AM MODE

The 3rd IF signal is output from FM IF IC (IC2, pin 3) and passes through the ceramic bandpass filter (FI2). The filtered signal is applied to the AM detector circuit (Q44, Q45) to convert into AF signals, and the signals are applied to the AF circuit (LOGIC unit).

• FM MODE

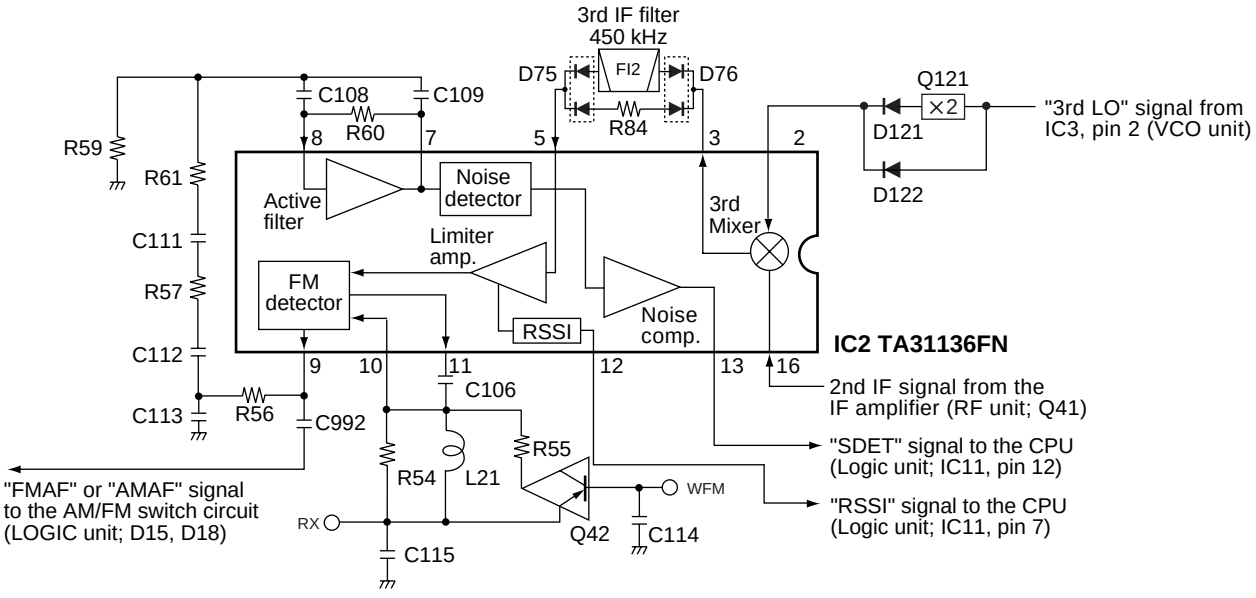
The 3rd IF signal is output from FM IF IC (IC2, pin 3) and passes through the ceramic bandpass filter (FI2). The filtered signal is fed back and amplified at the limiter amplifier section (pin 5), then demodulated AF signals at the quadrature detector section (pins 10, 11) with detector coil (L21). The demodulated AF signals are output from pin 9 and are applied to the AF circuit (LOGIC unit).

• WFM MODE

The 3rd IF signal from the 3rd mixer bypasses the ceramic filter (FI2) and fed back to the limiter amplifier section (pin 5). The amplified signal is demodulated at the quadrature detector section (pins 10, 11) with detector coil (L21). The AF signals are output from pin 9 and are applied to the AF circuit (LOGIC unit).

By connecting R55 to R54 in parallel, the output characteristics of pin 12, “RSSI”, change gradually. Therefore, the FM IF IC can detect WFM components.

• 3RD IF AND DEMODULATOR CIRCUITS (RF UNIT)



(2) TV MODE

The amplifed signals at the 2nd IF amplifier (Q857) are applied to the bandpass filter (FI901). The filtered signals are applied to the TV IF IC (IC901) as audio IF signal and the video IF signal, separately.

IC901 is the video/audio detector IC of the PLL sprit type, which contains the video IF amplifier, PLL video detector, voice IF detector, IF and RF AGC, etc.

The audio IF signal from FI901 (pin 3) is applied to the TV IF IC (IC901, pin 9) as the “SIF” signal, and is amplified and phase detected in the IC. The phase detected signal is output from pin 15, and is fed back to pin 13 via FI902. The filtered signal is applied to the limitter amplifier section and FM detector section in the TV IF IC.

The demodulated AF signals are output from pin 12 and are applied to the AF circuit (LOGIC unit).

The video IF signal from FI901 (pin 4, 5) is applied to the TV IF IC (IC901, pin 4, 5) as “VIF” signal, and is then amplified at the video IF amplifier in the TV IF IC. The amplified signal is compared with the VCO frequency (L902, C906), and is then applied to the phase detector section in the TV IF IC. The detected signal is output from pin 22 as the video signal, and then passed through the bandpass filter (FI905). The filtered signal is amplified at Q854, and applied to the buffer amplifier (Q855). The amplified signal is applied to the TFT LCD circuit (LOGIC unit).

4-1-6 AF AMPLIFIER CIRCUIT (LOGIC UNIT)

The AF amplifier circuit amplifies the demodulated AF signals to drive a speaker.

While in FM and TV mode, AF signals (“FMAF” signal) from the demodulator circuit (RF unit) are passed through the de-emphasis circuit (R118, C66, C68) with frequency characteristics of –6 dB/octave, and are then applied to the pre-amplifier (Q31) via the bandpass filter (Q30).

While in AM mode, AF signals (“AMAF” signal) are pass through the bandpass filter (Q30) and are then applied to the pre-amplifier (Q31).

While in WFM mode, AF signals (“WFM” signal) are applied to the pre-amplifier (Q31) directly.

The pre-amplified AF signals pass through the AF mute circuit (Q37) and are then applied to the electronic volume control circuit (IC14, pin 6). The level controlled AF signals are output from pin 7 and applied to the AF power amplifier (IC15, pin 1) via the buffer amplifier (Q36). The power amplified AF signals are applied to the internal speaker via the [EXT SP] jack.

The electronic volume control circuit controls AF gain, therefore, the AF output level is according to the [VOL] setting and also the squelch conditions. The AF mute and electronic volume control circuits are controlled by CPU (IC11) via each “AMUTE” and “VRC” signal lines.

When connecting [A/V OUT] jack (RF unit; J3) on TV mode, AF signals from demodulator circuit (RF unit; IC901, pin 12) are applied to the [A/V OUT] jack directly.

On AM, FM, WFM mode, AF signals from demodulator circuit (RF unit; IC2, pin 9) are applied to the RF amplifier (FM-TV unit; Q71) via J5 (pin 1) on RF unit. The amplified signals are applied to the [A/V OUT] jack via the J7 (pin 3).

4-1-7 TFT LCD CIRCUIT (LOGIC UNIT)

The amplified video signal from Q855 on MAIN unit is amplified at the buffer amplifier (Q903, Q904), and is then applied to the OSD (On Screen Display) IC (IC902, pin 10). The OSD IC produces LCD screen display data, and then outputs video signals to the TFT driver (IC901).

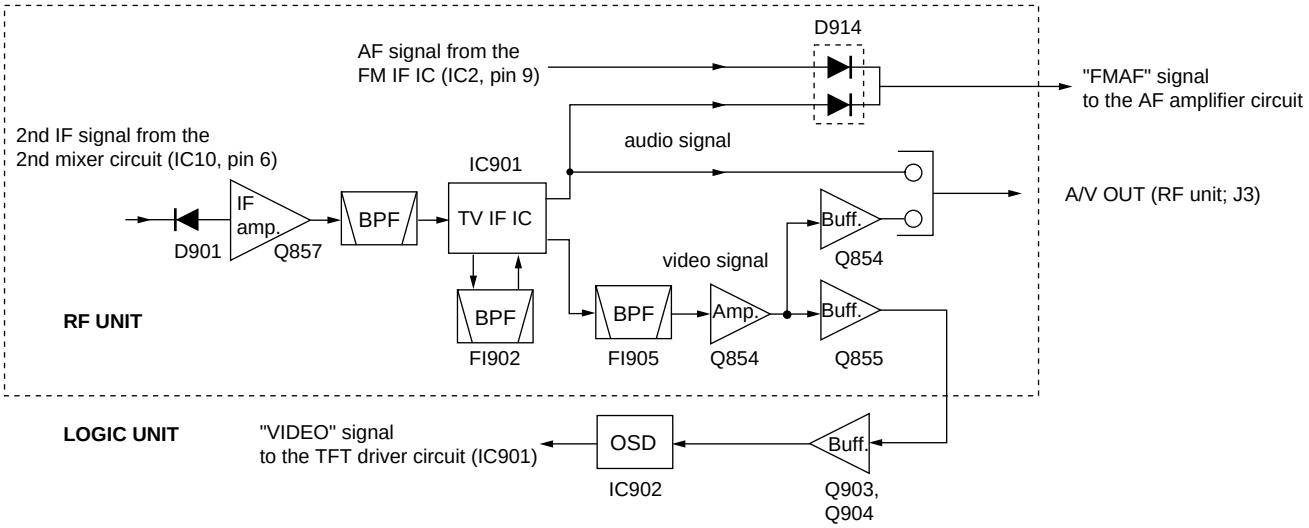
The TFT driver contains the procesing of RGB signal circuit, color control circuit, etc. The TFT driver controls the TFT LCD (DS4) using the video signals from the OSC IC.

4-1-8 SQUELCH CIRCUIT (LOGIC AND RF UNITS)

• NOISE SQUELCH

The noise squelch circuit cuts out AF signals when no RF signals are received. By detecting noise components in the AF signals, the squelch circuit switches the AF mute switch.

• TV DEMODULATOR CIRCUIT



A portion of the AF signals from the FM IF IC (RF unit; IC2, pin 9) are applied to the active filter section (IC2, pin 8). The active filter section amplifies and filters noise components. The filtered signals are applied to the noise detector section and output from pin 13 as the “SDET” signal.

The “SDET” signal from IC2 (pin 13) is applied to the CPU (LOGIC unit; IC11, pin 12) directly. The CPU analyzes the noise condition and outputs the “AMUTE” signal to the AF mute switch (Q37).

Even when the squelch is closed, the AF mute switch (Q37) opens at the moment of emitting beep tones.

• TONE SQUELCH

The tone squelch circuit detects AF signals and opens the squelch only when receiving a signal containing a matching subaudible tone (CTCSS). When tone squelch is in use, and a signal with a mismatched or no subaudible tone is received, the tone squelch circuit mutes the AF signals even when noise squelch is open.

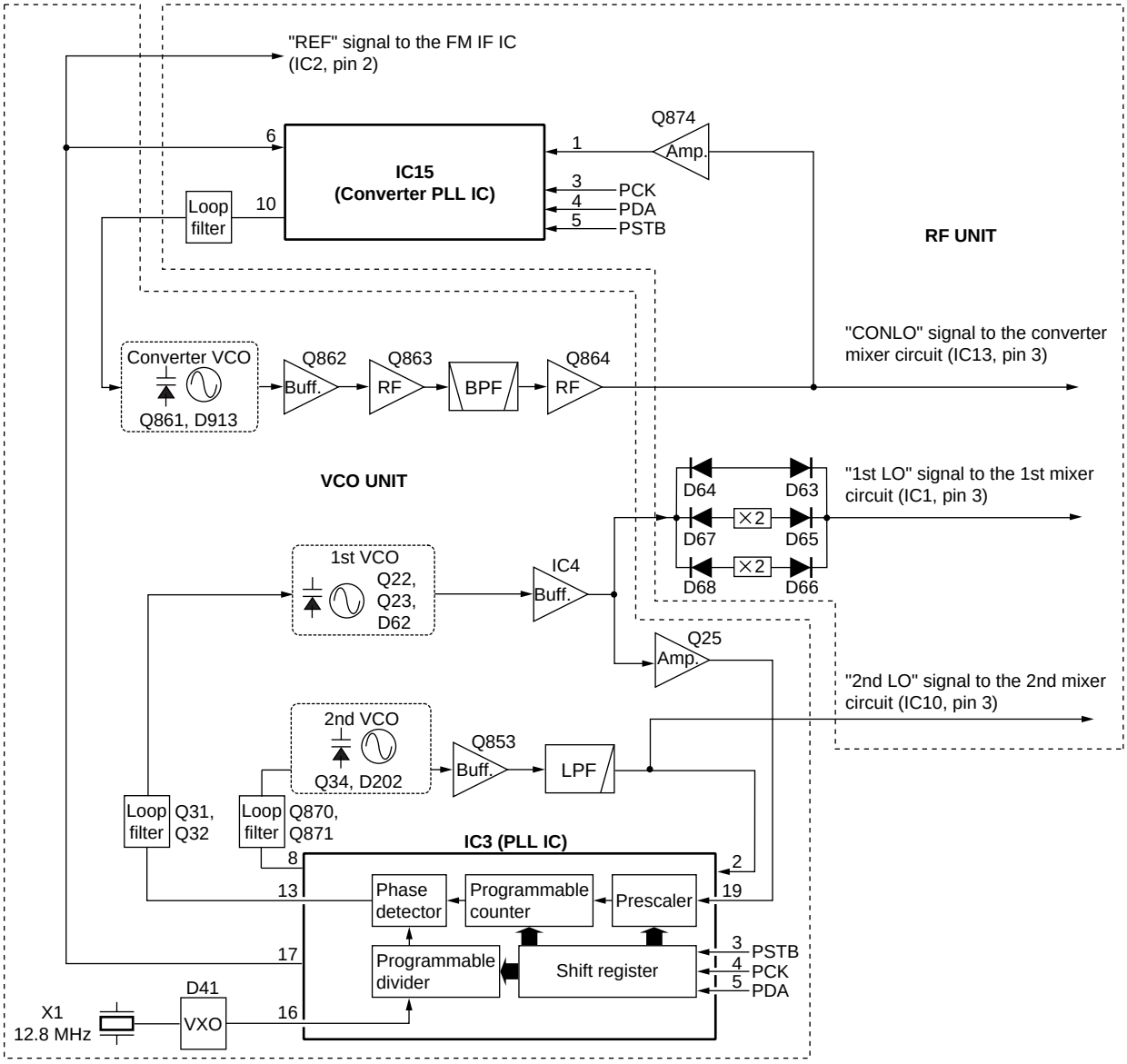
A portion of the AF signals from the FM IF IC (RF unit; IC2, pin 9) passes through the low-pass filter (LOGIC unit; IC9) via the “FMAF” signal to remove AF (voice) signals and passes through the tone filter (LOGIC unit; IC9, Q8). The filtered signal is applied to the CTCSS decoder inside CPU (LOGIC unit; IC11, pin 8) via the “RTONE” line to control the AF mute switch.

4-2 PLL CIRCUITS

4-2-1 PLL CIRCUIT (VCO UNIT)

A PLL circuit provides stable oscillation of the receive 1st/2nd LO frequencies. The PLL circuit compares the phase of the divided VCO frequency to the reference frequency. The PLL output frequency is controlled by the divided ratio (N-data) of a programmable divider.

・PLL CIRCUIT



An oscillated signal from the 1st VCO passes thorough the buffer amplifiers (IC4, Q25), is applied to the PLL IC (IC3, pin 19) and is prescaled in the PLL IC based on the divided ratio (N-data). The PLL IC detects the out-of-step phase using the reference frequency and outputs it from pin 13. The output signal is passed through the loop filter (Q31, Q32) and is then applied to the 1st VCO circuit as the lock voltage.

4-2-2 CONVERTER PLL CIRCUIT (RF AND VCO UNITS)

An oscillated signal from the converter VCO is applied to the buffer and RF amplifiers (Q862, Q863). The amplified signal passes through the bandpass filter (VCO unit; C972–C979, C981, C982, L921–L924), and is then amplified at the RF amplifier (VCO unit; Q864) and LO amplifier (RF unit; Q874). The amplified signal is applied to the converter PLL IC (RF unit; IC15, pin 1) and is prescaled in the converter PLL IC based on the divided ratio (N-data). The converter PLL IC detects the out-of-step phase using the reference frequency and outputs it from pin 10. The output signal is passed through the loop filter (RF unit; C956–C958, R945, R946) and is then applied to the converter VCO circuit as the lock voltage.

4-2-3 REFERENCE OSCILLATOR CIRCUIT (VCO UNIT)

The reference oscillator circuit (X1, IC3) generates a 12.8 MHz reference frequency which is stabilized within the temperature range –10˚C (+14˚F) to +60˚C (+140˚F). The reference frequency is applied to the PLL IC (IC3, pin 16) and the signal is output from pin 17, and is then applied to the converter PLL IC (RF unit; IC15, pin 6) and FM IF IC (RF unit; IC2, pin 2).

4-2-4 1ST VCO CIRCUIT (VCO UNIT)

The oscillated signal is applied to the buffer amplifier (IC4). The amplified signal is applied to the 1st mixer circuit (RF unit; IC1, pin 3) via the RX LO swtich circuit (RF unit; D63–D68) and doubler circuit (RF unit; Q25).

The 1st VCO circuit (Q22, Q23, D62) oscillates 240.6 MHz–359.9475 MHz (Low) and 348.1 MHz–520.0475 MHz (High) respectively by switching the SHIFT switch (Q21, D61).

A portion of the signal from IC4 is amplified at the buffer amplifier (Q25) and is then fed back to the PLL IC (IC3, pin 19) as the comparison signal.

4-2-5 2ND VCO CIRCUIT (VCO UNIT)

The 2nd LO circuit generates the 2nd LO frequencies, and the signals are applied to the 2nd mixer circuit.

The 2nd VCO circuit (Q34, D202) oscillates 183.1–297.1 MHz signal. The oscillated signal is applied to the 2nd mixer (RF unit; IC10, pin 3), and is then mixed with the 1st IF signal.

An oscillated signal from the 2nd VCO is applied to the buffer amplifier (Q853). The amplified signal passes through the low-pass filter (C154, C250–C252, L69), and is applied to the PLL IC (IC3, pin 2), and is then output from pin 8.

4-2-6 CONVERTER VCO CIRCUIT (VCO UNIT)

The converter LO circuit generates the converter LO frequencies, and the signals are applied to the converter mixer circuit.

The converter VCO circuit (Q816, D913) oscillates 645.5–675.5 MHz signal. The oscillated signal is applied to the buffer amplifier (Q862), and is then amplified at the RF amplifier (Q863) to double the oscillating frequency. The 1291–1351 MHz signal is applied to the RF amplifier (Q864) via the bandpass filter (C972–C979, C981, C982, L921–L924). The amplified signal is applied to the converter mixer (RF unit; IC13, pin 3), and is then mixed with the above 1150 MHz RF signal.

An oscillated signal from the converter VCO is applied to the LO amplifier (RF unit; Q874). The amplified signal is applied to the converter PLL IC (RF unit; IC15, pin 1).

4-3 FM-TV CIRCUIT

4-3-1 FM-TV CIRCUIT (FM-TV UNIT) ([OTH-2] only includes this unit)

The 426.05 MHz 1st IF signal from the 1st mixer (RF unit; IC1, pin 6) passes through the IF switching diode (D1) via the J6 on the RF unit. The signal is passed through the bandpass filter (FI1) to suppress unwanted signal, and then applied to the IF amplifier (IC1, pin 4). The amplified signal is applied to the FM-TV detector IC (IC2, pins 24 and 25). The FM-TV detector IC contains the AGC amplifier, loop amplifier, video amplifier, etc. The video and audio signals are output from the FM-TV detector separately.

• VIDEO SIGNAL

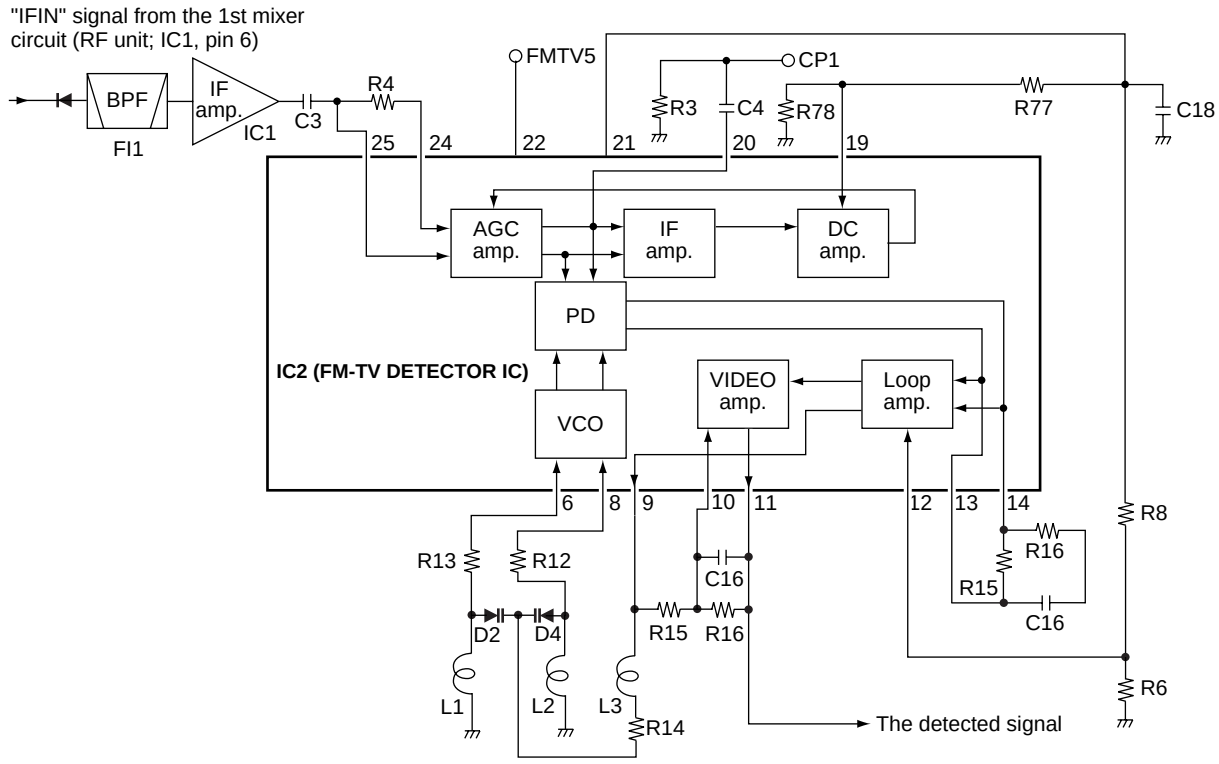
The detected video signal from the FM-TV IC (IC1) is amplified at the buffer amplifier (Q21), and then applied to the amplifier (IC21, pin 1 and 8). The amplified signal is applied to the video selector IC (IC22, pin 1 and 3) to obtain 6 dB amplification. The amplified signal is output from the video selector IC (pin 7), and is then applied to the buffer amplifier (RF unit; Q855) via the “VIDEO” signal. The amplified signal is applied to the TFT LCD circuit on the LOGIC unit.

• AUDIO SIGNAL

The oscillator (Q51, C53–C55, C57, D51, D52) oscillates 14–28 MHz signal.The detected audio signal from the FM-TV IC (IC1) is amplified at the buffer amplifier, and is then applied to the mixer (Q41). The signal is mixed with oscillated 14–28 MHz signal to produce the 13.25 MHz IF signal at the mixer. The IF signal passes through the band switching diode (RF unit; D72) and bandpass filter (RF unit; FI4). The filtered signal is amplified at the 2nd IF amplifier (RF unit; Q41), and is applied to the FM IF IC (RF unit; IC2, pin 16).

The detected signal is applied to the AF circuit (LOGIC unit) for speaker, and applied to the A/V OUT jack (RF unit; J3) via the RF amplifier (Q71).

• FM-TV DETECTOR CIRCUITS (FM-TV UNIT)



4-4 POWER SUPPLY CIRCUITS

VOLTAGE LINE

LINE	DESCRIPTION
BATV	The voltage from the attached battery.
VCC HV	The same voltage as the BATV line (battery voltage).
+3V	Common 3V converted from VCC line by the +3V converter circuit (LOGIC unit; Q6, Q39) using the "POWERC" signal from the CPU (LOGIC unit; IC11, pin 28).
3V	Common 3V converted from the VCC line by the +3V regulator circuit (LOGIC unit; IC3). The output voltage is applied to the RESET circuit (LOGIC unit; IC5, pin 2).
R3V	Receive 3V controlled by the R3V regulator circuit (LOGIC unit; Q4, Q5) using the +3SC signal from the CPU (LOGIC unit; IC11, pin 27).
4.5V	Common 4.5V converted from the VCC line by the DC-DC converter (LOGIC unit; IC801). The output voltage is applied to the TFT driver (LOGIC unit; IC901) and the TFT back light driver (LOGIC unit; Q821).
5V	Common 5V converted from the VCC line by the DC-DC converter (LOGIC unit; T1). The output voltage is applied to the OSD IC (LOGIC unit; IC902), etc.
12V	Common 12V converted from VCC line by the DC-DC converter (LOGIC unit; T1). The output signal is applied to the TFT driver (LOGIC unit; IC901).
15V	Common 15V converted from the VCC line by the DC-DC converter (LOGIC unit; T1). The output signal is applied to the TFT LCD (LOGIC unit; DS54).

4-5 PORT ALLOCATIONS

4-5-1 EXPANDER IC (RF UNIT; IC5)

Pin number	Port name	Description
5	B1C	Outputs low-pass filter select signal. Low : When frequencies 0.5 to 1.9 MHz are displayed.
6	B2C	Outputs bandpass filter select signal. Low : When frequencies 1.9 to 15 MHz are displayed.
7	B3C	Outputs bandpass filter select signal. Low : When frequencies 15 to 30 MHz are displayed.
8	65MC	Outputs bandpass filter select signal. Low : When frequencies 65 to 108 MHz are displayed.
9	30MC	Outputs bandpass filter select signal. Low : When frequencies 30 to 65 MHz are displayed.
10	SHIFT	Outputs control signal for the VCO shift circuit (VCO unit; Q21, D61). High : While the 1st VCO is shifting.
11	DBL1	Outputs control signal for the doubler1 circuit (RF unit; Q26, D65, D67).
12	DBL2	Outputs control signal for the doubler2 circuit (RF unit; Q26, D66, D68).
16	470MC	Outputs low-pass and bandpass filters select signal. Low : When frequencies 470 to 600 MHz are displayed.
17	600MC	Outputs low-pass and bandpass filters select signal. Low : When frequencies 600 to 750 MHz are displayed.

4-5-2 CPU (LOGIC UNIT; IC11)

Pin number	Port name	Description
2	THERMC	Input port for the receiver's internal temperature detection.
9	TRACC	Outputs tracking control signal.
10	FSET	Outputs control signal for the RIT frequency.
11	TCON	Outputs control signal for the CTCSS regulator circuit (LOGIC unit; IC9, pin 3). Low : While the CTCSS is ON.
15	VRC	Outputs level control signal for the AF volume.
17	CHGC	Outputs battery charger control signal. High : While charging battery.
18	AMUTE	Outputs the AF mute switch (LOGIC unit; Q37) control signal. High : While squelched.
19	CLOUT	Outputs the cloning signal.
20	CLIN	Input port for the cloning signal.
21	BEEP	Outputs beep audio signals.
23	POWERC	Outputs the +3V regurator control signals. Low : Power switch is pushed.
24	AFON	Outputs control signal for the AF amplifier regurator circuit. High : Activates the AF amplifier circuit.
25	RXC	Outputs control signal for the receiver regulator circuit.
26	DCDC_C	Outputs the DC-DC converter (LOGIC unit; IC801, pin 2) control signal. Low : While color LCD is displayed.
27	+3SC	Outputs the +3S regurator control signal.
29	CONVC	Outputs control signal for the converter circuit. Low : When frequencies above 1150 MHz are displayed.
30	TVC	Outputs control signal for the TV receive circuit. Low : While TV band receiving.
31	LIGHT	Outputs key and LCD backlight control signal. High : Lights ON.
32	CPUHV	Input port for connecting the external power supply detection. Low : While connecting the external power supply.
33	RESET	Input port for the RESET signal.
41	ECK	I/O port for the EEPROM (LOGIC unit; IC2, pin 1) serial clock.
42	ECS	Outputs chip select signal for the EEPROM (LOGIC unit; IC2, pin 1).
45	PSTB	I/O port for strobe signal from/to the PLL IC (VCO unit; IC3, pin 3).
51	OSSTB	Outputs chip select signal for the color LCD.
52	TGSTB	Outputs color LCD load signal.
54	DATA	• Outputs color LCD control signal. • Outputs serial data for the LCD controllor.
56	UHF3VC	Outputs bandpass filter select signal. Low : When frequencies 330 to 470 MHz are displayed.
57	174MC	Outputs bandpass filter select signal. Low : When frequencies 174 to 225 MHz are displayed.
58	108MC	Outputs bandpass filter select signal. Low : When frequencies 108 to 174 MHz are displayed.
59	HFC	Outputs control signal for the HF band receiver regurator circuit (RF unit; Q5). Low : When frequencies 0.5 to 30 MHz are displayed.
60 61 62	ATT3 ATT2 ATT1	Outputs attenuater control signal. High : While attenuater is ON.
63	AM	Outputs AM mode select signals. Low : When AM is selected.
64	WFM	Outputs WFM mode select signals. Low : When WFM is selected.

SECTION 5 ADJUSTMENT PROCEDURES

5-1 PREPARATION

■ REQUIRED TEST EQUIPMENT

EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage : 4.5 V DC Current capacity : 1 A or more	Frequency counter	Frequency range : 0.1–2500 MHz Frequency accuracy : ±1 ppm or better Sensitivity : 100 mV or better
Digital multimeter	Input impedance : 10 MΩ/DC or better		
Oscilloscope	Frequency range : DC–20 MHz Measuring range : 0.01–10 V	Standard signal generator (SSG)	Frequency range : 0.1–2500 MHz Output level : 0.1 µV–32 mV (–127 to –17 dBm)
Audio generator	Frequency range : 1–3000 Hz Measuring range : 0.01–10 V	Digital DC voltmeter	Input impedance : 10 MΩ/DC or better

■ ENTERING ADJUSTMENT MODE

① Turn power OFF.
② Input the square wave (as illustration at page 5-2) to the [SP] jack (RF unit; J2).
③ Push and hold the [FUNC] key, and then turn power ON.

