Vertex Standard

UHF FM Transceiver
VX-160U/-180U
Service Manual

 EC013U90D

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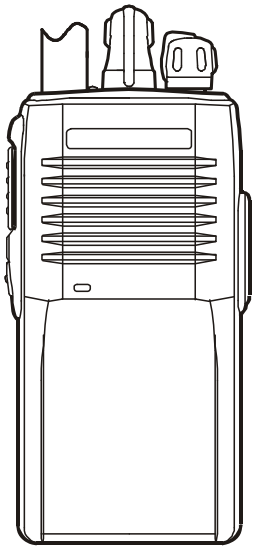
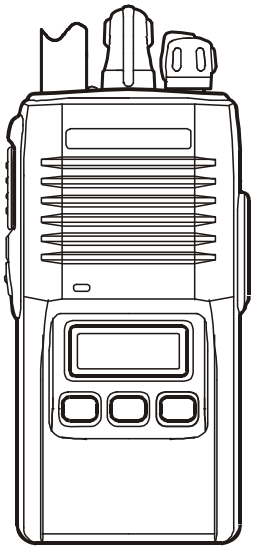


VX-160U



VX-180U

Introduction

This manual provides technical information necessary for servicing the VX-160U and VX-180U FM Transceiver.

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 the warranty, and may be illegal in some countries.

Two PCB layout diagrams are provided for each double-sided circuit board in the transceiver. Each side of is referred to by the type of the majority of components installed on that side ("leaded" or "chip-only"). In most cases one side has only chip components, and the other has either a mixture of both chip and leaded components (trimmers, coils, electrolytic capacitors, ICs, etc.), or leaded components only.

While we believe the technical information in this manual to be 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.

Important Note

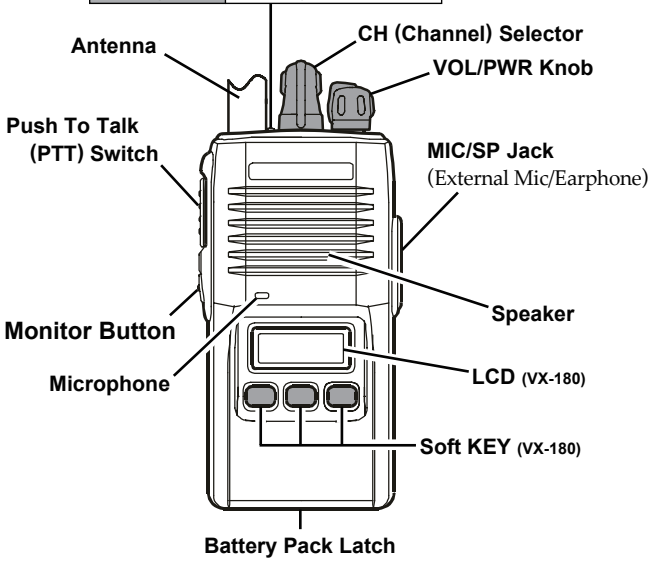
After Lot. 117 of this transceiver was assembled using Pb (lead) free solder, based on the RoHS specification.
Only lead-free solder (Alloy Composition: Sn-3.0Ag-0.5Cu) should be used for repairs performed on this apparatus. The solder stated above utilizes the alloy composition required for compliance with the lead-free specification, and any solder with the above alloy composition may be used.

Contents

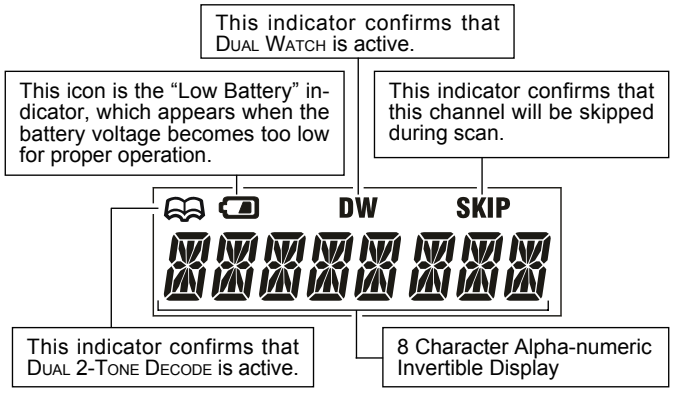
Controls & Connectors

LED Indicator

Glows Green	Monitor on
Blinking Green	Busy Channel (or SQL off)
Glows Red	Transmitting
Blinking Red	Battery Voltage is low
Blinking Yellow	Receiving a Selective Call



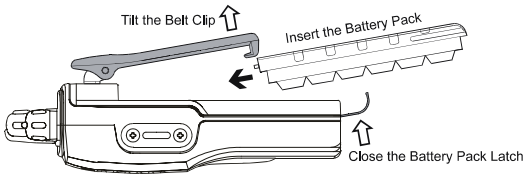
Display Icons & Indicators (VX-180 Only)



Before You Begin

Battery Pack Installation and Removal

❒ To install the battery, hold the transceiver with your left hand, so your palm is over the speaker and your thumb is on the top of the belt clip. Insert the battery pack into the battery compartment on the back of the radio while tilting the Belt Clip outward, then close the Battery Pack Latch until it locks in place with a "Click."



❒ To remove the battery, turn the radio off and remove any protective cases. Open the Battery Pack latch on the bottom of the radio, then slide the battery downward and out from the radio while holding the Belt Clip.

Caution!

Do not attempt to open any of the rechargeable Ni-Cd packs, as they could explode if accidentally short-circuited.

Low Battery Indication

❒ As the battery discharges during use, the voltage gradually becomes lower. When the battery voltage reaches 6.3 volts, substitute a freshly charged battery and recharge the depleted pack. The **TX/BUSY** indicator on the top of the radio will blink ***red*** (on the VX-180, the "🔋" icon will appear on the LCD) when the battery voltage is low.

❒ Avoid recharging Ni-Cd batteries often with little use between charges, as this can degrade the charge capacity. We recommend that you carry an extra, fully-charged pack with you so the operational battery may be used until depletion (this "deep cycling" technique promotes better long-term battery capacity).

Operation

Preliminary Steps

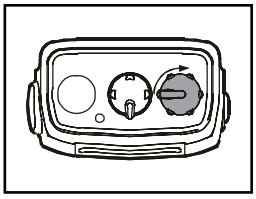
❒ Install a charged battery pack onto the transceiver, as described previously.

❒ Screw the supplied antenna onto the Antenna jack. Never attempt to operate this transceiver without an antenna connected.

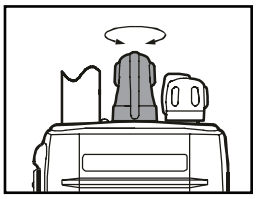
❒ If you have a Speaker/Microphone, we recommend that it not be connected until you are familiar with the basic operation of the **VX-160/-180**.

Operation Quick Start

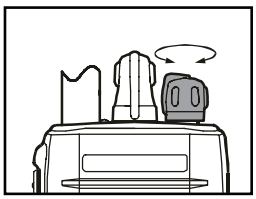
❒ Turn the top panel's **VOL/PWR** knob clockwise to turn on the radio on.



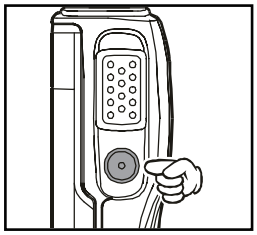
❒ Turn the top panel's **CH** selector knob to choose the desired operating channel.



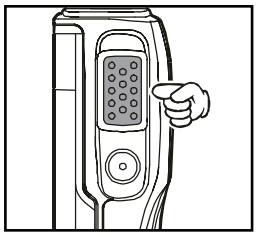
❒ Rotate the **VOL/PWR** knob to set the volume level. If no signal is present, press and hold in the **MONITOR** key (the lower button on the left side) for more than 1 seconds; background noise will now be heard, and you may use this to set the **VOL/PWR** knob for the desired audio level.



❒ Press and hold in the **MONITOR** key for more than 1 seconds (or press the **MONITOR** key twice) to quiet the noise and resume normal (quiet) monitoring.



❒ To transmit, press and hold in the **PTT** switch. Speak into the microphone area of the front panel grille (lower left-hand corner) in a normal voice level. To return to the Receive mode, release the **PTT** switch.



❒ If a Speaker/Microphone is available, remove the plastic cap and its two mounting screws from the right side of the transceiver, then insert the plug from the Speaker/Microphone into the **MIC/SP** jack; secure the plug using the screws supplied with the Speaker/Microphone. Hold the speaker grille up next to your ear while receiving. To transmit, press the **PTT** switch on the Speaker/Microphone, just as you would on the main transceiver's body.

Note: Save the original plastic cap and its mounting screws. They should be re-installed when not using the Speaker/Microphone.

Key Functions

The **VX-180** provides programmable [**A**], [**B**], and [**C**] function keys, and both the **VX-160** and **VX-180** provide programmable **MONITOR** keys. These "**Soft**" keys functions can be customized (set to other functions), via programming by your **VERTEX STANDARD** dealer, to meet your communications/network requirements. Some features may require the purchase and installation of optional internal accessories. The possible **Soft** key programming features are illustrated at the right, and their functions are explained in the next chapter. For further details, contact your **VERTEX STANDARD** dealer.

For future reference, check the box next to each function that has been assigned to the **Soft** key on your particular radio, and keep it handy.

Function	**Soft** Key			
	[**A**]	[**B**]	[**C**]	**MONITOR** key
None				
Monitor				
Low Power				
Lock*				
Lamp*				
Channel Up*				
Channel Down*				
Scan				
Follow-me Scan				
Dual Watch				
Talk Around				
Add/Del*				
Call/Reset				
Speed Dial				
TX Save Off				

* VX-180 only

Description of Operating Functions

Monitor

Press the assigned **Soft** key momentarily to override (disable) the Tone squelch.
Background noise or incoming signals will now be heard whether or not a matching tone is present on the signal).
Press and hold in the assigned **Soft** key for more than 1 seconds to override both the Noise and Tone squelch.
Again press and hold in the assigned **Soft** key for more than 1 seconds (or press the assigned **Soft** key twice) to resume normal (quiet) Noise and Tone squelch action.

Low Power

Press the assigned **Soft** key to set the radio's transmitter to the "Low Power" mode, thus extending battery life.
Press the assigned **Soft** key again to return to "High Power" operation when in difficult terrain.

Lock

Press the assigned **Soft** key to lock the **Soft** keys (except ***Lock*** and ***Monitor*** key); thus, the [**A**], [**B**], [**C**], and **MONITOR** keys can be disabled to prevent radio settings from being disturbed.

Lamp

Press the assigned **Soft** key to illuminate the LCD for five seconds.

Channel Up

Press the assigned **Soft** key to switch to a higher operating channel number.

Channel Down

Press the assigned **Soft** key to switch to a lower operating channel number.

Scan

The Scanning feature is used to monitor multiple channels programmed into the transceiver. While scanning, the radio will check each channel for the presence of a signal, and will stop on a channel if a signal is present.

❒ To activate scanning:
Press the assigned **Soft** key.
The scanner will search the channels, looking for active ones; it will pause each time it finds a channel on which someone is speaking.

❒ To stop scanning:
Press the assigned **Soft** key.
Operation will revert to the channel to which the **CH** knob is set.

Follow-Me Scan

"Follow-Me" Scan feature checks a *User-assigned* Priority Channel regularly as you scan the other channels. Thus, if only Channels 1, 3, and 5 (of the 8 available channels) are designated for "Scanning," the user may nonetheless assign Channel as the "User-assigned" Priority Channel via the "Follow-Me" feature.
Press the assigned **Soft** key to activate "Follow-Me" scanning, then turn the **CH** selector knob to the channel which you want to designate as the "User-Assigned Priority Channel". When the scanner stops on an "active" channel, the User-assigned Priority Channel will automatically be checked every few seconds.

Dual Watch

The Dual Watch feature is similar to the Scan feature, except that only two channels are monitored: the current operating channel, and the "Priority" channel.

❒ To activate Dual Watch:
Press the assigned **Soft** key.
The scanner will search the two channels; it will pause each time it finds a channel on which someone is speaking.

❒ To stop Dual Watch:
Press the assigned **Soft** key.
Operation will revert to the channel to which the CH knob is set.

Talk Around

Press the assigned **Soft** to activate the Talk Around feature when you are operating on duplex channel systems (separate receive and transmit frequencies, utilizing a "repeater" station). The Talk Around feature allows you to bypass the repeater station and talk directly to a station that is nearby. This feature has no effect when you are operating on "Simplex" channels, where the receive and transmit frequencies are already the same.
Note that your dealer may have made provision for "Talk Around" channels by programming "repeater" and "Talk Around" frequencies on two adjacent channels. If so, the key may be used for one of the other Pre-Programmed Functions.

Add/Del

The Add/Del feature allows the user to arrange a custom Scan.
Press the assigned **Soft** key to delete/restore the current channel to/from your scanning list.
When you delete a current channel, "**SKIP**" will appear on the LCD after pressing the **Soft** key. When you restore a current channel, "**SKIP**" indicator on the LCD will turn off.

Description of Operating Functions

Call/Reset

When the 2-tone selective calling unit is installed, press the assigned **Soft** key to silence the receiver and reset for another call, when a communication is finished.

Speed Dial

Your Dealer may have pre-programmed Auto-Dial telephone number memories into your radio.
To dial a number, just press the Dealer-assigned **Soft** key for Speed Dialing. The DTMF tones sent during the dialing sequence will be heard in the speaker.

