



SERVICE MANUAL

VHF/UHF ALL MODE TRANSCEIVER

IC-9700

S-15513XZ-C1
March 2019

INTRODUCTION

This service manual describes the latest technical information for the IC-9700 VHF/UHF ALL MODE TRANSCEIVER at the time of publication.

MODEL	VERSION	VERSION NUMBER
IC-9700	USA	#12
	EUR	#13
	ITA	#15
	TPE	#17
	KOR	#18
	EXP	#19

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

SERVICE CAUTION

NEVER connect the transceiver to an AC outlet or to a DC power supply that outputs more than the specified voltage. This will ruin the transceiver.

DO NOT expose the transceiver to rain, snow or liquids.

DO NOT reverse the polarity of the DC power cable when directly connecting to the transceiver.

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



ORDERING PARTS

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

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

<ORDER EXAMPLE>

1180004430 XC6209F502MR IC-9700 MAIN UNIT 5 pieces
8110011570 3913 U-COVER IC-9700 CHASSIS 1 piece

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

REPAIR NOTES

1. Make sure that the problem is internal before disassembling the transceiver.
2. **DO NOT** open the transceiver until the transceiver is disconnected from its power source.
3. **DO NOT** short any circuits or electronic parts. An insulated tuning tool **MUST** be used for all adjustments.
4. **DO NOT** keep power ON for a long time when the transceiver is defective.
5. **NEVER** directly transmit power into any test equipment such as Standard Signal Generator or a Sweep Generator, otherwise the RF power may damage them.
6. **ALWAYS** connect a 50 dB to 60 dB attenuator between the transceiver and such test equipment.
7. **READ** the instructions of the test equipment thoroughly before connecting it to the transceiver.

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SECTION 1

SPECIFICATIONS

■ General

• Frequency range:

RX/TX

	144 MHz band (MHz)	430 MHz band (MHz)	1200 MHz band (MHz)
[USA], [EXP]	144.000000 ~ 148.000000	430.000000 ~ 450.000000	1240.000000 ~ 1300.000000
[EUR]	144.000000 ~ 146.000000	430.000000 ~ 440.000000	1260.000000 ~ 1300.000000
[KOR]		430.000000 ~ 434.000000	1240.000000 ~ 1245.000000
[ITR]		435.000000 ~ 438.000000	1270.000000 ~ 1298.000000
[TPE]		430.000000 ~ 432.000000	1260.000000 ~ 1265.000000

- **Operating mode:** A1A, A3E, J3E, F1B, F1D, F2D, F3E, F7W
- **Number of memory channels:** 107 (99 Simplexes+6 Program scan edges+2 Calls)×3 Bands
99 (Satellite memories)
- **Power supply voltage:** 13.8 V DC ±15%
- **Polarity:** Negative ground
- **Antenna impedance:** 50 Ω
- **Power consumption:**
 - Stand-by 1.2 A (typical)
 - Maximum audio Less than 1.8 A
 - Transmit (high power) Less than 18 A
- **Operating temperature range:** -10°C ~ +60°C (14°F ~ 140°F)
- **Frequency stability:** ±0.5 ppm (-10°C ~ +60°C, 14°F ~ 140°F)
- **Frequency resolution:** Minimum 1 Hz
- **Dimensions** (projections not included): 240 (W)×94 (H)×238 (D) mm (9.4 (W)×3.7 (H)×9.4 (D) inches)
- **Weight** (approximate): 4.7 kg (10 lb 6 oz)

■ Transmitter

• Output power:

	144 MHz band	430 MHz band	1200 MHz band
SSB, CW, FM, RTTY, DV	0.5 ~ 100 W	0.5 ~ 75 W	0.1 ~ 10 W
AM	0.125 ~ 25 W	0.125 ~ 18.75 W	0.025 ~ 2.5 W
DD	–	–	0.1 ~ 10 W

• Modulation method:

SSB	Digital PSN modulation
FM	Digital Reactance modulation
AM	Digital Low Power modulation
DV, DD	Digital GMSK modulation

• Spurious/Unwanted emissions:

Harmonics	Less than –63 dB (144 MHz band)
	Less than –61.8 dB (430 MHz band)
	Less than –53 dB (1200 MHz band)
Out-of-band	Less than –60 dB (144/430 MHz bands)
	Less than –50 dB (1200 MHz band)

• Carrier suppression:

More than 50 dB

• Unwanted sideband suppression:

More than 50 dB

• Microphone impedance:

600 Ω

■ Receiver

• Receive systems:

144/430 MHz bands	RF direct sampling
1200 MHz band	Down conversion IF sampling

• Intermediate frequencies (1200 MHz band only):

[USA], [EUR], [EXP]	311 ~ 371 MHz
[ITA]	311 ~ 316 MHz, 341 ~ 369 MHz
[TPE]	331 ~ 336 MHz
[KOR]	331 ~ 371 MHz

• Sensitivity (For all version/PREAMP and IP+ ON):

SSB, CW (Filter shape=SOFT)	Less than -19 dB μ V (0.11 μ V) (at 10 dB S/N)
AM	Less than 0 dB μ V (1.0 μ V) (at 10 dB S/N)
FM	Less than -15 dB μ V (0.18 μ V) (at 12 dB SINAD)
DV	Less than -9 dB μ V (0.35 μ V) (at 1% BER (PN9))
DD (1200 MHz band only)	Less than +4 dB μ V (1.59 μ V) (at 1% BER (PN9))

The input signal strength level of this receive sensitivity is measured at the load end (PD).

• Sensitivity (For [EUR], [ITA]/PREAMP and IP+ ON):

SSB, CW (BW=2.4 kHz, Filter shape=SOFT)	Less than -6 dB μ V emf (at 12 dB SINAD)
AM (BW=4 kHz, 60% modulation)	Less than 0 dB μ V emf (at 12 dB SINAD)
FM (BW=7 kHz, 60% modulation)	Less than -6 dB μ V emf (at 12 dB SINAD)

• Selectivity:

SSB (BW=2.4 kHz, Filter shape=SHARP)	More than 2.4 kHz/-3 dB, Less than 3.6 kHz/-60 dB
CW, RTTY (BW=500 Hz)	More than 500 Hz/-3 dB, Less than 700 Hz/-60 dB
AM (BW=6 kHz)	More than 6.0 kHz/-3 dB, Less than 15 kHz/-60 dB
FM (BW=15 kHz)	More than 12.0 kHz/-6 dB, Less than 20 kHz/-60 dB
DV (Channel spacing=12.5 kHz)	Less than -50 dB
DD (Channel spacing=300 kHz)	Less than -40 dB

• Spurious and image rejection ratio:

SSB, CW	More than 70 dB (144/430 MHz bands)
	More than 50 dB (1200 MHz band)
AM, FM, DV	More than 60 dB (144/430 MHz bands)
	More than 50 dB (1200 MHz band)
DD	More than 50 dB (1200 MHz band)

• Audio output power:

More than 2.0 W (at 10% distortion into an 8 Ω load , at the 1 kHz reference)

• Audio output impedance:

8 Ω

• RIT variable range:

\pm 9.999 kHz

• ANF attenuation:

More than 30 dB (at 1 kHz single tone)

• MNF attenuation:

More than 70 dB

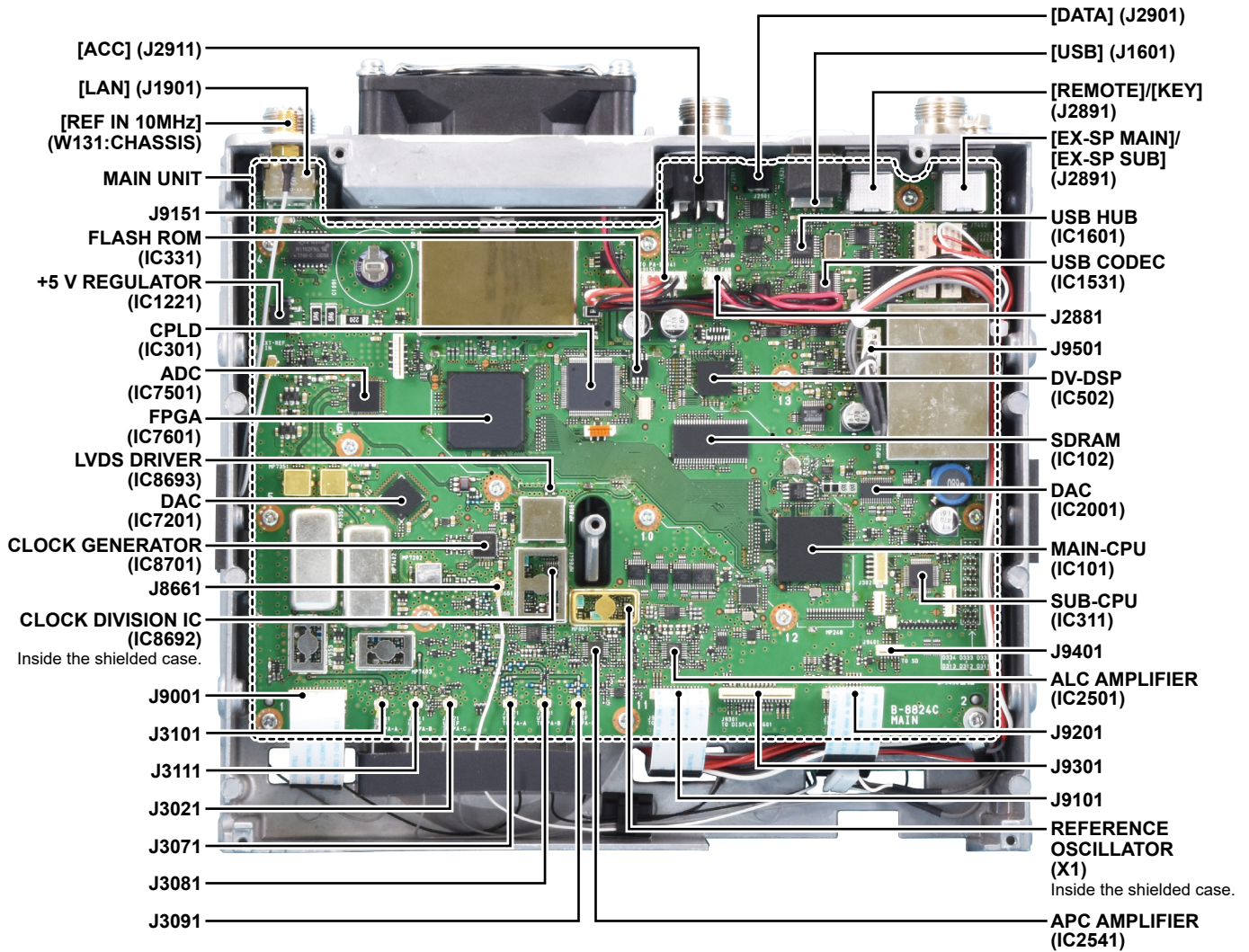
• NR attenuation:

More than 6 dB (Internal noise suppression ratio in the SSB mode)

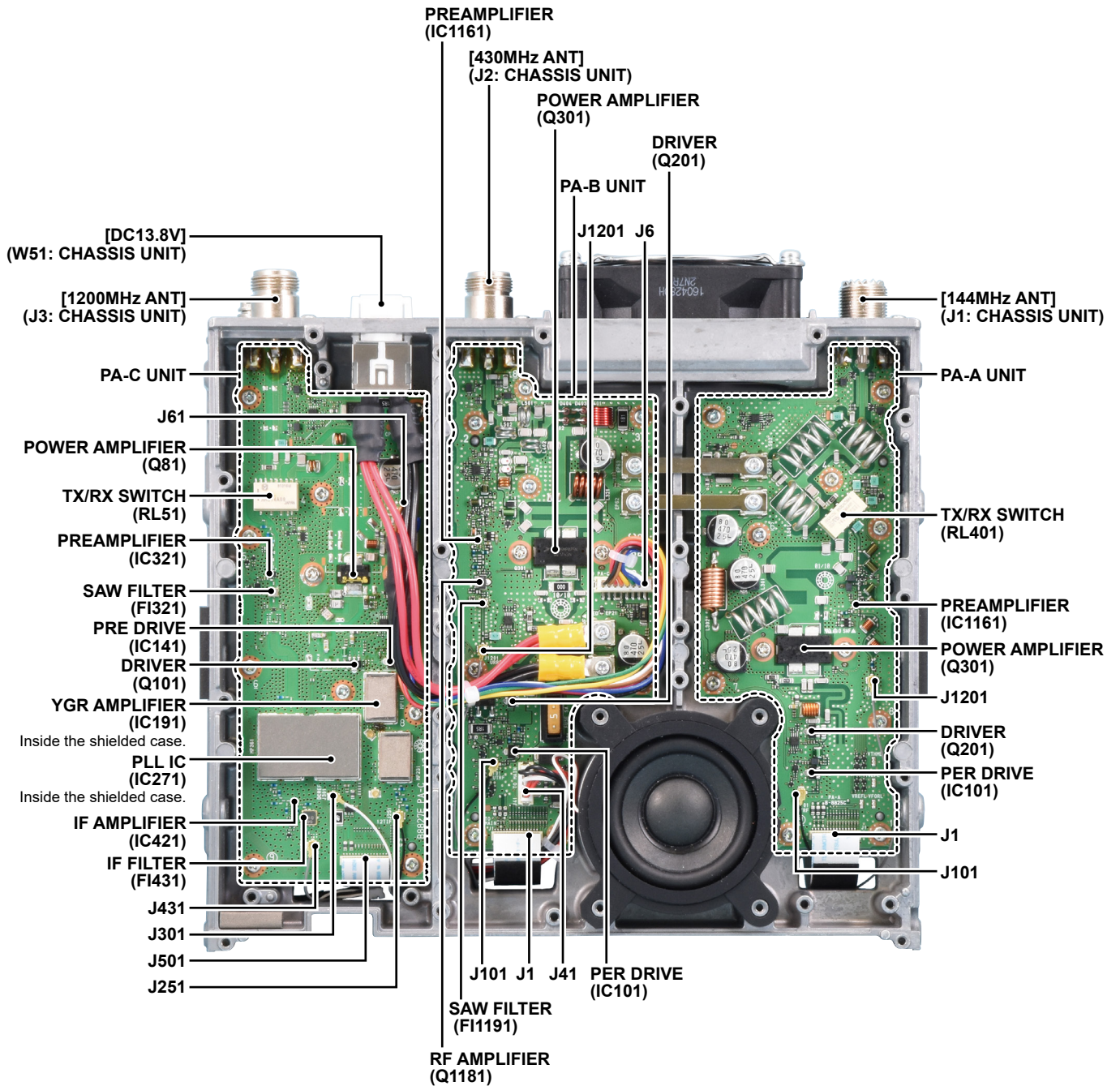
SECTION 2

INSIDE VIEWS

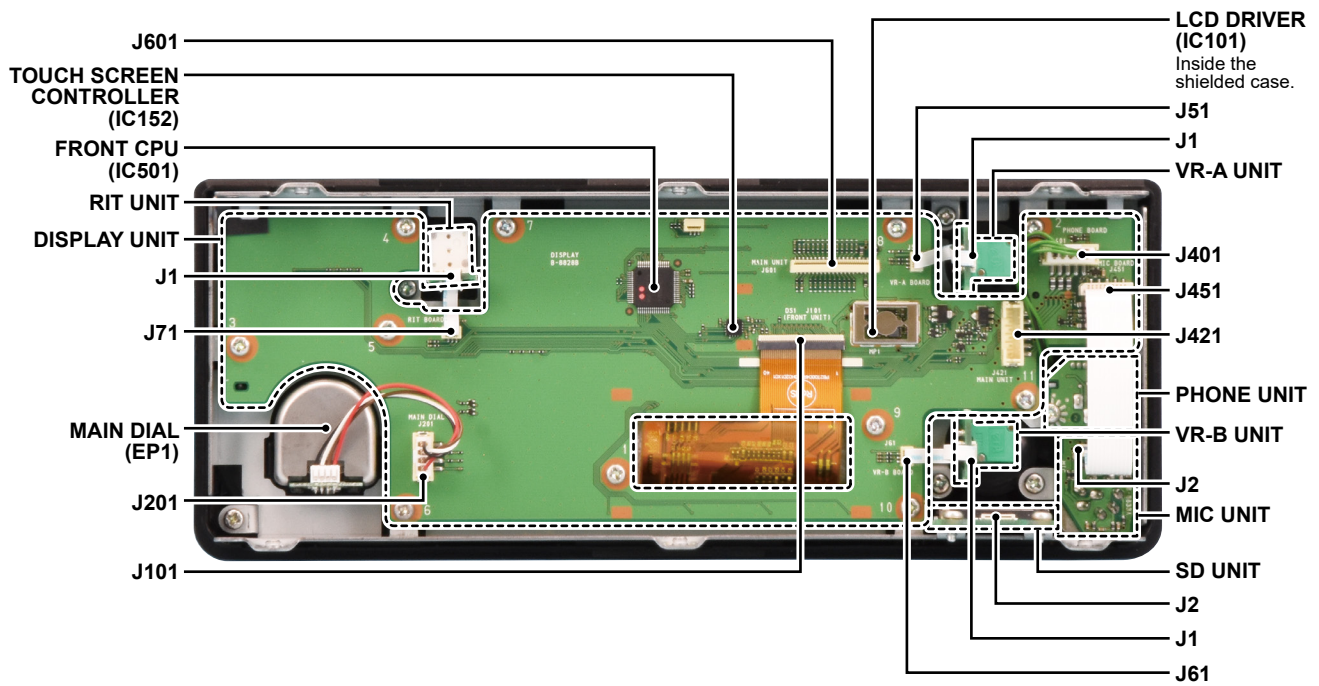
• MAIN UNIT (TOP VIEW)



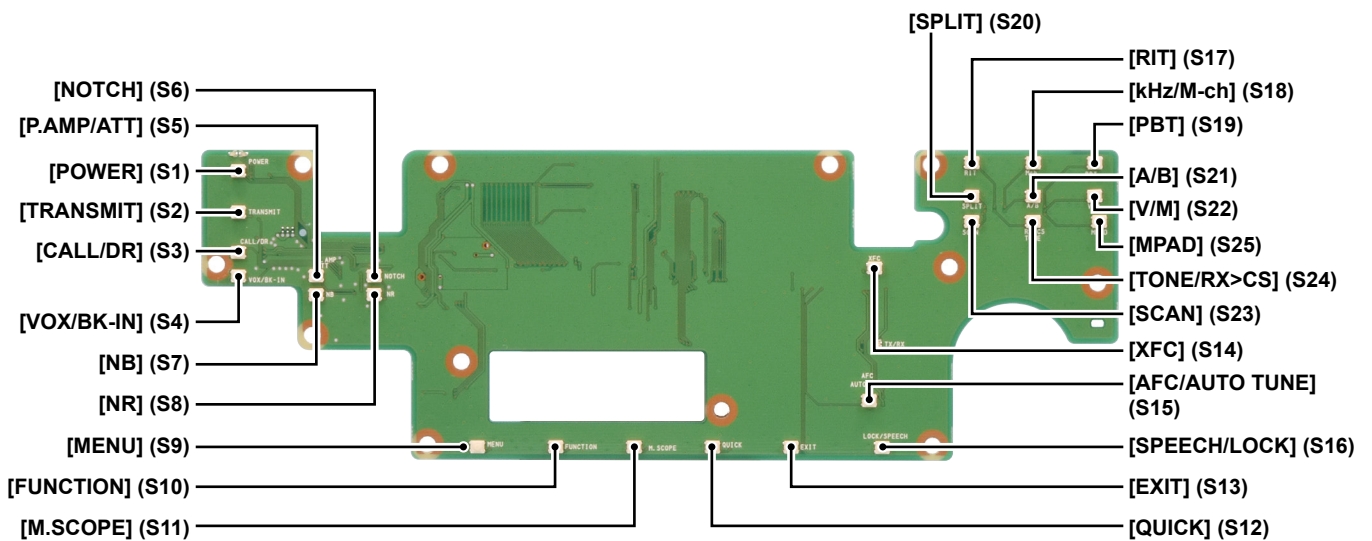
• PA-A/PA-B/PA-C UNIT (TOP VIEW)



• FRONT UNIT (BOTTOM VIEW: DISPLAY/VR-A/VR-B/RIT/PHONE/MIC/SD UNIT)

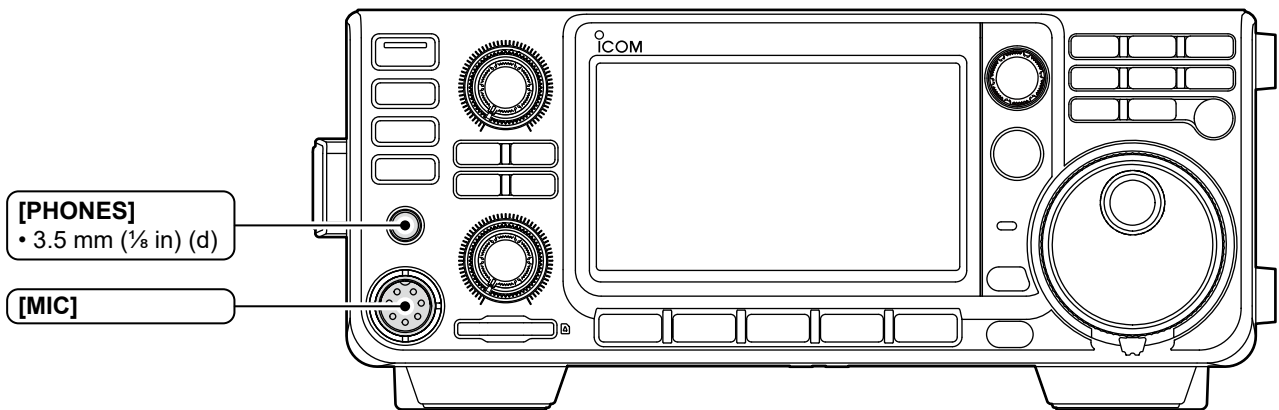


• DISPLAY UNIT (TOP VIEW)

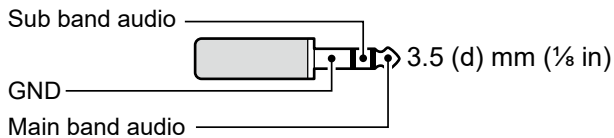


SECTION 3 INTERFACE INFORMATION

• FRONT panel

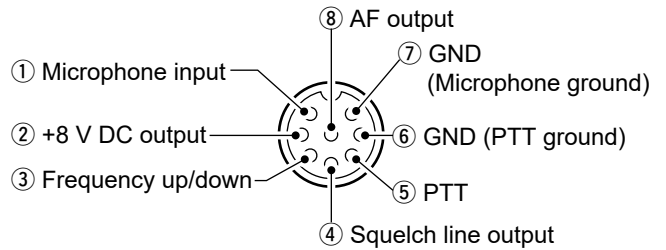


[PHONES]



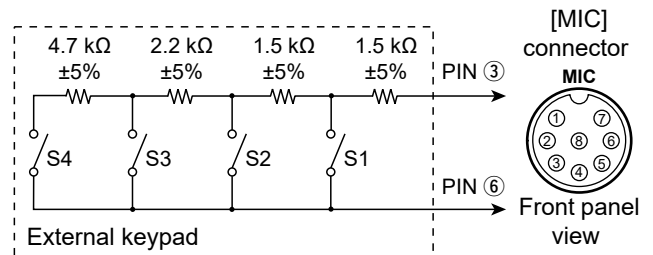
- Output impedance: 8 ~ 16 Ω
- Output level: More than 5 mW into an 8 Ω load.

[MIC]

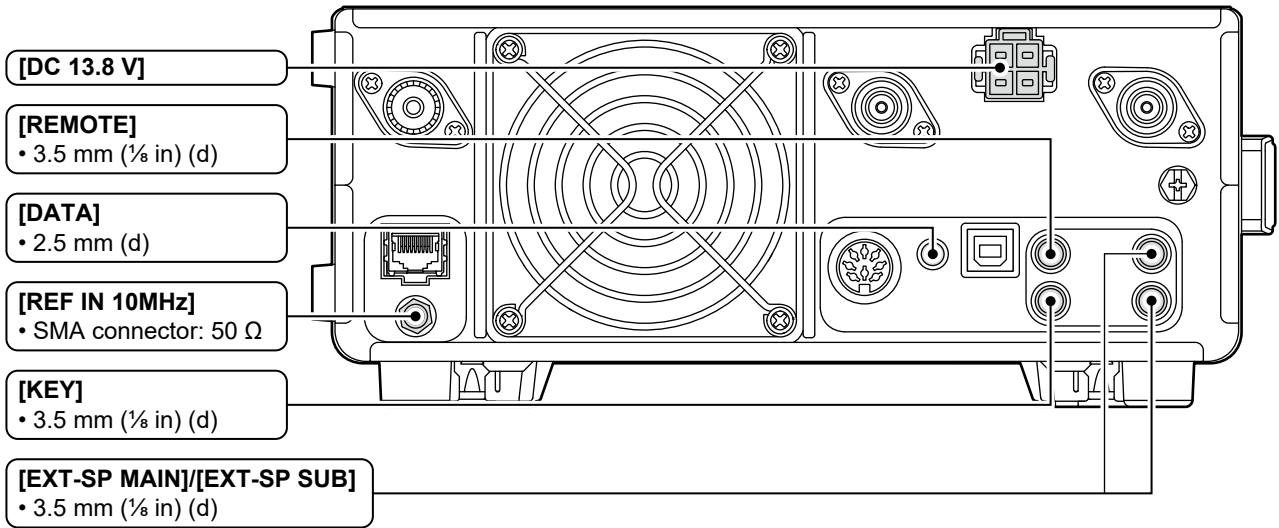


PIN No.	DESCRIPTION
①	Microphone input NOTE: This pin outputs 8 V DC power supply for the Icom microphone.
②	+8 V DC output (Maximum 10 mA)
③	Frequency up/down External keypad* input
④	Grounded when squelch opens.
⑤	PTT
⑥	PTT/External keypad* ground
⑦	Microphone ground
⑧	AF output [EXT-SP MAIN]/[EXT-SP SUB] (varies with the AF control.)

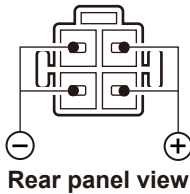
*External keypad



• REAR panel (1)



[DC 13.8 V]

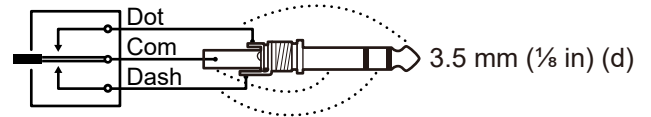


• Input voltage: 13.8 V DC \pm 15%

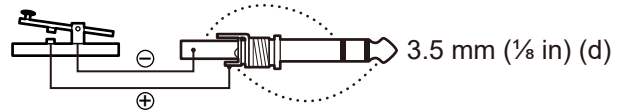
[KEY]

Connects to a Paddle key or Straight key.

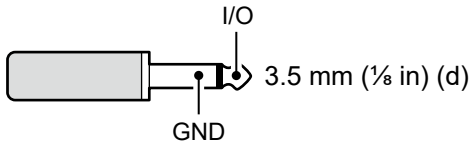
• Paddle key



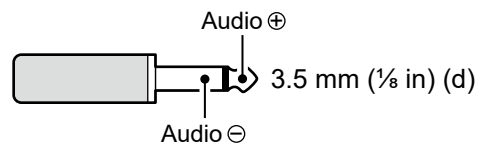
• Straight key



[REMOTE]

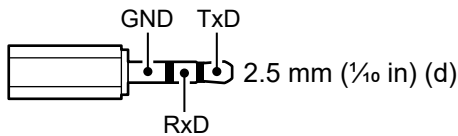


[EXT-SP MAIN]/[EXT-SP SUB]



• Output impedance: 4~8 Ω
 • Output level: More than 2.0 W at 10% distortion into an 8 Ω load.

[DATA]



• Data communication: RS-232C compliant

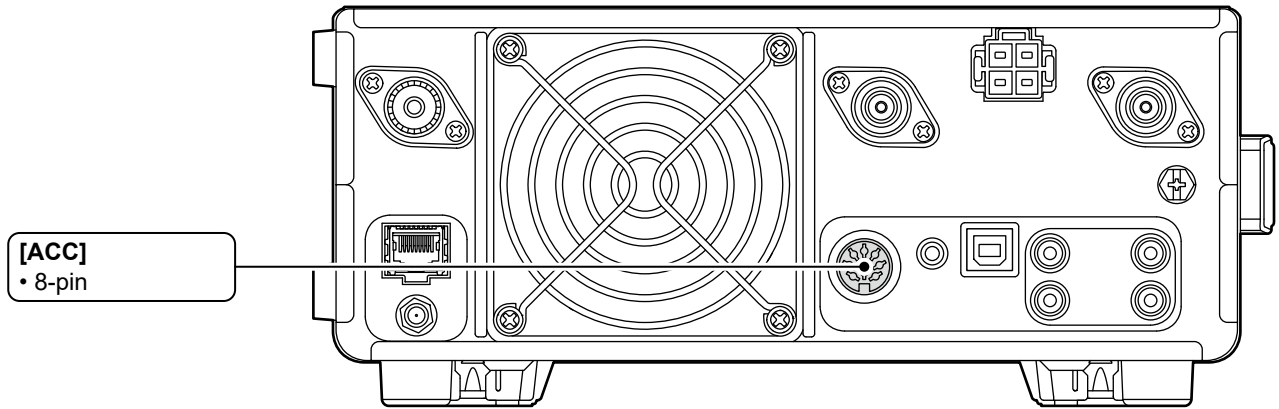
[REF IN 10MHz]



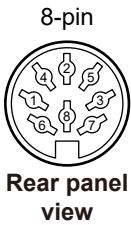
SMA connector

• Input frequency: 10 MHz
 • Impedance: 50 Ω (unbalanced)
 • Input level: -10 dBm (approximate)

● REAR panel (2)



[ACC]

ACC	PIN No.	PIN NAME	DESCRIPTION	SPECIFICATIONS	
 <p>Rear panel view</p>	1	RTTY	Controls RTTY keying.	High level: More than 2.4 V Low level: Less than 0.6 V Current flow: Maximum 2 mA	
	2	GND	Connects to ground.	—	
	3	SEND*1	Input/output pin.	An external unit controls the transceiver. When this pin goes to ground, the transceiver transmits. The pin goes low when the transceiver transmits.	Input voltage (RX): 2.0 ~ 20.0 V Input voltage (TX): -0.5 ~ +0.8 V Current flow: Maximum 20 mA Output voltage (TX): Less than 0.1 V Current flow: Maximum 200 mA
	4	MOD	Modulator input. Connects to the internal modulator circuit.	Input impedance: 10 kΩ Output level: Approx. 100 mV rms*2	
	5	AF/IF (IF=12 kHz)*3	Fixed AF detector or receive IF (12 kHz) signal output.	Output impedance: 4.7 kΩ Output level: 100~300 mV rms*4	
	6	SQL S	Squelch output. This pin goes to ground when the squelch opens (TX/RX indicator lights green).	SQL open: Less than 0.3 V/5 mA SQL closed: More than 6.0 V/100 μA	
	7	13.8 V	13.8 V output when power is ON.	Output current: Maximum 1 A	
	8	ALC	ALC voltage input.	Input level: -4 ~ 0 V Input impedance: More than 10 kΩ	

*1 When the SEND terminal controls an inductive load, such as a relay, a counter-electromotive force can malfunction or damage the transceiver. To prevent this, we recommend adding a switching diode, such as an 1SS133, on the load side of the circuit to absorb the counter-electromotive force. When the diode is added, a delay in relay switching may occur. Be sure to check its switching action before operating.

*2 The MOD input level is adjustable in the MENU. 100 mV rms is at 50% as the default.

MENU » SET > Connectors > ACC MOD Level

*3 The AF/IF (IF=12 kHz) settings are selectable to output a 12 kHz IF signal in the MENU. In that case.

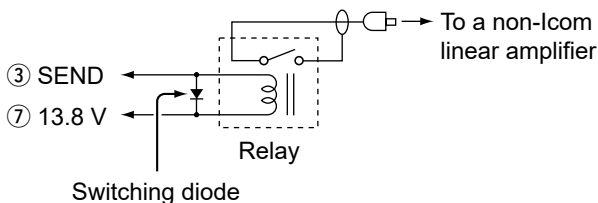
MENU » SET > Connectors > ACC Output Select

*4 The AF/IF (IF=12 kHz) output level is adjustable in the MENU.

Approximately 200 mV rms is at the 50% as the default.

