



# VHF Land Mobile Transceiver

## VX-2000V

### Service Manual

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E095390A

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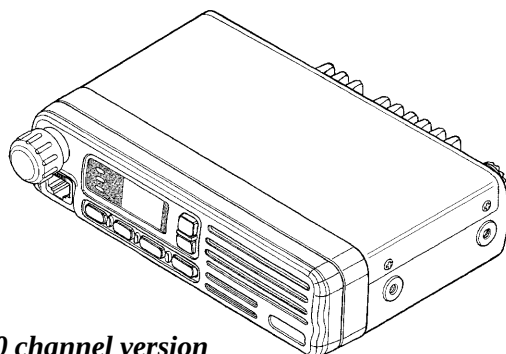
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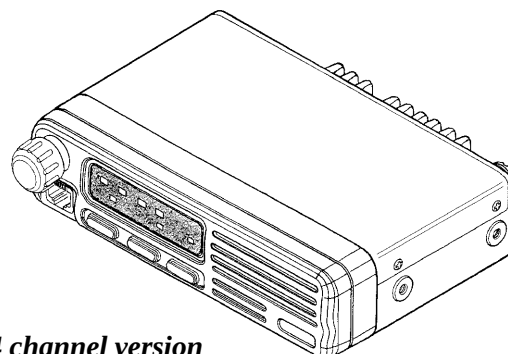
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40 channel version



4 channel version

## Introduction

This manual provides technical information necessary for servicing the VX-2000V VHF Land Mobile transceiver.

The VX-2000V is carefully designed to allow the knowledgeable operator to make nearly all adjustments required for various station conditions, modes and operator preferences simply from the controls on the panels, without opening the case of the transceiver. The VX-2000V Operating Manual describes these adjustments, plus certain internal settings.

Servicing this equipment requires expertise in handling surface mount chip components. Attempts by non-qualified persons to service this equipment may result in permanent damage not covered by warranty.

For the major circuit boards, each side of the board is identified by the type of the majority of components installed on that side.

In most cases one side has only chip components, and the other has either a mixture of both chip and lead components (trimmers, coils, electrolytic capacitors, packaged ICs, etc.), or lead components only.

While we believe the technical information in this manual is correct, Vertex Standard assumes no liability for damage that may occur as a result of typographical or other errors that may be present. Your cooperation in pointing out any inconsistencies in the technical information would be appreciated. Vertex Standard reserves the right to make changes in this transceiver and the alignment procedures, in the interest of technological improvement, without notification of the owners.

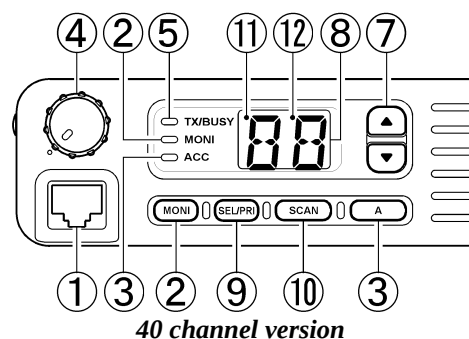
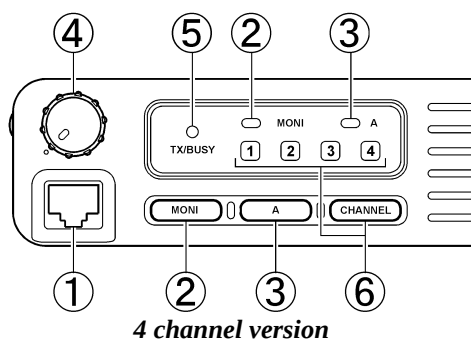
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### Board Unit (Schematics, Layouts & Parts)

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## CONTROLS & CONNECTORS



### ① Microphone Jack

Connect the microphone plug to this jack.

### ② MONI Button & Indicator

This button selects the “squelch” (receiver mute) mode. When the yellow indicator is off, “tone” or “coded” squelch is active. When the indicator glows steadily, only “noise squelch” is active, and any signal present on the channel will be heard. When the indicator is *blinking*, the squelch is disabled, and background noise will be heard if no signal is present.

### ③ A Button & Indicator

This button is provided for an ACCESSORY function such as HIGH/LOW POWER selection, “TALK-AROUND”, or “CALL ALERT” functions. The green “A” indicator will be illuminated when this function is active.

### ④ VOLUME and POWER On/Off Knob

This knob adjusts the receiver volume, and turns the radio off when turned all the way to the *left* into the click-stop.

### ⑤ TX/BUSY Indicator Lamp

This lamp *blinks* red when the channel is busy, and *glows steadily* red during transmission. Do not transmit when this indicator is blinking, as a courtesy to other users of the channel.

**The following item is unique to the 4-channel radio versions:**

### ⑥ CHANNEL Numbered Indicators & Button

Press the **CHANNEL** button to select the operating channel; the channel number currently in use will light up on the display panel.

**The following items are unique to the 40-channel radio versions:**

### ⑦ CHANNEL Selector Buttons (▲) and (▼)

Push one of these keys to select the operating channel, as shown on the display.

### ⑧ Numeric Channel Display

This display area shows the channel number and priority-channel/scan status.

### ⑨ SEL/PRI Button

This button is used to select a channel for “Priority” monitoring, and is used together with the **SCAN** button to select the desired scanning mode.

### ⑩ SCAN Button

This button is used to activate scanning, to select or remove channels on the scanning list, and (together with the **SEL/PRI** button) to select scanning mode.

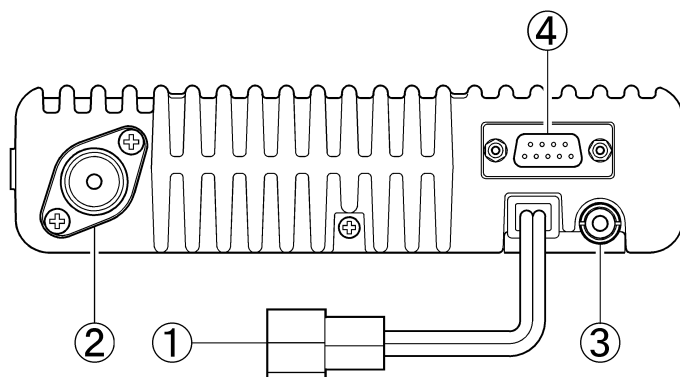
### P Indicator

⑪ This small dot indicates Priority Channel status (described later).

### E Indicator

⑫ This small dot indicates Scanning on/off status (described later).

## REAR (Heatsink)



① **13.6V DC Cable Pigtail w/Connector**

The supplied DC power cable must be affixed to this 2-pin connector.

② **Antenna Socket**

The 50-ohm coaxial feedline to the antenna must be connected here, using a “UHF” type (PL-259) plug.

③ **External Speaker Jack**

An external loudspeaker may be connected to this 2-contact, 3.5-mm miniature phone jack.

④ **DSUB 9-Pin Data Connector**

External Transmit Audio input, **PTT (Push To Talk)**, Squelch, and Receive Audio output signals may be obtained from this connector for use with accessories such as a data transmission/reception modem, etc.

OPERATION

Power On/Off

Turn the **VOLUME/POWER** knob clockwise to turn on the radio. The active display and channel indicators will become illuminated, indicating the status of the radio. The channel indicated will be the same one on which you were operating when the radio was last turned off.

Setting the Channel

*In 4-channel versions*, press the **CHANNEL** button to change channels.

*In 40-channel versions*, the display will show either a channel number or a Scan Mode indicator (**Sc**, **Ur**, **SP** or **UP**). If a Scan Mode indicator is displayed, press the **SCAN** button momentarily so that a channel number is displayed; then press either the **UP** (**▲**) or **DOWN** (**▼**) button to change channels.

Setting the Volume

Rotate the **VOLUME/POWER** knob clockwise to increase the volume level. If no signal is present on which to adjust the volume level, push and hold in the **MONI** button for two seconds; the yellow “**MONI**” indicator will blink, and either background noise or a voice signal will be heard. You may now adjust the **VOLUME/POWER** knob for a comfortable listening level. When you are done, press the **MONI** button momentarily to return to silent monitoring.

Transmitting

To transmit, wait until the “**TX/BUSY**” indicator is off (this indicates that the channel is not in use). Then press the **PTT** (Push-To-Talk) switch on the side of the microphone; while holding in the **PTT** switch, speak in a normal voice level across the face of the microphone. During transmission, the red “**TX/BUSY**” indicator will glow steadily. When you are done transmitting, release the **PTT** switch; the VX-2000 will revert to the “receive” mode.

*The remaining instructions apply to 40-channel transceiver versions only*

Special Transmitter Functions

If your VX-2000 is programmed for *Busy Channel Lock-Out*, the transmitter will not activate when the **PTT** switch is pressed unless the “**TX/BUSY**” indicator is *off* (so as to prevent interference to other users of the same channel).  
If the selected channel has been programmed for *Automatic Time-Out*, you must limit the length of your transmissions. While transmitting with this feature activated, a “beep” will sound ten seconds before the timer expires, and then another “beep” sound as the timer expires: the “**TX/BUSY**” indicator will shut off, and transmission will cease. Release the **PTT** switch, listen for a moment, then press **PTT** again to resume transmission. This feature prevents interference to other users caused by a microphone which accidentally is stuck in the “transmit” position (wedged between seats of a car, etc.).

Scanning

To activate scanning on your radio, first place the microphone in its hanger. Now press the **SCAN** button momentarily. The radio will scan in one of four available Scan Modes (detailed below), and will halt when a signal is received which contains the correct code to open your squelch. Scanning will resume automatically either after a preset interval of a few seconds, or after the other station stops transmitting (depending on how your radio was programmed).

The four Scan Modes, and their corresponding displays, are:

| Display   | Scanning function                                                   |
|-----------|---------------------------------------------------------------------|
| <b>Sc</b> | Scan all channels                                                   |
| <b>Ur</b> | Scan only user-selected channels                                    |
| <b>SP</b> | Monitor one channel plus dealer-designated Priority Channel(s)      |
| <b>UP</b> | Scan user-selected channels plus uer-designated Priority Channel(s) |

The user-selected channels for the **Ur** and **UP** Scan Modes are ones you can set up yourself, as described at the right. The “Priority” channels are those on which signals will take priority over signals received on other channels; that is, if a signal appears on a Priority Channel while another appears on a non-priority channel, the Priority Channel signal will be heard, and not the other.

Up to two of the installed channels may be designated by your Dealer as pre-programmed Priority Channels for the **SP** mode (the radio will not indicate which they are), and you can additionally program any two channels as “User Priorities” for the **UP** mode. In the **SP** mode, the non-priority channel will be the last one displayed.

When a Scan Mode is displayed, you can select another by pressing the **SEL/PRI** button repeatedly (the display will cycle through the above selections). Note that the radio will not scan if the microphone is not in its hanger.



## USER PROGRAMMABLE CHANNEL SELECTIONS

You can program a list of channels to be scanned, and up to two channels to be monitored on a “priority” basis. Your selections will be maintained in memory until you change or delete them.

Setting of these channels involves two small “Dot” indicators at the top of the channel display field. The Dot to the left of the first *digit* is the “**P**” (Priority) indicator, while the Dot to the left of the *second* digit is the “**E**” (Enable for Scanning) indicator.

To create or modify the Scan and Priority selections, first turn the radio off. Now press and hold in the **SCAN** button while you turn the transceiver back on; continue to hold the **SCAN** button in for two seconds after the radio has come on, then you may release it.

Now press the **UP** (▲) or **DOWN** (▼) button repeatedly, and note whether or not the “**E**” (right dot) or “**P**” (left) dots appear on any of your channels. If a dot appears by any channel, it means that it has been designated as either a Scan-Enabled or Priority channel, respectively.

To enable or disable a channel from the User Scan list, press the **SEL/PRI** button *momentarily*. The “**E**” dot will appear or disappear, as appropriate.

To change the Priority Channels, first cancel *both* by selecting *either*, and then pressing the **SEL/PRI** button momentarily. Now select the channel you wish to designate as the 1st Priority Chan-

nel, and *hold in* the **SEL/PRI** button for 2 seconds, until a beep sounds and the “**P**” indicator *blinks*. If you wish to designate a 2nd Priority Channel, move to that channel, and again hold in the **SEL/PRI** button for 2 seconds; this time, the “**P**” indicator will glow, but will not blink.

If you have deleted a channel from Priority status, you must re-enable it for *scanning* if you want it to be included on your Scan List. Press the **SEL/PRI** button momentarily to do this.

### Coded Squelch - the MONI Button

Your transceiver may be programmed so that when the microphone is removed from its hanger, coded squelch is defeated, and you can hear any signal on the channel (the yellow “**MONI**” indicator will be lit). You can get the same result, without lifting the microphone, by pressing the **MONI** button momentarily. To avoid listening to unnecessary chatter, keep the microphone in its hanger, and press the **MONI** button when necessary to turn the yellow indicator off (unless you want to listen to other calls on the channel).

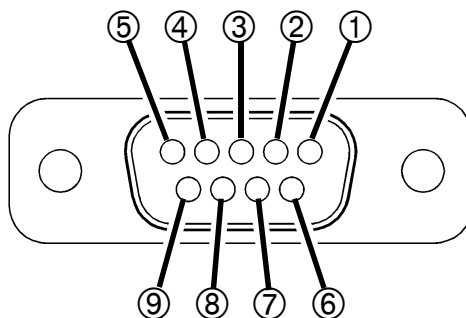
Holding the **MONI** button in for two seconds defeats both the coded squelch and noise squelch, so background noise can be heard (the “**MONI**” indicator will blink in this case). Press the **MONI** button momentarily to return the yellow indicator to its previous state (either off or steadily on).

## OPTIONAL ACCESSORIES

|                 |                                                    |
|-----------------|----------------------------------------------------|
| <b>CE-20</b>    | Programming Software (for IBM PC/compatibles only) |
| <b>VPL-1</b>    | Programming Cable                                  |
| <b>T9101411</b> | Radio-to-Radio Cloning Connection Cable            |
| <b>FP-1025A</b> | Heavy-Duty (20A) AC Power Supply                   |
| <b>MD-11A8J</b> | Desktop Microphone                                 |
| <b>MH-600D</b>  | DTMF Back-lit Microphone w/Autodial                |
| <b>MLS-100</b>  | External Loudspeaker                               |
| <b>LF-1</b>     | DC Line Filter                                     |
| <b>VTM-20</b>   | VX-Trunk II Trunking Mobile Logic Board            |
| <b>F2D-4A/B</b> | 2-Tone Decoder Unit                                |
| <b>FTE-18</b>   | ANI Unit                                           |

# Operating Manual Reprint

## J1003 DSUB 9-Pin Data Connector Pin Assignment



① **SQ:** Squelch Signal Output

Carrier In: Active High (5 V / 47 k $\Omega$ )

② **RX\_AUD\_OUT:** Received Audio Output (Two choices available)

②-1 De-Emphasized Audio Output: 100 mV / 10 k $\Omega$

This output level's default state is fixed at the factory by having no jumper at JP1003 and soldering the jumper at JP1002 on the MAIN Unit.

②-2 Flat / Unmuted Audio Output: 250 mV / 10 k $\Omega$

(Unsolder the jumper at JP1002 and solder a jumper at JP1003 on the MAIN Unit to activate ②-2)

③ **EXT\_MIC:** External MIC Audio Input (Two choices available)

③-1 Pre-Emphasized / IDC / Splatter Filtered Audio Input: 2.5 mV / 600  $\Omega$

This input is fixed at the factory by attaching capacitor C1254 across JP1005 and soldering a jumper at JP1004 on the MAIN Unit.

③-2 Flat (Non-Pre-Emphasized) Audio Input: 650 mV / 10 k $\Omega$   
(Remove the jumper at JP1004 and solder a jumper across JP1005 on the MAIN Unit to activate ③-2)

④ **Not Used**

⑤ **GND:** Ground

⑥ **A\_OUTPUT:** Accessory Output (Two choices available)

⑥-1 Not Used

This is the default setting at the factory (no jumper across JP1001 on the MAIN Unit).

⑥-2 Accessory Output: Open Collector Output

"A" Lamp ON: Low, "A" Lamp OFF: Open

Maximum voltage: 13.8 V, Maximum sink current 5 mA  
(Solder a jumper at JP1001 on the MAIN Unit to activate ⑥-2)

⑦ **PTT:** External PTT Signal input

GND: TX, Open: RX

⑧ **5 V**

Switched and regulated DC 5 V output for supplying power to an accessory.

Maximum output current is 50 mA.

⑨ **Not Used**

## General

|                                       |                                                         |
|---------------------------------------|---------------------------------------------------------|
| <b>Frequency Range</b> (version):     | 134 ~160 or 148 ~ 174 MHz (VHF vers. A/C, respectively) |
| <b>No. of Channels &amp; Spacing:</b> | 4 or 40 channels 25-kHz, 12.5-kHz spacing               |
| <b>Modes of Emission:</b>             | 16K0F3E ,11K0F3E                                        |
| <b>Frequency Stability:</b>           | ±0.00025%                                               |
| <b>Antenna Requirements:</b>          | 50 ohms, unbalanced (SO-239 socket)                     |
| <b>Voltage Requirements:</b>          | 11.8 V to 15.6 V DC, negative ground                    |
| <b>Current Consumption</b> (approx.): | 250 mA Stby, 200 mA Rx, 6.5 A Tx                        |
| <b>Operating Temperature Range:</b>   | −30 °C to +60 °C (−22 °F to +140 °F)                    |
| <b>Size</b> (WHD, approx.):           | 160 × 40 × 105 mm (6¼ × 1½ × 4¼ inches)                 |
| <b>Weight</b> (approx.):              | 0.85 kg (1.9 lbs.)                                      |

## Receiver

|                                      |                                                                           |
|--------------------------------------|---------------------------------------------------------------------------|
| <b>Receiver Circuit Type:</b>        | Double-Conversion Superheterodyne                                         |
| <b>Intermediate Frequencies:</b>     | 17.7 MHz , and 450 kHz (all models)                                       |
| <b>Sensitivity:</b>                  | 0.2/0.25 µV for 12-dB SINAD<br>0.3/0.35 µV for 20 dB NQ                   |
| <b>Hum &amp; Noise Ratio:</b>        | Better than 45 dB for 25-kHz/step,<br>Better than 40 dB for 12.5-kHz/step |
| <b>Adjacent Channel Selectivity:</b> | >70 dB for 25-kHz/step,<br>>60 dB for 12.5-kHz/step                       |
| <b>Intermodulation Distortion:</b>   | Better than 65 dB                                                         |
| <b>Spurious Rejection:</b>           | Better than 65 dB                                                         |
| <b>External Audio Output Power:</b>  | 5 watts into 4 ohms with <10% THD                                         |

## Transmitter

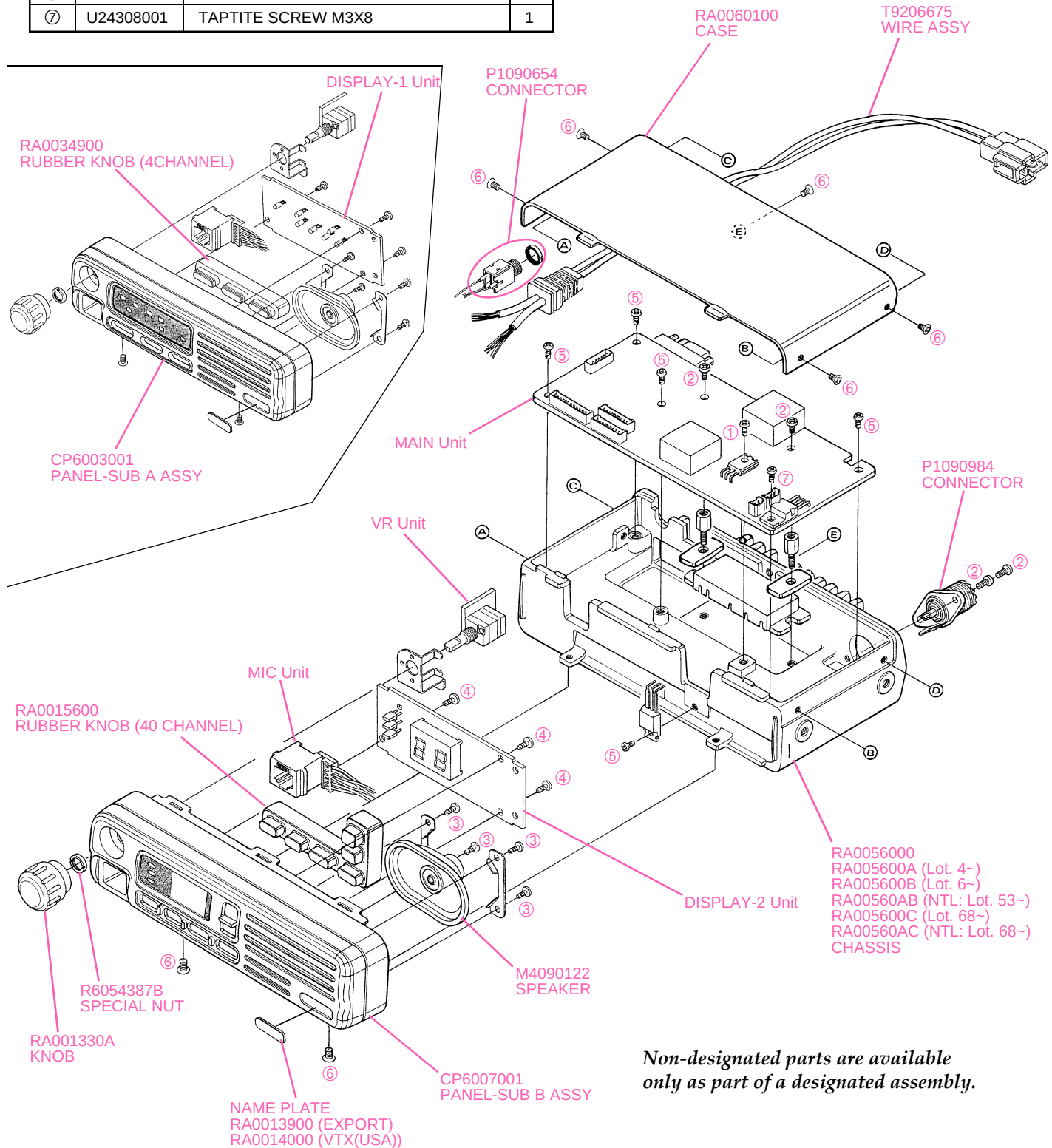
|                                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| <b>Power Output:</b>              | 25/5 watts (high/low, programmable)                                       |
| <b>Modulation Type/Deviation:</b> | Frequency Modulation, ±5 kHz (±2.5 kHz )                                  |
| <b>Hum &amp; Noise Ratio:</b>     | Better than 45 dB for 25-kHz/step,<br>Better than 40 dB for 12.5-kHz/step |
| <b>Modulation Distortion:</b>     | Less than 5%                                                              |
| <b>Spurious Emissions:</b>        | Better than 65 dB (below carrier)                                         |
| <b>Microphone Impedance:</b>      | 600 ohms                                                                  |

*Specifications are subject to change without notice or obligation.*

# Exploded View & Miscellaneous Parts

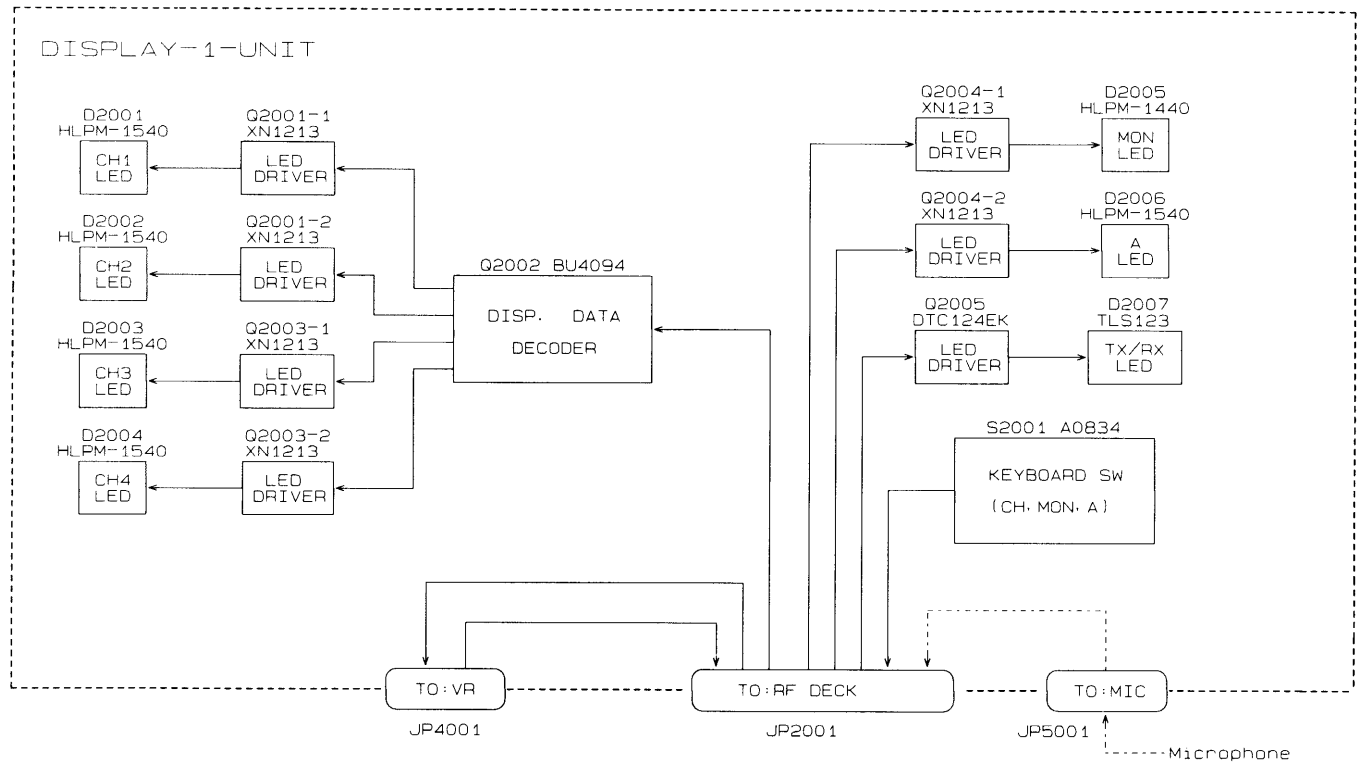
| REF. | VXSTD P/N | Description                         | Qty. |
|------|-----------|-------------------------------------|------|
| ①    | U24208001 | TAPTITE SCREW M2.6X8 (Lot. 1~5)     | 1    |
|      | U20208001 | BINDING HEAD SCREW M2.6X8 (Lot. 6~) | 1    |
| ②    | U20306002 | BINDING HEAD SCREW M3X6NI           | 4    |
| ③    | U23205001 | TAPTITE SCREW M2.6X5                | 4    |
| ④    | U23206001 | TAPTITE SCREW M2.6X6                | 3    |
| ⑤    | U24306002 | TAPTITE SCREW M3X6NI                | 5    |
| ⑥    | U31206007 | OVAL HEAD SCREW M2.6X6B             | 7    |
| ⑦    | U24308001 | TAPTITE SCREW M3X8                  | 1    |

| VXSTD P/N | Description | Qty. |
|-----------|-------------|------|
| Q0000062  | FUSE 10A    | 2    |
| T9021810  | DC CABLE    | 1    |

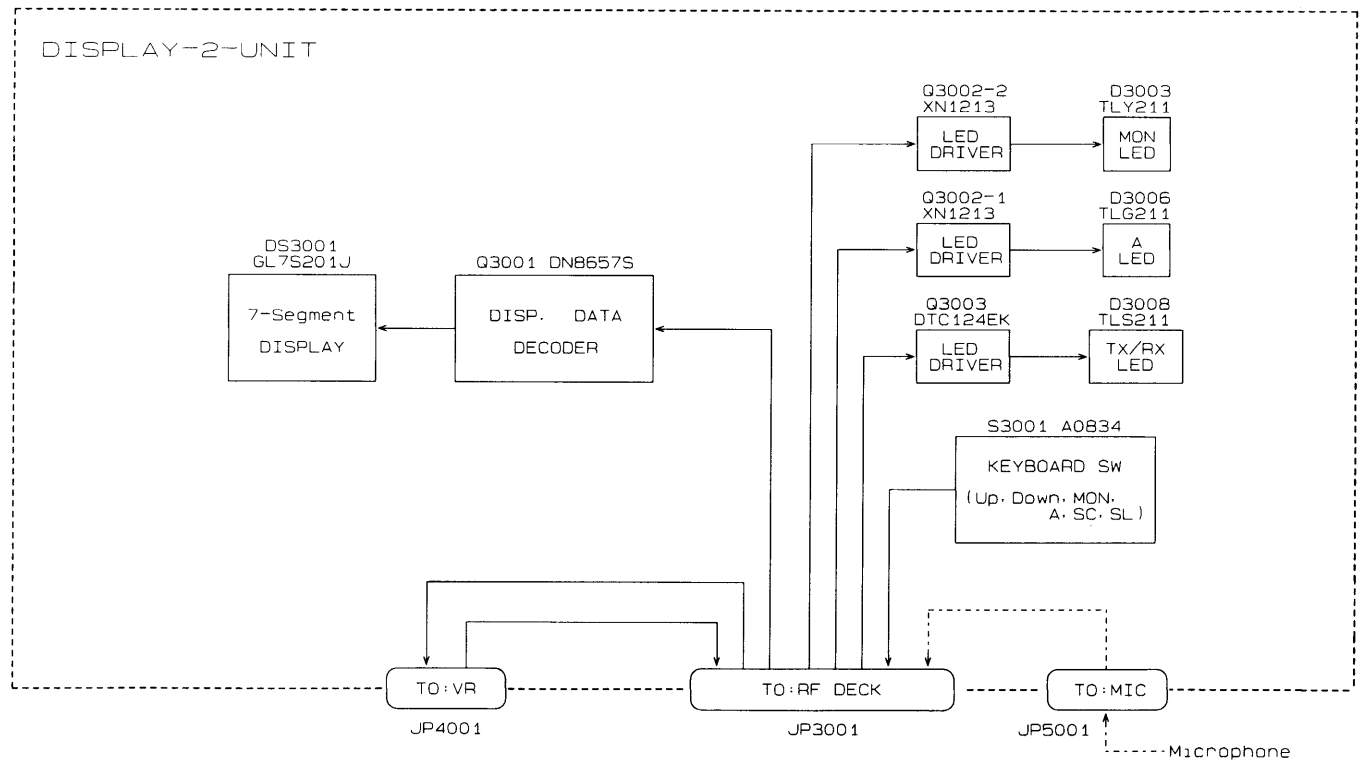


Non-designated parts are available  
only as part of a designated assembly.