TX Save Off

Press the assigned **Soft** key to disable the Transmit Battery Saver, if you are operating in a location where high power is almost always needed.
The Transmit Battery Saver helps extend battery life by reducing transmit power when a very strong signal from an apparently nearby station is being received. Under some circumstances, though, your hand-held radio may not be heard well at the other end of the communication path, and high power may be necessary at all times.

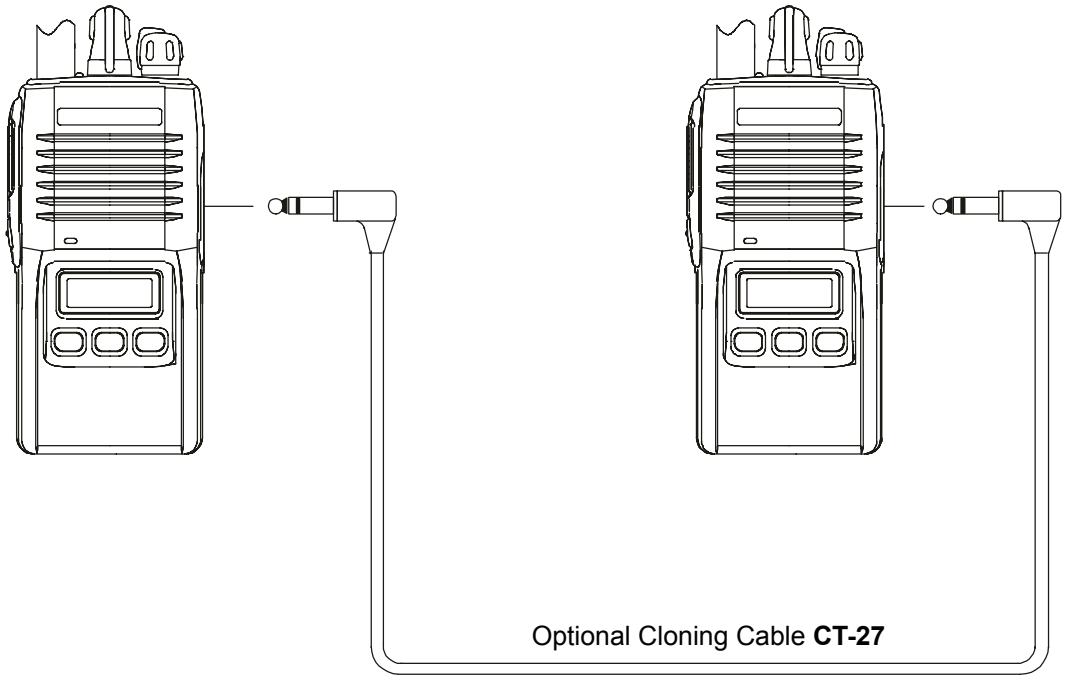
Accessories & Options

FNB-64	7.2 V 700 mAh Ni-Cd Battery
FNB-V57	7.2 V 1100 mAh Ni-Cd Battery
FBA-25	Alkaline Battery Case
NC-77B	120 VAC Overnight Desktop Charger
NC-77C	230-240 VAC Overnight Desktop Charger
VAC-800	Desktop Rapid Charger
VAC-6800	6-unit Multi Charger
MH-45$_{B4B}$	Speaker/Microphone
MH-37$_{A4B}$	Earpiece Microphone
VC-25	VOX Headset
VCM-1	Mobile Mounting Bracket (for VAC-800)
LCC-160/S	Leather Case (for VX-160)
LCC-180/S	Leather Case (for VX-180)
CT-42	PC Programming Cable
CT-27	Radio to Radio Programming Cable
CE44	Programming Software

Cloning

The **VX-160/-180** includes a convenient "Cloning" feature, which allows the programming data from one transceiver to be transferred to another **VX-160/-180**. Here is the procedure for Cloning one radio's data to another.

1. Turn both transceivers off.
2. Remove the plastic cap and its two mounting screws from the **MIC/SP** jack on the right side of the transceiver. Do this for both transceivers.
3. Connect the optional **CT-27** cloning cable between the **MIC/SP** jacks of the two transceivers.
4. Press and hold in the **PTT** and **MONITOR** switches (just below the PTT switch) while turning the transceiver on. Do this for both transceivers (the order of the switch-on does not matter). "**CLONE**" will appear on the displays (for the **VX-180**) of both transceivers when Clone mode is successfully activated in this step; in the case of the **VX-160**, no change will be observed at this point.
5. On the Destination transceiver, press the **MONITOR** switch. "**LOADING**" will appear on the LCD (for **VX-180**; for **VX-160**, the **TX/BUSY** indicator on the top of the radio will glow Green).
6. Press the **PTT** switch on the source transceiver; "**SENDING**" will appear on the Source transceiver (for **VX-180**; for **VX-160**, the **TX/BUSY** indicator on the top of the radio will glow Red), and the data will be transferred.
7. If there is a problem during the cloning process, "**ERROR**" will appear on the LCD (for **VX-180**; for **VX-160**, the **TX/BUSY** indicator on the top of the radio will blink Red); check your cable connections and battery voltage, and try again.
8. If the data transfer is successful, the display will return to "**CLONE**" (for **VX-180**; for **VX-160**, the **TX/BUSY** indicator on the top of the radio will turn off). Turn both transceivers off and disconnect the **CT-27** cable. You can then turn the transceivers back on, and begin normal operation.
9. Replace the plastic cap and its two mounting screws.



GENERAL Specifications

Frequency Range (MHz):	400 - 430 (AS1) 450 - 485 (D) 440 - 470 (CS)
Number of Channels:	16 channels
Channel Spacing:	12.5 / 25 kHz
PLL Steps	5 / 6.25 kHz
Power Supply voltage:	7.5 VDC ± 20%
Operating Temperature Range:	–22°F to +140°F (–30°C to +60°C)
Frequency Stability:	±2.5 ppm
Dimensions (WHD):	2.3" (W) x 4.7" (H) x 1.2" (D) (58 x 120 x 31 mm)
Weight (approx.):	0.81 lb. (365 g) w/FNB-64

RECEIVER Specifications (Measurements made per EIA standard TIA/EIA-603)

Sensitivity

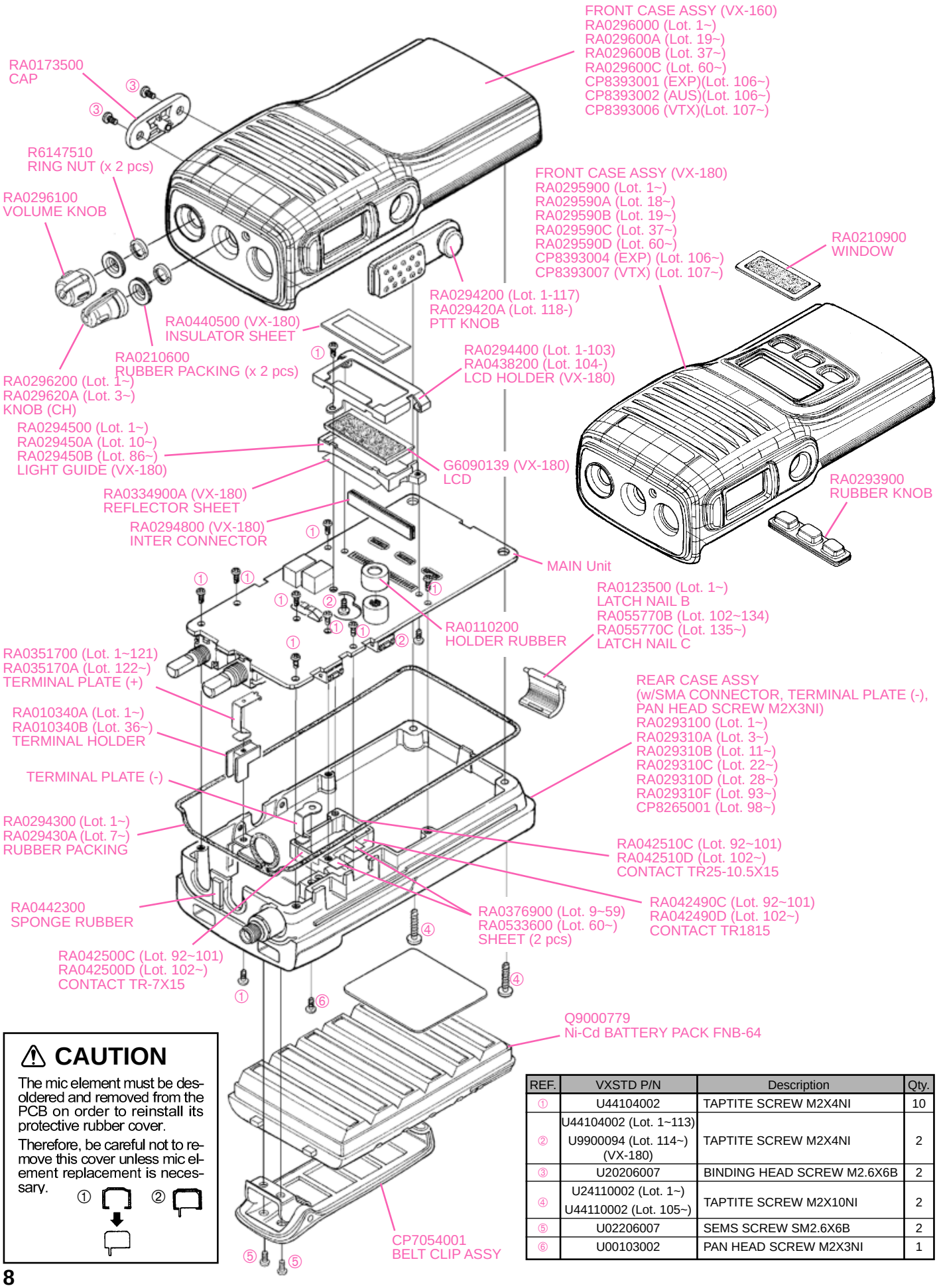
EIA 12 dB SINAD :	0.25 μV
20 dB Quieting :	0.35 μV
Adjacent channel selectivity:	65 dB (25 kHz) / 60 dB (12.5 kHz)
Intermodulation:	65 dB
Spurious and Image Rejection:	65 dB
Hum & Noise	45 dB
Audio output:	500 mW @4 Ohms, 5% THD

TRANSMITTER Specifications (Measurements made per EIA standard TIA/EIA-603)

Power output:	5.0 / 1.0 W
Modulation:	16K0F3E, 11K0F3E
Conducted Spurious Emissions:	60 dB Below Carrier
FM Hum & Noise:	40 dB (25 kHz) / 35 dB (12.5 kHz)
Audio distortion (@ 1 kHz):	< 5 %

Measurements per EIA standards unless noted above. Specifications subject to change without notice or obligation.

Exploded View & Miscellaneous Parts



⚠ CAUTION

The mic element must be desoldered and removed from the PCB on order to reinstall its protective rubber cover.

Therefore, be careful not to remove this cover unless mic element replacement is necessary.

REF.	VXSTD P/N	Description	Qty.
①	U44104002	TAPTITE SCREW M2X4NI	10
②	U44104002 (Lot. 1~113) U9900094 (Lot. 114~) (VX-180)	TAPTITE SCREW M2X4NI	2
③	U20206007	BINDING HEAD SCREW M2.6X6B	2
④	U24110002 (Lot. 1~) U44110002 (Lot. 105~)	TAPTITE SCREW M2X10NI	2
⑤	U02206007	SEMS SCREW SM2.6X6B	2
⑥	U00103002	PAN HEAD SCREW M2X3NI	1