MENU » SET > Connectors > ACC IF Output Level

(Example) ACC socket



SECTION 4 ADJUSTMENT PROCEDURE

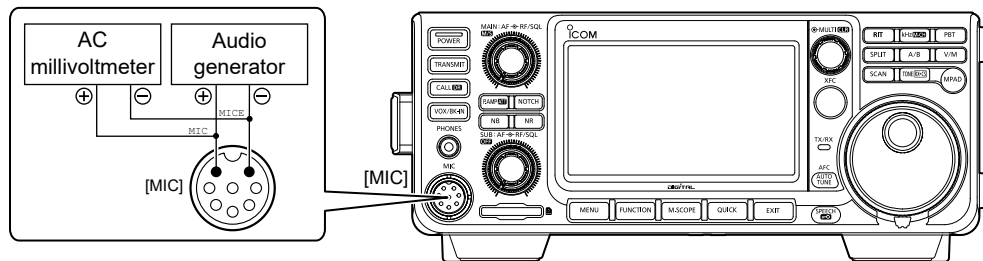
4-1 PREPARATION

■ REQUIRED EQUIPMENT

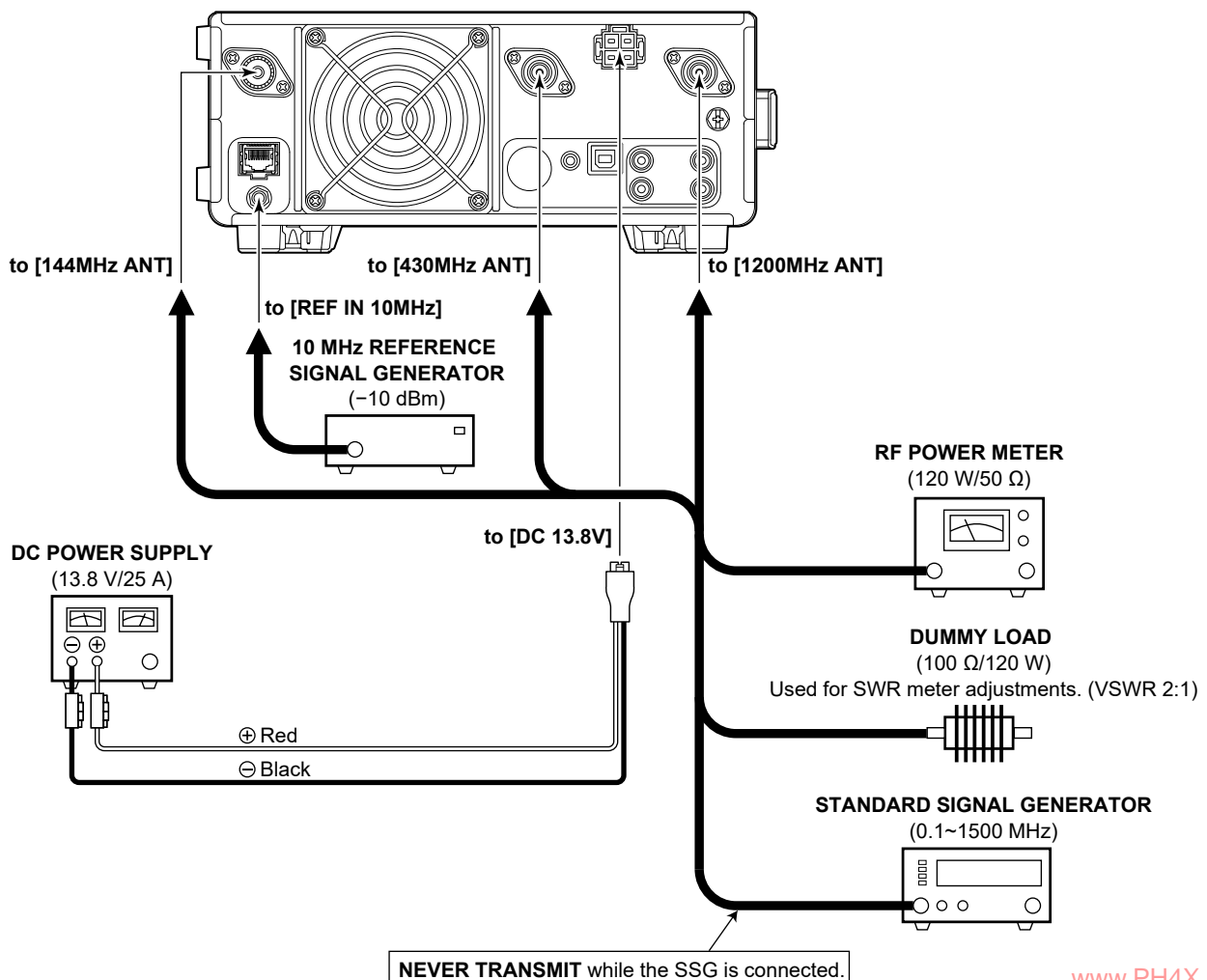
EQUIPMENT	GRADE AND RANGE	EQUIPMENT	GRADE AND RANGE
DC power supply	Output voltage: 13.8 V±15% Current capacity: 25 A or more	Shunt plug	Modified 3.5 mm (1/8 inch) monaural plug. (See the illustration shown on page 4-2.)
RF power meter (50 Ω terminated)	Measuring range: 1 ~ 120 W Frequency range: 0.1 ~ 1500 MHz SWR: Less than 1.2 : 1	Standard signal generator (SSG)	Frequency range: 0.1 ~ 1500 MHz Output level: -20 to 90 dBμ (-127 to -17 dBm)
10 MHz reference signal generator	Frequency accuracy: ±5×10 ⁻⁴ ppm or less	Audio generator (AG)	Frequency range: 300 ~ 3000 Hz Output level: 1 ~ 500 mV
AC millivoltmeter	Measuring range: 10 mV to 10 V	Dummy Loads	Impedance: 100 Ω Capacity: More than 120 W

■ CONNECTIONS

• Connections on the Front panel

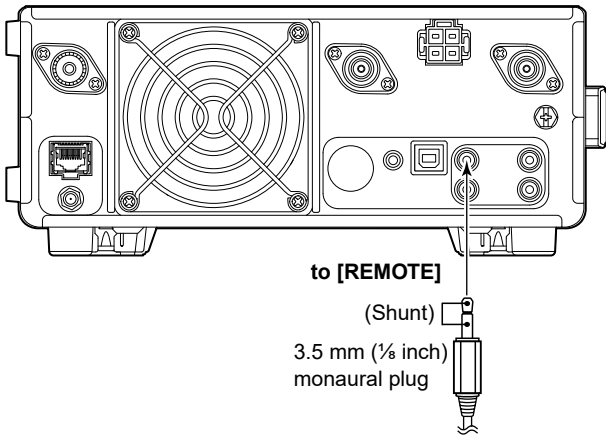


• Connections on the Rear panel

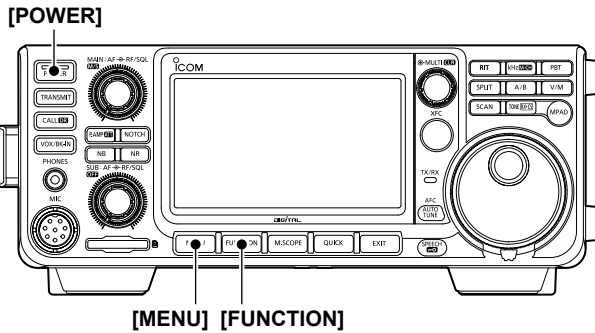


■ ENTERING THE ADJUST MODE

1. Turn OFF the power.
2. Connect the shunt plug to the [REMOTE] connector on the rear panel. (See below)



3. While holding down both [MENU] and [FUNCTION], turn ON the transceiver power to enter the adjust mode.

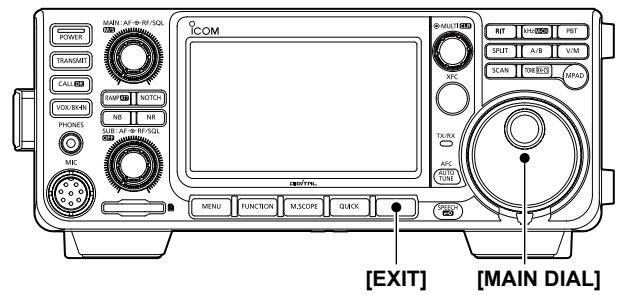
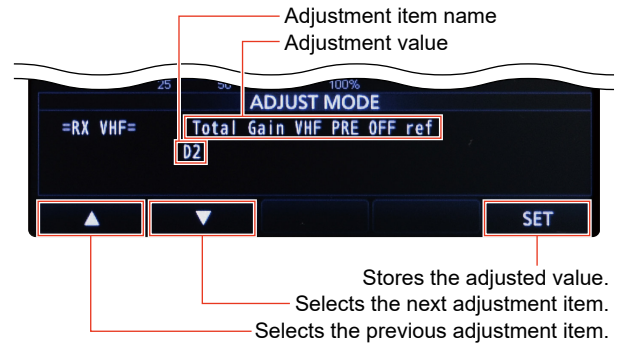


4. The adjust mode main menu is displayed.



■ KEY ASSIGNMENTS FOR THE ADJUST MODE

- Touch [▼] to select the next adjustment item, touch [▲] to select the previous adjustment item.
- Rotate [MAIN DIAL] to set or modify the adjustment value.
- Touch [SET] to store the adjusted value, and select the next adjustment item.
- Push [EXIT] to return to the previous screen.



■ ENTERING THE ADJUST MODE

• MAIN MENU



Enter the FRONT panel operation verification menu.

Enter the TX/ID adjust menu.

Enter the RX adjust menu.

Enter the REF adjust menu.

• FRONT PANEL OPERATION VERIFICATION MENU



Starts the touch screen calibration.

Starts the LED and LCD verification.

Starts the volume verification.

Starts the key verification.

• TX/ID ADJUST MENU



Starts the 1.2 GHz band adjustment.

Starts the 430 MHz band adjustment.

Starts the VHF band adjustment.

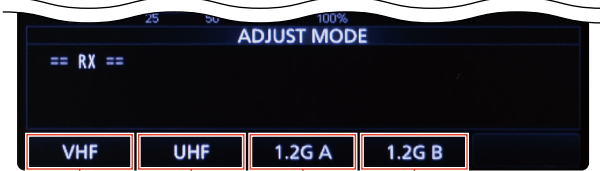
Starts idling current adjustment.

• REF ADJUST MENU



Starts the reference frequency adjustment.

• RX ADJUST MENU



Starts the 1.2 GHz B band adjustment.

Starts the 1.2 GHz A band adjustment.

Starts the 430 MHz band adjustment.

Starts the VHF band adjustment.

4-2 FRONT PANEL OPERATION VERIFICATION

1. Touch [FRONT] on the main adjustment menu screen.
2. Touch [KEYch] to enter to the key operation verification mode.
3. Follow the instructions displayed on the screen, and push the corresponding key.
4. Follow the instructions displayed on the screen, and turn the corresponding dial and sensor.
5. Follow the instructions displayed on the screen, and insert/remove the SD card.
6. Follow the instruction displayed on the screen, and verify the corresponding LED is lit.
7. Push the [TONE (RX→CS)] key, and verify the LCD screen changes in order of red, green, blue, minimum, and maximum backlight brightness.
8. Push the [TONE (RX→CS)] key to start the touch screen calibration, and touch the dot in order of the instructions displayed on the screen.
9. Push [EXIT] to return to the main adjustment menu screen.

4-3 TRANSMIT ADJUSTMENTS

Touch [TX/ID] on the main adjustment menu screen.

ADJUSTMENT		ADJUSTMENT ITEM DISPLAY	SETTING CONDITION	OPERATION
IDLING -Preparation-	1	–	–	Touch [ID] to enter to the TX idling current adjustment mode.
	2	VDL IDL Set	• Receiving	Touch [SET].
-Adjustment-	3	VHF ID SET	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of each item is completed.)
	4	VHF FIDV		
	5	VHF DIDV		
	6	UHF ID SET		
	7	UHF FIDV		
	8	UHF DIDV		
	9	1.2G ID SET		
	10	1.2G FIDV		
	11	1.2G DIDV		
VHF TX OUTPUT POWER -Preparation-	1	–	• Connect the RF power meter to the [144MHz ANT] connector. • Connect the audio generator to [MIC] connector, and set it to: Frequency: 1.5 kHz Waveform: Sine wave Level: 30 mV rms	Touch [VHF] to enter to the VHF output power adjustment mode.
	-Adjustment-	2	TX POWER VHF SET	• Receiving
3		TX Total VHF Gain	• Automatically transmitted.	Set to 50 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
4		POWER VHF2 MIN		Set to 0.5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
5		POWER VHF2 1%		Set to 1 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
6		POWER VHF2 10%		Set to 10 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
7		POWER VHF2 50%		Set to 50 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
8		POWER VHF2 100%		Set to 100 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
VHF TX BALANCE -Adjustment-	1	POWER VHF Balance SET		• Receiving
	2	POWER VHF1 100%	• Automatically transmitted.	Set to 100 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of each item is completed.)
	3	POWER VHF3 100%		
VHF AM CARRIER POWER RATE -Adjustment-	1	POWER AM Ratio VHF	• Receiving	Touch [SET].
	2		• Automatically transmitted.	Set to 25 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
VHF ALC -Adjustment-	1	ALC VHF	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
VHF DRIVE GAIN -Adjustment-	1	DRIVE VHF	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)

4-3 TRANSMIT ADJUSTMENTS (CONTINUED)

ADJUSTMENT	ADJUSTMENT ITEM DISPLAY	SETTING CONDITION	OPERATION
VHF Id APC -Adjustment-	1 ID-APC	• Receiving	Touch [SET].
	2	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
VHF SWR METER -Preparation-	If a 100 Ω dummy load (or a dummy load with a VSWR of 2:1) is unavailable, skip the SWR meter adjustment.		
	1 –	• Connect the 100 Ω dummy load to [144MHz ANT] connector.	–
	2 SWR2 (VHF)	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
UHF TX OUTPUT POWER -Preparation- -Adjustment-	1 –	• Connect the RF power meter to the [430MHz ANT] connector. • Connect the audio generator to [MIC] connector, and set it to: Frequency: 1.5 kHz Waveform: Sine wave Level: 30 mV rms	Touch [UHF] to enter to the UHF output power adjustment mode.
	2 TX POWER UHF SET	• Receiving	Touch [SET].
	3 TX Total UHF Gain	• Automatically transmitted.	Set to 37.5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	4 POWER UHF2 MIN		Set to 0.5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	5 POWER UHF2 1%		Set to 0.75 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	6 POWER UHF2 10%		Set to 7.5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	7 POWER UHF2 50%		Set to 37.5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	8 POWER UHF2 100%		Set to 75 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
UHF TX BALANCE -Adjustment-	1 POWER UHF Balance SET	• Receiving	Touch [SET].
	2 POWER UHF1 100%	• Automatically transmitted.	Set to 75 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of each item is completed.)
	3 POWER UHF3 100%		
	4 POWER UHF4 100%		
UHF AM CARRIER POWER RATE -Adjustment-	1 POWER AM Ratio UHF	• Receiving	Touch [SET].
	2	• Automatically transmitted.	Set to 18.75 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
UHF ALC -Adjustment-	1 ALC UHF	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
UHF DRIVE GAIN -Adjustment-	1 DRIVE UHF	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
UHF SWR METER -Preparation-	If a 100 Ω dummy load (or a dummy load with a VSWR of 2:1) is unavailable, skip the SWR meter adjustment.		
	1 –	• Connect the 100 Ω dummy load to [430MHz ANT] connector.	–
	2 SWR2 (UHF)	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)

4-3 TRANSMIT ADJUSTMENTS (CONTINUED)

ADJUSTMENT	ADJUSTMENT ITEM DISPLAY	SETTING CONDITION	OPERATION	
1.2GHz TX OUTPUT POWER -Preparation- -Adjustment-	1	–	• Connect the RF power meter to the [1200MHz ANT] connector. • Connect the audio generator to [MIC] connector, and set it to: Frequency: 1.5 kHz Waveform: Sine wave Level: 30 mV rms	Touch [1.2G] to enter to the 1.2GHz output power adjustment mode.
	2	TX POWER 1.2G SET	• Receiving	Touch [SET].
	3	TX Total 1.2G Gain	• Automatically transmitted.	Set to 5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	4	POWER 1.2G3 MIN		Set to 0.1 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of each item is completed.)
	5	POWER 1.2G3 1%		
	6	POWER 1.2G3 10%		Set to 1 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	7	POWER 1.2G3 50%		Set to 5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
	8	POWER 1.2G3 100%		Set to 10 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
1.2GHz TX BALANCE -Adjustment-	1	POWER 1.2G Balance SET	• Receiving	Touch [SET].
	2	POWER 1.2G2 100%	• Automatically transmitted.	Set to 10 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of each item is completed.)
	3	POWER 1.2G4 100%		
	4	POWER 1.2G1 100%		
1.2GHz AM CARRIER POWER RATE -Adjustment-	1	POWER AM Ratio 1.2G	• Receiving	Touch [SET].
	2		• Automatically transmitted.	Set to 2.5 W by [MAIN DIAL], then touch [SET]. (Two beeps sound after adjustment of the item is completed.)
1.2GHz ALC -Adjustment-	1	ALC 1.2G	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
1.2GHz DRIVE GAIN -Adjustment-	1	DRIVE 1.2G	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
1.2GHz SWR METER -Preparation-	If a 100 Ω dummy load (or a dummy load with a VSWR of 2:1) is unavailable, skip the SWR meter adjustment.			
	1	–	• Connect the 100 Ω dummy load to [1200MHz ANT] connector.	–
	2	SWR2 (1.2G)	• Automatically transmitted.	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
<ul style="list-style-type: none"> • After the adjustment, the transceiver shows the TX/ID adjustment menu. • Push [EXIT] to return to the main adjustment menu screen. 				

4-4 REFERENCE ADJUSTMENTS

Touch [REF] on the main adjustment menu screen.

ADJUSTMENT		ADJUSTMENT ITEM DISPLAY	SETTING CONDITION	OPERATION
REFERENCE FREQUENCY -Preparation- -Adjustment-	1	–	<ul style="list-style-type: none"> • Connect the 10 MHz reference signal generator to the [REF IN 10 MHz] connector. 	Touch [REF] to enter to the reference frequency adjustment mode.
	2	REF OSC 1	<ul style="list-style-type: none"> • Set the 10 MHz reference signal generator to: Level: –10 dBm • Receiving 	Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
		<ul style="list-style-type: none"> • After the adjustment, the transceiver shows the "REF OSC 2" adjustment item. • Push [EXIT] twice to return to the main adjustment menu screen. 		

4-5 RECEIVE ADJUSTMENTS

Touch [RX] on the main adjustment menu screen.

ADJUSTMENT	ADJUSTMENT ITEM DISPLAY	SETTING CONDITION	OPERATION
VHF TOTAL GAIN -Preparation-	1	–	• Connect the standard signal generator (SSG) to the the [144MHz ANT] connector.
-Adjustment-	2	Total Gain VHF PRE OFF ref	• Set the SSG to: Frequency: 146.0215 MHz Level*: +30 dBμ (-77 dBm) Modulation: None
	3	Total Gain VHF PRE OFF set	• Set the SSG to: Level: OFF
	4	Total Gain VHF PRE ON ref	• Set the SSG to: Level*: +30 dBμ (-77 dBm)
	5	Total Gain VHF PRE ON set	• Set the SSG to: Level: OFF
VHF AGC ATTENUATOR	1	VHF AGC set	• Set the SSG to: Level*: +50 dBμ (-57 dBm)
			Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
UHF TOTAL GAIN -Preparation-	1	–	• Connect the standard signal generator (SSG) to the the [430MHz ANT] connector.
-Adjustment-	2	Total Gain UHF PRE OFF ref	• Set the SSG to: Frequency: 435.0215 MHz Level*: +30 dBμ (-77 dBm) Modulation: None
	3	Total Gain UHF PRE OFF set	• Set the SSG to: Level: OFF
	4	Total Gain UHF PRE ON ref	• Set the SSG to: Level*: +30 dBμ (-77 dBm)
	5	Total Gain UHF PRE ON set	• Set the SSG to: Level: OFF
UHF AGC ATTENUATOR	1	UHF AGC set	• Set the SSG to: Level*: +50 dBμ (-57 dBm)
			Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
1.2GHz A BAND TOTAL GAIN -Preparation-	1	–	• Connect the standard signal generator (SSG) to the the [1200MHz ANT] connector.
-Adjustment-	2	Total Gain 1.2GA PRE OFF ref	• Set the SSG to: Frequency: 1280.0215 MHz Level*: +30 dBμ (-77 dBm) Modulation: None
	3	Total Gain 1.2GA PRE OFF set	• Set the SSG to: Level: OFF
	4	Total Gain 1.2GA PRE ON ref	• Set the SSG to: Level*: +30 dBμ (-77 dBm)
	5	Total Gain 1.2GA PRE ON set	• Set the SSG to: Level: OFF
1.2GHz A BAND AGC ATTENUATOR	1	1.2GA AGC set	• Set the SSG to: Level*: +50 dBμ (-57 dBm)
			Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
1.2GHz B BAND TOTAL GAIN -Adjustment-	2	Total Gain 1.2GB PRE OFF ref	• Set the SSG to: Level*: +30 dBμ (-77 dBm)
	3	Total Gain 1.2GB PRE OFF set	• Set the SSG to: Level: OFF
	4	Total Gain 1.2GB PRE ON ref	• Set the SSG to: Level*: +30 dBμ (-77 dBm)
	5	Total Gain 1.2GB PRE ON set	• Set the SSG to: Level: OFF
1.2GHz B BAND AGC ATTENUATOR	1	1.2GB AGC set	• Set the SSG to: Level*: +50 dBμ (-57 dBm)
			Touch [SET]. (Two beeps sound after adjustment of the item is completed.)
		• After the adjustment, the transceiver shows the RX adjustment menu. • Push [EXIT] to return to the main adjustment menu screen.	

*The output level of the standard signal generator (SSG) is measured at the load end (PD).

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains parts list for the main unit with descriptions like RMC1/16S-104JTH (100 k).

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains parts list for the main unit with descriptions like RMC1/16SJPTH and RMC1/16S-103JTH.

Eqv.= This component is equivalent to the REF NO. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T. Mounted on the Top side, B. Mounted on the Bottom side) H/V LOCATION=See the BOARD LAYOUTS for details.

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include components like R8712, R8713, R8716, etc., up to R9606.

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Rows include components like C114, C115, C116, etc., up to C549.

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side) H/V LOCATION=See the BOARD LAYOUTS for details.

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains a list of components for the main unit, including various capacitors and resistors.

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains a list of components for the main unit, including various capacitors and resistors.

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side) H/V LOCATION=See the BOARD LAYOUTS for details.

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains 100 rows of component data for the MAIN UNIT.

[MAIN UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains 100 rows of component data for the MAIN UNIT.

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side) H/V LOCATION=See the BOARD LAYOUTS for details.

[PA-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C504	4030021000	S.CER GRM31A5C2J100JW01D	T	104.8/29.7
C505	4030021200	S.CER GRM31A5C2J120JW01D	T	123.4/39.1
C506	4030021210	S.CER GRM31A5C2J150JW01D	T	121.8/37.5
C507	4030024640	S.CER GRM31A5C2J2R0CWO1D	T	125.6/13.4
C508	4030020740	S.CER GRM31A5C2J180JW01D	T	129.5/19.4
C509	4030024670	S.CER GRM31A5C2J9R0DWO1D	T	142.1/14.3
C601	4030023090	S.CER 0402B102K500CT	T	146.5/5.9
C602	4030023090	S.CER 0402B102K500CT	T	142.9/4.9
C612	4030023090	S.CER 0402B102K500CT	T	138.6/43.8
C651	4030023090	S.CER 0402B102K500CT	T	154.7/15.2
C652	4030023090	S.CER 0402B102K500CT	T	153.9/19.4
C661	4030023090	S.CER 0402B102K500CT	T	143.7/49.3
C662	4030023090	S.CER 0402B102K500CT	T	138.3/50.3
C691	4030023030	S.CER 0402B103K250CT	T	140.0/47.1
C701	4030023090	S.CER 0402B102K500CT	T	121.9/60.5
C702	4030023090	S.CER 0402B102K500CT	T	133.3/54.7
C703	4030023090	S.CER 0402B102K500CT	T	130.3/56.6
C704	4030023090	S.CER 0402B102K500CT	T	136.1/58.4
C705	4030023090	S.CER 0402B102K500CT	T	142.8/23.7
C706	4030023010	S.CER 0402B104K160CT	T	143.7/23.7
C1101	4030022880	S.CER 0402N560J500CT	T	99.5/12.0
C1102	4030022670	S.CER 0402N121J500CT	T	98.3/11.6
C1103	4030022700	S.CER 0402N180J500CT	T	96.0/12.0
C1104	4030023140	S.CER 0402B271K500CT	T	93.7/11.6
C1105	4030022810	S.CER 0402N330J500CT	T	92.5/12.0
C1121	4030023030	S.CER 0402B103K250CT	T	91.9/14.8
C1122	4030023030	S.CER 0402B103K250CT	T	91.3/11.6
C1123	4030023030	S.CER 0402B103K250CT	T	90.2/5.6
C1124	4030023030	S.CER 0402B103K250CT	T	87.9/9.5
C1151	4030022860	S.CER 0402N470J500CT	T	86.1/12.0
C1152	4030022580	S.CER 0402N7R0C500CT	T	84.9/11.6
C1153	4030022580	S.CER 0402N7R0C500CT	T	84.0/11.6
C1154	4030022750	S.CER 0402N221J500CT	T	83.1/10.8
C1155	4030022900	S.CER 0402N680J500CT	T	82.6/12.0
C1161	4030023030	S.CER 0402B103K250CT	T	82.2/14.5
C1162	4030023030	S.CER 0402B103K250CT	T	78.6/12.0
C1163	4030023030	S.CER 0402B103K250CT	T	78.6/18.5
C1164	4030022490	S.CER GRM155B31C105MA12D	T	74.3/14.0
C1165	4030022490	S.CER GRM155B31C105MA12D	T	74.8/19.0
C1171	4030022570	S.CER 0402N6R0C500CT	T	76.3/6.8
C1172	4030022840	S.CER 0402N390J500CT	T	75.7/6.1
C1173	4030022860	S.CER 0402N470J500CT	T	76.0/11.1
C1174	4030022770	S.CER 0402N270J500CT	T	76.9/10.2
C1175	4030022770	S.CER 0402N270J500CT	T	74.0/5.8
C1176	4030022770	S.CER 0402N270J500CT	T	71.7/6.7
C1177	4030022860	S.CER 0402N470J500CT	T	71.1/7.3
C1178	4030022840	S.CER 0402N390J500CT	T	69.5/8.9
C1179	4030022570	S.CER 0402N6R0C500CT	T	70.1/8.3
C1191	4030022700	S.CER 0402N180J500CT	T	61.8/7.1
C1192	4030022700	S.CER 0402N180J500CT	T	58.4/7.1
RL401	6310000170	S.REL EE2-3NUH-L	T	110.2/17.5
J1	6510021722	S.CON 30FLT-SM2-TB (LF) (SN) (M)	T	5.0/20.0
J101	6510032350	S.CON 20279-001E-01	T	18.8/31.1
J1201	6510032350	S.CON 20279-001E-01	T	55.8/7.5
EP1	6910024660	S.BEA MPZ2012S102AT	T	12.9/27.2
EP2	6910024660	S.BEA MPZ2012S102AT	T	12.9/25.4
EP3	6910024660	S.BEA MPZ2012S102AT	T	12.9/23.7
EP4	6910018460	S.BEA MMZ1005Y102C-T	T	11.5/22.3
EP5	6910018460	S.BEA MMZ1005Y102C-T	T	11.5/21.3
EP11	6910018460	S.BEA MMZ1005Y102C-T	T	11.5/15.3
EP12	6910018460	S.BEA MMZ1005Y102C-T	T	11.5/14.3
EP13	6910018460	S.BEA MMZ1005Y102C-T	T	11.5/13.3
EP14	6910018460	S.BEA MMZ1005Y102C-T	T	11.5/12.3
EP101	6910019900	S.BEA MPZ1608S601AT	T	29.1/32.2
EP211	6910018460	S.BEA MMZ1005Y102C-T	T	35.0/29.7
EP215	6910024660	S.BEA MPZ2012S102AT	T	49.5/32.4
EP301	6910020710	E.O OT-047 M3	T	
EP302	6910020710	E.O OT-047 M3	T	
EP311	6910018460	S.BEA MMZ1005Y102C-T	T	53.7/38.6
EP701	6910024660	S.BEA MPZ2012S102AT	T	121.3/62.1
EP702	6910024660	S.BEA MPZ2012S102AT	T	136.1/52.0
EP1161	6910019900	S.BEA MPZ1608S601AT	T	76.5/18.5

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[PA-B UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains parts list for PA-B UNIT.

[PA-B UNIT]

Table with columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Contains parts list for PA-B UNIT.

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T. Mounted on the Top side, B. Mounted on the Bottom side) H/V LOCATION=See the BOARD LAYOUTS for details.