NOTE: When turning power OFF disconnecting the square wave, cancelled the adjustment mode.

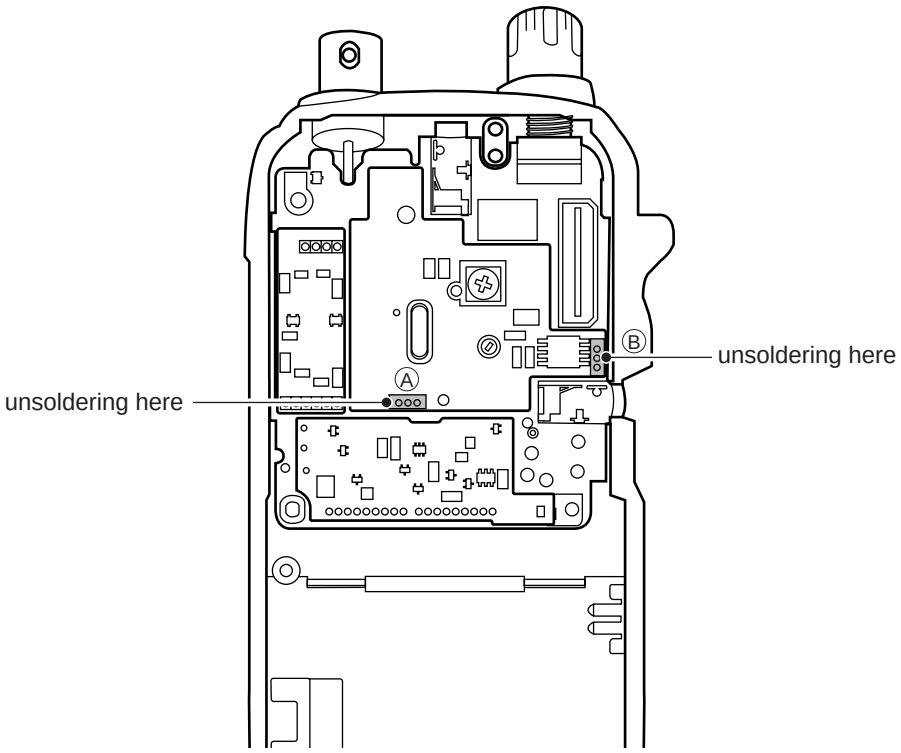
■ OPERATING ON THE ADJUSTMENT MODE

Change the adjustment item or channel : [◀] or [▶]
Change the value : [DIAL]

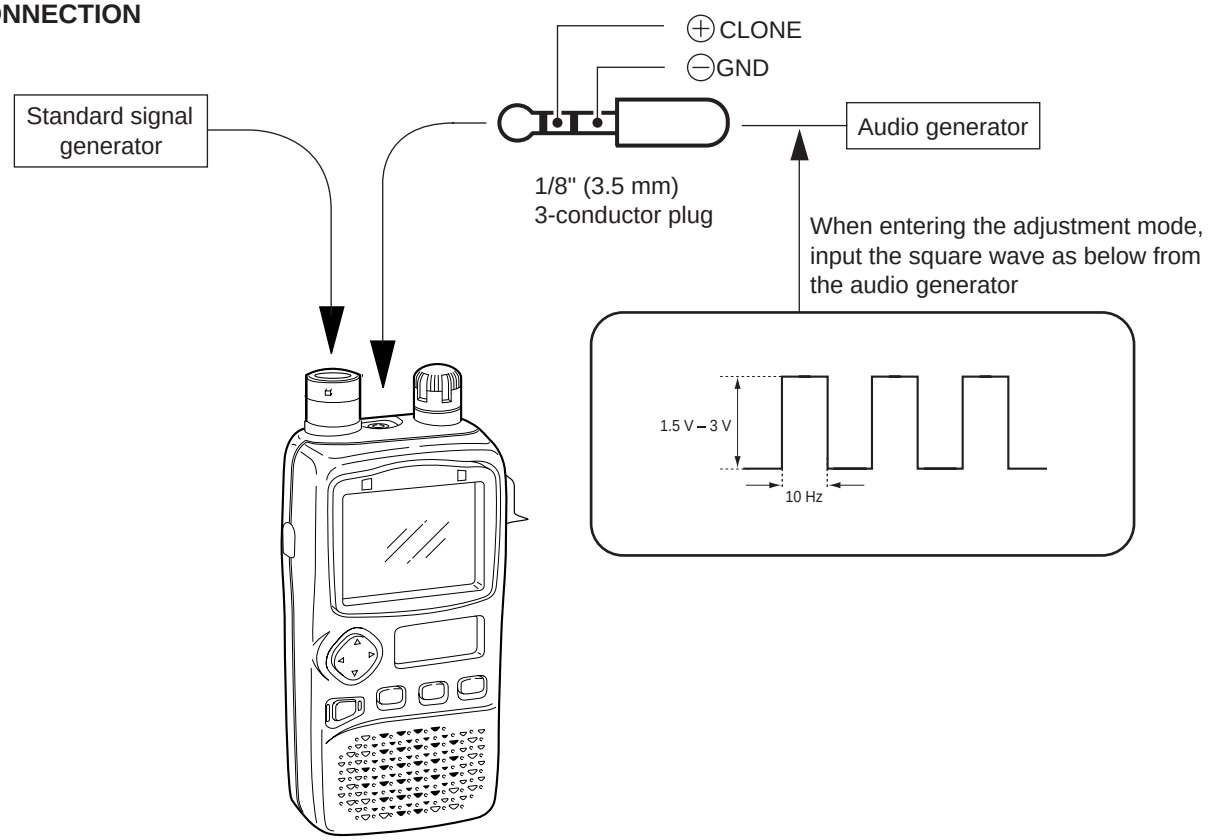
■ FM-TV FREQUENCY ADJUSTMENT ([OTH-2] ONLY)

When adjusting “FM-TV FREQUENCY”, need to remove the FM-TV unit from the IC-R3 as follow.
① Unsoldering 3 points Ⓐ and 3 points Ⓑ.
② Pull up the FM-TV unit.

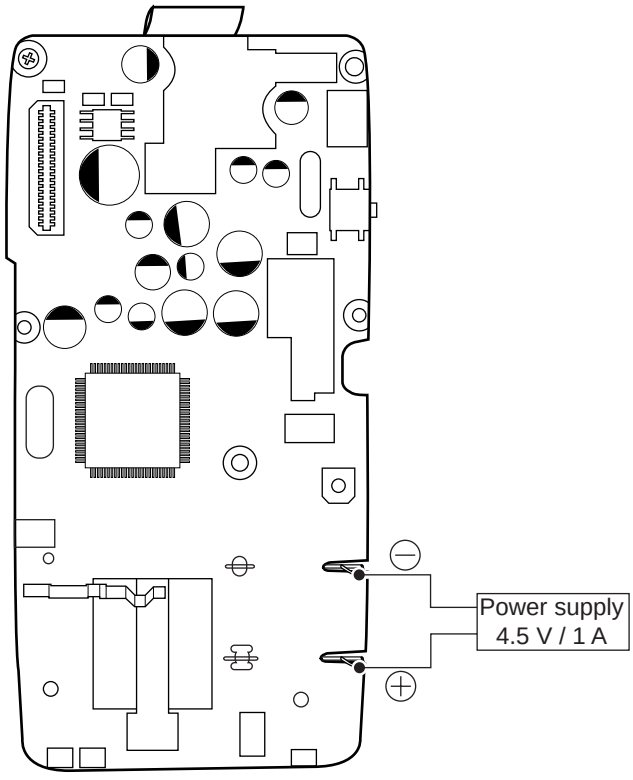
• REMOVING FM-TV UNIT



• CONNECTION



• DC POWER CABLE CONNECTION

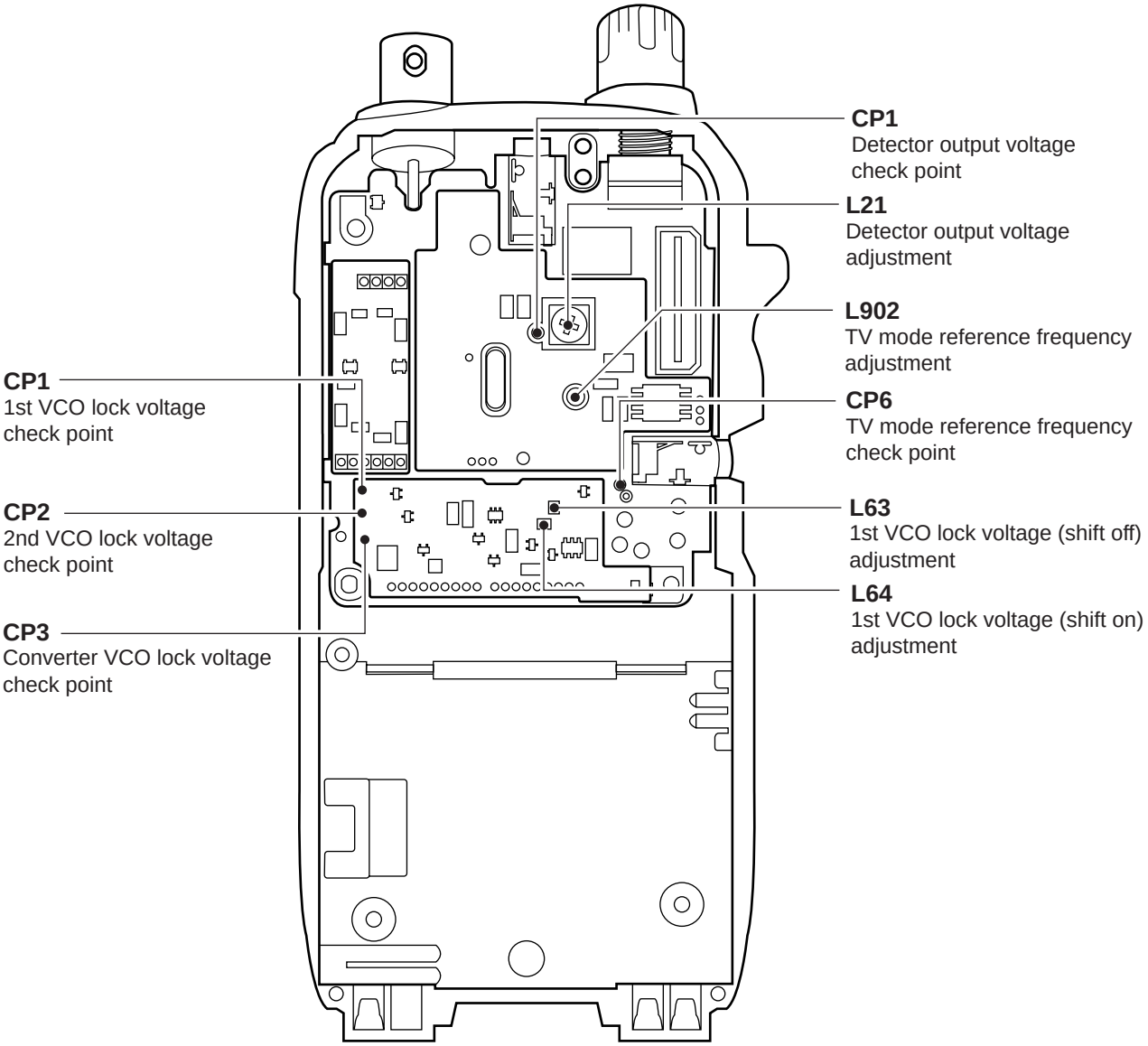


5-2 PLL ADJUSTMENT

"TV RECEIVING SYSTEM", "REFERENCE FREQUENCY" AND "DETECTOR OUTPUT VOLTAGE" adjustments must be performed at "ADJUSTMENT MODE".

ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
			UNIT	LOCATION		UNIT	ADJUST
1ST VCO LOCK VOLTAGE (SHIFT ON)	1	• Displayed frequency : 799.995 MHz • Receiving	VCO	Connect the digital multi-meter to the check point CP1.	14.5 V	VCO	L64
(SHIFT OFF)	2	• Displayed frequency : 0.495 MHz • Receiving			2.5 V		L63
2ND VCO LOCK VOLTAGE	1	• Displayed frequency : 0.495 MHz • Receiving	VCO	Connect the digital multi-meter to the check point CP2.	3.2 V – 5.2 V	VCO	Verify
CONVERTER VCO LOCK VOLTAGE	1	• Displayed frequency : 1150.000 MHz • Receiving	VCO	Connect the digital multi-meter to the check point CP3.	0.8 V	VCO	L919
TV MODE REFERENCE FREQUENCY	1	• Displayed frequency : 97.45 MHz • Mode :TV • Connect an SSG to the antenna connector and set as: Level : 1 mV* (60 dBμ) Modulation : OFF • Receiving	RF	Connect the frequency counter to the check point CP6.	2.5 V	RF	L902
TV RECEIVING SYSTEM	1	• Displayed TV receiving system adjustment menu (TV ch).	DISPLAY		4.5	Top panel	[DIAL]
REFERENCE FREQUENCY	1	• Displayed frequency : (FR ch) 1260.000 MHz • Receiving	RF	Connect the frequency counter to the check point CP5.	1320.0000 MHz	Top panel	[DIAL]
DETECTOR OUTPUT VOLTAGE	1	• Displayed frequency : (TL ch) 30.100 MHz • Connect an SSG to the antenna connector and set as: Level : 1 mV* (60 dBμ) Modulation : OFF • Receiving	RF	Connect the digital multi-meter to the check point CP1.	1.0 V	RF	L21

*This output level of the standard signal generator (SSG) is indicated as SSG's open circuit.


CP1
Detector output voltage check point
L21
Detector output voltage adjustment
L902
TV mode reference frequency adjustment
CP6
TV mode reference frequency check point
L63
1st VCO lock voltage (shift off) adjustment
L64
1st VCO lock voltage (shift on) adjustment
CP1
1st VCO lock voltage check point
CP2
2nd VCO lock voltage check point
CP3
Converter VCO lock voltage check point

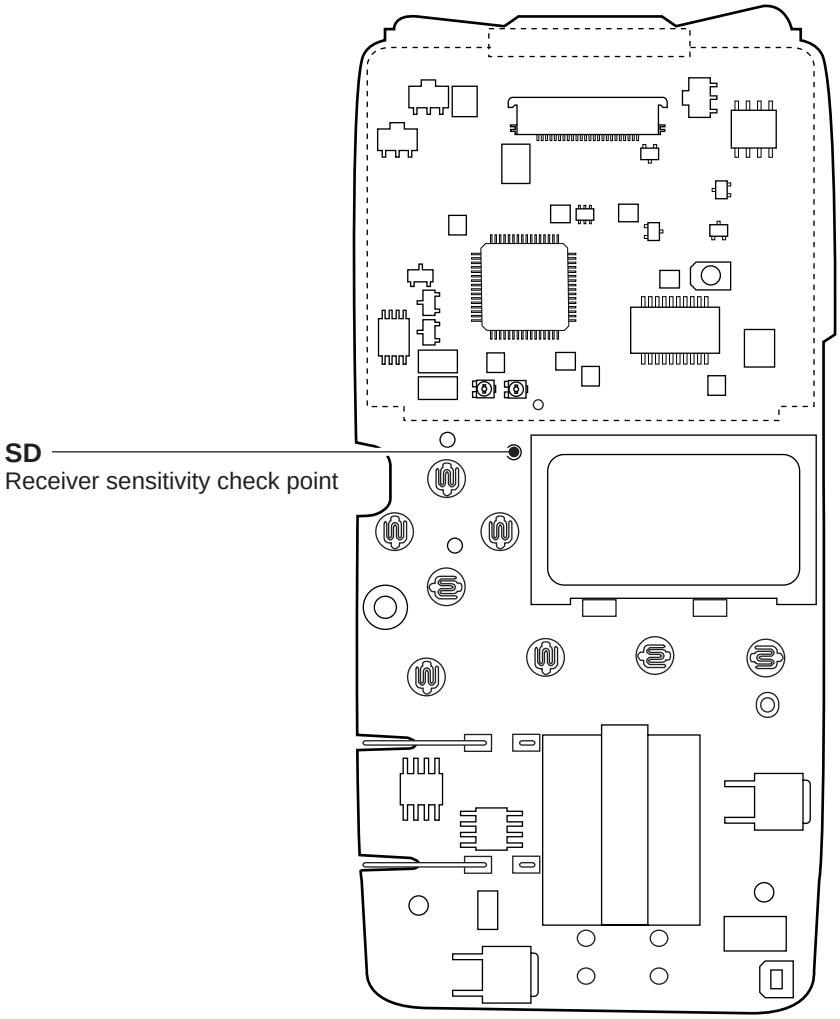
5-3 RECEIVER ADJUSTMENTS

The following adjustment must be peformed at the “ADJUSTMENT MODE”.
The “S-METER” adjustment must be performed after “RECEIVER SENSITIVITY ADJUSTMENT”.

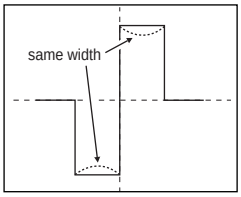
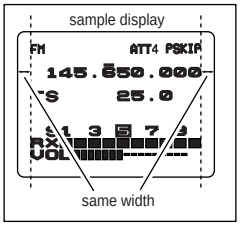
<table>
<tr><th rowspan="2" colspan="2">ADJUSTMENT</th><th rowspan="2">ADJUSTMENT CONDITION</th><th colspan="2">MEASUREMENT</th><th rowspan="2">VALUE</th><th colspan="2">ADJUSTMENT POINT</th></tr>
<tr><th>UNIT</th><th>LOCATION</th><th>UNIT</th><th>ADJUST</th></tr>
<tr><td rowspan="3">RECEIVER SENSITIVITY</td><td>1</td><td>• Displayed frequency :
(TL ch) 30.100 MHz
• Connect an SSG to the antenna connector and set as:
Level : 1 µV* (–107 dBm)
Modulation : OFF
• Receiving</td><td rowspan="2">LOGIC</td><td rowspan="2">Connect the digital multi-meter to the check point SD.</td><td rowspan="2">Maximum voltage</td><td rowspan="2">Top panel</td><td rowspan="2">[DIAL]</td></tr>
<tr><td>2</td><td>• Displayed frequency :
(TL ch) 64.900 MHz
• Connect an SSG to the antenna connector and set as:
Level : 1 µV* (–107 dBm)
Modulation : OFF
• Receiving</td></tr>
<tr><td>3</td><td colspan="6">• Same adjustments as step 1–2 for following frequencies :
65 MHz (TL ch) 65.100 MHz
(TH ch) 107.900 MHz
108 MHz (TL ch) 108.100 MHz
(TH ch) 173.900 MHz
174 MHz (TL ch) 174.100 MHz
(TH ch) 224.900 MHz
330 MHz (TL ch) 330.100 MHz
(TH ch) 469.900 MHz
470 MHz (TL ch) 470.100 MHz
(TH ch) 599.900 MHz
600 MHz (TL ch) 600.100 MHz
(TH ch) 799.900 MHz
NOTE: DO NOT change the SSG output level.</td></tr>
<tr><td rowspan="2">S-METER</td><td>1</td><td>• Displayed frequency :
(SM ch) 1.620 MHz
• Mode : FM
• Connect an SSG to the antenna connector and set as :
Level : 0.63 µV* (–111 dBm)
Modulation : OFF
• Receiving</td><td></td><td></td><td>• Push the [MODE] key, and verify that S-Meter shows S4 (3 dots).</td><td></td><td></td></tr>
<tr><td>2</td><td colspan="6">• Same adjustments as step 1 for following frequencies and SSG’S output level :

<table>
<tr><th>S-Meter Adj. Freq.</th><th>SSG Level</th></tr>
<tr><td>6.500 MHz (SM ch)</td><td>0.50 µV* (–113 dBm)</td></tr>
<tr><td>15.020 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>51.100 MHz (SM ch)</td><td>0.50 µV* (–113 dBm)</td></tr>
<tr><td>107.980 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>159.980 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>174.020 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>279.960 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>330.020 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>500.020 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>670.020 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
</table>
<table>
<tr><th>S-Meter Adj. Freq.</th><th>SSG Level</th></tr>
<tr><td>800.020 MHz (SM ch)</td><td>1 µV* (–107 dBm)</td></tr>
<tr><td>1230.050 MHz (SM ch)</td><td>0.56 µV* (–112 dBm)</td></tr>
<tr><td>1427.980 MHz (SM ch)</td><td>0.79 µV* (–109 dBm)</td></tr>
<tr><td>1450.980 MHz (SM ch)</td><td>0.79 µV* (–109 dBm)</td></tr>
<tr><td>1501.020 MHz (SM ch)</td><td>0.50 µV* (–113 dBm)</td></tr>
<tr><td>1600.020 MHz (SM ch)</td><td>0.63 µV* (–111 dBm)</td></tr>
<tr><td>1666.100 MHz (SM ch)</td><td>0.79 µV* (–109 dBm)</td></tr>
<tr><td>1850.200 MHz (SM ch)</td><td>0.79 µV* (–109 dBm)</td></tr>
<tr><td>1961.020 MHz (SM ch)</td><td>1.4 µV* (104 dBm)</td></tr>
<tr><td>2110.020 MHz (SM ch)</td><td>0.79 µV* (–109 dBm)</td></tr>
</table></td></tr>
</table>

*This output level of the standard signal generator (SSG) is indicated as SSG’s open circuit.

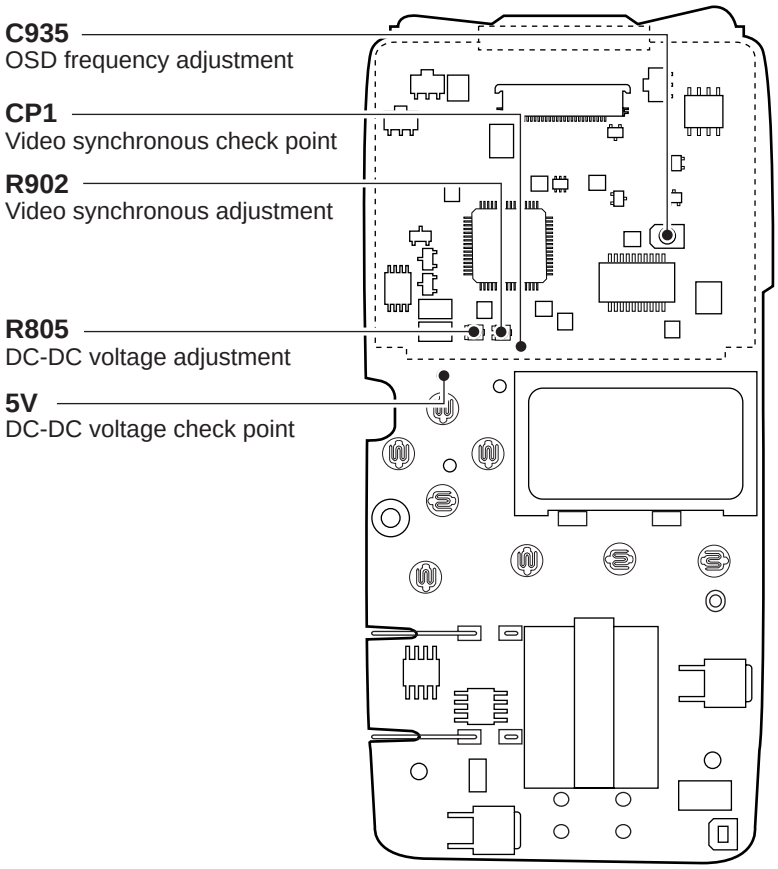

SD
Receiver sensitivity check point

5-4 TFT LCD AND FM-TV UNIT ADJUSTMENTS

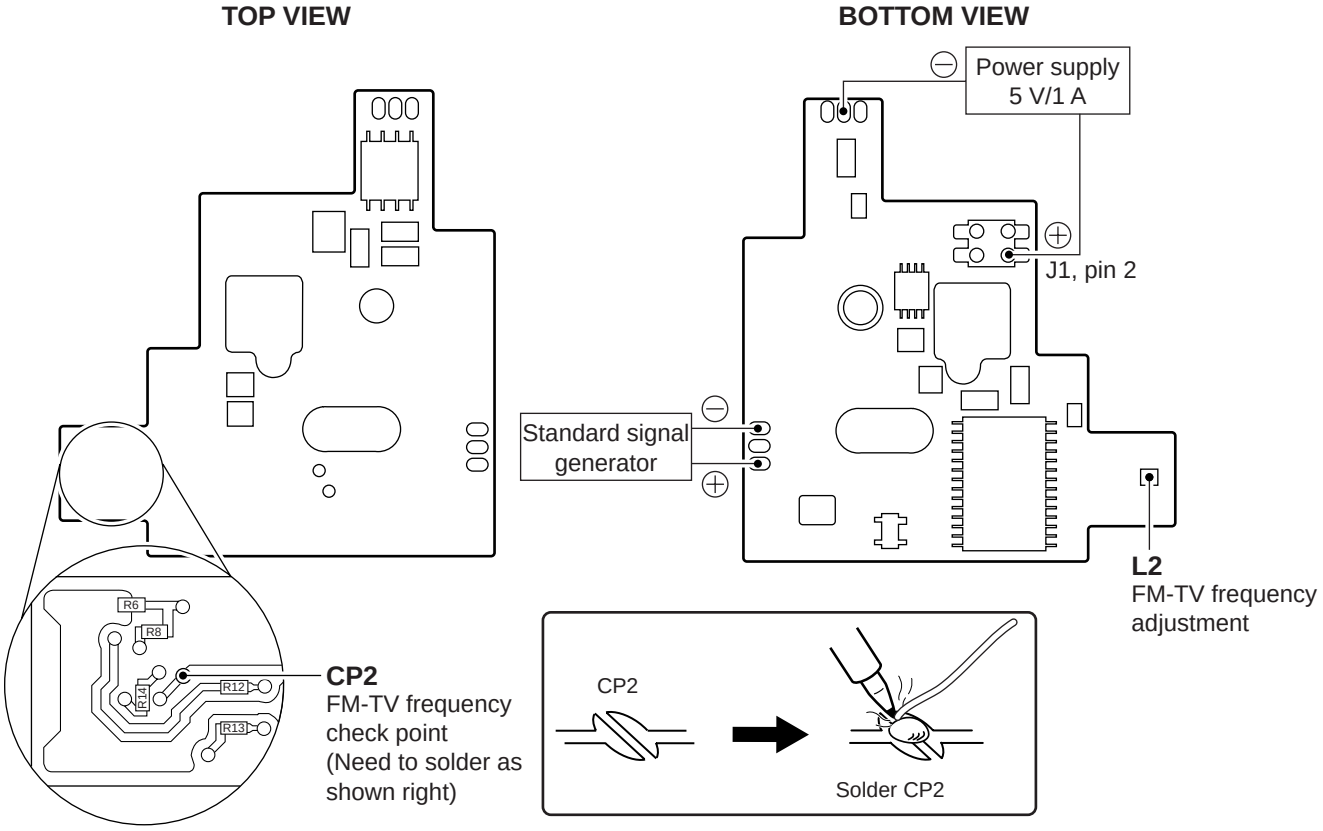
ADJUSTMENT		ADJUSTMENT CONDITION	MEASUREMENT		VALUE	ADJUSTMENT POINT	
			UNIT	LOCATION		UNIT	ADJUST
LCD LIGHT ON	1	• Displayed frequency : 2 channel • Mode : TV mode • Push and hold [FUNC] key, and then push [▲] or [▼] key.	Front panel	Display	The LCD lights ON		Verify
DC-DC VOLTAGE	1	• Displayed frequency : 2 channel • Mode : TV mode • Receiving	LOGIC	Connect the digital voltmeter to the check point 5V.	5.1 V	LOGIC	R805
VIDEO SYNCHRO-NOUS	1	• Displayed frequency : 2 channel • Mode : TV mode • Receiving	LOGIC	Connect the oscillo-scope to the check point CP1.	Set the waveform as below 	LOGIC	R902
OSD FREQUENCY	1	• Displayed frequency : 2 channel • Mode : TV mode • Receiving	Front panel	Display	Set the same space both left side and right side on the display as below 	LOGIC	C935
FM-TV FREQUENCY ([OTH-2] only)	1	• Remove the FM-TV unit. • Solder CP2 to short the junction point (as shown next page). • Connect a 5 V power supply to the [FMTV5] terminal (J1, pin 2) • Connect an SSG to the [IFIN] terminal on the PCB and set as : Frequency : 426.05 MHz Level : 1 mV* (–47 dBm) Modulation : OFF • Receiving	FM-TV	Connect the digital voltmeter to the CP2.	1.5 V	FM-TV	L2

*This output level of the standard signal generator (SSG) is indicated as SSG's open circuit.