## VX-2000V 4ch Front Panel Block Diagram



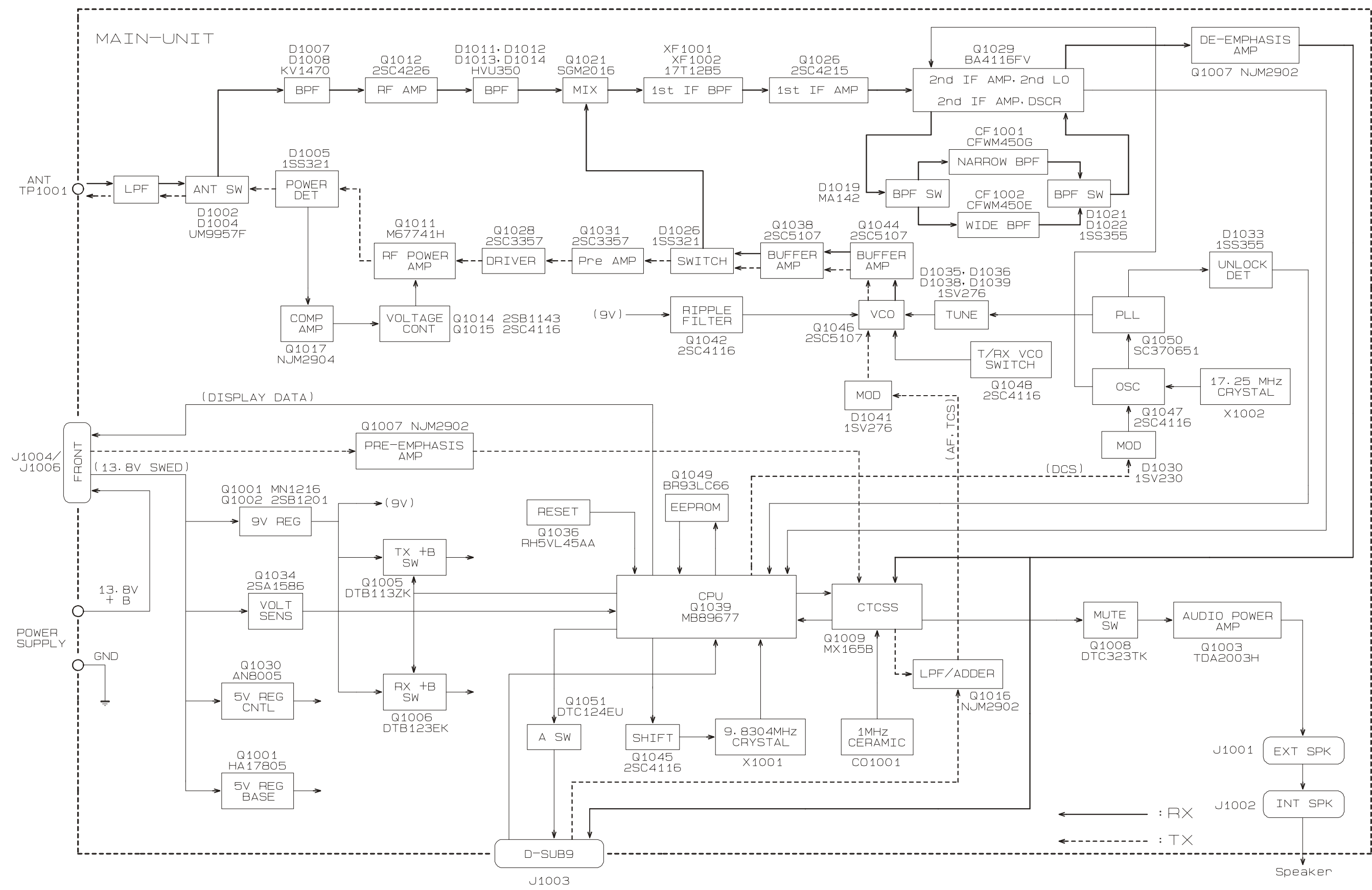
## VX-2000V 40ch Front Panel Block Diagram



## *Block Diagram*

*Note:*

VX-2000V Main Unit Block Diagram



*Block Diagram*

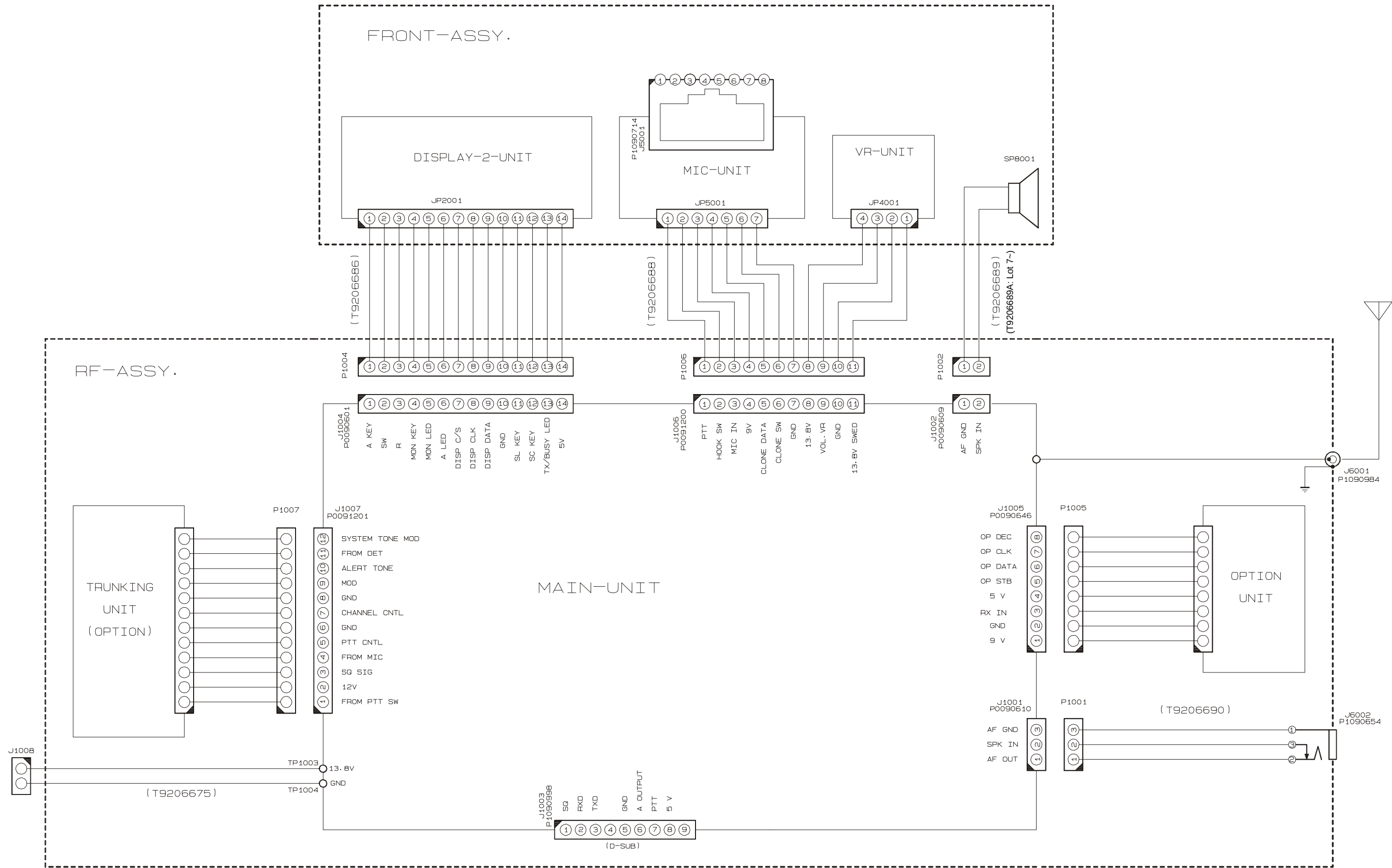
*Note:*





Interconnection Diagram

VX-2000V 40ch Front Interconnection Diagram



### Receive Signal Path

Incoming RF energy from the antenna jack is delivered to the MAIN Unit, and passes through a low-pass filter consisting of coils L1001, L1002, L1004, and L1006, capacitors C1002, C1006, C1009, C1017, C1019, C1022, C1041, and C1046, and switching diodes D1002 (**UM9957F**) and D1006 (**RLS135**), then delivered to the receiver front end.

The RF energy then enters a varactor-tuned bandpass filter, consisting of coils L1008, L1010, L1011, L1013, L1014, T1001, and T1002, capacitors C1045, C1052, C1054, C1057, C1058, C1069, C1072, C1073, C1091, C1092, C1093, C1094, C1096, C1097, C1100, C1101, C1105, C1106, C1109, and C1110, plus diodes D1007/1008 (both **KV1470**) and D1011~1014 (all **HVU350**). After bandpass filtering, the in-band RF signals are amplified by RF preamplifier Q1012 (**2SC4226**), then delivered to the first mixer stage.

Buffered output from the VCO is amplified by Q1038 (**2SC5107**), providing a pure local signal between 130.3 and 156.3 MHz for injection to the first mixer, Q1021 (**SGM2016**). The resulting 17.7 MHz first IF then passes through monolithic crystal filter XF1001, which strips away all but the desired signal, and the signal is then amplified by Q1026 (**2SC4215Y**). The amplified first IF signal is then applied to FM subsystem IC Q1029 (**BA4116FV**), which contains the second mixer, a limiter amplifier, and a noise amplifier.

The second local oscillator signal is generated by PLL reference/2nd LO transistor Q1047 (**2SC4116GR**), using the 17.25 MHz oscillator crystal X1002 as a reference. This signal is mixed with the 17.7 MHz local at Q1029, producing a 450 kHz second IF. The second IF signal then passes through ceramic filter CF1001

(**CFWM450G**) or CF1002 (**CFWM450E**) to strip away unwanted mixer products, and then is applied to the limiter amplifier in Q1029, which removes any amplitude variations in the 450 kHz IF. Speech detection by CD1001 (**CDBM450C24T**) is then performed, converting the second IF into an audio signal.

Detected audio from Q1029 is amplified by Q1017-1 (**NJM2904V**) and then applied to the de-emphasis network, consisting of capacitors C1084/C1089, resistors R1038/R1049, and Q1007-4 (**NJM2902V**). The de-emphasized audio is then applied to CTCSS subsystem IC Q1009 (**MX165BDW**), which contains the Tx/Rx audio filter, CTCSS decoder and CTCSS encoder; if a CTCSS tone is present on the incoming signal, it is removed by the high-pass audio filter in Q1009. The processed signal then passes through the audio mute gate Q1008 (**DTC323TK**) and the volume control, then enters the audio power amplifier Q1003 (**TDA2003H**), which provides up to 2 Watts of audio power to the external speaker jack.

### Squelch Control

The squelch circuitry consists of a noise amplifier, bandpass filter, and noise detector within Q1029, plus control circuitry within microprocessor Q1039 (**MB89677**).

When no carrier is received, noise at the output of the detector stage in Q1029 is amplified, bandpass filtered, and detected by Q1029. The resulting DC squelch control voltage is passed to pin 33 of microprocessor Q1039. With no carrier being received, pin 33 remains low, signaling pin 5 of Q1039 to keep the green "BUSY" LED off, and simultaneously signaling pin 19 of Q1039 to command audio mute gate Q1008 to block received audio.

## *Circuit Description*

When a carrier appears at the discriminator, noise is removed from the output, causing pin 33 of Q1039 to go "high," in turn causing the "BUSY" LED and audio output lines to turn on. The microprocessor then checks for CTCSS information. If CTCSS decode is not activated, or if CTCSS decode is activated and a signal carrying a matching tone is received, the microprocessor allows audio to pass through AF mute gate Q1008 and audio amplifier Q1003 to the speaker.

### *Transmit Signal Path*

Speech input from the microphone is delivered to the MAIN Unit, where it passes through the pre-emphasis network (R1015 and C1031). The pre-emphasized speech signal proceeds through the AF high-pass filter at Q1009, then is applied to the IDC (Instantaneous Deviation Control) at Q1016-3 (**NJM2902V**), with deviation level being set by potentiometer VR1001. The audio then passes to a splatter filter in sections 1 and 4 of Q1016, which filters out high-frequency components which could result in over-deviation.

The processed audio is mixed with the CTCSS tone (if activated) generated by CTCSS subsystem IC Q1009, then delivered to D1041 (**1SV276**) for frequency modulation of the PLL carrier (at the transmitting frequency) up to  $\pm 5$  kHz from the unmodulated carrier frequency.

The modulated signal from the VCO, Q1046 (**2SC5107**), is buffered by Q1038 and Q1044 (both **2SC5107**). The low-level transmit signal is then amplified by Q1028 and Q1031 (both **2SC3357**), then applied to the final amplifier, Q1101 (**M67741H**), providing 25 Watts of transmitter power. The transmit signal then passes through the antenna switch, D1003/D1004 (both **UM9957F**) and low-pass filter (which suppresses harmonic spurious radiation) before delivery to the antenna jack.

### *Automatic Transmitter Power Control*

RF output from the final amplifier is sampled by C1039 and C1051 and rectified by D1005 (**1SS321**). The resulting DC voltage is fed through Automatic Power Controller Q1014 (**2SB1143S**), Q1015 (**2SC4116GR**), and Q1017-2 to effect control of the gain of transmitter PA Q1011. The microprocessor, Q1039, issues commands for setting "HIGH" or "LOW" power output.

### *Transmit Inhibit*

When the transmit PLL is unlocked, pin 2 of PLL IC Q1050 (**SC370651F**) goes to logic "low" level. The resulting DC unlock control voltage switches off the Tx inhibit switch Q1022 (**IMZ1**), which interrupts the supply voltage to the transmitter PA, Q1011, thus disabling the transmitter.

### *Spurious Suppression*

Generation of spurious products by the transmitter is minimized by the fundamental carrier frequency being equal to the final transmitting frequency, modulated directly in the transmit VCO. Additional harmonic suppression is provided by a low-pass filter consisting of L1001, L1002, L1007, C1002, C1006, C1009, C1017, C1019, C1036, and C1053, resulting in more than 60 dB of harmonic suppression prior to delivery of the RF signal to the antenna jack.

### *PLL Frequency Synthesizer*

The Phase-Locked Loop (PLL) circuitry on the MAIN Unit includes VCO Q1046, VCO buffer Q1044, and PLL subsystem IC Q1050, which includes a reference divider, serial-to-parallel data latch, programmable divider, phase comparator, and charge pump.

Stability of the reference oscillator, Q1047, is maintained by a regulated 5 Volt supply, which includes Q1001 (**MM1216EN**), Q1002

(**2SB1201STP-FA**), Q1040 (**2SC4116GR**), and D1029 (**02CZ5.6Y**), with temperature compensation provided by thermistors TH1003/TH1004 and capacitors associated with the 17.25 MHz reference crystal, X1002.

In the receive mode, VCO Q1046 oscillates between 130.3 and 156.3 MHz, according to the transceiver version and the programmed receiving frequency. The VCO output is buffered by Q1044, and applied to the prescaler section of Q1050. There the VCO signal is divided by 64 or 65, according to a control signal from the data latch section of Q1050, before being applied to the programmable divider section of Q1050. The data latch section of Q1050 also receives serial dividing data from the microprocessor, Q1039, which causes the pre-divided VCO signal to be further divided in the programmable divider section, depending on the desired receive frequency, so as to produce either a 5.0 kHz or 6.25 kHz derivative of the current VCO frequency.

Meanwhile, the reference divider section of Q1050 divides the 17.25 MHz crystal reference frequency by 3450 (or 2760) to produce the 5 kHz (or 6.25 kHz) loop reference (respectively). The 5 kHz (or 6.25 kHz) signal from the programmable divider (derived from the VCO) and that derived from the reference oscillator are applied to the phase detector section of Q1050, which produces a pulsed output with pulse duration depending on the phase difference between these input signals. The pulse train is filtered to DC and returned to varactors D1035/D1036/D1038/D1039 (all **1SV276**).

Changes in the level of the DC voltage applied to the varactors affect the reactance in the tank circuit of the VCO, changing the oscillating fre-

quency of the VCO according to the phase difference between the signals derived from the VCO and the crystal reference oscillator. The VCO is thus phase-locked to the crystal reference oscillator. The output of the VCO is then delivered to the first mixer via buffer amplifier Q1051.

For transmission, the VCO Q1046 oscillates between 134 and 174 MHz, according to the model version and the programmed transmit frequency. The remainder of the PLL circuitry is shared with the receiver section. However, the dividing data from the microprocessor is such that the VCO frequency is at the actual transmitting frequency (rather than being offset by the IF, as in the receiving case). Also, the VCO is modulated by the speech audio applied to D1041 (**1SV276**), as described previously.

Receive and transmit buses select which VCO is made active via Q1048 (**DTC124EU**). FET Q1043 (**2SK880GR**) buffers the VCV line for application to the tracking bandpass filters in the receiver front end.

### *Push-To-Talk (PTT) Transmit Activation*

The PTT switch on the microphone is connected to pin 24 of microprocessor Q1039, such that when the PTT switch is closed, pin 24 of Q1039 goes low. This signals the microprocessor's pin 35 to activate the Tx/Rx controller Q1004 (**IMH6**), which in turn disables the receiver by disconnecting the 9 Volt supply bus at Q1006 (**DTB123EK**) to the receiver front end, FM subsystem IC, and receiver VCO circuitry. At the same time, Q1005 (**DTB123YK**) activates the Tx 9 Volt supply line to enable the transmitter.

# *Circuit Description*

## *Channel Selection & Display*

### *(4-channel version)*

The **CHANNEL** button on the front panel causes microprocessor Q1039 to select the operating frequency and CTCSS frequency data from serial EEPROM Q1049 (**BR93LC66RF**). The operating frequency data is in the form of PLL dividing ratios, which are passed to the PLL IC on the MAIN Unit via strobe, data, and clock outputs on pins 43, 42, and 41 respectively. The channel digit display data from the microprocessor is strobed by pin 46 to display latch Q2002 (**BU4094BCFV**) on the DISPLAY-1 Unit, which decodes the data and drives the four channel LEDs and the function indicator LEDs.

## *Channel Selection & Display*

### *(40-channel version)*

The **UP** and **DOWN** buttons on the front panel cause microprocessor Q1039 to select the operating frequency and CTCSS frequency data from serial EEPROM Q1049. The operating frequency data is in the form of PLL dividing ratios, which are passed to the PLL IC on the MAIN Unit via strobe, data, and clock outputs on pins 43, 42, and 41 respectively. The channel digit display data from the microprocessor is strobed by pin 46 to display latch Q3001 (**DN8657S**) on the DISPLAY-2 Unit, which decodes the data and drives the two 7-segment LEDs and the function indicator LEDs.

The VX-2000 is carefully aligned at the factory for the specified performance across the designed frequency range. Realignment should, therefore, not be necessary except in the event of a component failure, or when altering the frequency range ("version").

The following procedures cover the sometimes-critical and tedious adjustments that are not normally required once the transceiver has left the factory. However, if damage has occurred and some parts subsequently are replaced, alignment may be required in order to restore the original alignment. If a sudden problem occurs during otherwise normal operation, it is likely due to part failure, and realignment should be performed only after the faulty component has been replaced.

All component replacement and service should be performed only by an authorized Vertex representative, or the warranty policy may be voided. Vertex service technicians are experienced with the circuitry, and are fully equipped for part replacement and alignment. When any repairs are completed, Vertex service technicians perform comprehensive performance checks to ensure that total transceiver system performance complies with each and every specification for this product.

Those who undertake any of the following alignment procedures are cautioned to proceed at their own risk. Problems caused by unauthorized attempts at realignment are not covered by the warranty policy covering this transceiver. Also, Vertex reserves the right to change circuits and alignment procedures, in the interest of improved performance, without notifying owners.

Under no circumstances should any alignment be attempted unless the normal function and operation of the radio are fully understood, the cause

of the malfunction has been clearly pinpointed and any/all faulty components replaced, and realignment determined to be absolutely necessary.

### ***Required Test Equipment***

The following test equipment (and thorough familiarity with its correct use) is necessary for complete realignment. Correction of problems caused by misalignment resulting from the use of improper test equipment is not covered by our warranty policy.

While most steps do not require all the test equipment listed, the interactions of some adjustments may require that more complex adjustments be performed afterwards. Do not, therefore, attempt to perform only a single step unless it is clearly isolated electrically from all other steps. Have all test equipment ready before beginning, and follow all of the steps in a section in the order presented.

- ☐ RF Signal Generator with calibrated output to 200 MHz
- ☐ Deviation Meter (linear detector)
- ☐ In-line Wattmeter with 5% accuracy at 200 MHz
- ☐ 50- $\Omega$  Dummy Load with a power rating of 50 W at 200 MHz
- ☐ Regulated DC Power Supply, adjustable from 10 V to 17 V DC at 10 A
- ☐ Frequency Counter with 0.2 ppm accuracy at 200 MHz
- ☐ AF Signal Generator
- ☐ DC Voltmeter, high impedance
- ☐ SINAD Meter
- ☐ IBM PC®/compatible computer with Microsoft Windows® v3.1 (or later) installed
- ☐ Vertex VPL-1 Connection Cable and CE-20 Channel Programming Diskette
- ☐ VHF Sampling Coupler

# Alignment

## Alignment Preparation & Precautions

Before beginning alignment, connect the transceiver to the PC using the VPL-1 Connection Cable, and upload the current frequency data from the customer's radio to the computer; save this information to disk so that it can be downloaded to the radio again after alignment is completed.

Next, refer to the label at the rear of the bottom cover of the radio to determine its "version" (frequency range); using the CE-20 software, program the four "Test" simplex channels shown in the table below, as appropriate for the radio version you are working with:

| Channel # | Version "A" | Version "C" |
|-----------|-------------|-------------|
| 1         | 134.000 MHz | 148.000 MHz |
| 2         | 147.000 MHz | 161.000 MHz |
| 3         | 160.000 MHz | 174.000 MHz |
| 4         | 160.000 MHz | 174.000 MHz |

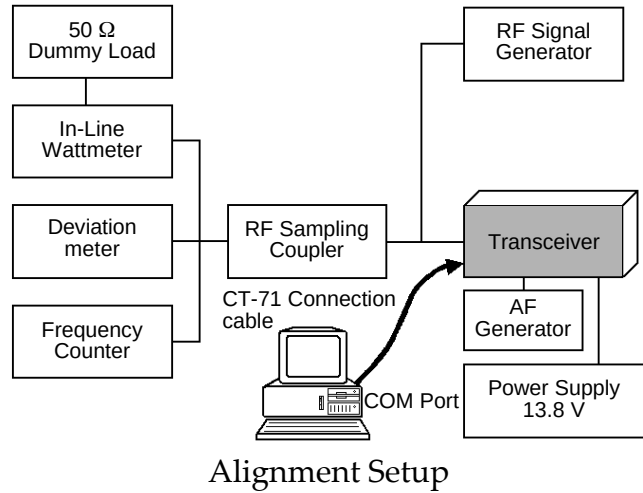
Download this data to the transceiver under test.

**Note:** When alignment is finished, you may wish to save these alignment channels as a disk file for future service work. Make certain to re-load the original channel data (uploaded from the radio prior to servicing) into the transceiver, and complete a final performance check, before returning the equipment to the customer.

A 50- $\Omega$  dummy load and in-line wattmeter must be connected to the rear-panel antenna jack in all procedures which require transmission. Correct alignment is not possible without a resistive 50- $\Omega$  termination for the transmitter.

Be certain that your power supply delivers 13.8 VDC, as measured directly at the radio's DC input plug, during transmitter tests. Any voltage drop in the cable, or due to the loading on the power supply, must be compensated to 13.8 VDC for accurate alignment.

After completing one alignment step, read the following step to determine whether or not the



same test equipment will be required. If not, remove the test equipment (except dummy load and wattmeter) before proceeding.

Correct alignment requires that the ambient temperature be the same as that of the transceiver, and that this temperature be held constant between 68°F and 86°F (20°C and 30°C). When the transceiver is brought into the shop from hot or cold air, it should be allowed time to come to room temperature before alignment is attempted. All test equipment should similarly be thoroughly warmed up.

Whenever possible, alignments should be performed with oscillator shields and circuit boards firmly affixed in place.

**Note:** Signal levels in dB referred to in these alignment procedures are based on 0 dB $\mu$  = 0.5  $\mu$ V (closed circuit).

Connect the test equipment as shown in the pictorial above.

## PLL VCV (Varactor Control Voltage)

### Performance Check

- ☐ Connect the DC voltmeter between test point TP1033 on the MAIN Unit and chassis ground.
- ☐ Set the transceiver to channel 3, and confirm that the reading is about 4.5V.



- ❑ Now select channel 1, and confirm that the reading changes to about 1.0V for Version A, or 0.8V for Version C.
- ❑ Again select channel 3. Key the transmitter, and confirm that the voltmeter reading is approximately 4.5V.
- ❑ Once more select channel 1 and again key the transmitter. Confirm that the voltmeter reading is approximately 1.0V for Version A, and at least 1.0V for Version C.

## PLL Reference Frequency

- ❑ With the wattmeter, dummy load, and frequency counter connected to the antenna jack, select channel 2.
- ❑ Key the transmitter, and adjust TC1001 on the MAIN Unit, if necessary, so that the counter frequency is within 200 Hz of 147.000.00 MHz for version A, or 161.000.00 MHz for version C.

## Transmitter Output Power

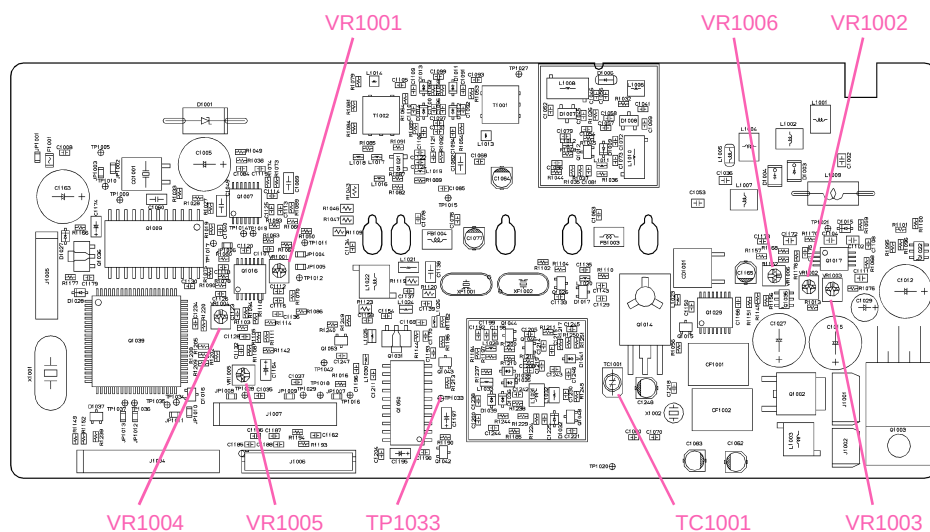
- ❑ Preset trimmer potentiometer VR1002 (MAIN Unit) fully clockwise.
- ❑ Select (Band center) channel 2. Key the transmitter, and confirm that at least 30 Watts of power output is measured. Now select chan-

nels 1 and 3, and confirm that 30 Watts of RF power is present on the band edge channels.

- ❑ Using the computer, re-program channel 1 for "LOW" power output, and download this data to the transceiver.
- ❑ Select channel 2, and adjust ("HIGH" power) potentiometer VR1002 for 25 Watts of RF power.
- ❑ Select channel 2, and adjust "LOW" power) potentiometer VR1003 for 5 Watts of RF power.

## Transmitter Deviation

- ❑ Select channel 2, and adjust the AF generator's attenuator so as to deliver 25 mV output at 1 kHz to the microphone jack.
- ❑ Key the transmitter, and adjust VR1001 (MAIN Unit) for  $\pm 4.3$  kHz deviation as measured on the deviation meter (tolerance: 100 Hz).
- ❑ On the computer, re-program channel 2 to enable a 100 Hz CTCSS (encode) tone, and download this data to the transceiver.
- ❑ Reduce the AF generator's output to zero. Key the transmitter, and adjust VR1004 (MAIN Unit) for  $\pm 800$  Hz deviation on the CTCSS tone (within 100 Hz).
- ❑ On the computer, re-program channel 2 to en-



MAIN Unit Alignment Points

## *Alignment*

able DCS code 627 (encode), and download this data to the transceiver.

- ❑ With the AF generator still set to zero, key the transmitter, and adjust VR1005 (MAIN Unit) for  $\pm 900$  Hz deviation on the DCS signal (within 100 Hz).

### *Receiver Squelch Threshold*

- ❑ Set the transceiver to channel 2. Set the RF signal generator to the same frequency (147.000 for version A, 161.000 MHz for version C). Set the signal generator's output to -8 dB $\mu$ .
- ❑ Adjust VR1006 (MAIN Unit) clockwise until the squelch just closes, and then counterclockwise until the squelch just opens.
- ❑ Turn off the signal generator, and confirm that the squelch again closes when the RF input signal disappears.