MAIN-UNIT

ANT
LPF
fo : 450-485MHz
fL : fo -If
D1007 RLS135 D1010, 1011 HSU277 T/R SW
TX5V
BPF
RX 5V
Q1015 2SC5006 RF AMP
BPF
RX 5V
Q1025 SGM2016AM 1st MIX
fL
BPF
fL
XF1002 HDF0042
BPF
If= 44.25MHz
RX 5V
Q1032 2SC4215Y IF AMP
2nd MIX
Q1036 TA31136FN
NOISE AMP
IF AMP
DISC
RX 5V
D1030 1SS355 DET
PTT SW
MON SW
D1028 12-22SURSYGC LED
Q1024 2SC4154E REG
+B
CONT 5V
TH1004 TEMP DET
TH1004 TBPS1R473K
D1012 HVC355B
D1013 HVC355B
D1016 HVC355B
D1017 HVC355B
D1022 HVC355B
D1023 HVC355B
D1024 HVC355B
D1025 ***
D1026 HVC355B
D1027 HVC355B
CF1002 ALFYM450G=K
CF1001 ALFYM450F=K
BPF
BPF
D1036 MC2850 IF LIMIT
D1033 MC2850 W/N SW
W/N
D1034 MC2850 W/N SW
W/N
Q1044 RT1N441U W/N SW
W/N
CD1001 CDBC450CX24
Q1021 2SK2974 POWER AMP
Q1016 2SK2973 DRIVER
Q1012 2SC3357 PRE DRIVER
Q1009 2SC5005 BUFF AMP
TX 5V
D1014 DAN235E T/R SW
Q1033 IMZ2A DET
+B
Q1027 FMW1 APC
VCV
D1001 D1002 D1003 Q1005 OSC
Q1008 2SC5005 BUFF
fL or fo
D1001·D1002 HVC355B
D1003 HSU277
Q1005 2SK508-K52
D1005 HVC350B MOD
Q1002 RT1N441U TX/RX SW
Q1006 2SC4154E FILTER
RX 5V
SAVE 5V
FK1
FK2
FK3
1
2
3
SWSTB
DS1001 HT-3633-TFZWH LCD PANEL
+B
CONT 5V
Q1059 DTC124EE Q1058 2SC4154E LAMP SW
D1038 D1041 FA1101F LAMP
Q1053 LC75834W LCD DRIVER
DISPLAY DATA
FROM CPU
VX-180U only
TXC
RXC
SP CNTL
SAVE
C/D
W/N
PTT
MUTE
SWSTB
FK1
FK2
FK3
RSSI
UL
SQL
Q1014 M37516E6HP CPU
DEC L
DEC H
TONE/DCS ENC
DTMF ENC
CONT 5V
Q1011 BR93LC56F EEPROM
DISPLAY DATA TO LCD DRIVER
PLL DATA TO PLL
D/A DATA TO D/A CONVERTER
C/D
Q1041 RT1N441U C/D SW
X1002 3.6864MHz
Q1030 NJM2902V LPF
Q1045 NJM12903R COMP
Q1047 2SC4154E AMP
Q1045 NJM12903R COMP
Q1030 NJM2902V HPF
Q1042 2SA1586Y AF MUTE
MUTE
Q103B S-80735SN RESET
R1149, C1129 DEEMPHASIS
Q1039 NJM2070M AF AMP
SP
VR ADJ
Q1037 2SC4154E
Q1050 CPH6102
Q1056 RT1P441U
D1040 ***
SP CNTL
+B
Q1037 Q1050 Q1056 D1040 SW
Q1051 2SC4154E FILTER
MUTE
PTT
MIC
Q1017 NJM2902V LPF
Q1017 NJM2902V LIMITER
R1045, C1059 PREEMPHASIS
Q1010 2SA1586Y MIC MUTE
Q1017 NJM2902V HPF
Q1057 2SA1586Y IMPS
D1004 HVC350B DCS MOD
MOD
REF
X1001 14.6MHz
Q1054 2SA1586Y SW
VCV
LPF
ϕ DET
P. DEV
PRE -SCALER
Q1004 MB15A02PFV1 PLL
OSC/DIV
LATCH
PLL DATA
FROM CPU
UL
CONT 5V
TUNE
CH 1 MOD ADJ
CH 2 TONE MOD ADJ
CH 3 REF ADJ TEMP CNTL
CH 4 REF ADJ TEMP CNTL
CH 5 TUNE
CH 6 DCS MOD ADJ
CH 7 AF VR
CH 8 POWER ADJ
CONT 5V
D/A CNTL DATA
FROM CPU
D/A CONVERTER Q1052 M62364FP
+B
Q1040 TK11250BMC 5V REG
Q1031 CPH6102 Q1026 FMW1 REG
TX5V
TXC
CONT 3.5V
Q1029 CPH6102 Q1028 FMW1 REG
SAVE 5V
SAVE
Q1035 DTB123EK Q1034 RT1N441U REG
RX5V
RXC
APC
REF
MOD
TUNE
TX LINE
RX LINE
COMMON LINE

Note:

Receive Signal Path

Incoming RF from the antenna jack is delivered to the RF Unit and passes through a low-pass filter consisting of coils L1003, L1006, and L1007, capacitors C1002, C1007, C1013, C1017, C1022, C1025, C1029, and C1169, and antenna switching diode D1007 (**RLS135**).

Signals within the frequency range of the transceiver enter a varactor-tuned band-pass filter consisting of coils L1014 and L1015, capacitors C1057, C1058, C1064, C1071, and C1073, and diodes D1012 (**HVC355B**), D1013 (**HVC355B**), D1016 (**HVC355B**), and D1017 (**HVC355B**), then are amplified by Q1015 (**2SC5006**) and enter a varactor-tuned band-pass filter consisting of coils L1021 and L1024, capacitors C1084, C1086, C1095, C1097, and C1248, and diodes D1026 (**HVC355B**) and D1027 (**HVC355B**), before first mixing by first mixer Q1025 (**SGM2016AM**).

Buffered output from the VCO is amplified by Q1009 (**2SC5005**) to provide a pure first local signal between 405.75 and 440.75 MHz for injection to the first mixer Q1025. The 44.25 MHz first mixer product then passes through monolithic crystal filter XF1002 (**HDF0042**, 5.5 kHz BW) to strip away unwanted mixer products, which is then amplified by Q1032 (**2SC4215Y**).

The amplified first IF signal is applied to FM IF subsystem IC Q1036 (**TA31136FN**), which contains the second mixer, second local oscillator, limiter amplifier, noise amplifier, and RSSI amplifier.

The second local signal is produced from the PLL reference/second local oscillator of 14.60 MHz crystal X1001. The 14.60 MHz reference signal is tripled by Q1036, capacitor C1123, and coil L1005, and the resulting the 43.8 MHz second local signal is then delivered to the mixer section of Q1036 which produces the 450 kHz second IF when mixed with the first IF signal.

The second IF then passes through the ceramic filter CF1001 (**ALFYM450F=K** on "Wide" channels) or CF1002 (**ALFYM450G=K** on "Narrow" channels) to strip away all but the desired signal, and is then applied to the limiter amplifier in Q1036, which removes amplitude variations in the 450 kHz IF, before detection of the speech by the ceramic discriminator CD1001 (**CDBC450CX24**).

Detected audio from Q1036 is applied to the audio high-pass filter, and then passes via the volume control to the audio amplifier Q1039 (**NJM2070M**), which provides up to 1/2 Watt to the optional headphone jack or a 4-ohm loudspeaker.

Squelch Control

The squelch circuitry consists of a noise amplifier and band-pass filter within Q1036, and noise detector D1030 (**1SS355**).

When no carrier is received, noise at the output of the detector stage in Q1036 is amplified and band-pass filtered by the noise amplifier section of Q1036 and the network between pins 7 and 8, and then is rectified by D1030.

The resulting DC squelch control voltage is passed to pin 37 of the microprocessor Q1014 (**M37516E6HP**). If no carrier is received, this signal causes pin 24 of Q1014 to go high and pin 20 to go high. Pin 24 signals Q1056 (**RT1P441U**) to disable the supply voltage to the audio amplifier Q1039, while pin 20 holds the green (Busy) half of the LED off, when pin 24 is high and pin 20 is high.

Thus, the microprocessor blocks output from the audio amplifier, and silences the receiver, while no signal is being received (and during transmission, as well).

When a carrier appears at the discriminator, noise is removed from the output, causing pin 37 of Q1014 to go low and the microprocessor to activate the "Busy" LED via Q1014.

The microprocessor then checks for CTCSS or CDCSS code squelch information, if enabled. If not transmitting and CTCSS or CDCSS is not activated, or if the received tone or code matches that programmed, audio is allowed to pass through the audio amplifier Q1039 (**NJM2070M**) to the loudspeaker by the enabling of the supply voltage to it via Q1037.

Transmit Signal Path

Speech input from the microphone is amplified by Q1017 (**NJM2902V**), after pre-emphasis by C1059 and R1045, the audio is amplified in another section of Q1017.

The processed audio may then be mixed with a CTCSS tone generated by Q1014 (**M37516E6HP**) for frequency modulation of the PLL carrier (up to ±5 kHz from the unmodulated carrier) at the transmitting frequency.

If a CDCSS code is enabled for transmission, the code is generated by microprocessor Q1014 (**M37516E6HP**) and delivered to D1004 (**HVC350B**) for CDCSS modulating.

The modulated signal from the VCO Q1005 (**2SK508-K52**) is buffered by Q1008 (**2SC5005**). The low-level transmit signal then passes through the T/R switching diode D1014 (**DAN235E**) to the amplifier Q1009 (**2SC5005**), driver amplifier Q1012 (**2SC3357**) and Q1016 (**2SK2973**), then the amplified transmit signal is applied to the final amplifier Q1021 (**2SK2974**), which delivers up to 5 watts output power.

The transmit signal then passes through the antenna switch D1007 (**RLS135**) and is low-pass filtered, to suppress harmonic spurious radiation before delivery to the antenna.

Circuit Description

Automatic Transmit Power Control

Current from the final amplifier is sampled by R1110, R1124 and R1132, and is rectified by Q1033 (**IMZ2A**). The resulting DC is fed back through Q1027 (**FMW1**) to the drive amplifier Q1016 and final amplifier Q1021, for control of the power output.

The microprocessor selects "High" or "Low" power levels.

Transmit Inhibit

When the transmit PLL is unlocked, pin 14 of PLL chip Q1004 goes to a logic "Low", and unlock detector Q1054 (**2SA1586Y**) goes to a logic "High". The resulting DC unlock control voltage is passed to pin 14 of the microprocessor Q1014. While the transmit PLL is unlocked, pin 22 of Q1014 remains high, which then turns off Q1031 (**CPH6102**) and the Automatic Power Controller Q1027 (**FMW1**) to disable the supply voltage to the drive amplifiers Q1012/Q1016 and final amplifier Q1021, thereby disabling the transmitter.

Spurious Suppression

Generation of spurious products by the transmitter is minimized by the fundamental carrier frequency being equal to final transmitting frequency, modulated directly in the transmit VCO. Additional harmonic suppression is provided by a low-pass filter consisting of coils L1003, L1006 and L1007 plus capacitors C1002, C1007, C1013, C1017, C1022, C1029, C1169 and C1196, resulting in more than 60 dB of harmonic suppression prior to delivery of the RF signal to the antenna.

PLL Frequency Synthesizer

The PLL circuitry on the Main Unit consists of VCO Q1005 (**2SK508-K52**), VCO buffer Q1008 (**2SC5005**), and PLL subsystem IC Q1004 (**MB15A02PFV1**), which contains a reference divider, serial-to-parallel data latch, programmable divider, phase comparator and charge pump.

Frequency stability is maintained by temperature compensating thermistor TH1001. The output from TH1001 is applied to pin 39 of Q1014. Q1014 output thermal data to D/A converter Q1052 (**M62364FP**) which produces a DC voltage corresponding to the thermal data. The resulting DC voltage is applied to varactor diode D1004 (**HVC350B**) to stabilize the 14.60 MHz Reference Frequency.

While receiving, VCO Q1005 oscillates between 405.75 and 440.75 MHz according to the transceiver version and the programmed receiving frequency. The VCO output is buffered by Q1008, then applied to the prescaler section of Q1004. There the VCO signal is divided by 64 or 65, according to a control signal from the data latch section of Q1004, before being sent to the programmable divider section of Q1004.

The data latch section of Q1004 also receives serial dividing data from the microprocessor Q1014, which causes the pre-divided VCO signal to be further divided in the programmable divider section, depending upon the desired receive frequency, so as to produce a 5 kHz or 6.25 kHz derivative of the current VCO frequency.

Meanwhile, the reference divider section of Q1005 divides the 14.60 MHz crystal reference from the reference oscillator Q1022, by 2920 (or 2336) to produce the 5 kHz (or 6.25 kHz) loop references (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 Q1004, which produces a pulsed output with pulse duration depending on the phase difference between the input signals.

This pulse train is filtered to DC and returned to varactors D1001 (**HVC355B**) and D1002 (**HVC355B**). Changes in the level of the DC voltage are applied to the varactors, affecting the reference in the tank circuit 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 Q1005, after buffering by Q1008, is applied to the first mixer as described previously.

For transmission, the VCO Q1005 oscillates between 450 and 485 MHz according to the model version and programmed transmit frequency. The remainder of the PLL circuitry is shared with the receiver. However, the dividing data from the microprocessor is such that the VCO frequency is at the actual transmit frequency (rather than offset for IFs, as in the receiving case). Also, the VCO is modulated by the speech audio applied to D1005 (**HVC350B**), as described previously.

Receive and transmit buses select which VCO is made active, using Q1002 (**RT1N441U**).

Miscellaneous Circuits

Push-To-Talk Transmit Activation

The PTT switch on the microphone is connected to pin 48 of microprocessor Q1014, so that when the PTT switch is closed, pin 23 of Q1014 goes low. This signal disables the receiver by disabling the 5 V supply bus at Q1035 (**DTB123EK**) to the front-end, FM IF subsystem IC Q1036 and the receiver VCO circuitry.

At the same time, Q1026 (**FMW1**) and Q1031 (**CPH6102**) activate the transmit 5V supply line to enable the transmitter.

Introduction

The **VX-160/-180** has been aligned at the factory for the specified performance across the entire frequency range specified. Realignment should therefore not be necessary except in the event of a component failure. All component replacement and service should be performed only by an authorized Vertex Standard representative, or the warranty policy may be voided.

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 occurs and some parts are replaced, realignment may be required. If a sudden problem occurs during normal operation, it is likely due to component failure; realignment should not be done until after the faulty component has been replaced.

We recommend that servicing be performed only by authorized Vertex Standard service technicians who are experienced with the circuitry and fully equipped for repair and alignment. Therefore, if a fault is suspected, contact the dealer from whom the transceiver was purchased for instructions regarding repair. Authorized Vertex Standard service technicians realign all circuits and make complete performance checks to ensure compliance with factory specifications after replacing any faulty components. Those who do undertake any of the following alignments are cautioned to proceed at their own risk. Problems caused by unauthorized attempts at realignment are not covered by the warranty policy. Also, Vertex Standard must reserve 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 transceiver are clearly understood, the cause of the malfunction has been clearly pinpointed and any faulty components replaced, and the need for realignment determined to be absolutely necessary. The following test equipment (and thorough familiarity with its correct use) is necessary for complete realignment. Correction of problems caused by misalignment resulting from use of improper test equipment is not covered under the warranty policy. While most steps do not require all of the equipment listed, the interactions of some adjustments may require that more complex adjustments be performed afterwards. Do not 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.