• **LOGIC UNIT**



• **FM-TV UNIT**



SECTION 6 PARTS LIST

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1110004020	S.IC	µPC2757T-E3
IC2	1110003200	S.IC	TA31136FN (EL)
IC5	1130009670	S.IC	BU2092FV-E2
IC10	1110004020	S.IC	µPC2757T-E3
IC13	1110004480	S.IC	µPC2758T-E3
IC14	1110005120	S.IC	µPC2749TB-E3
IC15	1130009370	S.IC	TB31242FN (EL)
IC901	1110005040	S.IC	M52342FP 600C
Q1	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q3	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q4	1590002430	S.TRANSISTOR	DTA144EE TL
Q5	1510001030	S.TRANSISTOR	DTA123JE TL
Q6	1590002010	S.TRANSISTOR	XP1114 (TX)
Q7	1590002650	S.TRANSISTOR	UPA805T-T1
Q8	1530003560	S.TRANSISTOR	2SC5195-T1
Q9	1530003580	S.TRANSISTOR	2SC5231C8-TL
Q26	1530003610	S.TRANSISTOR	FH102-TL
Q27	1590002010	S.TRANSISTOR	XP1114 (TX)
Q41	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q42	1590002430	S.TRANSISTOR	DTA144EE TL
Q43	1590001660	S.TRANSISTOR	XP4312 (TX)
Q44	1590001190	S.TRANSISTOR	XP6501-(TX) .AB
Q45	1590001190	S.TRANSISTOR	XP6501-(TX) .AB
Q46	1590001660	S.TRANSISTOR	XP4312 (TX)
Q52	1590002010	S.TRANSISTOR	XP1114 (TX)
Q53	1510001030	S.TRANSISTOR	DTA123JE TL
Q54	1590002010	S.TRANSISTOR	XP1114 (TX)
Q121	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q201	1590001470	S.TRANSISTOR	UN9213 (TX)
Q202	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q203	1590001770	S.TRANSISTOR	XP1213 (TX)
Q204	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q801	1580000730	S.FET	3SK293 (TE85L)
Q851	1580000730	S.FET	3SK293 (TE85L)
Q852	1590002430	S.TRANSISTOR	DTA144EE TL
Q854	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q855	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q856	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q857	1530002560	S.TRANSISTOR	2SC4403-3-TL
Q859	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q860	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q865	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q866	1590002010	S.TRANSISTOR	XP1114 (TX)
Q867	1510001030	S.TRANSISTOR	DTA123JE TL
Q868	1590002010	S.TRANSISTOR	XP1114 (TX)
Q869	1590002430	S.TRANSISTOR	DTA144EE TL
Q872	1560000540	S.FET	2SK880-Y (TE85R)
Q874	1530003560	S.TRANSISTOR	2SC5195-T1
Q875	1590001440	S.TRANSISTOR	UN9214 (TX)
D1	1750000350	S.VARICAP	1SV252 (TE85L)
D2	1790001620	S.DIODE	1SV308 (TPL3)
D3	1790001620	S.DIODE	1SV308 (TPL3)
D4	1790001260	S.DIODE	MA2S077-(TX)
D5	1790001260	S.DIODE	MA2S077-(TX)
D6	1790001260	S.DIODE	MA2S077-(TX)
D7	1790001260	S.DIODE	MA2S077-(TX)
D8	1790001260	S.DIODE	MA2S077-(TX)
D9	1790001260	S.DIODE	MA2S077-(TX)
D10	1790001620	S.DIODE	1SV308 (TPL3)
D11	1790001620	S.DIODE	1SV308 (TPL3)
D12	1790001620	S.DIODE	1SV308 (TPL3)
D13	1790001620	S.DIODE	1SV308 (TPL3)
D21	1790001620	S.DIODE	1SV308 (TPL3)
D22	1720000650	S.VARICAP	1SV286 (TPH3)
D23	1720000650	S.VARICAP	1SV286 (TPH3)
D24	1790001260	S.DIODE	MA2S077-(TX)
D33	1790001620	S.DIODE	1SV308 (TPL3)
D34	1790000850	S.DIODE	MA132WK (TX)
D35	1790001620	S.DIODE	1SV308 (TPL3)
D36	1790001620	S.DIODE	1SV308 (TPL3)
D37	1790001620	S.DIODE	1SV308 (TPL3)
D51	1790001590	S.DIODE	MA6S718 (TX)

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
D52	1790001590	S.DIODE	MA6S718 (TX)
D63	1790001260	S.DIODE	MA2S077-(TX)
D64	1790001260	S.DIODE	MA2S077-(TX)
D65	1790001260	S.DIODE	MA2S077-(TX)
D66	1790001260	S.DIODE	MA2S077-(TX)
D67	1790001260	S.DIODE	MA2S077-(TX)
D68	1790001260	S.DIODE	MA2S077-(TX)
D71	1790001260	S.DIODE	MA2S077-(TX)
D72	1790001260	S.DIODE	MA2S077-(TX)
D73	1790001260	S.DIODE	MA2S077-(TX)
D74	1790001260	S.DIODE	MA2S077-(TX)
D75	1790000850	S.DIODE	MA132WK (TX)
D76	1790000850	S.DIODE	MA132WK (TX)
D77	1790000660	S.DIODE	MA728 (TX)
D121	1790001260	S.DIODE	MA2S077-(TX)
D122	1790001260	S.DIODE	MA2S077-(TX)
D201	1790001250	S.DIODE	MA2S111-(TX)
D801	1720000650	S.VARICAP	1SV286 (TPH3)
D802	1720000650	S.VARICAP	1SV286 (TPH3)
D803	1790001260	S.DIODE	MA2S077-(TX)
D804	1790001620	S.DIODE	1SV308 (TPL3)
D805	1790001620	S.DIODE	1SV308 (TPL3)
D851	1720000650	S.VARICAP	1SV286 (TPH3)
D852	1720000650	S.VARICAP	1SV286 (TPH3)
D853	1790001260	S.DIODE	MA2S077-(TX)
D854	1790001620	S.DIODE	1SV308 (TPL3)
D861	1790001250	S.DIODE	MA2S111-(TX)
D862	1790001250	S.DIODE	MA2S111-(TX)
D871	1790001250	S.DIODE	MA2S111-(TX)
D901	1790001260	S.DIODE	MA2S077-(TX)
D902	1790001260	S.DIODE	MA2S077-(TX)
D906	1790001260	S.DIODE	MA2S077-(TX)
D907	1790001260	S.DIODE	MA2S077-(TX)
D909	1790001620	S.DIODE	1SV308 (TPL3)
D911	1790001620	S.DIODE	1SV308 (TPL3)
D912	1790001260	S.DIODE	MA2S077-(TX)
D913	1790000860	S.DIODE	MA133 (TX)
D914	1790000850	S.DIODE	MA132WK (TX)
FI2	2020001270	CERAMIC	CFWM450E
FI3	2010002490	S.XTAL	FL-319
FI4	2020001760	S.CERAMIC	SFECV13.25MAS
FI901	2040001570	SAW	WFSTSB6221D
FI902	2020001700	S.CERAMIC	SFSCC4.5MC2-TC10
FI904	2040001590	S.LC	LFSC25N11B0240B
FI905	2020001710	S.CERAMIC	TPSCC4.5MB-TC10
L1	6200005600	S.COIL	ELJRE 3N3Z-F
L2	6200005730	S.COIL	ELJRE 39NG-F
L3	6200005670	S.COIL	ELJRE 12NG-F
L4	6200005690	S.COIL	ELJRE 18NG-F
L5	6200005690	S.COIL	ELJRE 18NG-F
L6	6200009270	S.COIL	MLF2012K 560K-T
L7	6200009270	S.COIL	MLF2012K 560K-T
L8	6200005690	S.COIL	ELJRE 18NG-F
L9	6200005700	S.COIL	ELJRE 22NG-F
L10	6200005740	S.COIL	ELJRE 47NG-F
L11	6200005680	S.COIL	ELJRE 15NG-F
L12	6200005660	S.COIL	ELJRE 10NG-F
L13	6200005610	S.COIL	ELJRE 3N9Z-F
L14	6200005610	S.COIL	ELJRE 3N9Z-F
L15	6200005630	S.COIL	ELJRE 5N6Z-F
L21	6150004840	S.COIL	LS-510
L39	6200005690	S.COIL	ELJRE 18NG-F
L41	6200005720	S.COIL	ELJRE 33NG-F
L46	6200005640	S.COIL	ELJRE 6N8Z-F
L47	6200005670	S.COIL	ELJRE 12NG-F
L48	6200005680	S.COIL	ELJRE 15NG-F
L49	6200005740	S.COIL	ELJRE 47NG-F
L50	6200005680	S.COIL	ELJRE 15NG-F
L51	6200005650	S.COIL	ELJRE 8N2Z-F
L52	6200005680	S.COIL	ELJRE 15NG-F
L53	6200005670	S.COIL	ELJRE 12NG-F
L54	6200005660	S.COIL	ELJRE 10NG-F

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L55	6200005650	S.COIL	ELJRE 8N2Z-F
L57	6200005710	S.COIL	ELJRE 27NG-F
L58	6200005730	S.COIL	ELJRE 39NG-F
L59	6200005720	S.COIL	ELJRE 33NG-F
L60	6200007230	S.COIL	LQN21A 15NJ04
L61	6200007700	S.COIL	LQN21A 22NJ04
L76	6200004920	S.COIL	MLF1608A 2R2K-T
L77	6200004730	S.COIL	MLF1608A 1R2K-T
L78	6200007170	S.COIL	MLF1608A 3R3K-T
L81	6200004940	S.COIL	MLF1608D R27K-T
L82	6200005140	S.COIL	MLF1608D R33K-T
L83	6200004790	S.COIL	MLF1608D R47K-T
L84	6200004790	S.COIL	MLF1608D R47K-T
L85	6200006970	S.COIL	MLF1608A 3R9K-T
L86	6200006970	S.COIL	MLF1608A 3R9K-T
L87	6200004790	S.COIL	MLF1608D R47K-T
L88	6200003630	S.COIL	MLF1608D R68K-T
L89	6200007170	S.COIL	MLF1608A 3R3K-T
L90	6200007170	S.COIL	MLF1608A 3R3K-T
L91	6200002040	S.COIL	NL 252018T-101J
L121	6200007170	S.COIL	MLF1608A 3R3K-T
L122	6200007170	S.COIL	MLF1608A 3R3K-T
L801	6200005620	S.COIL	ELJRE 4N7Z-F
L802	6200005640	S.COIL	ELJRE 6N8Z-F
L803	6200007770	S.COIL	LQN21A R10J04
L804	6200005660	S.COIL	ELJRE 10NG-F
L805	6200005620	S.COIL	ELJRE 4N7Z-F
L806	6200005650	S.COIL	ELJRE 8N2Z-F
L807	6200005670	S.COIL	ELJRE 12NG-F
L851	6200005600	S.COIL	ELJRE 3N3Z-F
L852	6200005620	S.COIL	ELJRE 4N7Z-F
L853	6200007770	S.COIL	LQN21A R10J04
L854	6200005630	S.COIL	ELJRE 5N6Z-F
L855	6200005600	S.COIL	ELJRE 3N3Z-F
L901	6200003270	S.COIL	NL 252018T-R56J
L902	6150005070	S.COIL	LS-534 (4KMH)
L903	6200005030	S.COIL	NL 252018T-180J
L906	6200005720	S.COIL	ELJRE 33NG-F
L907	6200005020	S.COIL	NL 252018T-150J
L908	6200007770	S.COIL	LQN21A R10J04
L909	6200007770	S.COIL	LQN21A R10J04
L911	6200005640	S.COIL	ELJRE 6N8Z-F
L912	6200005650	S.COIL	ELJRE 8N2Z-F
L914	6200005670	S.COIL	ELJRE 12NG-F
L922	6200005660	S.COIL	ELJRE 10NG-F
R1	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R2	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R3	7030005010	S.RESISTOR	ERJ2GEJ 681 X (680 Ω)
R4	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R5	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R6	7510001190	S.THERMISTOR	NTCCM1608 4BH 472KC
R7	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R8	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R11	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R12	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R13	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R14	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R15	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R16	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R17	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R18	7030005710	S.RESISTOR	ERJ2GEJ 121 X (120 Ω)
R27	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R28	7030007060	S.RESISTOR	ERJ2GEJ 684X (680 kΩ)
R29	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R30	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R31	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R34	7030005590	S.RESISTOR	ERJ2GEJ 680 X (68 Ω)
R35	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R36	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R37	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R50	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
			[OTH-2] only
R52	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R53	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R54	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R55	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R56	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R57	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R58	7030005010	S.RESISTOR	ERJ2GEJ 681 X (680 Ω)
R59	7030005030	S.RESISTOR	ERJ2GEJ 152 X (1.5 kΩ)

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R60	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R61	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R62	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R64	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R71	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R72	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R73	7030008370	S.RESISTOR	ERJ2GEJ 561 X (560 Ω)
R74	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R75	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R76	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R77	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R78	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R81	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R82	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R83	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R84	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R85	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R86	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R101	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R102	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R103	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R104	7510001150	S.THERMISTOR	NTCCM1608 4BH 103KC
R105	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R107	7030007250	S.RESISTOR	ERJ2GEJ 220 X (22 Ω)
R108	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R109	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R110	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R111	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R112	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R113	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R114	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R115	7030005720	S.RESISTOR	ERJ2GEJ 563 X (56 kΩ)
R116	7030005590	S.RESISTOR	ERJ2GEJ 680 X (68 Ω)
R117	7030005710	S.RESISTOR	ERJ2GEJ 121 X (120 Ω)
R118	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R119	7030009200	S.RESISTOR	ERJ2GEJ 390 X (39 Ω)
R121	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R122	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R123	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R124	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R125	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R128	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R129	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R130	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R131	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R132	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R133	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R134	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R135	7030005580	S.RESISTOR	ERJ2GEJ 560 X (56 Ω)
R137	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R138	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R139	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R140	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R169	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R177	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R178	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R179	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R200	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R201	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R202	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R203	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R204	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R205	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R222	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R223	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R224	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R225	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R226	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R227	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R228	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R229	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R230	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R231	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R241	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R255	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R256	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R257	7030005570	S.RESISTOR	ERJ2GEJ 820 X (82 Ω)
R800	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R801	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R802	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R804	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R805	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R806	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R807	7030007250	S.RESISTOR	ERJ2GEJ 220 X (22 Ω)
R808	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R809	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R810	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R850	7030005600	S.RESISTOR	ERJ2GEJ 273 X (27 kΩ)
R851	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R852	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R854	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R855	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R857	7030007250	S.RESISTOR	ERJ2GEJ 220 X (22 Ω)
R858	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R859	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R860	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R861	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R862	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R863	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R864	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R865	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R875	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R876	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R877	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R878	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R901	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R903	7030007350	S.RESISTOR	ERJ2GEJ 393 X (39 kΩ)
R904	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R905	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R906	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R907	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R908	7030006610	S.RESISTOR	ERJ2GEJ 394 X (390 kΩ)
R909	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R910	7030005590	S.RESISTOR	ERJ2GEJ 680 X (68 Ω)
R912	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R914	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R917	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R918	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R922	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R923	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R924	7030007250	S.RESISTOR	ERJ2GEJ 220 X (22 Ω)
R925	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R926	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R927	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R928	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R929	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R930	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R931	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R932	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R933	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R934	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R935	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R936	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R937	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R938	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R939	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R940	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R941	7030005570	S.RESISTOR	ERJ2GEJ 820 X (82 Ω)
R942	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R943	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R944	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R945	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R946	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R947	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R948	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R950	7030005580	S.RESISTOR	ERJ2GEJ 560 X (56 Ω)
R957	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R958	7030007570	S.RESISTOR	ERJ2GEJ 122X (1.2 kΩ) [OTH], [OTH-1] only
R959	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R960	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R961	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R962	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R963	7030007570	S.RESISTOR	ERJ2GEJ 122X (1.2 kΩ)
R965	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R969	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R972	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R973	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R974	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
C2	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C3	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C4	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C5	4030013850	S.CERAMIC	ECUE1E102KBQ
C6	4030013850	S.CERAMIC	ECUE1E102KBQ
C7	4030013850	S.CERAMIC	ECUE1E102KBQ
C8	4030013850	S.CERAMIC	ECUE1E102KBQ
C9	4030013850	S.CERAMIC	ECUE1E102KBQ
C10	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C11	4030013850	S.CERAMIC	ECUE1E102KBQ
C12	4030013980	S.CERAMIC	ECUE1H010BCQ
C13	4030014140	S.CERAMIC	ECUE1H150JCQ
C14	4030014020	S.CERAMIC	ECUE1H020BCQ
C15	4030014240	S.CERAMIC	ECUE1H180JCQ
C16	4030013980	S.CERAMIC	ECUE1H010BCQ
C17	4030014120	S.CERAMIC	ECUE1H100CCQ
C19	4030014240	S.CERAMIC	ECUE1H180JCQ
C20	4030014240	S.CERAMIC	ECUE1H180JCQ
C21	4030014240	S.CERAMIC	ECUE1H180JCQ
C22	4030014070	S.CERAMIC	ECUE1H040BCQ
C23	4030014060	S.CERAMIC	ECUE1H3R5BCQ
C24	4030014290	S.CERAMIC	ECUE1H090CCQ
C25	4030013980	S.CERAMIC	ECUE1H010BCQ
C26	4030014090	S.CERAMIC	ECUE1H060CCQ
C27	4030014050	S.CERAMIC	ECUE1H030BCQ
C28	4030013850	S.CERAMIC	ECUE1E102KBQ
C30	4030013850	S.CERAMIC	ECUE1E102KBQ
C31	4030013850	S.CERAMIC	ECUE1E102KBQ
C32	4030013850	S.CERAMIC	ECUE1E102KBQ
C33	4030013850	S.CERAMIC	ECUE1E102KBQ
C35	4030013980	S.CERAMIC	ECUE1H010BCQ
C36	4030013850	S.CERAMIC	ECUE1E102KBQ
C37	4030013850	S.CERAMIC	ECUE1E102KBQ
C38	4030013850	S.CERAMIC	ECUE1E102KBQ
C39	4030013850	S.CERAMIC	ECUE1E102KBQ
C40	4030014130	S.CERAMIC	ECUE1H120JCQ
C41	4030014030	S.CERAMIC	ECUE1H2R5BCQ
C42	4030014090	S.CERAMIC	ECUE1H060CCQ
C43	4030014180	S.CERAMIC	ECUE1H470JCQ
C44	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C45	4030014050	S.CERAMIC	ECUE1H030BCQ
C46	4030014090	S.CERAMIC	ECUE1H060CCQ
C47	4030014050	S.CERAMIC	ECUE1H030BCQ
C48	4030014090	S.CERAMIC	ECUE1H060CCQ
C49	4030014050	S.CERAMIC	ECUE1H030BCQ
C51	4030013980	S.CERAMIC	ECUE1H010BCQ
C52	4030013980	S.CERAMIC	ECUE1H010BCQ
C53	4030013850	S.CERAMIC	ECUE1E102KBQ
C54	4030014020	S.CERAMIC	ECUE1H020BCQ
C55	4030014200	S.CERAMIC	ECUE1H101JCQ
C56	4030014050	S.CERAMIC	ECUE1H030BCQ
C57	4030014200	S.CERAMIC	ECUE1H101JCQ
C58	4030013850	S.CERAMIC	ECUE1E102KBQ
C59	4030013850	S.CERAMIC	ECUE1E102KBQ
C60	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C61	4030013850	S.CERAMIC	ECUE1E102KBQ
C62	4030013850	S.CERAMIC	ECUE1E102KBQ
C63	4030013850	S.CERAMIC	ECUE1E102KBQ
C64	4030014140	S.CERAMIC	ECUE1H150JCQ
C65	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C66	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C67	4030013850	S.CERAMIC	ECUE1E102KBQ
C68	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C69	4550006950	S.TANTALUM	ECST0JX476R
C70	4030013850	S.CERAMIC	ECUE1E102KBQ
C71	4030013850	S.CERAMIC	ECUE1E102KBQ
C74	4030013850	S.CERAMIC	ECUE1E102KBQ
C81	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C82	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C87	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C88	4030014200	S.CERAMIC	ECUE1H101JCQ
C90	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C91	4030014240	S.CERAMIC	ECUE1H180JCQ
C92	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C93	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C94	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C95	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C96	4030013850	S.CERAMIC	ECUE1E102KBQ
C97	4030013850	S.CERAMIC	ECUE1E102KBQ
C98	4030013850	S.CERAMIC	ECUE1E102KBQ
C99	4030013850	S.CERAMIC	ECUE1E102KBQ
C101	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C102	4550006200	S.TANTALUM	ECST0JY106R
C103	4030011810	S.CERAMIC	C1608 JB 1A 224K-T-N
C104	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C105	4030014200	S.CERAMIC	ECUE1H101JCQ
C106	4030014120	S.CERAMIC	ECUE1H100CCQ
C107	4030013850	S.CERAMIC	ECUE1E102KBQ
C108	4030014220	S.CERAMIC	ECUE1E471KBQ
C109	4030014220	S.CERAMIC	ECUE1E471KBQ
C110	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C111	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C112	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C113	4030013850	S.CERAMIC	ECUE1E102KBQ
C114	4030011810	S.CERAMIC	C1608 JB 1A 224K-T-N
C115	4030013850	S.CERAMIC	ECUE1E102KBQ
C116	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C117	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C118	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C121	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C122	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C123	4030014130	S.CERAMIC	ECUE1H120JCQ
C124	4030014130	S.CERAMIC	ECUE1H120JCQ
C125	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C126	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C141	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C142	4030014100	S.CERAMIC	ECUE1H070CCQ
C143	4030013850	S.CERAMIC	ECUE1E102KBQ
C150	4030013850	S.CERAMIC	ECUE1E102KBQ
C151	4030013850	S.CERAMIC	ECUE1E102KBQ
C152	4030013850	S.CERAMIC	ECUE1E102KBQ
C153	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C167	4030013850	S.CERAMIC	ECUE1E102KBQ
C168	4030013850	S.CERAMIC	ECUE1E102KBQ
C169	4030013850	S.CERAMIC	ECUE1E102KBQ
C170	4030013850	S.CERAMIC	ECUE1E102KBQ
C171	4030013850	S.CERAMIC	ECUE1E102KBQ
C172	4030013850	S.CERAMIC	ECUE1E102KBQ
C173	4510007130	S.ELECTROLYTIC	EEFCD 0J 470R
C174	4030013850	S.CERAMIC	ECUE1E102KBQ
C175	4030013850	S.CERAMIC	ECUE1E102KBQ
C176	4030014180	S.CERAMIC	ECUE1H470JCQ
C177	4030014180	S.CERAMIC	ECUE1H470JCQ
C186	4030013850	S.CERAMIC	ECUE1E102KBQ
C187	4030014020	S.CERAMIC	ECUE1H020BCQ
C188	4030013850	S.CERAMIC	ECUE1E102KBQ
C189	4030014020	S.CERAMIC	ECUE1H020BCQ
C190	4030014050	S.CERAMIC	ECUE1H030BCQ
C191	4030014080	S.CERAMIC	ECUE1H050BCQ
C192	4030014150	S.CERAMIC	ECUE1H220JCQ
C193	4030014150	S.CERAMIC	ECUE1H220JCQ
C194	4030014170	S.CERAMIC	ECUE1H330JCQ
C195	4030014050	S.CERAMIC	ECUE1H030BCQ
C196	4030014030	S.CERAMIC	ECUE1H2R5BCQ
C197	4030014080	S.CERAMIC	ECUE1H050BCQ
C198	4030014130	S.CERAMIC	ECUE1H120JCQ
C199	4030014340	S.CERAMIC	ECUE1H390JCQ
C200	4550006680	S.TANTALUM	ECST0JY156R
C201	4030013850	S.CERAMIC	ECUE1E102KBQ
C202	4030013850	S.CERAMIC	ECUE1E102KBQ
C203	4030013850	S.CERAMIC	ECUE1E102KBQ
C211	4030014080	S.CERAMIC	ECUE1H050BCQ
C212	4030014020	S.CERAMIC	ECUE1H020BCQ
C213	4030014080	S.CERAMIC	ECUE1H050BCQ
C214	4030014030	S.CERAMIC	ECUE1H2R5BCQ
C215	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C216	4030014030	S.CERAMIC	ECUE1H2R5BCQ
C234	4030013850	S.CERAMIC	ECUE1E102KBQ
C244	4030013850	S.CERAMIC	ECUE1E102KBQ
C261	4030014180	S.CERAMIC	ECUE1H470JCQ
C262	4030013850	S.CERAMIC	ECUE1E102KBQ
C273	4030013850	S.CERAMIC	ECUE1E102KBQ
C274	4030013850	S.CERAMIC	ECUE1E102KBQ
C302	4030014320	S.CERAMIC	ECUE1H181JCQ
C303	4030013850	S.CERAMIC	ECUE1E102KBQ
C304	4030013850	S.CERAMIC	ECUE1E102KBQ
C305	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C307	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C321	4030014170	S.CERAMIC	ECUE1H330JCQ
C322	4030014130	S.CERAMIC	ECUE1H120JCQ
C323	4030014440	S.CERAMIC	ECUE1H820JCQ
C324	4030014210	S.CERAMIC	ECUE1H151JCQ
C325	4030014200	S.CERAMIC	ECUE1H101JCQ
C326	4030014330	S.CERAMIC	ECUE1H221JCQ
C327	4030014320	S.CERAMIC	ECUE1H181JCQ
C328	4030013850	S.CERAMIC	ECUE1E102KBQ
C329	4030016900	S.CERAMIC	ECUE1H152KBQ

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C330	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C331	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C332	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C333	4030016900	S.CERAMIC	ECUE1H152KBQ
C334	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C335	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C336	4030016940	S.CERAMIC	ECJ0EB1A393K
C337	4030014440	S.CERAMIC	ECUE1H820JCQ
C338	4030014160	S.CERAMIC	ECUE1H270JCQ
C339	4030014210	S.CERAMIC	ECUE1H151JCQ
C340	4030014490	S.CERAMIC	ECUE1E331KBQ
C341	4030014320	S.CERAMIC	ECUE1H181JCQ
C342	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C344	4030014490	S.CERAMIC	ECUE1E331KBQ
C345	4030013850	S.CERAMIC	ECUE1E102KBQ
C346	4030014230	S.CERAMIC	ECUE1E681KBQ
C347	4030013880	S.CERAMIC	C1005 JB 1H 222K-T-N
C348	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C349	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C350	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C351	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C363	4030013850	S.CERAMIC	ECUE1E102KBQ
C366	4030013850	S.CERAMIC	ECUE1E102KBQ
C371	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C372	4030013850	S.CERAMIC	ECUE1E102KBQ
C373	4030013850	S.CERAMIC	ECUE1E102KBQ
C374	4030013850	S.CERAMIC	ECUE1E102KBQ
C375	4030013850	S.CERAMIC	ECUE1E102KBQ
C381	4030013850	S.CERAMIC	ECUE1E102KBQ
C389	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C395	4030014180	S.CERAMIC	ECUE1H470JCQ
C396	4030014340	S.CERAMIC	ECUE1H390JCQ
C400	4030014020	S.CERAMIC	ECUE1H020BCQ
C401	4030013850	S.CERAMIC	ECUE1E102KBQ
C801	4030013850	S.CERAMIC	ECUE1E102KBQ
C802	4030014140	S.CERAMIC	ECUE1H150JCQ
C803	4030013850	S.CERAMIC	ECUE1E102KBQ
C804	4030013850	S.CERAMIC	ECUE1E102KBQ
C805	4030013850	S.CERAMIC	ECUE1E102KBQ
C806	4030013850	S.CERAMIC	ECUE1E102KBQ
C807	4030013850	S.CERAMIC	ECUE1E102KBQ
C808	4030013850	S.CERAMIC	ECUE1E102KBQ
C809	4030014140	S.CERAMIC	ECUE1H150JCQ
C810	4030013850	S.CERAMIC	ECUE1E102KBQ
C811	4030013850	S.CERAMIC	ECUE1E102KBQ
C812	4030014050	S.CERAMIC	ECUE1H030BCQ
C813	4030013980	S.CERAMIC	ECUE1H010BCQ
C814	4030014080	S.CERAMIC	ECUE1H050BCQ
C815	4030014280	S.CERAMIC	ECUE1H0R3BCQ
C816	4030014050	S.CERAMIC	ECUE1H030BCQ
C817	4030013850	S.CERAMIC	ECUE1E102KBQ
C818	4030014320	S.CERAMIC	ECUE1H181JCQ
C851	4030013850	S.CERAMIC	ECUE1E102KBQ
C852	4030014120	S.CERAMIC	ECUE1H100CCQ
C853	4030014110	S.CERAMIC	ECUE1H080CCQ
C854	4030013850	S.CERAMIC	ECUE1E102KBQ
C855	4030013850	S.CERAMIC	ECUE1E102KBQ
C856	4030013850	S.CERAMIC	ECUE1E102KBQ
C857	4030013850	S.CERAMIC	ECUE1E102KBQ
C858	4030013850	S.CERAMIC	ECUE1E102KBQ
C859	4030014120	S.CERAMIC	ECUE1H100CCQ
C860	4030013850	S.CERAMIC	ECUE1E102KBQ
C861	4030013850	S.CERAMIC	ECUE1E102KBQ
C900	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C901	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C902	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C903	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C904	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C905	4030014440	S.CERAMIC	ECUE1H820JCQ
C906	4030014340	S.CERAMIC	ECUE1H390JCQ
C907	4030014190	S.CERAMIC	ECUE1H680JCQ
C908	4550006140	S.TANTALUM	ECST1EY474R
C909	4550006200	S.TANTALUM	ECST0JY106R
C910	4030014220	S.CERAMIC	ECUE1E471KBQ
C911	4550006140	S.TANTALUM	ECST1EY474R
C912	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C913	4030013850	S.CERAMIC	ECUE1E102KBQ
C914	4030013850	S.CERAMIC	ECUE1E102KBQ
C915	4030013850	S.CERAMIC	ECUE1E102KBQ
C916	4030013850	S.CERAMIC	ECUE1E102KBQ
C917	4030017020	S.CERAMIC	JMK212BJ475MG-T
C918	4030017020	S.CERAMIC	JMK212BJ475MG-T