### *Restore Original Channel Data*

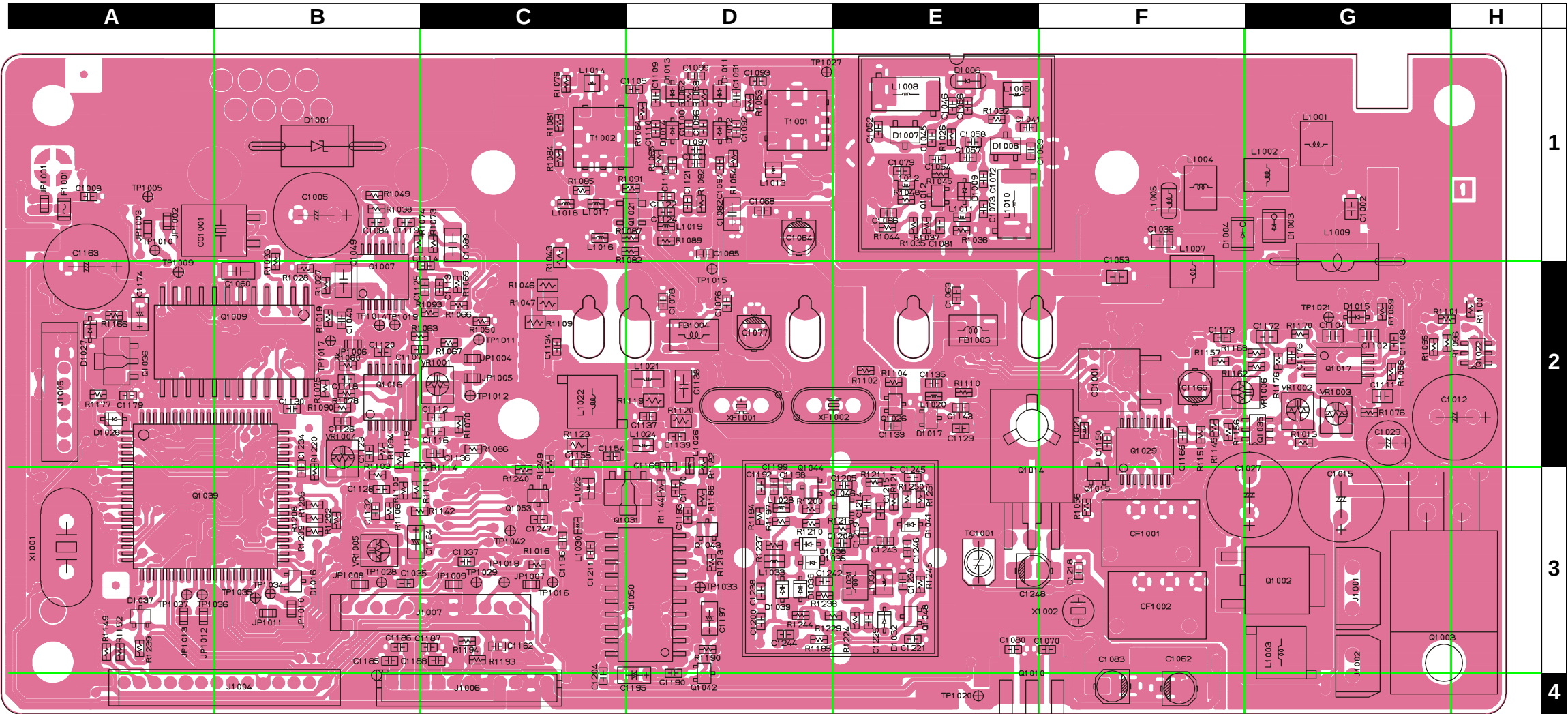
- ❑ When all alignment steps have been completed, re-load the original channel data from your computer's disk, and download it to the transceiver.



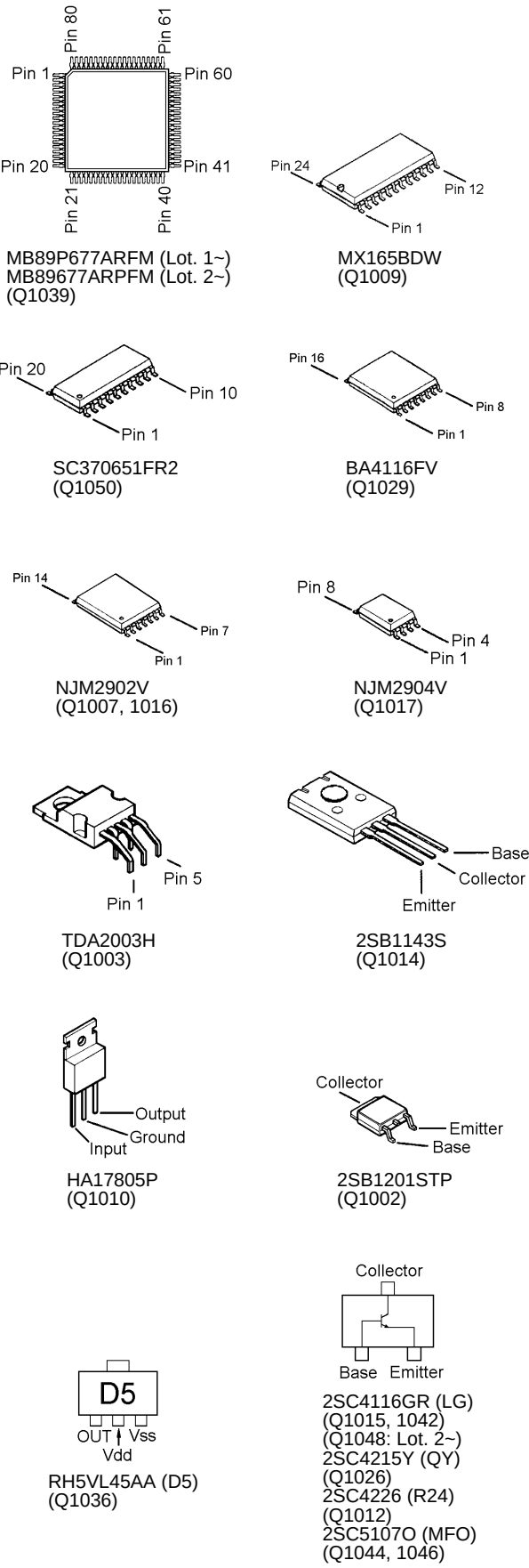
***MAIN Unit (Lot. 1~)***

***Note:***

Parts Layout

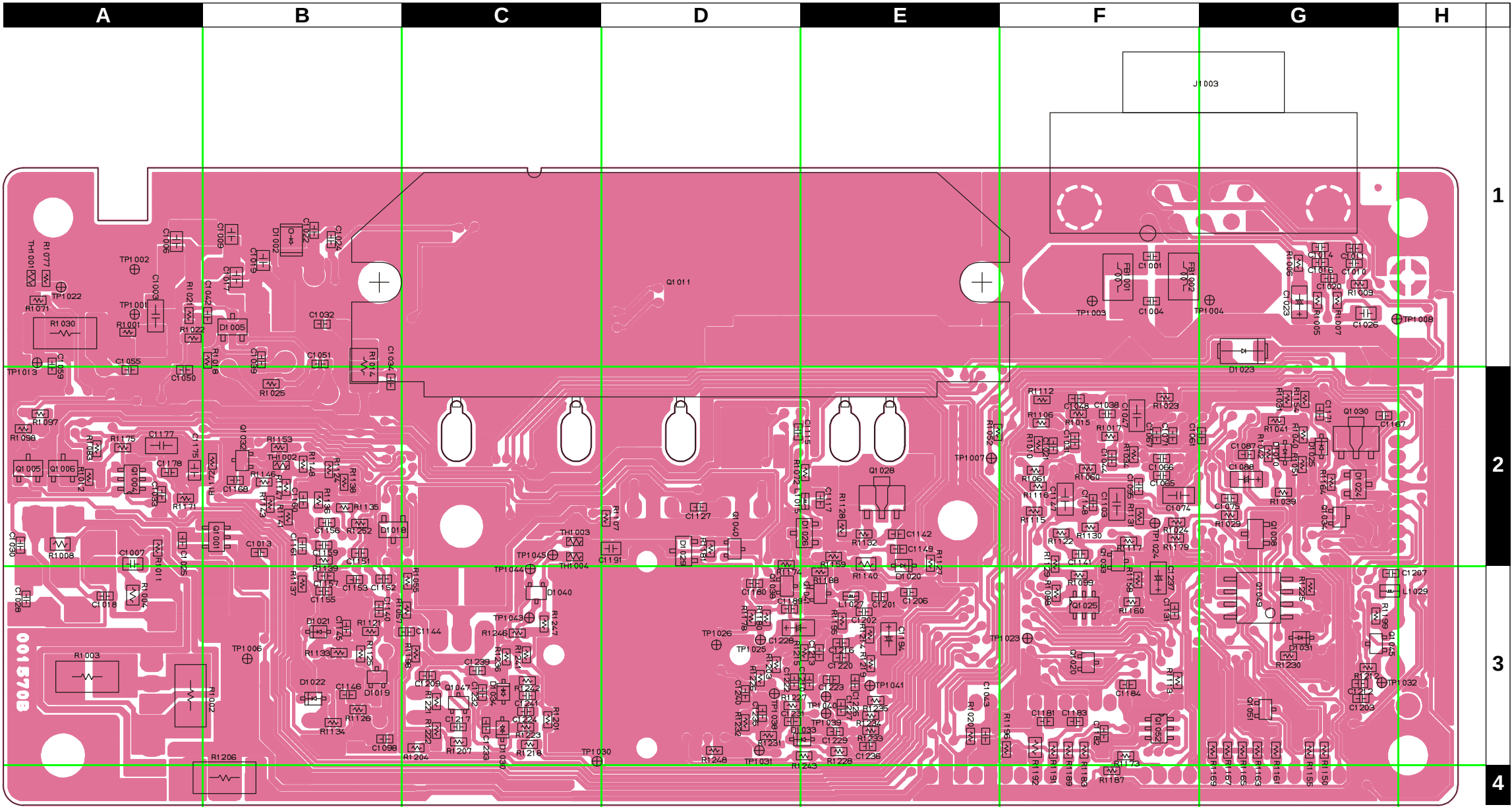


Side A

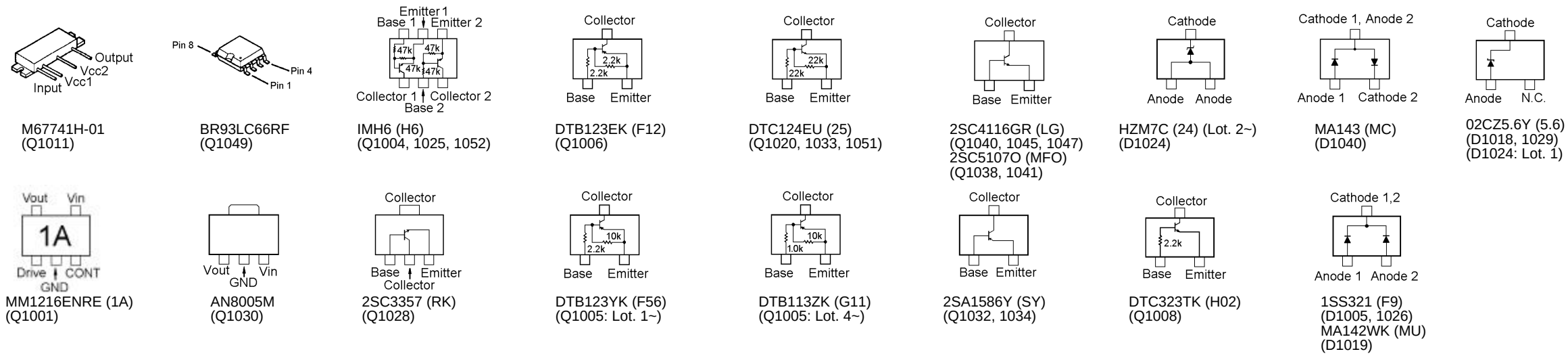




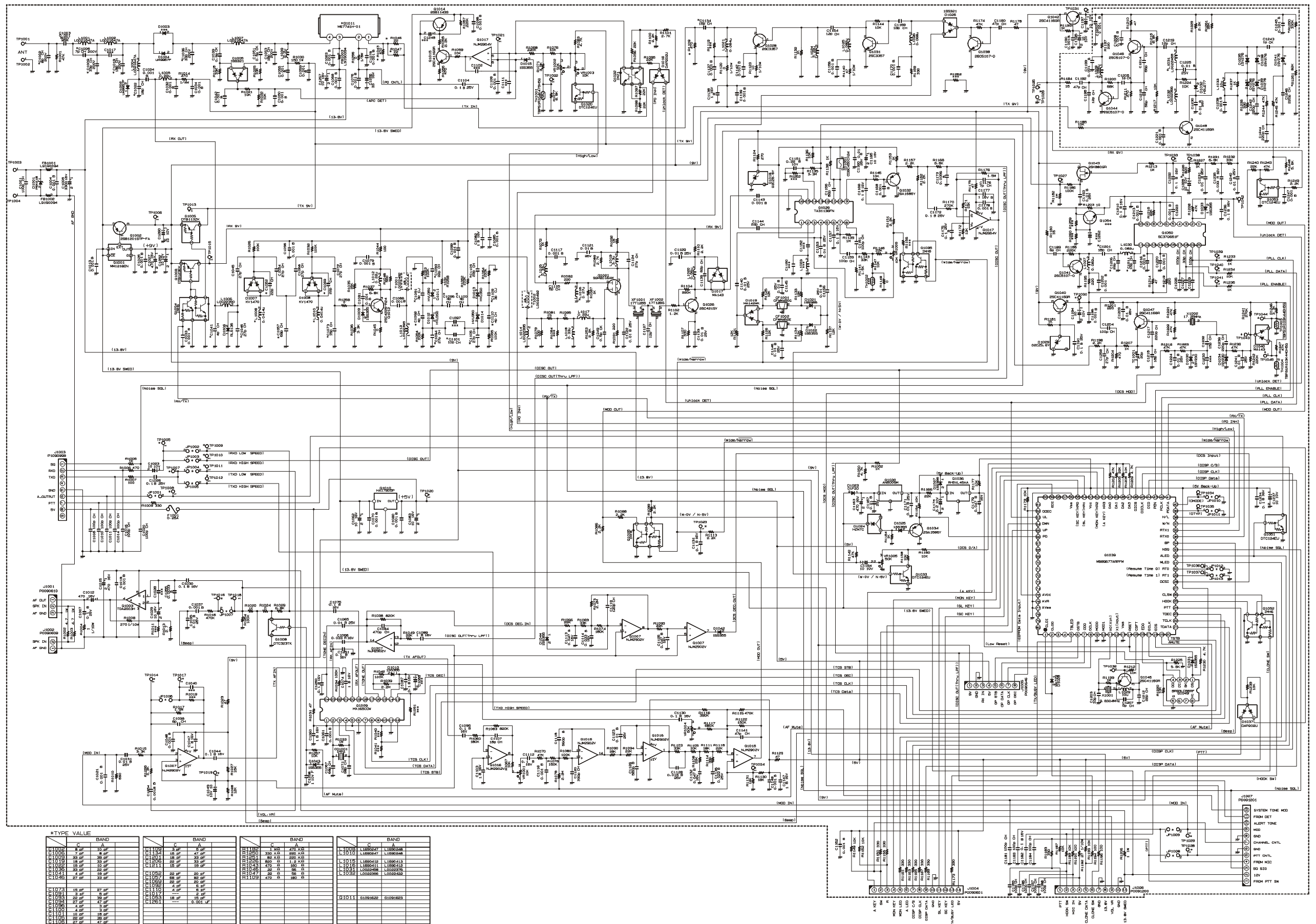
MAIN Unit (Lot. 1~)



Side B



### Circuit Diagram

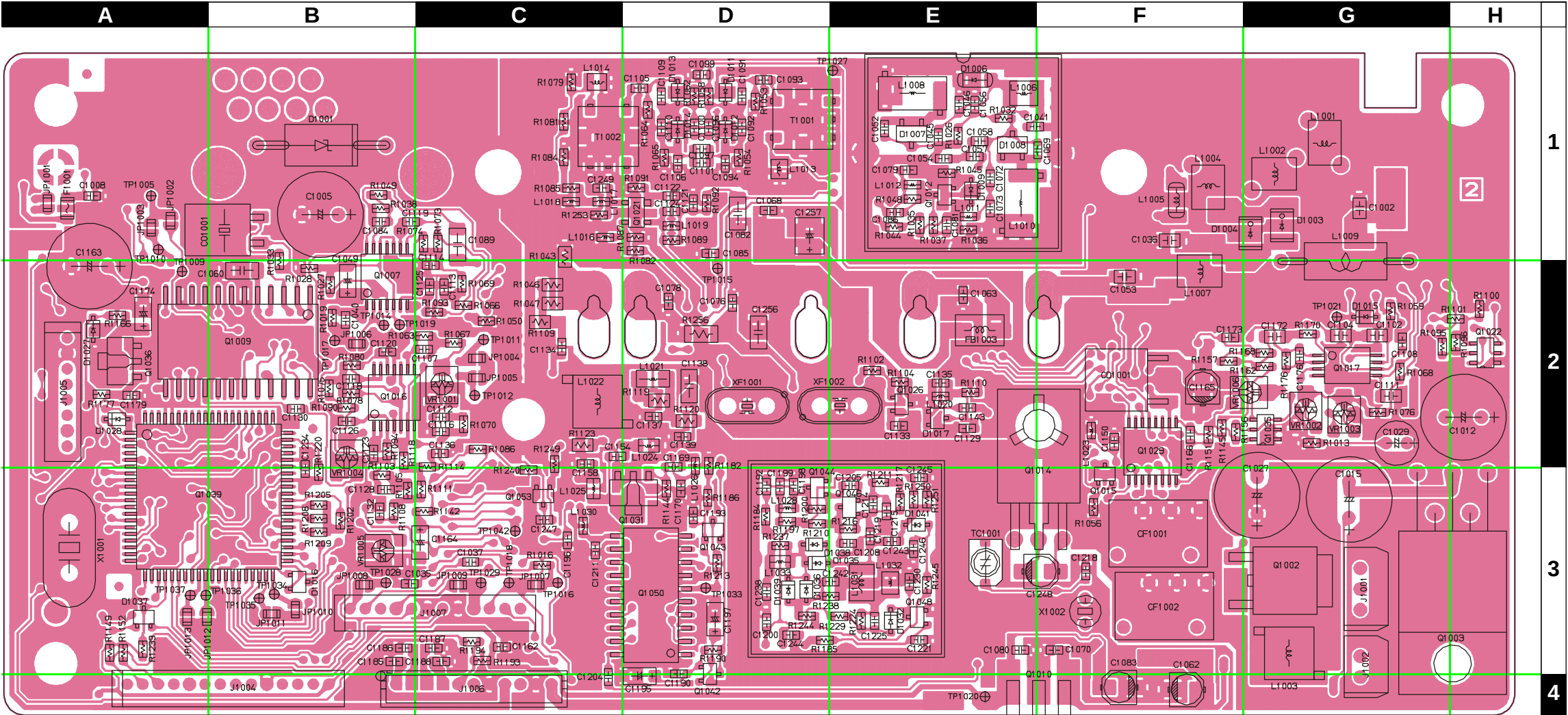


*MAIN Unit (Lot. 5~)*

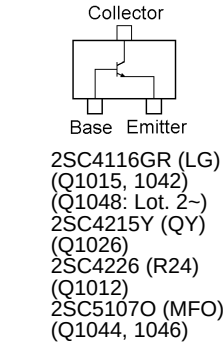
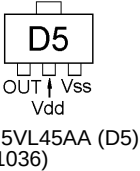
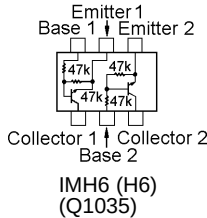
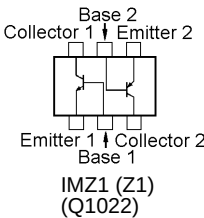
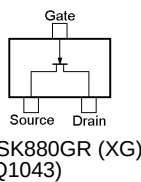
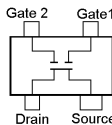
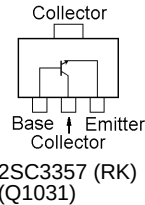
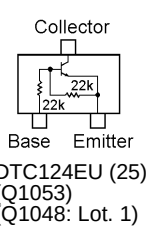
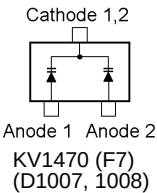
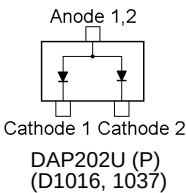
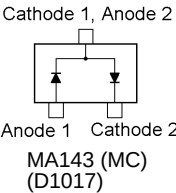
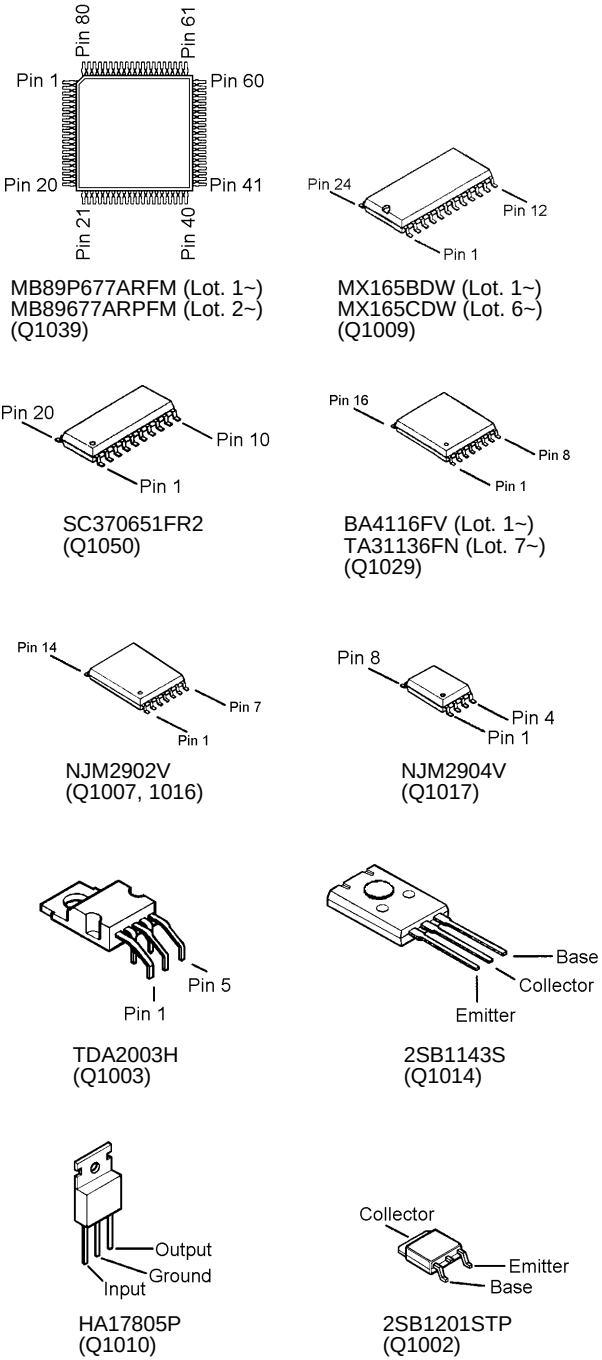
*Note:*