Required Test Equipment

- ❒ Avionics Radio Tester with calibrated output level at 1 GHz
- ❒ In-line Wattmeter with 5% accuracy at 1 GHz
- ❒ 50-ohm, 10-W RF Dummy Load
- ❒ Regulated DC Power Supply (standard 7.5V DC, 2A)
- ❒ Frequency Counter: ±0.2 ppm accuracy at 1 GHz
- ❒ AF Signal Generator
- ❒ AC Voltmeter
- ❒ DC Voltmeter
- ❒ UHF Sampling Coupler
- ❒ IBM PC/compatible Computer with Microsoft DOS v3.0 or later operating system
- ❒ Vertex Standard CT-42 Connection Cable and CE44 Alignment program

Alignment Preparation & Precautions

A 50-ohm RF Dummy load and in-line wattmeter must be connected to the main antenna jack in all procedures that call for transmission, except where specified otherwise. Correct alignment is not possible with an antenna.

After completing one step, read the following step to determine whether the same test equipment will be required. If not, remove the test equipment (except dummy load and wattmeter, if connected) before proceeding.

Correct alignment requires that the ambient temperature be the same as that of the transceiver and test equipment, and that this temperature be held constant between 20° and 30°C (68°~ 86°F). 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.

Whenever possible, alignments should be made with oscillator shields and circuit boards firmly affixed in place. Also, the test equipment must be thoroughly warmed up before beginning.

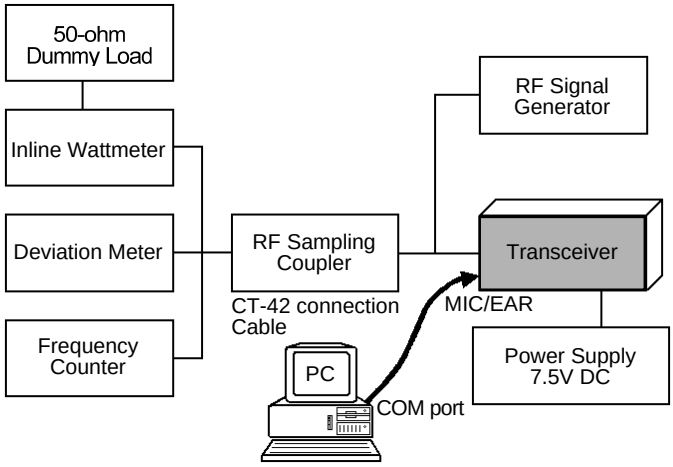
Note: Signal levels in dB referred to in this procedure are based on 0 dBμ = 0.5 μV (closed circuit).

Important Note

When connecting the **CT-42** plug into the **MIC/SP** jack of the **VX-160/-180**, you must remove the plastic cap and its mounting screws prior to programming. Please remember to re-attach the cap and screws when the programming is complete.

Alignment

Set up the test equipment as shown below for transceiver alignment, and apply 7.5V DC power to the transceiver.



The transceiver must be programmed for use in the intended system before alignment is attempted. The RF parameters are loaded from the file during the alignment process.

In order to facilitate alignment over the complete operating rang of the equipment, it is recommended that the channel data in the transceiver be preset as per the chart below.

Channels	**Frequency (MHz)**		
	Ver. AS1	Ver. D	Ver. CS
Low Band Edge (Channel 1)	400.000	450.000	440.000
Band Center (Channel 2)	415.000	465.000	455.000
High Band Edge (Channel 3)	430.000	490.000	470.000

Channel	**Tone-Frequency (Hz) / DCS-code**	
	CTCSS	DCS
Low Band Edge (Channel 1)	–	–
Band Center (Channel 2)	151.4	–
High Band Edge (Channel 3)	–	627

The alignment tool outline

Installation of the Alignment tool

The “alignment mode” is a software-based protocol, accessed by an “Alignment Mode” command from the computer while switching the transceiver on.It is operated by the alignment tool automatically. During use of the alignment mode, normal operation is suspended. The alignment tool program provides all needed operation capability.

The alignment tool consists of an executable file “CE44.exe” and an accmpanying configuration file “CE44.cfg” which should be loaded per standard DOS procedures. Create a suitable directory, then copy these foles from the distribution diskette into the new directory.

For example, if copying the file from Drive A, use the following DOS command sequence:

c:\ mkdir align [enter]
c:\ cd align [enter]
c:\ align\ copy a:ce44.*

No further installation steps are required. If you wish to utilize a different name for the alignment directory, it will not matter to the executable file.

Booting the Alignment Tool

Change to the “align” directory (or the directory name you utilized in the previous section). Now type on the command line: ce44 [ENTER] to boot the alignment tool.

The introductory screen will appear, and you may press any key to enter the main screen.

Entering Alignment Mode

To enter the alignment mode, turn the transceiver off, Select “Radio” then “Adjust” parameter. Now, turn the transceiver back on. When the command has been successful, a message on the computer screen will confirm that the transceiver is now in the “Alignment” mode.

Alignment Sequence

Although the data displayed on the computer's screen during alignment is temporary data, it is important you follow the basic alignment sequence precisely, so that the displayed data and the data loaded into the transceiver are identical.

Basic Alignment Sequence

1. Enter the alignment mode
2. Upload data from transceiver
3. Align data
4. Download data to transceiver

PLL VCV (Varactor Control Voltage)

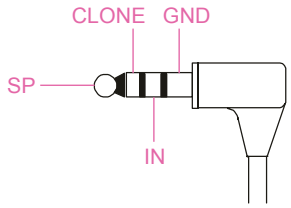
- ❒ Connect the DC voltmeter between **TP3** on the Main Unit and ground.
- ❒ Set the transceiver to CH 3 (high band edge), and adjust **L1004** on the Main Unit for 3.8 V ± 0.1 V (for Ver. D), 3.9 V ± 0.1 V (for Ver. AS1) or 3.7 V ± 0.1 V (for Ver. CS) on the DC voltmeter.
- ❒ Confirm the high-end VCV is 3.4 V ~3.9 V while receiving.
- ❒ Confirm the high-end VCV is 2.5 V ~ 3.7 V while transmitting.
- ❒ Set the transceiver to CH 1 (low band edge), and confirm the low-end VCV is more than 0.75 V (Ver. D and CS) or 1.3 V (Ver. CS1) while receiving.
- ❒ Confirm the low-end VCV is more than 1.3 V (Ver. D), 1.0 V (Ver. CS) or 1.4 V (Ver. CS1) while transmitting.

Transmitter Output Power

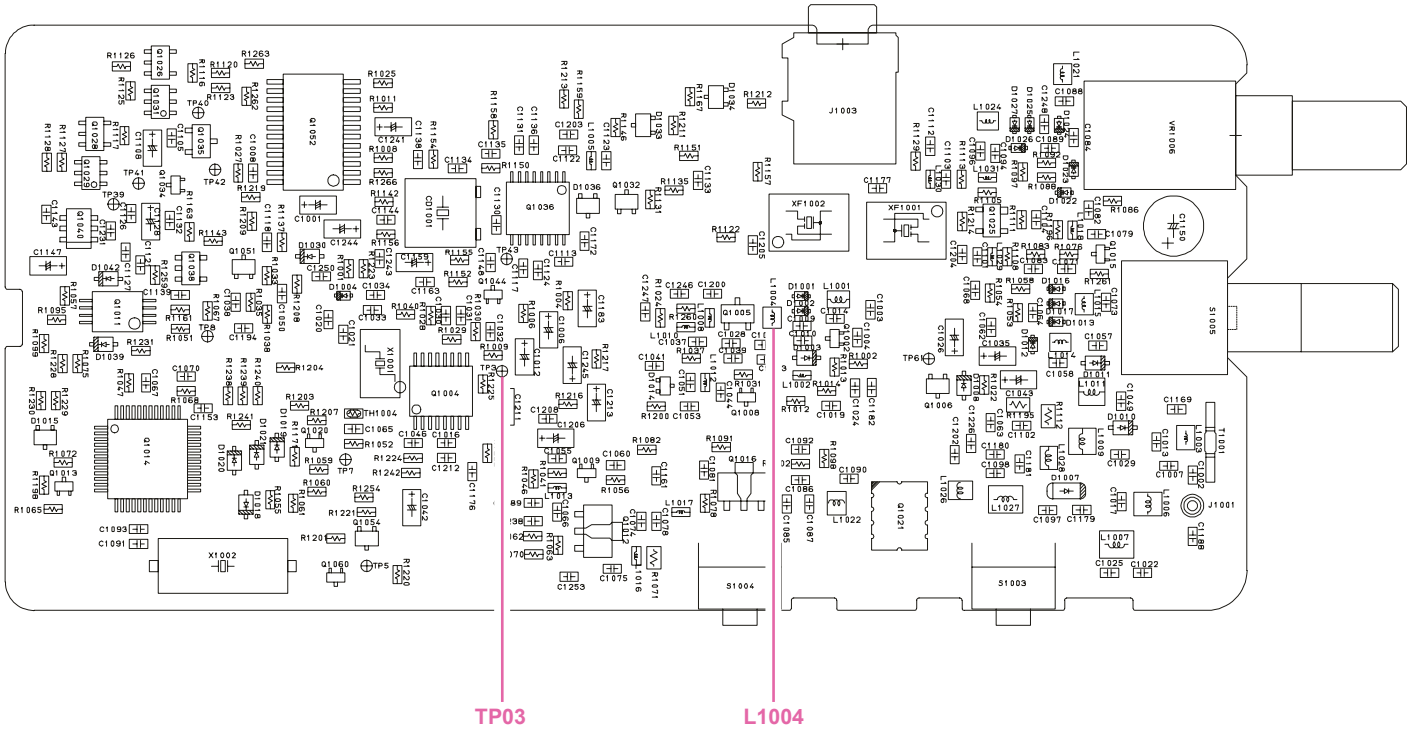
- ❒ Set the transceiver to CH 2 (band center).
- ❒ Open the "**Adjust**" window on the CE44 program, then select the "**RF Power (High)**" or "**RF Power (Low)**" parameter.
- ❒ Press the [**ENTER**] key to enable programming of this parameter; use the [←] or [→] arrow keys so that the power meter reading is 5.0 W (± 0.1 W) (for "RF Power High") or 1.0 W (± 0.1 W) (for "RF Power Low"). Confirm that the current consumption is 2.2 A or lower (for "RF Power High") or 1.0 A or lower (for "RF Power Low").
- ❒ Press the [**ENTER**] key to lock in the new data.

MIC Sensitivity

- ❒ Set the transceiver to CH 2 (band center).
- ❒ Inject a 1 kHz tone at –37 dBm to the **MIC** jack.



- ❒ Open the "**Adjust**" window on CE44, then select the "**MIC Sensitivity**" parameter.
- ❒ Press the [**ENTER**] key to enable programming of this parameter; use the [←] or [→] arrow keys so that the deviation meter reading is ±3.0 kHz (±0.1 kHz) (for 25 kHz steps) deviation.
- ❒ Press the [**ENTER**] key to lock in the new data.



Alignment

MAX Deviation

- ❒ Set the transceiver to CH 2 (band center).
- ❒ Inject a 1 kHz tone at –17 dBm to the **MIC** jack.
- ❒ Open the "**Adjust**" window on CE44, then select the "**MAX Deviation**" parameter.
- ❒ Press the [**ENTER**] key to enable programming of this parameter; use the [←] or [→] arrow keys so that the deviation meter reading is ±4.2 kHz (±0.1 kHz) (for 25 kHz steps, Ver. D and AS1), ±4.3 kHz (±0.1 kHz) (for 25 kHz steps, Ver. CS) or ±2.1 kHz (±0.1 kHz) (for 12.5 kHz steps) deviation.
- ❒ Press the [**ENTER**] key to lock in the new data.

CTCSS Deviation

- ❒ Set the transceiver to CH 2 (band center).
- ❒ Open the "**Adjust**" window on CE44, then select the "**CTCSS Deviation**" parameter.
- ❒ Press the [**ENTER**] key to enable programming of this parameter; use the [←] or [→] arrow keys so that the deviation meter reading is ±0.8 kHz (±0.1 kHz) (for 25 kHz steps) or ±0.5 kHz (±0.1 kHz) (for 12.5 kHz steps) deviation.
- ❒ Press the [**ENTER**] key to lock in the new data.