S.=Surface mount

[RF UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C919	4030017020	S.CERAMIC	JMK212BJ475MG-T
C920	4550006200	S.TANTALUM	ECST0JY106R
C921	4030013850	S.CERAMIC	ECUE1E102KBQ
C922	4550006960	S.TANTALUM	TEMSVB2 0G 107M8R
C923	4030017020	S.CERAMIC	JMK212BJ475MG-T
C924	4550006970	S.TANTALUM	TEMSVA 0G 476M8R
C925	4550006970	S.TANTALUM	TEMSVA 0G 476M8R
C926	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C927	4030014500	S.CERAMIC	ECUE1H121JCQ
C928	4030013850	S.CERAMIC	ECUE1E102KBQ
C929	4030014500	S.CERAMIC	ECUE1H121JCQ
C930	4030014110	S.CERAMIC	ECUE1H080CCQ
C931	4030014110	S.CERAMIC	ECUE1H080CCQ
C932	4030014020	S.CERAMIC	ECUE1H020BCQ
C933	4030014140	S.CERAMIC	ECUE1H150JCQ
C934	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C935	4030014070	S.CERAMIC	ECUE1H040BCQ
C936	4030014020	S.CERAMIC	ECUE1H020BCQ
C937	4030017020	S.CERAMIC	JMK212BJ475MG-T
C938	4030017020	S.CERAMIC	JMK212BJ475MG-T
C939	4030013850	S.CERAMIC	ECUE1E102KBQ
C941	4030013850	S.CERAMIC	ECUE1E102KBQ
C942	4030014320	S.CERAMIC	ECUE1H181JCQ
C943	4030013850	S.CERAMIC	ECUE1E102KBQ
C944	4030014220	S.CERAMIC	ECUE1E471KBQ
C945	4030014220	S.CERAMIC	ECUE1E471KBQ
C946	4030013850	S.CERAMIC	ECUE1E102KBQ
C947	4030013850	S.CERAMIC	ECUE1E102KBQ
C950	4030013850	S.CERAMIC	ECUE1E102KBQ
C951	4030013850	S.CERAMIC	ECUE1E102KBQ
C952	4030014220	S.CERAMIC	ECUE1E471KBQ
C953	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C954	4550006200	S.TANTALUM	ECST0JY106R
C955	4030014220	S.CERAMIC	ECUE1E471KBQ
C956	4550006680	S.TANTALUM	ECST0JY156R
C957	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C958	4550000530	S.TANTALUM	TESVA 1V 104M1-8L
C959	4030013850	S.CERAMIC	ECUE1E102KBQ
C960	4030014220	S.CERAMIC	ECUE1E471KBQ
C961	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C962	4550006760	S.TANTALUM	TEMSVB2 1A 336M-8R
C963	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C964	4030014050	S.CERAMIC	ECUE1H030BCQ
C977	4030014220	S.CERAMIC	ECUE1E471KBQ
C978	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C979	4030013850	S.CERAMIC	ECUE1E102KBQ
C982	4030013850	S.CERAMIC	ECUE1E102KBQ
C983	4030013850	S.CERAMIC	ECUE1E102KBQ
C984	4030013850	S.CERAMIC	ECUE1E102KBQ
C985	4030013850	S.CERAMIC	ECUE1E102KBQ
C988	4030013850	S.CERAMIC	ECUE1E102KBQ
C990	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C992	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C993	4030013850	S.CERAMIC	ECUE1E102KBQ
C994	4030013850	S.CERAMIC	ECUE1E102KBQ
J1	6510022160	S.CONNECTOR	AXN440C040P
J2	6450001690	CONNECTOR	HSJ1456-01-220
J3	6450001690	CONNECTOR	HSJ1456-01-220
J4	6450002130	CONNECTOR	04-730A1-02BKA
J5	6510022380	S.CONNECTOR	IMSA-9261B-04Y913 [OTH-2] only
J6	6510022320	CONNECTOR	IMSA-9230B-1-03Z112-T [OTH-2] only
J7	6510022320	CONNECTOR	IMSA-9230B-1-03Z112-T [OTH-2] only
S1	2250000390	ENCODER	TP90N00E20-16F-1995
W1	7030003860	S.JUMPER	ERJ3GE JPW V
W2	7030003860	S.JUMPER	ERJ3GE JPW V
W3	7030003860	S.JUMPER	ERJ3GE JPW V
EP1	6910012350	S.BEAD	MMZ1608Y 102BT
EP2	6910012350	S.BEAD	MMZ1608Y 102BT
EP3	0910053014	PCB	B 5370D

[RF-B UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q401	1580000730	S.FET	3SK293 (TE85L)
Q501	1580000730	S.FET	3SK293 (TE85L)
Q601	1580000730	S.FET	3SK293 (TE85L)
Q701	1580000730	S.FET	3SK293 (TE85L)
D401	1720000660	S.VARICAP	1SV288 (TPH2)
D402	1720000660	S.VARICAP	1SV288 (TPH2)
D403	1790001260	S.DIODE	MA2S077-(TX)
D404	1790001260	S.DIODE	MA2S077-(TX)
D501	1720000660	S.VARICAP	1SV288 (TPH2)
D502	1720000660	S.VARICAP	1SV288 (TPH2)
D503	1790001260	S.DIODE	MA2S077-(TX)
D504	1790001260	S.DIODE	MA2S077-(TX)
D601	1720000650	S.VARICAP	1SV286 (TPH3)
D602	1720000650	S.VARICAP	1SV286 (TPH3)
D603	1790001260	S.DIODE	MA2S077-(TX)
D604	1790001260	S.DIODE	MA2S077-(TX)
D701	1720000650	S.VARICAP	1SV286 (TPH3)
D702	1720000650	S.VARICAP	1SV286 (TPH3)
D703	1790001260	S.DIODE	MA2S077-(TX)
D704	1790001260	S.DIODE	MA2S077-(TX)
L401	6200008550	S.COIL	ELJND R56J 0.56U
L402	6200008550	S.COIL	ELJND R56J 0.56U
L403	6200007120	S.COIL	ELJND 1R0J 1U
L404	6200008550	S.COIL	ELJND R56J 0.56U
L405	6200008550	S.COIL	ELJND R56J 0.56U
L501	6200007290	S.COIL	ELJND 56NJF
L502	6200007790	S.COIL	LQN21A R15J04
L503	6200007120	S.COIL	ELJND 1R0J 1U
L504	6200007790	S.COIL	LQN21A R15J04
L505	6200007290	S.COIL	ELJND 56NJF
L601	6200007270	S.COIL	ELJND 33NJF
L602	6200007770	S.COIL	LQN21A R10J04
L603	6200007120	S.COIL	ELJND 1R0J 1U
L604	6200007760	S.COIL	LQN21A 82NJ04
L605	6200007270	S.COIL	ELJND 33NJF
L701	6200007070	S.COIL	ELJND 15NKF
L702	6200007740	S.COIL	LQN21A 47NJ04
L703	6200007120	S.COIL	ELJND 1R0J 1U
L704	6200007740	S.COIL	LQN21A 47NJ04
L705	6200007070	S.COIL	ELJND 15NKF
R401	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R402	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R403	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R404	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R405	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R407	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R408	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R409	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R410	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R501	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R502	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R503	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R504	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R505	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R507	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R508	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R509	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R510	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R601	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R602	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R603	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R604	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R605	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R606	7030008280	S.RESISTOR	ERJ2GEJ 271 X (270 Ω)
R607	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R608	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R609	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R610	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R611	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R701	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R702	7030005070	S.RESISTOR	ERJ2GEJ 683 X (68 kΩ)
R703	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R704	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R705	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R707	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R708	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)

S.=Surface mount

[RF-B UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R709	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R710	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R711	7030007250	S.RESISTOR	ERJ2GEJ 220 X (22 Ω)
C401	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C402	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C403	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C404	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C405	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C406	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C407	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C408	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C409	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C410	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C411	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C501	4030013850	S.CERAMIC	ECUE1E102KBQ
C502	4030013850	S.CERAMIC	ECUE1E102KBQ
C503	4030013850	S.CERAMIC	ECUE1E102KBQ
C504	4030013850	S.CERAMIC	ECUE1E102KBQ
C505	4030013850	S.CERAMIC	ECUE1E102KBQ
C506	4030013850	S.CERAMIC	ECUE1E102KBQ
C507	4030013850	S.CERAMIC	ECUE1E102KBQ
C508	4030013850	S.CERAMIC	ECUE1E102KBQ
C509	4030013850	S.CERAMIC	ECUE1E102KBQ
C510	4030013850	S.CERAMIC	ECUE1E102KBQ
C511	4030013850	S.CERAMIC	ECUE1E102KBQ
C601	4030013850	S.CERAMIC	ECUE1E102KBQ
C602	4030013850	S.CERAMIC	ECUE1E102KBQ
C603	4030014120	S.CERAMIC	ECUE1H100CCQ
C604	4030013850	S.CERAMIC	ECUE1E102KBQ
C605	4030013850	S.CERAMIC	ECUE1E102KBQ
C606	4030013850	S.CERAMIC	ECUE1E102KBQ
C607	4030013850	S.CERAMIC	ECUE1E102KBQ
C608	4030014050	S.CERAMIC	ECUE1H030BCQ
C609	4030013850	S.CERAMIC	ECUE1E102KBQ
C610	4030013850	S.CERAMIC	ECUE1E102KBQ
C611	4030013850	S.CERAMIC	ECUE1E102KBQ
C701	4030013850	S.CERAMIC	ECUE1E102KBQ
C702	4030013850	S.CERAMIC	ECUE1E102KBQ
C703	4030013850	S.CERAMIC	ECUE1E102KBQ
C704	4030013850	S.CERAMIC	ECUE1E102KBQ
C705	4030013850	S.CERAMIC	ECUE1E102KBQ
C706	4030013850	S.CERAMIC	ECUE1E102KBQ
C707	4030013850	S.CERAMIC	ECUE1E102KBQ
C708	4030013850	S.CERAMIC	ECUE1E102KBQ
C709	4030013850	S.CERAMIC	ECUE1E102KBQ
C710	4030013850	S.CERAMIC	ECUE1E102KBQ
C711	4030013850	S.CERAMIC	ECUE1E102KBQ
J3	6510022330	CONNECTOR	IMSA-9230B-1-04Z113-T
J4	6510022340	CONNECTOR	IMSA-9230B-1-06Z113-T
EP1	0910053034	PCB	B 5372D

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC2	1140008440	S.IC	AK93C10AF-E2
IC3	1180001820	S.IC	XC62FP3002MR
IC5	1110005070	S.IC	S-80925ALMP-DAN-T2
IC9	1110003800	S.IC	NJM2904V-TE1
IC10	1110004790	S.IC	XC6371A351PR
IC11	1140008990	S.IC	M38267M8L-256GP RX-2304
IC14	1110004520	S.IC	M5222FP 600C
IC15	1190000710	S.IC	TA31056F (TP1)
IC801	1190001250	S.IC	MB3776APFV-G-BND-ER
IC901	1190001110	S.IC	LV4127W
IC902	1190001130	S.IC	M35017-001FP
IC903	1130006540	S.IC	TC7S02FU (TE85R)
Q1	1590001180	S.TRANSISTOR	XP1210 (TX)
Q2	1590001440	S.TRANSISTOR	UN9214 (TX)
Q4	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
Q5	1590001170	S.TRANSISTOR	XP1501-(TX) .AB
Q6	1510000580	S.TRANSISTOR	2SA1362-GR (TE85R)
Q7	1590001440	S.TRANSISTOR	UN9214 (TX)
Q8	1590002430	S.TRANSISTOR	DTA144EE TL
Q11	1590001440	S.TRANSISTOR	UN9214 (TX)
Q17	1590001390	S.FET	2SJ144-Y (TE85R)
Q18	1590002430	S.TRANSISTOR	DTA144EE TL
Q19	1590001940	S.TRANSISTOR	DTC144EE TL
Q23	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q26	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q30	1590001190	S.TRANSISTOR	XP6501-(TX) .AB
Q31	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q36	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q37	1590001390	S.FET	2SJ144-Y (TE85R)
Q38	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q39	1590001170	S.TRANSISTOR	XP1501-(TX) .AB
Q40	1590002430	S.TRANSISTOR	DTA144EE TL
Q41	1590001170	S.TRANSISTOR	XP1501-(TX) .AB
Q42	1590001650	S.TRANSISTOR	XP4601 (TX)
Q43	1560000840	S.FET	2SK1829 (TE85R)
Q44	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q50	1590001440	S.TRANSISTOR	UN9214 (TX)
Q51	1590002430	S.TRANSISTOR	DTA144EE TL
Q201	1520000650	S.TRANSISTOR	2SB1201-S-TL
Q202	1590001440	S.TRANSISTOR	UN9214 (TX)
Q203	1590002950	S.FET	HAT1023R-EL
Q303	1520000460	S.TRANSISTOR	2SB1132 T100 R
Q304	1530003190	S.TRANSISTOR	2SC4617 TLQ
Q801	1560001110	S.FET	2SK2493 (TE16L)
Q802	1590002820	S.TRANSISTOR	UMY1N TR
Q804	1560001110	S.FET	2SK2493 (TE16L)
Q806	1510000670	S.TRANSISTOR	2SA1588-GR (TE85R)
Q820	1520000650	S.TRANSISTOR	2SB1201-S-TL
Q821	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q902	1530002560	S.TRANSISTOR	2SC4403-3-TL
Q903	1510000620	S.TRANSISTOR	2SA1576 T107 S
Q904	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q908	1590001440	S.TRANSISTOR	UN9214 (TX)
D1	1790001250	S.DIODE	MA2S111-(TX)
D2	1790001250	S.DIODE	MA2S111-(TX)
D3	1790001560	S.DIODE	1SS372 (TE85R)
D4	1790000970	S.DIODE	MA729 (TX)
D5	1790001560	S.DIODE	1SS372 (TE85R)
D7	1790001250	S.DIODE	MA2S111-(TX)
D8	1790001250	S.DIODE	MA2S111-(TX)
D9	1790001250	S.DIODE	MA2S111-(TX)
D14	1790001250	S.DIODE	MA2S111-(TX)
D15	1790001560	S.DIODE	1SS372 (TE85R)
D16	1790000850	S.DIODE	MA132WK (TX)
D17	1790001250	S.DIODE	MA2S111-(TX)
D18	1790001590	S.DIODE	MA6S718 (TX)
D19	1790001560	S.DIODE	1SS372 (TE85R)
D20	1790001560	S.DIODE	1SS372 (TE85R)
D201	1750000540	S.DIODE	RB060L-40 TE-25
D202	1790001240	S.DIODE	MA2S728-(TX)
D203	1790000860	S.DIODE	MA133 (TX)
D204	1790000670	S.DIODE	SB07-03C-TB
D301	1790001250	S.DIODE	MA2S111-(TX)
D800	1750000690	S.DIODE	MA727-(TX)
D801	1750000690	S.DIODE	MA727-(TX)
D802	1750000690	S.DIODE	MA727-(TX)
D804	1750000540	S.DIODE	RB060L-40 TE-25
D805	1750000540	S.DIODE	RB060L-40 TE-25
D810	1790001260	S.DIODE	MA2S077-(TX)
D820	1790001250	S.DIODE	MA2S111-(TX)
D901	1720000660	S.VARICAP	1SV288 (TPH2)
D903	1790001250	S.DIODE	MA2S111-(TX)
X1	6050010310	S.XTAL	CR-613 (4.935 MHz)
X901	6050011010	S.XTAL	CR-679 (3.579545 MHz)
L1	6200008630	S.COIL	CD54-101KC
L900	6200002040	S.COIL	NL 252018T-101J
L901	6200005010	S.COIL	NL 252018T-100J
L902	6200005010	S.COIL	NL 252018T-100J
L903	6200005010	S.COIL	NL 252018T-100J
L904	6200005010	S.COIL	NL 252018T-100J
L905	6200005010	S.COIL	NL 252018T-100J

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L906	6200009210	S.COIL	NL 252018T-390J
L907	6200005010	S.COIL	NL 252018T-100J
R3	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R4	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R5	7030005590	S.RESISTOR	ERJ2GEJ 680 X (68 Ω)
R6	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R7	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R8	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R10	7030005590	S.RESISTOR	ERJ2GEJ 680 X (68 Ω)
R12	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R14	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R19	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R20	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R21	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R26	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R32	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R33	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R34	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R35	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R37	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R38	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1 MΩ)
R39	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R40	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R41	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R42	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R48	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R49	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R50	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R51	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R71	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R72	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R73	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R74	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R75	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R76	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R77	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R78	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R82	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R85	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R86	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R87	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R88	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1 MΩ)
R90	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1 MΩ)
R91	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R92	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R100	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R102	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R103	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R104	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R108	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1 MΩ)
R109	7030005160	S.RESISTOR	ERJ2GEJ 105 X (1 MΩ)
R112	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R113	7030005080	S.RESISTOR	ERJ2GEJ 823 X (82 kΩ)
R114	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R116	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R117	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R118	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R119	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R120	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R121	7030005170	S.RESISTOR	ERJ2GEJ 474 X (470 kΩ)
R122	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R123	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R124	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R125	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R126	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R127	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R128	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R129	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R130	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R131	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R132	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R133	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R136	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R137	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R138	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R139	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R140	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R141	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R149	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R150	7030007570	S.RESISTOR	ERJ2GEJ 122X (1.2 kΩ)

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R153	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R156	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R157	7030005310	S.RESISTOR	ERJ2GEJ 124 X (120 kΩ)
R159	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R161	7030005210	S.RESISTOR	ERJ2GEJ 822 X (8.2 kΩ)
R164	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R165	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R166	7030005110	S.RESISTOR	ERJ2GEJ 224 X (220 kΩ)
R172	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R186	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R201	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R202	7030000120	S.RESISTOR	MCR10EZHJ 6.8 Ω (6R8)
R203	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R204	7030000120	S.RESISTOR	MCR10EZHJ 6.8 Ω (6R8)
R255	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R256	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R306	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R801	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R802	7030007570	S.RESISTOR	ERJ2GEJ 122X (1.2 kΩ)
R803	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R804	7030007570	S.RESISTOR	ERJ2GEJ 122X (1.2 kΩ)
R805	7310003610	S.TRIMMER	EVM-1XSX50 B14 (103)
R806	7030007350	S.RESISTOR	ERJ2GEJ 393 X (39 kΩ)
R807	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R808	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R809	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R810	7030009980	S.RESISTOR	ERJ12RSJR15U
R811	7030008410	S.RESISTOR	ERJ2GEJ 392 X (3.9 kΩ)
R820	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R821	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R822	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R823	7030005950	S.RESISTOR	RR0510R-123-D (12 kΩ)
R825	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R826	7030009980	S.RESISTOR	ERJ12RSJR15U
R902	7310003600	S.TRIMMER	EVM-1XSX50 B54 (503)
R903	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R904	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R905	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R906	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R907	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R908	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R909	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R910	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R911	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R912	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R913	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R914	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R915	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R916	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R917	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R918	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R919	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R920	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R921	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R922	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R923	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R926	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R927	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R928	7030008300	S.RESISTOR	ERJ2GEJ 184 X (180 kΩ)
R929	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R931	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R932	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R937	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R938	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R939	7030007570	S.RESISTOR	ERJ2GEJ 122X (1.2 kΩ)
R940	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R941	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R942	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R943	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R944	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R945	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R946	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R947	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R955	7030005060	S.RESISTOR	ERJ2GEJ 333 X (33 kΩ)
R956	7030008290	S.RESISTOR	ERJ2GEJ 183 X (18 kΩ)
R959	7030005010	S.RESISTOR	ERJ2GEJ 681 X (680 Ω)
R960	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R961	7030005210	S.RESISTOR	ERJ2GEJ 822 X (8.2 kΩ)
R962	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R963	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R964	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R965	7030007610	S.RESISTOR	RR0510R-683-D (68 kΩ)

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
R966	7030008270	S.RESISTOR	RR0510R-104-D (100 kΩ)
R967	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R968	7030007340	S.RESISTOR	ERJ2GEJ 153 X (15 kΩ)
R969	7510001280	S.THERMISTOR	NTCCM20124AG473J-T
R970	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R974	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R977	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
C1	4030014200	S.CERAMIC	ECUE1H101JCQ
C3	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C4	4550006620	S.TANTALUM	ECST0JY226R
C5	4030013850	S.CERAMIC	ECUE1E102KBQ
C6	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C7	4030013850	S.CERAMIC	ECUE1E102KBQ
C8	4030014120	S.CERAMIC	ECUE1H100CCQ
C9	4030014120	S.CERAMIC	ECUE1H100CCQ
C10	4550006620	S.TANTALUM	ECST0JY226R
C11	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C12	4030016940	S.CERAMIC	ECJ0EB1A393K
C13	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C14	4030016900	S.CERAMIC	ECUE1H152KBQ
C15	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C16	4030013850	S.CERAMIC	ECUE1E102KBQ
C17	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C18	4550006920	S.TANTALLUM	TEMSVB2 1E 335M-8R
C19	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C20	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C21	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C22	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C23	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C24	4550006200	S.TANTALUM	ECST0JY106R
C33	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C35	4030013850	S.CERAMIC	ECUE1E102KBQ
C36	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C39	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C40	4030013850	S.CERAMIC	ECUE1E102KBQ
C41	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C42	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C43	4030013850	S.CERAMIC	ECUE1E102KBQ
C44	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C48	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C51	4030013850	S.CERAMIC	ECUE1E102KBQ
C52	4030013850	S.CERAMIC	ECUE1E102KBQ
C53	4550006320	S.TANTALUM	ECST0JY475R
C54	4550006320	S.TANTALUM	ECST0JY475R
C58	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C61	4510005370	S.ELECTROLYTIC	ECEV1AA221P
C63	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C65	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C66	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C67	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C68	4030016960	S.CERAMIC	ECJ0EB1C183K
C69	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C70	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C71	4030013880	S.CERAMIC	C1005 JB 1H 222K-T-N
C72	4030013910	S.CERAMIC	C1005 JB 1E 472K-T-N
C73	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C74	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C76	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C77	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C78	4030008920	S.CERAMIC	C1608 JB 1C 473K-T-A
C79	4030014200	S.CERAMIC	ECUE1H101JCQ
C80	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C81	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C82	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C84	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C85	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C86	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C87	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C88	4510007460	S.ELECTROLYTIC	10 SV 22M
C89	4550006250	S.TANTALUM	TEMSVA 1A 106M-8L
C90	4030013910	S.CERAMIC	C1005 JB 1E 472K-T-N
C91	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C92	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C93	4030016960	S.CERAMIC	ECJ0EB1C183K
C94	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C97	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C98	4550006620	S.TANTALUM	ECST0JY226R
C106	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C107	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C110	4550006970	S.TANTALUM	TEMSVA 0G 476M8R

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C114	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C116	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C117	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C118	4550006140	S.TANTALUM	ECST1EY474R
C119	4550006950	S.TANTALUM	ECST0JX476R
C120	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C201	4030013850	S.CERAMIC	ECUE1E102KBQ
C202	4030013850	S.CERAMIC	ECUE1E102KBQ
C203	4030013850	S.CERAMIC	ECUE1E102KBQ
C251	4030013850	S.CERAMIC	ECUE1E102KBQ
C258	4550006620	S.TANTALUM	ECST0JY226R
C261	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C263	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C303	4510007510	S.ELECTOR	ECEV1AA470WR
C304	4510007440	S.ELECTROLYTIC	EEFCD 1B 150R
C801	4030008650	S.CERAMIC	C1608 JB 1H 332K-T-A
C802	4030013850	S.CERAMIC	ECUE1E102KBQ
C803	4510007130	S.ELECTROLYTIC	EEFCD 0J 470R
C804	4510007430	S.ELECTROLYTIC	20 SV 22 M
C805	4510007420	S.ELECTROLYTIC	20 SV 10 M
C807	4510007410	S.ELECTROLYTIC	6 SV 56 M
C808	4510007410	S.ELECTROLYTIC	6 SV 56 M
C809	4510007450	S.ELECTROLYTIC	10 SV 47 M
C811	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C812	4030010020	S.CERAMIC	C1608 JB 1H 122K-T-A
C820	4510007130	S.ELECTROLYTIC	EEFCD 0J 470R
C821	4030013850	S.CERAMIC	ECUE1E102KBQ
C822	4030014210	S.CERAMIC	ECUE1H151JCQ
C899	4030014110	S.CERAMIC	ECUE1H080CCQ
C900	4030014130	S.CERAMIC	ECUE1H120JCQ
C901	4030014330	S.CERAMIC	ECUE1H221JCQ
C902	4030014340	S.CERAMIC	ECUE1H390JCQ
C903	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C904	4030009880	S.CERAMIC	C1608 JB 1H 682K-T-A
C905	4550006600	S.TANTALUM	ECST0JY335R
C906	4550006140	S.TANTALUM	ECST1EY474R
C907	4030013960	S.CERAMIC	C1005 JB 1A 473K-T-N
C908	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C909	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C910	4030014220	S.CERAMIC	ECUE1E471KBQ
C911	4030013960	S.CERAMIC	C1005 JB 1A 473K-T-N
C912	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C913	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C914	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C916	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C917	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C919	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C920	4030012660	S.CERAMIC	C1608 JB 1C 683K-T-N
C921	4030011810	S.CERAMIC	C1608 JB 1A 224K-T-N
C922	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C923	4030013960	S.CERAMIC	C1005 JB 1A 473K-T-N
C924	4030013960	S.CERAMIC	C1005 JB 1A 473K-T-N
C925	4030013960	S.CERAMIC	C1005 JB 1A 473K-T-N
C926	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C927	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C928	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C929	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C930	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C931	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C932	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C933	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C934	4510004650	S.ELECTROLYTIC	ECEV1EA4R7SR
C935	4610001980	S.TRIMMER	CTZ3E-30C-W1
C936	4030014170	S.CERAMIC	ECUE1H330JCQ
C937	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C938	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C939	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C940	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C941	4030013910	S.CERAMIC	C1005 JB 1E 472K-T-N
C942	4030017020	S.CERAMIC	JMK212BJ475MG-T
C943	4030017020	S.CERAMIC	JMK212BJ475MG-T
C944	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C945	4510004630	S.ELECTROLYTIC	ECEV1CA100SR
C947	4030014020	S.CERAMIC	ECUE1H020BCQ
C949	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C950	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C951	4030017020	S.CERAMIC	JMK212BJ475MG-T
C952	4030014180	S.CERAMIC	ECUE1H470JCQ
J1	6510022150	S.CONNECTOR	AXN340C130P
J2	6510021900	S.CONNECTOR	BM02B-ASRS-TF

S.=Surface mount

[LOGIC UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
J801	6510022180	S.CONNECTOR	08-6212-024-340-800
DS1	5030001830	LCD	A0080
DS2	5040002230	S.LED	CL-200YG-C-TS
DS3	5040002230	S.LED	CL-200YG-C-TS
DS4	5030001780	LCD	ALP210CXX10
DS5	5080000460	CFL	3AE4T4KL2008Y AIC
S2	2230000900	S.SWITCH	JPM1990-2013R
T1	5920000740	TRANSFORMER	TO-47
T2	5920000770	TRANSFORMER	TO-51
W1	7030000010	S.JUMPER	MCR10EZHJ JPW (000)
W5	7030000010	S.JUMPER	MCR10EZHJ JPW (000)
W915	7030003860	S.JUMPER	ERJ3GE JPW V
WS1	8970023650	E.OTHER	RX2304 J LEAD SET (2) /LO
EP1	8930052910	LCD CONTACT	SRCN-2304-SP-N-W
EP2	0910053004	PCB	B 5369D

[VCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
IC3	1130007610	S.IC	µPD3140GS-E1 (DS8)
IC4	1110003470	S.IC	µPC2746T-E3
Q21	1590001940	S.TRANSISTOR	DTC144EE TL
Q22	1530003260	S.TRANSISTOR	2SC5006-T1
Q23	1530003260	S.TRANSISTOR	2SC5006-T1
Q25	1530003580	S.TRANSISTOR	2SC5231C8-TL
Q31	1560000540	S.FET	2SK880-Y (TE85R)
Q32	1530003010	S.TRANSISTOR	2SC4117-GR (TE85R)
Q33	1530003630	S.TRANSISTOR	2SC4617 TLS
Q34	1530003750	S.TRANSISTOR	UPA804T-T1
Q853	1530003580	S.TRANSISTOR	2SC5231C8-TL
Q861	1530003260	S.TRANSISTOR	2SC5006-T1
Q862	1530003560	S.TRANSISTOR	2SC5195-T1
Q863	1530003560	S.TRANSISTOR	2SC5195-T1
Q864	1530003560	S.TRANSISTOR	2SC5195-T1
Q870	1560000540	S.FET	2SK880-Y (TE85R)
Q871	1530003010	S.TRANSISTOR	2SC4117-GR (TE85R)
D41	1720000370	S.VARICAP	HVU350TRF
D42	1790001250	S.DIODE	MA2S111-(TX)
D61	1790001260	S.DIODE	MA2S077-(TX)
D62	1720000650	S.VARICAP	1SV286 (TPH3)
D201	1790001250	S.DIODE	MA2S111-(TX)
D202	1720000650	S.VARICAP	1SV286 (TPH3)
D913	1720000700	S.VARICAP	1SV305 (TPL3)
X1	6050010970	S.XTAL	CR-674 (12.8 MHz)
L45	6200008380	S.COIL	0.28-1.0-11TR 42N
L62	6910011690	S.COIL	ACB1608M-600-T
L63	6200008270	S.COIL	0.26-1.0-5TL 17N
L64	6200008240	S.COIL	0.30-0.9-5TL 14N
L65	6200005700	S.COIL	ELJRE 22NG-F
L68	6200006980	S.COIL	ELJRE R10G-F
L69	6200005700	S.COIL	ELJRE 22NG-F
L917	6200006980	S.COIL	ELJRE R10G-F
L918	6200005640	S.COIL	ELJRE 6N8Z-F
L919	6200008230	S.COIL	0.30-1.3-5TL 22N
L920	6200005640	S.COIL	ELJRE 6N8Z-F
L921	6200005640	S.COIL	ELJRE 6N8Z-F
L922	6200005630	S.COIL	ELJRE 5N6Z-F

[VCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
L923	6200005630	S.COIL	ELJRE 5N6Z-F
L924	6200005640	S.COIL	ELJRE 6N8Z-F
L925	6200005640	S.COIL	ELJRE 6N8Z-F
R38	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R39	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R40	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R41	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R42	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R43	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R44	7030009280	S.RESISTOR	ERJ2GE 391 X (390 Ω)
R45	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R46	7030009280	S.RESISTOR	ERJ2GE 391 X (390 Ω)
R47	7030005210	S.RESISTOR	ERJ2GEJ 822 X (8.2 kΩ)
R48	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R49	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R50	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R51	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R52	7030008410	S.RESISTOR	ERJ2GEJ 392 X (3.9 kΩ)
R69	7030005220	S.RESISTOR	ERJ2GEJ 223 X (22 kΩ)
R87	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R88	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R89	7030005580	S.RESISTOR	ERJ2GEJ 560 X (56 Ω)
R90	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R104	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R119	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R120	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R121	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R122	7030008410	S.RESISTOR	ERJ2GEJ 392 X (3.9 kΩ)
R123	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R124	7030005710	S.RESISTOR	ERJ2GEJ 121 X (120 Ω)
R125	7030005210	S.RESISTOR	ERJ2GEJ 822 X (8.2 kΩ)
R126	7030005010	S.RESISTOR	ERJ2GEJ 681 X (680 Ω)
R127	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R128	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R129	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R154	7030005710	S.RESISTOR	ERJ2GEJ 121 X (120 Ω)
R160	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R162	7030005210	S.RESISTOR	ERJ2GEJ 822 X (8.2 kΩ)
R163	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R188	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R195	7030005580	S.RESISTOR	ERJ2GEJ 560 X (56 Ω)
R196	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R197	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R198	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R921	7030005710	S.RESISTOR	ERJ2GEJ 121 X (120 Ω)
R922	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R923	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R940	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R941	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R943	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R944	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R945	7030009160	S.RESISTOR	ERJ2GEJ 181 X (180 Ω)
R946	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R947	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R948	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R949	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R950	7030005100	S.RESISTOR	ERJ2GEJ 154 X (150 kΩ)
R951	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R952	7030005300	S.RESISTOR	ERJ2GEJ 150 X (15 Ω)
R970	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R971	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R972	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
C78	4550000530	S.TANTALUM	TESVA 1V 104M1-8L
C79	4030013850	S.CERAMIC	ECUE1E102KBQ
C80	4030014020	S.CERAMIC	ECUE1H020BCQ
C81	4030013850	S.CERAMIC	ECUE1E102KBQ
C82	4550006200	S.TANTALUM	ECST0JY106R
C100	4030014170	S.CERAMIC	ECUE1H330JCQ
C121	4030014180	S.CERAMIC	ECUE1H470JCQ
C122	4030014180	S.CERAMIC	ECUE1H470JCQ
C123	4030014180	S.CERAMIC	ECUE1H470JCQ
C124	4030013850	S.CERAMIC	ECUE1E102KBQ
C125	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C126	4550006810	S.TANTALUM	ECST1VY473R
C127	4550003220	S.TANTALUM	TEMSVA 1E 105M-8L
C128	4550006810	S.TANTALUM	ECST1VY473R
C129	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C130	4550003220	S.TANTALUM	TEMSVA 1E 105M-8L

S.=Surface mount

[VCO UNIT]

REF NO.	ORDER NO.	DESCRIPTION	
C131	4550003220	S.TANTALUM	TEMSVA 1E 105M-8L
C132	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C133	4030011810	S.CERAMIC	C1608 JB 1A 224K-T-N
C134	4030011810	S.CERAMIC	C1608 JB 1A 224K-T-N
C135	4030013850	S.CERAMIC	ECUE1E102KBQ
C136	4550000530	S.TANTALUM	TESVA 1V 104M1-8L
C137	4030013850	S.CERAMIC	ECUE1E102KBQ
C138	4030014120	S.CERAMIC	ECUE1H100CCQ
C139	4030014140	S.CERAMIC	ECUE1H150JCQ
C140	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C145	4030013850	S.CERAMIC	ECUE1E102KBQ
C154	4030014340	S.CERAMIC	ECUE1H390JCQ
C156	4030013850	S.CERAMIC	ECUE1E102KBQ
C157	4030014110	S.CERAMIC	ECUE1H080CCQ
C158	4030013850	S.CERAMIC	ECUE1E102KBQ
C160	4030013850	S.CERAMIC	ECUE1E102KBQ
C161	4030013850	S.CERAMIC	ECUE1E102KBQ
C162	4550006200	S.TANTALUM	ECST0JY106R
C163	4030013850	S.CERAMIC	ECUE1E102KBQ
C164	4030013850	S.CERAMIC	ECUE1E102KBQ
C165	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C166	4030013850	S.CERAMIC	ECUE1E102KBQ
C173	4030013850	S.CERAMIC	ECUE1E102KBQ
C178	4030013850	S.CERAMIC	ECUE1E102KBQ
C180	4030013850	S.CERAMIC	ECUE1E102KBQ
C182	4030013850	S.CERAMIC	ECUE1E102KBQ
C183	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C237	4030013850	S.CERAMIC	ECUE1E102KBQ
C249	4030013850	S.CERAMIC	ECUE1E102KBQ
C250	4030014110	S.CERAMIC	ECUE1H080CCQ
C251	4030014070	S.CERAMIC	ECUE1H040BCQ
C252	4030014110	S.CERAMIC	ECUE1H080CCQ
C253	4030014020	S.CERAMIC	ECUE1H020BCQ
C254	4030014070	S.CERAMIC	ECUE1H040BCQ
C255	4030013850	S.CERAMIC	ECUE1E102KBQ
C256	4030013850	S.CERAMIC	ECUE1E102KBQ
C257	4030013850	S.CERAMIC	ECUE1E102KBQ
C258	4030013850	S.CERAMIC	ECUE1E102KBQ
C259	4030013850	S.CERAMIC	ECUE1E102KBQ
C260	4030013850	S.CERAMIC	ECUE1E102KBQ
C955	4030014220	S.CERAMIC	ECUE1E471KBQ
C956	4550006950	S.TANTALUM	ECST0JX476R
C957	4030014220	S.CERAMIC	ECUE1E471KBQ
C958	4030014080	S.CERAMIC	ECUE1H050BCQ
C959	4030014100	S.CERAMIC	ECUE1H070CCQ
C960	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C964	4030014120	S.CERAMIC	ECUE1H100CCQ
C965	4030013850	S.CERAMIC	ECUE1E102KBQ
C967	4030014090	S.CERAMIC	ECUE1H060CCQ
C968	4030014240	S.CERAMIC	ECUE1H180JCQ
C969	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C971	4030014220	S.CERAMIC	ECUE1E471KBQ
C972	4030013980	S.CERAMIC	ECUE1H010BCQ
C973	4030014100	S.CERAMIC	ECUE1H070CCQ
C974	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C975	4030014240	S.CERAMIC	ECUE1H180JCQ
C976	4030014030	S.CERAMIC	ECUE1H2R5BCQ
C977	4030014000	S.CERAMIC	ECUE1H1R5BCQ
C978	4030013980	S.CERAMIC	ECUE1H010BCQ
C979	4030014060	S.CERAMIC	ECUE1H3R5BCQ
C981	4030014020	S.CERAMIC	ECUE1H020BCQ
C982	4030014080	S.CERAMIC	ECUE1H050BCQ
C983	4030014220	S.CERAMIC	ECUE1E471KBQ
C984	4030014020	S.CERAMIC	ECUE1H020BCQ
C991	4550003220	S.TANTALUM	TEMSVA 1E 105M-8L
J1	6510022350	CONNECTOR	IMSA-9230B-1-09Z114-T
J2	6510022350	CONNECTOR	IMSA-9230B-1-09Z114-T
EP1	0910053023	PCB	B 5371C
EP100	6910012350	S.BEAD	MMZ1608Y 102BT
EP101	6910012350	S.BEAD	MMZ1608Y 102BT

[FM-TV UNIT] [OTH-2] only

REF NO.	ORDER NO.	DESCRIPTION	
IC1	1110003310	S.IC	µPC1688G-T1
IC2	1190001370	S.IC	AN8945SBS-E1
IC21	1190001190	S.IC	µPC1663GV-E1
IC22	1110005080	S.IC	NJM2246M-TE3
Q21	1530002280	S.TRANSISTOR	2SC4081 T107 S
Q23	1590001470	S.TRANSISTOR	UN9213 (TX)
Q41	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q51	1530002600	S.TRANSISTOR	2SC4215-O (TE85R)
Q71	1530002280	S.TRANSISTOR	2SC4081 T107 S
D1	1790001260	S.DIODE	MA2S077-(TX)
D2	1750000750	S.VARICAP	MA376-(TX)
D3	1790001250	S.DIODE	MA2S111-(TX)
D4	1750000750	S.VARICAP	MA376-(TX)
D41	1790001260	S.DIODE	MA2S077-(TX)
D51	1720000660	S.VARICAP	1SV288 (TPH2)
D52	1720000660	S.VARICAP	1SV288 (TPH2)
FI1	2040001630	S.LC	LFSC25N12B0426B
L1	6200005600	S.COIL	ELJRE 3N3Z-F
L2	6200008490	S.COIL	0.30-0.9-3TR 7.5N
L3	6200006980	S.COIL	ELJRE R10G-F
L21	6200001620	S.COIL	ELJFC 1R0K-F
L41	6200001620	S.COIL	ELJFC 1R0K-F
L51	6200007420	S.COIL	ELJFC 101K-F 100U
L52	6200003270	S.COIL	NL 252018T-R56J
R1	7030007290	S.RESISTOR	ERJ2GEJ 222 X (2.2 kΩ)
R2	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)
R3	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R4	7030004970	S.RESISTOR	ERJ2GEJ 470 X (47 Ω)
R6	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R8	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R9	7030009280	S.RESISTOR	ERJ2GE 391 X (390 Ω)
R10	7030005010	S.RESISTOR	ERJ2GEJ 681 X (680 Ω)
R12	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R13	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R14	7030009200	S.RESISTOR	ERJ2GEJ 390 X (39 Ω)
R15	7030009270	S.RESISTOR	ERJ2GEJ 821 X (820 Ω)
R16	7030009140	S.RESISTOR	ERJ2GEJ 272 X (2.7 kΩ)
R21	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R23	7030005000	S.RESISTOR	ERJ2GEJ 471 X (470 Ω)
R24	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R28	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R30	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R31	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R33	7030007300	S.RESISTOR	ERJ2GEJ 332 X (3.3 kΩ)
R35	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R36	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R37	7030007270	S.RESISTOR	ERJ2GEJ 151 X (150 Ω)
R38	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R39	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R40	7030005240	S.RESISTOR	ERJ2GEJ 473 X (47 kΩ)
R41	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R42	7030009290	S.RESISTOR	ERJ2GEJ 562 X (5.6 kΩ)
R43	7030007280	S.RESISTOR	ERJ2GEJ 331 X (330 Ω)
R44	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R45	7030008370	S.RESISTOR	ERJ2GEJ 561 X (560 Ω)
R46	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R47	7030005040	S.RESISTOR	ERJ2GEJ 472 X (4.7 kΩ)
R51	7030008010	S.RESISTOR	ERJ2GEJ 123 X (12 kΩ)
R52	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R53	7030008370	S.RESISTOR	ERJ2GEJ 561 X (560 Ω)
R54	7030005090	S.RESISTOR	ERJ2GEJ 104 X (100 kΩ)
R55	7030004980	S.RESISTOR	ERJ2GEJ 101 X (100 Ω)
R71	7030005230	S.RESISTOR	ERJ2GEJ 334 X (330 kΩ)
R73	7030005120	S.RESISTOR	ERJ2GEJ 102 X (1 kΩ)
R74	7030004990	S.RESISTOR	ERJ2GEJ 221 X (220 Ω)
R75	7030007570	S.RESISTOR	ERJ2GEJ 122X (1.2 kΩ)
R77	7030005290	S.RESISTOR	ERJ2GEJ 682 X (6.8 kΩ)
R78	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R79	7030005050	S.RESISTOR	ERJ2GEJ 103 X (10 kΩ)
R81	7030005530	S.RESISTOR	ERJ2GEJ 100 X (10 Ω)

S.=Surface mount

[FM-TV UNIT] [OTH-2] only

REF NO.	ORDER NO.	DESCRIPTION	
C1	4030013850	S.CERAMIC	ECUE1E102KBQ
C2	4030013850	S.CERAMIC	ECUE1E102KBQ
C3	4030013850	S.CERAMIC	ECUE1E102KBQ
C4	4030014200	S.CERAMIC	ECUE1H101JCQ
C5	4030013850	S.CERAMIC	ECUE1E102KBQ
C10	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C11	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C12	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C13	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C16	4030014020	S.CERAMIC	ECUE1H020BCQ
C17	4030014160	S.CERAMIC	ECUE1H270JCQ
C18	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C19	4030013850	S.CERAMIC	ECUE1E102KBQ
C20	4030013850	S.CERAMIC	ECUE1E102KBQ
C21	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C22	4030014320	S.CERAMIC	ECUE1H181JCQ
C24	4550006120	S.TANTALUM	TEMSVA 0G 226M-8L
C25	4550006120	S.TANTALUM	TEMSVA 0G 226M-8L
C26	4550006110	S.TANTALUM	TEMSVB2 0J 336M8L
C27	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C28	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C29	4550006320	S.TANTALUM	ECST0JY475R
C30	4550006320	S.TANTALUM	ECST0JY475R
C31	4030013850	S.CERAMIC	ECUE1E102KBQ
C32	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C41	4030013850	S.CERAMIC	ECUE1E102KBQ
C42	4030014200	S.CERAMIC	ECUE1H101JCQ
C43	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C44	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C45	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C50	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C51	4030014150	S.CERAMIC	ECUE1H220JCQ
C52	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C53	4030014330	S.CERAMIC	ECUE1H221JCQ
C54	4030014330	S.CERAMIC	ECUE1H221JCQ
C55	4030014190	S.CERAMIC	ECUE1H680JCQ
C57	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C61	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C71	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C72	4030013970	S.CERAMIC	C1005 JB 0J 104K-T-N
C73	4030008680	S.CERAMIC	C2012 JF 1C 105Z-T-A
C74	4550006320	S.TANTALUM	ECST0JY475R
C75	4550006120	S.TANTALUM	TEMSVA 0G 226M-8L
C76	4030014180	S.CERAMIC	ECUE1H470JCQ
C77	4030009820	S.CERAMIC	C1005 JB 1C 103K-T-A
C90	4030016960	S.CERAMIC	ECJ0EB1C183K
J1	6510022370	S.CONNECTOR	IMSA-9178S-04Y901
EP1	0910053044	PCB	B 5415D

S.=Surface mount

SECTION 7 MECHANICAL PARTS AND DISASSEMBLY

[CHASSIS PARTS]

REF. NO.	ODER NO.	DESCRIPTION	QTY.
J1	6510022400	Connector BNC-R157	1
SP1	2510000960	Speaker K036NA500-26A27	1
MP1	8210016440	2304 front panel	1
MP2	8210016450	2304 rear panel	1
MP3	8810007010	2304 BATT. Cover	1
MP4	8930050420	2304 Lock plate	1
MP5	8930050450	2304 Jack cap	1
MP6	8930050430	2304 SP cap	1
MP7	8930051320	2304 Key	1
MP8	8930050600	2304 FUNC. Button	1
MP10	8930050540	2304 A-terminal	1
MP11	8930050550	2304 B-terminal	1
MP12	8930050560	2304 C1-terminal	1
MP13	8930050570	2304 C2-terminal	1
MP14	8930050580	2304 D-terminal	3
MP15	8930050610	2304 FUNC. Button plate	1
MP16	8930051390	2304 shaft	1
MP18	8830000570	Nut FX-643	1
MP19	8810009180	Screw BT M2 x 5 NI-ZU	4
MP20	8810009180	Screw BT M2 x 5 NI-ZU	1
MP21	8810005700	Screw M2 x 4 ZK	1
MP22	8810009220	Screw BT M2 x 8 ZK	3
MP23	8810009560	Screw BT M2 x 6 ZK	1
MP24	8610010521	Knob N-262-1	1
MP26	8930052610	2304 L-R Plate	1
MP27	8010018210	2304 A-sub shassis	1
MP29	8930052710	2304 SP sheet	1
MP33	8930053370	2304 Earth sheet	1

[LOGIC PARTS]

REF. NO.	ODER NO.	DESCRIPTION	QTY.
DS1	5030001830	LCD A0080	1
DS4	5030001780	LCD ALP210CXX10	1
DS5	5080000460	3AE4T4KL2008Y	1
EP1	8930052910	LCD Contact SRCN-2304-SP-N-W	1
MP1	8930050440	2304 M-LCD Holder	1
MP2	8210016460	2304 Reflector	1
MP3	8930050620	2304 S-LCD Holder	1
MP4	8930051280	2304 E-Terminal	1
MP5	8930050630	2304 M-LCD Plate	1
MP6	8930051380	2304 BATT. Spring	2
MP7	8810009790	Screw BT M1.7 x 4 NI-ZU	4
MP8	8510013110	2304 Logic shield	1
MP10	8510013070	2304 M-LCD shield	1
MP11	8510013090	2304 A-DC-DC shield	1
MP12	8510013080	2304 B-DC-DC shield	1
MP13	8510013100	2304 INV. TR. shield	1
MP14	8930052311	2304 F-terminal-1	1
MP15	8930052740	2304 A-Logic sheet	1
MP16	8930052750	2304 B-Logic sheet	1
MP17	8930052790	2304 C-Logic sheet	1
MP21	8930053010	Sponge	1

Screw abbreviations

A, B0, BT: Self-tapping
PH: Pan head
FH: Flat head
BiH: Bind head
SUS: Stainless
NI: Nickel
ZK: Black

[RF PARTS]

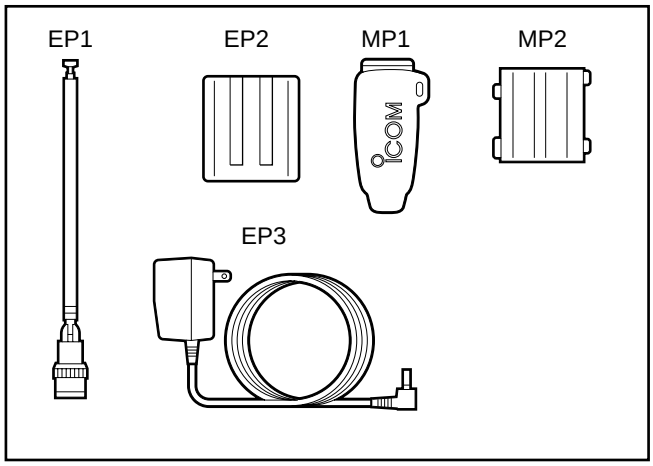
REF. NO.	ODER NO.	DESCRIPTION	QTY.
MP1	8510013120	2304 B-RF Shield	1
MP3	8930052780	Insulating plate	1
MP4	8510013131	2304 A-RF shield-1	1

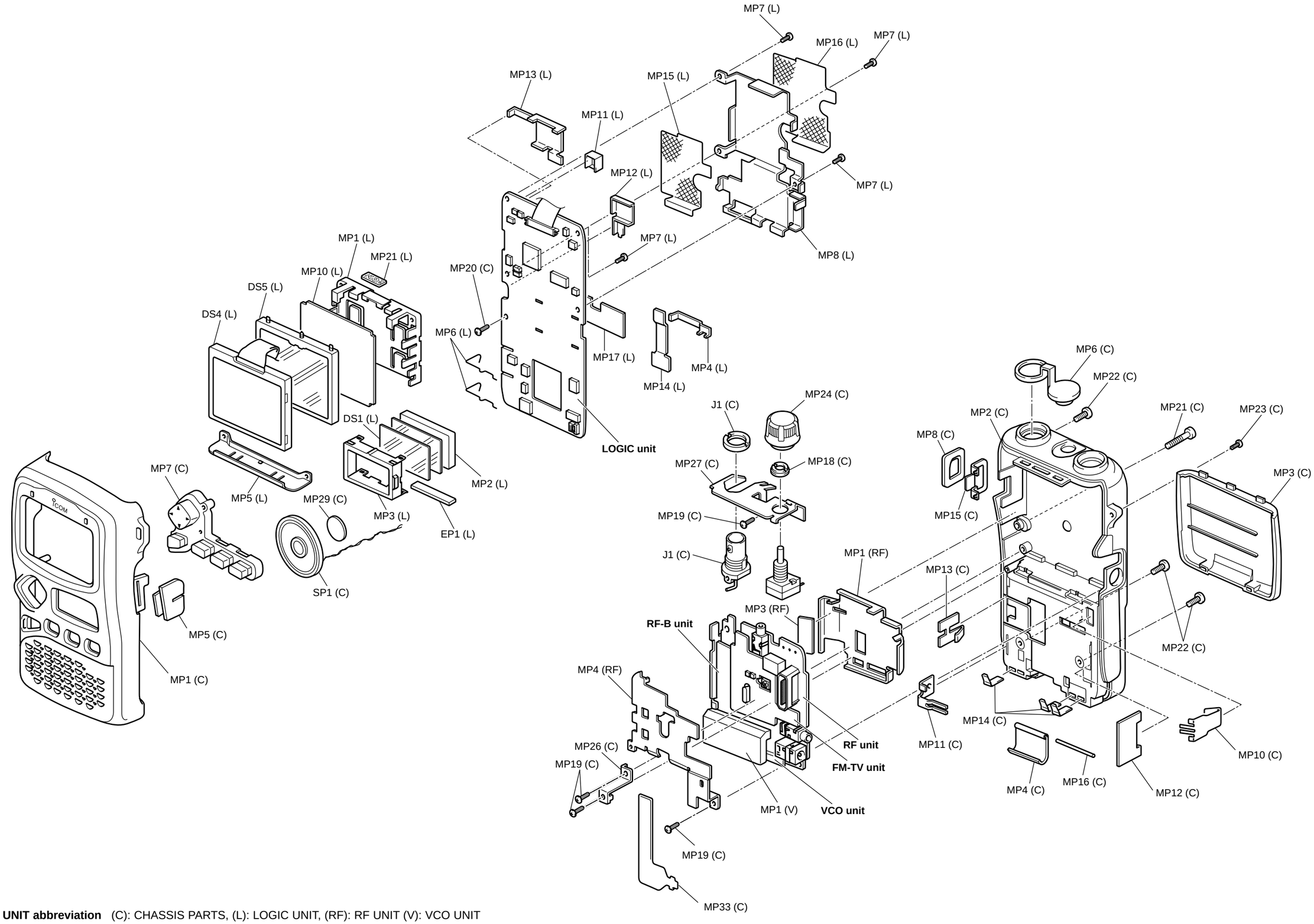
[VCO PARTS]

REF. NO.	ODER NO.	DESCRIPTION	QTY.
MP1	8510012760	2304 VCO case	1

[ACCESSORIES]

REF. NO.	ODER NO.	DESCRIPTION		QTY.
EP1	3310002410	Antena FA-B03RE		1
EP2	0800005460	Battery BP-206 ACC	[OTH-1], [OTH-2]	1
EP3	5930001180	Charger BC-136D	[OTH-1], [OTH-2]	1
MP1	8930044450	Clip 1903 Belt clip		1
MP2	8930050410	2304 Spacer		1

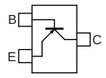
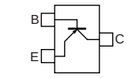
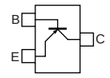
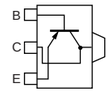
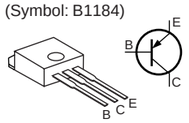
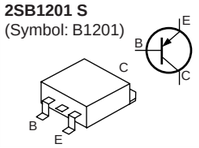
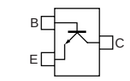
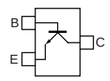
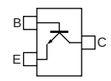
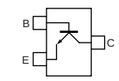
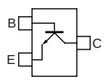
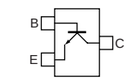
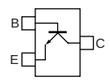
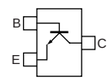
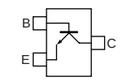
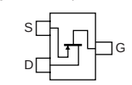
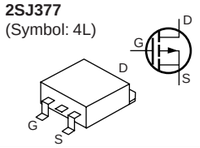
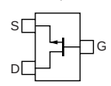
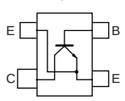
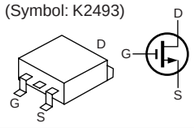
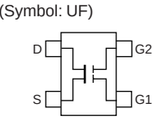
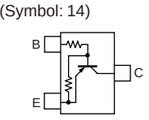
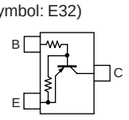
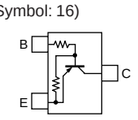
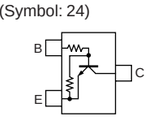
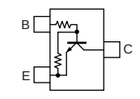
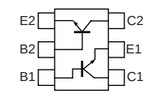
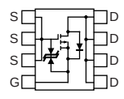
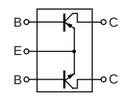
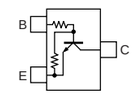
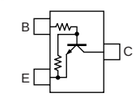
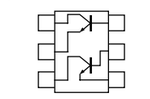
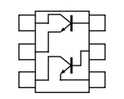
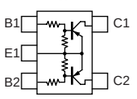
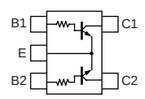
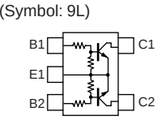
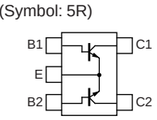
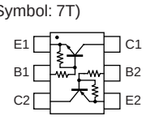
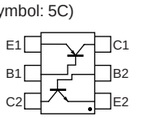
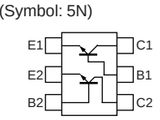




UNIT abbreviation (C): CHASSIS PARTS, (L): LOGIC UNIT, (RF): RF UNIT (V): VCO UNIT

SECTION 8 SEMI-CONDUCTOR INFORMATION

● TRANSISTOR AND FET'S

2SA1362 GR (Symbol: AEG) 	**2SA1576 S** (Symbol: FS) 	**2SA1588 GR** (Symbol: SG) 	**2SB1132 R** (Symbol: BARB) 	**2SB1184 Q** (Symbol: B1184) 
2SB1201 S (Symbol: B1201) 	**2SC4081 S** (Symbol: BS) 	**2SC4117 GR** (Symbol: DG) 	**2SC4215 O** (Symbol: QO) 	**2SC4403 3** (Symbol: LY3) 
2SC4617 Q (Symbol: BQ) 	**2SC4617 S** (Symbol: BS) 	**2SC5006** (Symbol: 24) 	**2SC5195** (Symbol: 88) 	**2SC5231 C8** (Symbol: C8) 
2SJ144 Y (Symbol: VX) 	**2SJ377** (Symbol: 4L) 	**2SK880 Y** (Symbol: XY) 	**2SK1829** (Symbol: K1) 	**2SK2493** (Symbol: K2493) 
3SK293 (Symbol: UF) 	**DTA114EE** (Symbol: 14) 	**DTA123JE** (Symbol: E32) 	**DTA144EE** (Symbol: 16) 	**DTC114EE** (Symbol: 24) 
DTC144EE (Symbol: 26) 	**FH102** (Symbol: 102) 	**HAT1023R** (Symbol: 1023) 	**UMY1N** (Symbol: Y1) 	**UN9213** (Symbol: 8C) 
UN9214 (Symbol: 8A) 	**UPA804T** (Symbol: T76) 	**UPA805T** (Symbol: T82) 	**XP1114** (Symbol: 7Q) 	**XP1210** (Symbol: AC) 
XP1213 (Symbol: 9L) 	**XP1501 AB** (Symbol: 5R) 	**XP4312** (Symbol: 7T) 	**XP4601** (Symbol: 5C) 	**XP6501 AB** (Symbol: 5N) 

● DIODES

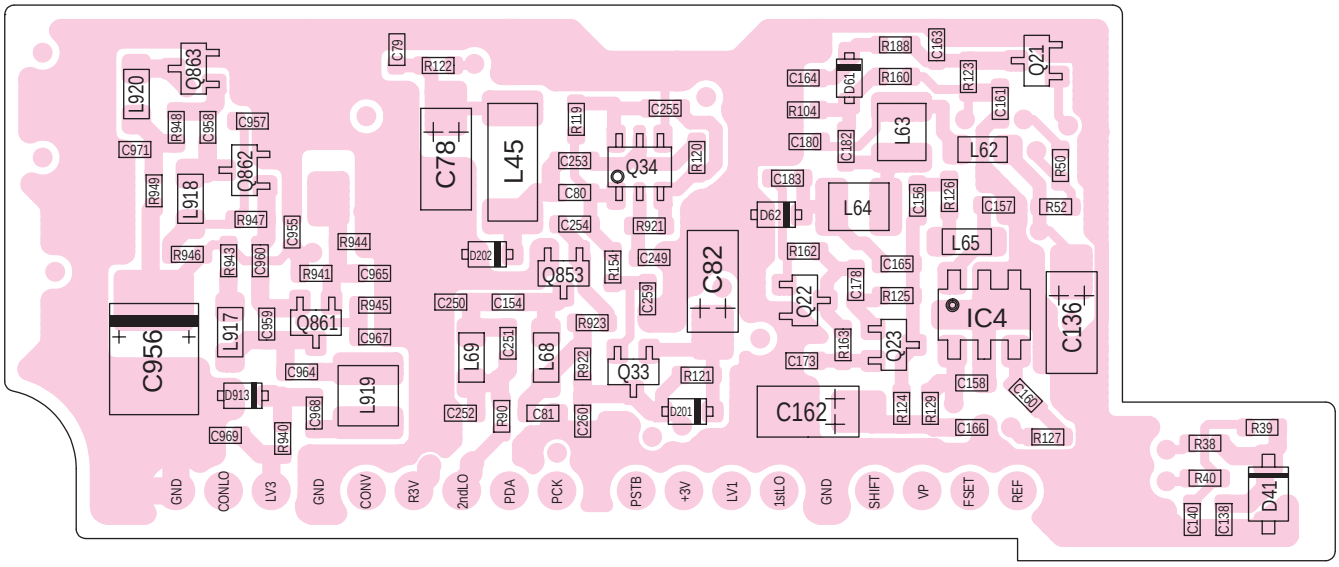
1SS372 (Symbol: N9) 	**1SV252** (Symbol: BE) 	**1SV286** (Symbol: T7) 	**1SV288** (Symbol: TJ) 	**1SV305** (Symbol: TV)
1SV308 (Symbol: TX) 	**DWA010** (Symbol: W8) 	**HVU350** (Symbol: 4) 	**MA132WK** (Symbol: MU) 	**MA133** (Symbol: MP)
MA2S077 (Symbol: S) 	**MA2S111** (Symbol: A) 	**MA376** (Symbol: 7C) 	**MA6S718** (Symbol: M2N) 	**MA727** (Symbol: M1Z)
MA728 (Symbol: 2A) 	**MA729** (Symbol: 2B) 	**RB060L-40** (Symbol: 36) 	**SB07-03C** (Symbol: J) 	**SB20-03P** (Symbol: SC)