[PA-B UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C63	4030023010	S.CER 0402B104K160CT	T	120.5/12.8
C64	4030023090	S.CER 0402B102K500CT	T	120.5/13.8
C65	4030023010	S.CER 0402B104K160CT	T	80.3/12.8
C66	4030023090	S.CER 0402B102K500CT	T	81.2/12.8
C101	4030022870	S.CER 0402N471J500CT	T	29.5/47.3
C102	4030022870	S.CER 0402N471J500CT	T	35.8/47.3
C112	4030023090	S.CER 0402B102K500CT	T	37.2/57.6
C113	4030023090	S.CER 0402B102K500CT	T	38.4/51.5
C114	4030023010	S.CER 0402B104K160CT	T	40.2/49.0
C115	4030022870	S.CER 0402N471J500CT	T	39.3/49.0
C116	4030023090	S.CER 0402B102K500CT	T	38.4/49.0
C201	4030022550	S.CER 0402N4R0B500CT	T	36.8/47.3
C203	4030022590	S.CER 0402N8R0C500CT	T	38.6/44.2
C211	4030023090	S.CER 0402B102K500CT	T	71.7/47.5
C212	4030022870	S.CER 0402N471J500CT	T	43.5/50.5
C213	4030023090	S.CER 0402B102K500CT	T	43.5/51.4
C214	4030023010	S.CER 0402B104K160CT	T	43.5/52.3
C221	4030024650	S.CER GRM31A5C2J7R0DW01D	T	51.6/41.7
C222	4030020770	S.CER GRM31A5C2J330JW01D	T	63.8/46.9
C227	4030022870	S.CER 0402N471J500CT	T	56.2/39.1
C228	4030023010	S.CER 0402B104K160CT	T	57.2/39.1
C229	4030023090	S.CER 0402B102K500CT	T	58.2/39.1
C230	4030019560	S.CER GRM21BB31C106KE15L	T	54.2/39.5
C301	4030020790	S.CER GRM31A5C2J560JW01D	T	69.5/38.9
C302	4030020770	S.CER GRM31A5C2J330JW01D	T	72.6/35.2
C303	4030020740	S.CER GRM31A5C2J180JW01D	T	75.4/30.0
C305	4030020780	S.CER GRM31A5C2J470JW01D	T	84.9/38.3
C307	4030020780	S.CER GRM31A5C2J470JW01D	T	84.9/24.9
C313	4030022870	S.CER 0402N471J500CT	T	78.8/40.4
C314	4030023090	S.CER 0402B102K500CT	T	80.1/41.4
C315	4030023010	S.CER 0402B104K160CT	T	80.1/42.6
C321	4030025200	S.CER GQM22M5C2H150JB01L	T	107.0/43.5
C322	4030025200	S.CER GQM22M5C2H150JB01L	T	113.1/43.5
C324	4030025200	S.CER GQM22M5C2H150JB01L	T	107.0/19.8
C325	4030025200	S.CER GQM22M5C2H150JB01L	T	113.1/19.8
C328	4030025480	S.CER GQM22M5C2H9R0CB01L	T	133.5/33.9
C330	4030025210	S.CER GQM22M5C2H101JB01L	T	138.3/25.8
C331	4030022750	S.CER 0402N221J500CT	T	122.8/14.1
C332	4030023030	S.CER 0402B103K250CT	T	123.7/14.1
C333	4030023010	S.CER 0402B104K160CT	T	124.6/14.1
C334	4510011410	S.ELE 25 CE 470 LX	T	130.7/20.3
C401	4030023030	S.CER 0402B103K250CT	T	138.9/8.9
C402	4030023030	S.CER 0402B103K250CT	T	146.2/8.9
C403	4030021200	S.CER GRM31A5C2J120JW01D	T	131.2/49.8
C404	4030022560	S.CER 0402N5R0B500CT	T	117.3/48.5
C405	4030025210	S.CER GQM22M5C2H101JB01L	T	128.7/45.0
C406	4030022870	S.CER 0402N471J500CT	T	116.4/46.8
C407	4030023090	S.CER 0402B102K500CT	T	109.2/50.9
C408	4030023090	S.CER 0402B102K500CT	T	106.0/49.4
C409	4030023090	S.CER 0402B102K500CT	T	127.2/42.2
C411	4030022380	S.CER GQM22M5C2H3R0BB01L	T	145.3/35.6
C412	4030025210	S.CER GQM22M5C2H101JB01L	T	137.8/38.5
C451	4030023090	S.CER 0402B102K500CT	T	90.5/41.3
C452	4030022870	S.CER 0402N471J500CT	T	90.5/42.3
C453	4030023030	S.CER 0402B103K250CT	T	90.5/43.3
C501	4030024460	S.CER GQM22M5C2H1R5BB01L	T	137.8/43.6
C502	4030024580	S.CER GRM31A5C2J1R0CW01D	T	142.3/48.5
C503	4030021430	S.CER GQM22M5C2H4R0CB01L	T	144.6/39.1
C504	4030024580	S.CER GRM31A5C2J1R0CW01D	T	142.6/54.7
C505	4030025450	S.CER GQM22M5C2H7R0CB01L	T	145.9/47.5
C506	4030024580	S.CER GRM31A5C2J1R0CW01D	T	145.5/51.8
C507	4030024580	S.CER GRM31A5C2J1R0CW01D	T	156.1/54.1
C508	4030024580	S.CER GRM31A5C2J1R0CW01D	T	154.5/49.9
C603	4030023090	S.CER 0402B102K500CT	T	150.4/51.4
C604	4030022750	S.CER 0402N221J500CT	T	151.8/48.5
C612	4030023090	S.CER 0402B102K500CT	T	122.7/56.3
C653	4030023090	S.CER 0402B102K500CT	T	154.5/59.7
C654	4030022750	S.CER 0402N221J500CT	T	151.7/60.1
C657	4030023030	S.CER 0402B103K250CT	T	129.2/61.7
C661	4030023090	S.CER 0402B102K500CT	T	127.6/62.6
C662	4030023090	S.CER 0402B102K500CT	T	122.7/61.9
C691	4030023090	S.CER 0402B102K500CT	T	123.1/59.5
C701	4030023090	S.CER 0402B102K500CT	T	35.6/62.1
C702	4030023090	S.CER 0402B102K500CT	T	47.4/61.7
C703	4030023090	S.CER 0402B102K500CT	T	43.5/56.7
C704	4030023090	S.CER 0402B102K500CT	T	131.6/59.8
C705	4030023030	S.CER 0402B103K250CT	T	132.4/57.9
C706	4030022750	S.CER 0402N221J500CT	T	132.4/57.0
C707	4030023030	S.CER 0402B103K250CT	T	132.4/56.1
C1101	4030022870	S.CER 0402N471J500CT	T	116.5/54.9
C1103	4030022570	S.CER 0402N6R0C500CT	T	116.5/56.5
C1104	4030022810	S.CER 0402N330J500CT	T	116.5/58.1
C1105	4030022600	S.CER 0402N9R0C500CT	T	115.3/57.4
C1121	4030022870	S.CER 0402N471J500CT	T	114.8/54.3
C1122	4030023030	S.CER 0402B103K250CT	T	112.0/53.8
C1123	4030022870	S.CER 0402N471J500CT	T	113.7/57.4
C1124	4030022870	S.CER 0402N471J500CT	T	110.7/62.0
C1125	4030022870	S.CER 0402N471J500CT	T	108.7/55.8
C1126	4030022870	S.CER 0402N471J500CT	T	107.7/57.4
C1151	4030022560	S.CER 0402N5R0B500CT	T	109.1/58.7
C1152	4030022560	S.CER 0402N5R0B500CT	T	108.8/60.6
C1153	4030022560	S.CER 0402N5R0B500CT	T	107.0/60.6
C1154	4030022590	S.CER 0402N8R0C500CT	T	106.0/58.7
C1155	4030022560	S.CER 0402N5R0B500CT	T	107.9/60.6
C1161	4030023030	S.CER 0402B103K250CT	T	102.4/60.7
C1162	4030023030	S.CER 0402B103K250CT	T	100.2/58.3
C1163	4030023030	S.CER 0402B103K250CT	T	99.4/56.2
C1164	4030019120	S.CER GRM188B31E105KA75D	T	102.9/53.0
C1165	4030019120	S.CER GRM188B31E105KA75D	T	101.3/55.9
C1171	4030024550	S.CER 0402N3R5B500CT	T	97.3/58.6
C1172	4030024550	S.CER 0402N3R5B500CT	T	96.9/57.4
C1173	4030024550	S.CER 0402N3R5B500CT	T	96.4/60.2
C1175	4030024550	S.CER 0402N3R5B500CT	T	94.6/58.6
C1176	4030024550	S.CER 0402N3R5B500CT	T	95.0/57.4
C1177	4030024550	S.CER 0402N3R5B500CT	T	96.4/58.6

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

[PA-B UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C1178	4030024550	S.CER 0402N3R5B500CT	T	95.5/58.6
C1181	4030023090	S.CER 0402B102K500CT	T	91.6/57.3
C1182	4030022630	S.CER 0402N100C500CT	T	85.2/61.8
C1183	4030022660	S.CER 0402N120J500CT	T	85.3/58.6
C1184	4030023090	S.CER 0402B102K500CT	T	83.7/60.8
C1185	4030023010	S.CER 0402B104K160CT	T	83.2/62.0
C1188	4030022550	S.CER 0402N4R0B500CT	T	92.5/58.9
C1191	4030022630	S.CER 0402N100C500CT	T	71.6/57.5
C1192	4030022630	S.CER 0402N100C500CT	T	69.8/57.5
C1193	4030024490	S.CER 0402NR75B500CT	T	70.3/56.3
C1194	4030022540	S.CER 0402N3R0B500CT	T	71.2/56.3
J1	6510021722	S.CON 30FLT-SM2-TB (LF) (SN) (M)	T	5.0/46.3
J41	6510022311	S.CON B5B-PH-SM4-TB (LF) (SN)	T	22.0/43.3
J61	6510018921	S.CON B8B-PH-SM4-TB (LF) (SN)	T	87.5/10.8
J101	6510032350	S.CON 20279-001E-01	T	28.5/53.7
J1201	6510032350	S.CON 20279-001E-01	T	66.4/57.5
F21	5220000400	HOL FHA010-01F		
F22	5210000940	FUS 1205		
EP2	6910024660	S.BEA MPZ2012S102AT	T	13.0/51.9
EP3	6910024660	S.BEA MPZ2012S102AT	T	13.0/50.1
EP4	6910018460	S.BEA MMZ1005Y102C-T	T	12.1/48.5
EP5	6910018460	S.BEA MMZ1005Y102C-T	T	12.1/47.5
EP11	6910018460	S.BEA MMZ1005Y102C-T	T	12.1/41.5
EP12	6910018460	S.BEA MMZ1005Y102C-T	T	12.1/40.5
EP13	6910018460	S.BEA MMZ1005Y102C-T	T	12.1/39.5
EP14	6910018460	S.BEA MMZ1005Y102C-T	T	12.1/38.5
EP15	6910018460	S.BEA MMZ1005Y102C-T	T	12.1/37.5
EP21	6910020710	E.O OT-047 M3		
EP22	6910020710	E.O OT-047 M3		
EP41	6910024660	S.BEA MPZ2012S102AT	T	21.6/36.7
EP42	6910024660	S.BEA MPZ2012S102AT	T	18.1/36.7
EP62	6910020710	E.O OT-047 M3		
EP63	6910020710	E.O OT-047 M3		
EP101	6910018460	S.BEA MMZ1005Y102C-T	T	37.4/50.3
EP211	6910018460	S.BEA MMZ1005Y102C-T	T	42.8/53.4
EP221	6910024660	S.BEA MPZ2012S102AT	T	60.3/40.5
EP311	6910018460	S.BEA MMZ1005Y102C-T	T	80.8/47.0
EP651	6910012350	S.BEA MMZ1608Y 102BT	T	127.7/59.9
EP701	6910024660	S.BEA MPZ2012S102AT	T	37.4/60.8
EP702	6910014730	S.BEA MPZ2012S331A-T	T	130.6/57.6
EP703	6910014730	S.BEA MPZ2012S331A-T	T	131.2/54.6
EP1161	6910019900	S.BEA MPZ1608S601AT	T	99.5/54.8

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[PA-C UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C376	4030024550	S.CER 0402N3R5B500CT	T	57.4/45.0
C377	4030022860	S.CER 0402N470J500CT	T	60.3/46.4
C381	4030022550	S.CER 0402N4R0B500CT	T	29.9/51.7
C382	4030022550	S.CER 0402N4R0B500CT	T	30.4/50.4
C383	4030022630	S.CER 0402N100C500CT	T	29.2/50.8
C384	4030022720	S.CER 0402N1R5B500CT	T	29.2/49.9
C385	4030022570	S.CER 0402N6R0C500CT	T	28.0/50.4
C391	4030022700	S.CER 0402N180J500CT	T	27.2/48.4
C392	4030022740	S.CER 0402N220J500CT	T	25.4/48.4
C393	4030022590	S.CER 0402N8R0C500CT	T	26.3/47.5
C394	4030022900	S.CER 0402N6R0J500CT	T	25.1/46.4
C395	4030022680	S.CER 0402N150J500CT	T	26.3/45.9
C424	4030023030	S.CER 0402B103K250CT	T	25.0/41.6
C425	4030023030	S.CER 0402B103K250CT	T	23.4/44.7
C431	4030022590	S.CER 0402N8R0C500CT	T	24.1/40.7
C432	4030022590	S.CER 0402N8R0C500CT	T	15.6/39.2
C501	4030023090	S.CER 0402B102K500CT	T	3.2/13.2
C502	4030023090	S.CER 0402B102K500CT	T	11.3/13.8
C503	4030023090	S.CER 0402B102K500CT	T	11.3/14.7
C504	4030023090	S.CER 0402B102K500CT	T	11.3/15.6
C505	4030023090	S.CER 0402B102K500CT	T	11.3/16.5
C506	4030023090	S.CER 0402B102K500CT	T	11.3/17.4
C507	4030023090	S.CER 0402B102K500CT	T	11.3/18.3
C508	4030023090	S.CER 0402B102K500CT	T	3.2/19.2
C509	4030023090	S.CER 0402B102K500CT	T	11.3/19.4
C510	4030023090	S.CER 0402B102K500CT	T	3.2/20.2
C511	4030023090	S.CER 0402B102K500CT	T	11.3/20.5
C512	4030023090	S.CER 0402B102K500CT	T	3.2/21.2
C513	4030022630	S.CER 0402N100C500CT	T	11.3/21.6
C514	4030022630	S.CER 0402N100C500CT	T	3.2/22.2
C515	4030022630	S.CER 0402N100C500CT	T	11.3/22.7
C516	4030022630	S.CER 0402N100C500CT	T	3.2/23.2
C517	4030022630	S.CER 0402N100C500CT	T	11.3/23.8
C518	4030023090	S.CER 0402B102K500CT	T	3.9/25.2
C519	4030023090	S.CER 0402B102K500CT	T	3.9/27.2
C531	4030022630	S.CER 0402N100C500CT	T	28.3/22.6
C532	4030022630	S.CER 0402N100C500CT	T	30.1/22.6
C533	4030022630	S.CER 0402N100C500CT	T	31.9/22.6
C534	4030022630	S.CER 0402N100C500CT	T	31.0/22.6
C535	4030022630	S.CER 0402N100C500CT	T	29.2/22.6
RL51	6310000160	S.REL ARS14A09Z	T	126.2/49.9
J61	6510018921	S.CON B8B-PH-SM4-TB (LF) (SN)	T	117.4/5.9
J251	6510032350	S.CON 20279-001E-01	T	21.2/9.5
J301	6510032350	S.CON 20279-001E-01	T	27.5/31.1
J431	6510032350	S.CON 20279-001E-01	T	11.6/37.9
J501	6510021722	S.CON 30FLT-SM2-TB (LF) (SN) (M)	T	6.8/20.5
EP1	6910014730	S.BEA MPZ2012S331A-T	T	154.0/11.8
EP2	6910014730	S.BEA MPZ2012S331A-T	T	154.4/30.7
EP81	6910014640	S.BEA MPZ2012S221A-T	T	113.2/15.1
EP82	6910014640	S.BEA MPZ2012S221A-T	T	114.3/16.8
EP83	6910018460	S.BEA MMZ1005Y102C-T	T	88.5/15.5
EP101	6910014730	S.BEA MPZ2012S331A-T	T	81.8/24.1
EP102	6910018460	S.BEA MMZ1005Y102C-T	T	78.6/20.9
EP141	6910018460	S.BEA MMZ1005Y102C-T	T	75.8/7.7
EP191	6910018460	S.BEA MMZ1005Y102C-T	T	63.0/8.4
EP231	6910018460	S.BEA MMZ1005Y102C-T	T	34.2/8.2
EP271	6910018460	S.BEA MMZ1005Y102C-T	T	39.5/25.0
EP272	6910018460	S.BEA MMZ1005Y102C-T	T	45.5/26.5
EP273	6910018460	S.BEA MMZ1005Y102C-T	T	44.5/32.8
EP274	6910018460	S.BEA MMZ1005Y102C-T	T	44.5/33.7
EP275	6910018460	S.BEA MMZ1005Y102C-T	T	36.6/31.5
EP276	6910018460	S.BEA MMZ1005Y102C-T	T	35.2/27.6
EP301	6910014730	S.BEA MPZ2012S331A-T	T	114.5/47.0
EP321	6910018460	S.BEA MMZ1005Y102C-T	T	98.9/54.9
EP326	6910018460	S.BEA MMZ1005Y102C-T	T	103.6/57.3
EP361	6910018460	S.BEA MMZ1005Y102C-T	T	46.8/52.5
EP362	6910018460	S.BEA MMZ1005Y102C-T	T	38.9/52.4
EP421	6910018460	S.BEA MMZ1005Y102C-T	T	21.0/44.7
EP501	6910018460	S.BEA MMZ1005Y102C-T	T	13.5/11.8
EP502	6910018460	S.BEA MMZ1005Y102C-T	T	12.6/11.8
EP503	6910018460	S.BEA MMZ1005Y102C-T	T	14.4/11.8
EP504	6910018460	S.BEA MMZ1005Y102C-T	T	15.3/11.8
EP511	6910018460	S.BEA MMZ1005Y102C-T	T	17.1/11.8
EP512	6910018460	S.BEA MMZ1005Y102C-T	T	18.0/11.8
EP518	6910014730	S.BEA MPZ2012S331A-T	T	11.3/25.2
EP519	6910014730	S.BEA MPZ2012S331A-T	T	11.3/27.2

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[DISPLAY UNIT]

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Lists components like IC101, Q1, D101, L101, R1, R2, etc., with their respective part numbers and locations.

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

[DISPLAY UNIT]

Table with 5 columns: REF NO., PARTS NO., DESCRIPTION, M., H/V LOCATION. Lists components like R612, C51, J51, DS1, S1, EP401, etc., with their respective part numbers and locations.

M.= Mounted side (T. Mounted on the Top side, B. Mounted on the Bottom side) H/V LOCATION=See the BOARD LAYOUTS for details.

[DISPLAY UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
EP601	6910019900	S.BEA MPZ1608S601AT	B	64.7/67.8
EP602	6910019900	S.BEA MPZ1608S601AT	B	67.3/59.9
EP603	6910019900	S.BEA MPZ1608S601AT	B	68.3/67.8
EP604	6910016330	S.BEA MMZ1005S 601CT-S	B	82.6/67.7

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[VR-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1	7210003880	VAR RK0972214C04		
J1	6510029480	S.CON 06FH-SM1-TB (LF) (SN)	T	19.8/8.3

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[VR-B UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1	7210003880	VAR RK0972214C04		
J1	6510029480	S.CON 06FH-SM1-TB (LF) (SN)	T	20.0/5.6

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[RIT UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
J1	6510029480	S.CON 06FH-SM1-TB (LF) (SN)	T	10.0/5.0
S1	2250001010	ENC TP90N00AE20-14.5F-3765A		

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[PHONE UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R401	7030015130	S.RES RMC1/16-102JTP (1 k)	T	18.5/8.4
R403	7030015010	S.RES RMC1/16-101JTP (100)	T	12.3/13.1
R404	7030015010	S.RES RMC1/16-101JTP (100)	T	15.9/12.9
C401	4030023860	S.CER 0603B103K500CT	T	18.5/9.6
C404	4030023860	S.CER 0603B103K500CT	T	10.5/12.9
J1	6450001630	CON HSJ1406-01-050		
W1	8600037720	SX3913 P01*J02PH (#3913-6)		
EP401	6910018930	S.BEA MPZ2012S601A	T	13.9/12.8
EP402	6910018930	S.BEA MPZ2012S601A	T	16.8/11.3
EP403	6910018930	S.BEA MPZ2012S601A	T	10.2/11.3

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[MIC UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
C1	4030023860	S.CER 0603B103K500CT	T	10.3/17.4
C2	4030023860	S.CER 0603B103K500CT	T	22.8/14.8
C3	4030023860	S.CER 0603B103K500CT	T	8.1/15.3
C4	4030023460	S.CER 0603N101J500CT	T	5.5/3.8
C5	4030023860	S.CER 0603B103K500CT	T	23.6/10.6
C6	4030023860	S.CER 0603B103K500CT	T	22.8/7.1
C7	4030023860	S.CER 0603B103K500CT	T	7.4/9.2
C8	4030023720	S.CER 0603N470J500CT	T	10.8/15.5
J1	6510000191	CON FM214-8SS (P)-1		
J2	6510019971	S.CON 52808-1071	T	10.4/15.8
EP2	6910012350	S.BEA MMZ1608Y 102BT	T	22.8/13.5
EP3	6910012350	S.BEA MMZ1608Y 102BT	T	22.8/8.7
EP4	6910012350	S.BEA MMZ1608Y 102BT	T	7.4/13.4
EP5	6910012350	S.BEA MMZ1608Y 102BT	T	21.3/16.1
EP7	6910018930	S.BEA MPZ2012S601A	T	7.6/6.2
EP9	6910015130	S.BEA MMZ1608D 301BT	T	10.1/2.5
EP10	6910015130	S.BEA MMZ1608D 301BT	T	10.1/3.7
EP11	6910012350	S.BEA MMZ1608Y 102BT	T	11.6/17.4
EP12	6910018930	S.BEA MPZ2012S601A	T	7.9/16.8

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

[SD UNIT]

REF NO.	PARTS NO.	DESCRIPTION	M.	H/V LOCATION
R1	7030015050	S.RES RMC1/16-221JTP (220)	T	3.3/7.8
R2	7030014940	S.RES RMC1/16-270JTP (27)	T	35.1/13.9
R3	7030014940	S.RES RMC1/16-270JTP (27)	T	35.1/15.1
R4	7030014940	S.RES RMC1/16-270JTP (27)	T	35.1/18.7
R5	7030014940	S.RES RMC1/16-270JTP (27)	T	35.1/19.9
R6	7030014940	S.RES RMC1/16-270JTP (27)	T	35.1/17.5
R8	7030014940	S.RES RMC1/16-270JTP (27)	T	35.1/12.7
R9	7030015050	S.RES RMC1/16-221JTP (220)	T	35.1/10.3
C1	4030023820	S.CER 0603B104K250CT	T	32.6/16.0
C2	4030019560	S.CER GRM21BB31C106KE15L	T	31.1/15.6
J1	6510032800	S.CON CIM-J44N (R41-A455A)	T	19.8/9.3
J2	6510031540	S.CON 12FHJ-SM1-TB (LF) (SN)	T	4.0/11.2
EP7	6910019900	S.BEA MPZ1608S601AT1	T	35.1/16.3

Eqv.= This component is equivalent to the REF No. component listed above, and may be substituted on parts orders and repairs.

M.= Mounted side (T: Mounted on the Top side, B: Mounted on the Bottom side)
H/V LOCATION=See the BOARD LAYOUTS for details.

SECTION 6

MECHANICAL PARTS

[CHASSIS UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
SP1	2510002001	057D0805-2	1
MF1	2710001060	FD128025HB-N (2N7R1)	1
W11	8600037690	SX3913 P11*P12CH (#3913-1)	1
W31	8600037700	SX3913 P31*P32CH (#3913-3)	1
W41	8600037710	SX3913 P41CH (#3913-4)	1
W21	8920003100	CAB-1377	1
W51	8920003070	CAB-1353	1
W101	8920003120	CAB-1355	1
W102	8920003110	CAB-1354	1
W111	8920003140	CAB-1357	1
W112	8920003110	CAB-1354	1
W121	8920003140	CAB-1357	1
W122	8920003110	CAB-1354	1
W123	8920003130	CAB-1356	1
W131	8920002430	CAB-1327	1
W201	8900016110	OPC-1680 (P0.5N30L100)	1
W202	8900016110	OPC-1680 (P0.5N30L100)	1
W203	8900016110	OPC-1680 (P0.5N30L100)	1
W204	8910000220	FFC-1024 (P0.5N40L120)	1
W205	8900016100	OPC-1678 (P0.5N12L80)	1
EP1	6910025930	S80-5	1
MP1	8010024560	3913 CHASSIS	1
MP2	8110011590	3913 A-PA COVER	1
MP3	8110011600	3913 C-PA COVER	1
MP4	8110011570	3913 U-COVER	1
MP5	8110011580	3913 L-COVER	1
MP6	8930079060	3073 DC PLATE	1
MP11	8930100220	3913 ANT PLATE	3
MP12	8820000530	FLANGE BOLT M4x8 NI	1
MP13	8850000140	FLAT WASHER M4 NI BS	2
MP14	8850000430	S-WASHER M4 NI	1
MP17	8810010580	SET SCREW A M4x32	4
MP18	8810008661	PH BT M3x8 NI-ZC3	6
MP20	8930100240	3913 NET	1
MP21	8810009061	FLAT M3x6 ZK3	18
MP32	8930002900	RUBBER LEG (A) SK1912A	2
MP33	8930074520	3015 STAND	1
MP34	8930075100	3015 STAND HOLDER	2
MP35	8810005771	BIND M3x8 ZK3 BLACK	4
MP36	8810009061	FLAT M3x6 ZK3	12
MP50	8930100230	3913 PLATE	2
MP51	8930093300	3765 SP RUBBER (TOP)	1
MP52	8810008661	PH BT M3x8 NI-ZC3	9
MP53	8810008661	PH BT M3x8 NI-ZC3	8
MP54	8810008661	PH BT M3x8 NI-ZC3	9
MP55	8810008661	PH BT M3x8 NI-ZC3	15
MP56	8810008661	PH BT M3x8 NI-ZC3	13
MP57	8810008661	PH BT M3x8 NI-ZC3	7
MP58	8810009651	FLAT BT M3x8 NI-ZC3	4
MP59	8810009050	SET SCREW H M3x10 NI	6
MP60	8810007131	SET SCREW H M3x6 ZC3	6
MP61	8950003640	CS-2	1
MP63	8930098820	INSULATION SHEET (OQ)	1
MP64	8930074910	SPONGE (JZ)	4
MP65	8930092000	SPONGE (NG)	2
MP66	8930092000	SPONGE (NG)	1
MP67	8930070510	THERMAL SHEET (BF) TC-600HS-1.4	1
MP68	8930076541	SHIELD SPONGE (CK)-1	2
MP69	8930078841	SHIELD SPONGE (CM)-1	1
MP70	8930076780	SPONGE (KE)	1
MP71	8930099320	SHIELD TAPE (AI)	1
MP72	8930099320	SHIELD TAPE (AI)	1
MP73	8930078841	SHIELD SPONGE (CM)-1	1
MP74	8930101630	SPONGE (QF)	1
MP75	8930018700	NONWOVEN SHEET Z	1
MP76	8930018700	NONWOVEN SHEET Z	1
MP77	8930018700	NONWOVEN SHEET Z	1
MP78	8930072800	INSULATION SHEET (LU)	1
MP79	8930093910	SPONGE (NV)	1
MP80	8930093910	SPONGE (NV)	1
MP81	8930093910	SPONGE (NV)	1
MP82	8930101700	FERRITE SHEET (BS)	1
MP83	8930097330	3818 FERRITE SHEET	1
MP84	8930101720	FERRITE SHEET (BT)	1
MP85	8930099310	SHIELD TAPE (AH)	1
MP86	8930099310	SHIELD TAPE (AH)	1
MP87	8930071690	PJ-13B	[#13] 1
	8930071690	PJ-13B	[#15] 1

[MAIN UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
S171*	2230001480	LS37J2-T	1
T1901*	5920000990	H1102FNLT	1
BT251*	3020000390	ML414HIV01E	1
MP248	8510022750	3913 M-SHIELD PLATE	[#13] 1
	8510022750	3913 M-SHIELD PLATE	[#15] 1
MP1001*	8510019780	3183 A-MAIN CASE	1
MP1002	8930082601	SHIELD SPONGE (CT)-1	[#13] 1
	8930082601	SHIELD SPONGE (CT)-1	[#15] 1
MP2201*	8510022630	3913 AF CASE	1
MP7202*	8510021830	3765 S-CASE	1
MP7351*	8510021830	3765 S-CASE	1
MP7352*	8510017880	2844 MIX A-CASE	1
MP7353*	8510019650	3250 VCO CASE	1
MP7401*	8510021830	3765 S-CASE	1
MP7402*	8510017880	2844 MIX A-CASE	1
MP7403*	8510019650	3250 VCO CASE	1
MP8601*	8510020940	3537 D-SHIELD CASE	1
MP8602	8930101790	3913 SPONGE	1
MP8603	8930100110	SPONGE (PU)	1
MP8604	8930100110	SPONGE (PU)	1
MP8641*	8510022610	3913 SHIELD CASE	1
MP8661*	8510022670	4062 SHIELD CASE	1
MP8801	8930062740	2590 M-SPRING	[#13] 1
	8930062740	2590 M-SPRING	[#15] 1

[PA-A UNIT]

REF NO.	PARTS NO.	DESCRIPTION	QTY.
EP301*	6910020710	OT-047 M3	1
EP302*	6910020710	OT-047 M3	1
MP301*	8410003200	3913 A-CU HEATSINK	1
MP302*	8410003200	3913 A-CU HEATSINK	1
MP701*	8930094090	3768 ANT SPRING	1

[PA-B UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
F21*	5220000400	FHA010-01F	1
F22	5210000940	1205	1
EP21*	6910020710	OT-047 M3	1
EP22*	6910020710	OT-047 M3	1
EP62*	6910020710	OT-047 M3	1
EP63*	6910020710	OT-047 M3	1
MP301*	8410003200	3913 A-CU HEATSINK	1

[PA-C UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
MP61*	8510022620	OG-363065HD	1
MP81*	8410003200	3913 A-CU HEATSINK	1
MP141*	8510022620	OG-363065HD	1
MP161*	8510019650	3250 VCO CASE	1
MP231*	8510019650	3250 VCO CASE	1
MP271*	8510022610	3913 SHIELD CASE	1
MP361*	8510022610	3913 SHIELD CASE	1

*: Refer to "BOARD LAYOUTS" for the location.

Screw abbreviations A, B0, BT: Self-tapping PH: Pan head BS: Brass NI: Nickel ZU: Zinc SUS: Stainless

[FRONT UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
DS1	5030004051	RFE430H-AZH-DNS-001	1
W1	8910000070	FFC-1008 (P0.5N6L50)	1
W2	8910000070	FFC-1008 (P0.5N6L50)	1
W3	8910000070	FFC-1008 (P0.5N6L50)	1
W4	8900018000	OPC-1344A (P1N10L70)	1
EP1	0880001360	EX-2500 #02 SENSOR	1
MP1	8210033920	3765 FRONT PANEL (A)-1 ASSEMBLY	[#12] 1
	8210033910	3765 FRONT PANEL (B)-1 ASSEMBLY	[#13] 1
	8210033910	3765 FRONT PANEL (B)-1 ASSEMBLY	[#15] 1
	8210033920	3765 FRONT PANEL (A)-1 ASSEMBLY	[#17] 1
	8210033920	3765 FRONT PANEL (A)-1 ASSEMBLY	[#18] 1
	8210033920	3765 FRONT PANEL (A)-1 ASSEMBLY	[#19] 1
MP3	8610016490	KNOB K300 (A) ASSEMBLY	1
MP5	8610015710	KNOB K-301	1
MP6	8610016470	KNOB K-302 (A)	1
MP7	8610016480	KNOB K-303 (A)	1
MP8	8610015740	KNOB K-304	1
MP11	8010023630	3765 SUB CHASSIS	1
MP21	8810008661	PH BT M3*8 NI-ZC3	5
MP22	8810008661	PH BT M3*8 NI-ZC3	12
MP23	8810008661	PH BT M3*8 NI-ZC3	2
MP24	8810008631	PH BT M3*6 NI-ZC3	2
MP32	8930093280	3765 BRAKE BUTTON	1
MP33	8930077360	3073 BRAKE PAD	2
MP34	8930094550	3765 BRAKE SHEET	1
MP35	8610015830	KNOB N-432 ASSEMBLY	1
MP36	8610015760	KNOB N-432 COVER (TOP)	1
MP37	8610013870	KNOB N-378	1
MP38	8610013290	KNOB N-361	1
MP39	8610013870	KNOB N-378	1
MP40	8610013290	KNOB N-361	1
MP41	8610015780	KNOB N-433	1
MP43	8810003560	M4*6 SUS	1
MP47	8930057950	DOUBLE SIDE TAPE (AH)	2
MP48	8930094510	SPONGE (NZ)	8
MP49	8930094520	SPONGE (OA)	3
MP50	8930094530	HIMELON SHEET (DM)	1
MP51	8930094530	HIMELON SHEET (DM)	1
MP52	8930094500	3765 VR SHEET	2
MP53	8930094540	DOUBLE SIDE TAPE (CA)	1
MP54	8930083180	SPONGE (LG)	4
MP55	8930032130	NONWOVEN SHEET AQ	2
MP56	8930100360	3913 KEY SPONGE	1
MP57	8930037760	INSULATION SHEETDY	1
MP58	8930094650	SPONGE (OB)	1
MP61	8930088580	HIMELON SHEET (DD)	1
MP62	8930097950	SPONGE (PG)	1
MP63	8930094520	SPONGE (OA)	3
MP64	8930094520	SPONGE (OA)	3

[RIT UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
S1	2250001010	TP90N00AE20-14.5F-3765A	1

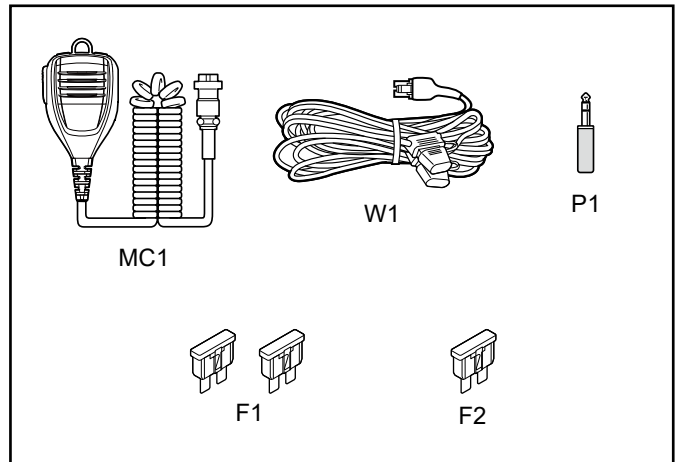
[PHONE UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
W1	8600037720	SX3913 P01*J02PH (#3913-6)	1

[ACCESSORIES]

REF NO.	PART NO.	DESCRIPTION	QTY.
P1	5610000750	MP-013MS-R	1
F1	5210001360	ATQ 25A	2
F2	5210000940	1205	1
MC1	-	HM-219†	1
W1	8900022020	OPC-2361	1

† Sold as an option.