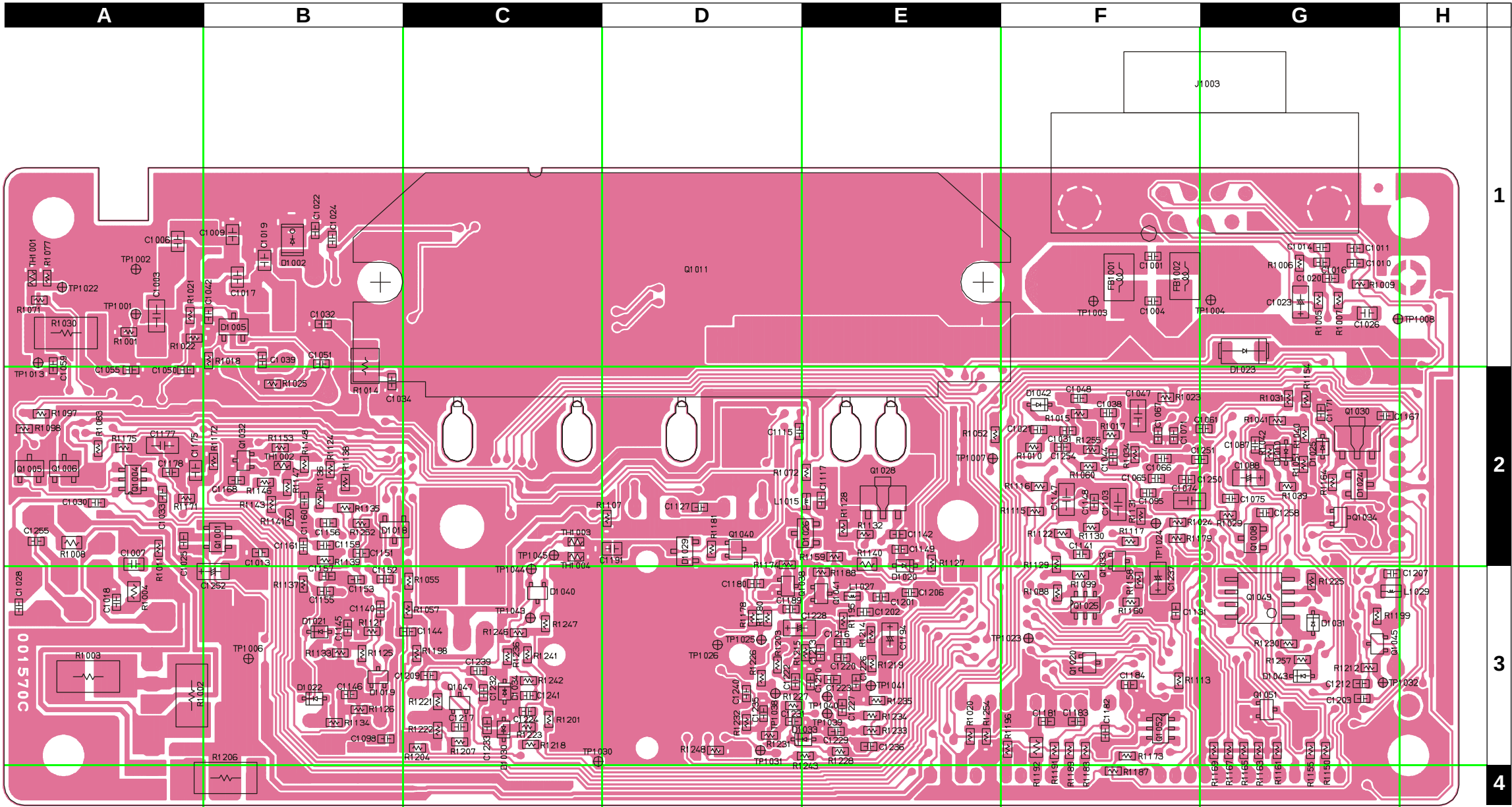
Parts Layout



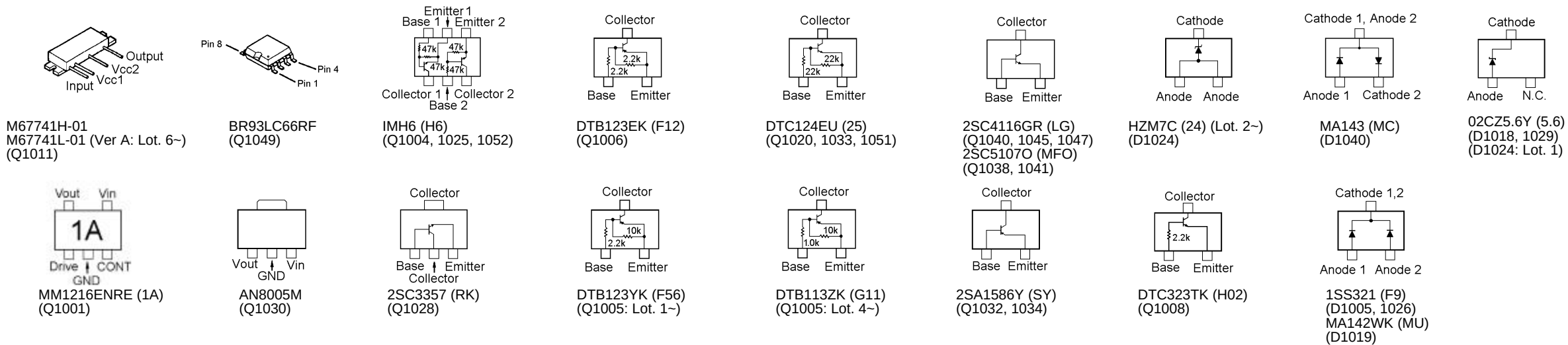
Side A



## MAIN Unit (Lot. 5~)

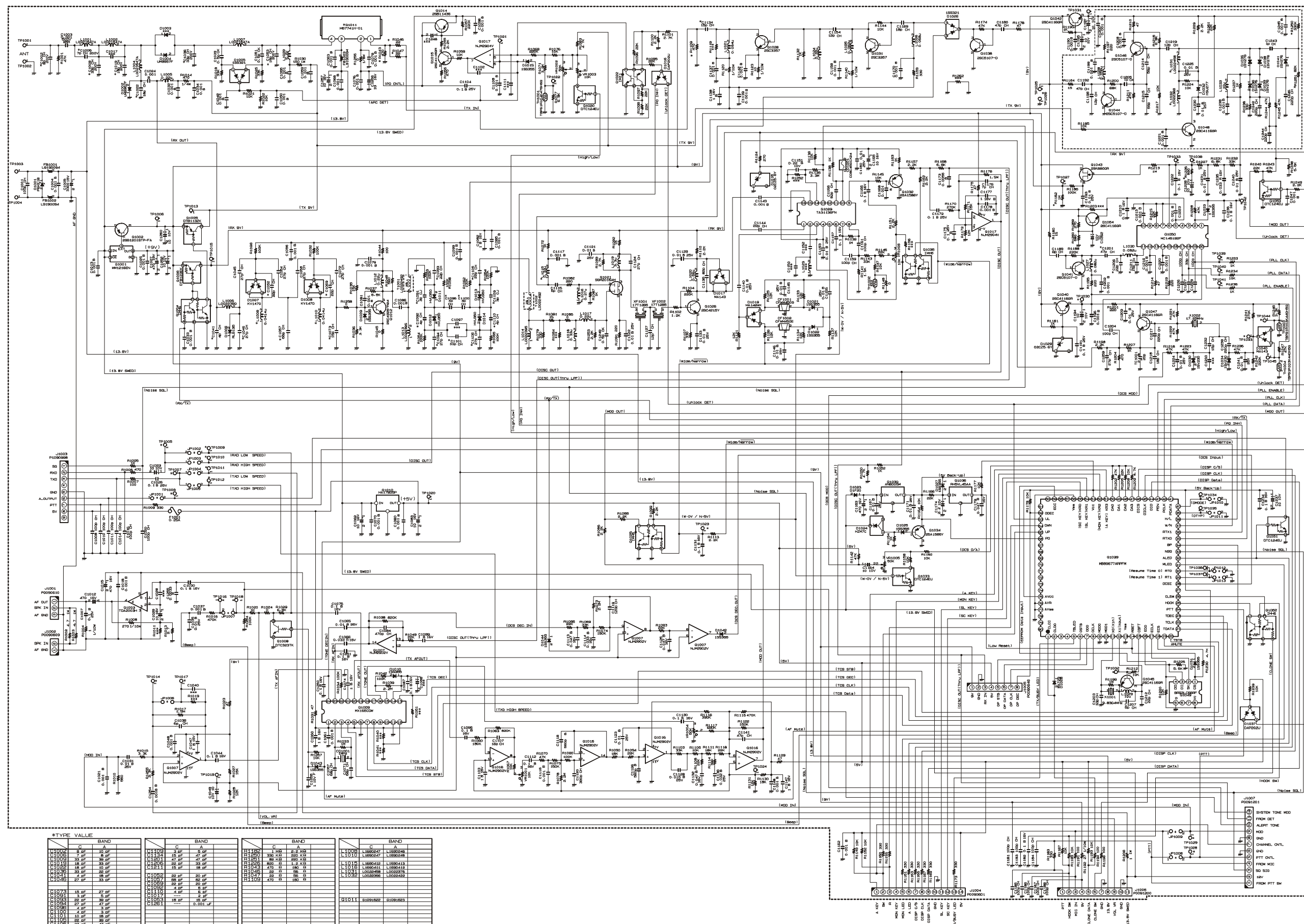


Side B





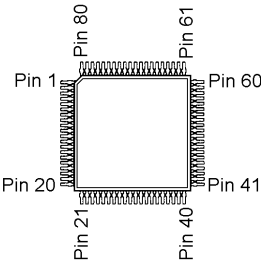
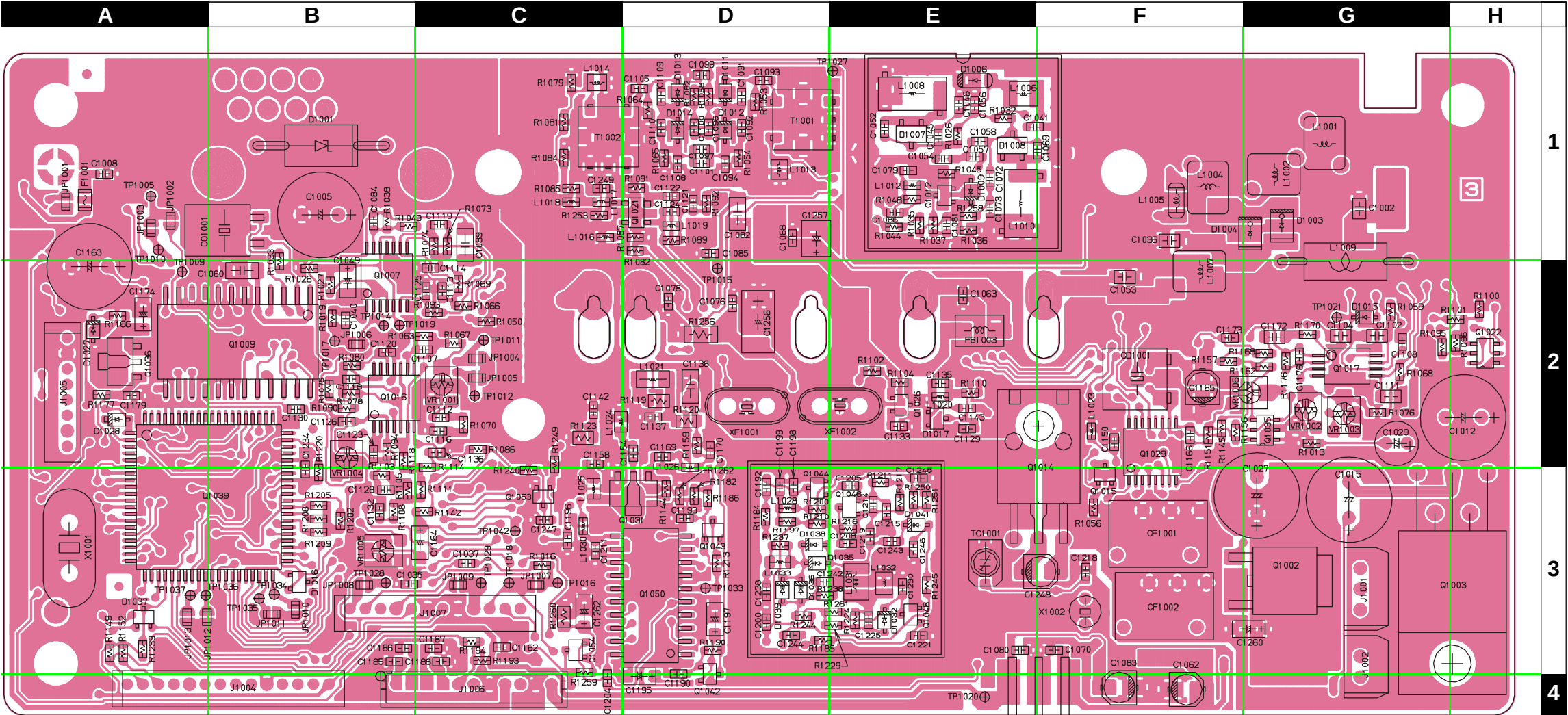
### Circuit Diagram



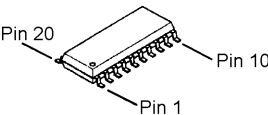
*MAIN Unit (Lot. 19~)*

*Note:*

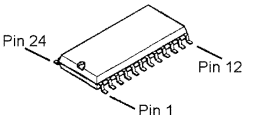
Parts Layout



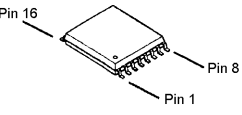
MB89P677ARFM (Lot. 1~)  
MB89677ARPFM (Lot. 2~)  
MB89P677APFM (NTL: Lot. 53~)  
MB89677ARPFM (EXP, STANDARD, VTX: Lot. 53~)  
(Q1039)



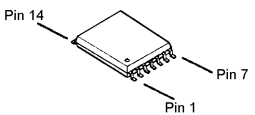
SC370651FR2  
MC145192FR2 (Lot. 26~)  
MC145193FR2 (Lot. 41~)  
(Q1050)



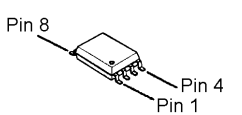
MX165BDW  
MX165CDW (Lot. 6~)  
(Q1009)



BA4116FV  
TA31136FN (Lot. 7~)  
(Q1029)

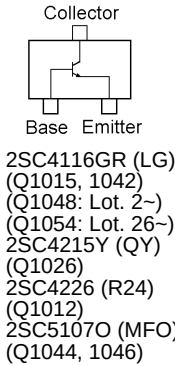
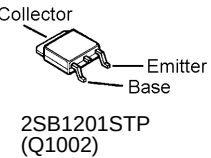
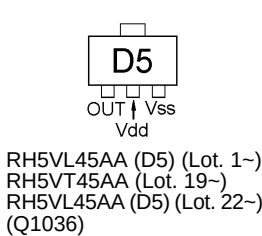
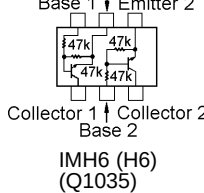
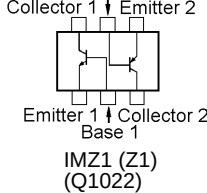
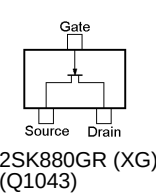
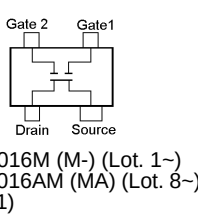
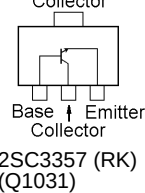
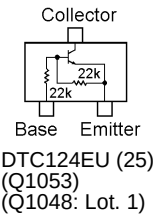
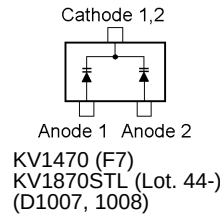
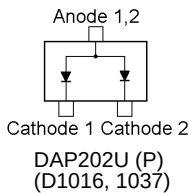
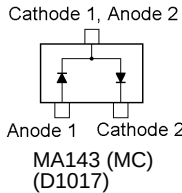


NJM2902V  
(Q1007, 1016)



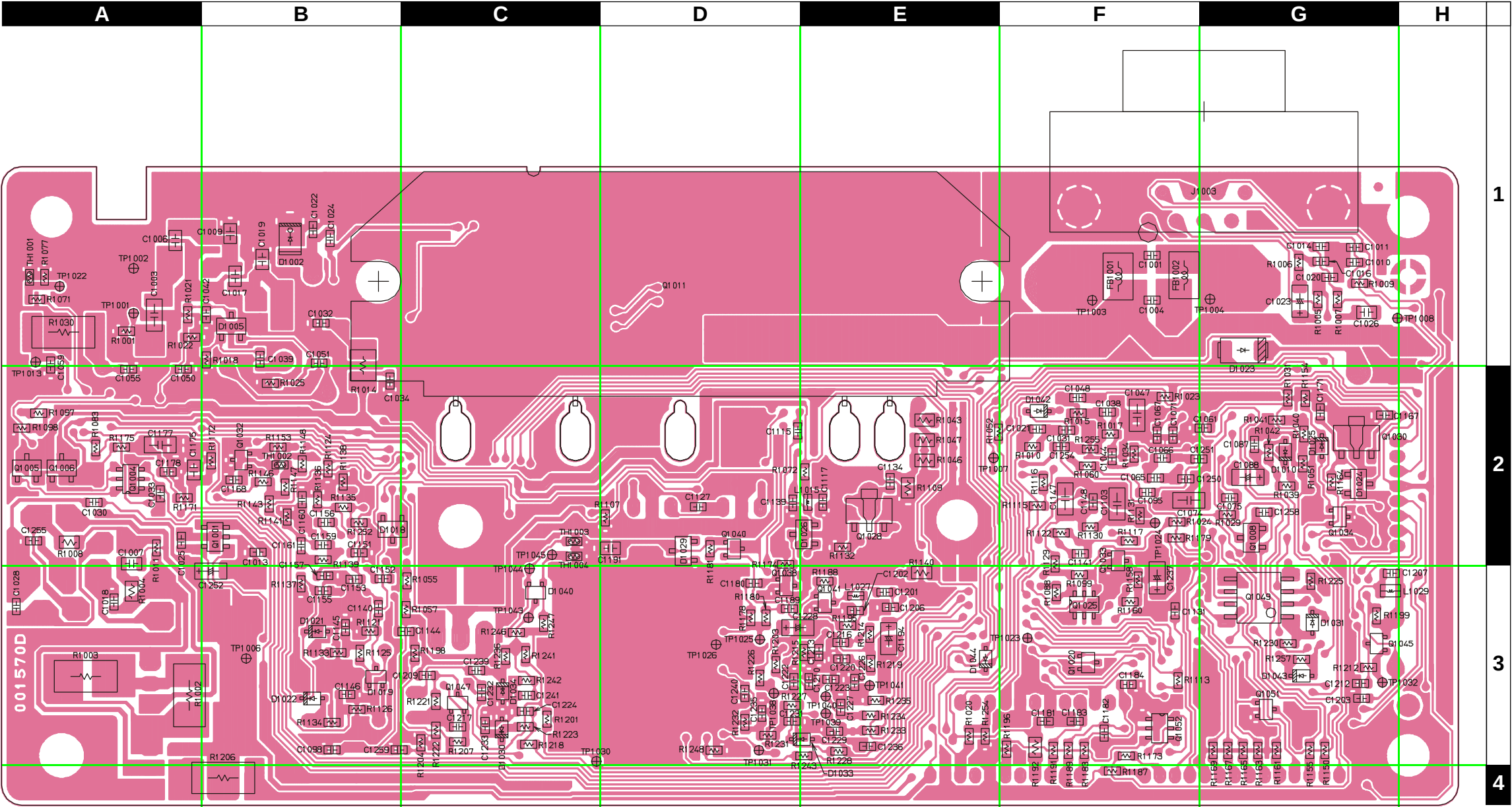
NJM2904V  
(Q1017)

Side A

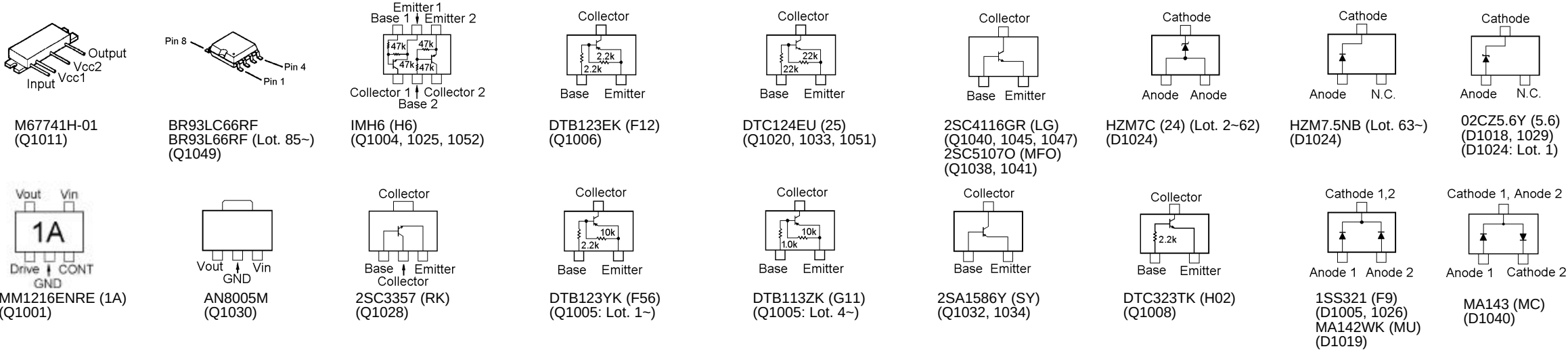




MAIN Unit (Lot. 19~)



Side B



## Parts List

| REF.              | DESCRIPTION           | VALUE   | WV   | TOL. | MFR'S DESIG        | VXSTD P/N | VERS.     | LOT. | SIDE | LAY ADR. |
|-------------------|-----------------------|---------|------|------|--------------------|-----------|-----------|------|------|----------|
| *** MAIN UNIT *** |                       |         |      |      |                    |           |           |      |      |          |
|                   | PCB with Components   |         |      |      |                    | CB0370001 | TYPE C    | 1-   |      |          |
|                   | PCB with Components   |         |      |      |                    | CB0370002 | TYPE A    | 6-   |      |          |
|                   | Printed Circuit Board |         |      |      |                    | FR001570B |           | 1-   |      |          |
|                   | Printed Circuit Board |         |      |      |                    | FR001570C |           | 5-   |      |          |
|                   | Printed Circuit Board |         |      |      |                    | FR001570D |           | 19-  |      |          |
| C 1001            | CHIP CAP.             | 100pF   | 50V  | CH   | GRM39CH101J50PT    | K22174235 |           | 1-   | B    | f1       |
| C 1002            | CHIP CAP.             | 8pF     | 200V | CH   | GRM40CH080D200PT   | K22230214 |           | 1-5  | A    | G1       |
| C 1002            | CHIP CAP.             | 10pF    | 200V | CH   | GRM40CH100D200PT   | K22230216 | VERSION A | 6-   | A    | G1       |
| C 1002            | CHIP CAP.             | 8pF     | 200V | CH   | GRM40CH080D200PT   | K22230214 | VERSION C | 6-   | A    | G1       |
| C 1003            | CHIP CAP.             | 0.001uF | 500V | W5R  | CF316W5R102K500AT  | K22271802 |           | 1-   | B    | a1       |
| C 1004            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | f1       |
| C 1005            | AL.ELECTRO.CAP.       | 470uF   | 16V  |      | RE3-16V471M 470UF  | K40129066 |           | 1-   | A    | B1       |
| C 1005            | AL.ELECTRO.CAP.       | 3300uF  | 16V  |      | RE3-16V332M 3300UF | K40129065 |           | 18-  | A    | B1       |
| C 1006            | CHIP CAP.             | 7pF     | 200V | CH   | GRM40CH070D200PT   | K22230213 |           | 1-5  | B    | a1       |
| C 1006            | CHIP CAP.             | 8pF     | 200V | CH   | GRM40CH080D200PT   | K22230214 | VERSION A | 6-   | B    | a1       |
| C 1006            | CHIP CAP.             | 7pF     | 200V | CH   | GRM40CH070D200PT   | K22230213 | VERSION C | 6-   | B    | a1       |
| C 1007            | CHIP CAP.             | 0.1uF   | 25V  | B    | GRM40B104M25PT     | K22140811 |           | 1-   | B    | a2       |
| C 1008            | CHIP CAP.             | 100pF   | 50V  | CH   | GRM39CH101J50PT    | K22174235 |           | 1-   | A    | A1       |
| C 1009            | CHIP CAP.             | 33pF    | 200V | CH   | GRM40CH330J200PT   | K22230222 |           | 1-5  | B    | b1       |
| C 1009            | CHIP CAP.             | 39pF    | 200V | CH   | GRM40CH390J200PT   | K22230223 | VERSION A | 6-   | B    | b1       |
| C 1009            | CHIP CAP.             | 33pF    | 200V | CH   | GRM40CH330J200PT   | K22230222 | VERSION C | 6-   | B    | b1       |
| C 1010            | CHIP CAP.             | 100pF   | 50V  | CH   | GRM39CH101J50PT    | K22174235 |           | 1-   | B    | g1       |
| C 1011            | CHIP CAP.             | 100pF   | 50V  | CH   | GRM39CH101J50PT    | K22174235 |           | 1-   | B    | g1       |
| C 1012            | AL.ELECTRO.CAP.       | 470uF   | 16V  |      | RE3-16V471M 470UF  | K40129066 |           | 1-   | A    | H2       |
| C 1013            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | b2       |
| C 1014            | CHIP CAP.             | 100pF   | 50V  | CH   | GRM39CH101J50PT    | K22174235 |           | 1-   | B    | g1       |
| C 1015            | AL.ELECTRO.CAP.       | 470uF   | 16V  |      | RE3-16V471M 470UF  | K40129066 |           | 1-   | A    | G3       |
| C 1016            | CHIP CAP.             | 100pF   | 50V  | CH   | GRM39CH101J50PT    | K22174235 |           | 1-   | B    | g1       |
| C 1017            | CHIP CAP.             | 2pF     | 200V | CH   | GRM40CH020C200PT   | K22230206 | VERSION A | 6-   | B    | b1       |
| C 1018            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | a3       |
| C 1019            | CHIP CAP.             | 18pF    | 200V | CH   | GRM40CH180J200PT   | K22230219 |           | 1-5  | B    | b1       |
| C 1019            | CHIP CAP.             | 33pF    | 200V | CH   | GRM40CH330J200PT   | K22230222 | VERSION A | 6-   | B    | b1       |
| C 1019            | CHIP CAP.             | 18pF    | 200V | CH   | GRM40CH180J200PT   | K22230219 | VERSION C | 6-   | B    | b1       |
| C 1020            | CHIP CAP.             | 100pF   | 50V  | CH   | GRM39CH101J50PT    | K22174235 |           | 1-   | B    | g1       |
| C 1021            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | f2       |
| C 1022            | CHIP CAP.             | 18pF    | 50V  | CH   | GRM39CH180J50PT    | K22174217 |           | 1-5  | B    | b1       |
| C 1022            | CHIP CAP.             | 10pF    | 50V  | CH   | GRM39CH100C50PT    | K22174248 | VERSION A | 6-   | B    | b1       |
| C 1022            | CHIP CAP.             | 18pF    | 50V  | CH   | GRM39CH180J50PT    | K22174217 | VERSION C | 6-   | B    | b1       |
| C 1023            | CHIP TA.CAP.          | 10uF    | 10V  |      | TEMSVA1A106M-8R    | K78100028 |           | 1-   | B    | g1       |
| C 1024            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | b1       |
| C 1025            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | a2       |
| C 1026            | CHIP CAP.             | 0.1uF   | 25V  | B    | GRM40B104M25PT     | K22140811 |           | 1-   | B    | g1       |
| C 1027            | AL.ELECTRO.CAP.       | 470uF   | 16V  |      | RE3-16V471M 470UF  | K40129066 |           | 1-   | A    | G3       |
| C 1029            | AL.ELECTRO.CAP.       | 10uF    | 16V  |      | RC2-16V100M(4X7)   | K40129012 |           | 1-   | A    | G2       |
| C 1030            | CHIP CAP.             | 0.1uF   | 16V  | B    | GRM39B104K16PT     | K22124805 |           | 1-   | B    | a2       |
| C 1031            | CHIP CAP.             | 0.01uF  | 25V  | B    | GRM39B103M25PT     | K22144802 |           | 1-   | B    | f2       |
| C 1032            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | b1       |
| C 1033            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | a2       |
| C 1034            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | B    | b2       |
| C 1035            | CHIP CAP.             | 0.01uF  | 25V  | B    | GRM39B103M25PT     | K22144802 |           | 1-   | A    | B3       |
| C 1036            | CHIP CAP.             | 33pF    | 200V | CH   | GRM40CH330J200PT   | K22230222 |           | 1-5  | A    | F1       |
| C 1036            | CHIP CAP.             | 22pF    | 200V | CH   | GRM40CH220J200PT   | K22230220 | VERSION A | 6-   | A    | F1       |
| C 1036            | CHIP CAP.             | 33pF    | 200V | CH   | GRM40CH330J200PT   | K22230222 | VERSION C | 6-   | A    | F1       |
| C 1037            | CHIP CAP.             | 0.001uF | 50V  | B    | GRM39B102K50PT     | K22174821 |           | 1-   | A    | C3       |
| C 1038            | CHIP CAP.             | 6pF     | 50V  | CH   | GRM39CH060D50PT    | K22174207 |           | 1-   | B    | f2       |
| C 1039            | CHIP CAP.             | 0.5pF   | 50V  | CK   | GRM39CK0R5C50PT    | K22174201 |           | 1-   | B    | b1       |
| C 1040            | CHIP CAP.             | 6pF     | 50V  | CH   | GRM39CH060D50PT    | K22174207 |           | 1-3  | A    | B2       |
| C 1041            | CHIP CAP.             | 4pF     | 50V  | CH   | GRM39CH040C50PT    | K22174205 |           | 1-5  | A    | E1       |
| C 1041            | CHIP CAP.             | 18pF    | 50V  | CH   | GRM39CH180J50PT    | K22174217 | VERSION A | 6-   | A    | E1       |

# MAIN Unit

| REF.   | DESCRIPTION     | VALUE   | WV   | TOL. | MFR'S DESIG       | VXSTD P/N | VERS.     | LOT. | SIDE. | LAY ADR. |
|--------|-----------------|---------|------|------|-------------------|-----------|-----------|------|-------|----------|
| C 1041 | CHIP CAP.       | 4pF     | 50V  | CH   | GRM39CH040C50PT   | K22174205 | VERSION C | 6-   | A     | E1       |
| C 1042 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | B     | b1       |
| C 1044 | CHIP CAP.       | 0.1uF   | 16V  | B    | GRM39B104K16PT    | K22124805 |           | 1-   | B     | f2       |
| C 1045 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 |           | 1-   | A     | E1       |
| C 1046 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 |           | 1-5  | A     | E1       |
| C 1046 | CHIP CAP.       | 33pF    | 50V  | CH   | GRM39CH330J50PT   | K22174223 | VERSION A | 6-   | A     | E1       |
| C 1046 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 | VERSION C | 6-   | A     | E1       |
| C 1047 | CHIP CAP.       | 1uF     | 16V  | B    | GRM42-6B105K16NPT | K22121803 |           | 1-   | B     | f2       |
| C 1048 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102K50PT    | K22174821 |           | 1-   | B     | f2       |
| C 1049 | CHIP CAP.       | 1uF     | 16V  | B    | GRM42-6B105K16NPT | K22121803 |           | 1    | A     | B2       |
| C 1049 | CHIP TA.CAP.    | 10uF    | 10V  |      | TEMSVA1A106M-8R   | K78100028 |           | 2-   | A     | B2       |
| C 1050 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | B     | a2       |
| C 1051 | CHIP CAP.       | 0.5pF   | 50V  | CK   | GRM39CK0R5C50PT   | K22174201 |           | 1-   | B     | b1       |
| C 1052 | CHIP CAP.       | 20pF    | 50V  | CH   | GRM39CH200J50PT   | K22174218 |           | 1-6  | A     | E1       |
| C 1052 | CHIP CAP.       | 20pF    | 50V  | CH   | GRM39CH200J50PT   | K22174218 | VERSION A | 7-   | A     | E1       |
| C 1052 | CHIP CAP.       | 22pF    | 50V  | CH   | GRM39CH220J50PT   | K22174219 | VERSION C | 7-   | A     | E1       |
| C 1053 | CHIP CAP.       | 18pF    | 200V | CH   | GRM40CH180J200PT  | K22230219 |           | 1-5  | A     | F2       |
| C 1053 | CHIP CAP.       | 15pF    | 200V | CH   | GRM40CH150J200PT  | K22230218 | VERSION A | 6-   | A     | F2       |
| C 1053 | CHIP CAP.       | 18pF    | 200V | CH   | GRM40CH180J200PT  | K22230219 | VERSION C | 6-   | A     | F2       |
| C 1054 | CHIP CAP.       | 30pF    | 50V  | CH   | GRM39CH300J50PT   | K22174222 |           | 1-5  | A     | E1       |
| C 1054 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 | VERSION A | 6    | A     | E1       |
| C 1054 | CHIP CAP.       | 30pF    | 50V  | CH   | GRM39CH300J50PT   | K22174222 | VERSION C | 6    | A     | E1       |
| C 1054 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 |           | 7-   | A     | E1       |
| C 1055 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | B     | a2       |
| C 1056 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | A     | E1       |
| C 1057 | CHIP CAP.       | 82pF    | 50V  | CH   | GRM39CH820J50PT   | K22174233 |           | 1-6  | A     | E1       |
| C 1057 | CHIP CAP.       | 82pF    | 50V  | CH   | GRM39CH820J50PT   | K22174233 | VERSION A | 7-   | A     | E1       |
| C 1057 | CHIP CAP.       | 68pF    | 50V  | CH   | GRM39CH680J50PT   | K22174231 | VERSION C | 7-   | A     | E1       |
| C 1058 | CHIP CAP.       | 30pF    | 50V  | CH   | GRM39CH300J50PT   | K22174222 |           | 1-5  | A     | E1       |
| C 1058 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 | VERSION A | 6    | A     | E1       |
| C 1058 | CHIP CAP.       | 30pF    | 50V  | CH   | GRM39CH300J50PT   | K22174222 | VERSION C | 6    | A     | E1       |
| C 1058 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 |           | 7-   | A     | E1       |
| C 1059 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | B     | a1       |
| C 1060 | CHIP CAP.       | 1uF     | 16V  | B    | GRM42-6B105K16NPT | K22121803 |           | 1-   | A     | B2       |
| C 1061 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102K50PT    | K22174821 |           | 1-   | B     | g2       |
| C 1062 | AL.ELECTRO.CAP. | 10uF    | 16V  |      | ECEV1CS100SR      | K48120001 |           | 1-   | A     | F4       |
| C 1063 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A     | E2       |
| C 1065 | CHIP CAP.       | 0.01uF  | 25V  | B    | GRM39B103K25PT    | K22144803 |           | 1-85 | B     | f2       |
| C 1066 | CHIP CAP.       | 0.033uF | 16V  | R    | GRM39R333K16PT    | K22124801 |           | 1-   | B     | f2       |
| C 1067 | CHIP CAP.       | 68pF    | 50V  | CH   | GRM39CH680J50PT   | K22174231 |           | 1-   | B     | f2       |
| C 1067 | CHIP CAP.       | 220pF   | 50V  | CH   | GRM39CH221J50PT   | K22174243 |           | 43-  | B     | f2       |
| C 1068 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | A     | D1       |
| C 1069 | CHIP CAP.       | 20pF    | 50V  | CH   | GRM39CH200J50PT   | K22174218 |           | 1-6  | A     | E1       |
| C 1069 | CHIP CAP.       | 20pF    | 50V  | CH   | GRM39CH200J50PT   | K22174218 | VERSION A | 7-   | A     | E1       |
| C 1069 | CHIP CAP.       | 22pF    | 50V  | CH   | GRM39CH220J50PT   | K22174219 | VERSION C | 7-   | A     | E1       |
| C 1070 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A     | F3       |
| C 1071 | CHIP CAP.       | 68pF    | 50V  | CH   | GRM39CH680J50PT   | K22174231 |           | 1-   | B     | f2       |
| C 1071 | CHIP CAP.       | 220pF   | 50V  | CH   | GRM39CH221J50PT   | K22174243 |           | 43-  | B     | f2       |
| C 1072 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 |           | 1-   | A     | E1       |
| C 1073 | CHIP CAP.       | 33pF    | 50V  | CH   | GRM39CH330J50PT   | K22174223 |           | 1-5  | A     | E1       |
| C 1073 | CHIP CAP.       | 27pF    | 50V  | CH   | GRM39CH270J50PT   | K22174221 | VERSION A | 6-   | A     | E1       |
| C 1073 | CHIP CAP.       | 33pF    | 50V  | CH   | GRM39CH330J50PT   | K22174223 | VERSION C | 6    | A     | E1       |
| C 1073 | CHIP CAP.       | 15pF    | 50V  | CH   | GRM39CH150J50PT   | K22174215 | VERSION C | 7-   | A     | E1       |
| C 1074 | CHIP CAP.       | 1uF     | 16V  | B    | GRM42-6B105K16NPT | K22121803 |           | 1-   | B     | f2       |
| C 1075 | CHIP CAP.       | 0.1uF   | 16V  | B    | GRM39B104K16PT    | K22124805 |           | 1-   | B     | g2       |
| C 1076 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | A     | D2       |
| C 1078 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A     | D2       |
| C 1079 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | A     | E1       |
| C 1080 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A     | E3       |
| C 1081 | CHIP CAP.       | 0.001uF | 50V  | B    | GRM39B102M50PT    | K22174809 |           | 1-   | A     | E1       |