DCS Deviation

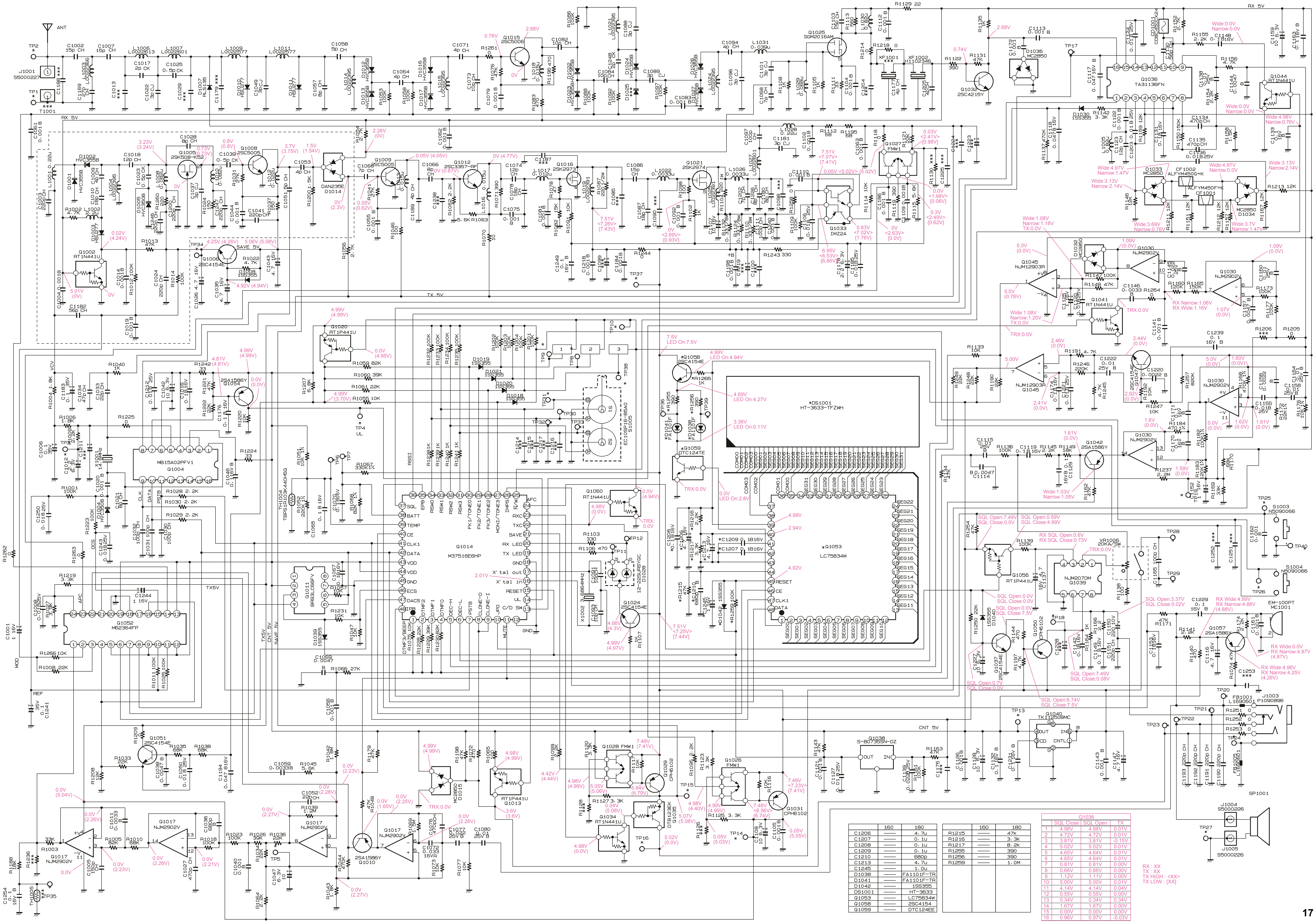
- ❒ Set the transceiver to CH 3 (high band edge).
- ❒ Open the "**Adjust**" window on CE44, then select the "**DCS Deviation**" parameter.
- ❒ Press the [**ENTER**] key to enable programming of this parameter; use the [←] or [→] arrow keys so that the deviation meter reading is ±0.8 kHz (±0.1 kHz) (for 25 kHz steps) or ±0.5 kHz (±0.1 kHz) (for 12.5 kHz steps) deviation.
- ❒ Press the [**ENTER**] key to lock in the new data.

RF Frequency

- ❒ Set the transceiver to CH 2 (band center).
- ❒ Open the "**Adjust**" window on CE44, then select the "**RF Frequency**" parameter.
- ❒ Press the [**ENTER**] key to enable programming of this parameter; use the [←] or [→] arrow keys so that the frequency counter displays the band center frequency (±100 Hz) for the version being aligned.
- ❒ Press the [**ENTER**] key to lock in the new data.

Sensitivity

- ❒ Set the transceiver to CH 3 (high band edge).
- ❒ Tune the RF signal generator to the same frequency as the transceiver's, then set the generator output level to 40 dBµ with ±3.0 kHz deviation @ 1 kHz tone modulation.
- ❒ Open the "**Adjust**" window on CE44, then select the "**RX Tune**" parameter.
- ❒ Press the [**ENTER**] key to enable programming of this parameter. Use the [←] or [→] arrow keys to tune for best sensitivity; ultimately, the radio should be aligned so that the RF signal generator output level is –6 dBµ EMF (0.25 µV) or less for 12 dB SINAD.
- ❒ Press the [**ENTER**] key to lock in the new data.



	160	180
C1206	——	4.7u
C1207	——	0.1u
C1208	——	0.1u
C1209	——	0.1u
C1210	——	680p
C1213	——	4.7u
C1245	——	1.0u
D1038	——	FA1101F-TR
D1041	——	FA1101F-TR
D1042	——	1SS355
DS1001	——	HT-3633
Q1053	——	LC75834W
Q1058	——	2SC4154
Q1059	——	DTC124EE

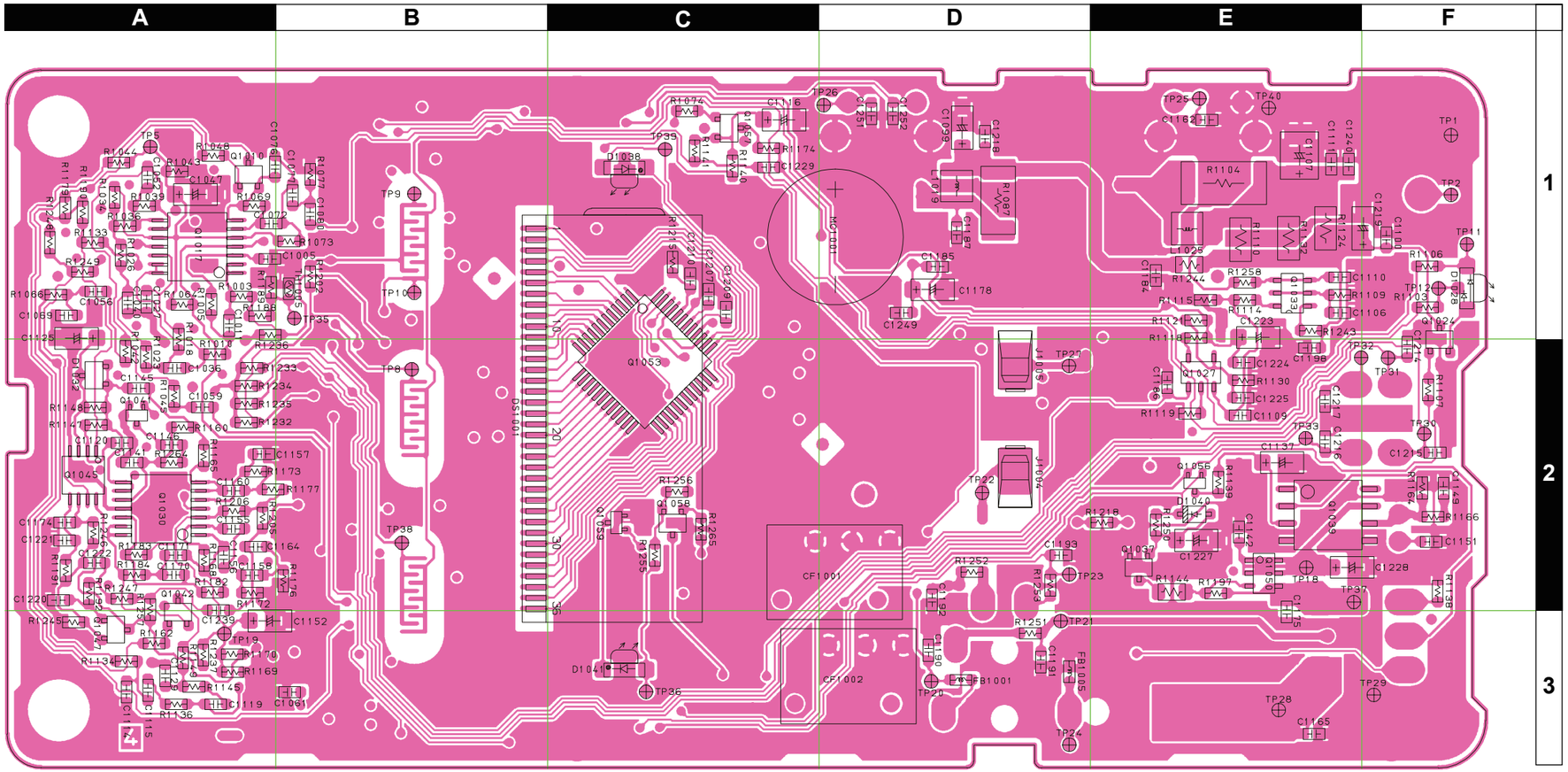
	160	180
R1215	——	47k
R1216	——	3.3k
R1217	——	8.2k
R1255	——	390
R1256	——	390
R1259	——	1.0M

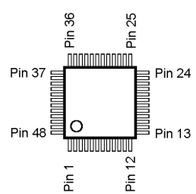
Q1036			
	SQL Close	SQL Open	TX
1	4.98V	4.98V	0.01V
2	4.72V	4.72V	0.01V
3	3.81V	3.81V	-0.15V
4	5.02V	5.02V	0.01V
5	4.65V	4.64V	0.01V
6	4.65V	4.64V	0.01V
7	0.81V	0.81V	0.00V
8	0.66V	0.66V	0.00V
9	1.12V	1.11V	0.00V
10	5.00V	5.00V	0.01V
11	4.14V	4.14V	0.04V
12	0.55V	0.55V	0.00V
13	0.34V	0.34V	0.34V
14	1.67V	1.67V	0.00V
15	0.00V	0.00V	0.00V
16	0.96V	0.97V	-0.03V

RX : XX
TX : XX
TX HIGH : <XX>
TX LOW : {XX}

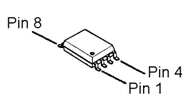
Note:

Parts Layout (Side A)

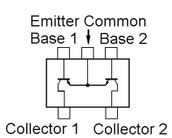




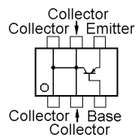
LC75834W
(Q1053)



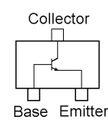
NJM2070M
(Q1039)



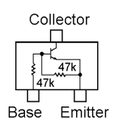
FMW1 (W1)
(Q1027)



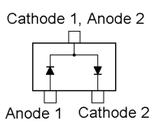
CPH6102 (AB)
(Q1050)



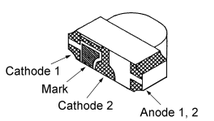
2SC4154E (LE)
(Q1024, 1037
1047, 1058)



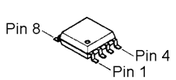
RT1N441U (N3)
(Q1041)



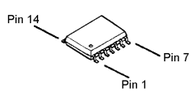
MC2850 (A7)
(D1032)



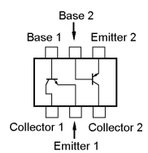
12-22SURSYGC/S530-A2/TR8
(D1028)



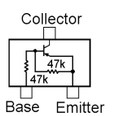
NJM12903R
(Q1045)



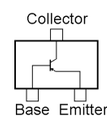
NJM2902V
(Q1017, 1030)



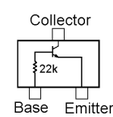
IMZ2 (Z2)
(Q1033)



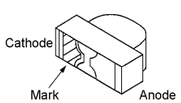
RT1P441U (P3)
(Q1056)



2SA1586Y (SY)
(Q1010, 1042
1057)



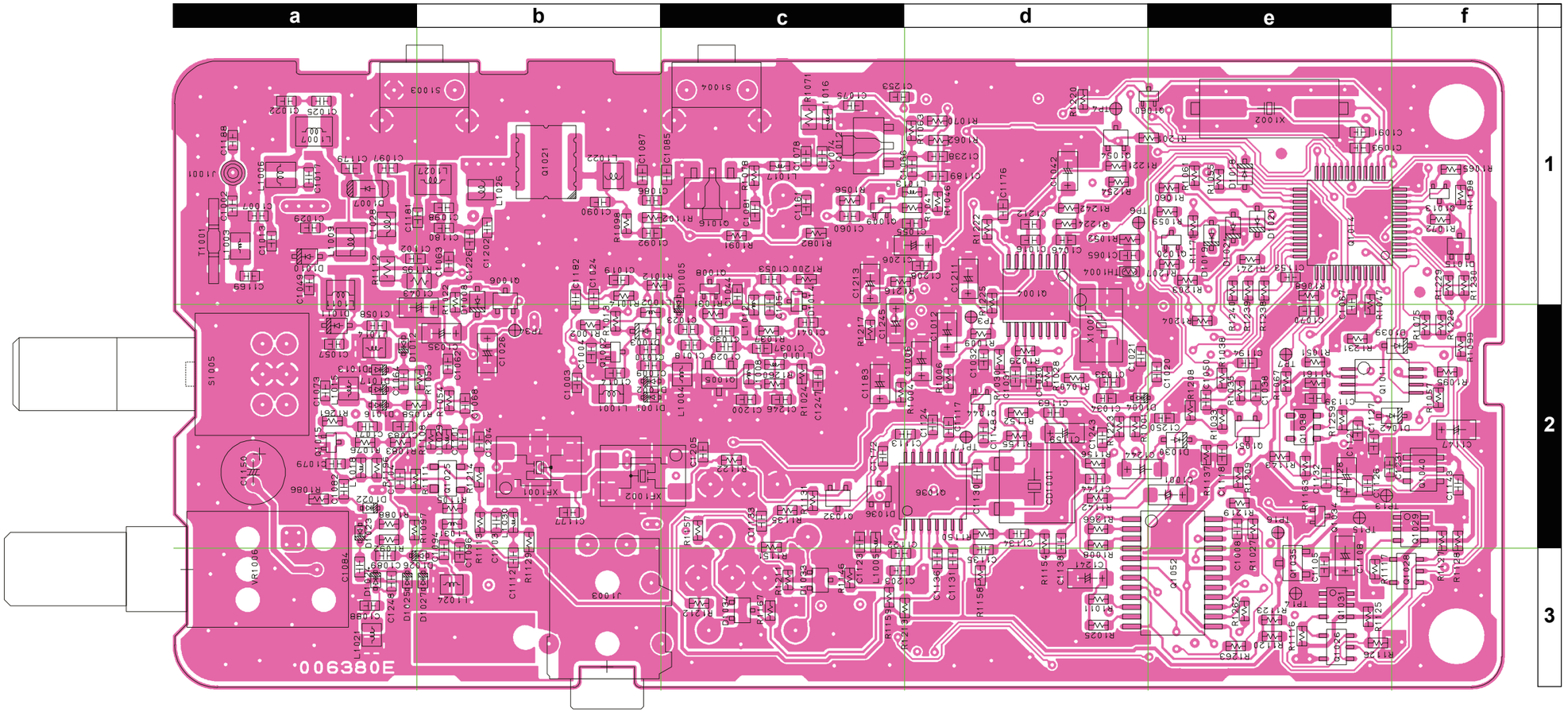
DTC124TE (05)
(Q1059)