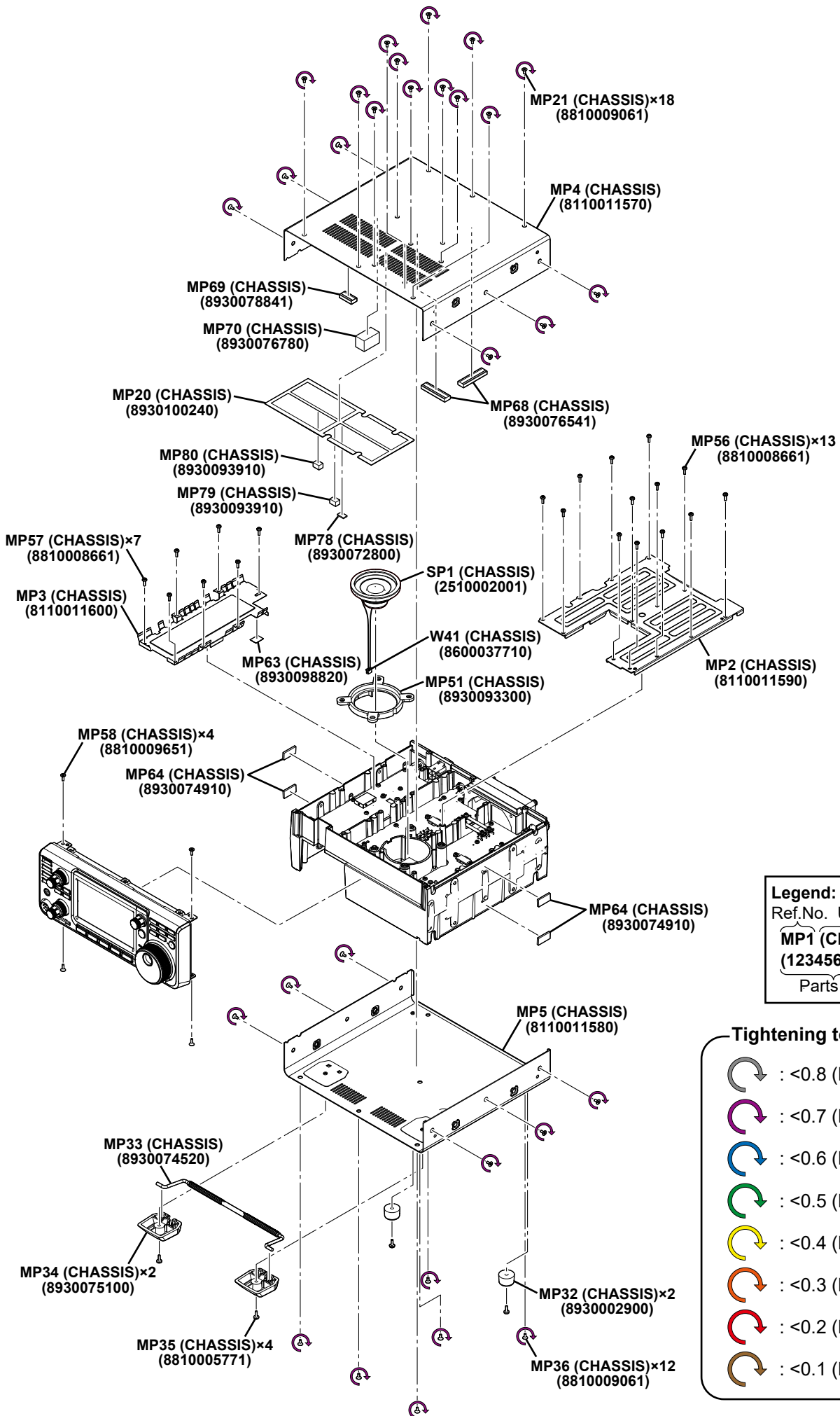


[DISPLAY UNIT]

REF NO.	PART NO.	DESCRIPTION	QTY.
S1*	2230001480	LS37J2-T	1
S2*	2230001480	LS37J2-T	1
S3*	2230001480	LS37J2-T	1
S4*	2230001480	LS37J2-T	1
S5*	2230001480	LS37J2-T	1
S6*	2230001480	LS37J2-T	1
S7*	2230001480	LS37J2-T	1
S8*	2230001480	LS37J2-T	1
S9*	2230001480	LS37J2-T	1
S10*	2230001480	LS37J2-T	1
S11*	2230001480	LS37J2-T	1
S12*	2230001480	LS37J2-T	1
S13*	2230001480	LS37J2-T	1
S14*	2230001480	LS37J2-T	1
S15*	2230001480	LS37J2-T	1
S16*	2230001480	LS37J2-T	1
S17*	2230001480	LS37J2-T	1
S18*	2230001480	LS37J2-T	1
S19*	2230001480	LS37J2-T	1
S20*	2230001480	LS37J2-T	1
S21*	2230001480	LS37J2-T	1
S22*	2230001480	LS37J2-T	1
S23*	2230001480	LS37J2-T	1
S24*	2230001480	LS37J2-T	1
S25*	2230001480	LS37J2-T	1
MP1*	8510019650	3250 VCO CASE	1









*: Refer to "BOARD LAYOUTS" for the location.

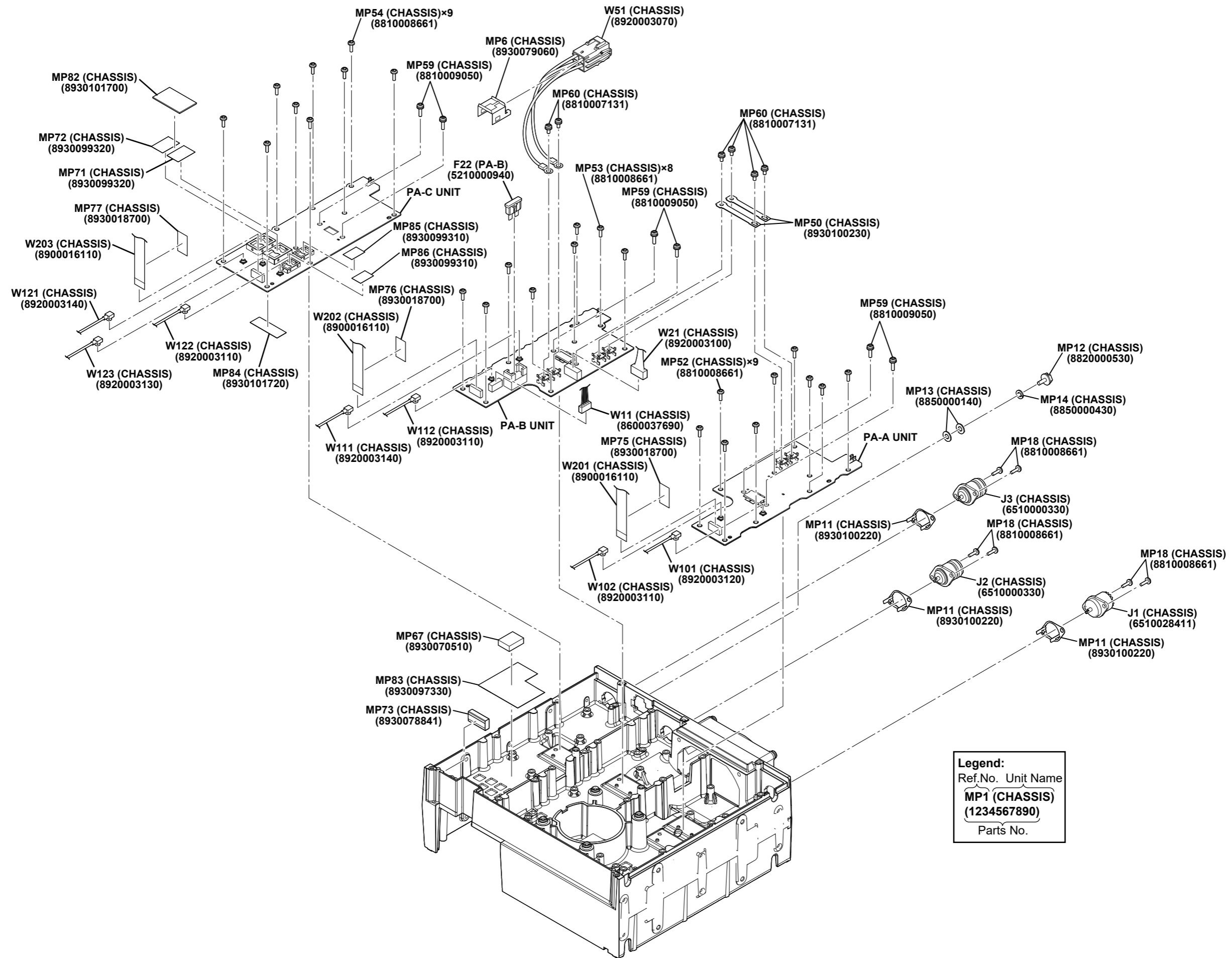
Screw abbreviations A, B0, BT: Self-tapping PH: Pan head BS: Brass NI: Nickel ZU: Zinc SUS: Stainless



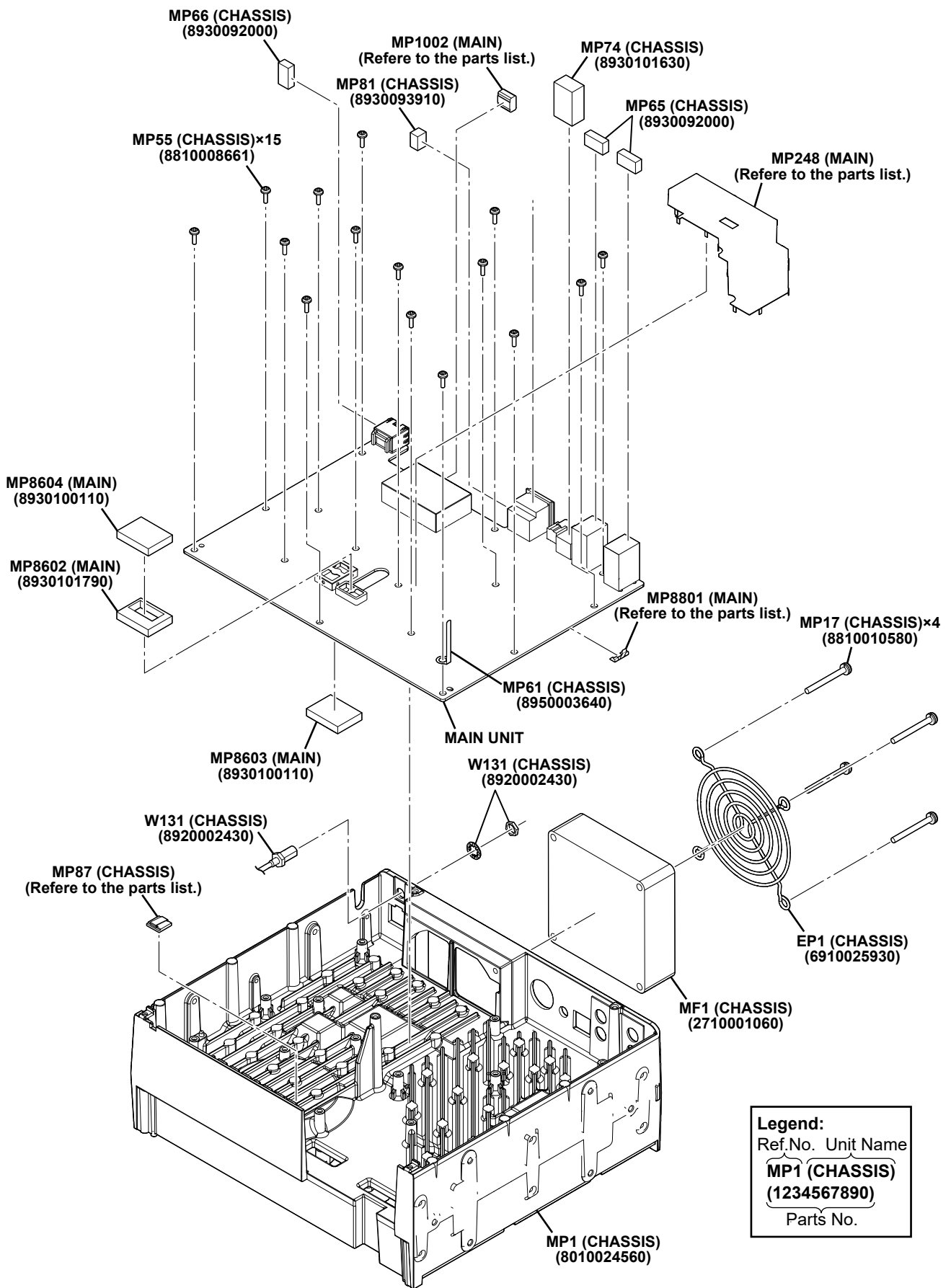
Legend:	
Ref.No.	Unit Name
MP1 (CHASSIS) (1234567890)	Parts No.

Tightening torque

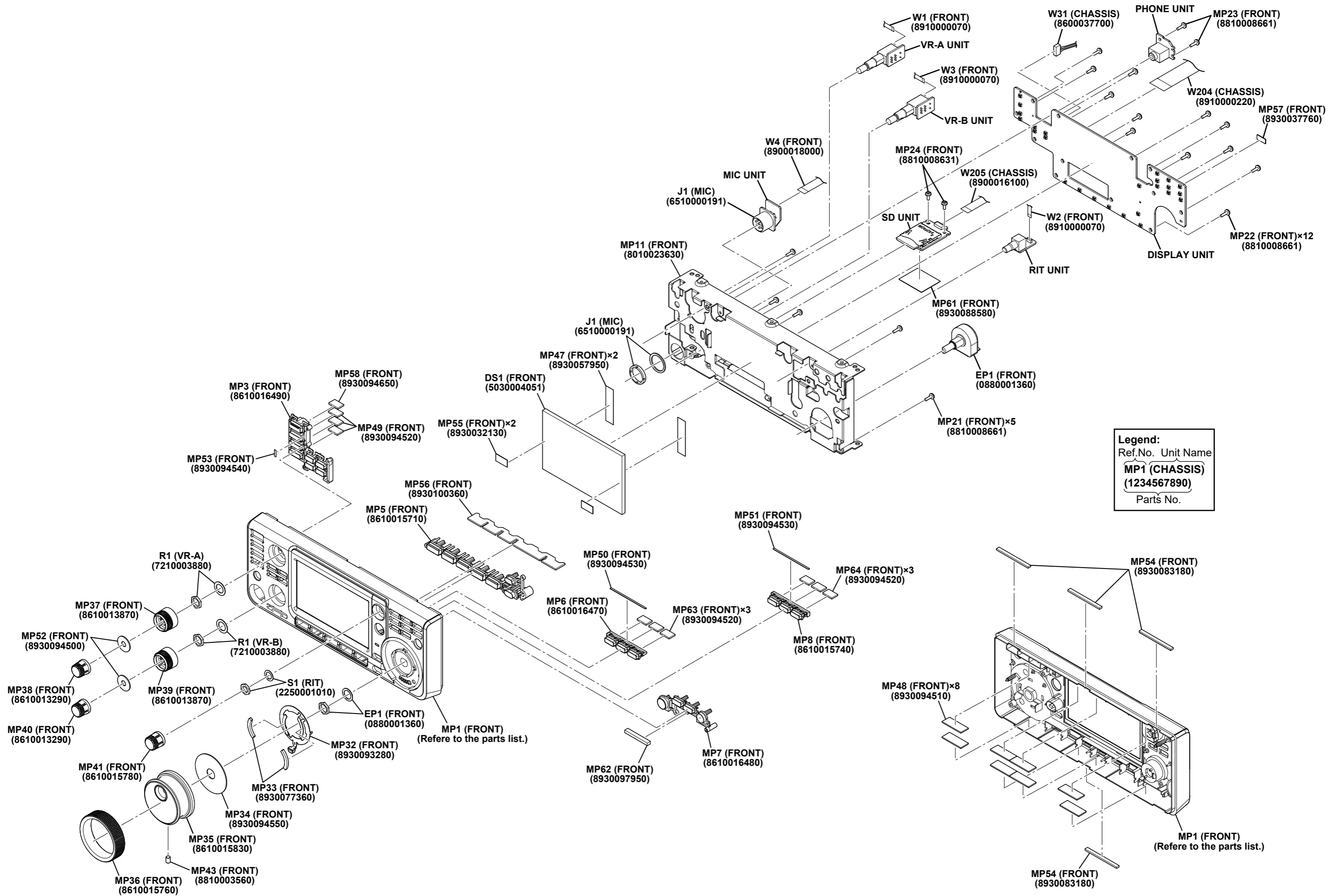
-  : <0.8 (N•m)>
-  : <0.7 (N•m)>
-  : <0.6 (N•m)>
-  : <0.5 (N•m)>
-  : <0.4 (N•m)>
-  : <0.3 (N•m)>
-  : <0.2 (N•m)>
-  : <0.1 (N•m)>



Legend:
 Ref.No. Unit Name
 MP1 (CHASSIS)
 (1234567890)
 Parts No.



Legend:	
Ref.No.	Unit Name
MP1 (CHASSIS)	
(1234567890)	
Parts No.	



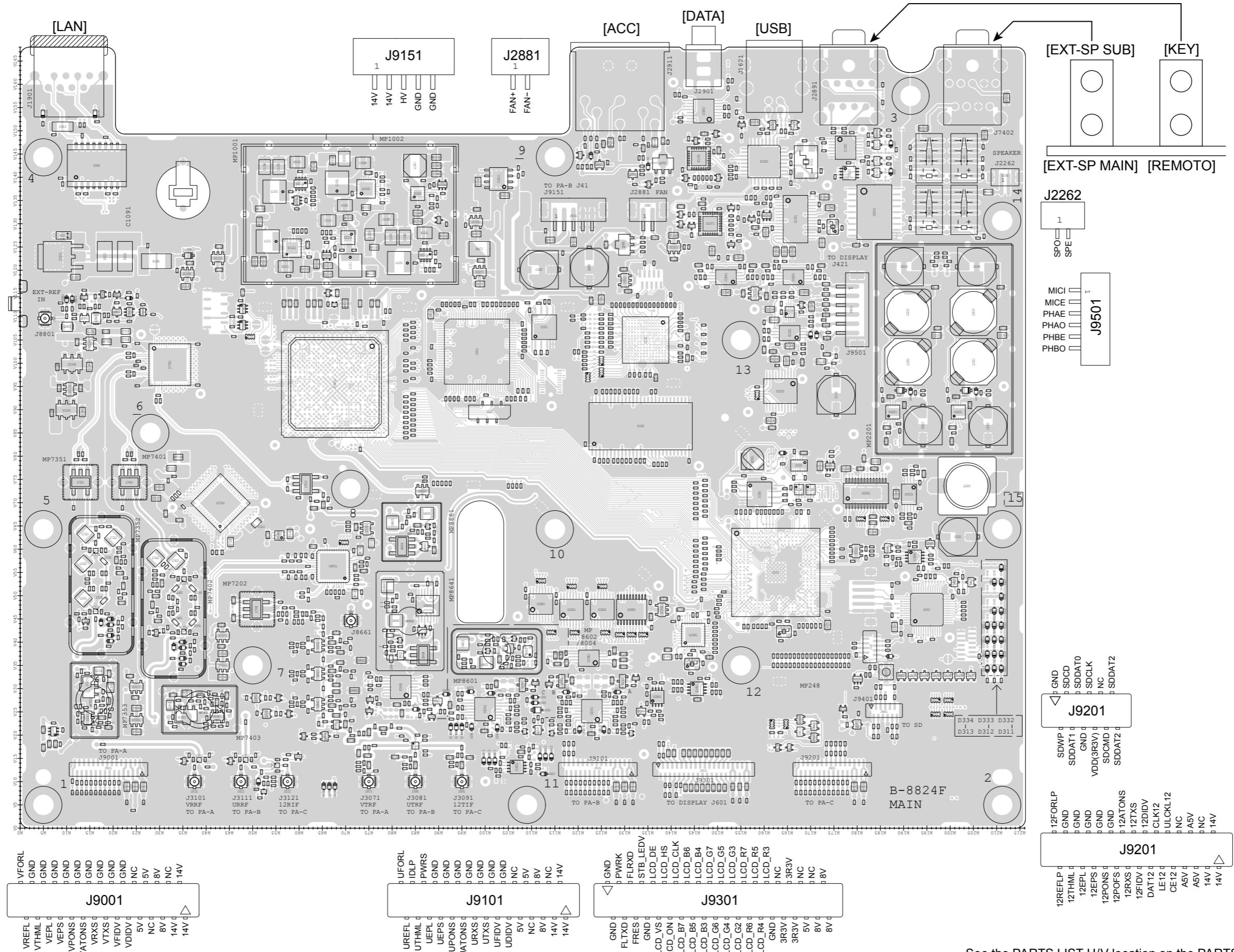
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MP1 (CHASSIS)
(1234567890)
 Parts No.

SECTION 7

BOARD LAYOUTS

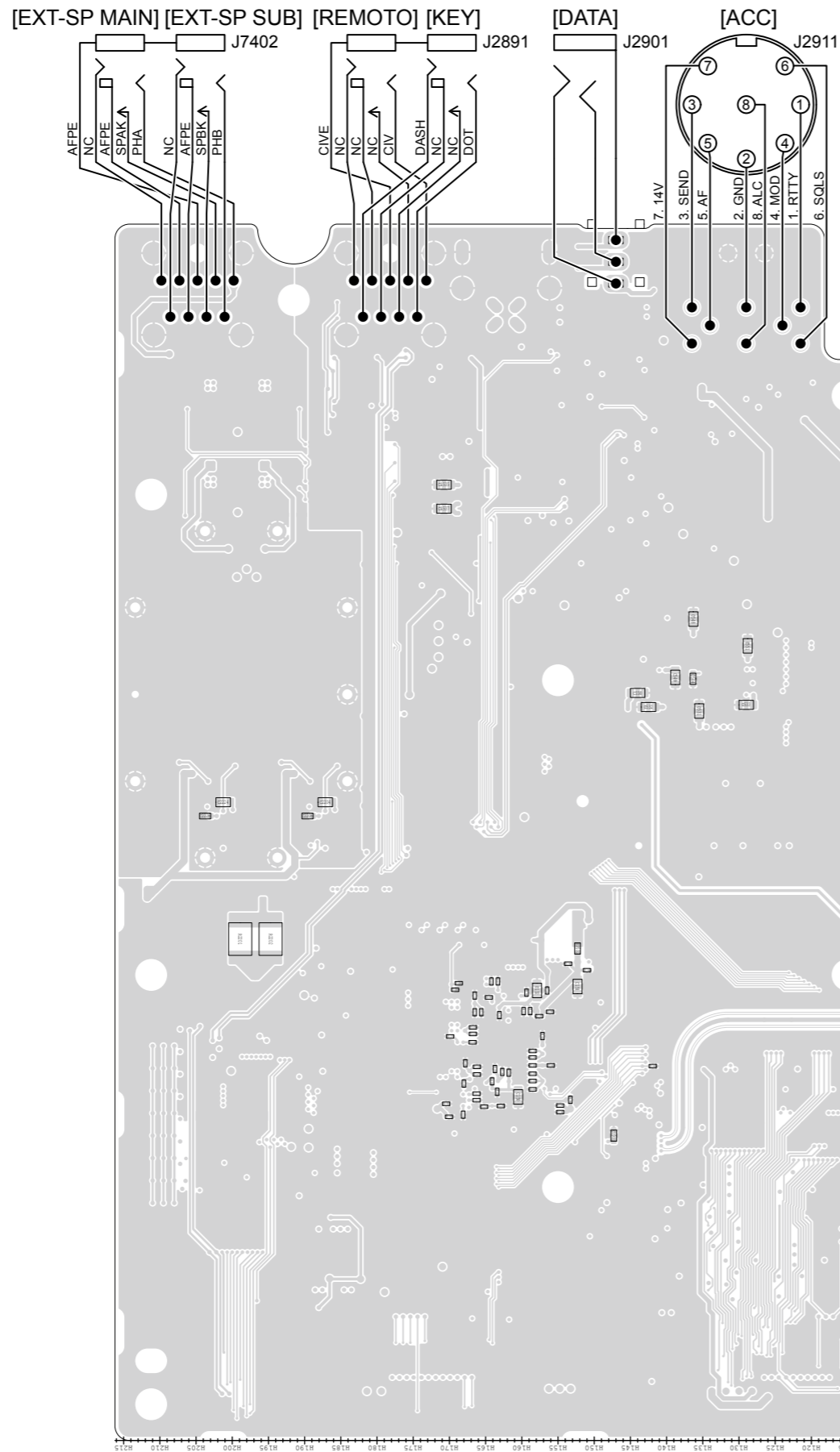
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• MAIN UNIT (B-8824F: TOP VIEW)



See the PARTS LIST H/V location on the PARTS LIST for location details.

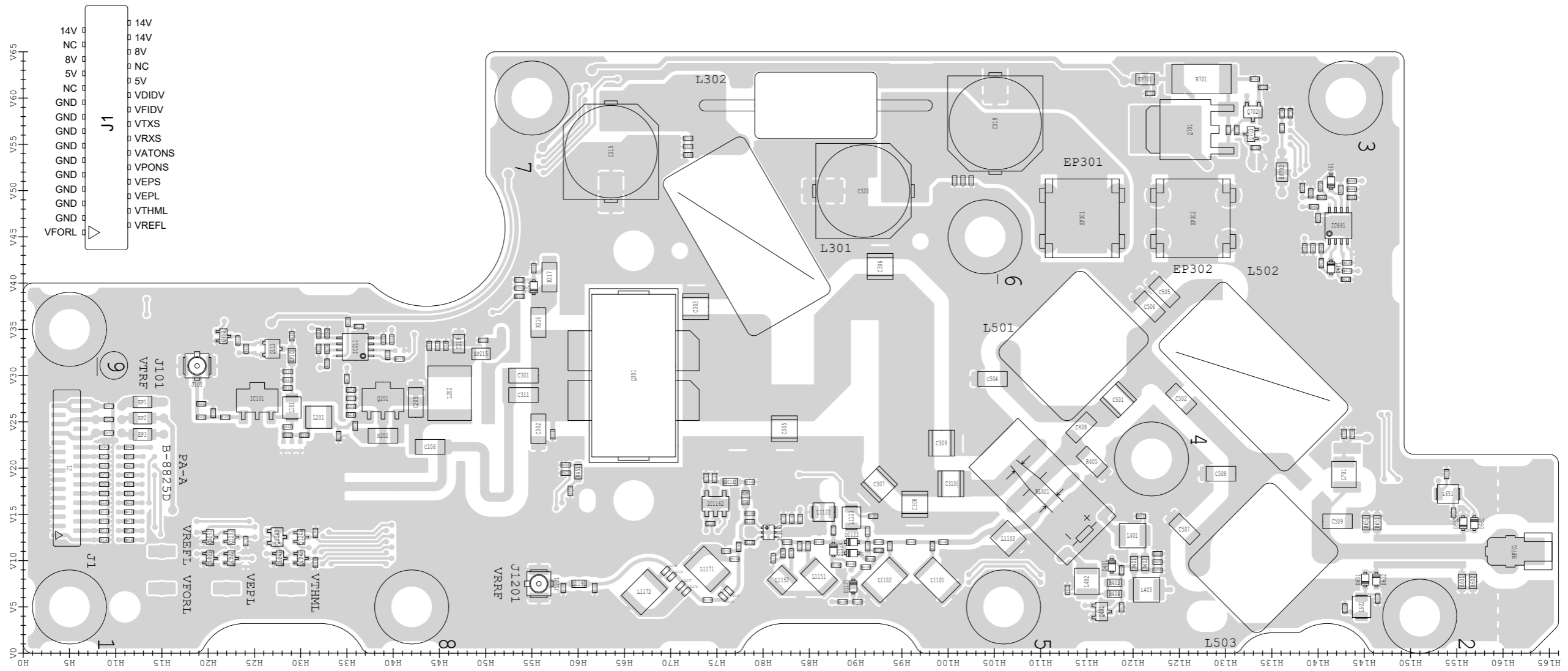
• MAIN UNIT (B-8824F: BOTTOM VIEW)



The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

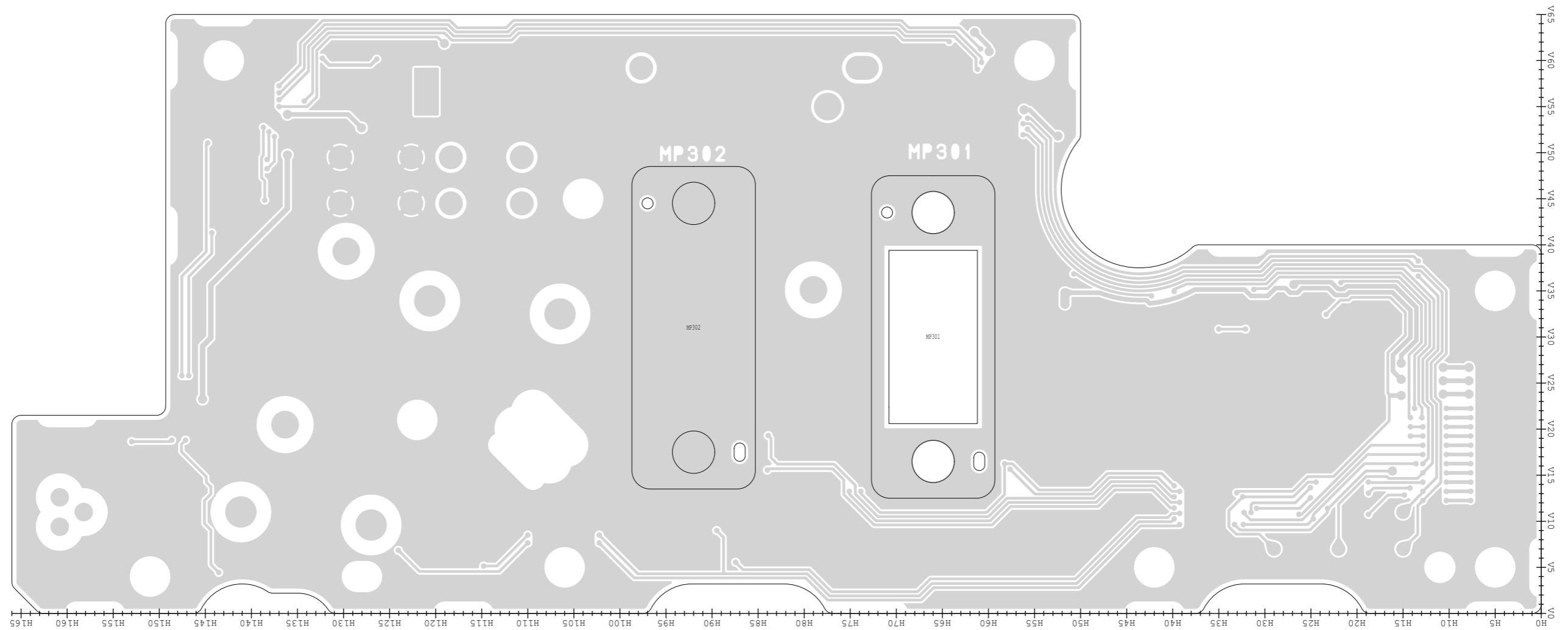
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• PA-A UNIT (B-8825D: TOP VIEW)



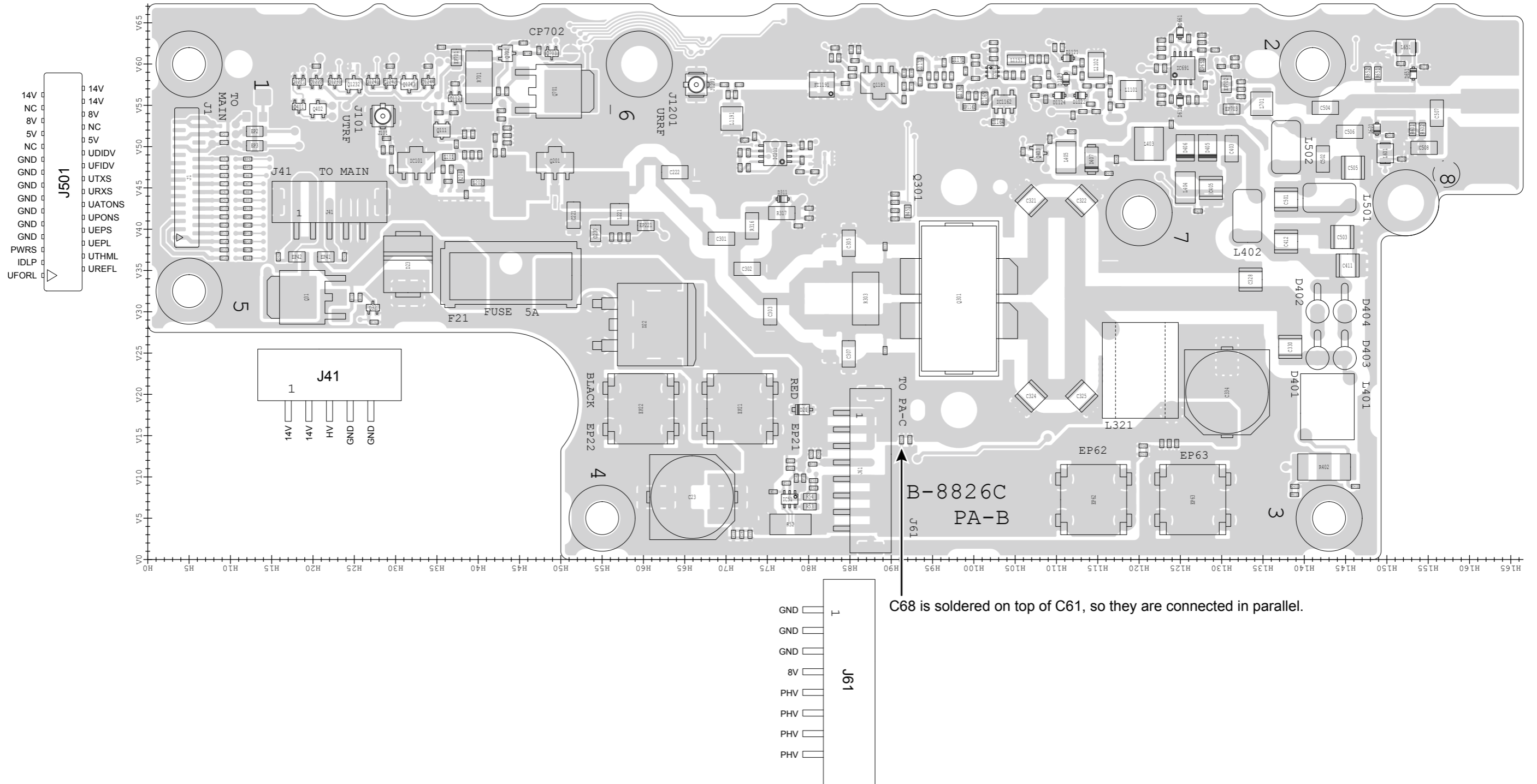
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• PA-A UNIT (B-8825D: BOTTOM VIEW)



The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

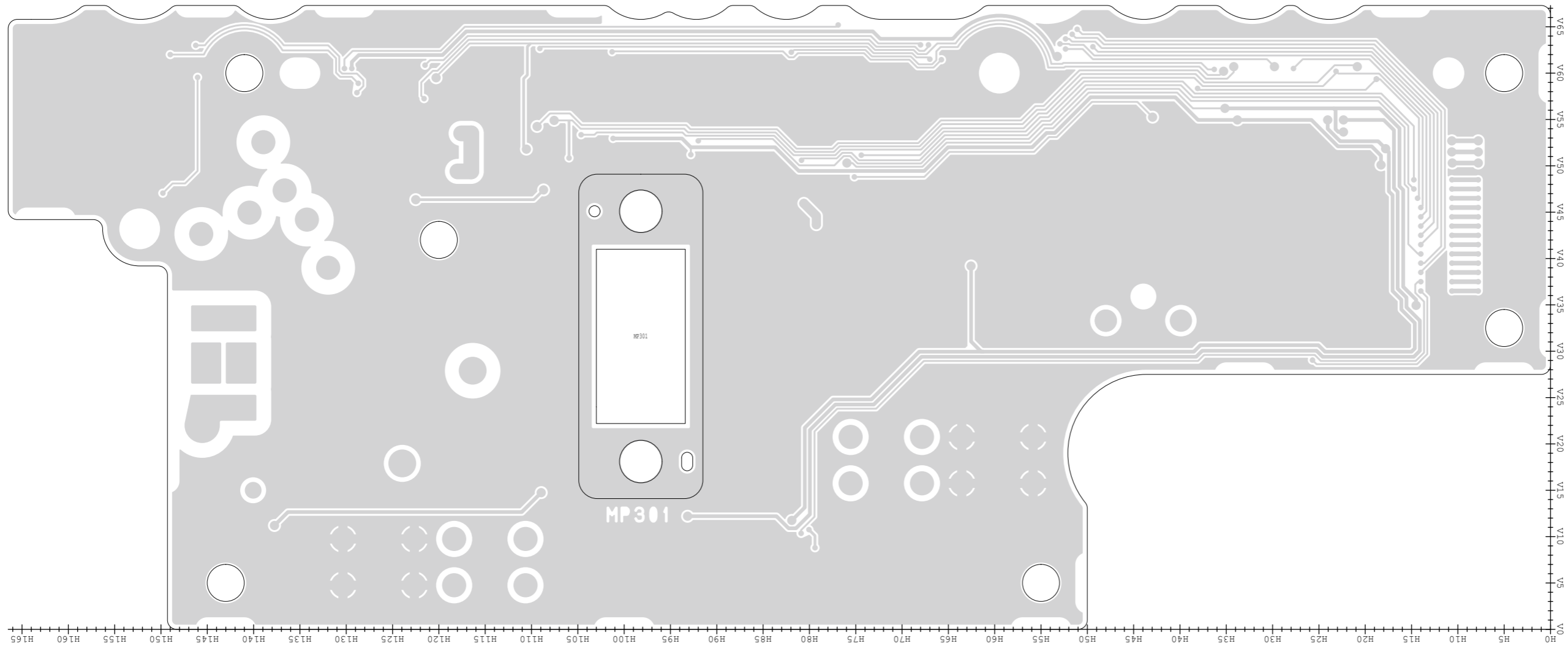
• PA-B UNIT (B-8826C: TOP VIEW)



C68 is soldered on top of C61, so they are connected in parallel.