| REF.   | DESCRIPTION     | VALUE   | WV  | TOL. | MFR'S DESIG       | VXSTD P/N | VERS.     | LOT. | SIDE | LAY ADR. |
|--------|-----------------|---------|-----|------|-------------------|-----------|-----------|------|------|----------|
| C 1082 | CHIP CAP.       | 1uF     | 16V | B    | GRM42-6B105K16NPT | K22121803 |           | 1-   | A    | D1       |
| C 1083 | AL.ELECTRO.CAP. | 10uF    | 16V |      | ECEV1CS100SR      | K48120001 |           | 1-   | A    | F4       |
| C 1084 | CHIP CAP.       | 470pF   | 50V | CH   | GRM39CH471J50PT   | K22174249 |           | 1-   | A    | B1       |
| C 1085 | CHIP CAP.       | 0.001uF | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A    | D1       |
| C 1086 | CHIP CAP.       | 0.001uF | 50V | B    | GRM39B102M50PT    | K22174809 |           | 1-   | A    | E1       |
| C 1087 | CHIP CAP.       | 0.1uF   | 16V | B    | GRM39B104K16PT    | K22124805 |           | 1-   | B    | g2       |
| C 1089 | CHIP CAP.       | 1uF     | 16V | B    | GRM42-6B105K16NPT | K22121803 |           | 1-   | A    | C1       |
| C 1091 | CHIP CAP.       | 2pF     | 50V | CK   | GRM39CK020C50PT   | K22174203 |           | 1-5  | A    | D1       |
| C 1091 | CHIP CAP.       | 5pF     | 50V | CH   | GRM39CH050C50PT   | K22174206 | VERSION A | 6-   | A    | D1       |
| C 1091 | CHIP CAP.       | 2pF     | 50V | CK   | GRM39CK020C50PT   | K22174203 | VERSION C | 6    | A    | D1       |
| C 1091 | CHIP CAP.       | 3pF     | 50V | CJ   | GRM39CJ030C50PT   | K22174204 | VERSION C | 7-   | A    | D1       |
| C 1092 | CHIP CAP.       | 6pF     | 50V | CH   | GRM39CH060D50PT   | K22174207 |           | 1-6  | A    | D1       |
| C 1092 | CHIP CAP.       | 6pF     | 50V | CH   | GRM39CH060D50PT   | K22174207 | VERSION A | 7-   | A    | D1       |
| C 1092 | CHIP CAP.       | 4pF     | 50V | CH   | GRM39CH040C50PT   | K22174205 | VERSION C | 7-   | A    | D1       |
| C 1093 | CHIP CAP.       | 22pF    | 50V | CH   | GRM39CH220J50PT   | K22174219 |           | 1-5  | A    | D1       |
| C 1093 | CHIP CAP.       | 39pF    | 50V | CH   | GRM39CH390J50PT   | K22174225 | VERSION A | 6-   | A    | D1       |
| C 1093 | CHIP CAP.       | 22pF    | 50V | CH   | GRM39CH220J50PT   | K22174219 | VERSION C | 6-   | A    | D1       |
| C 1094 | CHIP CAP.       | 27pF    | 50V | CH   | GRM39CH270J50PT   | K22174221 |           | 1-5  | A    | D1       |
| C 1094 | CHIP CAP.       | 47pF    | 50V | CH   | GRM39CH470J50PT   | K22174227 | VERSION A | 6-   | A    | D1       |
| C 1094 | CHIP CAP.       | 27pF    | 50V | CH   | GRM39CH270J50PT   | K22174221 | VERSION C | 6-   | A    | D1       |
| C 1095 | CHIP CAP.       | 0.1uF   | 16V | B    | GRM39B104K16PT    | K22124805 |           | 1-   | B    | f2       |
| C 1096 | CHIP CAP.       | 4pF     | 50V | CH   | GRM39CH040C50PT   | K22174205 |           | 1-5  | A    | D1       |
| C 1096 | CHIP CAP.       | 3pF     | 50V | CJ   | GRM39CJ030C50PT   | K22174204 | VERSION A | 6-   | A    | D1       |
| C 1096 | CHIP CAP.       | 4pF     | 50V | CH   | GRM39CH040C50PT   | K22174205 | VERSION C | 6-   | A    | D1       |
| C 1098 | CHIP CAP.       | 0.001uF | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | B    | b3       |
| C 1099 | CHIP CAP.       | 0.001uF | 50V | B    | GRM39B102M50PT    | K22174809 |           | 1-   | A    | D1       |
| C 1100 | CHIP CAP.       | 4pF     | 50V | CH   | GRM39CH040C50PT   | K22174205 |           | 1-5  | A    | D1       |
| C 1100 | CHIP CAP.       | 3pF     | 50V | CJ   | GRM39CJ030C50PT   | K22174204 | VERSION A | 6-   | A    | D1       |
| C 1100 | CHIP CAP.       | 4pF     | 50V | CH   | GRM39CH040C50PT   | K22174205 | VERSION C | 6-   | A    | D1       |
| C 1101 | CHIP CAP.       | 10pF    | 50V | CH   | GRM39CH100D50PT   | K22174211 |           | 1-5  | A    | D1       |
| C 1101 | CHIP CAP.       | 18pF    | 50V | CH   | GRM39CH180J50PT   | K22174217 | VERSION A | 6-   | A    | D1       |
| C 1101 | CHIP CAP.       | 10pF    | 50V | CH   | GRM39CH100D50PT   | K22174211 | VERSION C | 6-   | A    | D1       |
| C 1103 | CHIP CAP.       | 1uF     | 16V | B    | GRM42-6B105K16NPT | K22121803 |           | 1-   | B    | f2       |
| C 1104 | CHIP CAP.       | 0.1uF   | 25V | B    | GRM40B104M25PT    | K22140811 |           | 1-   | A    | G2       |
| C 1105 | CHIP CAP.       | 22pF    | 50V | CH   | GRM39CH220J50PT   | K22174219 |           | 1-5  | A    | D1       |
| C 1105 | CHIP CAP.       | 39pF    | 50V | CH   | GRM39CH390J50PT   | K22174225 | VERSION A | 6-   | A    | D1       |
| C 1105 | CHIP CAP.       | 22pF    | 50V | CH   | GRM39CH220J50PT   | K22174219 | VERSION C | 6-   | A    | D1       |
| C 1106 | CHIP CAP.       | 27pF    | 50V | CH   | GRM39CH270J50PT   | K22174221 |           | 1-5  | A    | D1       |
| C 1106 | CHIP CAP.       | 47pF    | 50V | CH   | GRM39CH470J50PT   | K22174227 | VERSION A | 6-   | A    | D1       |
| C 1106 | CHIP CAP.       | 27pF    | 50V | CH   | GRM39CH270J50PT   | K22174221 | VERSION C | 6-   | A    | D1       |
| C 1107 | CHIP CAP.       | 18pF    | 50V | CH   | GRM39CH180J50PT   | K22174217 |           | 1-   | A    | C2       |
| C 1108 | CHIP CAP.       | 0.001uF | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A    | G2       |
| C 1109 | CHIP CAP.       | 2pF     | 50V | CK   | GRM39CK020C50PT   | K22174203 |           | 1-5  | A    | D1       |
| C 1109 | CHIP CAP.       | 5pF     | 50V | CH   | GRM39CH050C50PT   | K22174206 | VERSION A | 6-   | A    | D1       |
| C 1109 | CHIP CAP.       | 2pF     | 50V | CK   | GRM39CK020C50PT   | K22174203 | VERSION C | 6    | A    | D1       |
| C 1109 | CHIP CAP.       | 3pF     | 50V | CJ   | GRM39CJ030C50PT   | K22174204 | VERSION C | 7-   | A    | D1       |
| C 1110 | CHIP CAP.       | 6pF     | 50V | CH   | GRM39CH060D50PT   | K22174207 |           | 1-6  | A    | D1       |
| C 1110 | CHIP CAP.       | 6pF     | 50V | CH   | GRM39CH060D50PT   | K22174207 | VERSION A | 7-   | A    | D1       |
| C 1110 | CHIP CAP.       | 4pF     | 50V | CH   | GRM39CH040C50PT   | K22174205 | VERSION C | 7-   | A    | D1       |
| C 1112 | CHIP CAP.       | 0.1uF   | 16V | B    | GRM39B104K16PT    | K22124805 |           | 1-   | A    | C2       |
| C 1113 | CHIP CAP.       | 0.047uF | 16V | B    | GRM39B473K16PT    | K22124804 |           | 1-   | A    | C2       |
| C 1114 | CHIP CAP.       | 0.033uF | 16V | B    | ECJ1VB1C333K      | K22129515 |           | 1-   | A    | C2       |
| C 1115 | CHIP CAP.       | 5pF     | 50V | CH   | GRM39CH050C50PT   | K22174206 |           | 1-   | B    | d2       |
| C 1116 | CHIP CAP.       | 0.001uF | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A    | C2       |
| C 1117 | CHIP CAP.       | 0.001uF | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | B    | e2       |
| C 1118 | CHIP CAP.       | 560pF   | 50V | B    | GRM39B561M50PT    | K22174806 |           | 1-   | A    | B2       |
| C 1119 | CHIP CAP.       | 120pF   | 50V | CH   | GRM39CH121J50PT   | K22174237 |           | 1-   | A    | C1       |
| C 1120 | CHIP CAP.       | 390pF   | 50V | CH   | GRM39CH391J50PT   | K22174255 |           | 1-   | A    | B2       |
| C 1121 | CHIP CAP.       | 0.01uF  | 25V | B    | GRM39B103M25PT    | K22144802 |           | 1-   | A    | D1       |
| C 1122 | CHIP CAP.       | 0.01uF  | 25V | B    | GRM39B103M25PT    | K22144802 |           | 1-   | A    | D1       |

# MAIN Unit

| REF.   | DESCRIPTION     | VALUE    | WV  | TOL. | MFR'S DESIG       | VXSTD P/N | VERS.                  | LOT. | SIDE. | LAY ADR. |
|--------|-----------------|----------|-----|------|-------------------|-----------|------------------------|------|-------|----------|
| C 1123 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 | VERSION A<br>VERSION C | 1-   | A     | B2       |
| C 1124 | CHIP CAP.       | 27pF     | 50V | CH   | GRM39CH270J50PT   | K22174221 |                        | 1-   | A     | D1       |
| C 1125 | CHIP CAP.       | 0.047uF  | 16V | B    | GRM39B473K16PT    | K22124804 |                        | 1-   | A     | C2       |
| C 1126 | CHIP CAP.       | 560pF    | 50V | B    | GRM39B561M50PT    | K22174806 |                        | 1-   | A     | B2       |
| C 1127 | CHIP CAP.       | 12pF     | 50V | CH   | GRM39CH120J50PT   | K22174213 |                        | 1-   | B     | d2       |
| C 1128 | CHIP CAP.       | 0.015uF  | 25V | B    | GRM39B153K25PT    | K22144805 |                        | 1-   | A     | B3       |
| C 1129 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | A     | E2       |
| C 1130 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |                        | 1-   | A     | B2       |
| C 1131 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |                        | 1-   | B     | f3       |
| C 1132 | CHIP CAP.       | 0.047uF  | 16V | B    | GRM39B473K16PT    | K22124804 |                        | 1-   | A     | B3       |
| C 1133 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | A     | E2       |
| C 1134 | CHIP CAP.       | 15pF     | 50V | CH   | GRM39CH150J50PT   | K22174215 |                        | 1    | B     | e2       |
| C 1134 | CHIP CAP.       | 15pF     | 50V | CH   | GRM39CH150J50PT   | K22174215 |                        | 2-5  | B     | e2       |
| C 1134 | CHIP CAP.       | 47pF     | 50V | CH   | GRM39CH470J50PT   | K22174227 |                        | 6-   | B     | e2       |
| C 1134 | CHIP CAP.       | 15pF     | 50V | CH   | GRM39CH150J50PT   | K22174215 |                        | 6-   | B     | e2       |
| C 1135 | CHIP CAP.       | 82pF     | 50V | CH   | GRM39CH820J50PT   | K22174233 |                        | 1-   | A     | E2       |
| C 1136 | CHIP CAP.       | 0.022uF  | 25V | B    | GRM39B223K25PT    | K22144807 |                        | 1-   | A     | C2       |
| C 1137 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | A     | D2       |
| C 1138 | CHIP CAP.       | 1uF      | 16V | B    | GRM42-6B105K16NPT | K22121803 |                        | 1-   | A     | D2       |
| C 1139 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | B     | d2       |
| C 1140 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | b3       |
| C 1141 | CHIP CAP.       | 47pF     | 50V | CH   | GRM39CH470J50PT   | K22174227 |                        | 1-   | B     | f2       |
| C 1142 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | A     | C2       |
| C 1143 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102M50PT    | K22174809 |                        | 1-   | A     | E2       |
| C 1144 | CHIP CAP.       | 22pF     | 50V | CH   | GRM39CH220J50PT   | K22174219 |                        | 1-   | B     | c3       |
| C 1145 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | b3       |
| C 1146 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | b3       |
| C 1147 | CHIP CAP.       | 1uF      | 16V | B    | GRM42-6B105K16NPT | K22121803 |                        | 1-   | B     | f2       |
| C 1148 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | B     | f2       |
| C 1151 | CHIP CAP.       | 0.033uF  | 16V | R    | GRM39B333K16PT    | K22124801 |                        | 1-   | B     | b2       |
| C 1151 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |                        | 4-   | B     | b2       |
| C 1151 | CHIP CAP.       | 0.22uF   | 10V | B    | GRM39B224K10PT    | K22104801 |                        | 7-   | B     | b2       |
| C 1153 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | b3       |
| C 1154 | CHIP CAP.       | 12pF     | 50V | CH   | GRM39CH120J50PT   | K22174213 |                        | 1-   | A     | D2       |
| C 1155 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | b3       |
| C 1156 | CHIP CAP.       | 82pF     | 50V | CH   | GRM39CH820J50PT   | K22174233 |                        | 1-   | B     | b2       |
| C 1157 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |                        | 1-   | B     | b3       |
| C 1158 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | A     | C2       |
| C 1159 | CHIP CAP.       | 100pF    | 50V | CH   | GRM39CH101J50PT   | K22174235 |                        | 1-   | B     | b2       |
| C 1160 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | b2       |
| C 1161 | CHIP CAP.       | 100pF    | 50V | CH   | GRM39CH101J50PT   | K22174235 |                        | 1-   | B     | b2       |
| C 1162 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | A     | C3       |
| C 1163 | AL.ELECTRO.CAP. | 470uF    | 16V |      | RE3-16V471M 470UF | K40129066 |                        | 1-   | A     | A2       |
| C 1164 | CHIP TA.CAP.    | 10uF     | 10V |      | TEMSVA1A106M-8R   | K78100028 |                        | 1-   | A     | C3       |
| C 1165 | AL.ELECTRO.CAP. | 10uF     | 16V |      | ECEV1CS100SR      | K48120001 |                        | 1-   | A     | F2       |
| C 1166 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |                        | 1-   | A     | F2       |
| C 1167 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | g2       |
| C 1168 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | B     | b2       |
| C 1169 | CHIP CAP.       | 18pF     | 50V | CH   | GRM39CH180J50PT   | K22174217 |                        | 1-   | A     | D2       |
| C 1170 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | A     | D2       |
| C 1171 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |                        | 1-   | B     | g2       |
| C 1172 | CHIP CAP.       | 0.1uF    | 25V | B    | GRM40B104M25PT    | K22140811 |                        | 1-   | A     | G2       |
| C 1173 | CHIP CAP.       | 0.0056uF | 50V | B    | ECJ1VB1H562K      | K22179623 |                        | 1-   | A     | F2       |
| C 1174 | CHIP TA.CAP.    | 2.2uF    | 10V |      | TESVA1A225M1-8R   | K78100021 |                        | 1-   | A     | A2       |
| C 1175 | CHIP CAP.       | 0.1uF    | 25V | B    | GRM40B104M25PT    | K22140811 |                        | 1-   | B     | a2       |
| C 1176 | CHIP CAP.       | 7pF      | 50V | CH   | GRM39CH070D50PT   | K22174208 |                        | 1-   | A     | G2       |
| C 1177 | CHIP CAP.       | 1uF      | 16V | B    | GRM42-6B105K16NPT | K22121803 |                        | 1-   | B     | a2       |
| C 1178 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |                        | 1-   | B     | a2       |
| C 1179 | CHIP CAP.       | 0.047uF  | 16V | B    | GRM39B473K16PT    | K22124804 |                        | 1-   | A     | A2       |
| C 1180 | CHIP CAP.       | 47pF     | 50V | CH   | GRM39CH470J50PT   | K22174227 |                        | 1-   | B     | d3       |

| REF.   | DESCRIPTION  | VALUE   | WV  | TOL. | MFR'S DESIG     | VXSTD P/N | VERS.     | LOT. | SIDE | LAY ADR. |
|--------|--------------|---------|-----|------|-----------------|-----------|-----------|------|------|----------|
| C 1181 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | B    | f3       |
| C 1182 | CHIP CAP.    | 0.1uF   | 16V | B    | GRM39B104K16PT  | K22124805 |           | 1-   | B    | f3       |
| C 1183 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | B    | f3       |
| C 1184 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | B    | f3       |
| C 1185 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | A    | B3       |
| C 1186 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | A    | B3       |
| C 1187 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | A    | C3       |
| C 1188 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | A    | C3       |
| C 1189 | CHIP CAP.    | 6pF     | 50V | CH   | GRM39CH060D50PT | K22174207 |           | 1-   | B    | d3       |
| C 1190 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | A    | D4       |
| C 1191 | CHIP CAP.    | 0.1uF   | 25V | B    | GRM40B104M25PT  | K22140811 |           | 1-   | B    | d2       |
| C 1192 | CHIP CAP.    | 47pF    | 50V | CH   | GRM39CH470J50PT | K22174227 |           | 1-   | A    | D3       |
| C 1193 | CHIP CAP.    | 0.01uF  | 25V | B    | GRM39B103M25PT  | K22144802 |           | 1-   | A    | D3       |
| C 1194 | CHIP TA.CAP. | 10uF    | 10V |      | TEMSVA1A106M-8R | K78100028 |           | 1-   | B    | e3       |
| C 1195 | CHIP TA.CAP. | 10uF    | 10V |      | TEMSVA1A106M-8R | K78100028 |           | 1-   | A    | D4       |
| C 1196 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | A    | C3       |
| C 1197 | CHIP TA.CAP. | 10uF    | 10V |      | TEMSVA1A106M-8R | K78100028 |           | 1-   | A    | D3       |
| C 1198 | CHIP CAP.    | 12pF    | 50V | CH   | GRM39CH120J50PT | K22174213 |           | 1-   | A    | D3       |
| C 1199 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | A    | D3       |
| C 1200 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | A    | D3       |
| C 1201 | CHIP CAP.    | 18pF    | 50V | CH   | GRM39CH180J50PT | K22174217 |           | 1-5  | B    | e3       |
| C 1201 | CHIP CAP.    | 33pF    | 50V | CH   | GRM39CH330J50PT | K22174223 | VERSION A | 6-   | B    | e3       |
| C 1201 | CHIP CAP.    | 47pF    | 50V | CH   | GRM39CH470J50PT | K22174227 | VERSION A | 26-  | B    | e3       |
| C 1201 | CHIP CAP.    | 18pF    | 50V | CH   | GRM39CH180J50PT | K22174217 | VERSION C | 6-   | B    | e3       |
| C 1201 | CHIP CAP.    | 47pF    | 50V | CH   | GRM39CH470J50PT | K22174227 | VERSION C | 26-  | B    | e3       |
| C 1202 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | B    | e3       |
| C 1203 | CHIP CAP.    | 33pF    | 50V | CH   | GRM39CH330J50PT | K22174223 |           | 1-   | B    | g3       |
| C 1204 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | A    | C4       |
| C 1205 | CHIP CAP.    | 1pF     | 50V | CK   | GRM39CK010C50PT | K22174202 |           | 1-   | A    | E3       |
| C 1206 | CHIP CAP.    | 22pF    | 50V | CH   | GRM39CH220J50PT | K22174219 |           | 1-5  | B    | e3       |
| C 1206 | CHIP CAP.    | 33pF    | 50V | CH   | GRM39CH330J50PT | K22174223 | VERSION A | 6-   | B    | e3       |
| C 1206 | CHIP CAP.    | 22pF    | 50V | CH   | GRM39CH220J50PT | K22174219 | VERSION C | 6-   | B    | e3       |
| C 1207 | CHIP CAP.    | 5pF     | 50V | CH   | GRM39CH050C50PT | K22174206 |           | 1-   | B    | g3       |
| C 1208 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | A    | E3       |
| C 1209 | CHIP CAP.    | 0.01uF  | 25V | B    | GRM39B103M25PT  | K22144802 |           | 1-   | B    | c3       |
| C 1210 | CHIP CAP.    | 0.1uF   | 16V | B    | GRM39B104K16PT  | K22124805 |           | 1-   | B    | e3       |
| C 1211 | CHIP CAP.    | 15pF    | 50V | CH   | GRM39CH150J50PT | K22174215 |           | 1-5  | A    | C3       |
| C 1211 | CHIP CAP.    | 18pF    | 50V | CH   | GRM39CH180J50PT | K22174217 | VERSION A | 6-   | A    | C3       |
| C 1211 | CHIP CAP.    | 15pF    | 50V | CH   | GRM39CH150J50PT | K22174215 | VERSION C | 6-   | A    | C3       |
| C 1212 | CHIP CAP.    | 22pF    | 50V | CH   | GRM39CH220J50PT | K22174219 |           | 1-   | B    | g3       |
| C 1213 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | B    | e3       |
| C 1214 | CHIP CAP.    | 56pF    | 50V | CH   | GRM39CH560J50PT | K22174229 |           | 1-   | A    | E3       |
| C 1215 | CHIP CAP.    | 56pF    | 50V | CH   | GRM39CH560J50PT | K22174229 |           | 1-   | A    | E3       |
| C 1216 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | B    | e3       |
| C 1217 | CHIP CAP.    | 220pF   | 50V | CH   | GRM39CH221J50PT | K22174243 |           | 1-   | B    | c3       |
| C 1218 | CHIP CAP.    | 18pF    | 50V | CH   | GRM39CH180J50PT | K22174217 |           | 1-   | A    | F3       |
| C 1219 | CHIP CAP.    | 12pF    | 50V | CH   | GRM39CH120J50PT | K22174213 |           | 1-   | A    | E3       |
| C 1220 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | B    | e3       |
| C 1221 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | A    | E3       |
| C 1222 | CHIP CAP.    | 0.1uF   | 16V | B    | GRM39B104K16PT  | K22124805 |           | 1-   | B    | d3       |
| C 1223 | CHIP CAP.    | 0.001uF | 50V | B    | GRM39B102K50PT  | K22174821 |           | 1-   | B    | e3       |
| C 1224 | CHIP CAP.    | 0.01uF  | 25V | B    | GRM39B103M25PT  | K22144802 |           | 1-   | B    | c3       |
| C 1225 | CHIP CAP.    | 0.01uF  | 25V | B    | GRM39B103M25PT  | K22144802 |           | 1-   | A    | E3       |
| C 1226 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | B    | e3       |
| C 1227 | CHIP CAP.    | 33pF    | 50V | CH   | GRM39CH330J50PT | K22174223 |           | 1-   | B    | e3       |
| C 1228 | CHIP TA.CAP. | 10uF    | 10V |      | TEMSVA1A106M-8R | K78100028 |           | 1-   | B    | d3       |
| C 1229 | CHIP CAP.    | 100pF   | 50V | CH   | GRM39CH101J50PT | K22174235 |           | 1-   | B    | e3       |
| C 1230 | CHIP CAP.    | 0.01uF  | 25V | B    | GRM39B103M25PT  | K22144802 |           | 1-   | A    | E3       |
| C 1231 | CHIP CAP.    | 0.01uF  | 25V | B    | GRM39B103K25PT  | K22144803 |           | 1-   | B    | d3       |
| C 1232 | CHIP CAP.    | 15pF    | 50V | CH   | GRM39CH150J50PT | K22174215 |           | 1-   | B    | c3       |

# MAIN Unit

| REF.   | DESCRIPTION     | VALUE    | WV  | TOL. | MFR'S DESIG       | VXSTD P/N | VERS.     | LOT. | SIDE. | LAY ADR. |
|--------|-----------------|----------|-----|------|-------------------|-----------|-----------|------|-------|----------|
| C 1234 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |           | 1-   | A     | B3       |
| C 1235 | CHIP CAP.       | 0.033uF  | 16V | R    | GRM39R333K16PT    | K22124801 |           | 1-   | B     | d3       |
| C 1236 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |           | 1-   | B     | e3       |
| C 1237 | CHIP TA.CAP.    | 10uF     | 10V |      | TEMSVA1A106M-8R   | K78100028 |           | 1-   | B     | f3       |
| C 1238 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A     | D3       |
| C 1239 | CHIP CAP.       | 220pF    | 50V | CH   | GRM39CH221J50PT   | K22174243 |           | 1-   | B     | c3       |
| C 1240 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |           | 1-   | B     | d3       |
| C 1241 | CHIP CAP.       | 0.01uF   | 25V | B    | GRM39B103M25PT    | K22144802 |           | 1-   | B     | c3       |
| C 1242 | CHIP CAP.       | 220pF    | 50V | CH   | GRM39CH221J50PT   | K22174243 |           | 1-   | A     | D3       |
| C 1243 | CHIP CAP.       | 1pF      | 50V | CK   | GRM39CK010C50PT   | K22174202 |           | 1-   | A     | E3       |
| C 1244 | CHIP CAP.       | 220pF    | 50V | CH   | GRM39CH221J50PT   | K22174243 |           | 1-   | A     | D3       |
| C 1245 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A     | E3       |
| C 1246 | CHIP CAP.       | 220pF    | 50V | CH   | GRM39CH221J50PT   | K22174243 |           | 1-   | A     | E3       |
| C 1247 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 |           | 1-   | A     | C3       |
| C 1248 | AL.ELECTRO.CAP. | 10uF     | 16V |      | ECEV1CS100SR      | K48120001 |           | 1-18 | A     | F3       |
| C 1249 | CHIP CAP.       | 0.5pF    | 50V | CK   | GRM39CK0R5C50PT   | K22174201 |           | 1-   | A     | C1       |
| C 1250 | CHIP CAP.       | 0.1uF    | 25V | B    | GRM40B104M25PT    | K22140811 |           | 1-   | B     | f2       |
| C 1250 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |           | 5-   | B     | f2       |
| C 1251 | CHIP CAP.       | 0.1uF    | 16V | B    | GRM39B104K16PT    | K22124805 |           | 1-   | B     | g2       |
| C 1252 | CHIP TA.CAP.    | 10uF     | 10V |      | TEMSVA1A106M-8R   | K78100028 |           | 1-   | B     | b3       |
| C 1254 | CHIP CAP.       | 0.0027uF | 50V | B    | GRM39B272M50PT    | K22174814 |           | 1-   | B     | f2       |
| C 1254 | CHIP CAP.       | 0.0018uF | 50V | B    | GRM39B182M50PT    | K22174812 |           | 5-   | B     | f2       |
| C 1255 | CHIP CAP.       | 0.0033uF | 50V | B    | GRM39B332M50PT    | K22174815 |           | 1-   | B     | a2       |
| C 1256 | CHIP CAP.       | 1uF      | 16V | B    | GRM42-6B105K16NPT | K22121803 |           | 1-   | A     | D2       |
| C 1256 | CHIP TA.CAP.    | 33uF     | 16V |      | TEMSVC1C336M12R   | K78120033 |           | 19-  | A     | D2       |
| C 1257 | CHIP TA.CAP.    | 10uF     | 16V |      | TEMSVB21C106M-8R  | K78120025 |           | 1-   | A     | D1       |
| C 1258 | CHIP CAP.       | 1uF      | 10V | F    | GRM39F105Z10PT    | K22105001 |           | 5-   | B     | g2       |
| C 1259 | CHIP CAP.       | 27pF     | 50V | CH   | GRM39CH270J50PT   | K22174221 | VERSION A | 6    | B     | b3       |
| C 1259 | CHIP CAP.       | 27pF     | 50V | CH   | GRM39CH270J50PT   | K22174221 |           | 7-   | B     | b3       |
| C 1260 | CHIP TA.CAP.    | 10uF     | 10V |      | TEMSVA1A106M-8R   | K78100028 |           | 6-   | A     | G3       |
| C 1261 | CHIP CAP.       | 0.001uF  | 50V | B    | GRM39B102K50PT    | K22174821 | VERSION A | 6-18 |       |          |
| C 1262 | CHIP TA.CAP.    | 10uF     | 10V |      | TEMSVA1A106M-8R   | K78100028 |           | 26-  | A     | C3       |
| CD1001 | CERAMIC DISC    |          |     |      | CDBM450C24T       | H7901060  |           | 1-   | A     | F2       |
| CD1001 | CERAMIC DISC    |          |     |      | CDBC450CX24-TC    | H7901340  |           | 19-  | A     | F2       |
| CF1001 | CERAMIC FILTER  |          |     |      | CFWM450G          | H3900435  |           | 1-   | A     | F3       |
| CF1002 | CERAMIC FILTER  |          |     |      | CFWM450E          | H3900466  |           | 1-   | A     | F3       |
| CO1001 | CERAMIC OSC     | 1MHz     |     |      | KBR-1000YTR17     | H7900840  |           | 1-   | A     | B1       |
| CO1001 | CERAMIC OSC     | 1MHz     |     |      | KBR-1000YTR17     | H7900840  |           | 19-  | A     | B1       |
| CO1001 | CERAMIC OSC     | 1MHz     |     |      | CSB1000J221T      | H7900550  |           | 40-  | A     | B1       |
| D 1001 | SURGE ABSORBER  |          |     |      | P6KE18            | Q9000534  |           | 1-   | A     | B1       |
| D 1001 | SURGE ABSORBER  |          |     |      | P6KA18            | Q9000721  |           | 7-   | A     | B1       |
| D 1002 | DIODE           |          |     |      | UM9957F/TR        | G2070562  |           | 1-   | B     | b1       |
| D 1004 | DIODE           |          |     |      | UM9957F/TR        | G2070562  |           | 1-   | A     | G1       |
| D 1005 | DIODE           |          |     |      | 1SS321 TE85R      | G2070076  |           | 1-   | B     | b1       |
| D 1006 | DIODE           |          |     |      | RLS135 TE-11      | G2070128  |           | 1-   | A     | E1       |
| D 1007 | DIODE           |          |     |      | KV1470-TR00       | G2070318  |           | 1-   | A     | E1       |
| D 1007 | DIODE           |          |     |      | KV1470-TL00       | G2070680  |           | 6-   | A     | E1       |
| D 1007 | DIODE           |          |     |      | KV1470-TL00       | G2070680  |           | 29-  | A     | E1       |
| D 1007 | DIODE           |          |     |      | KV1870STL         | G2070832  |           | 44-  | A     | E1       |
| D 1008 | DIODE           |          |     |      | KV1470-TR00       | G2070318  |           | 1-   | A     | E1       |
| D 1008 | DIODE           |          |     |      | KV1470-TL00       | G2070680  |           | 6-   | A     | E1       |
| D 1008 | DIODE           |          |     |      | KV1470-TL00       | G2070680  |           | 29-  | A     | E1       |
| D 1008 | DIODE           |          |     |      | KV1870STL         | G2070832  |           | 44-  | A     | E1       |
| D 1009 | DIODE           |          |     |      | 1SS355 TE-17      | G2070470  |           | 1-   | A     | E1       |
| D 1010 | DIODE           |          |     |      | 1SS355 TE-17      | G2070470  |           | 1-   | B     | g2       |
| D 1011 | DIODE           |          |     |      | HVU350TRF         | G2070380  |           | 1-   | A     | D1       |
| D 1012 | DIODE           |          |     |      | HVU350TRF         | G2070380  |           | 1-   | A     | D1       |
| D 1013 | DIODE           |          |     |      | HVU350TRF         | G2070380  |           | 1-   | A     | D1       |
| D 1014 | DIODE           |          |     |      | HVU350TRF         | G2070380  |           | 1-   | A     | D1       |
| D 1015 | DIODE           |          |     |      | 1SS355 TE-17      | G2070470  |           | 1-   | A     | G2       |