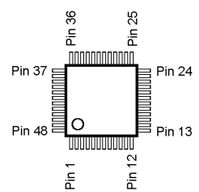


FA1101F (VX-180)
(D1038, 1041)

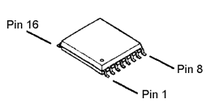
MAIN Unit (Lot. 1~19)

Parts Layout (Side B)

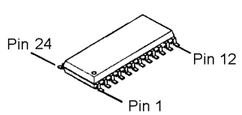




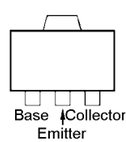
M37516E6HP (Lot. 1~)
M37516M6-121HP (Lot. 6~)
(Q1014)



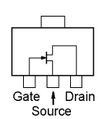
TA31136FN
(Q1036)



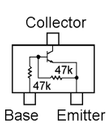
M62364FP
(Q1052)



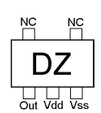
2SC3357-T2
(Q1012)



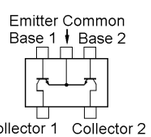
2SK2973 (K1)
(Q1016)



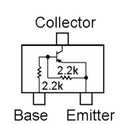
RT1N441U (N3)
(Q1002, 1034
1044, 1060)



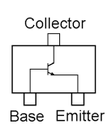
S-80735SN (DZ)
(Q1038)



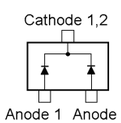
FMW1 (W1)
(Q1026, 1028)



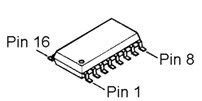
DTB123EK (F12)
(Q1035)



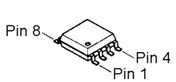
2SC4154E (LE)
(Q1006, 1051)
2SC5005 (73)
(Q1008, 1009)
2SC5006 (24)
(Q1015)
2SC4215Y (QY)
(Q1032)



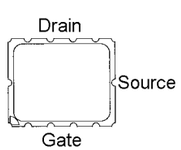
DAN235E (M)
(D1014)



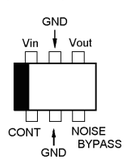
MB15A02PFV1
(Q1004)



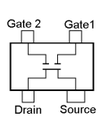
BR93LC66FV
(Q1011)



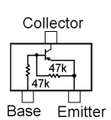
2SK2974
(Q1021)



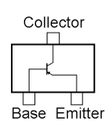
TK11250BMCL
(Q1040)



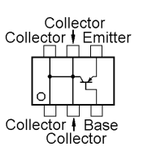
SGM2016AM (MA)
(Q1025)



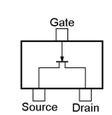
RT1P441U (P3)
(Q1013, 1020)



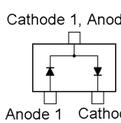
2SA1586Y (SY)
(Q1054)



CPH6102 (AB)
(Q1029, 1031)



2SK508 (K52)
(Q1005)



MC2850 (A7)
(D1015, 1033
1034, 1036)

	FREQUENCY RANGE
Type_D	450MHz~490MHz
Type_AS	400MHz~430MHz
Type_CS	440MHz~470MHz

	160	180
C1206	***	4.7u
C1207	***	0.1u
C1208	***	0.1u
C1209	***	0.1u
C1210	***	680p
C1213	***	4.7u
C1245	***	1.0u

	160	180
D1036	***	FA1101F
D1041	***	FA1101F
D1042	***	1SS355
DS1001	***	HT-3633
D1053	***	LC75834W
D1058	***	2SC4154
Q1059	***	DTC124EE

	160	180
R1215	***	47k
R1216	***	3.3k
R1217	***	8.2k
R1255	***	390
R1256	***	390
R1259	***	1.0M
R1265	***	1.0K

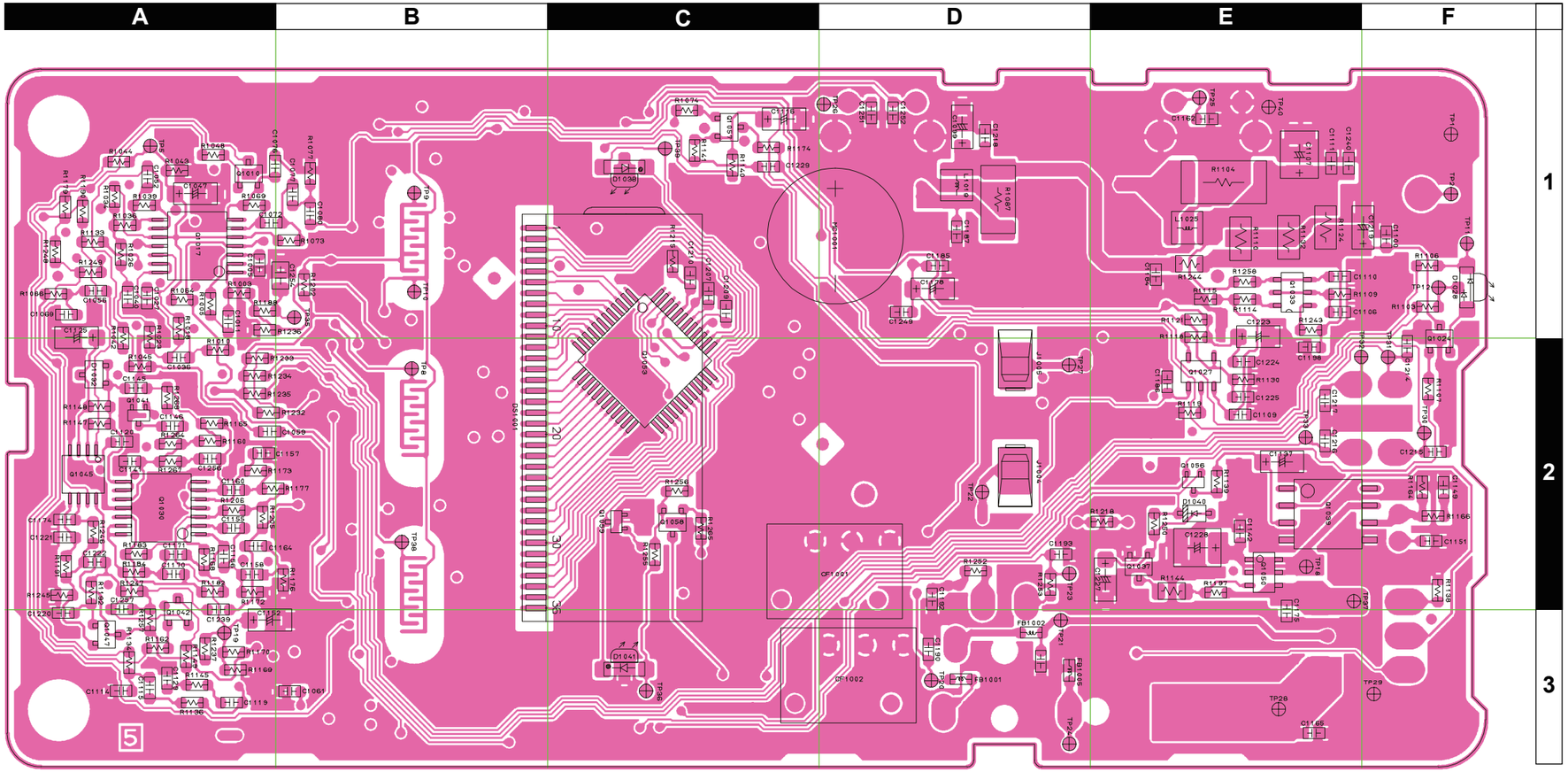
	Type_D	Type_A	Type_CS
C1010	22p	120p	22p
C1013	***	3p	***
C1017	2p	4p	3p
C1018	12p	10p	12p
C1022	3p	5p	3p
C1025	0.5p	***	0.5p
C1049	4p	3p	4p
C1053	4p	5p	4p
C1057	8p	10p	8p
C1058	5p	10p	5p
C1064	3p	7p	4p
C1071	4p	6p	4p
C1073	***	15p	***
C1074	12p	15p	12p
C1082	100p	1000p	100p
C1084	5p	8p	6p
C1085	15p	18p	12p
C1087	18p	27p	22p
C1089	12p	8p	5p

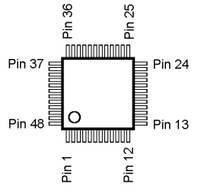
	Type_D	Type_A	Type_CS
C1094	4p	7p	4p
C1096	3p	10p	3p
C1169	27p	47p	27p
C1179	***	5p	***
C1180	7p	12p	7p
C1181	4p	5p	4p
C1182	56p	27p	56p
C1202	7p	12p	7p
C1226	10p	12p	12p
C1248	2p	3p	2p
C1255	27p	1000p	***
D1024	1SV280	HVC355B	HVC355B
D1025	***	HVC355B	***
L1004	L0022395	L0022366	L0022395
L1017	12n	10n	12n
L1018	82n	12n	82n

	Type_D	Type_A	Type_CS
L1029	27n	39n	33n
L1032	12n	***	15n
R1003	3.3K Ω	1.5K Ω	3.3K Ω
R1034	15K Ω	39K Ω	15K Ω
R1063	5.6K Ω	10K Ω	5.6K Ω
R1070	47 Ω	10 Ω	47 Ω
R1078	100 Ω	47 Ω	100 Ω
R1086	***	100k Ω	***
R1196	470 Ω	330 Ω	470 Ω
R1261	***	***	0 Ω

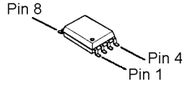
Note:

Parts Layout (side A)

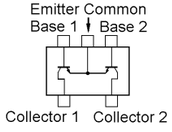




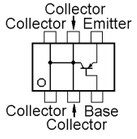
LC75834W
(Q1053)



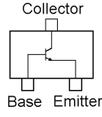
NJM2070M
(Q1039)



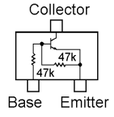
FMW1 (W1)
(Q1027)



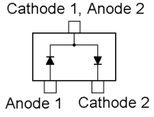
CPH6102 (AB)
(Q1050)



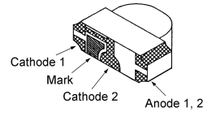
2SC4154E (LE)
(Q1024, 1037
1047, 1058)



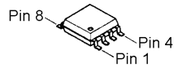
RT1N441U (N3)
(Q1041)



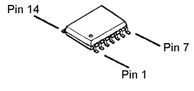
MC2850 (A7)
(D1032)



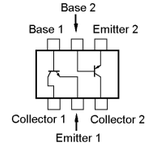
12-22SURSYGC/S530-A2/TR8
(D1028)



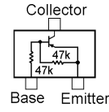
NJM12903R
(Q1045)



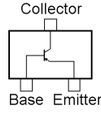
NJM2902V
(Q1017, 1030)



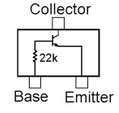
IMZ2 (Z2)
(Q1033)



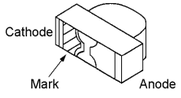
RT1P441U (P3)
(Q1056)



2SA1586Y (SY)
(Q1010, 1042
1057)