SECTION 9 BOARD LAYOUTS

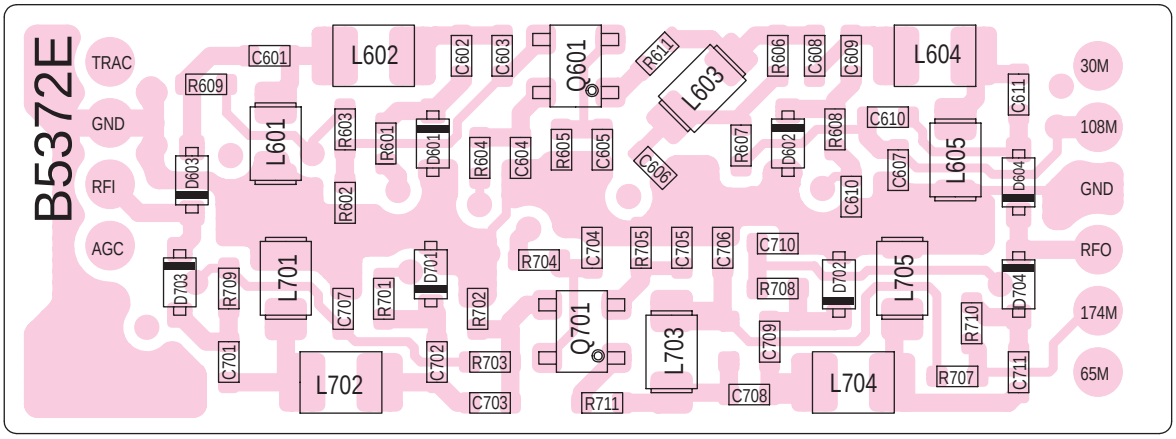
9-1 VCO AND RF-B UNITS

9-1-1 TOP VIEW

● **VCO UNIT**

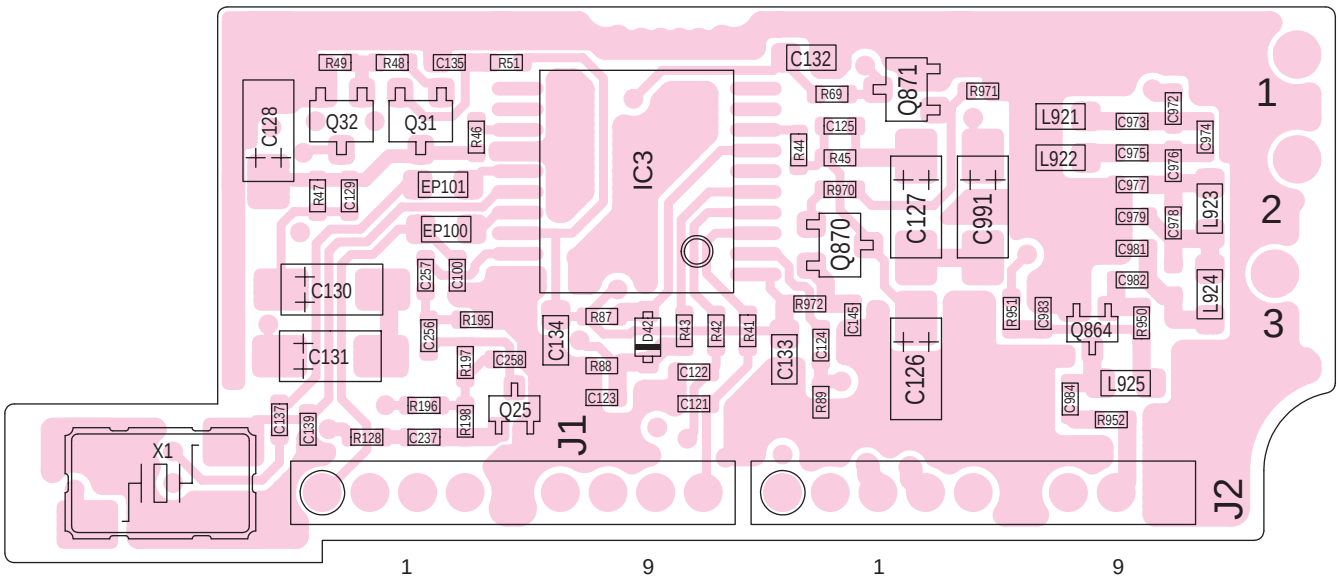


● **RF-B UNIT**



9-1-2 BOTTOM VIEW

• VCO UNIT



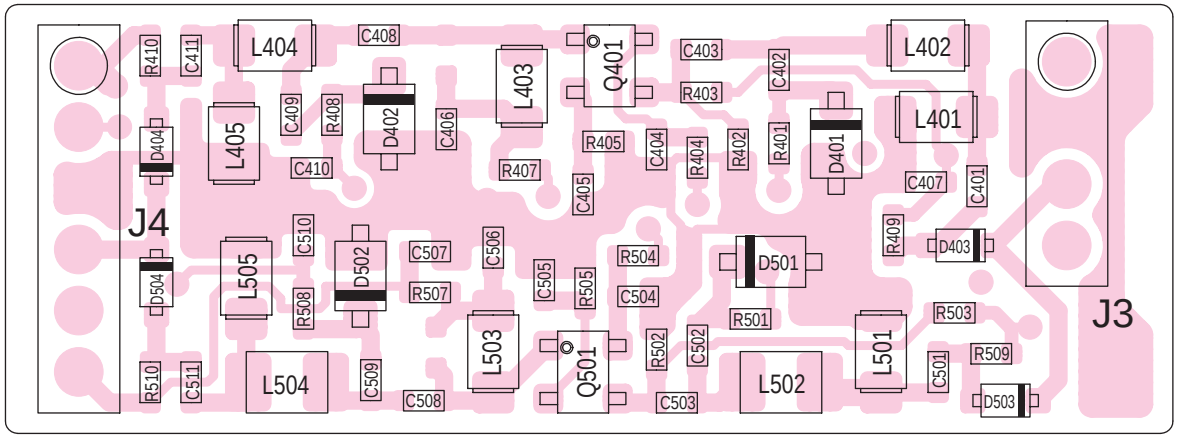
1	2	3	4	5	6	7	8	9
REF	FSET	VP	SHIFT	GND	1stLO	LV1	+3V	PSTB

J1 to RF unit

1	2	3	4	5	6	7	8	9
PCK	PDA	2ndLO	R3V	CONV	GND	LV3	CONLO	GND

J2 to RF unit

• RF-B UNIT



J4
to RF unit

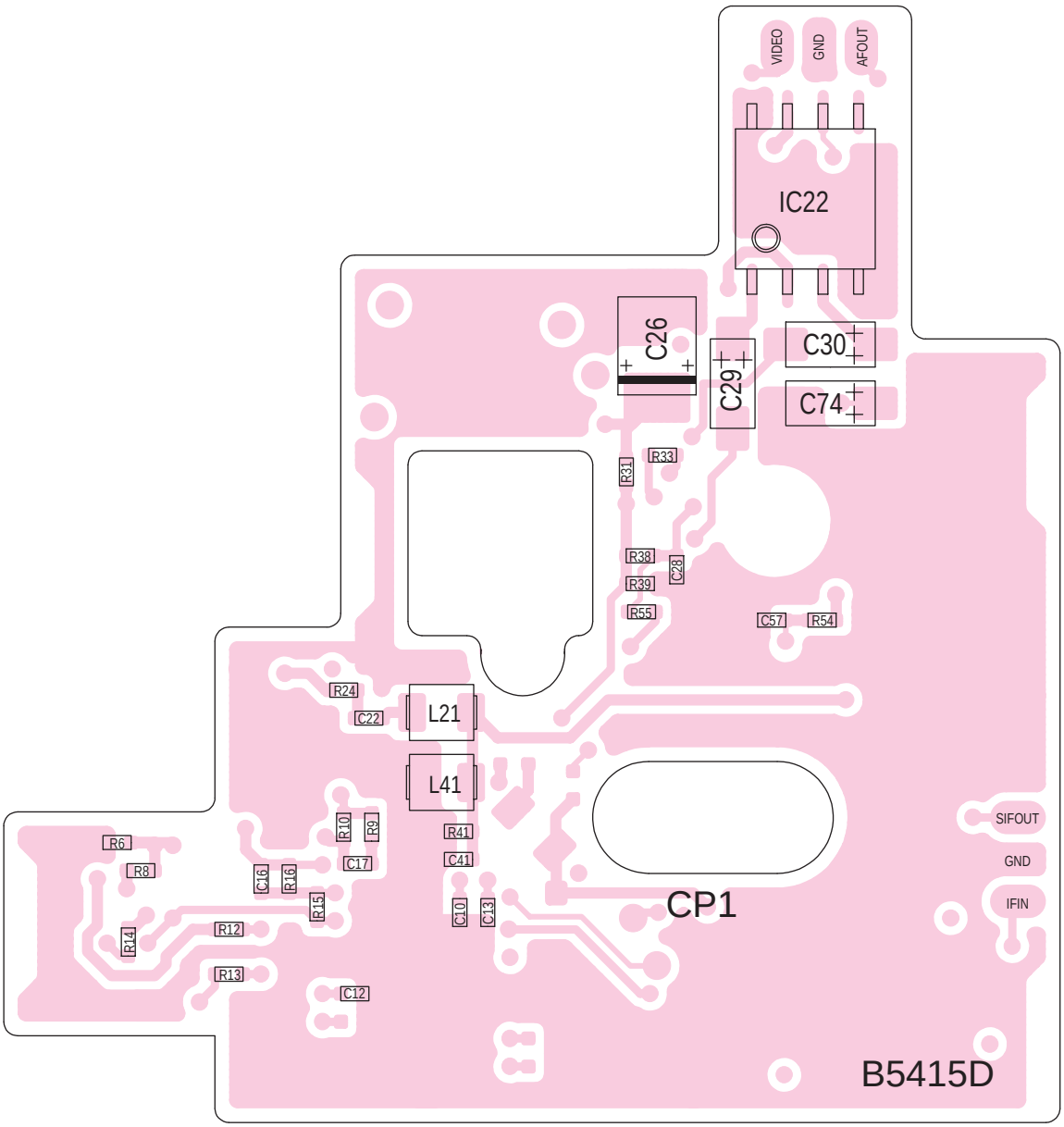
1	30M
	108M
	GND
	RFO
	174M
6	65M

J3
to RF unit

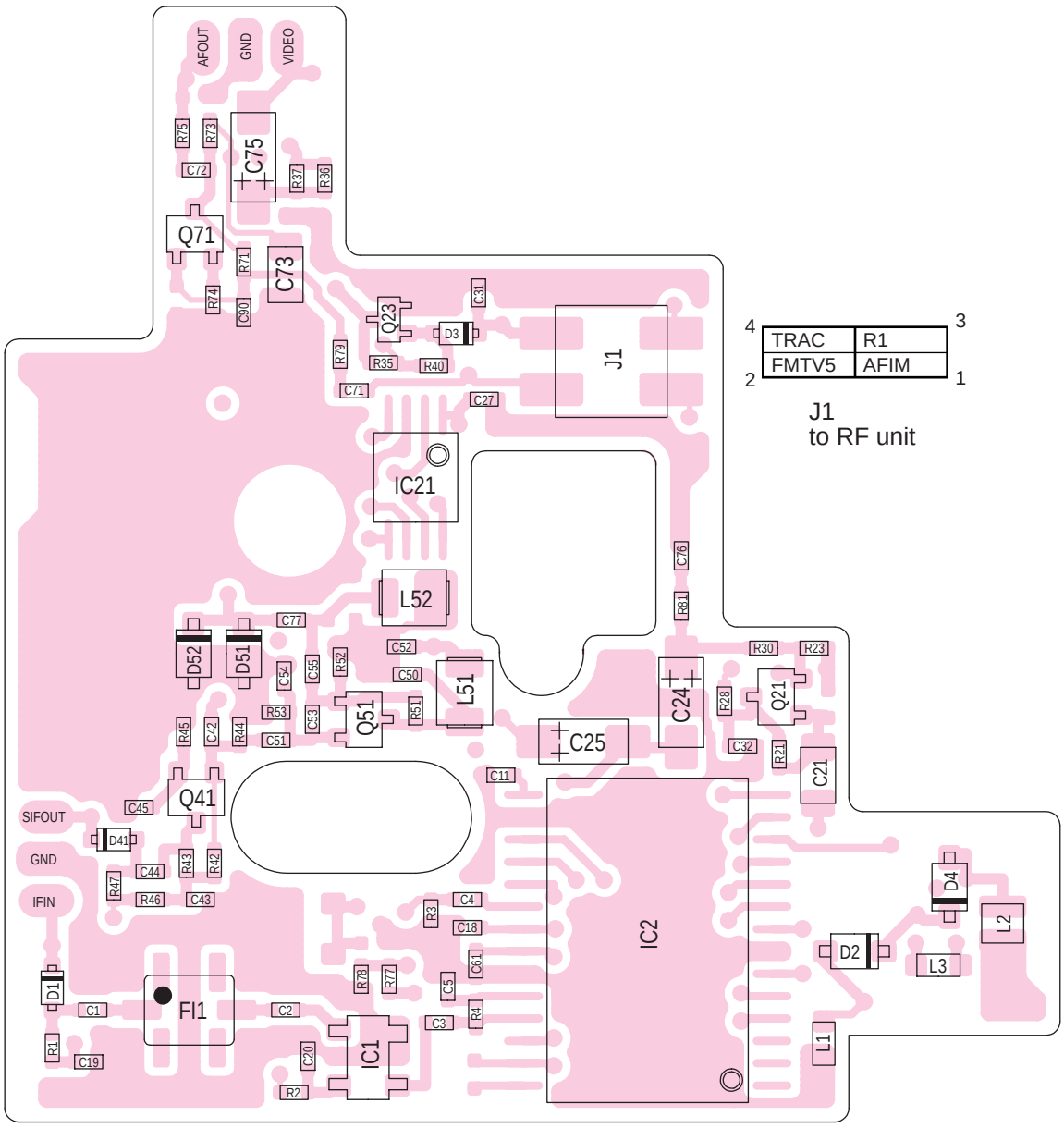
1	TRAC
	GND
	RFI
4	AGC

9-2 FM-TV UNIT

● **TOP VIEW**

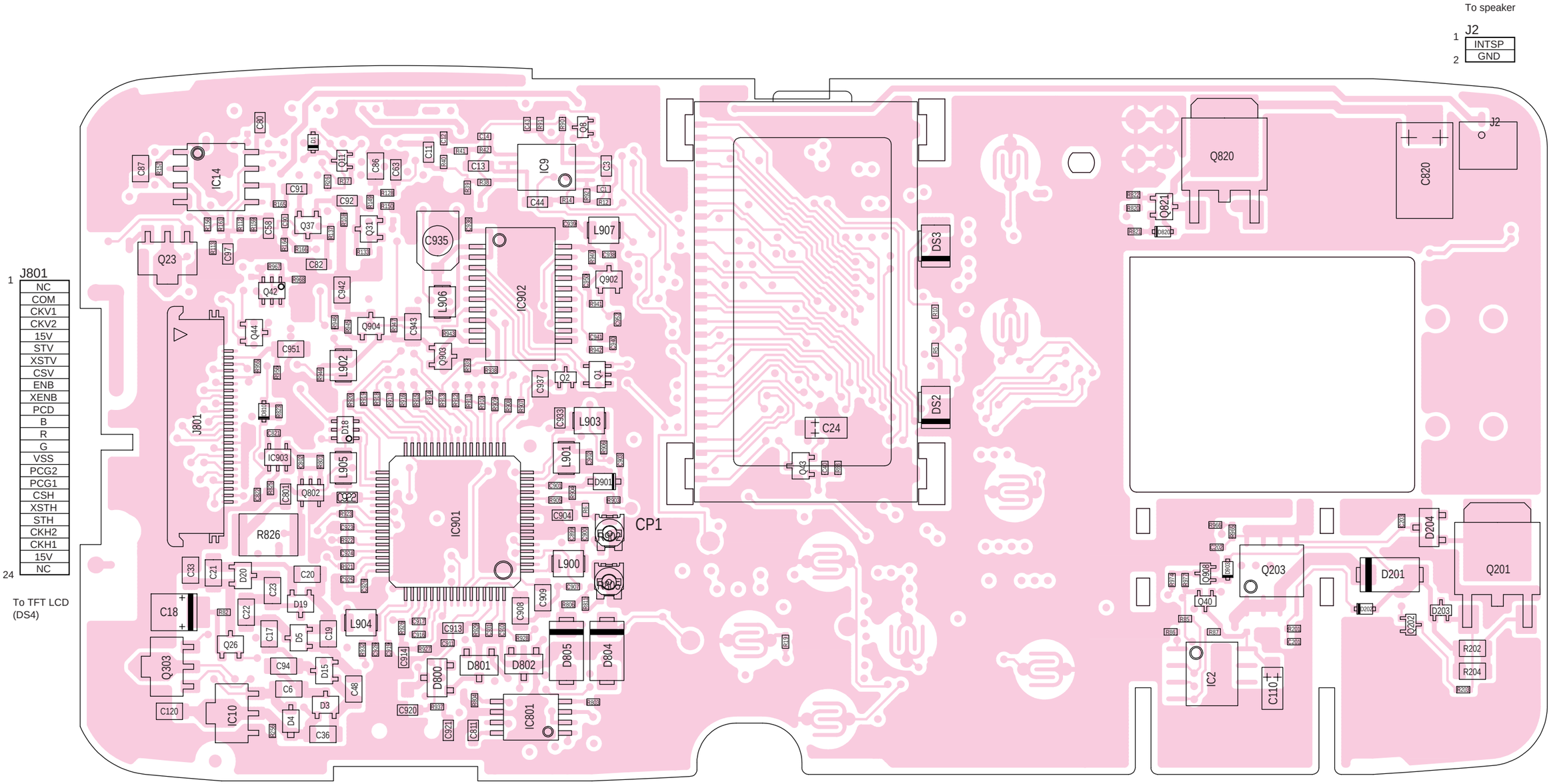


● BOTTOM VIEW


AFOUT
GND
VIDEO
C75
Q71
C73
Q23
D3
J1
IC21
L52
D52
D51
Q51
L51
C25
C24
Q21
C21
Q41
SIFOUT
GND
IFIN
D41
FI1
D1
IC1
IC2
D4
L2
D2
L3
L1
4
3
2
1
TRAC
R1
FMTV5
AFIM
J1
to RF unit

9-3 LOGIC UNIT

● **TOP VIEW**

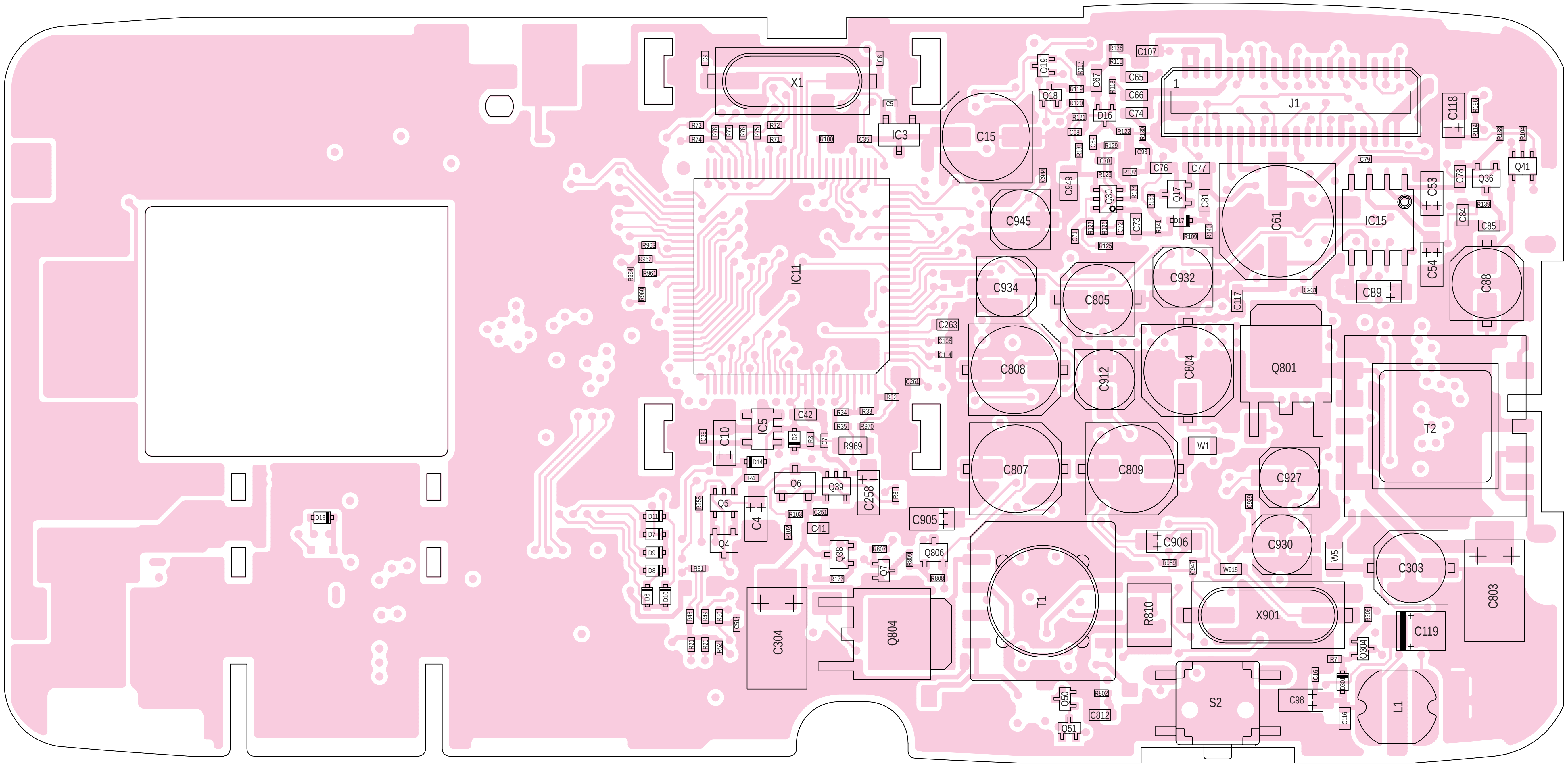


• BOTTOM VIEW

J1

1																			20
HV	VH	NC	RSSI	FMAF	CONVC	SDET	AMAF	GND	SPG	PGSTB	DBLOFF	174MC	TRAC	330MC	108MC	GND	FSET	VP	VIDEO
DCK	DUD	R3V	RXC	TVIF5	LVC	PSTB	PCK	PDA	+3V	EXPSTB	HFC	CLONE	ATT	INTSP	AFO	WFM	AM	BGND	BGND
40																			21

to RF unit J1



9-4 RF UNIT

• TOP VIEW

J1

20																			1
VIDEO	VP	FSET	GND	108MC	330MC	TRAC	174MC	DBLOFF	PGSTB	SPG	GND	AMAF	SDET	CONVC	FMAF	RSSI	NC	HV	HV
BGND	BGND	AM	WFM	AFO	INTSP	ATT	CLONE	HFC	EXPSTB	+3V	PDA	PCK	PSTB	LVC	TVIF5	RXC	R3V	DUD	DCK
21																			40

to LOGIC unit J1

J7

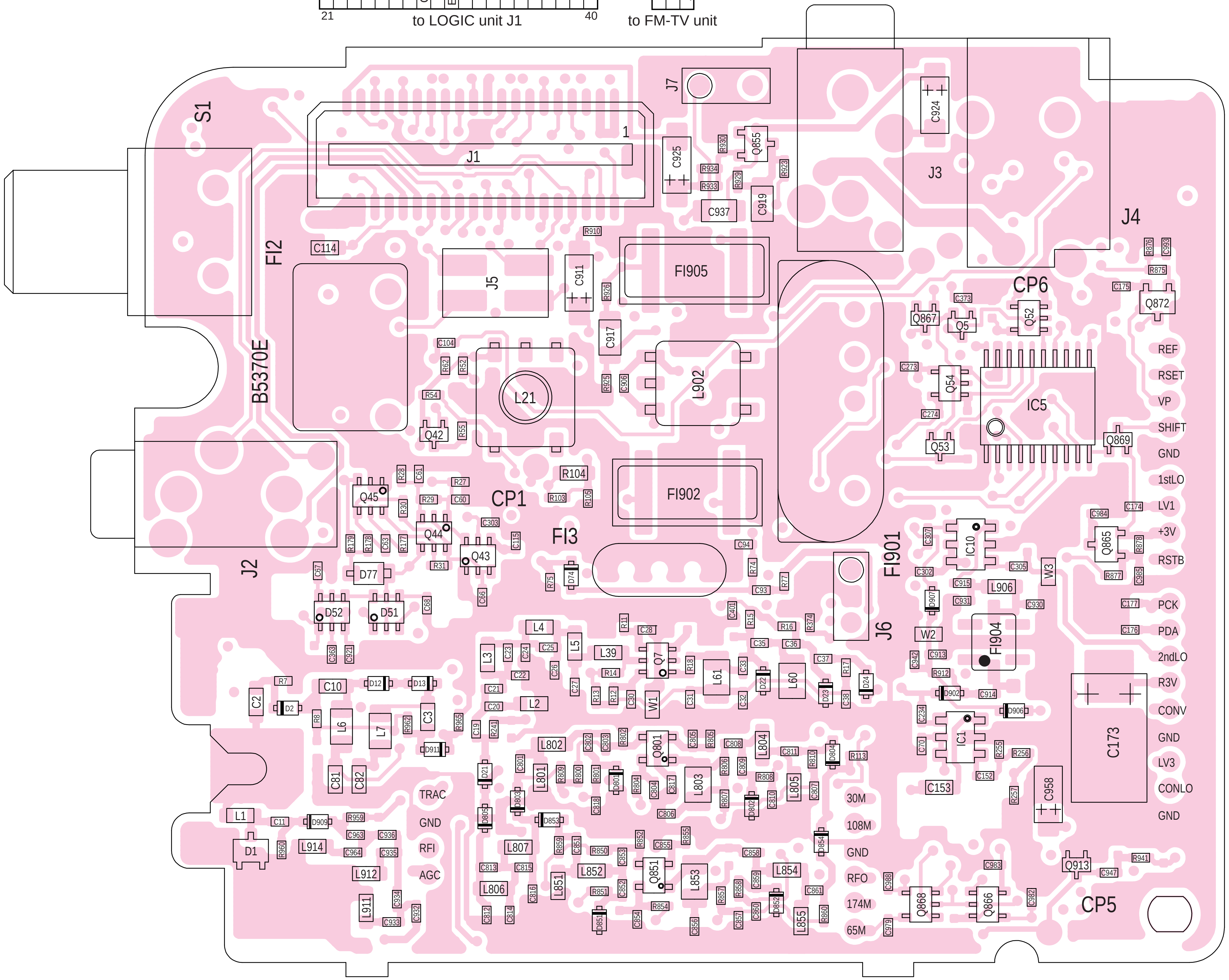
1		3
VIDEO	GND	AFOUT

to FM-TV unit

J5

1	AFIN	FMTV5	2
3	B1C	TRAC	4

to FM-TV unit J1

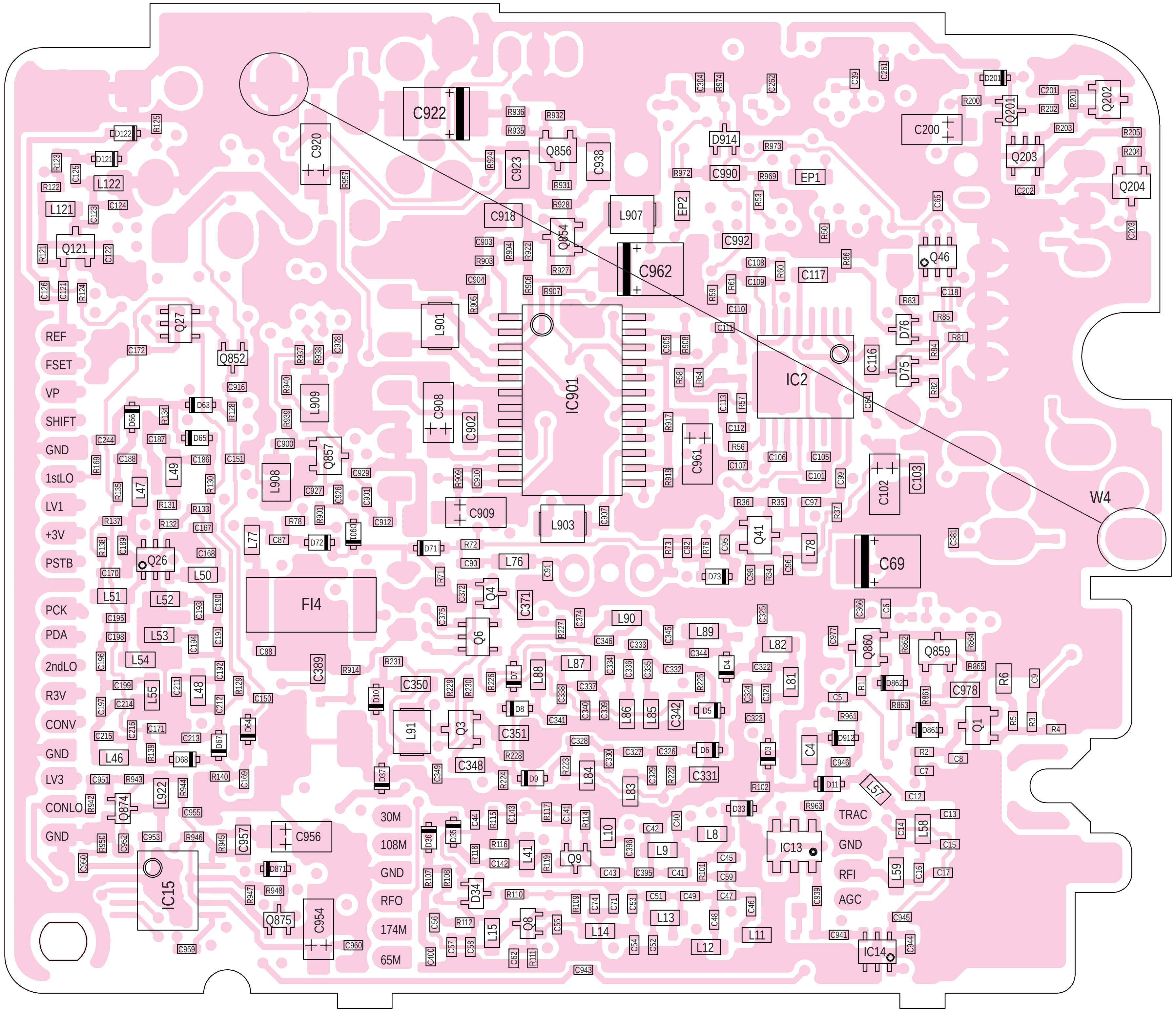


J6

SIFOUT	1
GND	
IFIN	3

to FM-TV unit

• **BOTTOM VIEW**


REF
FSET
VP
SHIFT
GND
1stLO
LV1
+3V
PSTB
PCK
PDA
2ndLO
R3V
CONV
GND
LV3
CONLO
GND
30M
108M
GND
RFO
174M
65M
TRAC
GND
RFI
AGC
W4
IC901
IC2
IC13
IC14
IC15
FI4
C922
C962
C69
EP1
EP2