| REF.   | DESCRIPTION   | VALUE    | WV | TOL. | MFR'S DESIG       | VXSTD P/N | VERS.     | LOT. | SIDE | LAY ADR. |
|--------|---------------|----------|----|------|-------------------|-----------|-----------|------|------|----------|
| D 1016 | DIODE         |          |    |      | DAP202U T106      | G2070160  |           | 1-   | A    | B3       |
| D 1017 | DIODE         |          |    |      | MA143-(TX)        | G2070536  |           | 1-   | A    | E2       |
| D 1018 | DIODE         |          |    |      | 02CZ5.6Y TE85R    | G2070300  |           | 1-   | B    | b2       |
| D 1019 | DIODE         |          |    |      | MA142WK-(TX)      | G2070534  |           | 1-   | B    | b3       |
| D 1021 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 1-   | B    | b3       |
| D 1022 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 1-   | B    | b3       |
| D 1023 | DIODE         |          |    |      | D1F20-4063        | G2070474  |           | 1-   | B    | g1       |
| D 1024 | DIODE         |          |    |      | 02CZ5.6Y TE85R    | G2070300  |           | 1    | B    | g2       |
| D 1024 | DIODE         |          |    |      | HZM7C-TR          | G2070070  |           | 2-   | B    | g2       |
| D 1024 | DIODE         |          |    |      | HZM7.5NB2 TR      | G2070864  |           | 63-  | B    | g2       |
| D 1025 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 1-   | B    | g2       |
| D 1026 | DIODE         |          |    |      | 1SS321 TE85R      | G2070076  |           | 1-   | B    | e2       |
| D 1027 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 1-   | A    | A2       |
| D 1028 | DIODE         |          |    |      | MA729-(TX)        | G2070320  |           | 1-   | A    | A2       |
| D 1029 | DIODE         |          |    |      | 02CZ5.6Y TE85R    | G2070300  |           | 1-   | B    | d2       |
| D 1030 | DIODE         |          |    |      | 1SV230 TPH3       | G2070126  |           | 1-   | B    | c3       |
| D 1031 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 1-   | B    | g3       |
| D 1032 | DIODE         |          |    |      | HSU277TRF         | G2070118  |           | 1-   | A    | E3       |
| D 1033 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 1-   | B    | e3       |
| D 1034 | DIODE         |          |    |      | 1SV230 TPH3       | G2070126  |           | 1-   | B    | c3       |
| D 1035 | DIODE         |          |    |      | 1SV276(TPH3)      | G2070420  |           | 1-   | A    | D3       |
| D 1036 | DIODE         |          |    |      | 1SV276(TPH3)      | G2070420  |           | 1-   | A    | D3       |
| D 1037 | DIODE         |          |    |      | DAP202U T106      | G2070160  |           | 1-   | A    | A3       |
| D 1038 | DIODE         |          |    |      | 1SV276(TPH3)      | G2070420  |           | 1-   | A    | D3       |
| D 1039 | DIODE         |          |    |      | 1SV276(TPH3)      | G2070420  |           | 1-   | A    | D3       |
| D 1040 | DIODE         |          |    |      | MA143-(TX)        | G2070536  |           | 1-   | B    | c3       |
| D 1041 | DIODE         |          |    |      | 1SV276(TPH3)      | G2070420  |           | 1-   | A    | E3       |
| D 1042 | DIODE         |          |    |      | 1SS270            | G2090408  |           | 1-   | B    | f2       |
| D 1042 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 5-   | B    | f2       |
| D 1043 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 5-   | B    | g3       |
| D 1044 | DIODE         |          |    |      | 1SS270            | G2090408  |           | 5-   | B    | e3       |
| D 1044 | DIODE         |          |    |      | 1SS355 TE-17      | G2070470  |           | 19-  | B    | e3       |
| F 1001 | CHIP FUSE     | 0.25A    |    |      | F0805B0R25FWTR    | Q0000072  |           | 1-   | A    | A1       |
| F 1001 | CHIP FUSE     | 0.25A    |    |      | TF20N0.25TE       | Q0000100  |           | 26-  | A    | A1       |
| FB1001 | FERRITE BEADS |          |    |      | SMB304729         | L9190094  |           | 1-   | B    | f1       |
| FB1002 | FERRITE BEADS |          |    |      | SMB304729         | L9190094  |           | 1-   | B    | f1       |
| FB1003 | FERRITE BEADS |          |    |      | SMB304729         | L9190094  |           | 1-   | A    | E2       |
| J 1001 | CONNECTOR     |          |    |      | SB20-03WS         | P0090610  |           | 1-   | A    | G3       |
| J 1002 | CONNECTOR     |          |    |      | SB20-02WS         | P0090609  |           | 1-   | A    | G4       |
| J 1003 | CONNECTOR     |          |    |      | AE0031-00         | P1090998  |           | 1-   | B    | g1       |
| J 1004 | CONNECTOR     |          |    |      | IL-Y-14P-S15T2-E  | P0090601  |           | 1-   | A    | A4       |
| J 1005 | CONNECTOR     |          |    |      | IL-Y-8P-S15T2-EF  | P0090646  |           | 1-   | A    | A2       |
| J 1006 | CONNECTOR     |          |    |      | B11B-ZR           | P0091200  |           | 1-   | A    | B4       |
| J 1007 | CONNECTOR     |          |    |      | IL-Y-12P-S15T2-EF | P0091201  |           | 1-   | A    | B3       |
| L 1001 | COIL A1       |          |    |      | 3.5T3.5D0.8UEW R  | L0021647A |           | 1-   | A    | G1       |
| L 1002 | COIL A1       |          |    |      | 3.5T3.5D0.8UEW R  | L0021647A |           | 1-   | A    | G1       |
| L 1004 | COIL A1       |          |    |      | 3.5T3.5D0.8UEW R  | L0021647A |           | 1-   | A    | F1       |
| L 1005 | CHIP COIL     | 0.22uH   |    |      | LER015TR22M       | L1690111  |           | 1-   | A    | F1       |
| L 1006 | COIL          |          |    |      | E2 0.35-1.6-7T-L  | L0022390  |           | 1-   | A    | E1       |
| L 1007 | COIL A1       |          |    |      | 3.5T3.5D0.8UEW R  | L0021647A |           | 1-   | A    | F1       |
| L 1008 | M.RFC         | 0.0414uH |    |      | 36CS 656LZ-08K=P3 | L1690247  |           | 1-5  | A    | E1       |
| L 1008 | M.RFC         | 0.0498uH |    |      | 36CS 656LZ-09K=P3 | L1690248  | VERSION A | 6-   | A    | E1       |
| L 1008 | M.RFC         | 0.0414uH |    |      | 36CS 656LZ-08K=P3 | L1690247  | VERSION C | 6-   | A    | E1       |
| L 1009 | M.RFC         | 2.2uH    |    |      | LAL04NA2R2M       | L1190319  |           | 1-   | A    | G2       |
| L 1010 | M.RFC         | 0.0414uH |    |      | 36CS 656LZ-08K=P3 | L1690247  |           | 1-5  | A    | E1       |
| L 1010 | M.RFC         | 0.0498uH |    |      | 36CS 656LZ-09K=P3 | L1690248  | VERSION A | 6-   | A    | E1       |
| L 1010 | M.RFC         | 0.0414uH |    |      | 36CS 656LZ-08K=P3 | L1690247  | VERSION C | 6-   | A    | E1       |
| L 1011 | M.RFC         | 0.047uH  |    |      | HK1608 47NJ-T     | L1690524  |           | 1-5  |      |          |
| L 1011 | M.RFC         | 0.047uH  |    |      | HK1608 47NJ-T     | L1690524  | VERSION C | 6    |      |          |
| L 1012 | M.RFC         | 0.22uH   |    |      | LK1608 R22K-T     | L1690410  |           | 1-   | A    | E1       |

# MAIN Unit

| REF.   | DESCRIPTION | VALUE   | WV | TOL. | MFR'S DESIG        | VXSTD P/N | VERS.     |     | SIDE. | LAY ADR. |
|--------|-------------|---------|----|------|--------------------|-----------|-----------|-----|-------|----------|
| L 1013 | COIL        |         |    |      | E2 0.28-1.0-4.5T-R | L0022395  |           | 1-  | A     | D1       |
| L 1014 | COIL        |         |    |      | E2 0.28-1.0-4.5T-R | L0022395  |           | 1-  | A     | C1       |
| L 1015 | M.RFC       | 0.33uH  |    |      | LK1608 R33K-T      | L1690412  |           | 1-5 | B     | e2       |
| L 1015 | M.RFC       | 0.39uH  |    |      | LK1608 R39K-T      | L1690413  | VERSION A | 6-  | B     | e2       |
| L 1015 | M.RFC       | 0.33uH  |    |      | LK1608 R33K-T      | L1690412  | VERSION C | 6-  | B     | e2       |
| L 1016 | M.RFC       | 0.27uH  |    |      | LK1608 R27K-T      | L1690411  |           | 1-5 | A     | C1       |
| L 1016 | M.RFC       | 0.33uH  |    |      | LK1608 R33K-T      | L1690412  | VERSION A | 6-  | A     | C1       |
| L 1016 | M.RFC       | 0.27uH  |    |      | LK1608 R27K-T      | L1690411  | VERSION C | 6-  | A     | C1       |
| L 1017 | M.RFC       | 0.22uH  |    |      | LK1608 R22K-T      | L1690410  |           | 1-  | A     | C1       |
| L 1018 | M.RFC       | 0.33uH  |    |      | LK1608 R33K-T      | L1690412  |           | 1-  | A     | C1       |
| L 1019 | M.RFC       | 3.3uH   |    |      | LK1608 3R3K-T      | L1690686  |           | 1-  | A     | D1       |
| L 1020 | M.RFC       | 0.56uH  |    |      | LK1608 R56K-T      | L1690415  |           | 1-  | A     | E2       |
| L 1021 | CHIP COIL   | 0.084uH |    |      | LQN1A84NJ04        | L1690259  |           | 1   | A     | D2       |
| L 1021 | CHIP COIL   | 0.084uH |    |      | LQN1A84NJ04        | L1690259  |           | 2-  | A     | D2       |
| L 1024 | M.RFC       | 0.22uH  |    |      | LK2125 R22K-T      | L1690311  |           | 1-  | A     | C2       |
| L 1025 | M.RFC       | 0.082uH |    |      | HK2125 82NK-T      | L1690388  |           | 1-  | A     | C3       |
| L 1026 | M.RFC       | 0.068uH |    |      | HK1608 68NJ-T      | L1690526  |           | 1-  | A     | D3       |
| L 1027 | M.RFC       | 0.082uH |    |      | HK1608 82NJ-T      | L1690527  |           | 1-  | B     | e3       |
| L 1028 | M.RFC       | 0.056uH |    |      | HK1608 56NJ-T      | L1690525  |           | 1-  | A     | D3       |
| L 1029 | M.RFC       | 10uH    |    |      | LK2125 100K-T      | L1690331  |           | 1-  | B     | g3       |
| L 1030 | M.RFC       | 0.082uH |    |      | HK1608 82NJ-T      | L1690527  |           | 1-  | A     | C3       |
| L 1031 | COIL        |         |    |      | E2 0.35-1.6-8T-L   | L0022458  |           | 1-5 | A     | E3       |
| L 1031 | COIL        |         |    |      | E2 0.3-1.7-8T-L    | L0022376  | VERSION A | 6-  | A     | E3       |
| L 1031 | COIL        |         |    |      | E2 0.35-1.6-8T-L   | L0022458  | VERSION C | 6-  | A     | E3       |
| L 1032 | COIL        |         |    |      | E2 0.28-1.0-6T-R   | L0022366  |           | 1-5 | A     | E3       |
| L 1032 | COIL        |         |    |      | E2 0.28-1.0-7TR    | L0022422  | VERSION A | 6-  | A     | E3       |
| L 1032 | COIL        |         |    |      | E2 0.28-1.0-6T-R   | L0022366  | VERSION C | 6-  | A     | E3       |
| L 1033 | M.RFC       | 10uH    |    |      | LK2125 100K-T      | L1690331  |           | 1-  | A     | D3       |
| Q 1001 | IC          |         |    |      | MM1216ENRE         | G1092432  |           | 1-  | B     | b2       |
| Q 1002 | TRANSISTOR  |         |    |      | 2SB1201S-TL        | G3070195  |           | 1-  | A     | G3       |
| Q 1003 | IC          |         |    |      | TDA2003H           | G1090815  |           | 1-  | A     | H3       |
| Q 1004 | TRANSISTOR  |         |    |      | IMH6A T108         | G3070066  |           | 1-  | B     | a2       |
| Q 1005 | TRANSISTOR  |         |    |      | DTB123YK T146      | G3070156  |           | 1-  | B     | a2       |
| Q 1005 | TRANSISTOR  |         |    |      | DTB113ZK T146      | G3070103  |           | 4-  | B     | a2       |
| Q 1006 | TRANSISTOR  |         |    |      | DTB123EK T146      | G3070022  |           | 1-  | B     | a2       |
| Q 1007 | IC          |         |    |      | NJM2902V-TE1       | G1091679  |           | 1-  | A     | B2       |
| Q 1008 | TRANSISTOR  |         |    |      | DTC323TK T146      | G3070042  |           | 1-  | B     | g2       |
| Q 1009 | IC          |         |    |      | MX165BDW-TR        | G1092175  |           | 1-  | A     | B2       |
| Q 1009 | IC          |         |    |      | MX165CDW-TR        | G1092775  |           | 6-  | A     | B2       |
| Q 1010 | IC          |         |    |      | HA17805P           | G1090936  |           | 1-  | A     | F4       |
| Q 1010 | IC          |         |    |      | KIA7805API         | G1093163  |           | 76- | A     | F4       |
| Q 1011 | IC          |         |    |      | M67741H-01         | G1091622  |           | 1-5 | B     | e1       |
| Q 1011 | IC          |         |    |      | M67741L-01         | G1091623  | VERSION A | 6-  | B     | e1       |
| Q 1011 | IC          |         |    |      | M67741H-01         | G1091622  | VERSION C | 6-  | B     | e1       |
| Q 1012 | TRANSISTOR  |         |    |      | 2SC4226-T2B R24    | G3342267D |           | 1-  | A     | E1       |
| Q 1014 | TRANSISTOR  |         |    |      | 2SB1143S           | G3211430S |           | 1-  | A     | F2       |
| Q 1015 | TRANSISTOR  |         |    |      | 2SC4116GR TE85R    | G3341167G |           | 1-  | A     | F3       |
| Q 1016 | IC          |         |    |      | NJM2902V-TE1       | G1091679  |           | 1-  | A     | B2       |
| Q 1017 | IC          |         |    |      | NJM2904V-TE1       | G1091677  |           | 1-  | A     | G2       |
| Q 1020 | TRANSISTOR  |         |    |      | DTC124EU T106      | G3070045  |           | 1-  | B     | f3       |
| Q 1021 | FET         |         |    |      | SGM2016M-T7        | G4070005  |           | 1-  | A     | D1       |
| Q 1021 | FET         |         |    |      | SGM2016AM-T7       | G4070012  |           | 8-  | A     | D1       |
| Q 1022 | TRANSISTOR  |         |    |      | IMZ1 T108          | G3070025  |           | 1-  | A     | H2       |
| Q 1025 | TRANSISTOR  |         |    |      | IMH6A T108         | G3070066  |           | 1-  | B     | f3       |
| Q 1026 | TRANSISTOR  |         |    |      | 2SC4215Y TE85R     | G3342157Y |           | 1-  | A     | E2       |
| Q 1028 | TRANSISTOR  |         |    |      | 2SC3357-T2         | G3333577  |           | 1-  | B     | e2       |
| Q 1029 | IC          |         |    |      | BA4116FV-E2        | G1092616  |           | 1-  | A     | F2       |
| Q 1029 | IC          |         |    |      | TA31136FN(EL)      | G1091605  |           | 7-  | A     | F2       |
| Q 1030 | IC          |         |    |      | AN8005M-(E1)       | G1091454  |           | 1-  | B     | g2       |
| Q 1031 | TRANSISTOR  |         |    |      | 2SC3357-T2         | G3333577  |           | 1-  | A     | D3       |

| REF.   | DESCRIPTION | VALUE | WV    | TOL. | MFR'S DESIG            | VXSTD P/N | VERS.    | LOT.  | SIDE | LAY ADR. |
|--------|-------------|-------|-------|------|------------------------|-----------|----------|-------|------|----------|
| Q 1032 | TRANSISTOR  |       |       |      | 2SA1586Y TE85R         | G3115867Y |          | 1-    | B    | b2       |
| Q 1033 | TRANSISTOR  |       |       |      | DTC124EU T106          | G3070045  |          | 1-    | B    | f2       |
| Q 1034 | TRANSISTOR  |       |       |      | 2SA1586Y TE85R         | G3115867Y |          | 1-    | B    | g2       |
| Q 1035 | TRANSISTOR  |       |       |      | IMH6A T108             | G3070066  |          | 1-    | A    | G2       |
| Q 1036 | IC          |       |       |      | RH5VL45AA-T1           | G1090966  |          | 1-    | A    | A2       |
| Q 1036 | IC          |       |       |      | RH5VT45AA-T1           | G1093215  |          | 19-   | A    | A2       |
| Q 1036 | IC          |       |       |      | RH5VL45AA-T1           | G1090966  |          | 22-   | A    | A2       |
| Q 1038 | TRANSISTOR  |       |       |      | 2SC5107-O(TE85R)       | G3351077O |          | 1-    | B    | d3       |
| Q 1039 | IC          |       |       |      | MB89P677APFM           | ✖         |          | 1     | A    | A3       |
| Q 1039 | IC          |       |       |      | MB89677ARPFM-G-161-BND | ✖         |          | 2-    | A    | A3       |
| Q 1039 | IC          |       |       |      | MB89677ARPFM-G-163-BND | ✖         |          | 6-    | A    | A3       |
| Q 1039 | IC          |       |       |      | MB89677ARPFM-G-181-BND | ✖         |          | 15-52 | A    | A3       |
| Q 1039 | IC          |       |       |      | MB89P677APFM           |           | DST:NTL  | 53-   | A    | A3       |
| Q 1039 | IC          |       |       |      | MB89677ARPFM-G-181-BND | ✖         | EXPORT   | 53-   | A    | A3       |
| Q 1039 | IC          |       |       |      | MB89677ARPFM-G-181-BND | ✖         | STANDARD | 53-   | A    | A3       |
| Q 1039 | IC          |       |       |      | MB89677ARPFM-G-181-BND | ✖         | VTX(USA) | 53-   | A    | A3       |
| Q 1040 | TRANSISTOR  |       |       |      | 2SC4116GR TE85R        | G3341167G |          | 1-    | B    | d2       |
| Q 1041 | TRANSISTOR  |       |       |      | 2SC5107-O(TE85R)       | G3351077O |          | 1-    | B    | e3       |
| Q 1042 | TRANSISTOR  |       |       |      | 2SC4116GR TE85R        | G3341167G |          | 1-    | A    | D4       |
| Q 1043 | FET         |       |       |      | 2SK880GR TE85R         | G3808807G |          | 1-    | A    | D3       |
| Q 1044 | TRANSISTOR  |       |       |      | 2SC5107-O(TE85R)       | G3351077O |          | 1-    | A    | D3       |
| Q 1045 | TRANSISTOR  |       |       |      | 2SC4116GR TE85R        | G3341167G |          | 1-    | B    | g3       |
| Q 1046 | TRANSISTOR  |       |       |      | 2SC5107-O(TE85R)       | G3351077O |          | 1-    | A    | E3       |
| Q 1047 | TRANSISTOR  |       |       |      | 2SC4116GR TE85R        | G3341167G |          | 1-    | B    | c3       |
| Q 1048 | TRANSISTOR  |       |       |      | DTC124EU T106          | G3070045  |          | 1     | A    | E3       |
| Q 1048 | TRANSISTOR  |       |       |      | 2SC4116GR TE85R        | G3341167G |          | 2-    | A    | E3       |
| Q 1049 | IC          |       |       |      | BR93LC66RF-E2          | G1092006  |          | 1-    | B    | g3       |
| Q 1049 | IC          |       |       |      | BR93L66RF-WE2          | G1093912  |          | 85-   | B    | g3       |
| Q 1050 | IC          |       |       |      | SC370651FR2            | G1091937  |          | 1-    | A    | D3       |
| Q 1050 | IC          |       |       |      | MC145192FR2            | G1092017  |          | 26-   | A    | D3       |
| Q 1050 | IC          |       |       |      | MC145193FR2            | G1093424  |          | 41-   | A    | D3       |
| Q 1051 | TRANSISTOR  |       |       |      | DTC124EU T106          | G3070045  |          | 1-    | B    | g3       |
| Q 1052 | TRANSISTOR  |       |       |      | IMH6A T108             | G3070066  |          | 1-    | B    | f3       |
| Q 1053 | TRANSISTOR  |       |       |      | DTC124EU T106          | G3070045  |          | 1-    | A    | C3       |
| Q 1054 | TRANSISTOR  |       |       |      | 2SC4116GR TE85R        | G3341167G |          | 26-   | A    | C3       |
| R 1001 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP        | J24185473 |          | 1-    | B    | a1       |
| R 1002 | CHIP RES.   | 4.7   | 1W    | 5%   | RMC1 4R7JTE            | J24305479 |          | 1-    | B    | a3       |
| R 1003 | CHIP RES.   | 4.7   | 1W    | 5%   | RMC1 4R7JTE            | J24305479 |          | 1-    | B    | a3       |
| R 1004 | CHIP RES.   | 1     | 1/10W | 5%   | RMC1/10T 1R0J          | J24205010 |          | 1-    | B    | a3       |
| R 1005 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP        | J24185102 |          | 1-    | B    | g1       |
| R 1006 | CHIP RES.   | 470   | 1/16W | 5%   | RMC1/16 471JATP        | J24185471 |          | 1-    | B    | g1       |
| R 1007 | CHIP RES.   | 100   | 1/16W | 5%   | RMC1/16 101JATP        | J24185101 |          | 1-    | B    | g1       |
| R 1008 | CHIP RES.   | 270   | 1/10W | 5%   | RMC1/10T 271J          | J24205271 |          | 1-    | B    | a2       |
| R 1009 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP        | J24185331 |          | 1-    | B    | g1       |
| R 1010 | CHIP RES.   | 560   | 1/16W | 5%   | RMC1/16 561JATP        | J24185561 |          | 1-    | B    | f2       |
| R 1011 | CHIP RES.   | 2.7   | 1/16W | 5%   | RMC1/16 2R7JATP        | J24185279 |          | 1-3   | B    | a2       |
| R 1013 | CHIP RES.   | 2.7   | 1/16W | 5%   | RMC1/16 2R7JATP        | J24185279 |          | 4-    | A    | G2       |
| R 1014 | CHIP RES.   | 470   | 1/4W  | 5%   | RMC1/4 471JATP         | J24245471 |          | 1-    | B    | b1       |
| R 1015 | CHIP RES.   | 3.3k  | 1/16W | 5%   | RMC1/16 332JATP        | J24185332 |          | 1-    | B    | f2       |
| R 1016 | CHIP RES.   | 470k  | 1/16W | 5%   | RMC1/16 474JATP        | J24185474 |          | 1-    | A    | C3       |
| R 1017 | CHIP RES.   | 1.5M  | 1/16W | 5%   | RMC1/16 155JATP        | J24185155 |          | 1-    | B    | f2       |
| R 1018 | CHIP RES.   | 33k   | 1/16W | 5%   | RMC1/16 333JATP        | J24185333 |          | 1-    | B    | b1       |
| R 1019 | CHIP RES.   | 2.2M  | 1/16W | 5%   | RMC1/16 225JATP        | J24185225 |          | 1-3   | A    | B2       |
| R 1020 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP        | J24185102 |          | 1-    | B    | e3       |
| R 1021 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP        | J24185103 |          | 1-    | B    | a1       |
| R 1022 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP        | J24185103 |          | 1-    | B    | a1       |
| R 1023 | CHIP RES.   | 47    | 1/16W | 5%   | RMC1/16 470JATP        | J24185470 |          | 1-    | B    | f2       |
| R 1024 | CHIP RES.   | 0     | 1/16W | 5%   | RMC1/16 000JATP        | J24185000 |          | 1-    | B    | f2       |
| R 1025 | CHIP RES.   | 33k   | 1/16W | 5%   | RMC1/16 333JATP        | J24185333 |          | 1-    | B    | b2       |
| R 1026 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP        | J24185104 |          | 1-    | A    | E1       |

\* Please contact VERTEX STANDARD.



# MAIN Unit

| REF.   | DESCRIPTION | VALUE | WV    | TOL. | MFR'S DESIG     | VXSTD P/N | VERS.     | LOT. | SIDE. | LAY ADR. |
|--------|-------------|-------|-------|------|-----------------|-----------|-----------|------|-------|----------|
| R 1027 | CHIP RES.   | 15k   | 1/16W | 5%   | RMC1/16 153JATP | J24185153 |           | 1-   | A     | B2       |
| R 1028 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-   | A     | B2       |
| R 1029 | CHIP RES.   | 6.8k  | 1/16W | 5%   | RMC1/16 682JATP | J24185682 |           | 1-   | B     | g2       |
| R 1030 | CHIP RES.   | 150   | 1W    | 5%   | RMC1 151JTE     | J24305151 |           | 1-   | B     | a1       |
| R 1031 | CHIP RES.   | 47    | 1/16W | 5%   | RMC1/16 470JATP | J24185470 |           | 1-   | B     | g2       |
| R 1032 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | E1       |
| R 1033 | CHIP RES.   | 1M    | 1/16W | 5%   | RMC1/16 105JATP | J24185105 |           | 1-   | A     | B2       |
| R 1034 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | B     | f2       |
| R 1035 | CHIP RES.   | 15k   | 1/16W | 5%   | RMC1/16 153JATP | J24185153 |           | 1-   | A     | E1       |
| R 1036 | CHIP RES.   | 3.3k  | 1/16W | 5%   | RMC1/16 332JATP | J24185332 |           | 1-   | A     | E1       |
| R 1037 | CHIP RES.   | 6.8k  | 1/16W | 5%   | RMC1/16 682JATP | J24185682 |           | 1-   | A     | E1       |
| R 1038 | CHIP RES.   | 820k  | 1/16W | 5%   | RMC1/16 824JATP | J24185824 |           | 1-   | A     | B1       |
| R 1039 | CHIP RES.   | 2.2M  | 1/16W | 5%   | RMC1/16 225JATP | J24185225 |           | 1-   | B     | g2       |
| R 1039 | CHIP RES.   | 560k  | 1/16W | 5%   | RMC1/16 564JATP | J24185564 |           | 86-  | B     | g2       |
| R 1042 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | B     | g2       |
| R 1042 | CHIP RES.   | 680k  | 1/16W | 5%   | RMC1/16 684JATP | J24185684 |           | 86-  | B     | g2       |
| R 1043 | CHIP RES.   | 330   | 1/10W | 5%   | RMC1/10T 331J   | J24205331 |           | 1    | B     | e2       |
| R 1043 | CHIP RES.   | 470   | 1/10W | 5%   | RMC1/10T 471J   | J24205471 |           | 2-5  | B     | e2       |
| R 1043 | CHIP RES.   | 180   | 1/10W | 5%   | RMC1/10T 181J   | J24205181 | VERSION A | 6-   | B     | e2       |
| R 1043 | CHIP RES.   | 470   | 1/10W | 5%   | RMC1/10T 471J   | J24205471 | VERSION C | 6-   | B     | e2       |
| R 1044 | CHIP RES.   | 100   | 1/16W | 5%   | RMC1/16 101JATP | J24185101 |           | 1-   | A     | E1       |
| R 1045 | CHIP RES.   | 0     | 1/16W | 5%   | RMC1/16 000JATP | J24185000 |           | 1-   | A     | E1       |
| R 1046 | CHIP RES.   | 33    | 1/10W | 5%   | RMC1/10T 330J   | J24205330 |           | 1    | B     | e2       |
| R 1046 | CHIP RES.   | 22    | 1/10W | 5%   | RMC1/10T 220J   | J24205220 |           | 2-5  | B     | e2       |
| R 1046 | CHIP RES.   | 56    | 1/10W | 5%   | RMC1/10T 560J   | J24205560 | VERSION A | 6-   | B     | e2       |
| R 1046 | CHIP RES.   | 22    | 1/10W | 5%   | RMC1/10T 220J   | J24205220 | VERSION C | 6-   | B     | e2       |
| R 1047 | CHIP RES.   | 33    | 1/10W | 5%   | RMC1/10T 330J   | J24205330 |           | 1    | B     | e2       |
| R 1047 | CHIP RES.   | 22    | 1/10W | 5%   | RMC1/10T 220J   | J24205220 |           | 2-5  | B     | e2       |
| R 1047 | CHIP RES.   | 56    | 1/10W | 5%   | RMC1/10T 560J   | J24205560 | VERSION A | 6-   | B     | e2       |
| R 1047 | CHIP RES.   | 22    | 1/10W | 5%   | RMC1/10T 220J   | J24205220 | VERSION C | 6-   | B     | e2       |
| R 1048 | CHIP RES.   | 560   | 1/16W | 5%   | RMC1/16 561JATP | J24185561 |           | 1-   | A     | E1       |
| R 1049 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-   | A     | B1       |
| R 1050 | CHIP RES.   | 4.7k  | 1/16W | 5%   | RMC1/16 472JATP | J24185472 |           | 1-   | A     | C2       |
| R 1052 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B     | e2       |
| R 1053 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | D1       |
| R 1054 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | D1       |
| R 1055 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-   | B     | c3       |
| R 1056 | CHIP RES.   | 470   | 1/16W | 5%   | RMC1/16 471JATP | J24185471 |           | 1-   | A     | F3       |
| R 1057 | CHIP RES.   | 220k  | 1/16W | 5%   | RMC1/16 224JATP | J24185224 |           | 1-   | B     | c3       |
| R 1058 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | D1       |
| R 1059 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | G2       |
| R 1060 | CHIP RES.   | 180k  | 1/16W | 5%   | RMC1/16 184JATP | J24185184 |           | 1-   | B     | f2       |
| R 1062 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | D1       |
| R 1063 | CHIP RES.   | 820k  | 1/16W | 5%   | RMC1/16 824JATP | J24185824 |           | 1-   | A     | C2       |
| R 1064 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | D1       |
| R 1065 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | D1       |
| R 1066 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-   | A     | C2       |
| R 1067 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | C2       |
| R 1068 | CHIP RES.   | 220k  | 1/16W | 5%   | RMC1/16 224JATP | J24185224 |           | 1-   | A     | G2       |
| R 1069 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1    | A     | C2       |
| R 1069 | CHIP RES.   | 33k   | 1/16W | 5%   | RMC1/16 333JATP | J24185333 |           | 2-   | A     | C2       |
| R 1070 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | A     | C2       |
| R 1071 | CHIP RES.   | 3.9k  | 1/16W | 5%   | RMC1/16 392JATP | J24185392 |           | 1-   | B     | a1       |
| R 1072 | CHIP RES.   | 220   | 1/16W | 5%   | RMC1/16 221JATP | J24185221 |           | 1-   | B     | e2       |
| R 1072 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 5-   | B     | e2       |
| R 1073 | CHIP RES.   | 2.2M  | 1/16W | 5%   | RMC1/16 225JATP | J24185225 |           | 1-   | A     | C1       |
| R 1074 | CHIP RES.   | 180k  | 1/16W | 5%   | RMC1/16 184JATP | J24185184 |           | 1-   | A     | C1       |
| R 1075 | CHIP RES.   | 150k  | 1/16W | 5%   | RMC1/16 154JATP | J24185154 |           | 1-   | A     | B2       |
| R 1076 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | G2       |
| R 1077 | CHIP RES.   | 6.8k  | 1/16W | 5%   | RMC1/16 682JATP | J24185682 |           | 1-   | B     | a1       |