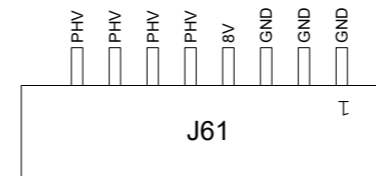
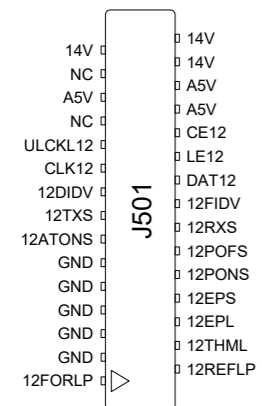
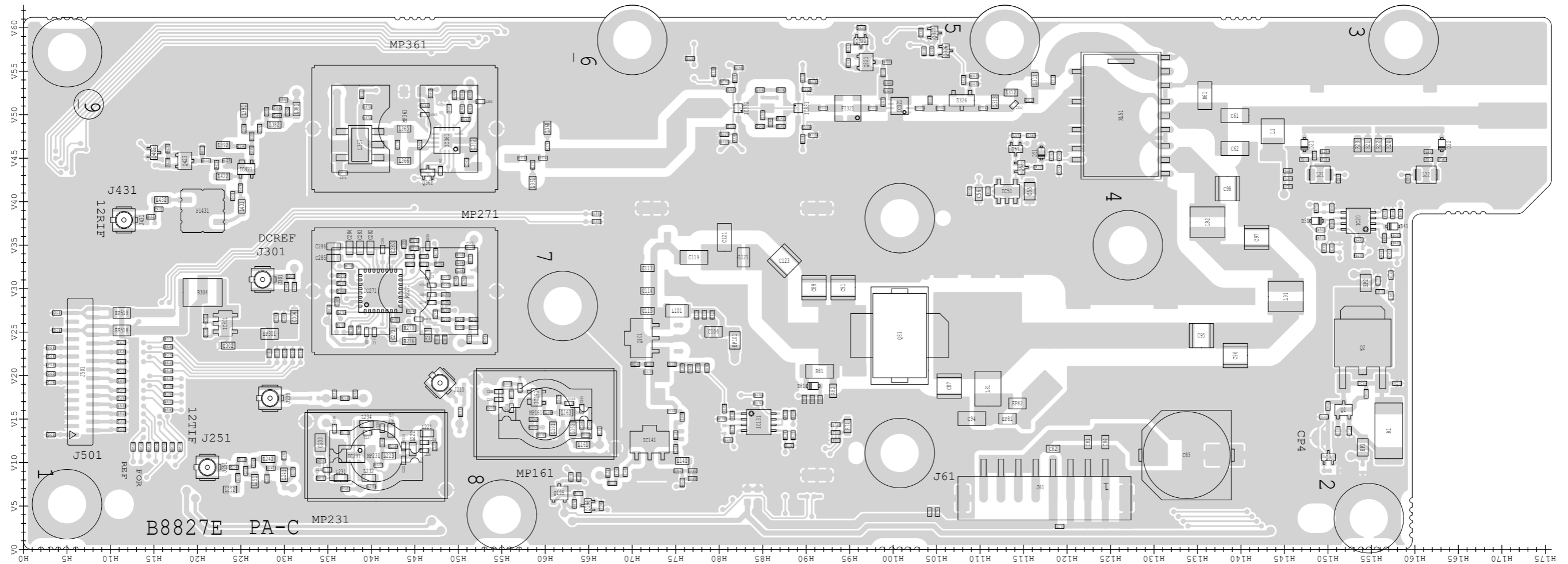
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• PA-B UNIT (B-8826C: BOTTOM VIEW)



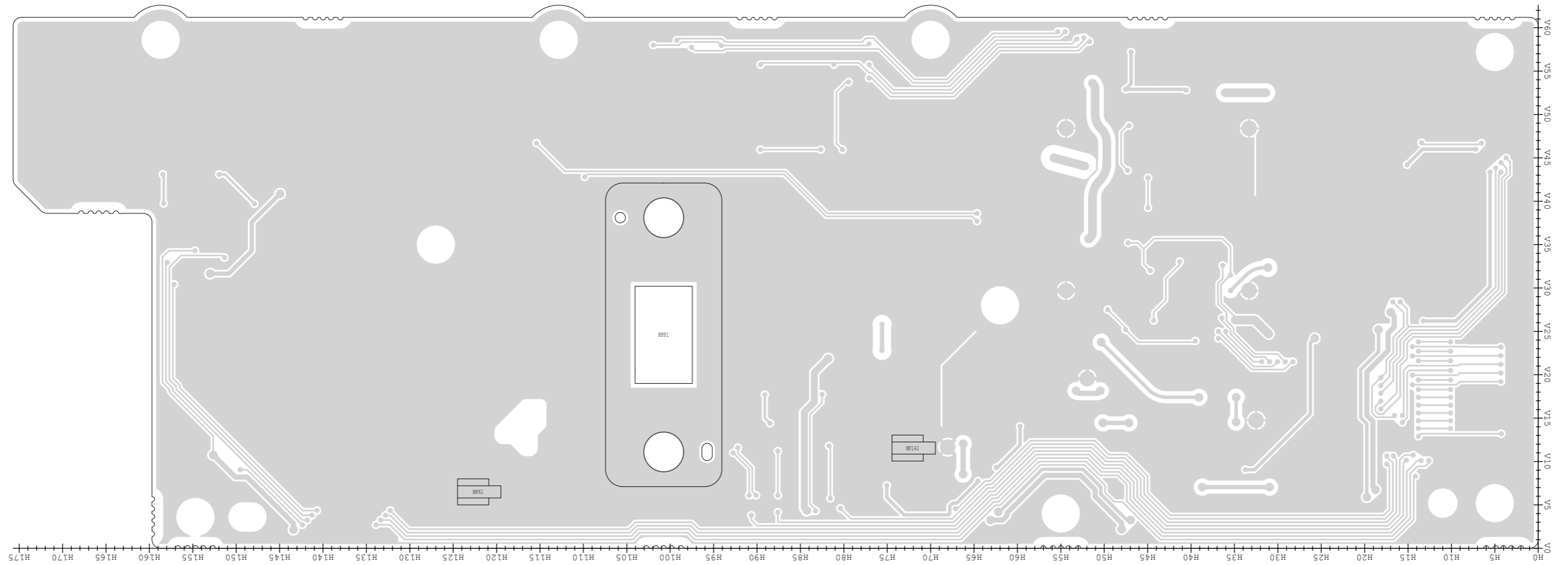
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• PA-C UNIT (B-8827E: TOP VIEW)



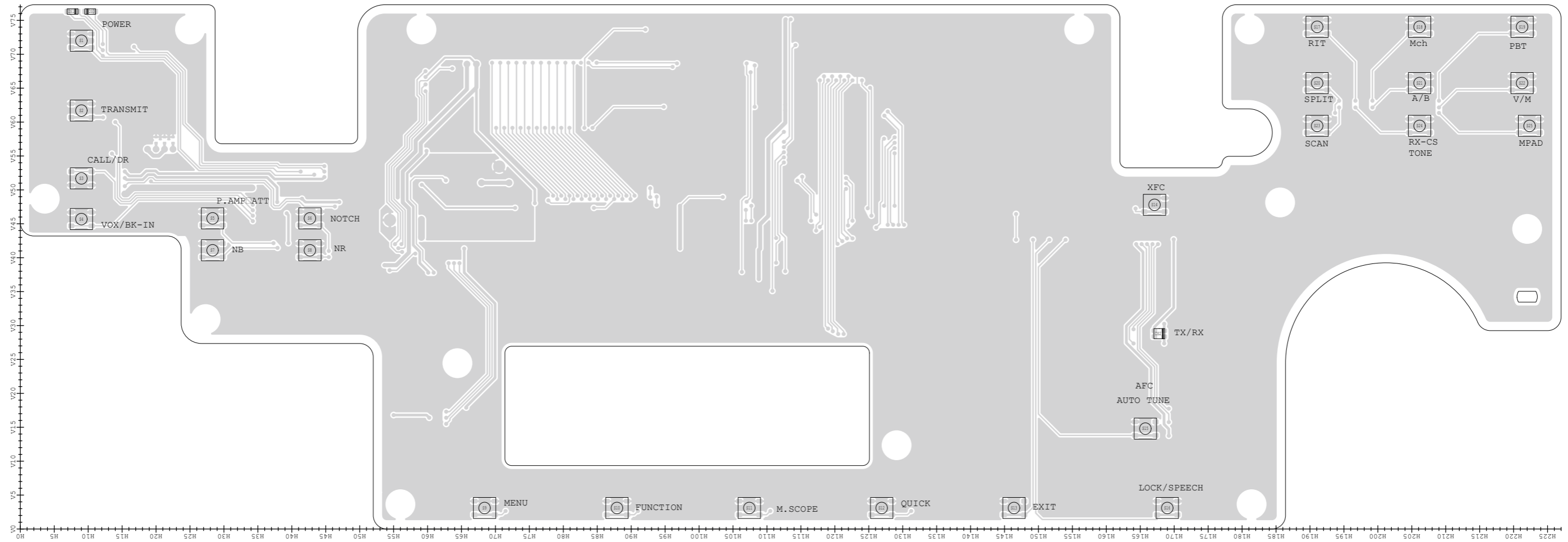
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• PA-C UNIT (B-8827E: BOTTOM VIEW)



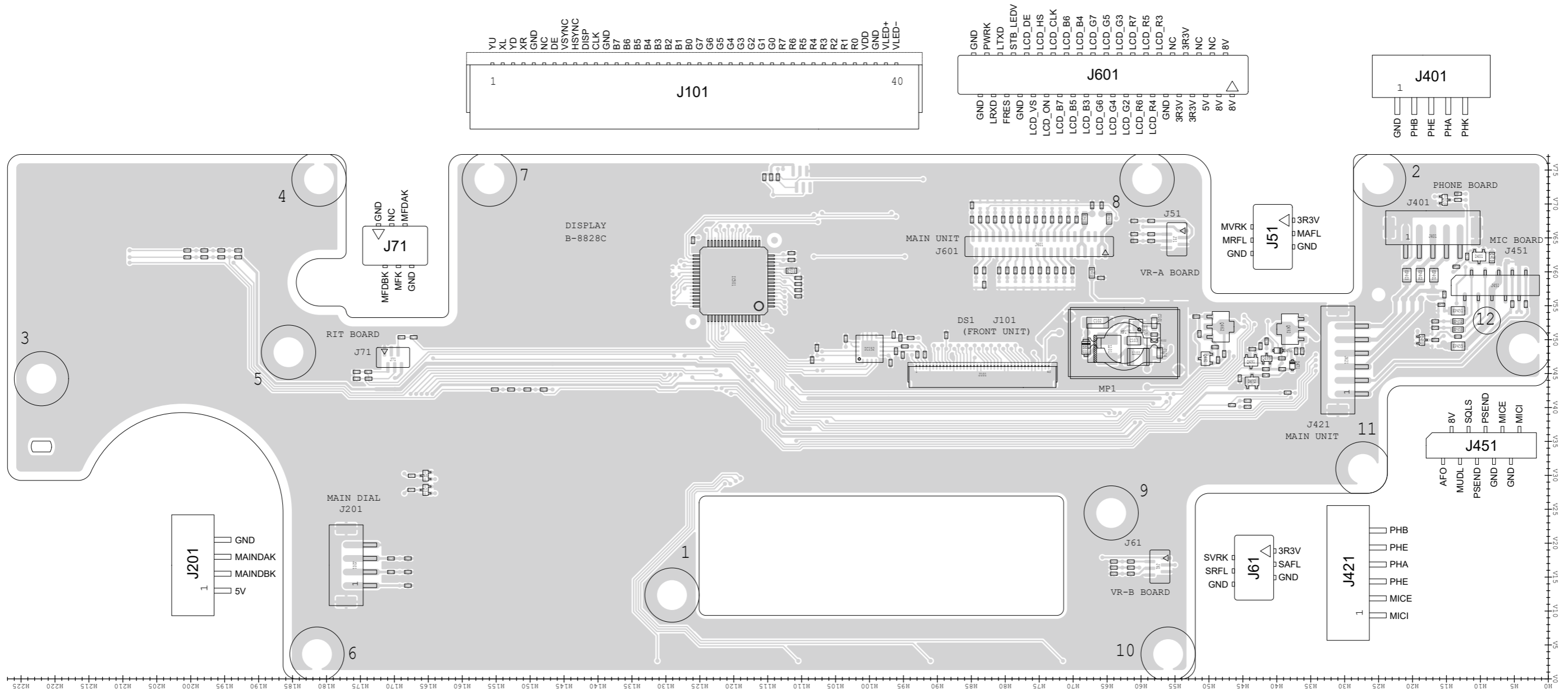
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• DISPLAY UNIT (B-8828C: TOP VIEW)



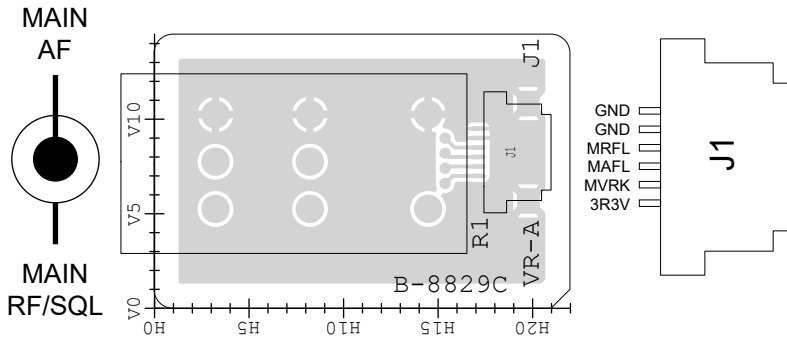
The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

• DISPLAY UNIT (B-8828C: BOTTOM VIEW)

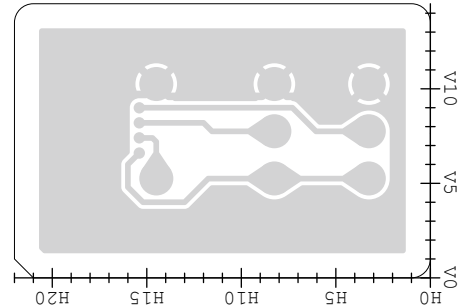


The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

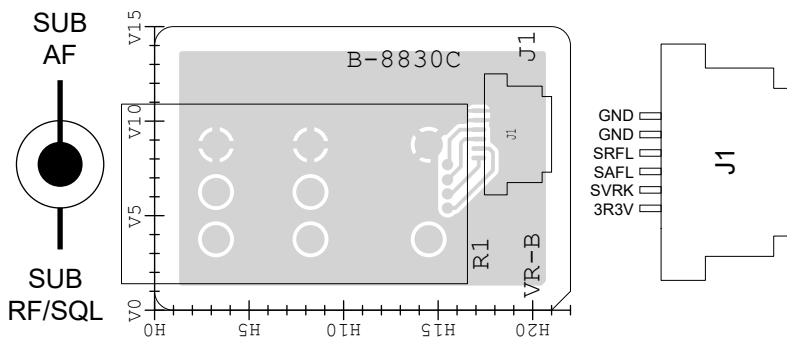
• VR-A UNIT (B-8829C: TOP VIEW)



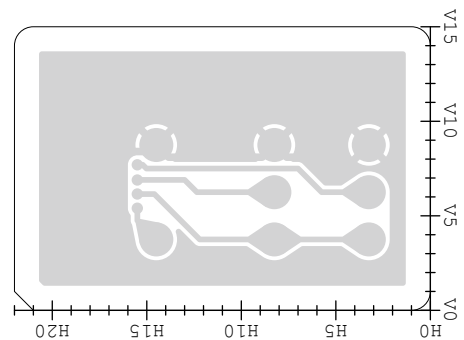
• VR-A UNIT (B-8829C: BOTTOM VIEW)



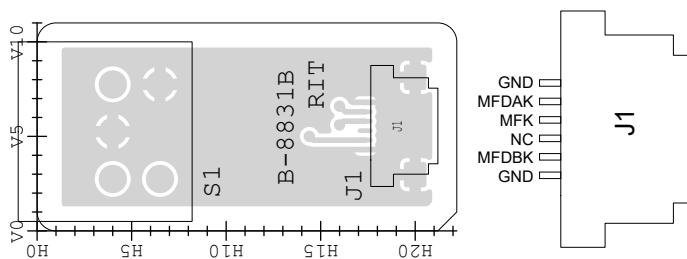
• VR-B UNIT (B-8830C: TOP VIEW)



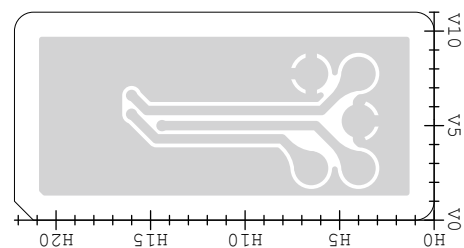
• VR-B UNIT (B-8830C: BOTTOM VIEW)



• RIT UNIT (B-8831B: TOP VIEW)



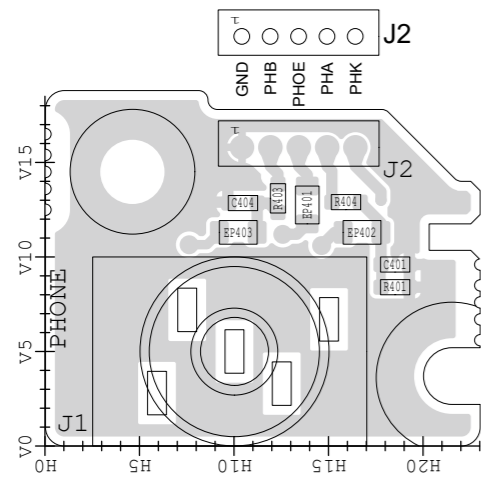
• RIT UNIT (B-8831B: BOTTOM VIEW)



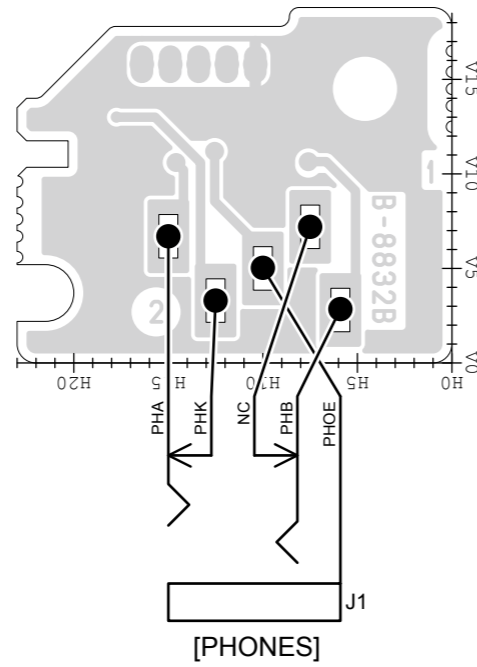
See the PARTS LIST H/V location on the PARTS LIST for location details.

The actual configuration of the PC board can be seen by viewing the top and bottom BOARD LAYOUT pages together.

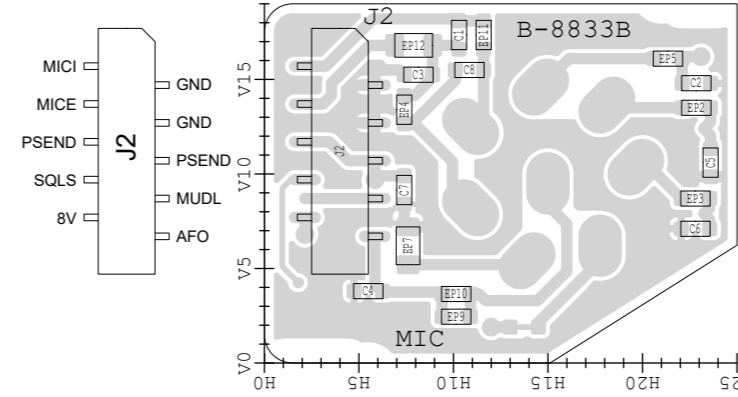
• PHONE UNIT (B-8832B: TOP VIEW)



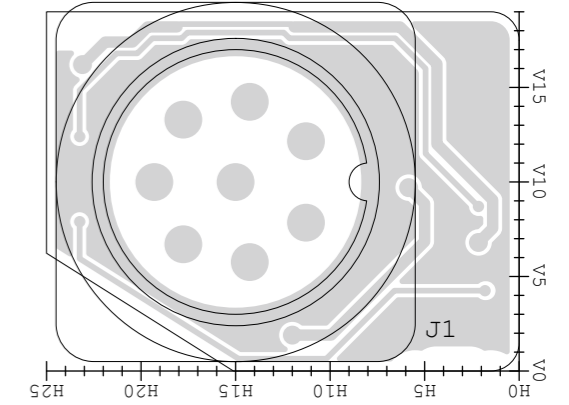
• PHONE UNIT (B-8832B: BOTTOM VIEW)



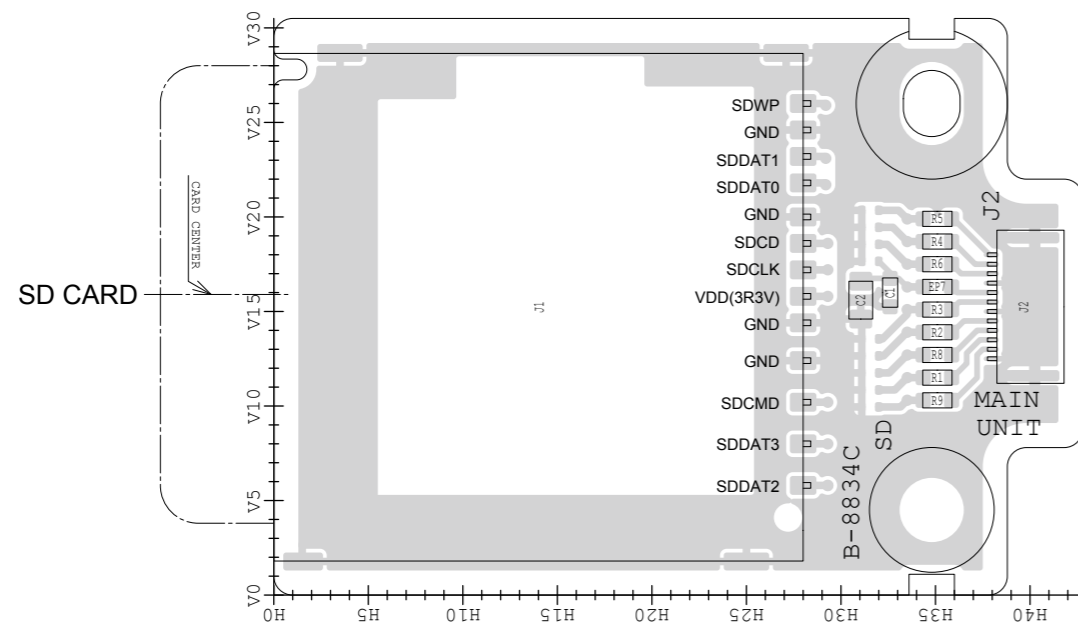
• MIC UNIT (B-8833B: TOP VIEW)



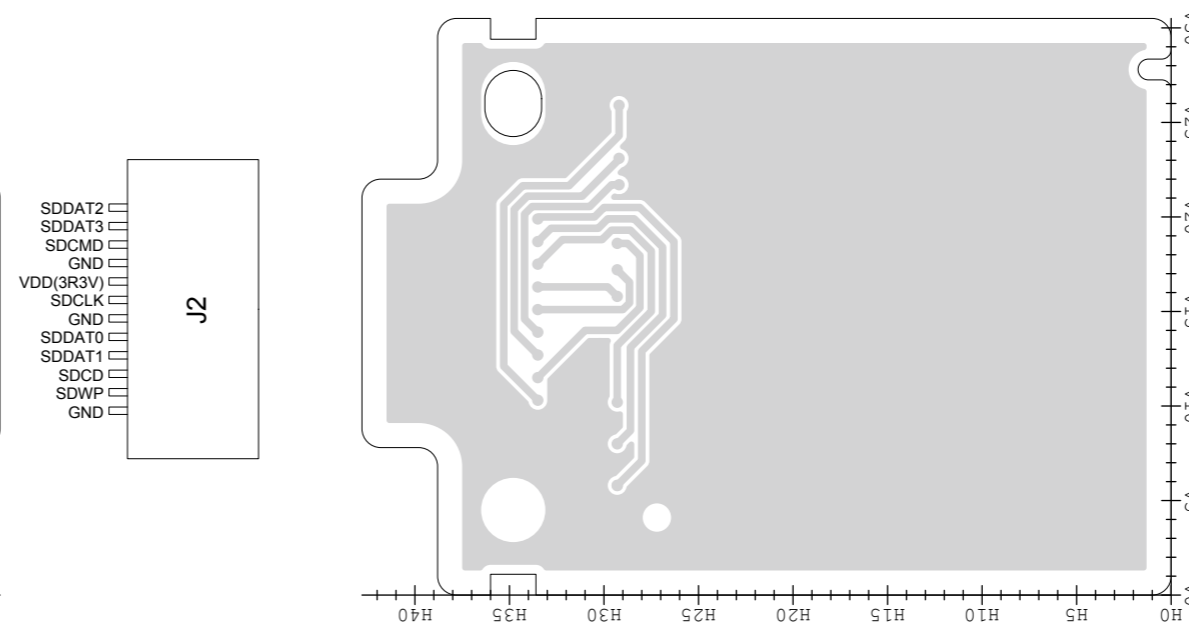
• MIC UNIT (B-8833B: BOTTOM VIEW)



• SD UNIT (B-8834C: TOP VIEW)

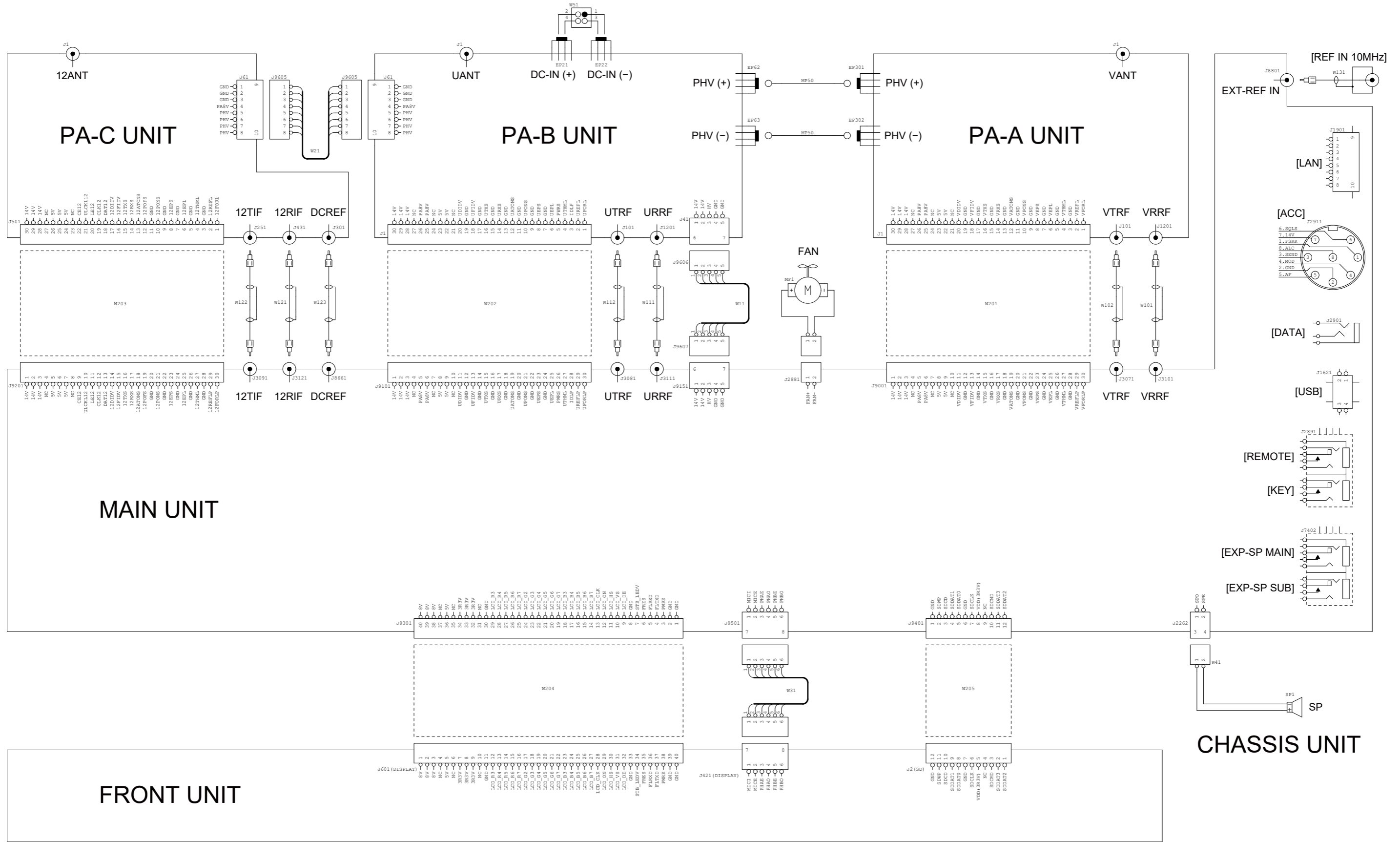


• SD UNIT (B-8834C: BOTTOM VIEW)