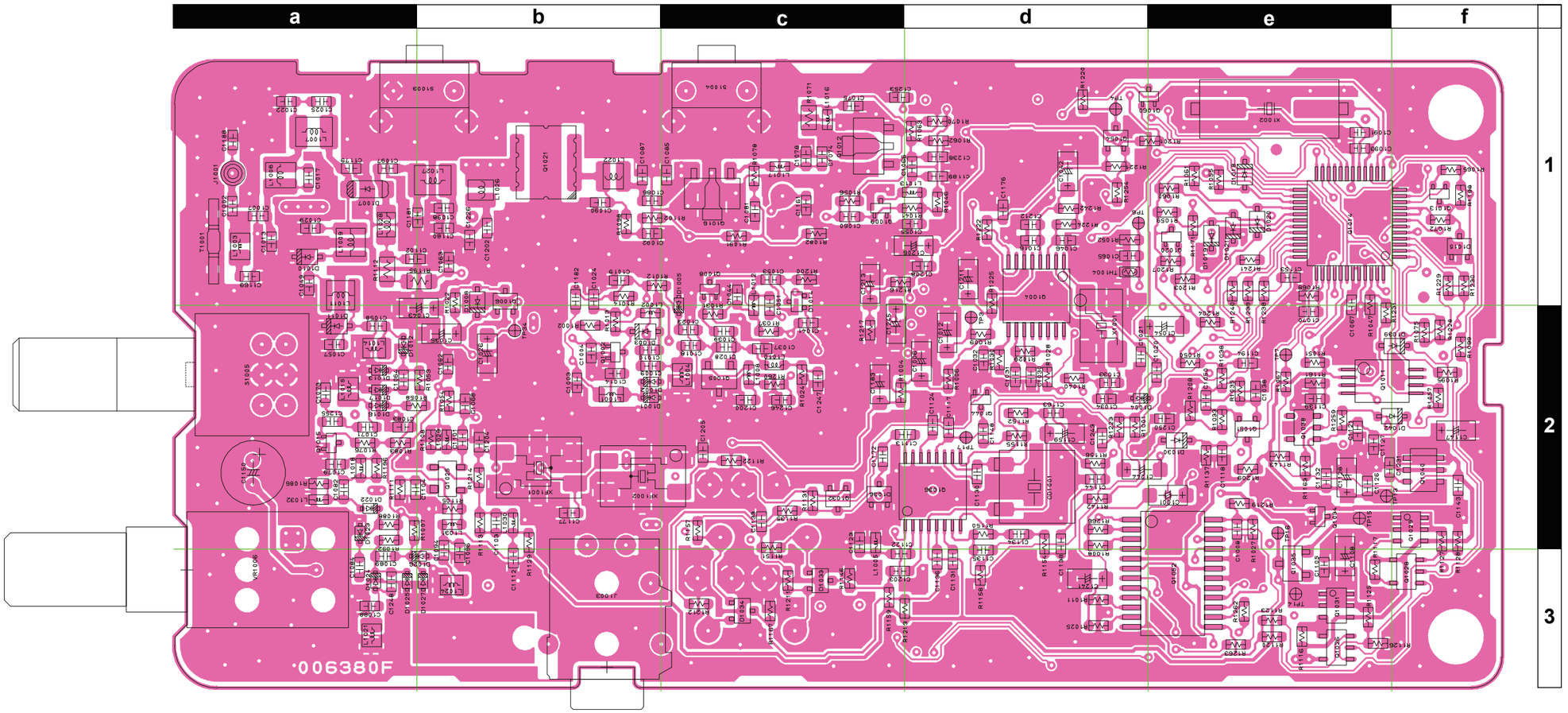
DTC124TE (05)
(Q1059)

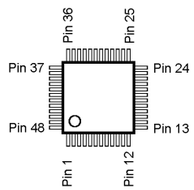


FA1101F (VX-180)
(D1038, 1041)

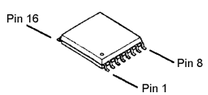
MAIN Unit (Lot. 20~34)

Parts Layout (side B)

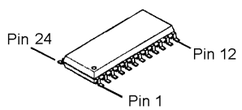




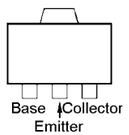
M37516M6-121HP
(Q1014)



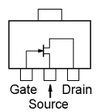
TA31136FN
(Q1036)



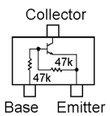
M62364FP
(Q1052)



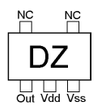
2SC3357-T2
(Q1012)



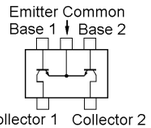
2SK2973 (K1)
(Q1016)



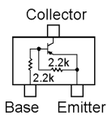
RT1N441U (N3)
(Q1002, 1034
1044, 1060)



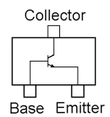
S-80735SN (DZ) (Lot. 1~)
S-80835CNMC (Lot. 33~)
(Q1038)



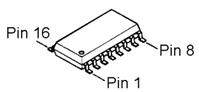
FMW1 (W1)
(Q1026, 1028)



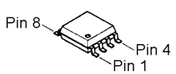
DTB123EK (F12)
(Q1035)



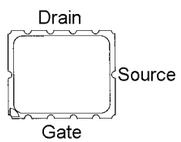
2SC4154E (LE)
(Q1006, 1051)
2SC5005 (73)
(Q1008, 1009)
2SC5006 (24)
(Q1015)
2SC4215Y (QY)
(Q1032)



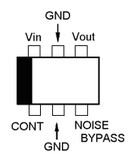
MB15A02PFV1
(Q1004)



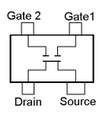
BR93LC66FV
(Q1011)



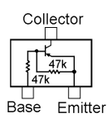
2SK2974
(Q1021)



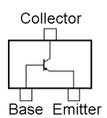
TK11250BMCL
(Q1040)



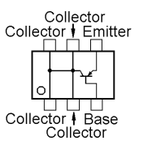
SGM2016AM (MA)
(Q1025)



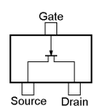
RT1P441U (P3)
(Q1013, 1020)



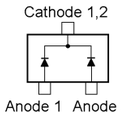
2SA1586Y (SY)
(Q1054)



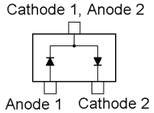
CPH6102 (AB)
(Q1029, 1031)



2SK508 (K52)
(Q1005)



DAN235E (M)
(D1014)



MC2850 (A7)
(D1015, 1033
1034, 1036)

	FREQUENCY RANGE
Type_D	450MHz~490MHz
Type_AS	400MHz~430MHz
Type_CS	440MHz~470MHz

	160	180
C1206	***	4.7u
C1207	***	0.1u
C1208	***	0.1u
C1209	***	0.1u
C1210	***	680p
C1213	***	4.7u
C1245	***	1.0u

	160	180
D1036	***	FA1101F
D1041	***	FA1101F
D1042	***	1SS355
DS1001	***	HT-3633
D1053	***	LC75834W
D1058	***	2SC4154
D1059	***	DTC124EE

	160	180
R1215	***	47k
R1216	***	3.3k
R1217	***	8.2k
R1255	***	390
R1256	***	390
R1259	***	1.0M
R1265	***	1.0K

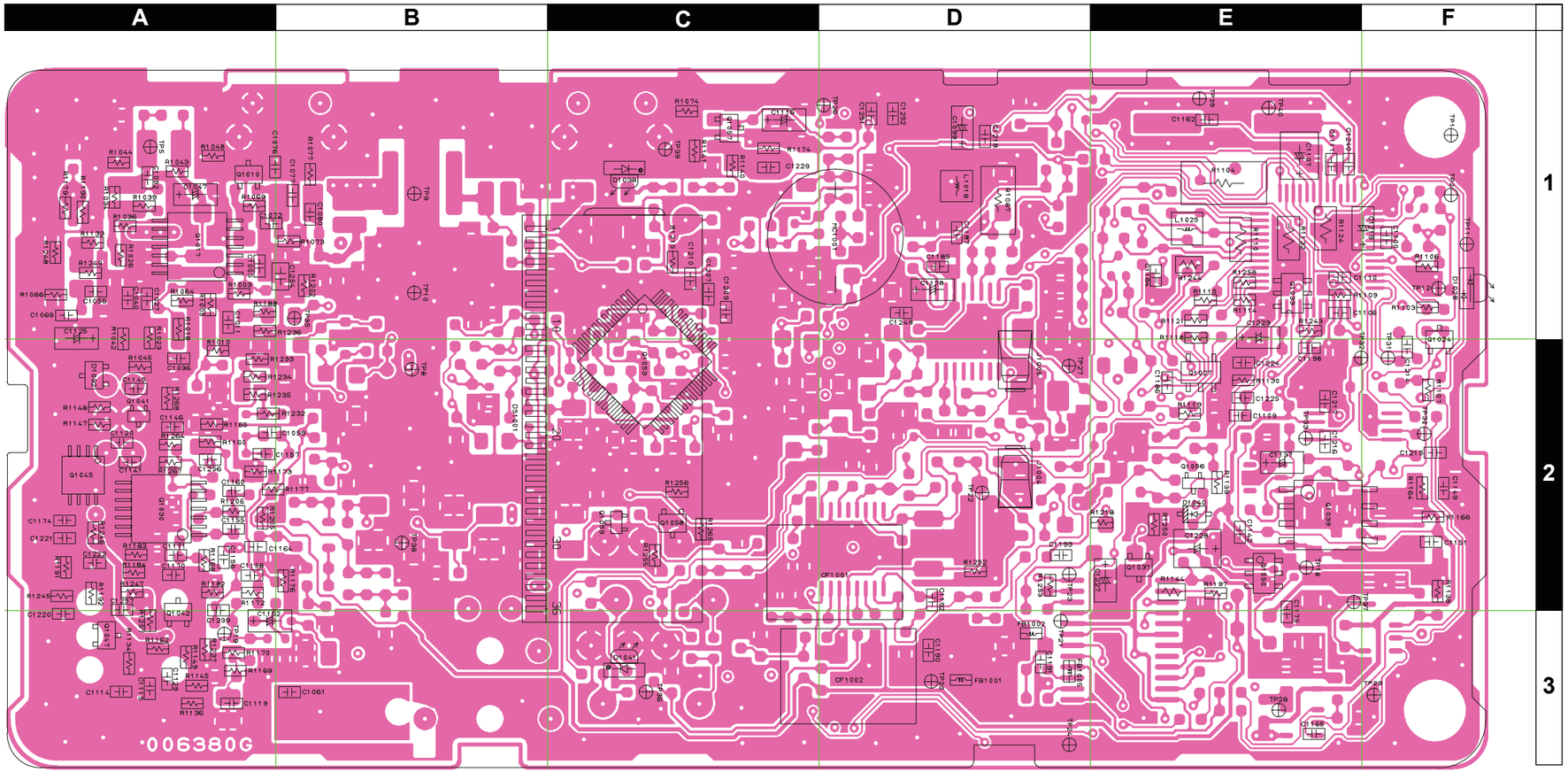
	Type_D	Type_A	Type_CS
C1010	22p	120p	22p
C1013	***	2p	***
C1017	2p	4p	3p
C1018	12p	10p	12p
C1022	3p	5p	3p
C1025	0.5p	***	0.5p
C1049	4p	3p	4p
C1053	4p	5p	4p
C1057	8p	10p	8p
C1058	5p	10p	5p
C1064	3p	7p	4p
C1071	4p	6p	4p
C1073	***	15p	***
C1074	12p	15p	12p
C1082	100p	1000p	100p
C1084	5p	8p	6p
C1085	12p	18p	12p
C1087	18p	27p	22p
C1089	12p	8p	5p

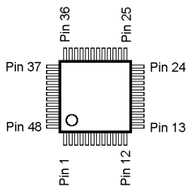
	Type_D	Type_A	Type_CS
C1094	3p	10p	3p
C1096	3p	10p	3p
C1169	27p	47p	27p
C1179	***	5p	***
C1180	7p	12p	7p
C1181	4p	5p	4p
C1182	56p	27p	56p
C1202	7p	12p	7p
C1226	9p	10p	12p
C1248	2p	3p	2p
C1255	27p	1000p	***
D1024	1SV280	HVC355B	HVC355B
D1025	***	HVC355B	***
L1004	L0022395	L0022366	L0022395
L1017	12n	10n	12n
L1018	82n	12n	82n

	Type_D	Type_A	Type_CS
L1029	27n	39n	33n
L1032	12n	***	15n
R1003	3.3K Ω	1.5K Ω	3.3K Ω
R1026	56K Ω	47K Ω	56K Ω
R1034	15K Ω	39K Ω	15K Ω
R1063	5.6K Ω	10K Ω	5.6K Ω
R1078	100 Ω	47 Ω	100 Ω
R1086	***	100K Ω	***
R1196	470 Ω	330 Ω	470 Ω
R1261	***	***	0 Ω

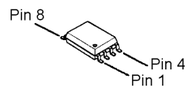
Note:

Parts Layout (Side A)

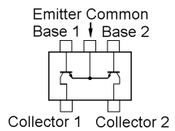




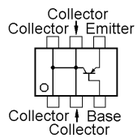
LC75834W
(Q1053)



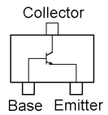
NJM2070M
(Q1039)



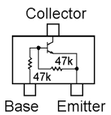
FMW1 (W1)
(Q1027)



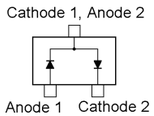
CPH6102 (AB)
(Q1050)



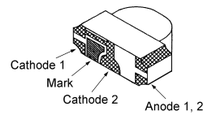
2SC4154E (LE)
(Q1024, 1037
1047, 1058)



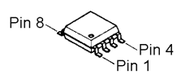
RT1N441U (N3)
(Q1041)



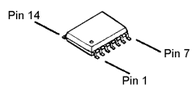
MC2850 (A7)
(D1032)



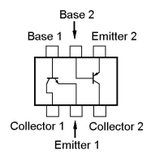
12-22SURSYGC/S530-A2/TR8
(D1028)



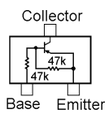
NJM12903R
(Q1045)



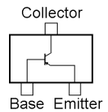
NJM2902V
(Q1017, 1030)



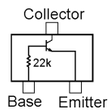
IMZ2 (Z2)
(Q1033)



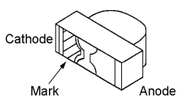
RT1P441U (P3)
(Q1056)



2SA1586Y (SY)
(Q1010, 1042
1057)