| REF.   | DESCRIPTION | VALUE | WV    | TOL. | MFR'S DESIG     | VXSTD P/N | VERS.     | LOT.  | SIDE | LAY ADR. |
|--------|-------------|-------|-------|------|-----------------|-----------|-----------|-------|------|----------|
| R 1078 | CHIP RES.   | 2.2M  | 1/16W | 5%   | RMC1/16 225JATP | J24185225 |           | 1-    | A    | B2       |
| R 1079 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-    | A    | C1       |
| R 1080 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-    | A    | B2       |
| R 1081 | CHIP RES.   | 15    | 1/16W | 5%   | RMC1/16 150JATP | J24185150 |           | 1-    | A    | C1       |
| R 1082 | CHIP RES.   | 220   | 1/16W | 5%   | RMC1/16 221JATP | J24185221 |           | 1-    | A    | D1       |
| R 1083 | CHIP RES.   | 4.7k  | 1/16W | 5%   | RMC1/16 472JATP | J24185472 |           | 1-    | B    | a2       |
| R 1085 | CHIP RES.   | 0     | 1/16W | 5%   | RMC1/16 000JATP | J24185000 |           | 1-    | A    | C1       |
| R 1086 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-    | A    | C2       |
| R 1087 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-    | A    | D1       |
| R 1088 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-    | B    | f3       |
| R 1089 | CHIP RES.   | 2.7k  | 1/16W | 5%   | RMC1/16 272JATP | J24185272 |           | 1-    | A    | D1       |
| R 1090 | CHIP RES.   | 18k   | 1/16W | 5%   | RMC1/16 183JATP | J24185183 |           | 1-    | A    | B2       |
| R 1091 | CHIP RES.   | 220   | 1/16W | 5%   | RMC1/16 221JATP | J24185221 |           | 1-    | A    | D1       |
| R 1092 | CHIP RES.   | 15    | 1/16W | 5%   | RMC1/16 150JATP | J24185150 |           | 1-    | A    | D1       |
| R 1093 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | A    | C2       |
| R 1094 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | A    | B2       |
| R 1095 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | A    | G2       |
| R 1096 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | A    | H2       |
| R 1097 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | B    | a2       |
| R 1098 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | B    | a2       |
| R 1099 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-    | B    | f3       |
| R 1100 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-    | A    | H2       |
| R 1101 | CHIP RES.   | 2.7k  | 1/16W | 5%   | RMC1/16 272JATP | J24185272 |           | 1-    | A    | H2       |
| R 1102 | CHIP RES.   | 1.2k  | 1/16W | 5%   | RMC1/16 122JATP | J24185122 |           | 1-    | A    | E2       |
| R 1103 | CHIP RES.   | 33k   | 1/16W | 5%   | RMC1/16 333JATP | J24185333 |           | 1-    | A    | B3       |
| R 1104 | CHIP RES.   | 220k  | 1/16W | 5%   | RMC1/16 224JATP | J24185224 |           | 1-    | A    | E2       |
| R 1105 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-    | A    | B3       |
| R 1106 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-4   |      |          |
| R 1107 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-    | B    | d2       |
| R 1108 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | A    | B3       |
| R 1109 | CHIP RES.   | 330   | 1/10W | 5%   | RMC1/10T 331J   | J24205331 |           | 1     | B    | e2       |
| R 1109 | CHIP RES.   | 470   | 1/10W | 5%   | RMC1/10T 471J   | J24205471 |           | 2-5   | B    | e2       |
| R 1109 | CHIP RES.   | 180   | 1/10W | 5%   | RMC1/10T 181J   | J24205181 | VERSION A | 6-    | B    | e2       |
| R 1109 | CHIP RES.   | 470   | 1/10W | 5%   | RMC1/10T 471J   | J24205471 | VERSION C | 6-    | B    | e2       |
| R 1110 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-    | A    | E2       |
| R 1111 | CHIP RES.   | 18k   | 1/16W | 5%   | RMC1/16 183JATP | J24185183 |           | 1-    | A    | C3       |
| R 1112 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-4   |      |          |
| R 1113 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-    | B    | f3       |
| R 1114 | CHIP RES.   | 39k   | 1/16W | 5%   | RMC1/16 393JATP | J24185393 |           | 1-    | A    | C3       |
| R 1115 | CHIP RES.   | 470k  | 1/16W | 5%   | RMC1/16 474JATP | J24185474 |           | 1-    | B    | f2       |
| R 1115 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 86-   | B    | f2       |
| R 1116 | CHIP RES.   | 390k  | 1/16W | 5%   | RMC1/16 394JATP | J24185394 |           | 1-    | B    | f2       |
| R 1117 | CHIP RES.   | 680k  | 1/16W | 5%   | RMC1/16 684JATP | J24185684 |           | 1-    | B    | f2       |
| R 1118 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-    | A    | B2       |
| R 1119 | CHIP RES.   | 180   | 1/10W | 5%   | RMC1/10T 181J   | J24205181 |           | 41-42 | A    | D2       |
| R 1120 | CHIP RES.   | 22    | 1/10W | 5%   | RMC1/10T 220J   | J24205220 |           | 1     | A    | D2       |
| R 1120 | CHIP RES.   | 0     | 1/10W | 5%   | RMC1/10T 000J   | J24205000 |           | 2-    | A    | D2       |
| R 1121 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-    | B    | b3       |
| R 1122 | CHIP RES.   | 150k  | 1/16W | 5%   | RMC1/16 154JATP | J24185154 |           | 1-    | B    | f2       |
| R 1123 | CHIP RES.   | 22    | 1/10W | 5%   | RMC1/10T 220J   | J24205220 |           | 1     | A    | C2       |
| R 1123 | CHIP RES.   | 10    | 1/10W | 5%   | RMC1/10T 100J   | J24205100 |           | 2-    | A    | C2       |
| R 1124 | CHIP RES.   | 270   | 1/16W | 5%   | RMC1/16 271JATP | J24185271 |           | 1-    | B    | b2       |
| R 1125 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-    | B    | b3       |
| R 1126 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-    | B    | b3       |
| R 1128 | CHIP RES.   | 0     | 1/16W | 5%   | RMC1/16 000JATP | J24185000 |           | 1-18  |      |          |
| R 1129 | CHIP RES.   | 47    | 1/16W | 5%   | RMC1/16 470JATP | J24185470 |           | 1-    | B    | f2       |
| R 1130 | CHIP RES.   | 18k   | 1/16W | 5%   | RMC1/16 183JATP | J24185183 |           | 1-    | B    | f2       |
| R 1131 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-    | B    | f2       |
| R 1132 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-    | B    | e2       |
| R 1133 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-    | B    | b3       |

# MAIN Unit

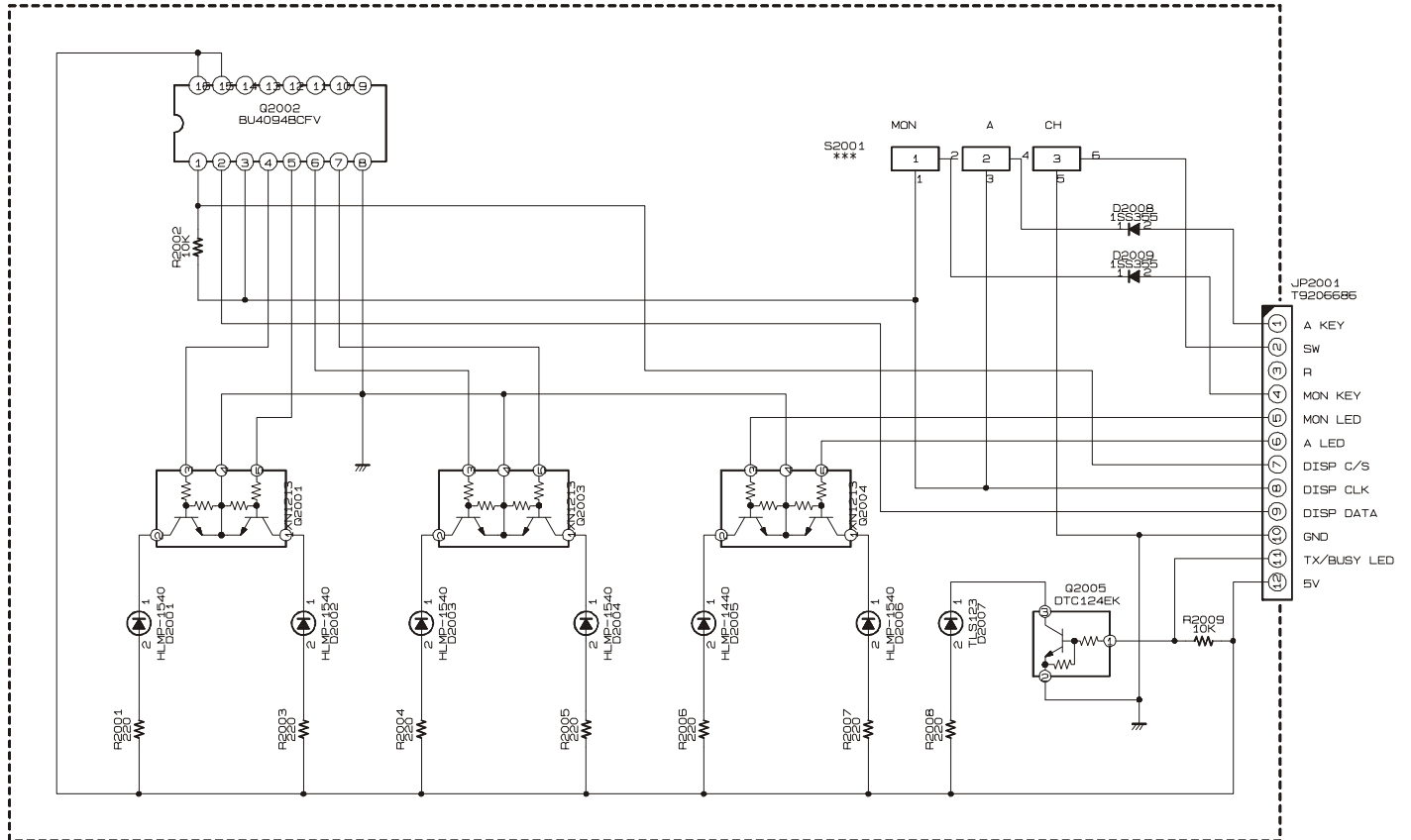
| REF.   | DESCRIPTION | VALUE | WV    | TOL. | MFR'S DESIG     | VXSTD P/N | VERS.     | LOT. | SIDE. | LAY ADR. |
|--------|-------------|-------|-------|------|-----------------|-----------|-----------|------|-------|----------|
| R 1134 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-   | B     | b3       |
| R 1135 | CHIP RES.   | 1.8M  | 1/16W | 5%   | RMC1/16 185JATP | J24185185 |           | 1-   | B     | b2       |
| R 1135 | CHIP RES.   | 3.3M  | 1/16W | 5%   | RMC1/16 335JATP | J24185335 |           | 5-   | B     | b2       |
| R 1136 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B     | b2       |
| R 1137 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-   | B     | b3       |
| R 1138 | CHIP RES.   | 820   | 1/16W | 5%   | RMC1/16 821JATP | J24185821 |           | 1-   | B     | b2       |
| R 1138 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 7-   | B     | b2       |
| R 1139 | CHIP RES.   | 680k  | 1/16W | 5%   | RMC1/16 684JATP | J24185684 |           | 1-   | B     | b2       |
| R 1139 | CHIP RES.   | 1M    | 1/16W | 5%   | RMC1/16 105JATP | J24185105 |           | 7-   | B     | b2       |
| R 1140 | CHIP RES.   | 47    | 1/10W | 5%   | RMC1/10T 470J   | J24205470 |           | 1-   | B     | e3       |
| R 1141 | CHIP RES.   | 1.5k  | 1/16W | 5%   | RMC1/16 152JATP | J24185152 |           | 1-   | B     | b2       |
| R 1142 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | A     | C3       |
| R 1143 | CHIP RES.   | 33k   | 1/16W | 5%   | RMC1/16 333JATP | J24185333 |           | 1-   | B     | b2       |
| R 1144 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | D3       |
| R 1145 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | F2       |
| R 1146 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-   | B     | b2       |
| R 1147 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B     | b2       |
| R 1148 | CHIP RES.   | 0     | 1/16W | 5%   | RMC1/16 000JATP | J24185000 |           | 1-   | B     | b2       |
| R 1149 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | A3       |
| R 1150 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | g3       |
| R 1151 | CHIP RES.   | 4.7k  | 1/16W | 5%   | RMC1/16 472JATP | J24185472 |           | 1-   | A     | F2       |
| R 1151 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 7-   | A     | F2       |
| R 1152 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | A3       |
| R 1153 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B     | b2       |
| R 1154 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B     | g2       |
| R 1155 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | g3       |
| R 1157 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-   | A     | F2       |
| R 1158 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B     | f3       |
| R 1159 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | A     | D2       |
| R 1160 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B     | f3       |
| R 1161 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | g3       |
| R 1162 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-   | A     | G2       |
| R 1163 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | g3       |
| R 1164 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B     | g2       |
| R 1165 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | g3       |
| R 1166 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-   | A     | A2       |
| R 1167 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | g3       |
| R 1168 | CHIP RES.   | 6.8k  | 1/16W | 5%   | RMC1/16 682JATP | J24185682 |           | 1-   | A     | G2       |
| R 1169 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | g3       |
| R 1170 | CHIP RES.   | 270k  | 1/16W | 5%   | RMC1/16 274JATP | J24185274 |           | 1-   | A     | G2       |
| R 1171 | CHIP RES.   | 15k   | 1/16W | 5%   | RMC1/16 153JATP | J24185153 |           | 1-   | B     | a2       |
| R 1172 | CHIP RES.   | 12k   | 1/16W | 5%   | RMC1/16 123JATP | J24185123 |           | 1-   | B     | b2       |
| R 1173 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | f3       |
| R 1174 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | B     | d2       |
| R 1175 | CHIP RES.   | 47    | 1/16W | 5%   | RMC1/16 470JATP | J24185470 |           | 1-   | B     | a2       |
| R 1176 | CHIP RES.   | 1.5M  | 1/16W | 5%   | RMC1/16 155JATP | J24185155 |           | 1-   | A     | G2       |
| R 1177 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A     | A2       |
| R 1178 | CHIP RES.   | 47    | 1/16W | 5%   | RMC1/16 470JATP | J24185470 |           | 1-   | B     | d3       |
| R 1179 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B     | f2       |
| R 1180 | CHIP RES.   | 15    | 1/16W | 5%   | RMC1/16 150JATP | J24185150 |           | 1-   | B     | d3       |
| R 1181 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B     | d2       |
| R 1182 | CHIP RES.   | 1M    | 1/16W | 5%   | RMC1/16 105JATP | J24185105 |           | 1-5  | A     | D3       |
| R 1182 | CHIP RES.   | 470k  | 1/16W | 5%   | RMC1/16 474JATP | J24185474 | VERSION A | 6-   | A     | D3       |
| R 1182 | CHIP RES.   | 2.2M  | 1/16W | 5%   | RMC1/16 225JATP | J24185225 | VERSION A | 26-  | A     | D3       |
| R 1182 | CHIP RES.   | 1M    | 1/16W | 5%   | RMC1/16 105JATP | J24185105 | VERSION C | 6-   | A     | D3       |
| R 1183 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 1-   | B     | f3       |
| R 1184 | CHIP RES.   | 15    | 1/16W | 5%   | RMC1/16 150JATP | J24185150 |           | 1-   | A     | D3       |
| R 1185 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1    | A     | D3       |
| R 1185 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 2-   | A     | D3       |
| R 1186 | CHIP RES.   | 100k  | 1/16W | 5%   | RMC1/16 104JATP | J24185104 |           | 1-   | A     | D3       |

| REF.   | DESCRIPTION | VALUE | WV    | TOL. | MFR'S DESIG     | VXSTD P/N | VERS.     | LOT. | SIDE | LAY ADR. |
|--------|-------------|-------|-------|------|-----------------|-----------|-----------|------|------|----------|
| R 1187 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B    | f4       |
| R 1188 | CHIP RES.   | 220k  | 1/16W | 5%   | RMC1/16 224JATP | J24185224 |           | 1-   | B    | e3       |
| R 1188 | CHIP RES.   | 68k   | 1/16W | 5%   | RMC1/16 683JATP | J24185683 |           | 43-  | B    | e3       |
| R 1189 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B    | f3       |
| R 1190 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A    | D3       |
| R 1190 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 19-  | A    | D3       |
| R 1191 | CHIP RES.   | 100   | 1/16W | 5%   | RMC1/16 101JATP | J24185101 |           | 1-   | B    | f3       |
| R 1192 | CHIP RES.   | 27    | 1/10W | 5%   | RMC1/10T 270J   | J24205270 |           | 1-   | B    | f3       |
| R 1193 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A    | C3       |
| R 1194 | CHIP RES.   | 100   | 1/16W | 5%   | RMC1/16 101JATP | J24185101 |           | 1-   | A    | C3       |
| R 1195 | CHIP RES.   | 220   | 1/16W | 5%   | RMC1/16 221JATP | J24185221 |           | 1-   | B    | e3       |
| R 1196 | CHIP RES.   | 100   | 1/16W | 5%   | RMC1/16 101JATP | J24185101 |           | 1-   | B    | f3       |
| R 1197 | CHIP RES.   | 220   | 1/16W | 5%   | RMC1/16 221JATP | J24185221 |           | 1-   | A    | D3       |
| R 1198 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-   | B    | c3       |
| R 1199 | CHIP RES.   | 1M    | 1/16W | 5%   | RMC1/16 105JATP | J24185105 |           | 1-   | B    | g3       |
| R 1200 | CHIP RES.   | 68k   | 1/16W | 5%   | RMC1/16 683JATP | J24185683 |           | 1-   | A    | D3       |
| R 1201 | CHIP RES.   | 220   | 1/16W | 5%   | RMC1/16 221JATP | J24185221 |           | 1-   | B    | c3       |
| R 1202 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | A    | B3       |
| R 1203 | CHIP RES.   | 10    | 1/16W | 5%   | RMC1/16 100JATP | J24185100 |           | 1-25 | B    | d3       |
| R 1204 | CHIP RES.   | 470   | 1/16W | 5%   | RMC1/16 471JATP | J24185471 |           | 1-   | B    | c3       |
| R 1205 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-   | A    | B3       |
| R 1206 | CHIP RES.   | 1     | 1W    | 5%   | RMC1 1R0JTE     | J24305010 |           | 1-   | B    | b4       |
| R 1207 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B    | c3       |
| R 1208 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A    | B3       |
| R 1209 | CHIP RES.   | 4.7k  | 1/16W | 5%   | RMC1/16 472JATP | J24185472 |           | 1-   | A    | B3       |
| R 1210 | CHIP RES.   | 47    | 1/16W | 5%   | RMC1/16 470JATP | J24185470 |           | 1-   | A    | D3       |
| R 1211 | CHIP RES.   | 470   | 1/16W | 5%   | RMC1/16 471JATP | J24185471 |           | 1-   | A    | E3       |
| R 1212 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B    | g3       |
| R 1213 | CHIP RES.   | 1M    | 1/16W | 5%   | RMC1/16 105JATP | J24185105 |           | 1-   | A    | D3       |
| R 1214 | CHIP RES.   | 47    | 1/16W | 5%   | RMC1/16 470JATP | J24185470 |           | 1-   | B    | e3       |
| R 1215 | CHIP RES.   | 22k   | 1/16W | 5%   | RMC1/16 223JATP | J24185223 |           | 1-   | B    | e3       |
| R 1215 | CHIP RES.   | 2.7k  | 1/16W | 5%   | RMC1/16 272JATP | J24185272 |           | 41-  | B    | e3       |
| R 1216 | CHIP RES.   | 6.8k  | 1/16W | 5%   | RMC1/16 682JATP | J24185682 |           | 1-   | A    | E3       |
| R 1217 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A    | E3       |
| R 1218 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | B    | c3       |
| R 1219 | CHIP RES.   | 220   | 1/16W | 5%   | RMC1/16 221JATP | J24185221 |           | 1-   | B    | e3       |
| R 1220 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A    | B3       |
| R 1221 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | B    | c3       |
| R 1222 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | B    | c3       |
| R 1223 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | B    | c3       |
| R 1224 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A    | E3       |
| R 1225 | CHIP RES.   | 5.6k  | 1/16W | 5%   | RMC1/16 562JATP | J24185562 |           | 1-   | B    | g3       |
| R 1226 | CHIP RES.   | 820   | 1/16W | 5%   | RMC1/16 821JATP | J24185821 |           | 1-5  | B    | d3       |
| R 1226 | CHIP RES.   | 1.2k  | 1/16W | 5%   | RMC1/16 122JATP | J24185122 | VERSION A | 6-   | B    | d3       |
| R 1226 | CHIP RES.   | 820   | 1/16W | 5%   | RMC1/16 821JATP | J24185821 | VERSION C | 6-   | B    | d3       |
| R 1227 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B    | d3       |
| R 1228 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | B    | e3       |
| R 1229 | CHIP RES.   | 2.2k  | 1/16W | 5%   | RMC1/16 222JATP | J24185222 |           | 1-   | A    | E3       |
| R 1230 | CHIP RES.   | 4.7k  | 1/16W | 5%   | RMC1/16 472JATP | J24185472 |           | 1-   | B    | g3       |
| R 1231 | CHIP RES.   | 6.8k  | 1/16W | 5%   | RMC1/16 682JATP | J24185682 |           | 1-   | B    | d3       |
| R 1232 | CHIP RES.   | 33k   | 1/16W | 5%   | RMC1/16 333JATP | J24185333 |           | 1-   | B    | d3       |
| R 1233 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B    | e3       |
| R 1234 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | B    | e3       |
| R 1235 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | B    | e3       |
| R 1236 | CHIP RES.   | 47k   | 1/16W | 5%   | RMC1/16 473JATP | J24185473 |           | 1-   | B    | c3       |
| R 1237 | CHIP RES.   | 1k    | 1/16W | 5%   | RMC1/16 102JATP | J24185102 |           | 1-   | A    | D3       |
| R 1238 | CHIP RES.   | 390   | 1/16W | 5%   | RMC1/16 391JATP | J24185391 |           | 1-   | A    | D3       |
| R 1238 | CHIP RES.   | 270   | 1/16W | 5%   | RMC1/16 271JATP | J24185271 |           | 3-   | A    | D3       |
| R 1238 | CHIP RES.   | 330   | 1/16W | 5%   | RMC1/16 331JATP | J24185331 |           | 5-   | A    | D3       |
| R 1239 | CHIP RES.   | 10k   | 1/16W | 5%   | RMC1/16 103JATP | J24185103 |           | 1-   | A    | A3       |