SECTION 10 BC-135 OPTIONAL DESKTOP CHARGER INFORMATION

10-1 PARTS LIST

[TANSHI BOARD]

REF NO.	ODER NO.	DESCRIPTION	
D1	1710000050	DIODE	1SS53
R1	7080000160	RESISTOR	RGB2L R15
R2	7510000530	THERMISTOR	ERT-D2FHL 103S
C1	4010007620	CERAMIC	DSXE65SJ YF 473Z
RL1	6330001630	RELAY	A-5W-K
J1	6510003570	CONNECTOR	S09B-EH-S
EP1	0910052472	PCB	B 5425B
EP2	9001602001	TUBE	IRRAX 0.7 (d) L=10 mm

[MAIN UNIT]

REF NO.	ODER NO.	DESCRIPTION	
IC1	1110005090	S.IC	MM1433EVBE
IC2	1110004200	S.IC	NJM2360M-TE3
Q1	1520000600	S.TRANSISTOR	2SB1184 TL Q
Q2	1590001870	S.TRANSISTOR	DTA114EE TL
Q3	1590001440	S.TRANSISTOR	UN9214 (TX)
Q4	1590001870	S.TRANSISTOR	DTA114EE TL
Q5	1590001870	S.TRANSISTOR	DTA114EE TL
Q6	1590001870	S.TRANSISTOR	DTA114EE TL
Q7	1550000020	S.FET	2SJ377 (TE16R)
Q8	1590002310	S.TRANSISTOR	DTC114EE TL
D1	1790000680	S.DIODE	SB20-03P-TD
D2	1790000680	S.DIODE	SB20-03P-TD
D3	1790001250	S.DIODE	MA2S111-(TX)
D4	1790000850	S.DIODE	MA132WK (TX)
D5	1750000120	S.DIODE	DWA010-TE
D6	1790000680	S.DIODE	SB20-03P-TD
L1	6190001150	COIL	HK-08S050-2010
R2	7030003340	S.RESISTOR	ERJ3GEYJ 151 V (150 ‰)
R3	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 ‰)
R5	7030003560	S.RESISTOR	ERJ3GEYJ 103 V (10 k‰)
R6	7030003690	S.RESISTOR	ERJ3GEYJ 124 V (120 k‰)
R9	7030003720	S.RESISTOR	ERJ3GEYJ 224 V (220 k‰)
R11	7030005690	S.RESISTOR	RR0816P-123-D (12 k‰)
R12	7030006090	S.RESISTOR	RR0816P-272-D (2.7 k‰)
R14	7030003680	S.RESISTOR	ERJ3GEYJ 104 V (100 k‰)
R15	7030003700	S.RESISTOR	ERJ3GEYJ 154 V (150 k‰)
R16	7030003640	S.RESISTOR	ERJ3GEYJ 473 V (47 k‰)
R17	7030003420	S.RESISTOR	ERJ3GEYJ 681 V (680 ‰)
R18	7030003440	S.RESISTOR	ERJ3GEYJ 102 V (1 k‰)
R19	7030007330	S.RESISTOR	ERJ1WRSJR15U (0.15 ‰)
R21	7030003410	S.RESISTOR	ERJ3GEYJ 561 V (560 ‰)
R22	7030007910	S.RESISTOR	RR0816R-563-D (56 k‰)
R23	7030003200	S.RESISTOR	ERJ3GEYJ 100 V (10 ‰)
C1	4030009660	S.CERAMIC	C1608 JF 1C 224Z-T-A
C2	4510004510	ELECTROLYTIC	25 MV 470 HC
C3	4030006850	S.CERAMIC	C1608 JB 1H 471K-T-A
C4	4510004590	ELECTROLYTIC	16 MV 470 HC
C5	4030006900	S.CERAMIC	C1608 JB 1E 103K-T-A
C6	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C7	4030009660	S.CERAMIC	C1608 JF 1C 224Z-T-A
C8	4510006760	ELECTROLYTIC	20 SA 100M
C9	4030009660	S.CERAMIC	C1608 JF 1C 224Z-T-A
C10	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C12	4510004590	ELECTROLYTIC	16 MV 470 HC
C13	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A

[MAIN UNIT]

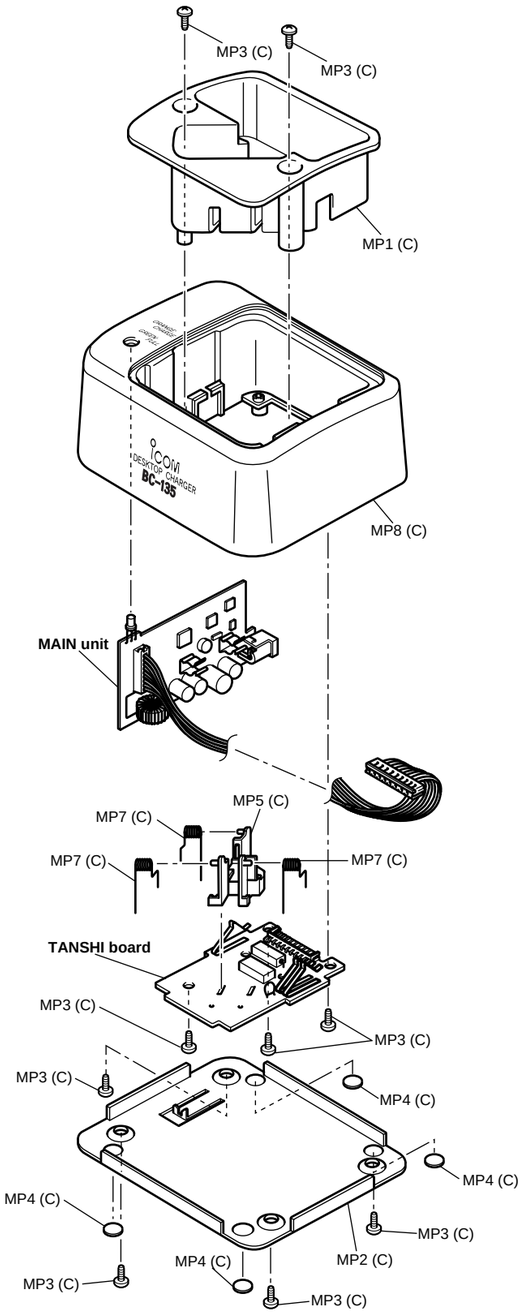
REF NO.	ODER NO.	DESCRIPTION	
C14	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C15	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C16	4550000540	S.TANTALUM	TESVA 1V 154M1-8L
C18	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C19	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C20	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C21	4510004640	S.ELECTROLYTIC	ECEV1CA470SP
C22	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C23	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C24	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C25	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C26	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C27	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C28	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C29	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C30	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C31	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C32	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C33	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C34	4030011600	S.CERAMIC	C1608 JB 1C 104KT-N
C35	4030006860	S.CERAMIC	C1608 JB 1H 102K-T-A
C36	4550006540	S.TANTALUM	ECST1CY475R
J1	6450000410	CONNECTOR	HEC0470-01-630
F1	5210000040	FUSE	FGB 2A
F2	5220000020	HOLDER	S-N5051
F3	5220000020	HOLDER	S-N5051
DS1	5040002150	LED	VRPG3349S-734
WS1	8600036620	CABLE	EX2308 P01*J04MA
EP1	0910052462	PCB	B 5373B

S.=Surface mount

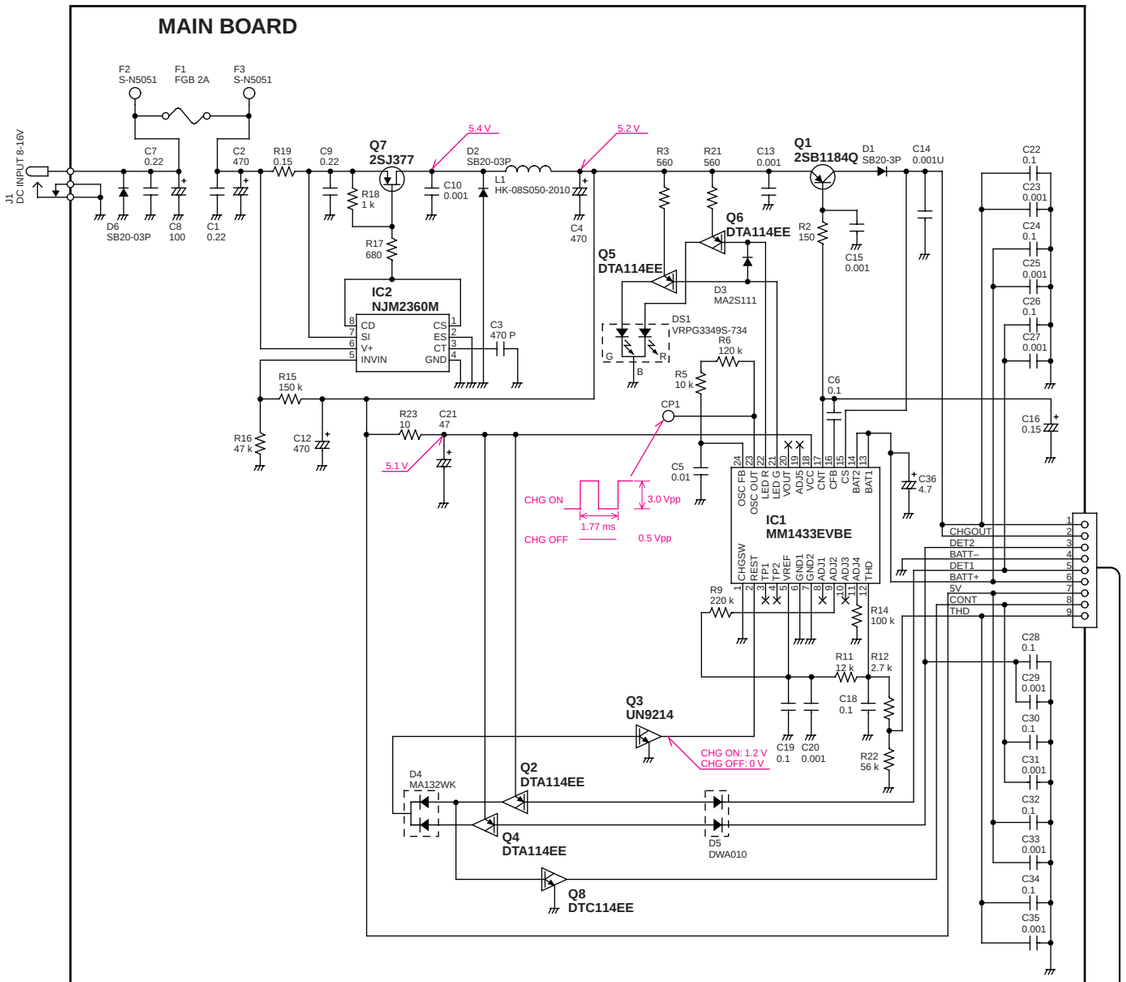
[CHASSIS PARTS]

REF. NO.	ODER NO.	DESCRIPTION	QTY.
MP1	8930051000	2308 Holder	1
MP2	8110005800	1796 Cover	1
MP3	8810009990	Screw BT M3 x 8 ZK	9
MP4	8930039620	Leg cushion(A)	4
MP5	8930051010	2308 Terminal holder	1
MP7	8930051030	2308 B-Terminal	3
MP8	8210016640	1796 Case(D)	1

10-2 DISASSEMBLY INFORMATION

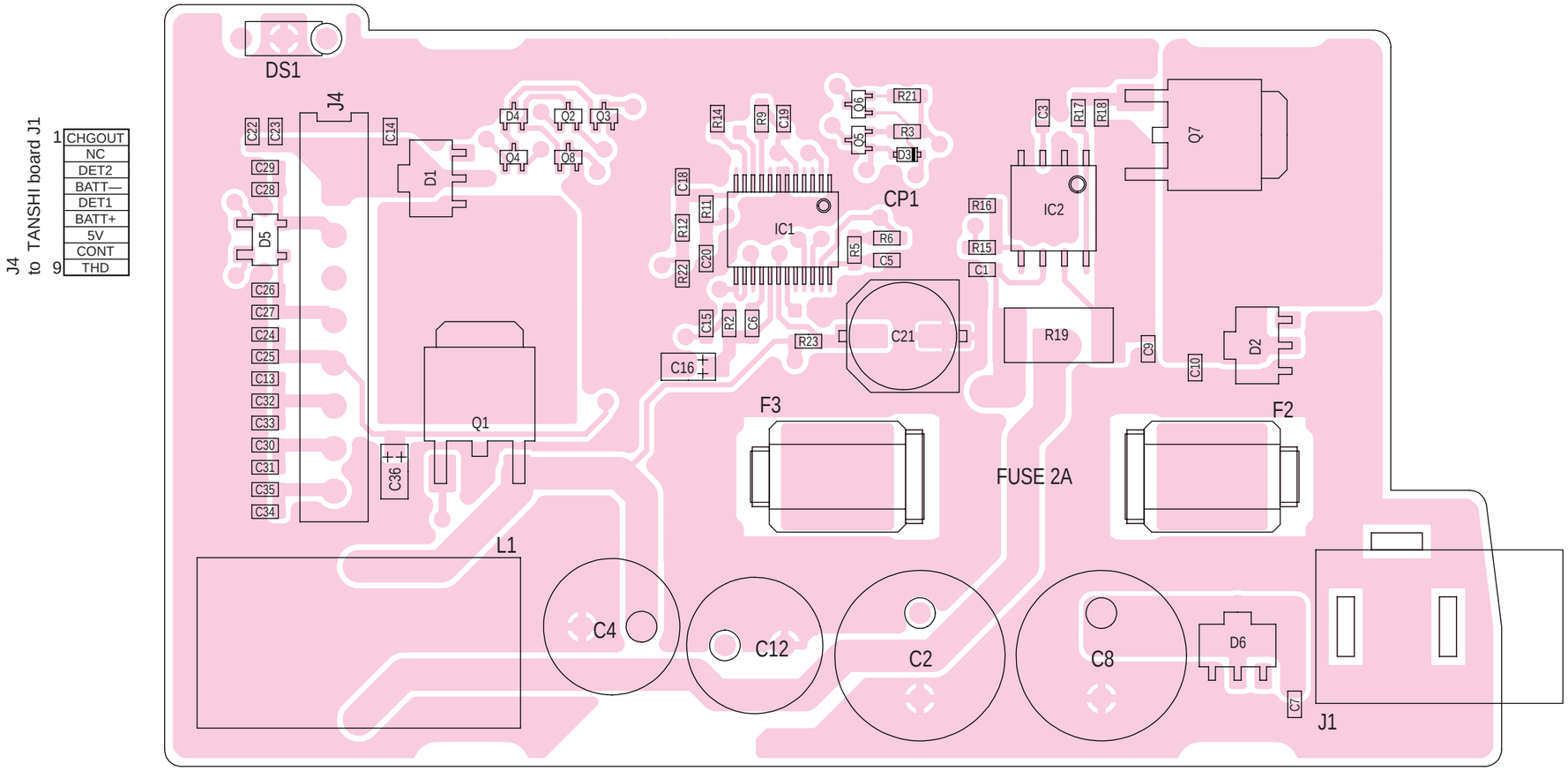


10-3 VOLTAGE DIAGRAM

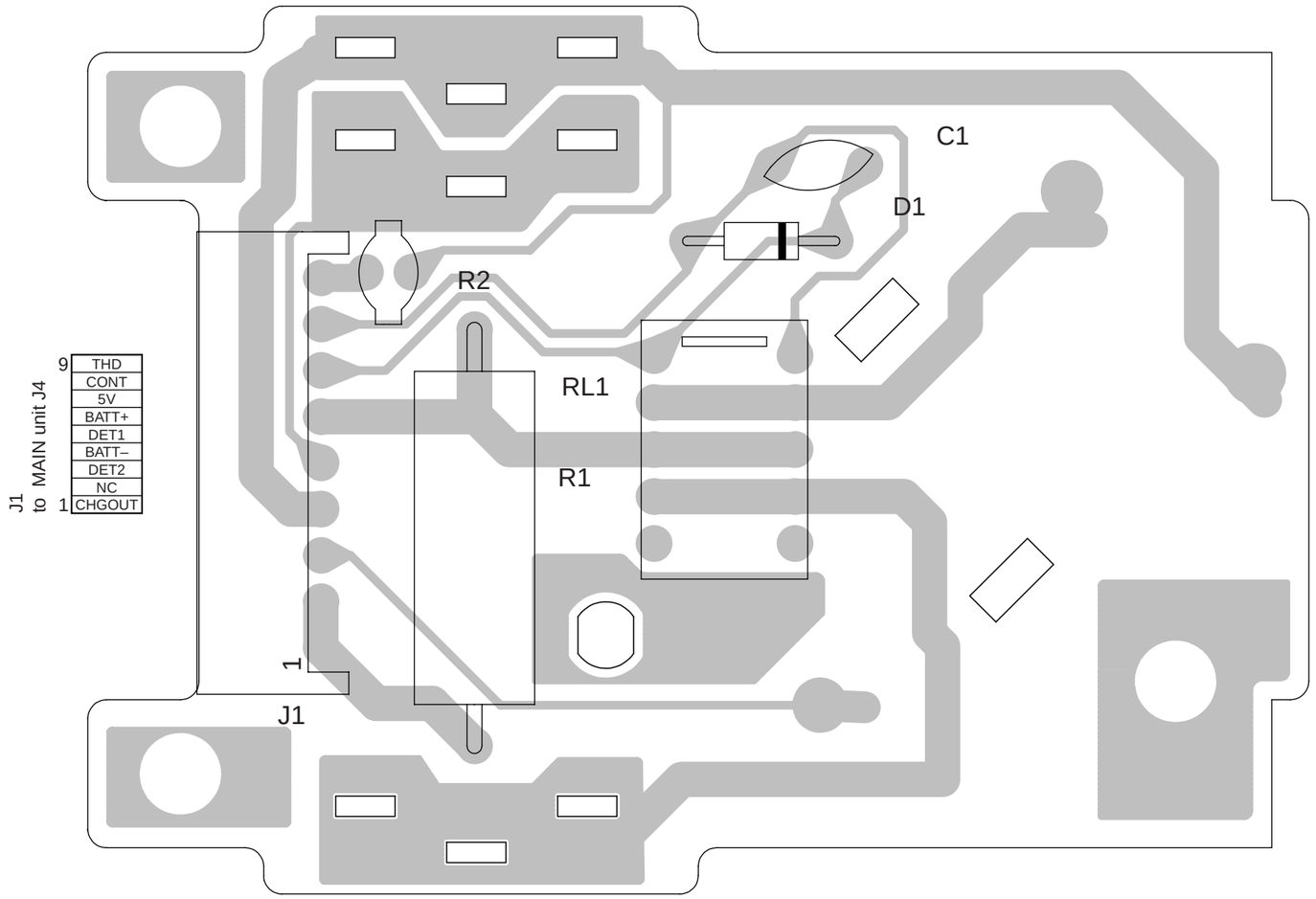


10-4 BOARD LAYOUTS

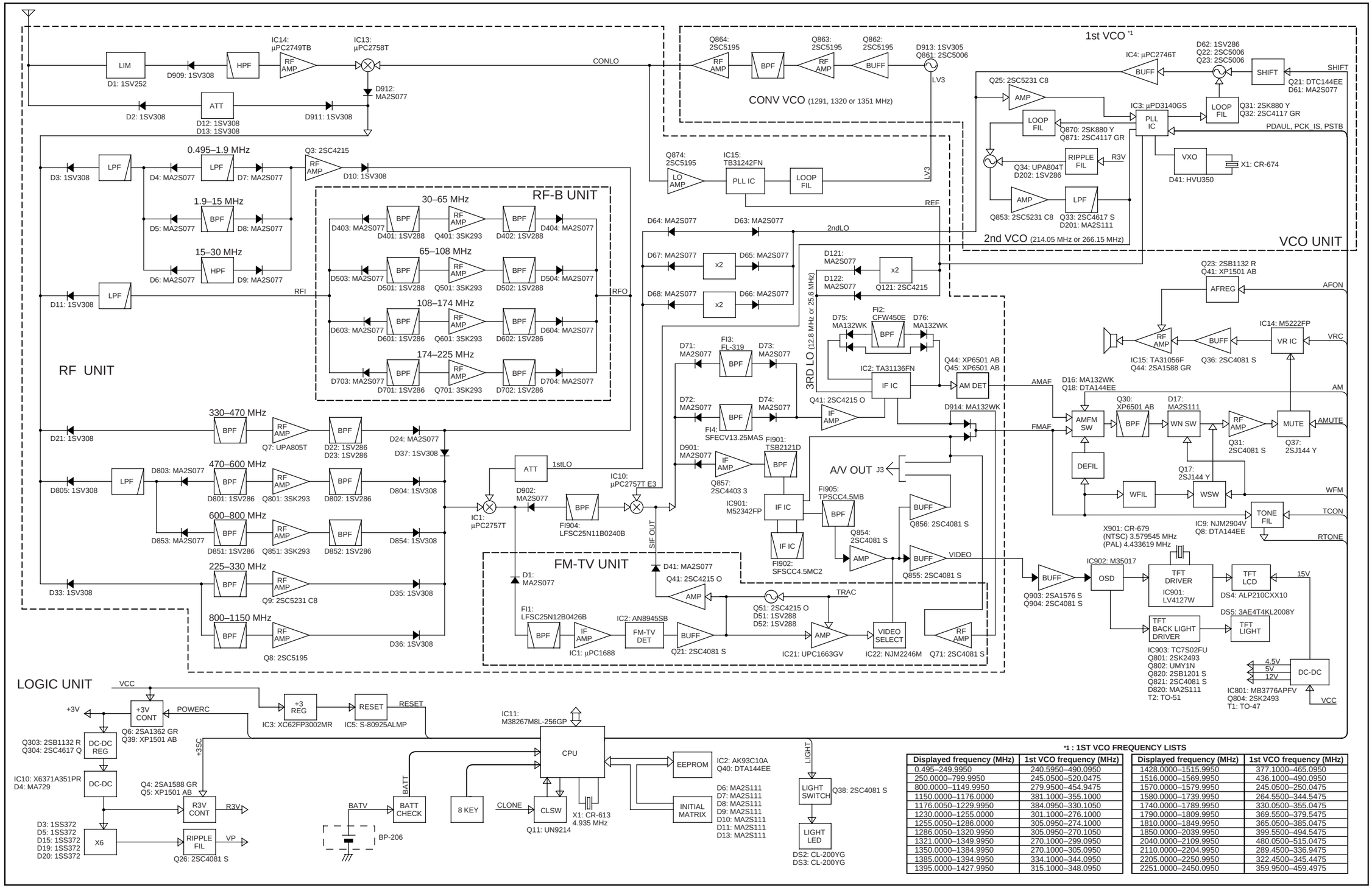
10-4-1 MAIN BOARD



10-4-2 TANSHI BOARD



SECTION 11 BLOCK DIAGRAM



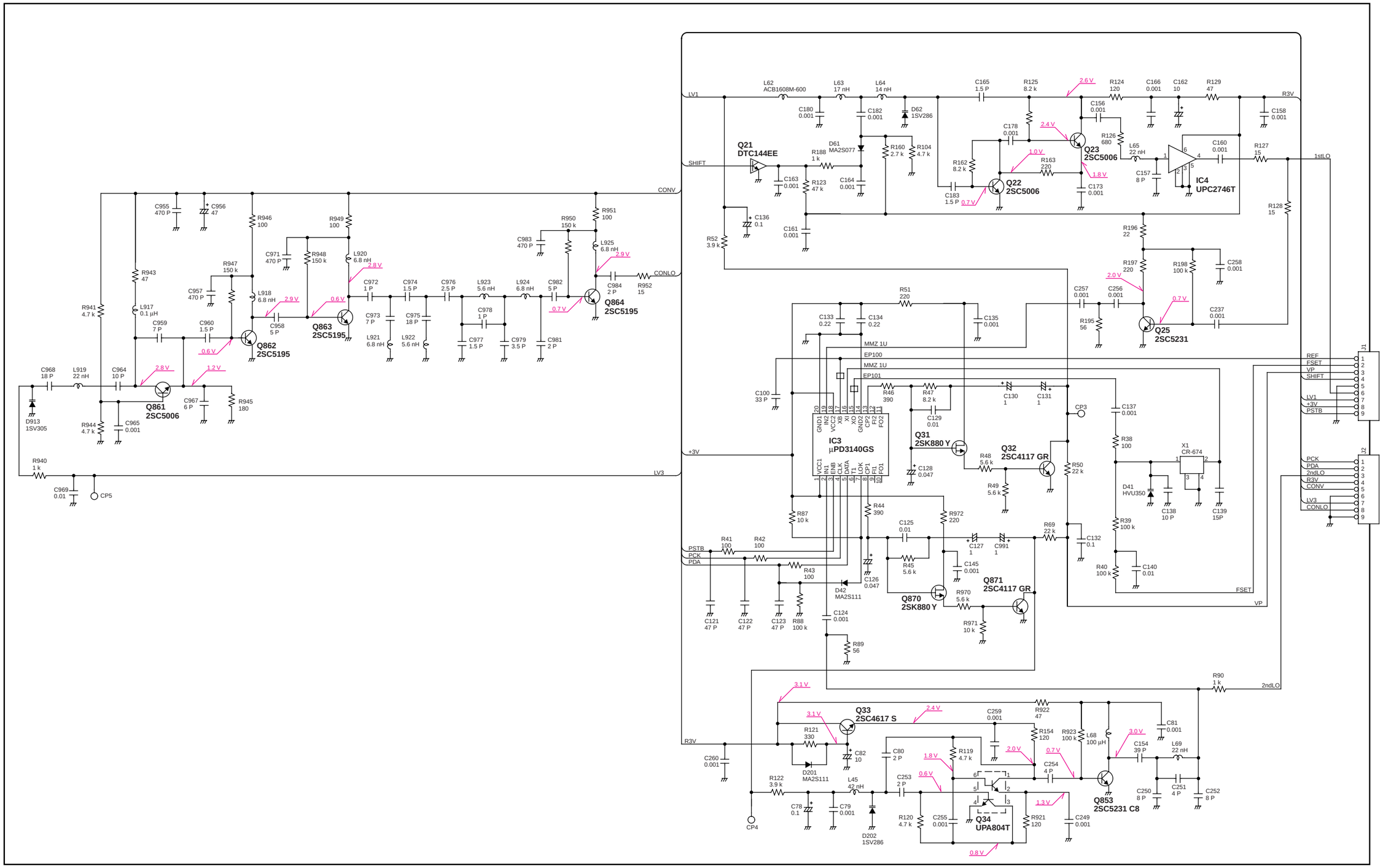
***1 : 1ST VCO FREQUENCY LISTS**

Displayed frequency (MHz)	1st VCO frequency (MHz)
0.495–249.9950	240.5950–490.0950
250.0000–799.9950	245.0500–520.0475
800.0000–1149.9950	279.9500–454.9475
1150.0000–1176.0000	381.1000–355.1000
1176.0050–1229.9950	384.0950–330.1050
1230.0000–1255.0000	301.1000–276.1000
1255.0050–1286.0000	305.0950–274.1000
1286.0050–1320.9950	305.0950–270.1050
1321.0000–1349.9950	270.1000–299.0950
1350.0000–1384.9950	270.1000–305.0950
1385.0000–1394.9950	334.1000–344.0950
1395.0000–1427.9950	315.1000–348.0950