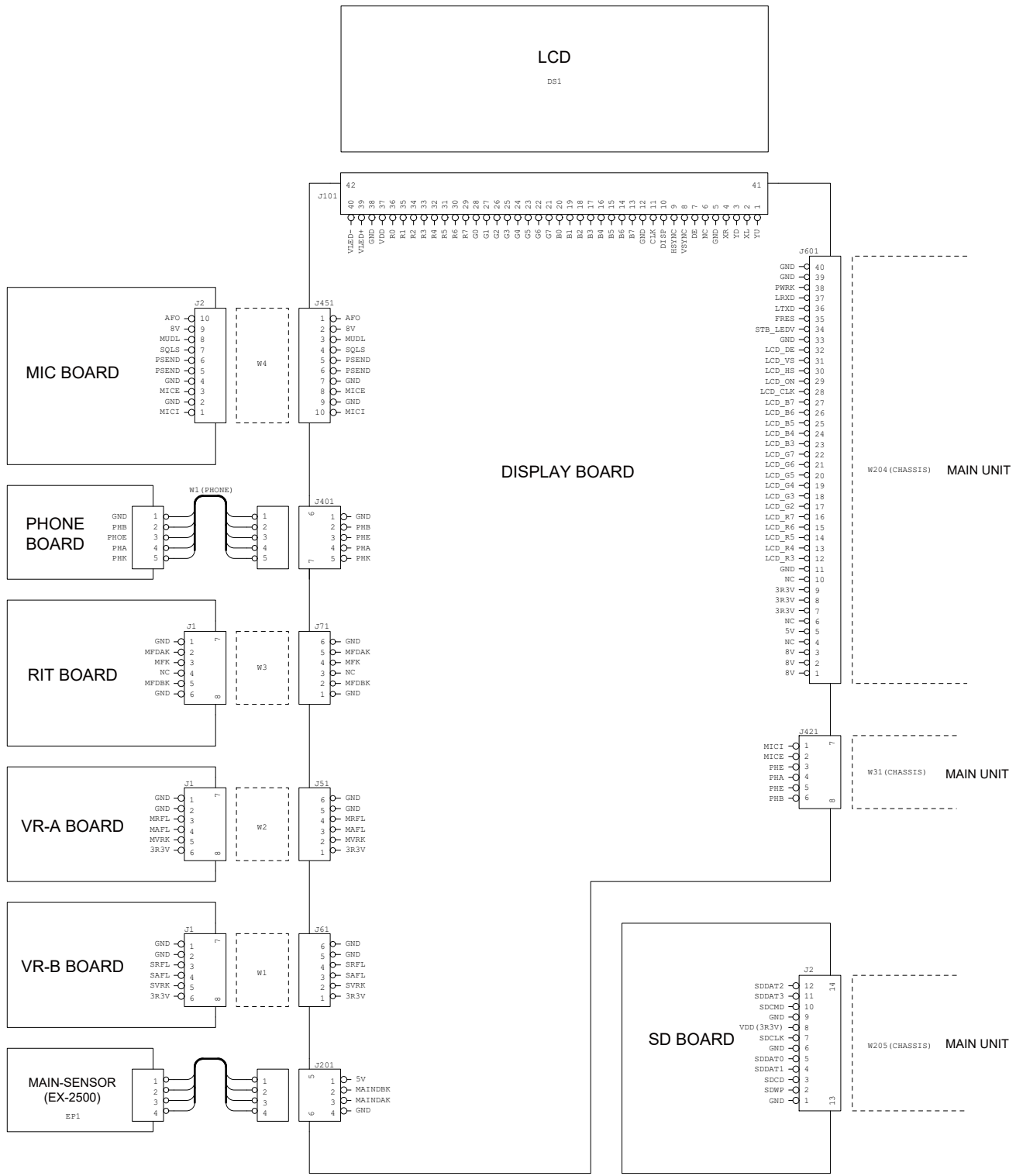


SECTION 8

WIRING DIAGRAM

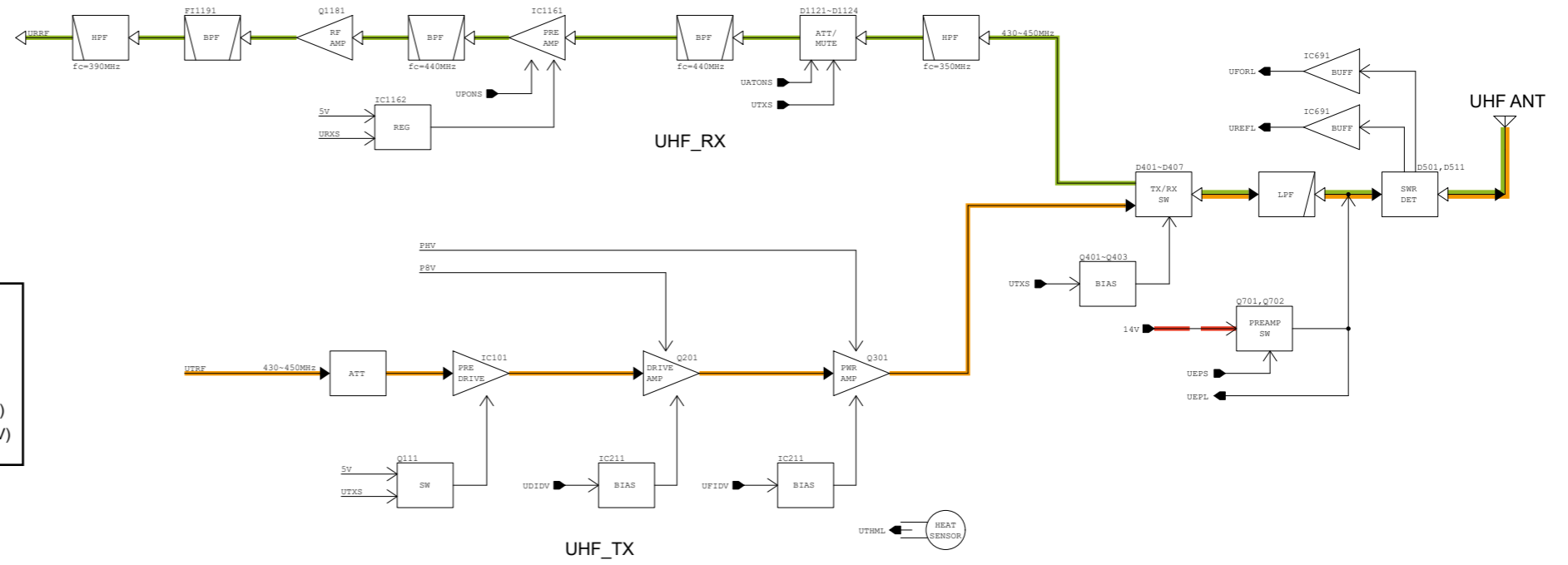
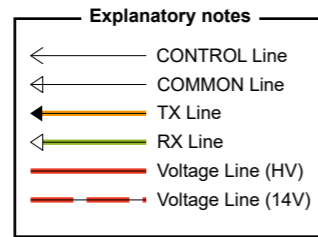
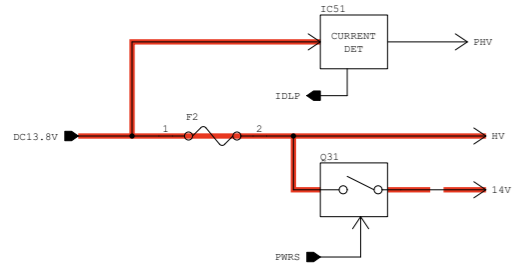


FRONT UNIT

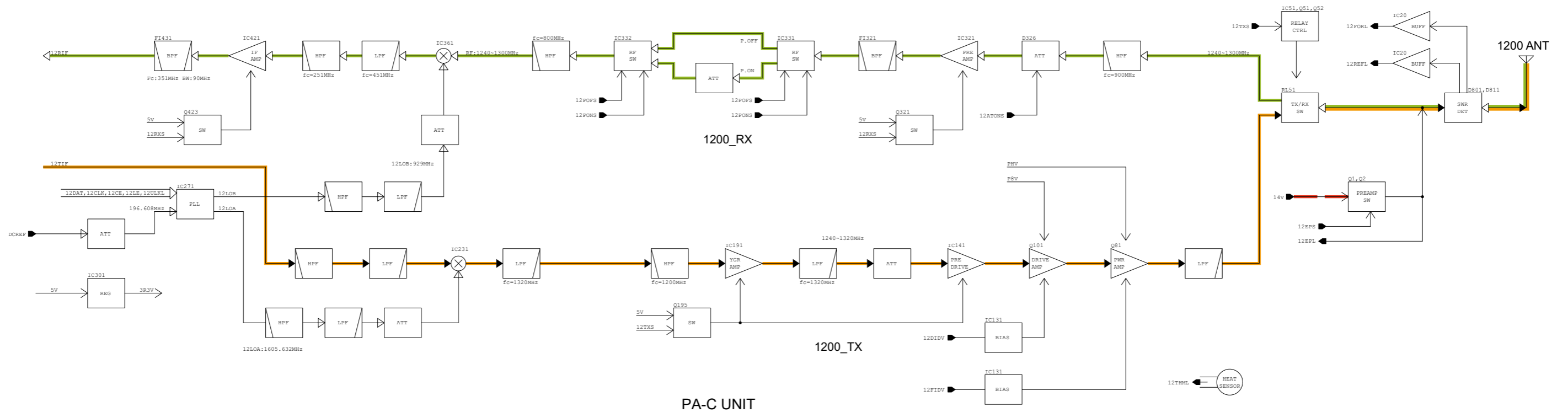


SECTION 9

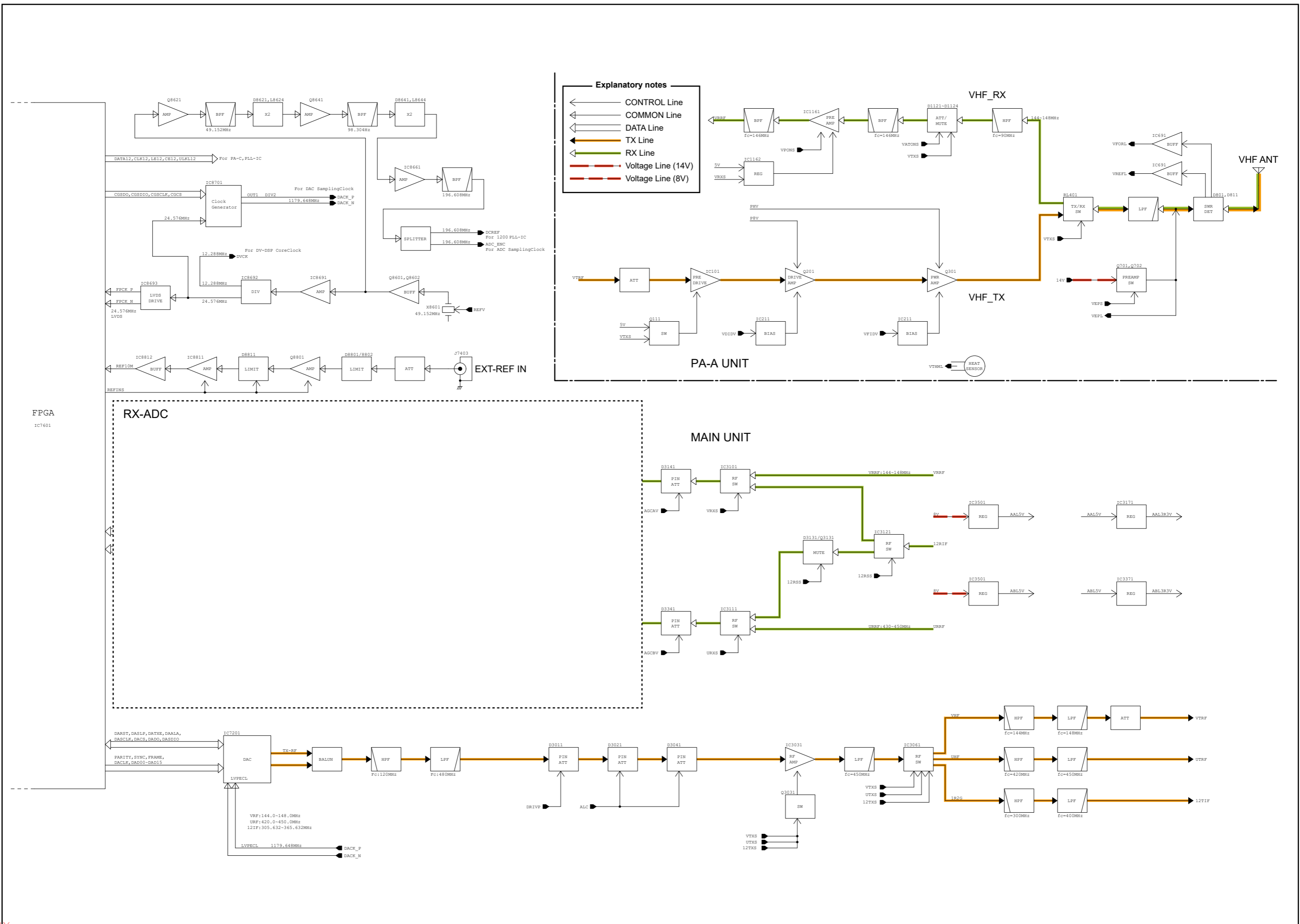
BLOCK DIAGRAM



PA-B UNIT



PA-C UNIT



- Explanatory notes**
- ← CONTROL Line
 - ← COMMON Line
 - ← DATA Line
 - ← TX Line
 - ← RX Line
 - Voltage Line (14V)
 - - - Voltage Line (8V)

FPGA
ic7601

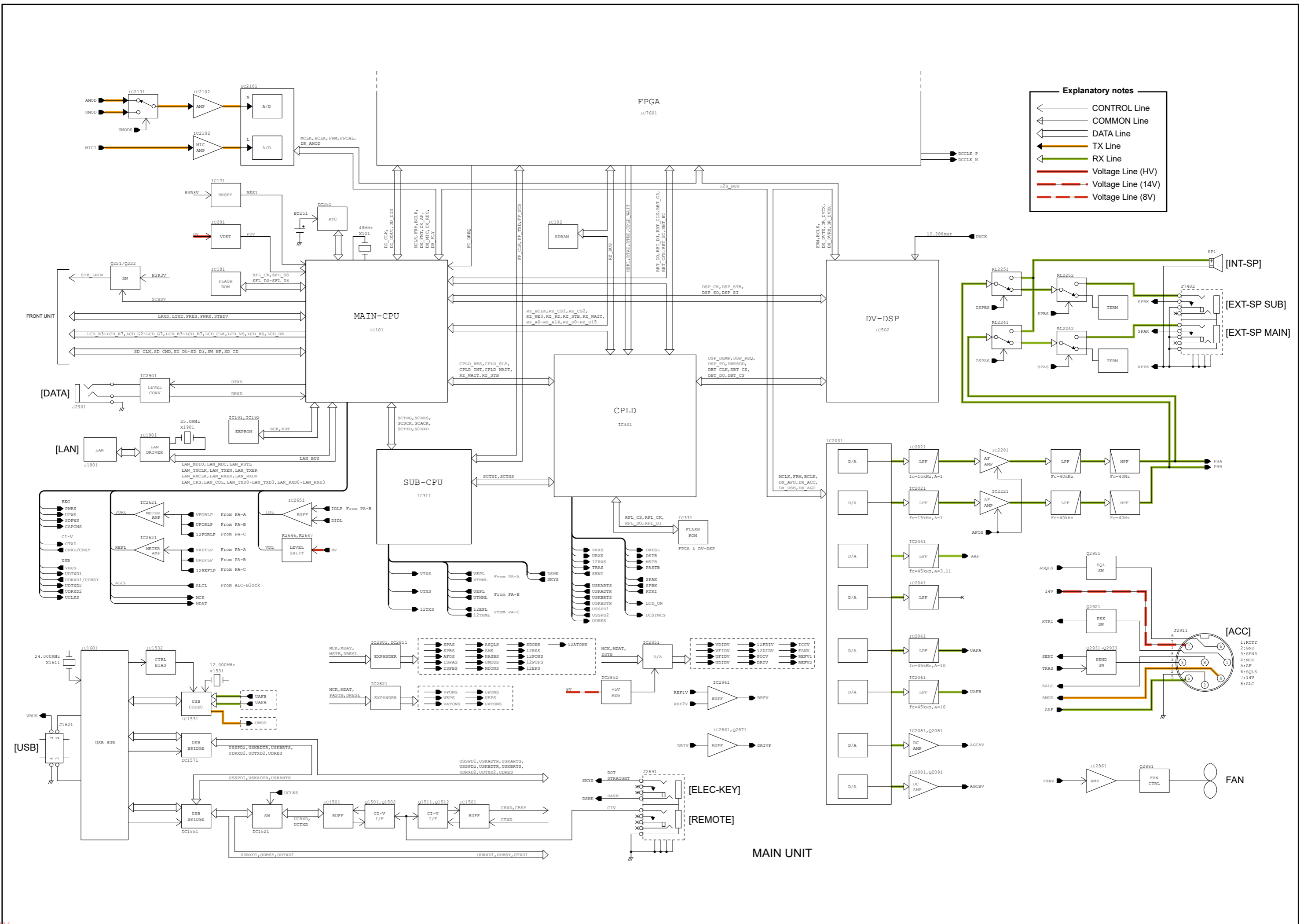
RX-ADC

MAIN UNIT

VHF_RX

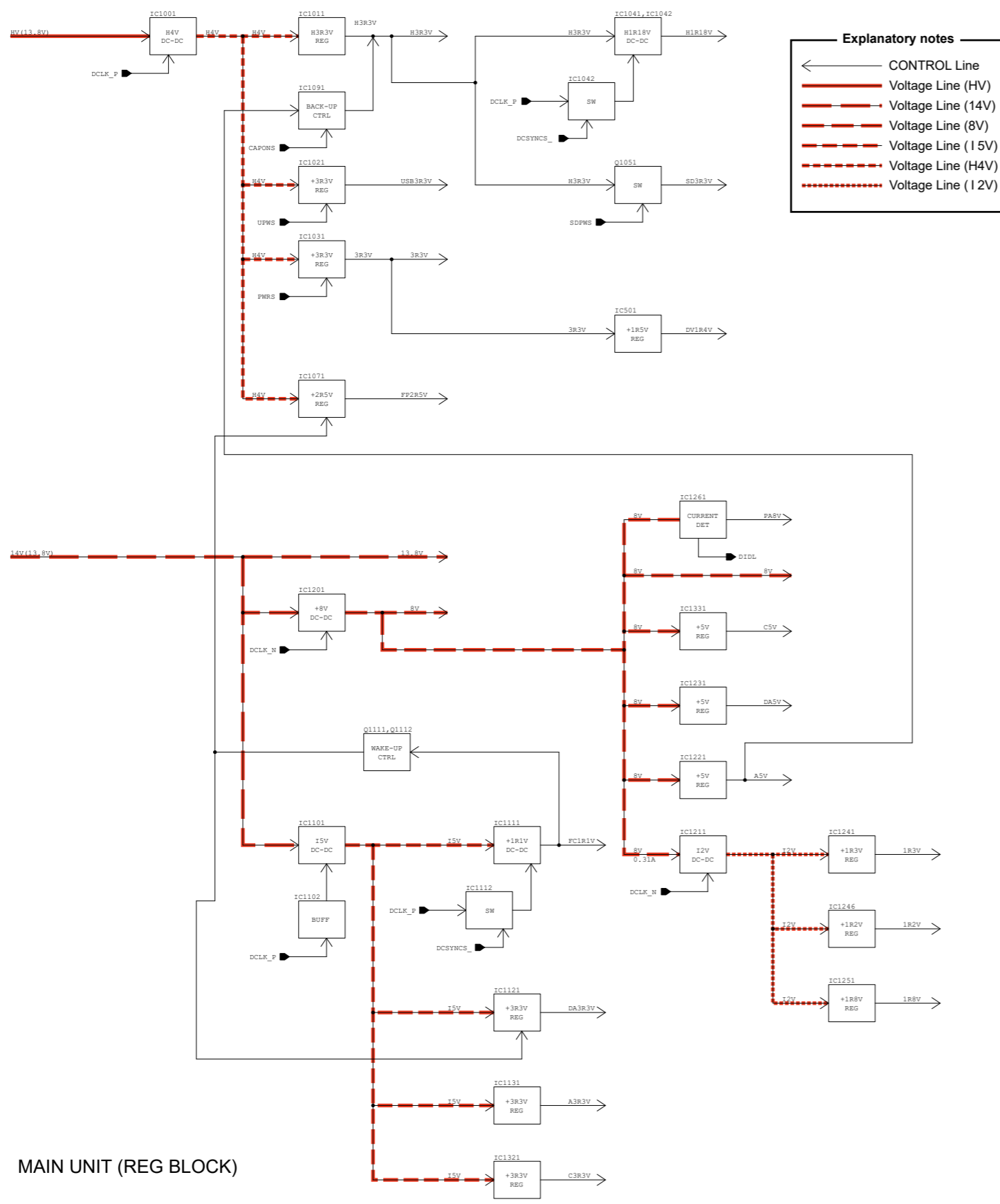
VHF_TX

VHF ANT

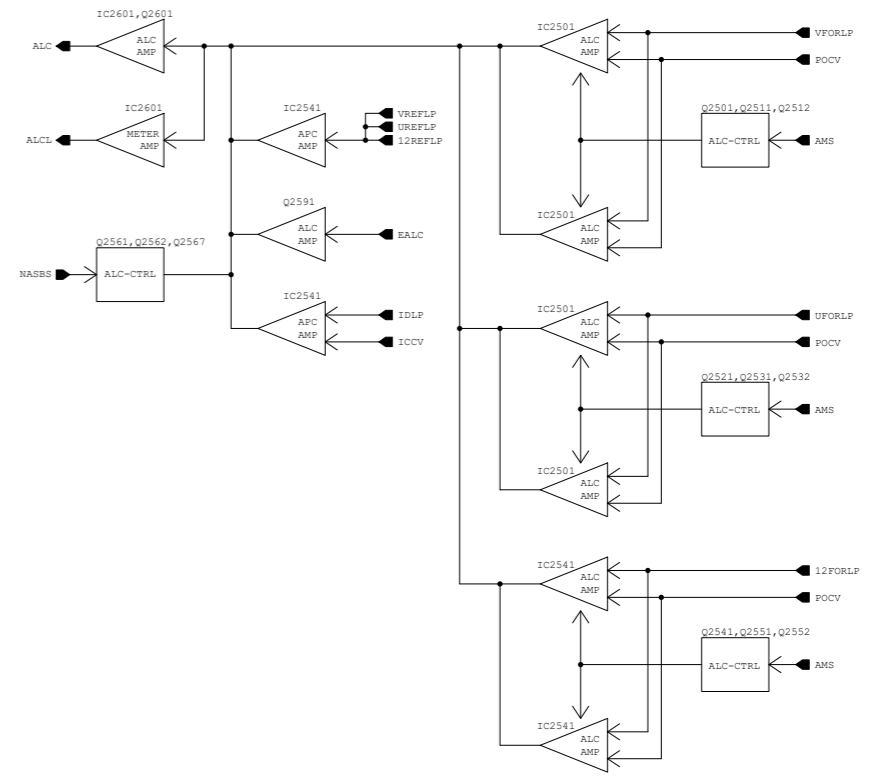


- Explanatory notes**
- ← CONTROL Line
 - ← COMMON Line
 - ← DATA Line
 - ← TX Line
 - ← RX Line
 - Voltage Line (HV)
 - - - Voltage Line (14V)
 - - - Voltage Line (8V)

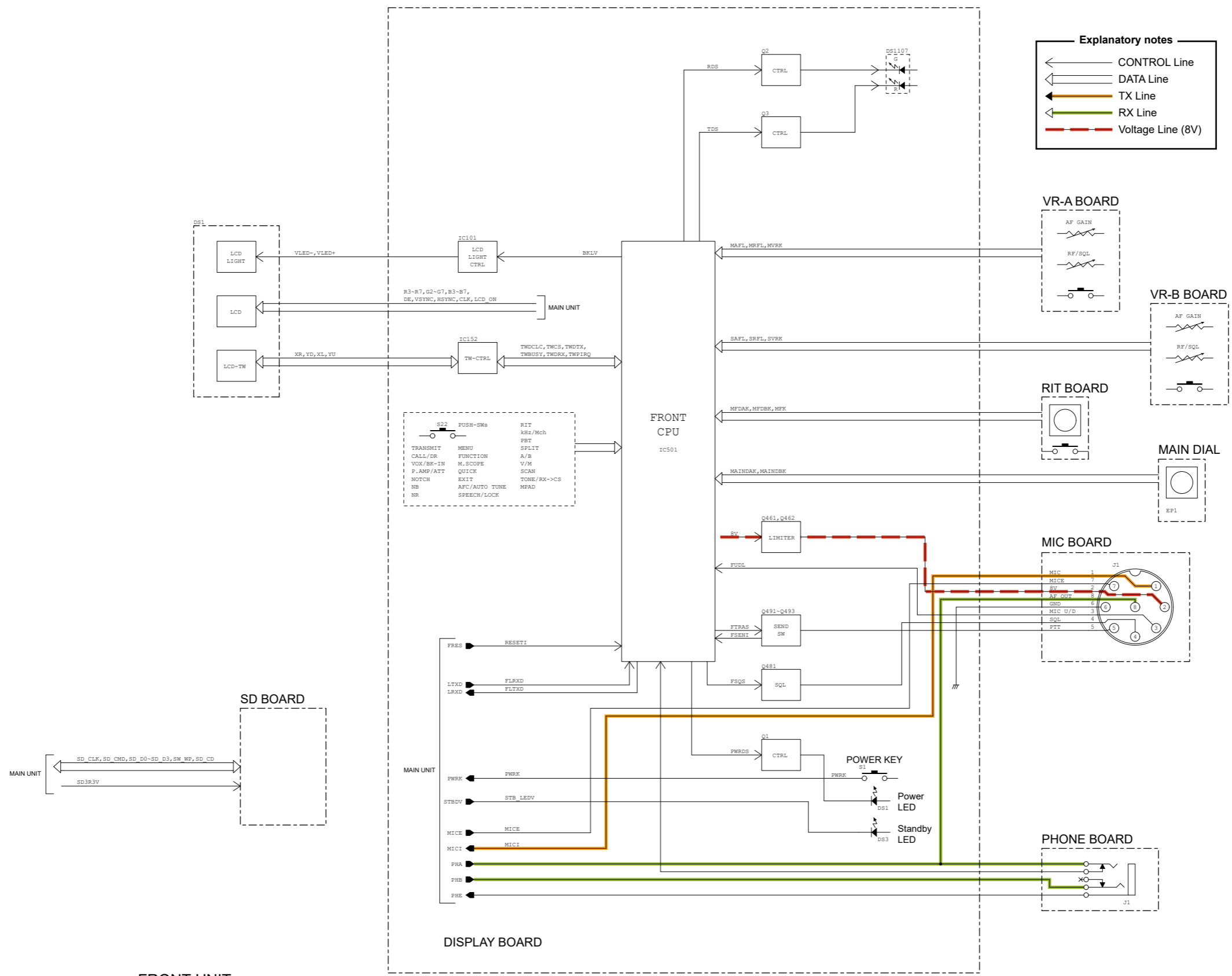
MAIN UNIT



MAIN UNIT (REG BLOCK)



MAIN UNIT (ALC BLOCK)



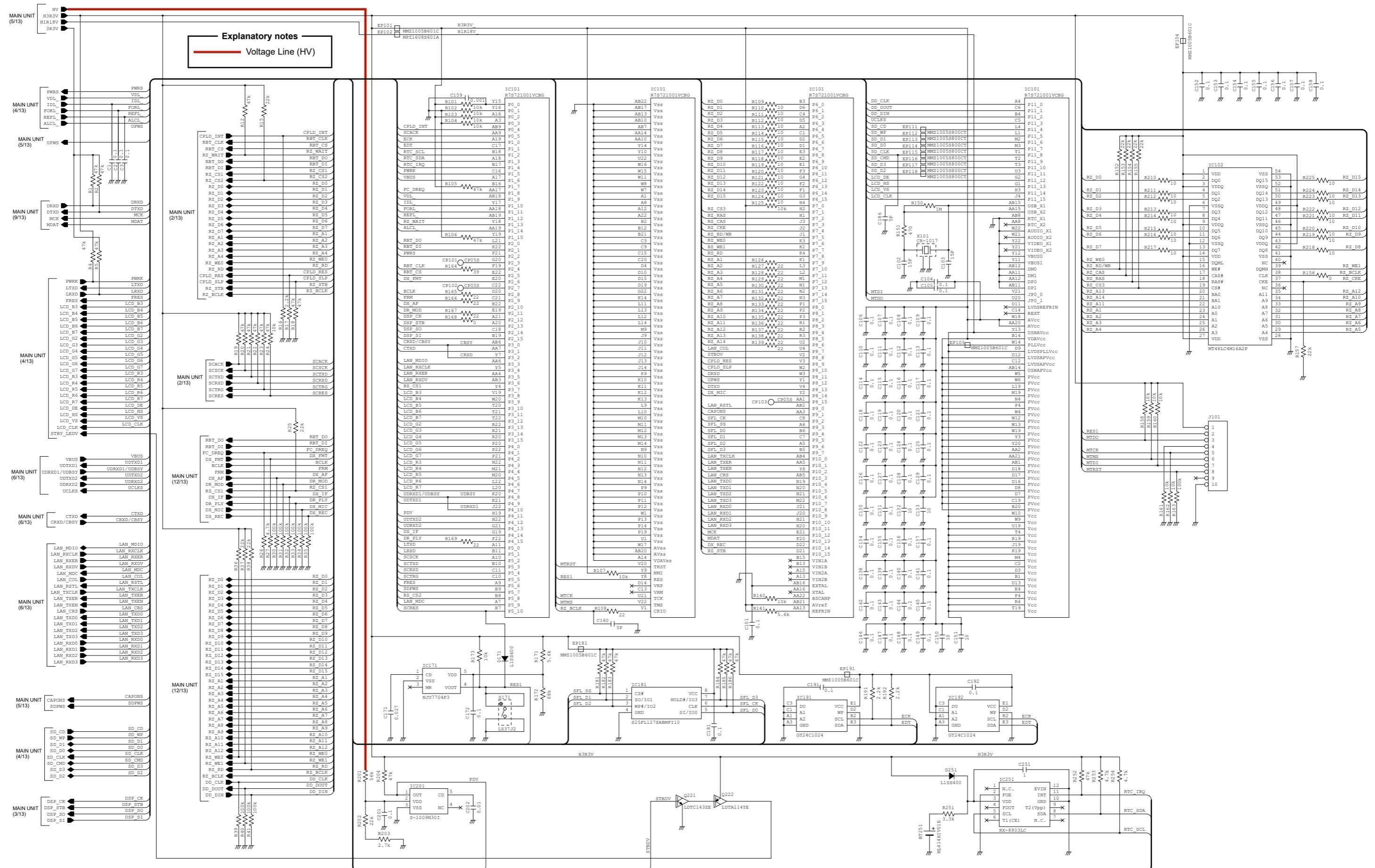
Explanatory notes

- ← CONTROL Line
- ← DATA Line
- ← TX Line
- ← RX Line
- Voltage Line (8V)