# MAIN Unit

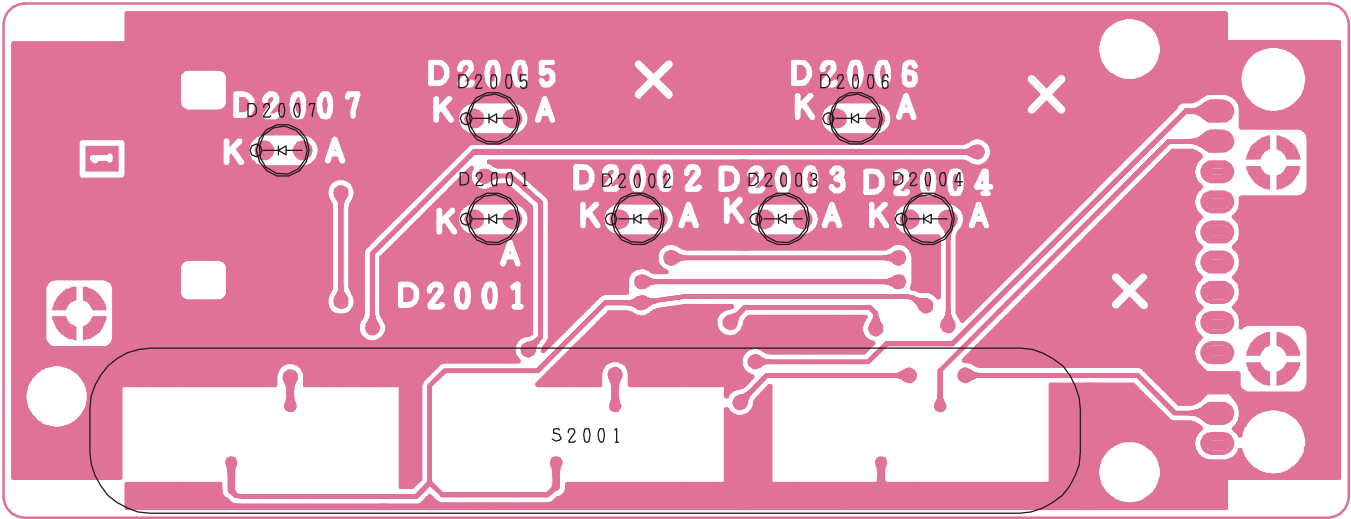
| REF.   | DESCRIPTION      | VALUE     | WV    | TOL. | MFR'S DESIG          | VXSTD P/N | VERS.     | LOT. | SIDE. | LAY ADR. |
|--------|------------------|-----------|-------|------|----------------------|-----------|-----------|------|-------|----------|
| R 1240 | CHIP RES.        | 22k       | 1/16W | 5%   | RMC1/16 223JATP      | J24185223 |           | 1-   | A     | C3       |
| R 1241 | CHIP RES.        | 270k      | 1/16W | 5%   | RMC1/16 274JATP      | J24185274 |           | 1-   | B     | c3       |
| R 1242 | CHIP RES.        | 220k      | 1/16W | 5%   | RMC1/16 224JATP      | J24185224 |           | 1-   | B     | c3       |
| R 1243 | CHIP RES.        | 47k       | 1/16W | 5%   | RMC1/16 473JATP      | J24185473 |           | 1-   | B     | e3       |
| R 1244 | CHIP RES.        | 47k       | 1/16W | 5%   | RMC1/16 473JATP      | J24185473 |           | 1-   | A     | D3       |
| R 1245 | CHIP RES.        | 47k       | 1/16W | 5%   | RMC1/16 473JATP      | J24185473 |           | 1-   | A     | E3       |
| R 1246 | CHIP RES.        | 2.2k      | 1/16W | 5%   | RMC1/16 222JATP      | J24185222 |           | 1-   | B     | c3       |
| R 1246 | CHIP RES.        | 3.3k      | 1/16W | 5%   | RMC1/16 332JATP      | J24185332 |           | 4-   | B     | c3       |
| R 1247 | CHIP RES.        | 56k       | 1/16W | 5%   | RMC1/16 563JATP      | J24185563 |           | 1-   | B     | c3       |
| R 1247 | CHIP RES.        | 47k       | 1/16W | 5%   | RMC1/16 473JATP      | J24185473 |           | 4-   | B     | c3       |
| R 1248 | CHIP RES.        | 5.6k      | 1/16W | 5%   | RMC1/16 562JATP      | J24185562 |           | 1-   | B     | d3       |
| R 1249 | CHIP RES.        | 2.2k      | 1/16W | 5%   | RMC1/16 222JATP      | J24185222 |           | 1-   | A     | C2       |
| R 1250 | CHIP RES.        | 330k      | 1/16W | 5%   | RMC1/16 334JATP      | J24185334 |           | 1-5  | A     | E3       |
| R 1250 | CHIP RES.        | 220k      | 1/16W | 5%   | RMC1/16 224JATP      | J24185224 | VERSION A | 6-   | A     | E3       |
| R 1250 | CHIP RES.        | 330k      | 1/16W | 5%   | RMC1/16 334JATP      | J24185334 | VERSION C | 6-   | A     | E3       |
| R 1251 | CHIP RES.        | 82k       | 1/16W | 5%   | RMC1/16 823JATP      | J24185823 |           | 1-5  | A     | E3       |
| R 1251 | CHIP RES.        | 220k      | 1/16W | 5%   | RMC1/16 224JATP      | J24185224 | VERSION A | 6-   | A     | E3       |
| R 1251 | CHIP RES.        | 82k       | 1/16W | 5%   | RMC1/16 823JATP      | J24185823 | VERSION C | 6-   | A     | E3       |
| R 1253 | CHIP RES.        | 2.2k      | 1/16W | 5%   | RMC1/16 222JATP      | J24185222 |           | 1-   | A     | C1       |
| R 1254 | CHIP RES.        | 100k      | 1/16W | 5%   | RMC1/16 104JATP      | J24185104 |           | 1-   | B     | e3       |
| R 1255 | CARBON FILM RES. | 3.3k      | 1/6W  | 5%   | RD16PJ332 3.3K       | J01225332 |           | 1-   | B     | f2       |
| R 1255 | CHIP RES.        | 3.3k      | 1/16W | 5%   | RMC1/16 332JATP      | J24185332 |           | 5-   | B     | f2       |
| R 1256 | CHIP RES.        | 0         | 1/8W  | 5%   | RMC1/8T 000J         | J24215000 |           | 1-   | A     | D2       |
| R 1257 | CHIP RES.        | 47k       | 1/16W | 5%   | RMC1/16 473JATP      | J24185473 |           | 1-1  | B     | g3       |
| R 1257 | CHIP RES.        | 10k       | 1/16W | 5%   | RMC1/16 103JATP      | J24185103 |           | 5-   | B     | g3       |
| R 1258 | CHIP RES.        | 0         | 1/16W | 5%   | RMC1/16 000JATP      | J24185000 | VERSION A | 6    | A     | E1       |
| R 1258 | CHIP RES.        | 0         | 1/16W | 5%   | RMC1/16 000JATP      | J24185000 |           | 7-   | A     | E1       |
| R 1259 | CHIP RES.        | 270       | 1/16W | 5%   | RMC1/16 271JATP      | J24185271 |           | 26-  | A     | C3       |
| R 1260 | CHIP RES.        | 680       | 1/10W | 5%   | RMC1/10T 681J        | J24205681 |           | 26-  | A     | C3       |
| R 1261 | CHIP RES.        | 22k       | 1/16W | 5%   | RMC1/16 223JATP      | J24185223 |           | 41-  | A     | E3       |
| R 1262 | CHIP RES.        | 0         | 1/16W | 5%   | RMC1/16 000JATP      | J24185000 |           | 41-  | A     | D3       |
| R 1263 | CHIP RES.        | 33k       | 1/16W | 5%   | RMC1/16 333JATP      | J24185333 |           | 86-  |       |          |
| T 1001 | COIL 05RF        | 100MHz    |       |      | 100M M5-N1 R12-S804Y | L0022492  |           | 1-   | A     | D1       |
| T 1002 | COIL 05RF        | 100MHz    |       |      | 100M M5-N1 R12-S804Y | L0022492  |           | 1-   | A     | C1       |
| TC1001 | TRIMMER CAP.     | 20pF      |       |      | ECR-KN020E61X        | K91000213 |           | 1-   | A     | E3       |
| TH1001 | THERMISTOR       |           |       |      | TBPS1R104K475H5Q     | G9090069  |           | 1-   | B     | a1       |
| TH1003 | THERMISTOR       |           |       |      | TBPS1R103K440H5Q     | G9090067  |           | 1-   | B     | c2       |
| TH1004 | THERMISTOR       |           |       |      | TBPS1R103K440H5Q     | G9090067  |           | 1-   | B     | c2       |
| VR1001 | POT.             | 10k       |       |      | EVN-5ESX50B14        | J51811103 |           | 1-   | A     | C2       |
| VR1002 | POT.             | 50k       |       |      | EVN-5ESX50B54        | J51811503 |           | 1-   | A     | G2       |
| VR1003 | POT.             | 10k       |       |      | EVN-5ESX50B14        | J51811103 |           | 1-   | A     | G2       |
| VR1004 | POT.             | 50k       |       |      | EVN-5ESX50B54        | J51811503 |           | 1-   | A     | B2       |
| VR1005 | POT.             | 50k       |       |      | EVN-5ESX50B54        | J51811503 |           | 1-   | A     | B3       |
| VR1006 | POT.             | 10k       |       |      | EVN-5ESX50B14        | J51811103 |           | 1-   | A     | G2       |
| X 1001 | XTAL LP-3.5.2S   | 9.8304MHz |       |      | 9.8304MHZ            | H0103148  |           | 1-   | A     | A3       |
| X 1002 | XTAL CA-301M     | 17.25MHz  |       |      | 17.25MHZ             | H0103107  |           | 1-   | A     | F3       |
| XF1001 | XTAL FILTER      |           |       |      | 17T12B5              | H1102273  |           | 1-   | A     | D2       |
| XF1002 | XTAL FILTER      |           |       |      | 17T12B5              | H1102273  |           | 1-   | A     | D2       |
|        | SHIELD CASE      |           |       |      |                      | RA0060200 |           | 1-   |       |          |

### Circuit Diagram

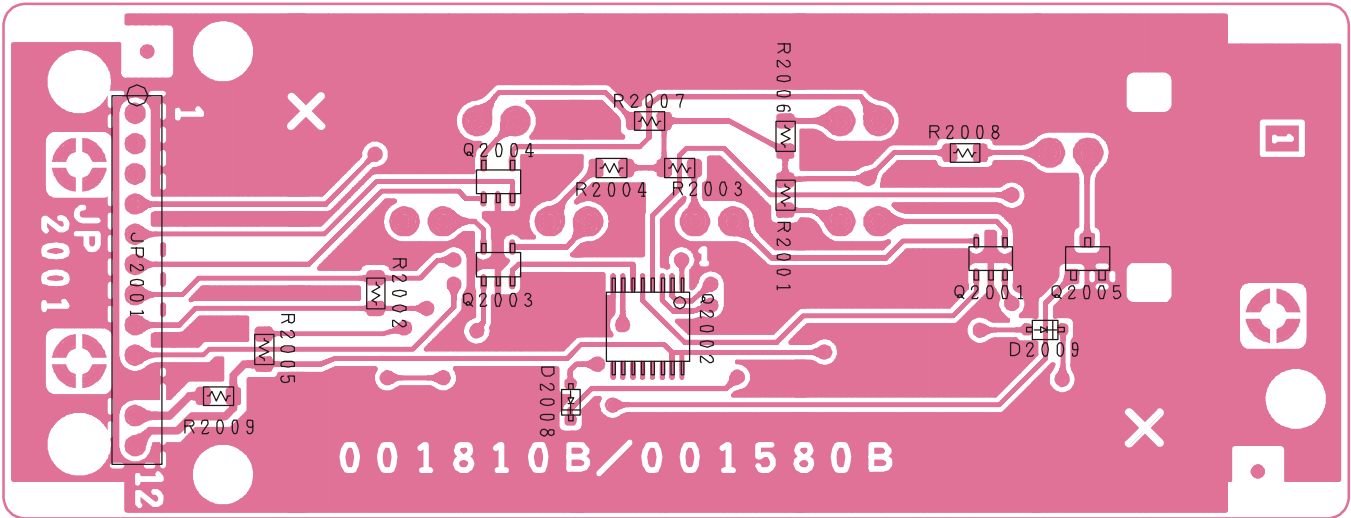


# Display-1 Unit

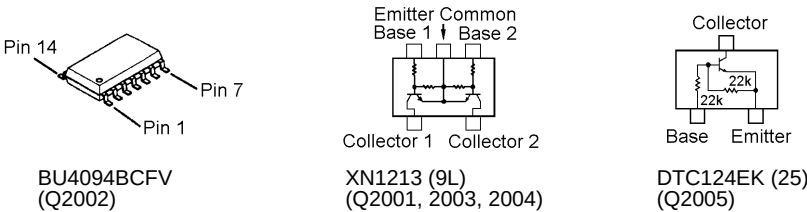
## Parts Layout



Side A



Side B





# Display-1 Unit

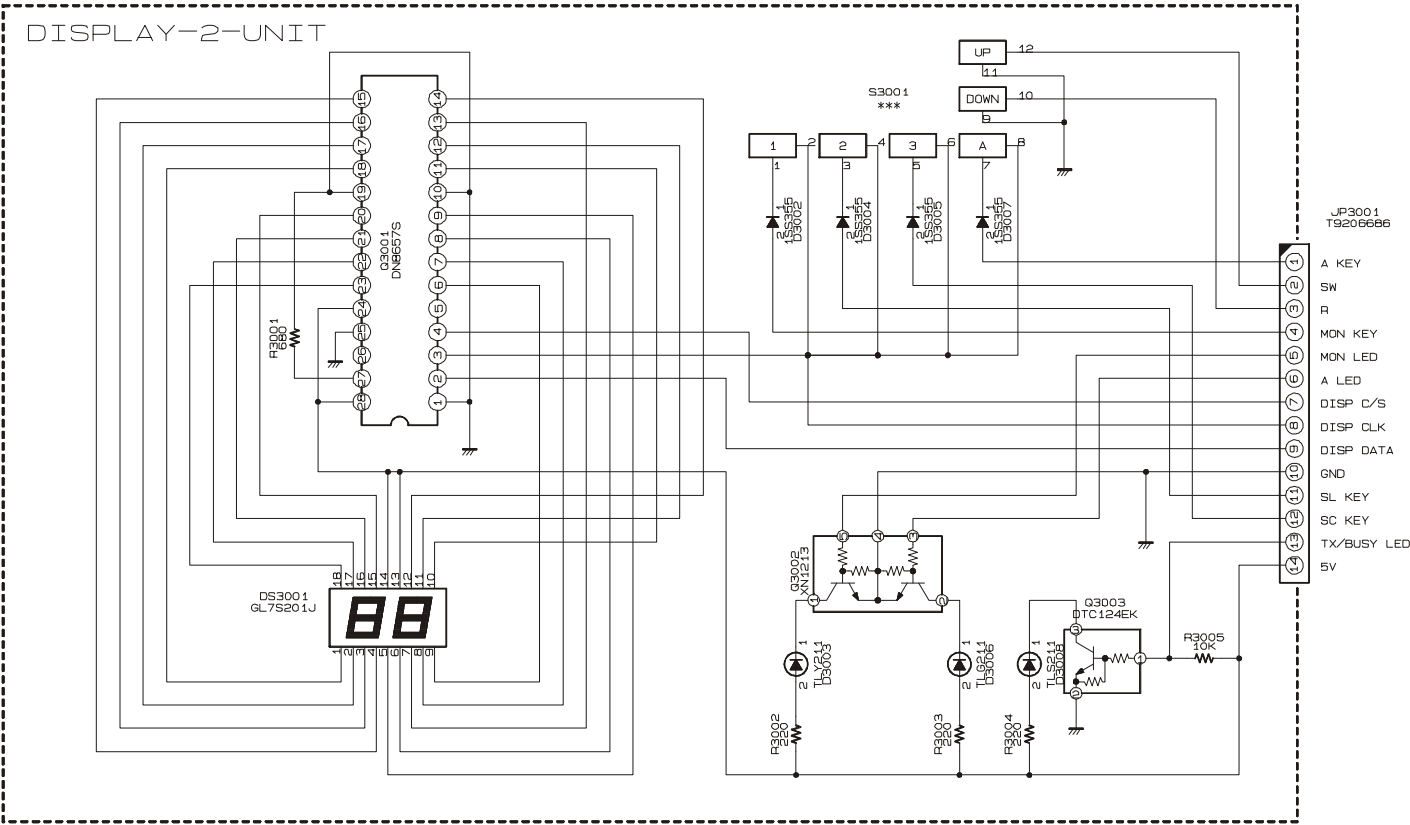
## Parts List

| REF.                   | DESCRIPTION | VALUE | WV    | TOL. | MFR'S DESIG   | VXSTD P/N | VERS. | LOT. | SIDE | LAY ADR. |
|------------------------|-------------|-------|-------|------|---------------|-----------|-------|------|------|----------|
| *** DISPLAY-1 UNIT *** |             |       |       |      |               |           |       |      |      |          |
| PCB with Components    |             |       |       |      |               | CB0382001 |       |      |      |          |
| Printed Circuit Board  |             |       |       |      |               | FR001580B |       |      |      |          |
| D 2001                 | LED         |       |       |      | HLMP-1540     | G2090696  |       | 1-   | A    |          |
| D 2002                 | LED         |       |       |      | HLMP-1540     | G2090696  |       | 1-   | A    |          |
| D 2003                 | LED         |       |       |      | HLMP-1540     | G2090696  |       | 1-   | A    |          |
| D 2004                 | LED         |       |       |      | HLMP-1540     | G2090696  |       | 1-   | A    |          |
| D 2005                 | LED         |       |       |      | HLMP-1440     | G2090695  |       | 1-   | A    |          |
| D 2006                 | LED         |       |       |      | HLMP-1540     | G2090696  |       | 1-   | A    |          |
| D 2007                 | LED         |       |       |      | TLS123        | G2090703  |       | 1-   | A    |          |
| D 2008                 | DIODE       |       |       |      | 1SS355 TE-17  | G2070470  |       | 1-   | B    |          |
| D 2009                 | DIODE       |       |       |      | 1SS355 TE-17  | G2070470  |       | 1-   | B    |          |
| JP2001                 | WIRE ASSY   |       |       |      | A0953+        | T9206686  |       | 1-   |      |          |
| Q 2001                 | TRANSISTOR  |       |       |      | XN1213-(TX)   | G3070194  |       | 1-   | B    |          |
| Q 2002                 | IC          |       |       |      | BU4094BCFV-E1 | G1092128  |       | 1-   | B    |          |
| Q 2002                 | IC          |       |       |      | BU4094BCFV-E2 | G1093527  |       | 58-  | B    |          |
| Q 2003                 | TRANSISTOR  |       |       |      | XN1213-(TX)   | G3070194  |       | 1-   | B    |          |
| Q 2004                 | TRANSISTOR  |       |       |      | XN1213-(TX)   | G3070194  |       | 1-   | B    |          |
| Q 2005                 | TRANSISTOR  |       |       |      | DTC124EK T146 | G3070034  |       | 1-   | B    |          |
| R 2001                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 2002                 | CHIP RES.   | 10k   | 1/10W | 5%   | RMC1/10T 103J | J24205103 |       | 1-   | B    |          |
| R 2003                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 2004                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 2005                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 2006                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 2007                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 2008                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 2009                 | CHIP RES.   | 10k   | 1/10W | 5%   | RMC1/10T 103J | J24205103 |       | 1-   | B    |          |

*Display-1 Unit*

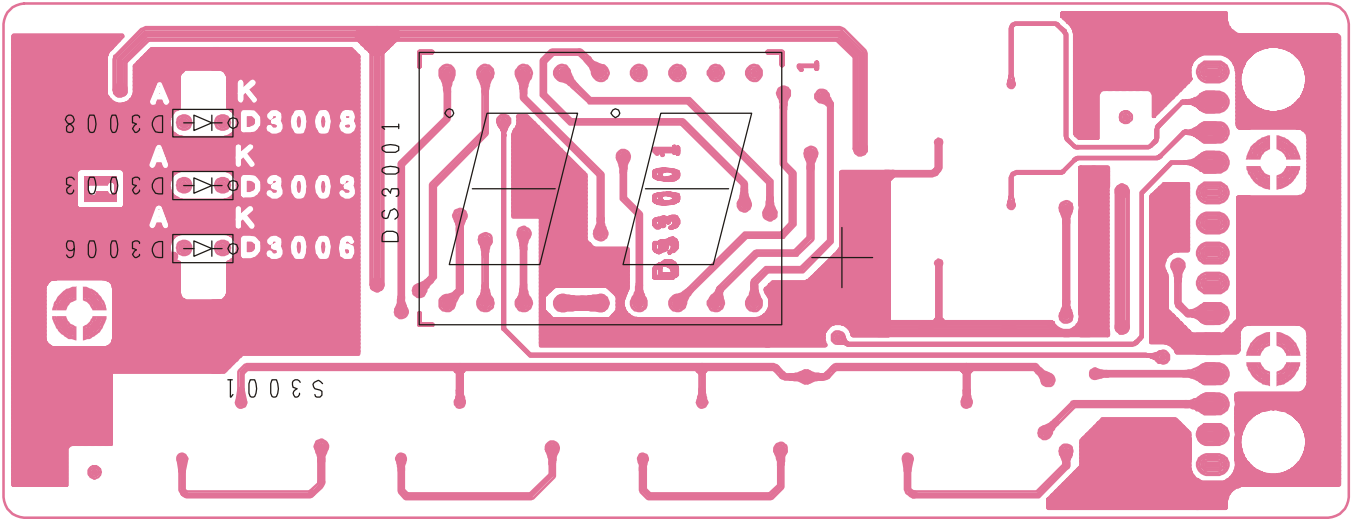
*Note:*

Circuit Diagram

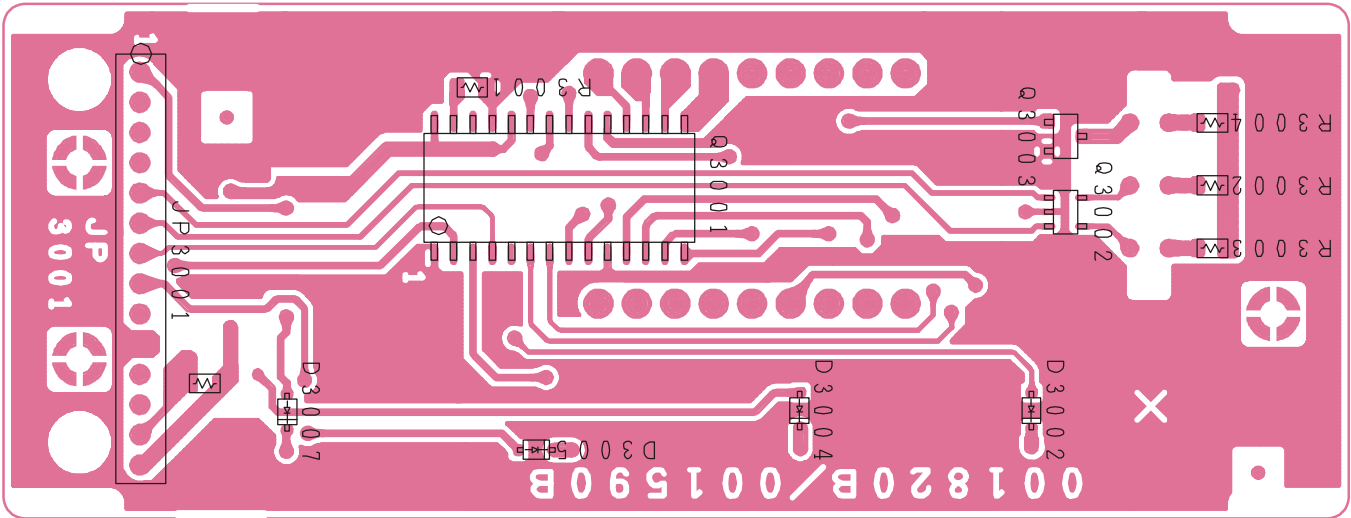


# Display-2 Unit

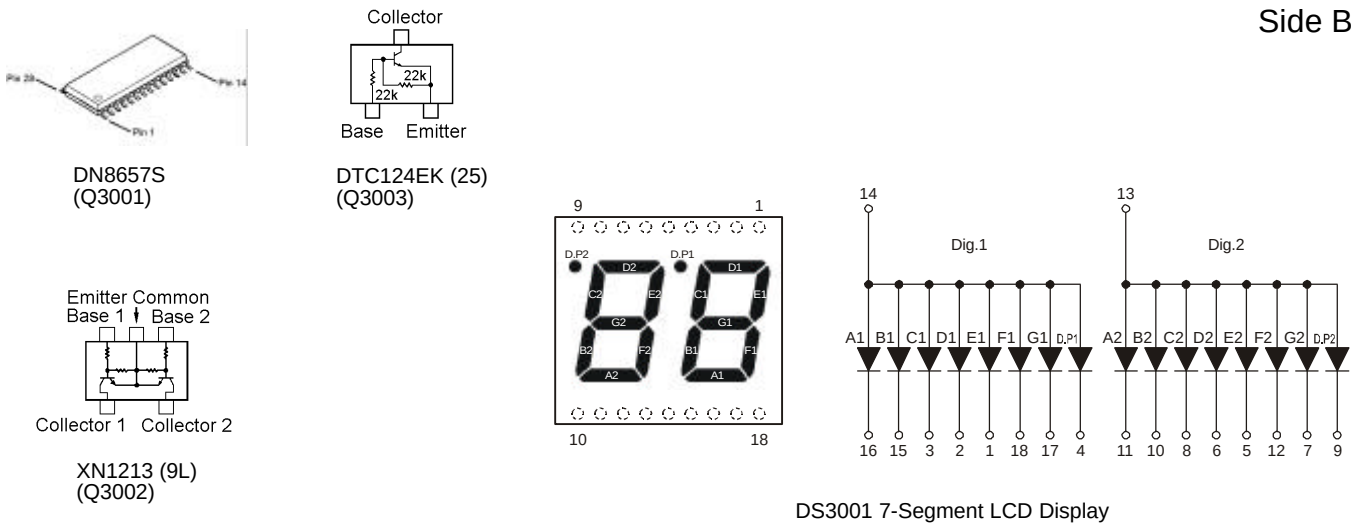
## Parts Layout



Side A



Side B



# Display-2 Unit

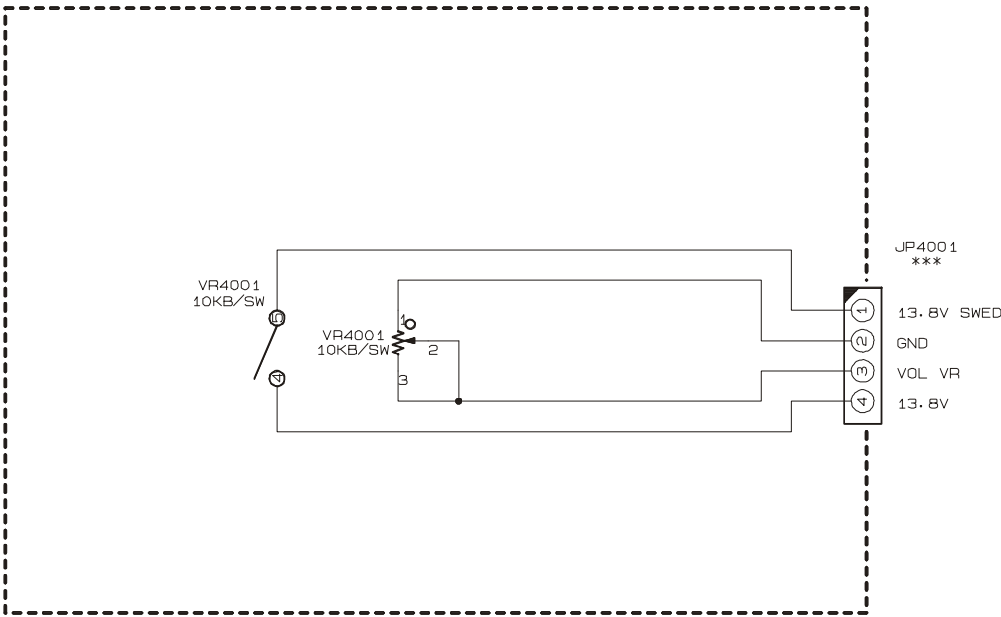
## Parts List

| REF.                   | DESCRIPTION | VALUE | WV    | TOL. | MFR'S DESIG   | VXSTD P/N | VERS. | LOT. | SIDE | LAY ADR. |
|------------------------|-------------|-------|-------|------|---------------|-----------|-------|------|------|----------|
| *** DISPLAY-2 UNIT *** |             |       |       |      |               |           |       |      |      |          |
| PCB with Components    |             |       |       |      |               | CB0383001 |       |      |      |          |
| Printed Circuit Board  |             |       |       |      |               | FR001590B |       |      |      |          |
| D 3002                 | DIODE       |       |       |      | 1SS355 TE-17  | G2070470  |       | 1-   | B    |          |
| D 3003                 | LED         |       |       |      | TLY211        | G2090637  |       | 1-   | A    |          |
| D 3004                 | DIODE       |       |       |      | 1SS355 TE-17  | G2070470  |       | 1-   | B    |          |
| D 3005                 | DIODE       |       |       |      | 1SS355 TE-17  | G2070470  |       | 1-   | B    |          |
| D 3006                 | LED         |       |       |      | TLG211        | G2090343  |       | 1-   | A    |          |
| D 3007                 | DIODE       |       |       |      | 1SS355 TE-17  | G2070470  |       | 1-   | B    |          |
| D 3008                 | LED         |       |       |      | TLS211        | G2090704  |       | 1-   | A    |          |
| DS3001                 | LED         |       |       |      | GL7S201J      | G2090488  |       | 1-   | A    |          |
| JP3001                 | WIRE ASSY   |       |       |      | A0953+        | T9206687  |       | 1-   |      |          |
| Q 3001                 | IC          |       |       |      | DN8657S-T1    | G1092688  |       | 1-   | B    |          |
| Q 3002                 | TRANSISTOR  |       |       |      | XN1213-(TX)   | G3070194  |       | 1-   | B    |          |
| Q 3003                 | TRANSISTOR  |       |       |      | DTC124EK T146 | G3070034  |       | 1-   | B    |          |
| R 3001                 | CHIP RES.   | 680   | 1/10W | 5%   | RMC1/10T 681J | J24205681 |       | 1-   | B    |          |
| R 3002                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 3003                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 3004                 | CHIP RES.   | 220   | 1/10W | 5%   | RMC1/10T 221J | J24205221 |       | 1-   | B    |          |
| R 3005                 | CHIP RES.   | 10k   | 1/10W | 5%   | RMC1/10T 103J | J24205103 |       | 1-   | B    |          |

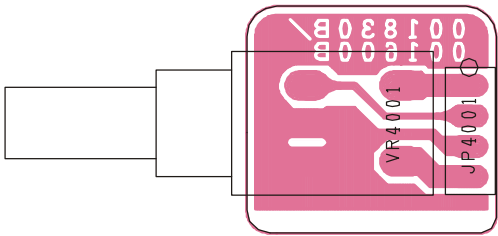
*Display-2 Unit*

*Note:*

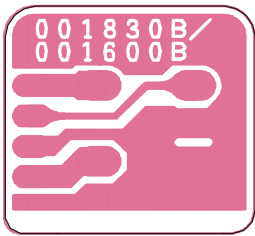
Circuit Diagram



Parts Layout



Side A



Side B

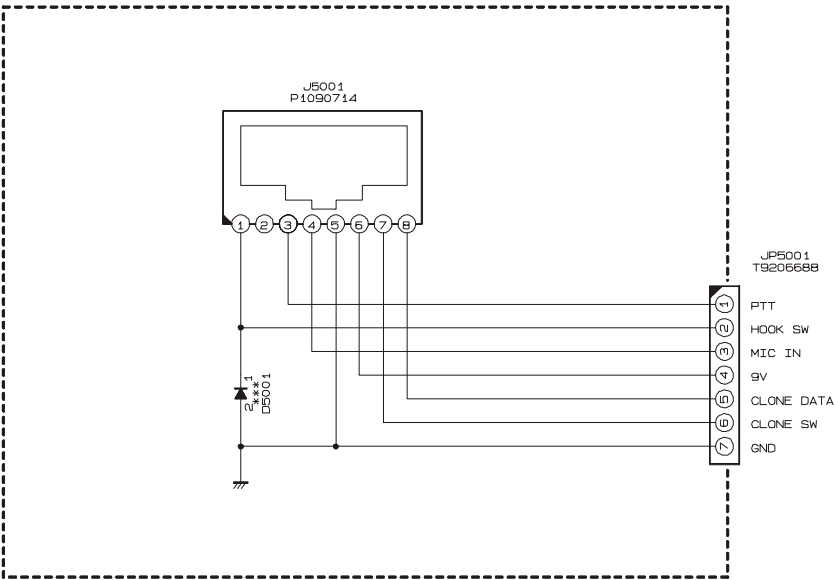
Parts List

| REF.                  | DESCRIPTION | VALUE | WV | TOL. | MFR'S DESIG       | VXSTD P/N | VERS. | LOT. | SIDE | LAY ADR. |
|-----------------------|-------------|-------|----|------|-------------------|-----------|-------|------|------|----------|
| *** VR UNIT ***       |             |       |    |      |                   |           |       |      |      |          |
| PCB with Components   |             |       |    |      |                   | CB0384001 |       |      |      |          |
| Printed Circuit Board |             |       |    |      |                   | FR001600B |       |      |      |          |
| VR4001                | POT.        |       |    |      | RK0971111 10KB/SW | J60800228 |       | 1-   |      |          |

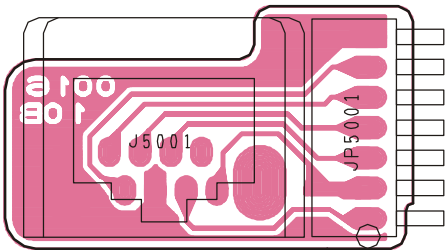


MIC Unit

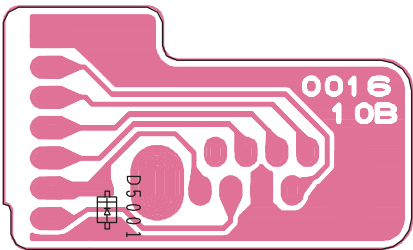
Circuit Diagram



Parts Layout



Side A



Side B

Parts List

| REF.                  | DESCRIPTION | VALUE | WV | TOL. | MFR'S DESIG | VXSTD P/N | VERS. | LOT. | SIDE | LAY | ADR. |
|-----------------------|-------------|-------|----|------|-------------|-----------|-------|------|------|-----|------|
| *** MIC UNIT ***      |             |       |    |      |             |           |       |      |      |     |      |
| PCB with Components   |             |       |    |      |             | CB0384001 |       |      |      |     |      |
| Printed Circuit Board |             |       |    |      |             | FR001600B |       |      |      |     |      |
| J 5001                | CONNECTOR   |       |    |      | R41-2509H   | P1090714  |       | 1-   |      |     |      |
| JP5001                | WIRE ASSY   |       |    |      | A0953+      | T9206688  |       | 1-   |      |     |      |



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