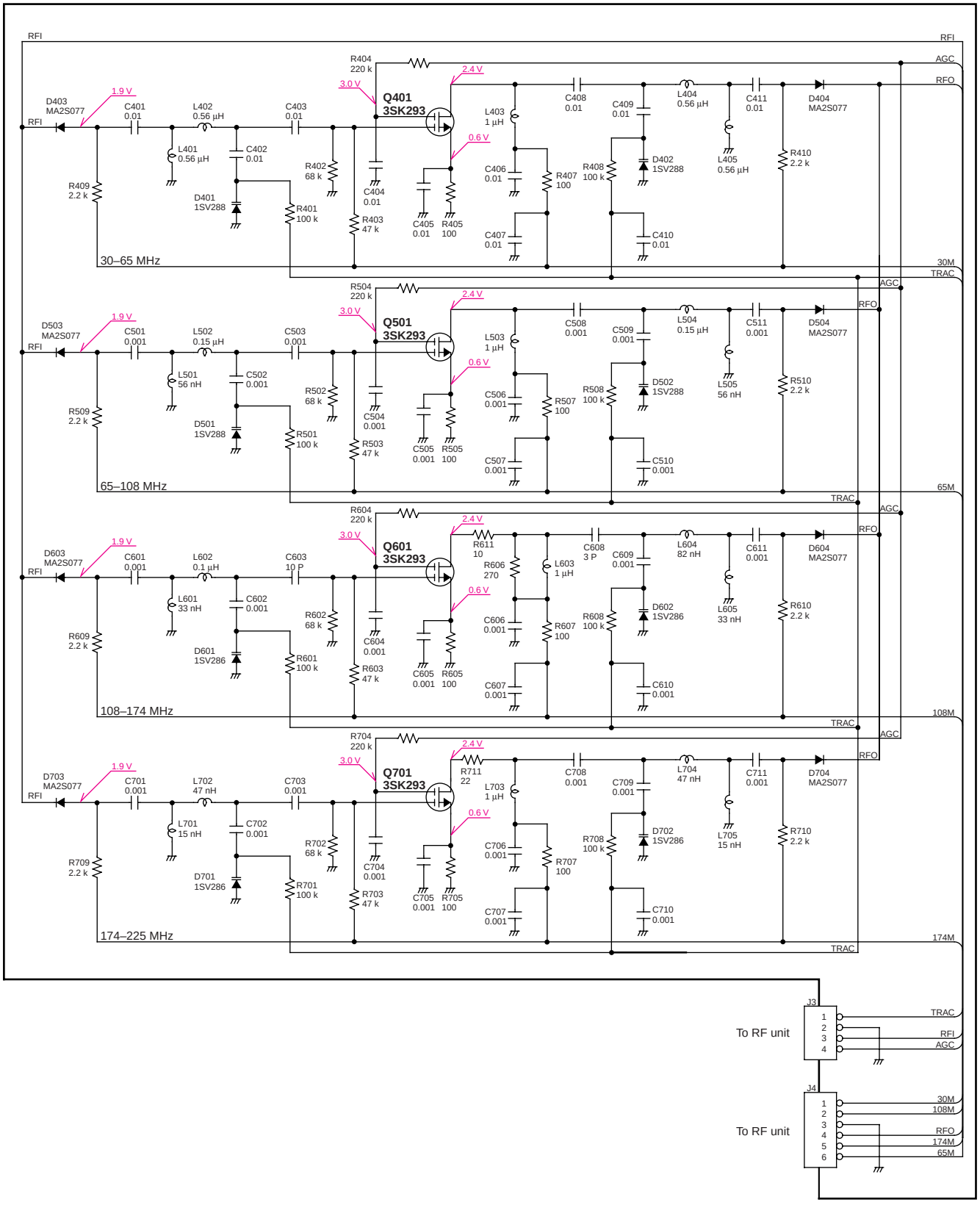
Displayed frequency (MHz)	1st VCO frequency (MHz)
1428.0000–1515.9950	377.1000–465.0950
1516.0000–1569.9950	436.1000–490.0950
1570.0000–1579.9950	245.0500–250.0475
1580.0000–1739.9950	264.5500–344.5475
1740.0000–1789.9950	330.0500–355.0475
1790.0000–1809.9950	369.5500–379.5475
1810.0000–1849.9950	365.0500–385.0475
1850.0000–2039.9950	399.5500–494.5475
2040.0000–2109.9950	480.0500–515.0475
2110.0000–2204.9950	289.4500–336.9475
2205.0000–2250.9950	322.4500–345.4475
2251.0000–2450.0950	359.9500–459.4975

SECTION 12 VOLTAGE DIAGRAM

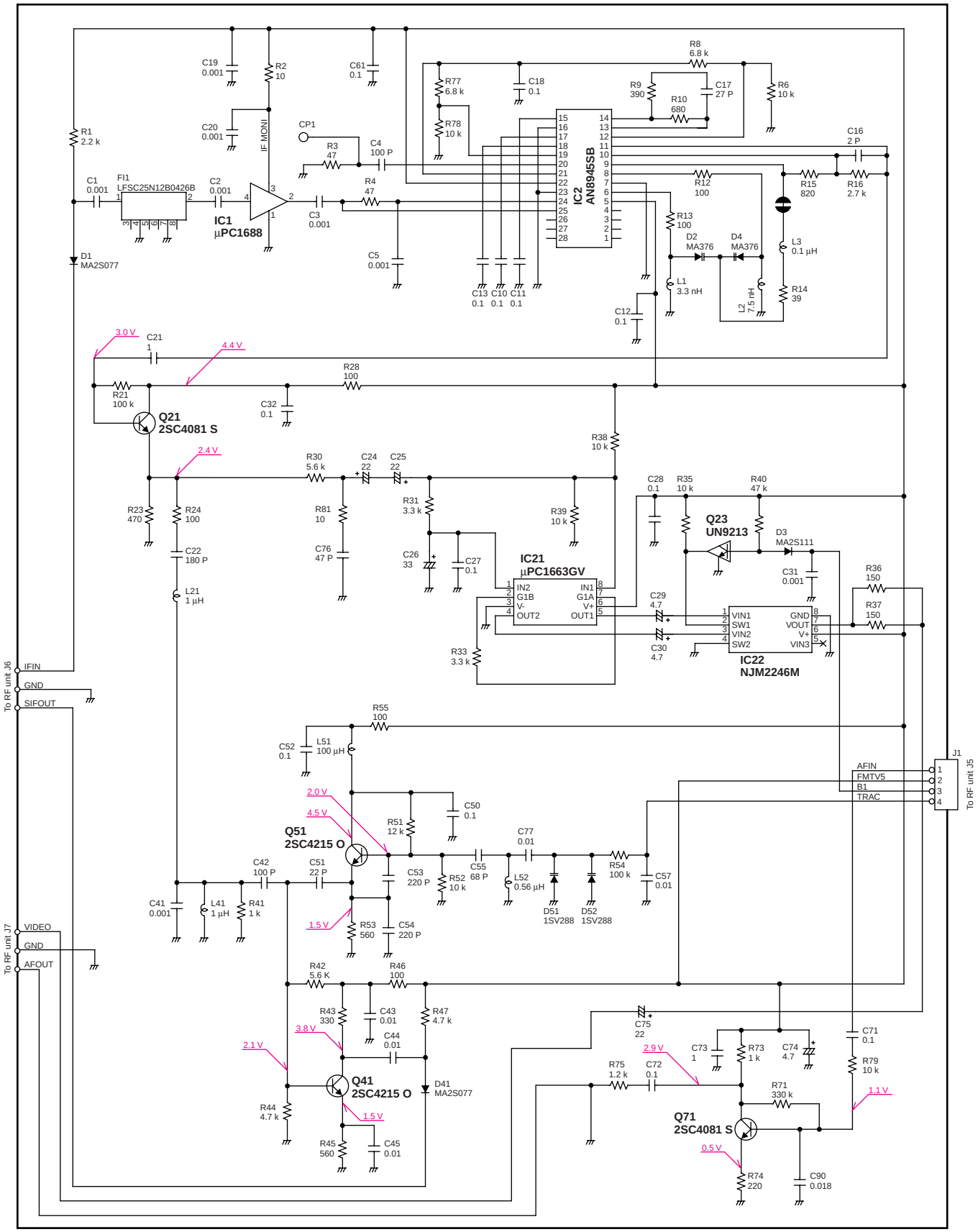
12-1 VCO UNIT



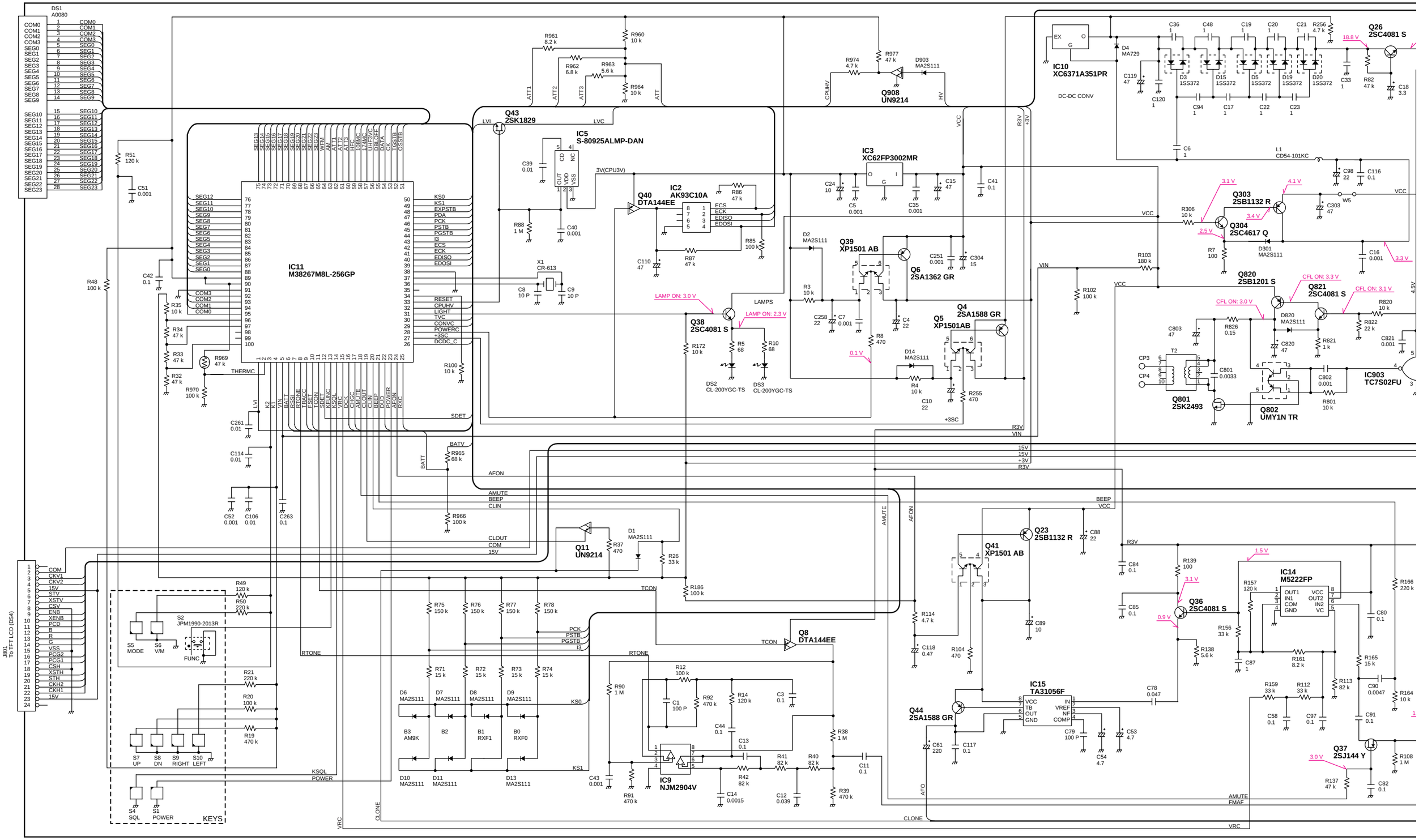
12-2 RF-B UNIT

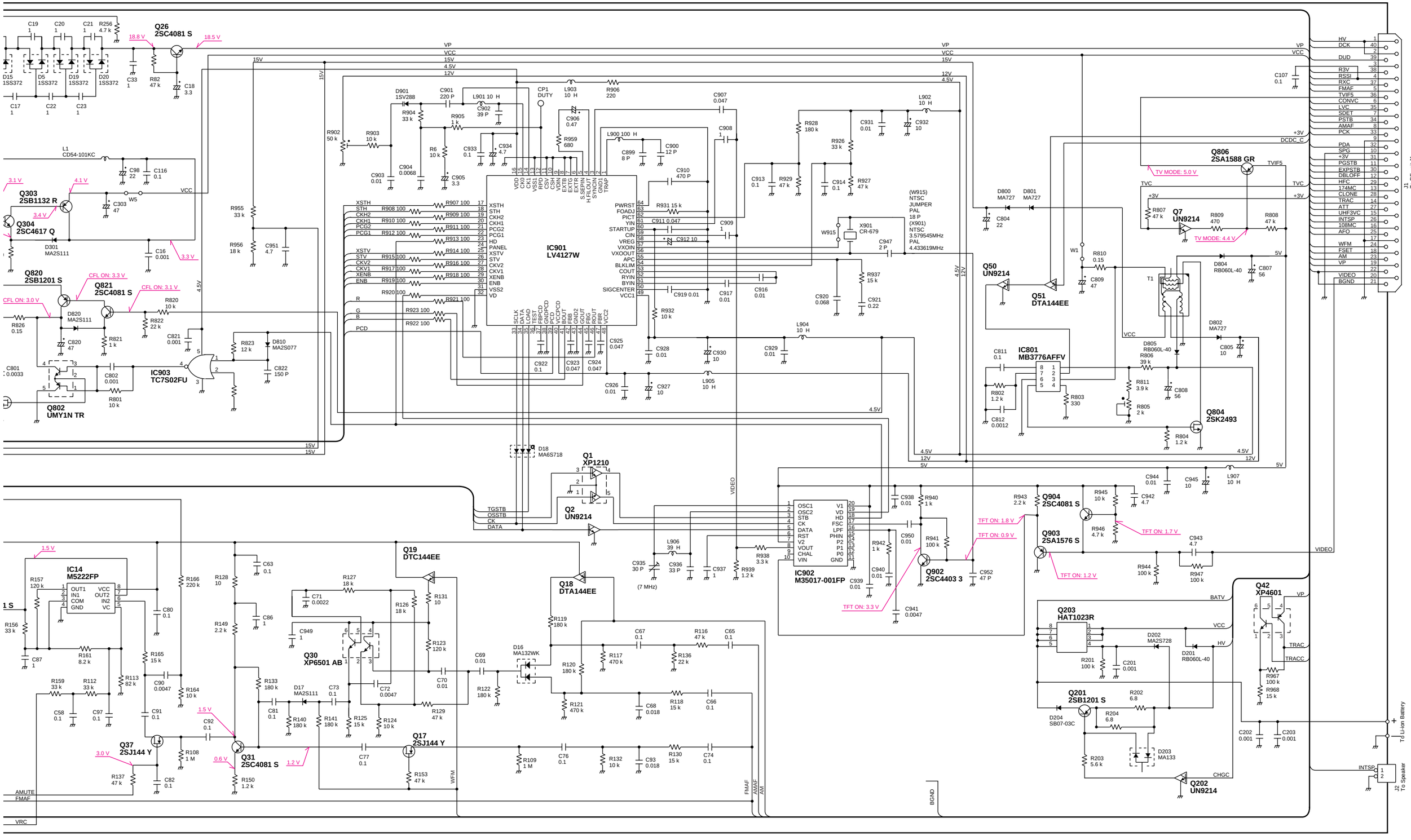

RFI
AGC
RFO
30–65 MHz
65–108 MHz
108–174 MHz
174–225 MHz
30M
65M
108M
174M
TRAC
Q401 3SK293
Q501 3SK293
Q601 3SK293
Q701 3SK293
D403 MA2S077
D503 MA2S077
D603 MA2S077
D703 MA2S077
D404 MA2S077
D504 MA2S077
D604 MA2S077
D704 MA2S077
D401 1SV288
D501 1SV288
D601 1SV286
D701 1SV286
D402 1SV288
D502 1SV288
D602 1SV286
D702 1SV286
1.9 V
2.4 V
3.0 V
0.6 V
To RF unit
J3
J4

12-3 FM-TV UNIT



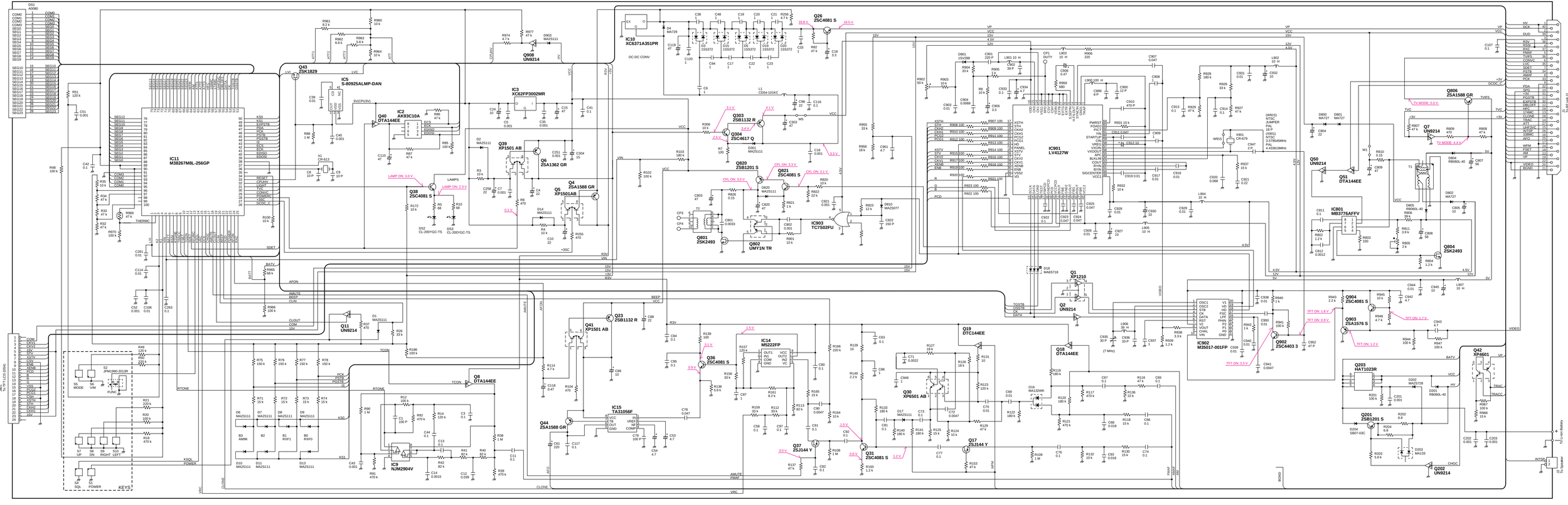
12-4 LOGIC UNIT



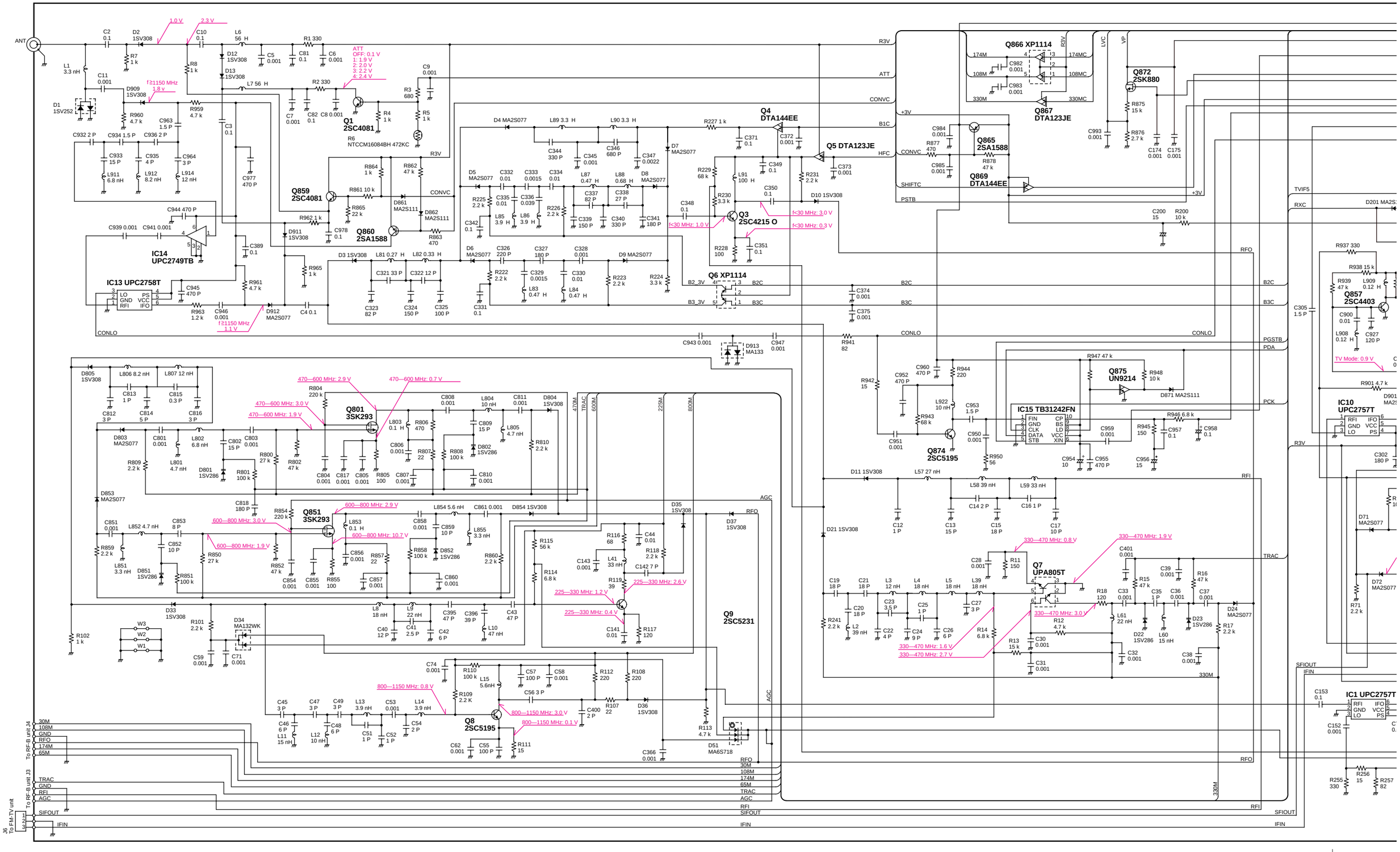


COMPLETE VIEW

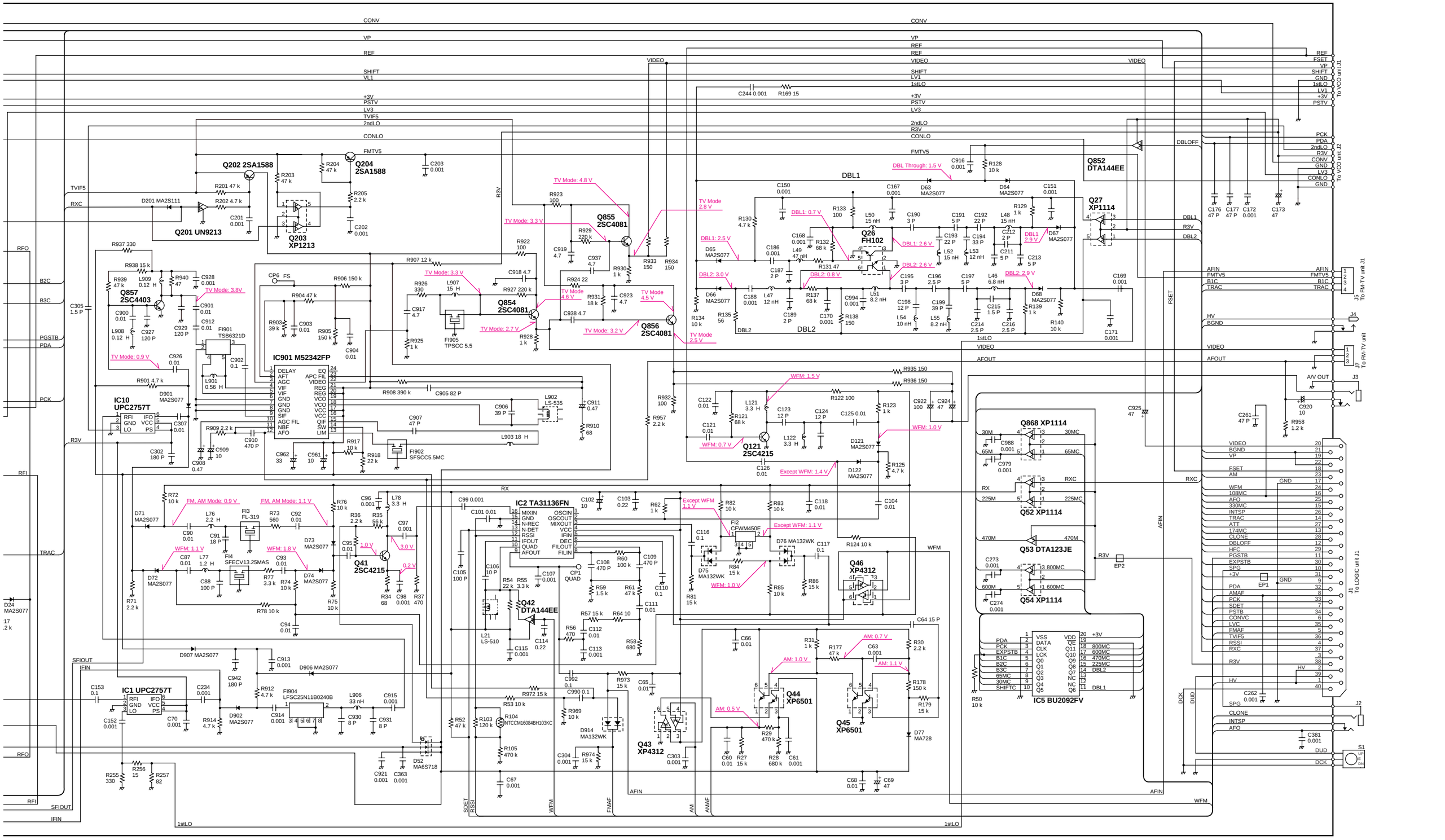
12-4 LOGIC UNIT



12-5 RF UNIT



COMPLETE VIEW



COMPLETE VIEW

12-5 RF UNIT


ANT
Q1 2SC4081
Q3 2SC4215 O
Q4 DTA144EE
Q5 DTA123JE
Q6 XP1114
Q7 UPA805T
Q8 2SC5195
Q9 2SC5231
IC13 UPC2758T
IC14 UPC2749TB
Q859 2SC4081
Q860 2SA1588
Q801 3SK293
Q851 3SK293
Q866 XP1114
Q867 DTA123JE
Q865 2SA1588
Q869 DTA144EE
Q872 2SK880
Q874 2SC5195
Q875 UN9214
IC15 TB31242FN
Q201 UN9213
Q202 2SA1588
Q203 XP1213
Q204 2SA1588
Q857 2SC4403
IC901 M52342FP
IC10 UPC2757T
IC1 UPC2757T
Q854 2SC4081
Q855 2SC4081
Q856 2SC4081
Q26 FH102
Q27 XP1114
Q852 DTA144EE
Q121 2SC4215
Q41 2SC4215
Q42 DTA144EE
IC2 TA31136FN
Q43 XP4312
Q44 XP6501
Q45 XP6501
Q46 XP4312
Q868 XP1114
Q52 XP1114
Q53 DTA123JE
Q54 XP1114
IC5 BU2092FV
ATT OFF: 0.1 V 1: 1.9 V 2: 2.0 V 3: 2.2 V 4: 2.4 V
470—600 MHz: 2.9 V
470—600 MHz: 0.7 V
470—600 MHz: 3.0 V
470—600 MHz: 1.9 V
600—800 MHz: 2.9 V
600—800 MHz: 3.0 V
600—800 MHz: 10.7 V
600—800 MHz: 1.9 V
225—330 MHz: 2.6 V
225—330 MHz: 1.2 V
225—330 MHz: 0.4 V
800—1150 MHz: 0.8 V
800—1150 MHz: 3.0 V
800—1150 MHz: 0.1 V
330—470 MHz: 0.8 V
330—470 MHz: 1.9 V
330—470 MHz: 3.0 V
330—470 MHz: 1.6 V
330—470 MHz: 2.7 V
TV Mode: 0.9 V
TV Mode: 3.8V
TV Mode: 4.8 V
TV Mode: 3.3 V
TV Mode: 2.7 V
TV Mode: 3.2 V
TV Mode 2.8 V
TV Mode 2.5 V
DBL1
DBL2
DBL Through: 1.5 V
FM, AM Mode: 0.9 V
FM, AM Mode: 1.1 V
WFM: 1.5 V
WFM: 1.0 V
WFM: 0.7 V
Except WFM: 1.4 V
Except WFM: 1.1 V
AM: 0.7 V
AM: 1.0 V
AM: 1.1 V
AM: 0.5 V
To VCO unit J1
To VCO unit J2
J5 To FM-TV unit J1
J7 To FM-TV unit
J1 To LOGIC unit J1
To RF-B unit J4
To RF-B unit J3
J6 To FM-TV unit
A/V OUT
S1

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