FRONT UNIT

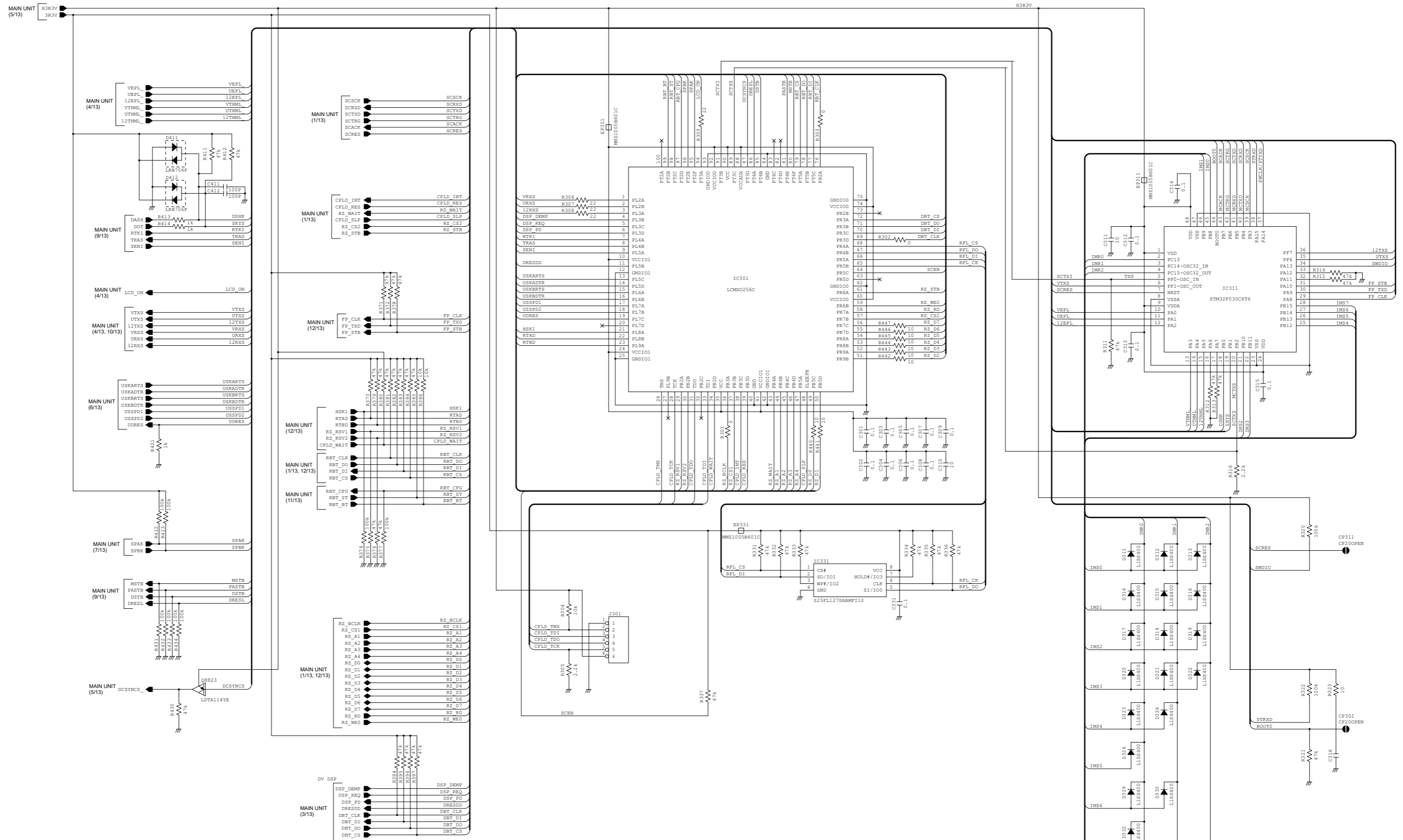
SECTION 10 SCHEMATIC DIAGRAM

• MAIN UNIT (1/13)



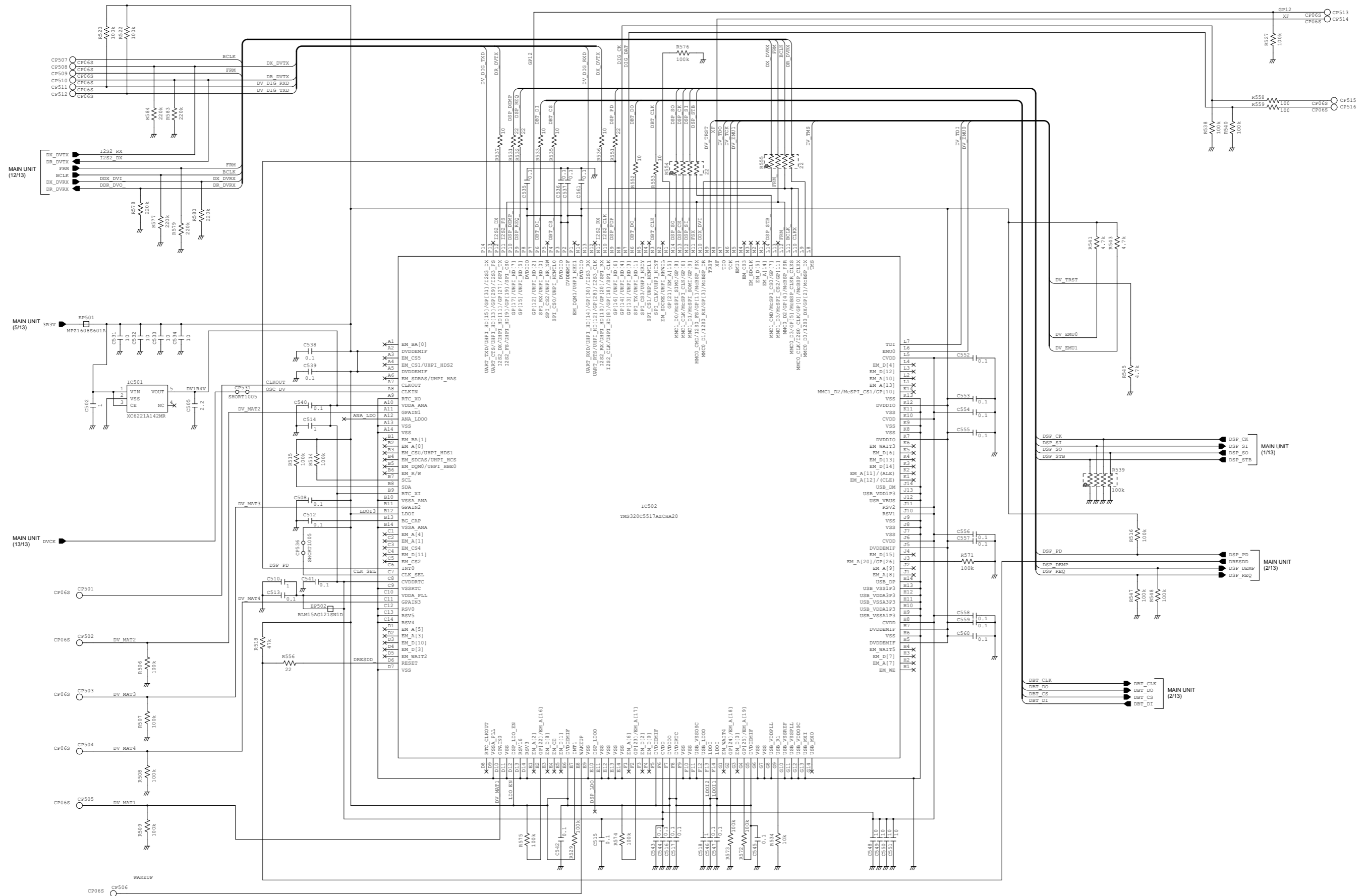
* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (2/13)



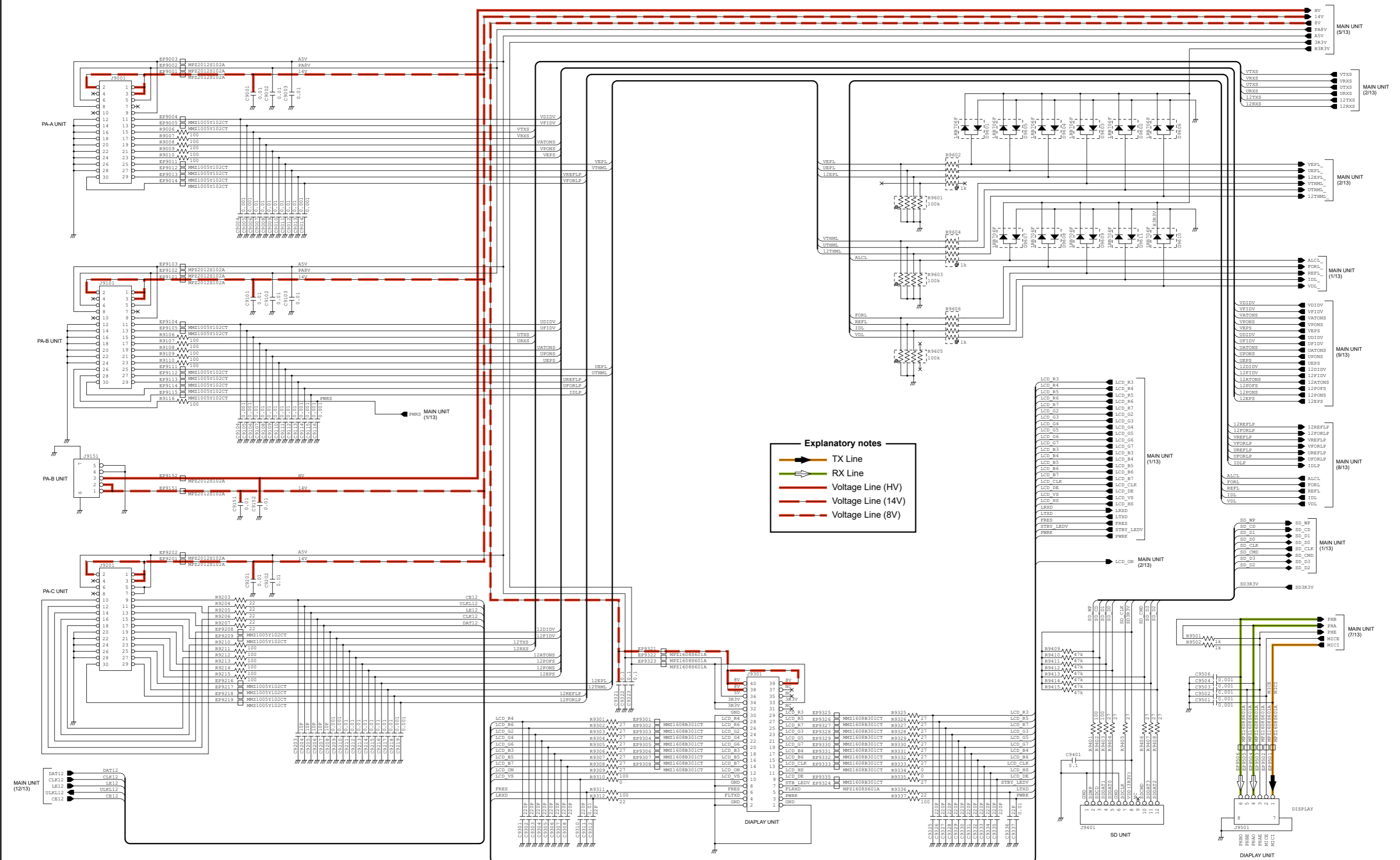
* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (3/13)



* Refer to the PARTS LIST for the value and name of component.

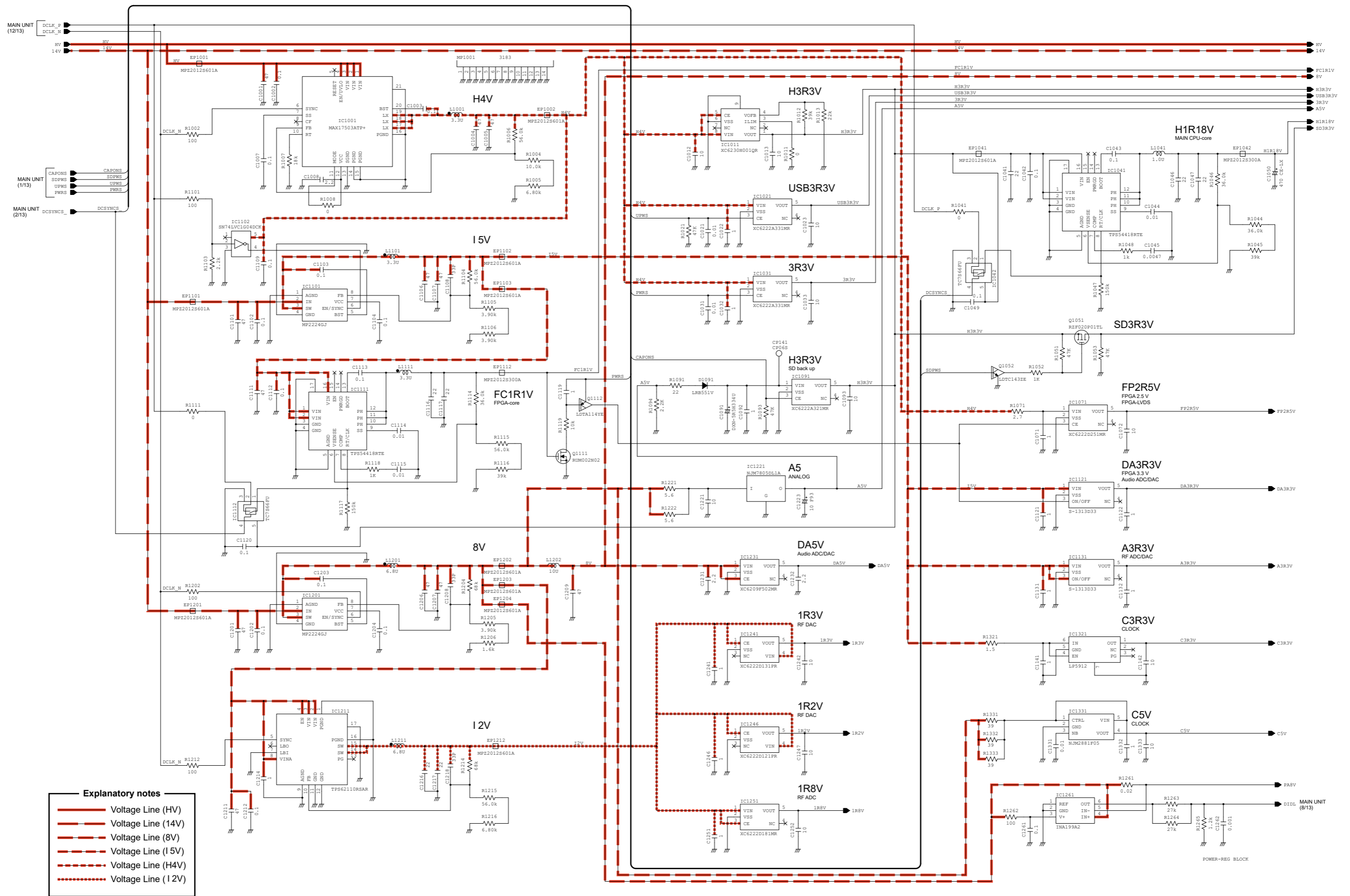
• MAIN UNIT (4/13)



CONNECT BLOCK

* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (5/13)

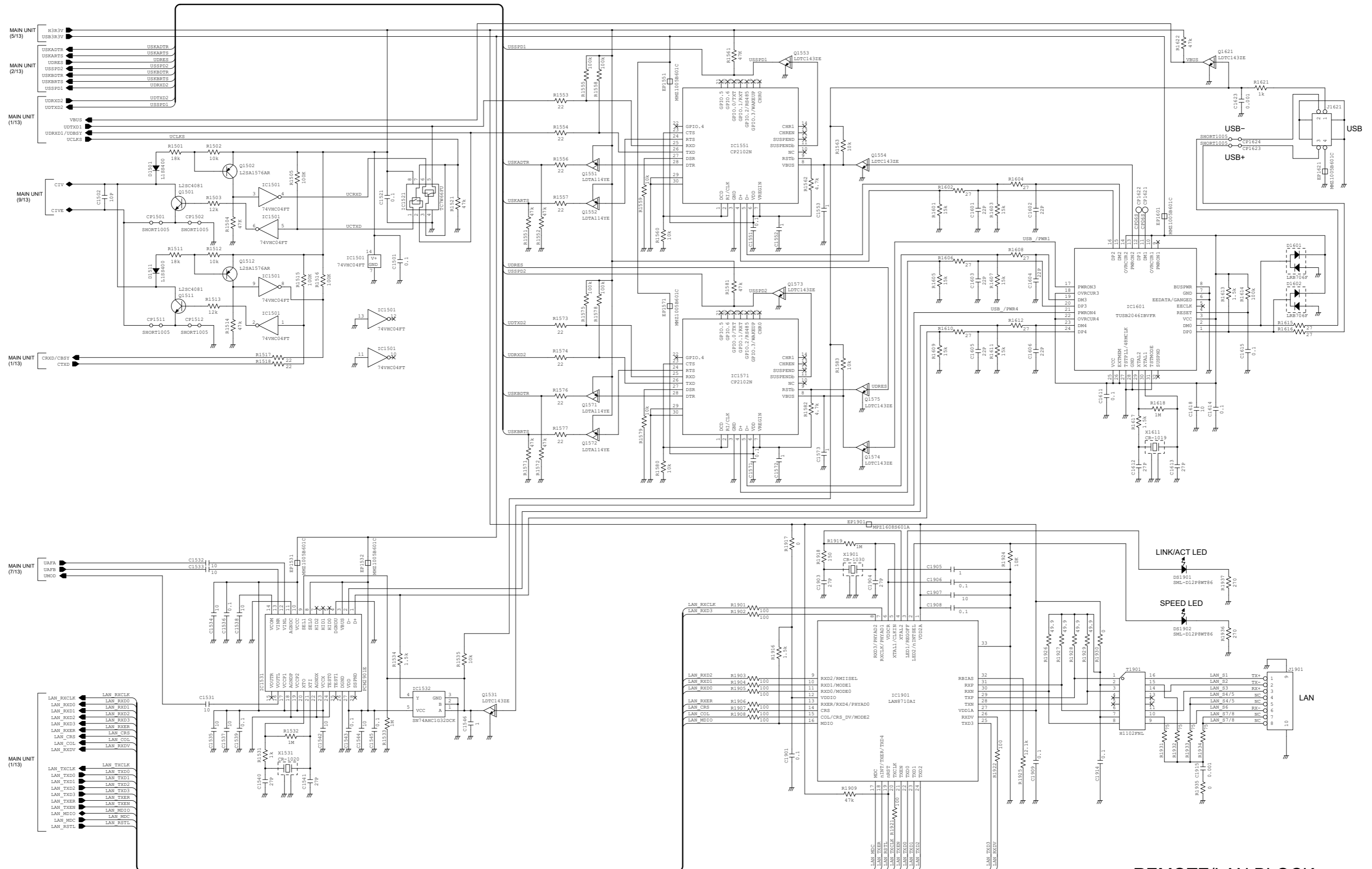


- Explanatory notes**
- Voltage Line (HV)
 - Voltage Line (14V)
 - Voltage Line (8V)
 - Voltage Line (I 5V)
 - Voltage Line (H4V)
 - Voltage Line (I 2V)

POWER-REG BLOCK

* Refer to the PARTS LIST for the value and name of component.

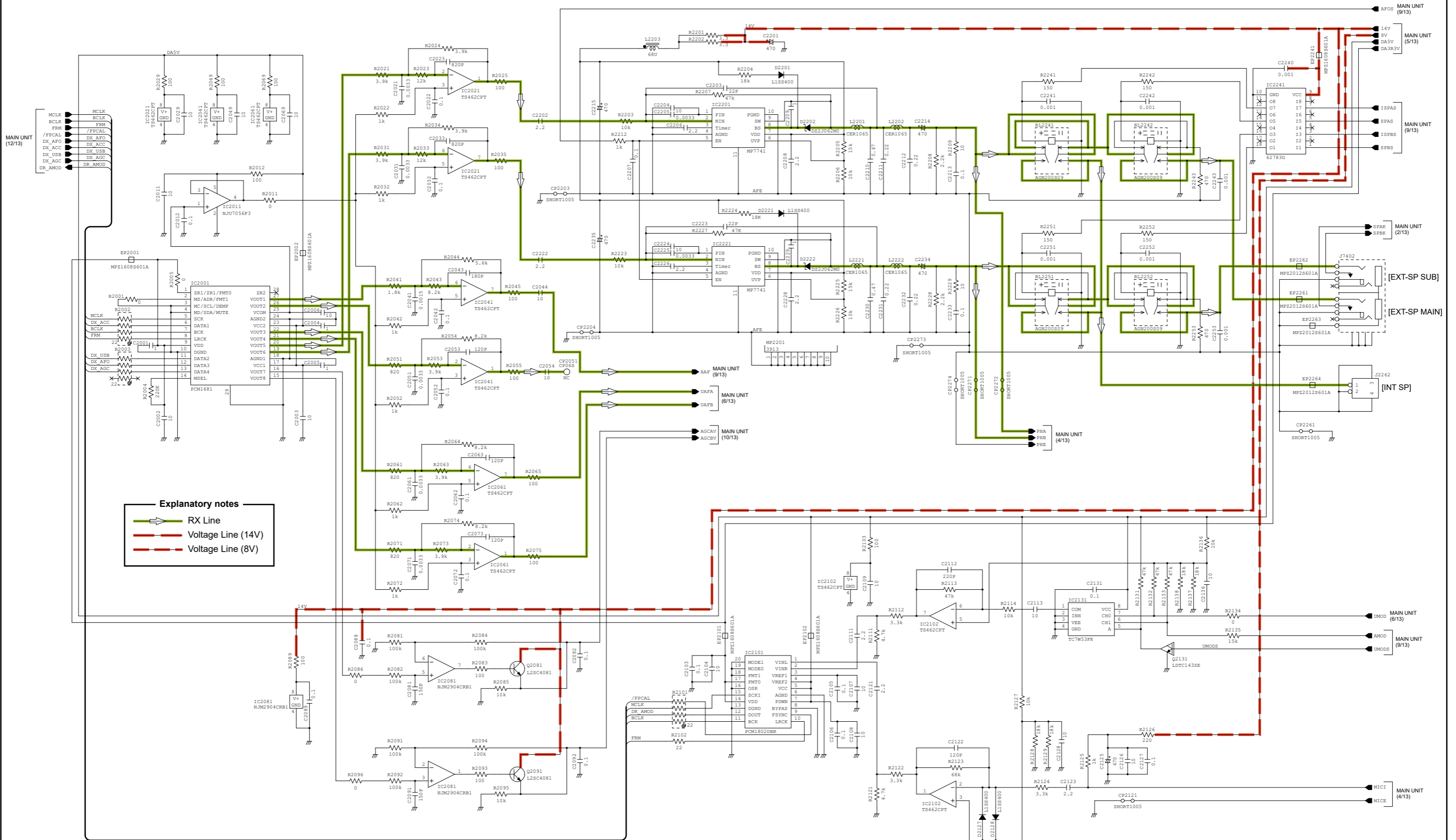
• MAIN UNIT (6/13)



REMOTE/LAN BLOCK

* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (7/13)

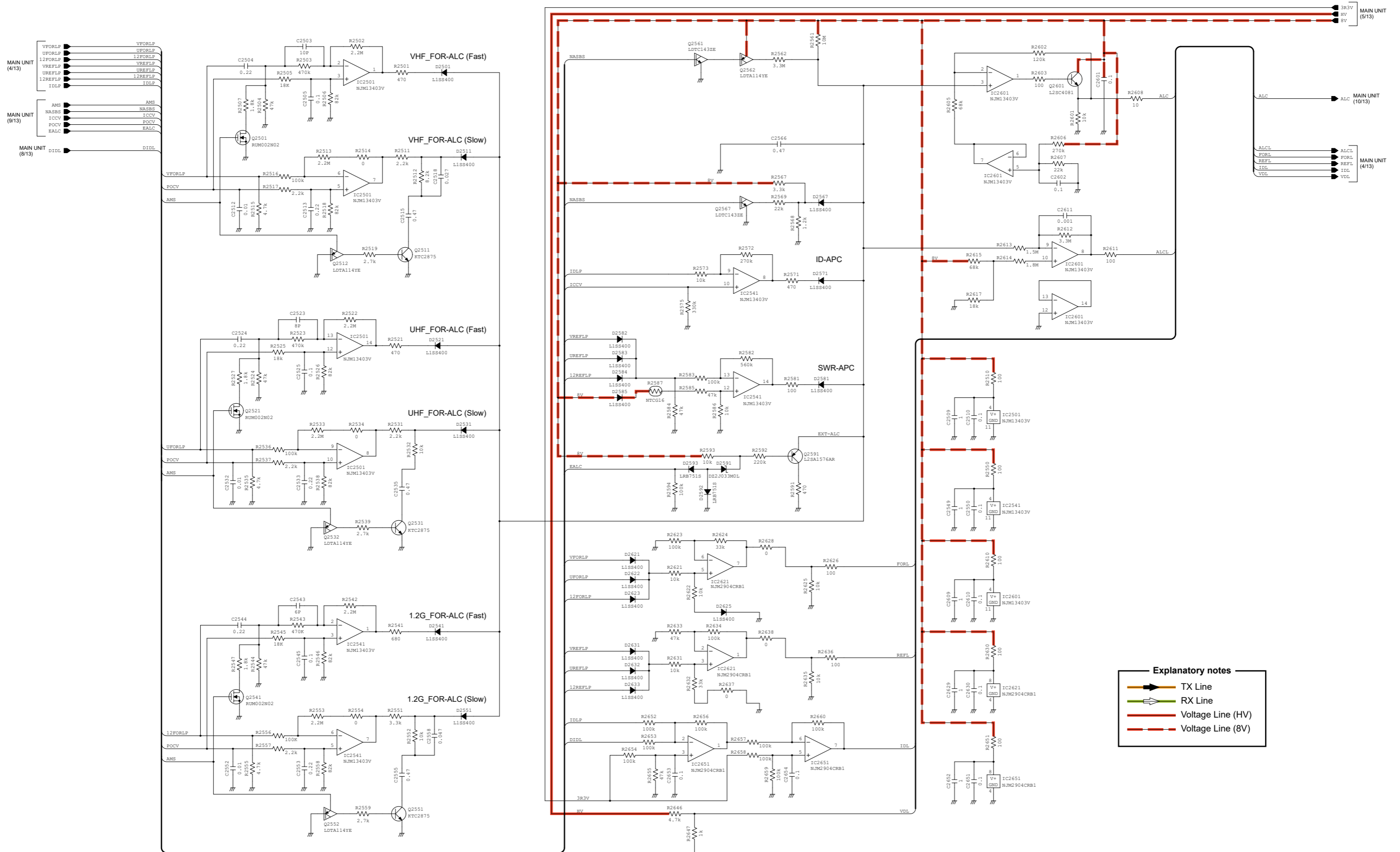


Explanatory notes

- RX Line
- - - Voltage Line (14V)
- Voltage Line (8V)

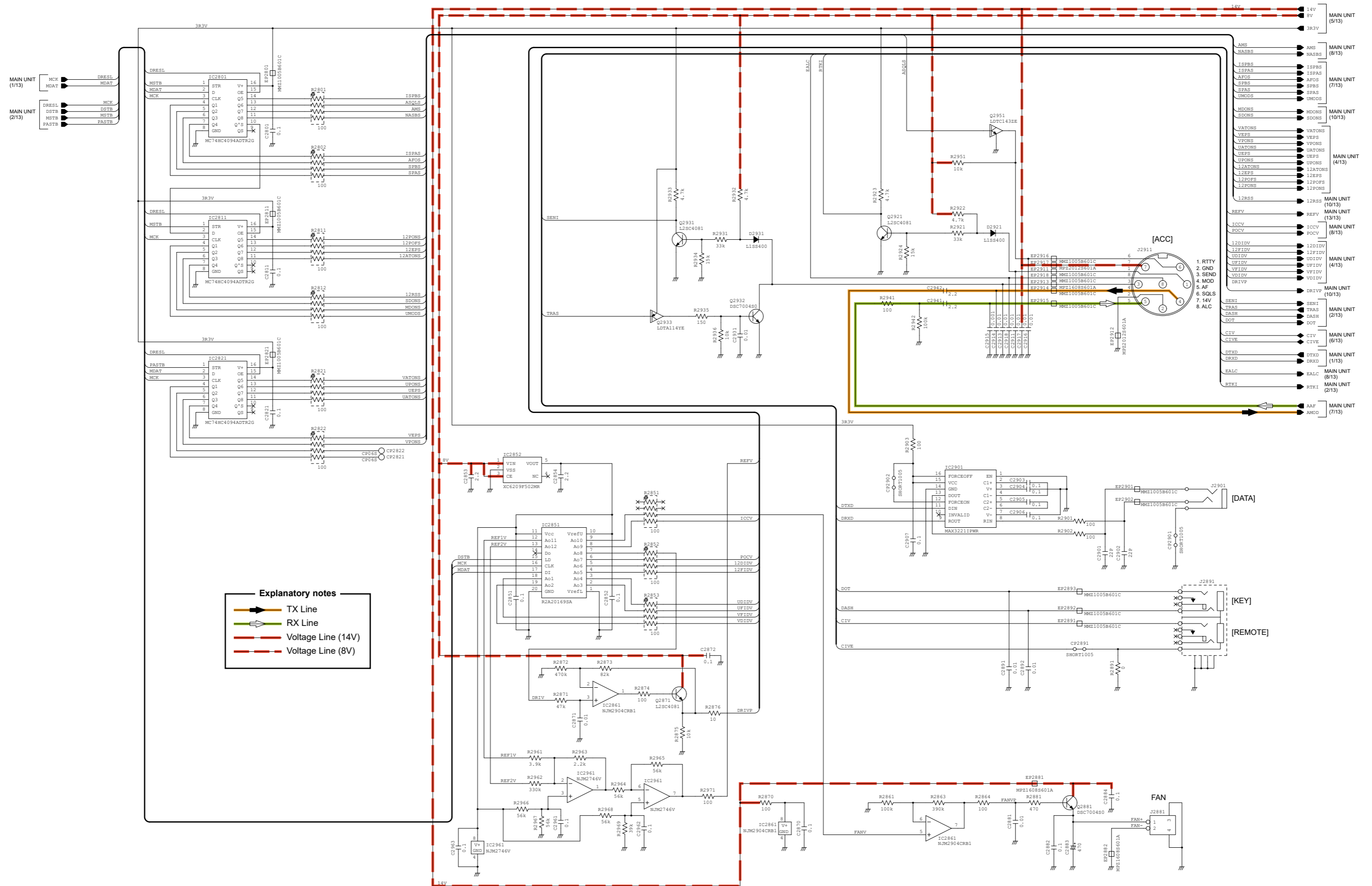
* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (8/13)



* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (9/13)

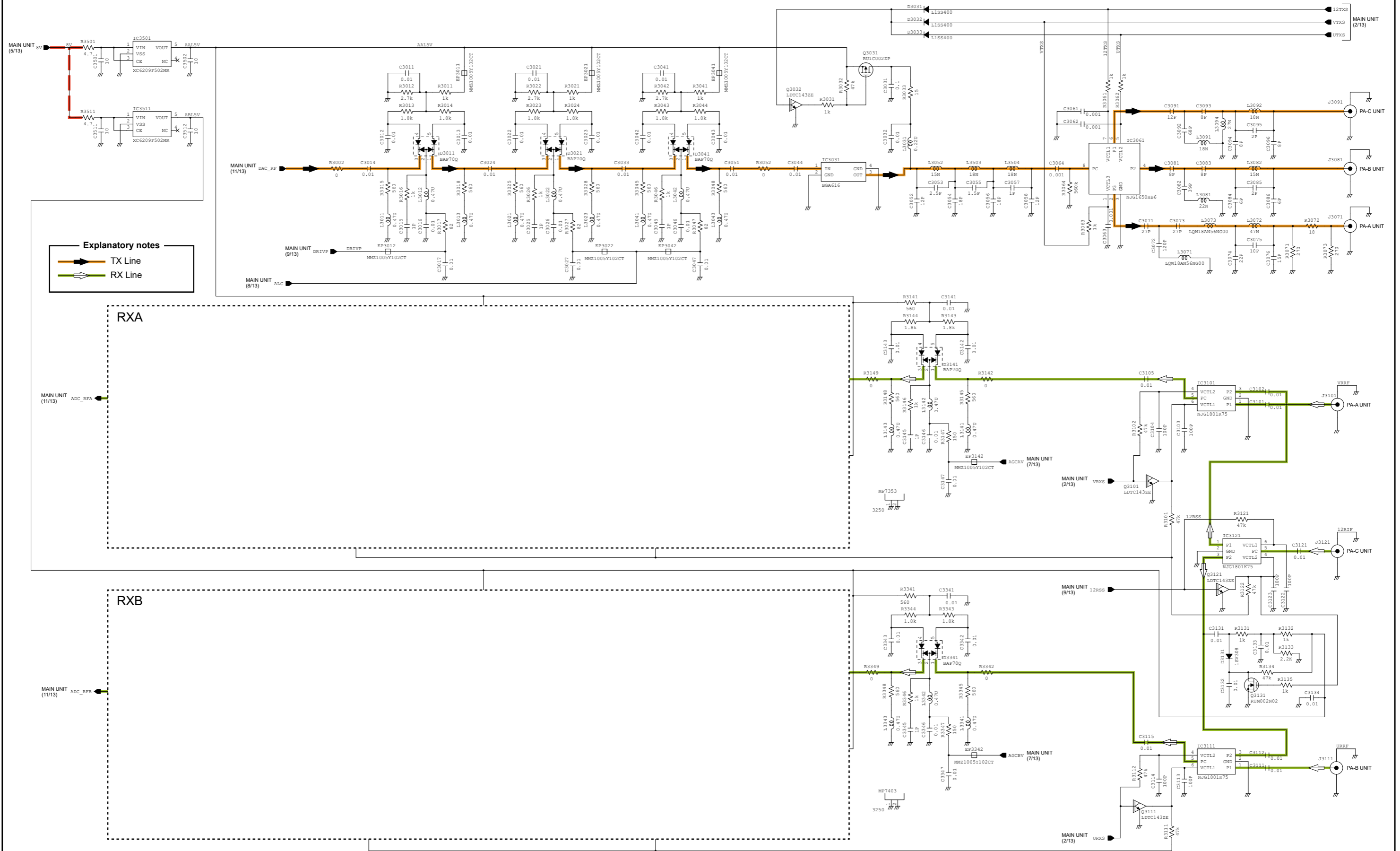


Explanatory notes

- TX Line
- ← RX Line
- Voltage Line (14V)
- - - Voltage Line (8V)

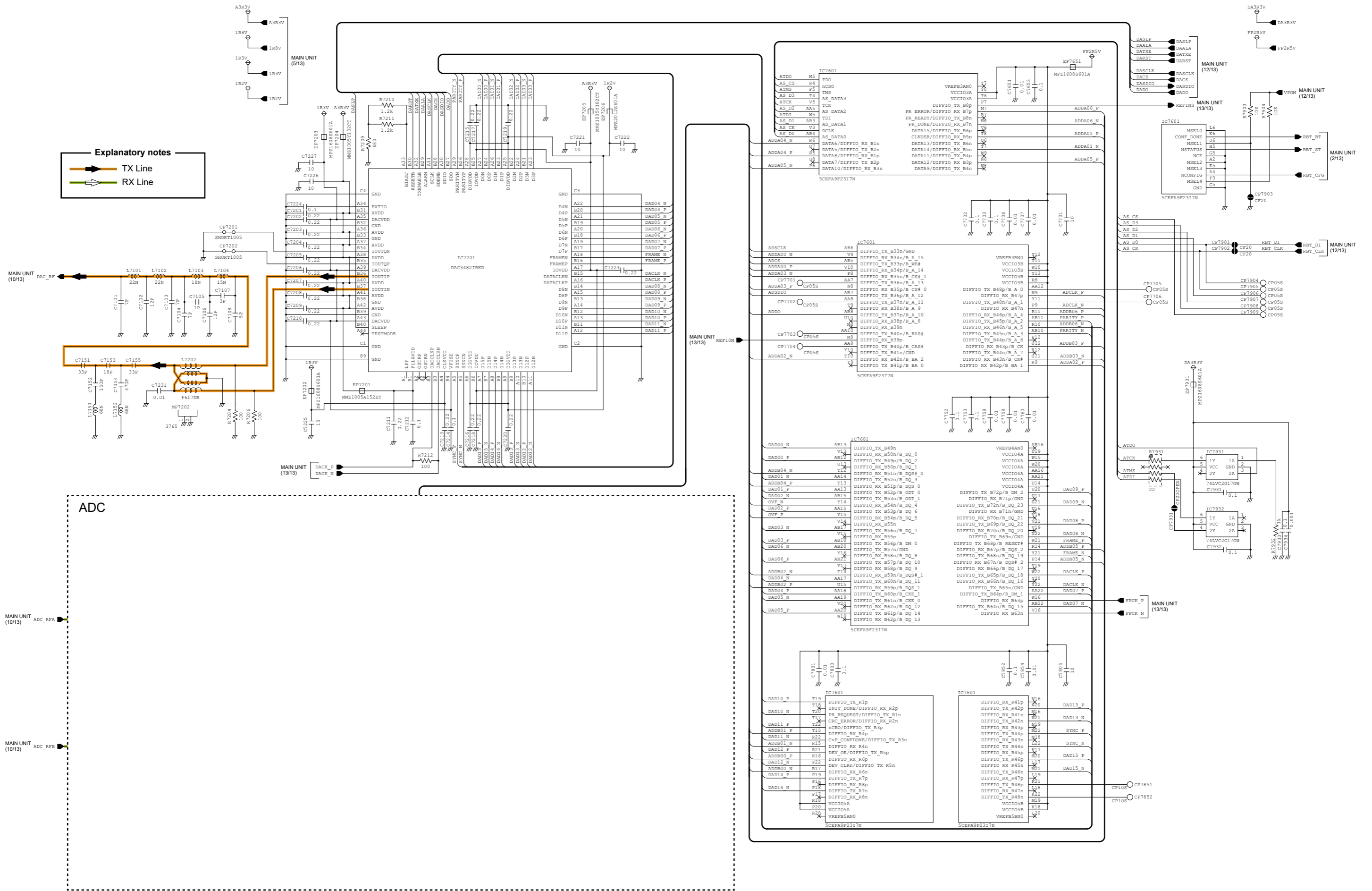
* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (10/13)



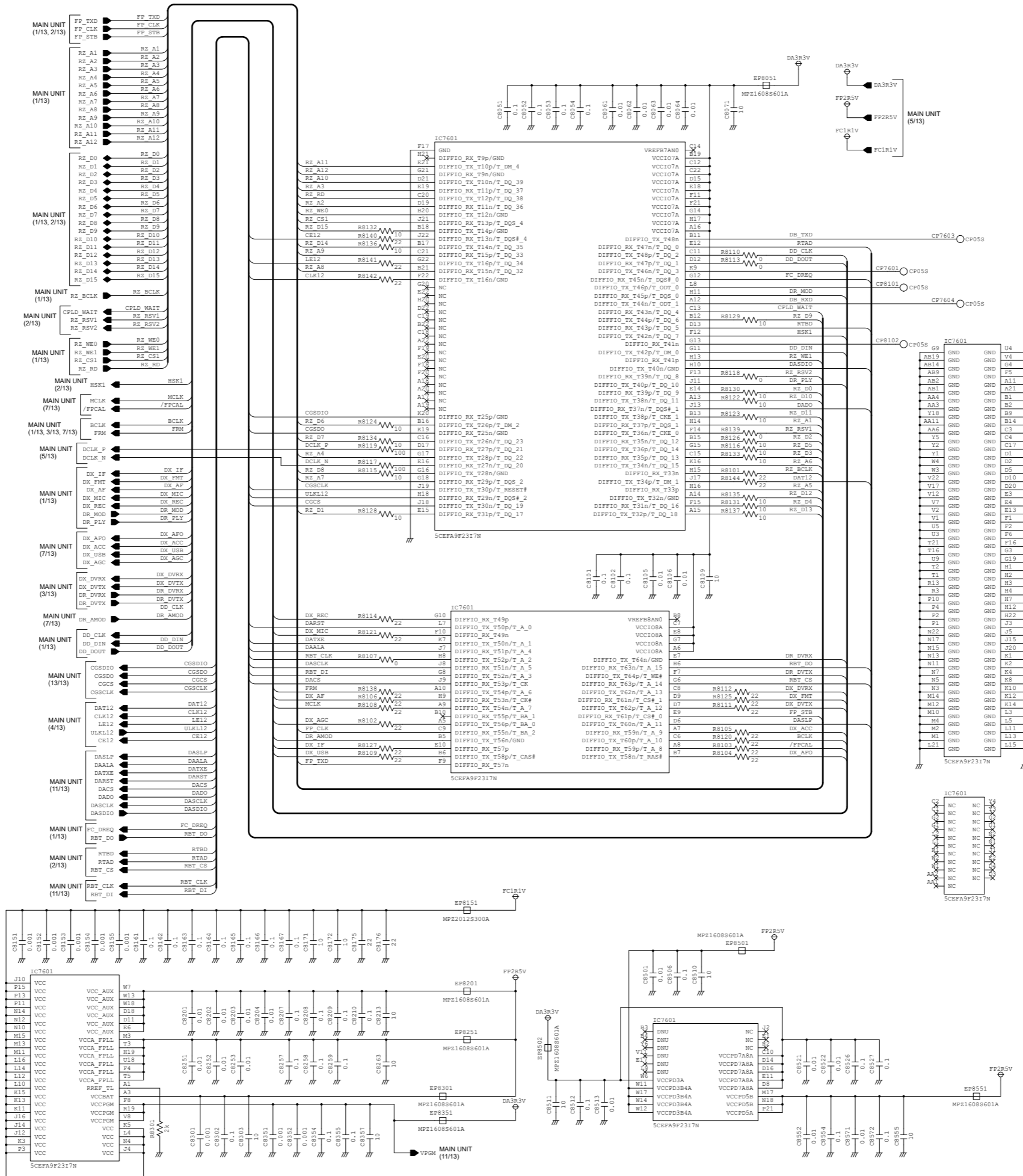
* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (11/13)



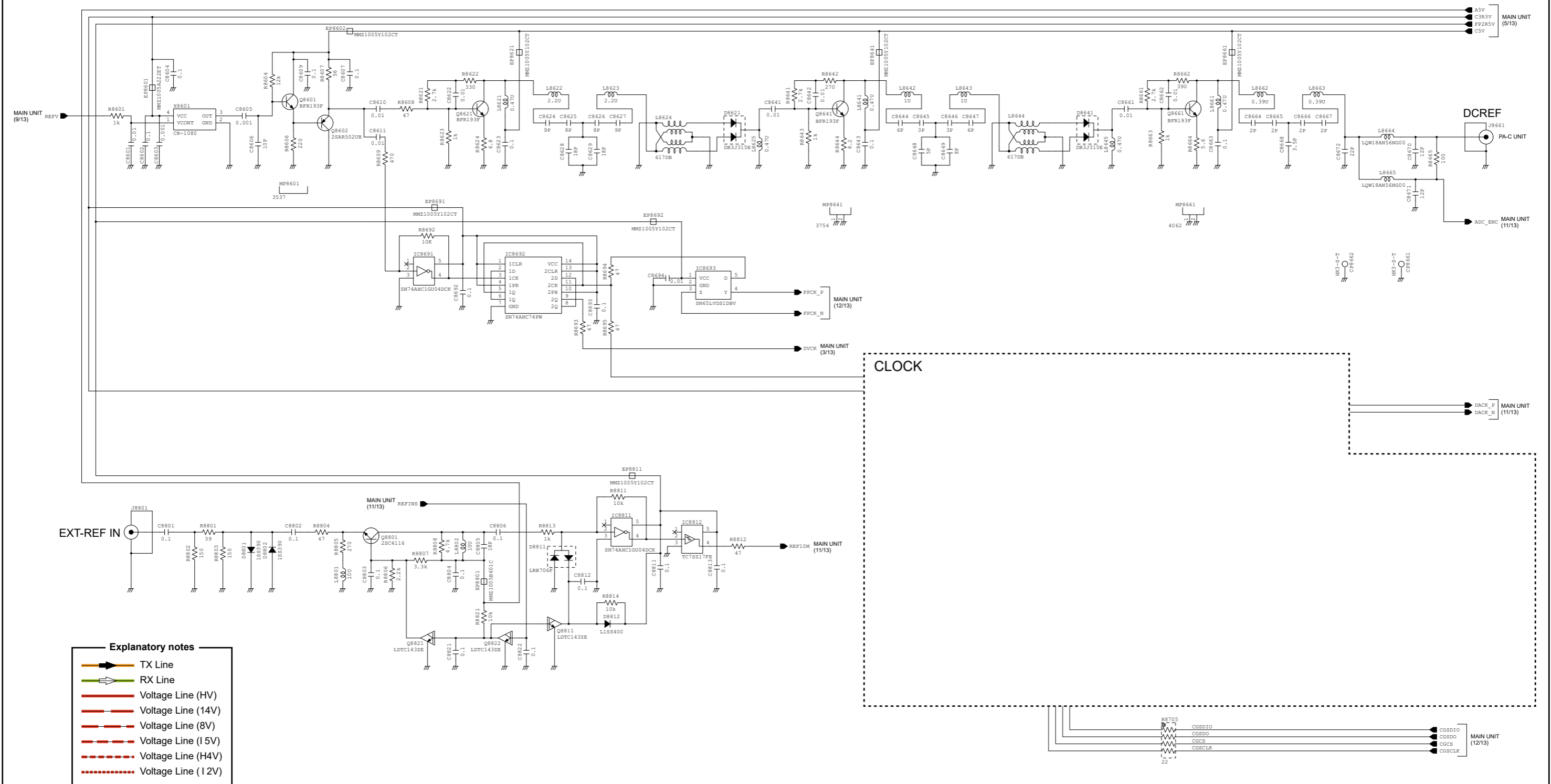
* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (12/13)



* Refer to the PARTS LIST for the value and name of component.

• MAIN UNIT (13/13)

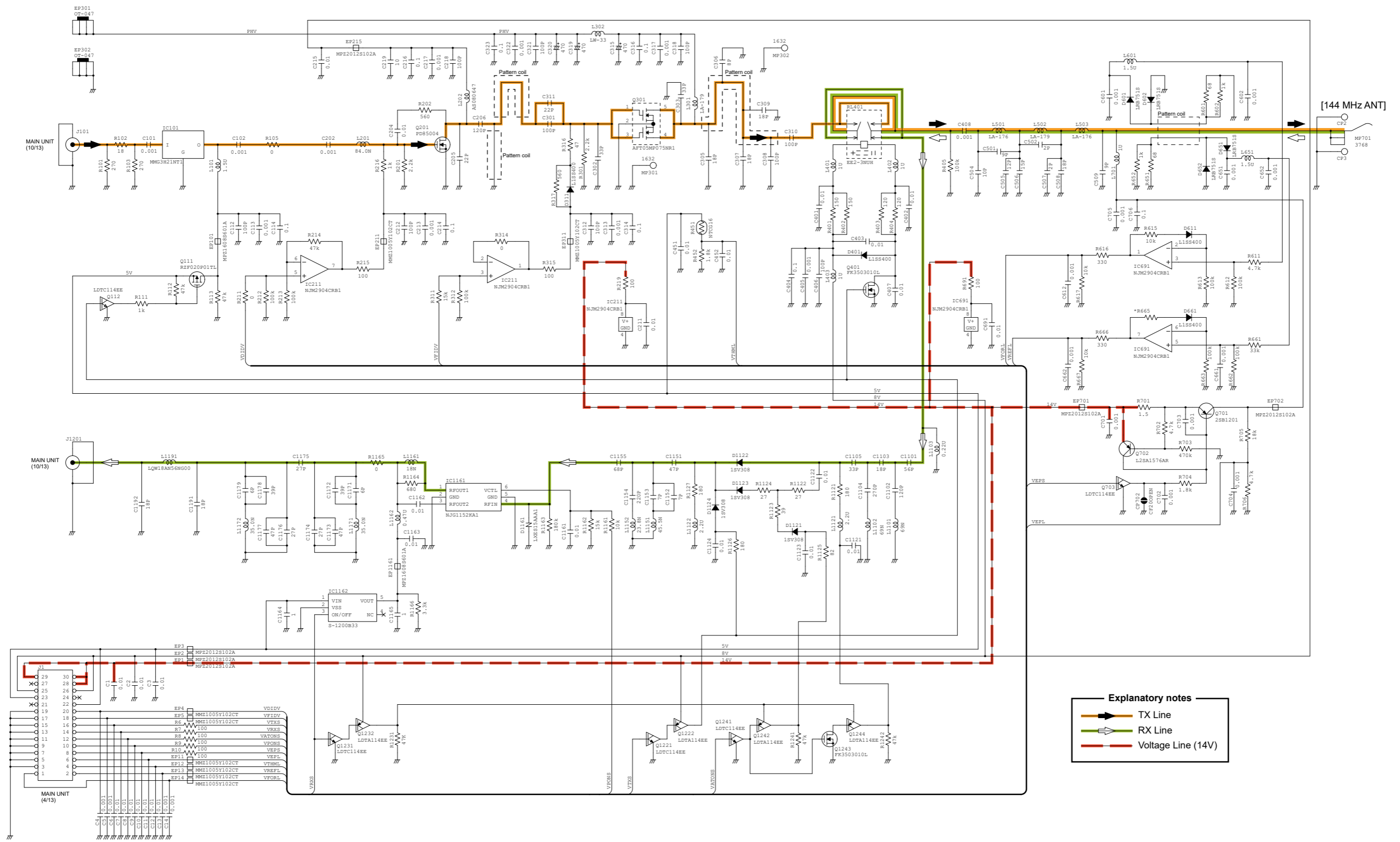


Explanatory notes

- TX Line
- RX Line
- Voltage Line (HV)
- Voltage Line (14V)
- Voltage Line (8V)
- Voltage Line (15V)
- Voltage Line (H4V)
- Voltage Line (12V)

* Refer to the PARTS LIST for the value and name of component.

• PA-A UNIT

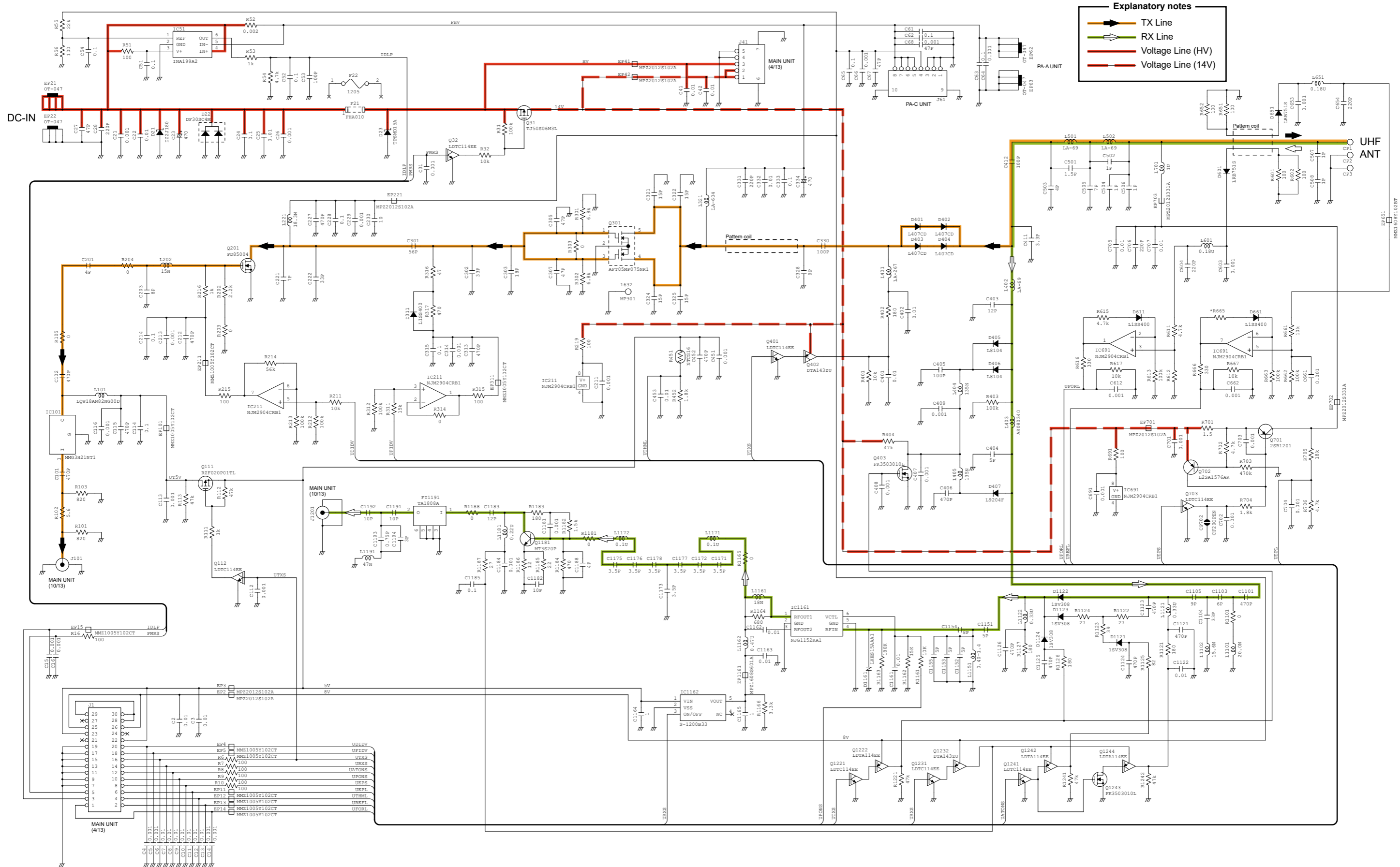


Explanatory notes

- TX Line
- RX Line
- - - Voltage Line (14V)

* Refer to the PARTS LIST for the value and name of component.

• PA-B UNIT

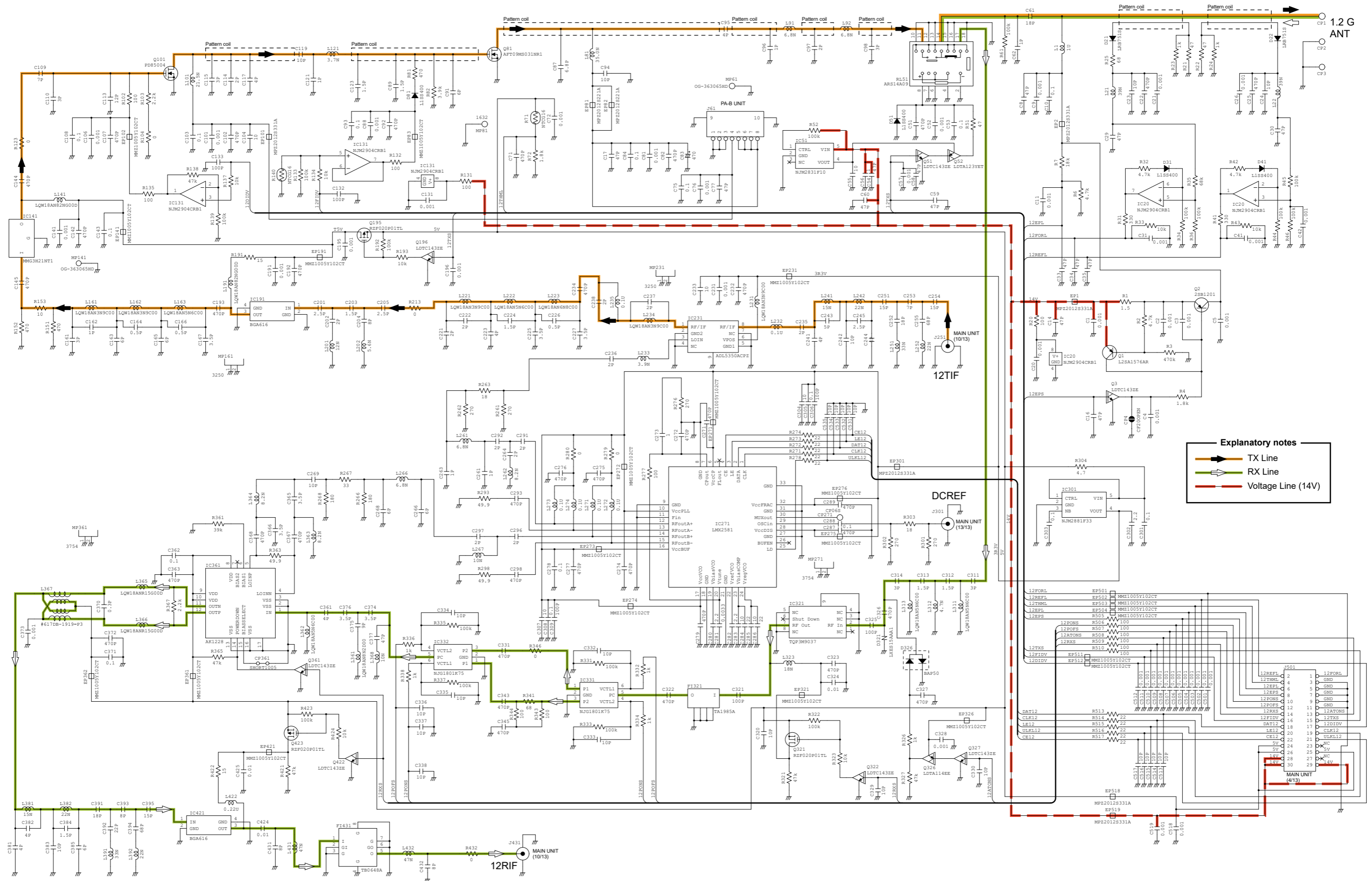


Explanatory notes

- TX Line
- RX Line
- Voltage Line (HV)
- Voltage Line (14V)

* Refer to the PARTS LIST for the value and name of component.

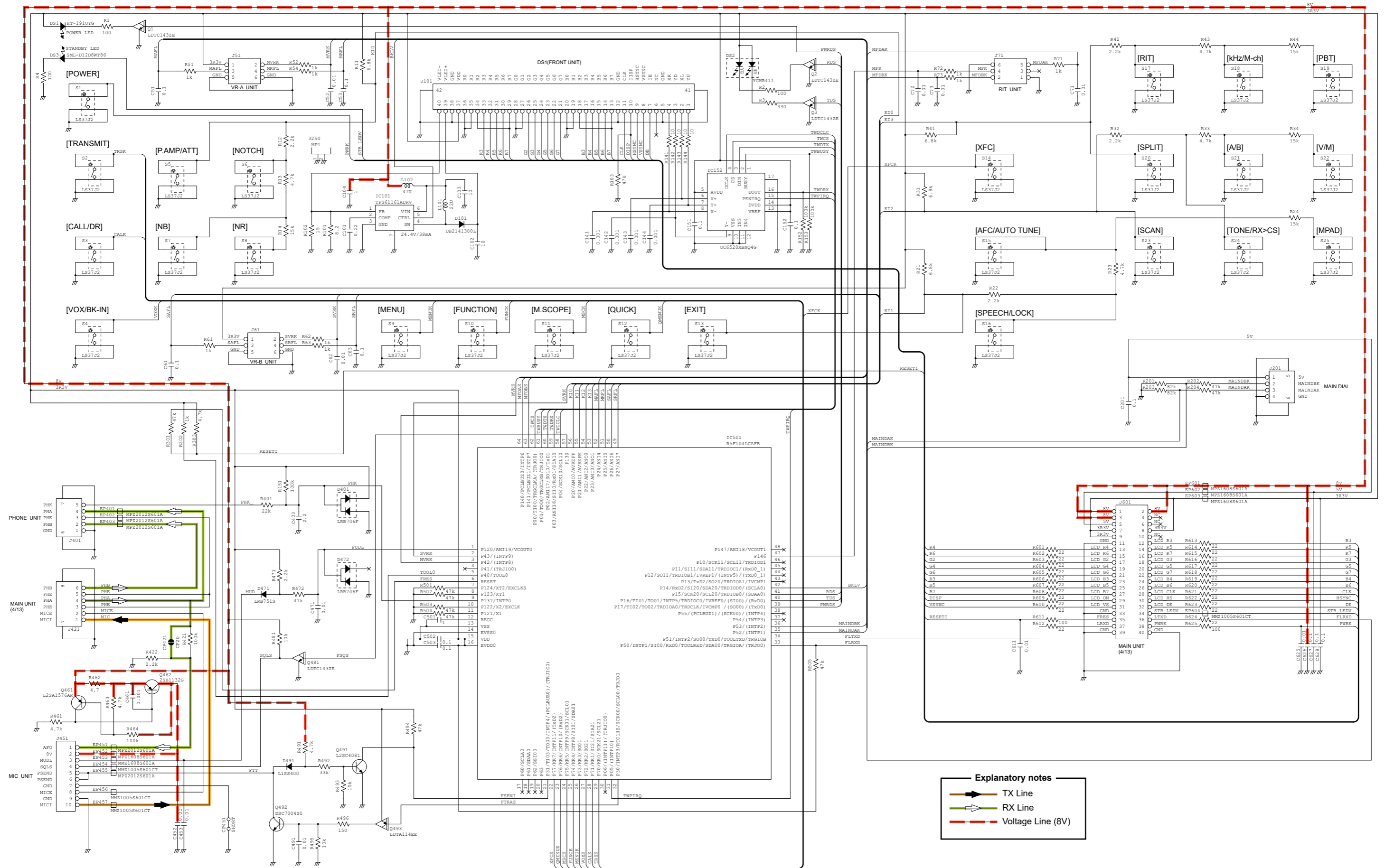
• PA-C UNIT



Explanatory notes
— TX Line
— RX Line
— Voltage Line (14V)

* Refer to the PARTS LIST for the value and name of component.

• DISPLAY UNIT

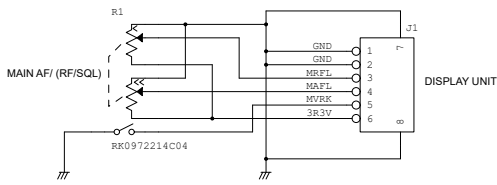


Explanatory notes

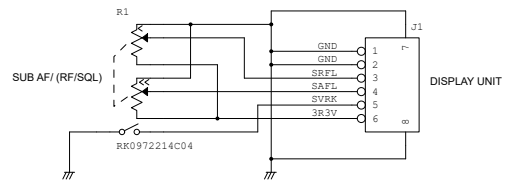
- TX Line
- ←— RX Line
- Voltage Line (8V)

* Refer to the PARTS LIST for the value and name of component.

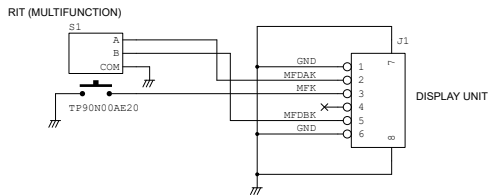
• VR-A UNIT



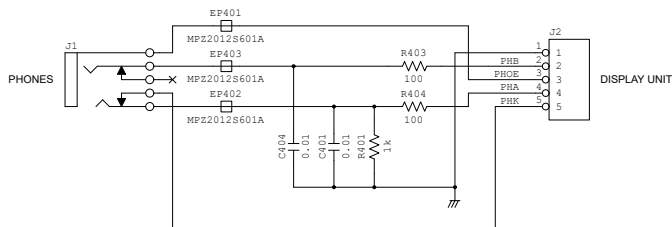
• VR-B UNIT



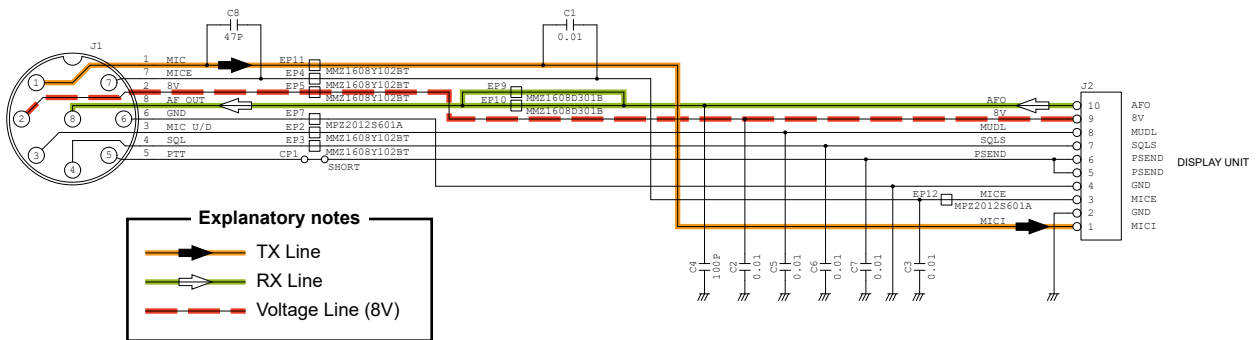
• RIT UNIT



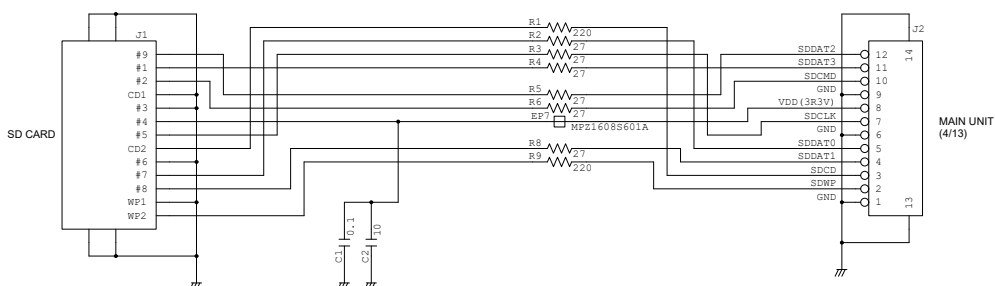
• PHONE UNIT



• MIC UNIT



• SD UNIT



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