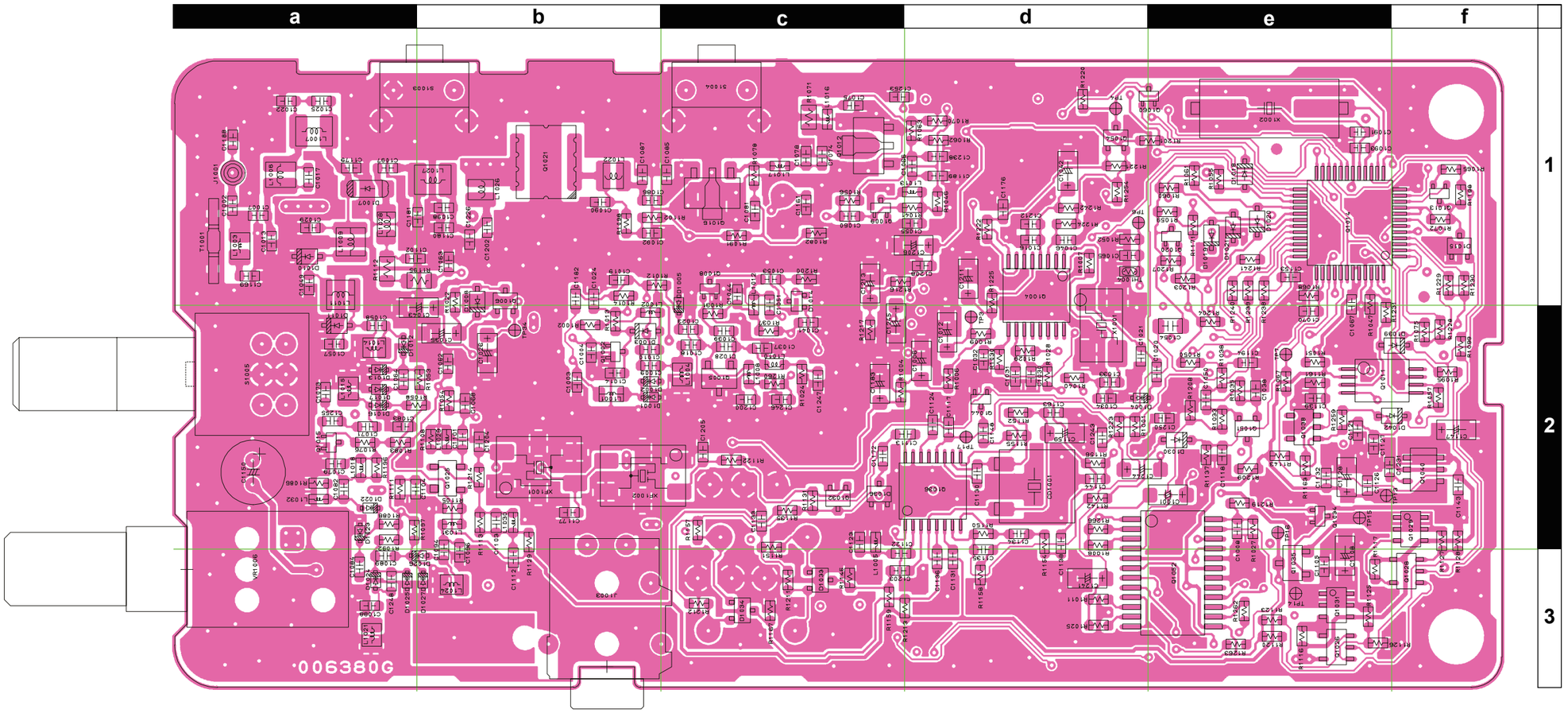
DTC124TE (05)
(Q1059)

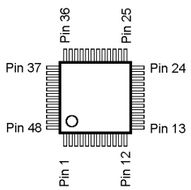


FA1101F (VX-180)
(D1038, 1041)

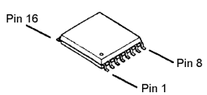
MAIN Unit (Lot. 35~103)

Parts Layout (Side B)

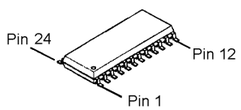




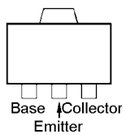
M37516M6-121HP (Lot. 6~)
M37516M6-146HP (Lot. 37~)
(Q1014)



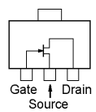
TA31136FN
(Q1036)



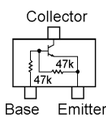
M62364FP
(Q1052)



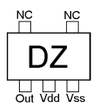
2SC3357-T2
(Q1012)



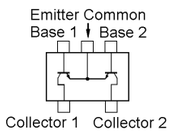
2SK2973 (K1) (Lot. 1~)
RD01MUS1 (Lot. 59~)
(Q1016)



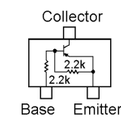
RT1N441U (N3)
(Q1002, 1034
1044, 1060)



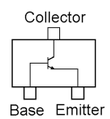
S-80835CNMC
(Q1038)



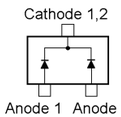
FMW1 (W1)
(Q1026, 1028)



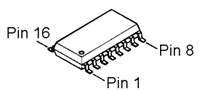
DTB123EK (F12)
(Q1035)



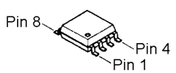
2SC4154E (LE)
(Q1006, 1051)
2SC5005 (73)
(Q1008, 1009)
2SC5006 (24)
(Q1015)
2SC4215Y (QY)
(Q1032)



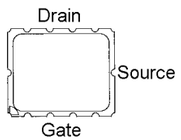
DAN235E (M)
(D1014)



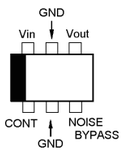
MB15A02PFV1
(Q1004)



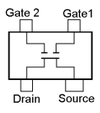
BR93LC66FV (Lot. 1~)
BR93L66FV-WE2 (Lot. 44~)
(Q1011)



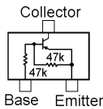
2SK2974 (Lot. 1~)
RD07MVS1 (Lot. 59~)
(Q1021)



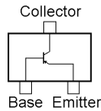
TK11250BMCL (Lot. 1~)
TK11250CMCL (Lot. 42~)
(Q1040)



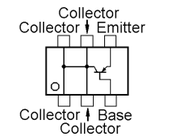
SGM2016AM (MA)
(Q1025)



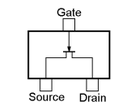
RT1P441U (P3)
(Q1013, 1020)



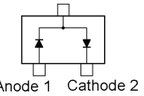
2SA1586Y (SY)
(Q1054)



CPH6102 (AB)
(Q1029, 1031)



2SK508 (K52)
(Q1005)



MC2850 (A7)
(D1015, 1033
1034, 1036)

	FREQUENCY RANGE
Type_D	450MHz~490MHz
Type_AS1	400MHz~430MHz
Type_CS	440MHz~470MHz

	160	180
C1206	***	4.7u
C1207	***	0.1u
C1208	***	0.1u
C1209	***	0.1u
C1210	***	680p
C1213	***	4.7u
C1245	***	1.0u

	160	180
D1038	***	FA1101F
D1041	***	FA1101F
D1042	***	1SS355
DS1001	***	HT-3633
Q1053	***	LC75834W
Q1058	***	2SC4154
Q1059	***	DTC124EE

	160	180
R1215	***	4.7k
R1216	***	3.3k
R1217	***	8.2k
R1255	***	390
R1256	***	390
R1259	***	1.0M
R1265	***	1.0K

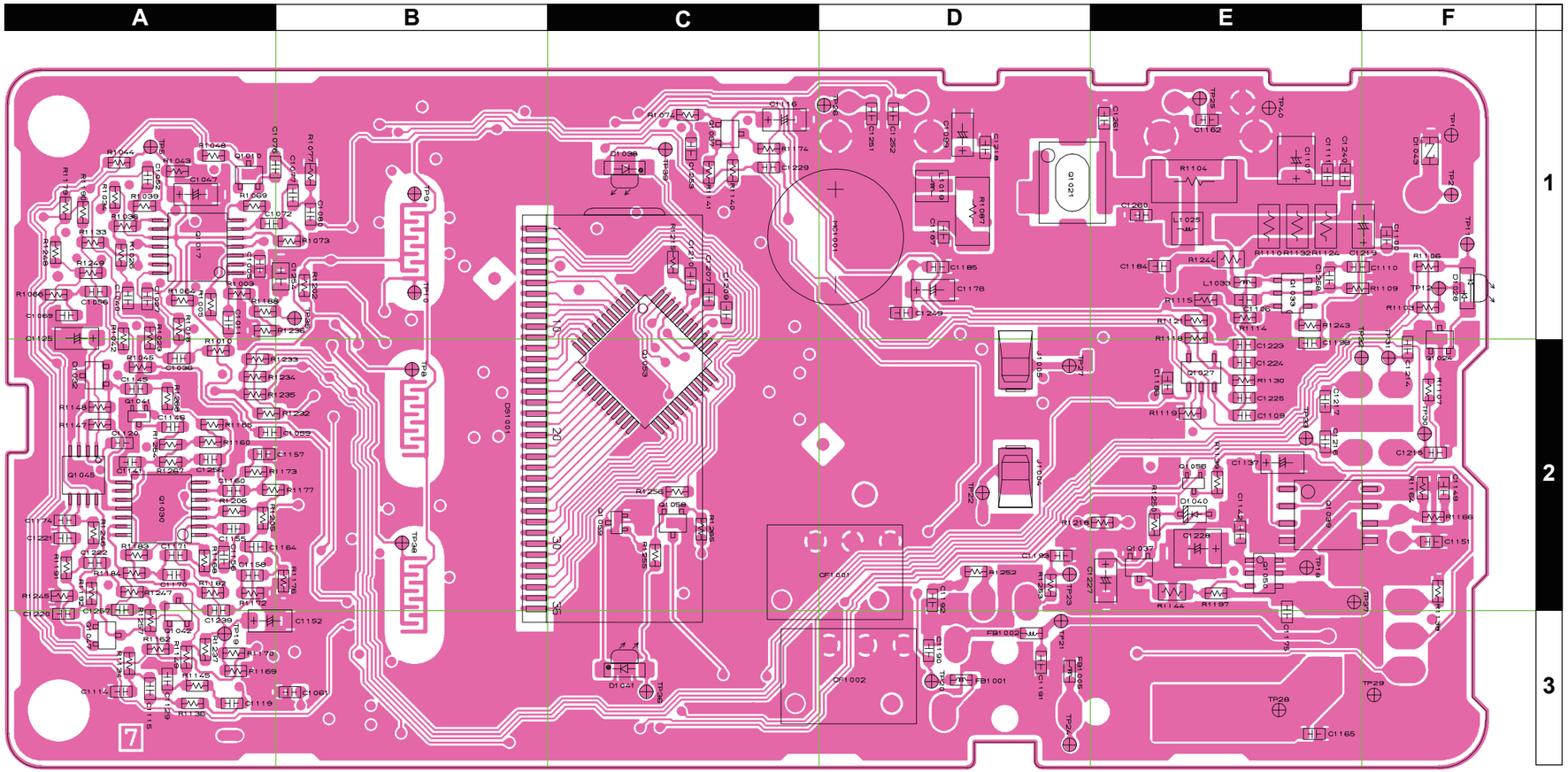
	Type_D	Type_A	Type_CS
C1010	27p	120p	22p
C1013	***	2p	***
C1017	3p	4p	3p
C1018	12p	10p	12p
C1022	3p	5p	3p
C1025	0.5p	***	0.5p
C1049	4p	3p	4p
C1053	4p	5p	4p
C1057	8p	10p	8p
C1058	5p	10p	5p
C1064	3p	7p	4p
C1071	4p	6p	4p
C1073	***	15p	***
C1074	12p	15p	12p
C1078	12p	18p	12p
C1082	100p	1000p	100p
C1084	5p	8p	6p
C1086	12p	18p	12p
C1087	12p	18p	15p

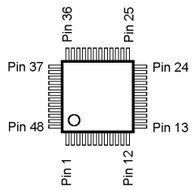
	Type_D	Type_A	Type_CS
C1089	12p	8p	5p
C1094	4p	7p	4p
C1096	3p	10p	3p
C1098	0.5p	***	***
C1169	27p	47p	27p
C1179	***	5p	***
C1180	7p	10p	7p
C1182	56p	27p	82p
C1202	7p	10p	7p
C1226	4p	10p	10p
C1248	2p	3p	2p
C1255	27p	1000p	***
D1005	HVC350B	HVC350B	HVC358B
D1024	1SV280	HVC355B	HVC355B
D1025	***	HVC355B	***
L1004	L0022395	L0022366	L0022395
L1017	TFL_12n	TFL_10n	TFL_12n
L1018	HK_82n	TFL_12n	HK_82n
L1024	HK_22n	TFL_39n	HK_33n

	Type_D	Type_A	Type_CS
L1032	HK_12n	***	HK_15n
R1003	3.3K Ω	1.5K Ω	3.3K Ω
R1008	22K Ω	22K Ω	56K Ω
R1026	56K Ω	47K Ω	56K Ω
R1034	15K Ω	39K Ω	15K Ω
R1063	5.6K Ω	10K Ω	5.6K Ω
R1082	***	27K Ω	***
R1086	***	100K Ω	***
R1196	470 Ω	330 Ω	470 Ω
R1236	***	***	2.2K Ω
R1261	***	***	0 Ω
R1269	27K Ω	***	***

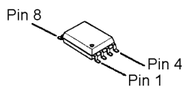
Note:

Parts Layout (Side A)

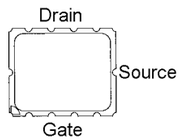




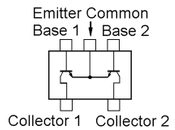
LC75834W
(Q1053)



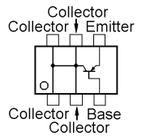
NJM2070M
(Q1039)



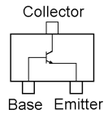
RD07MVS1
(Q1021)



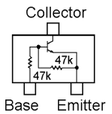
FMW1 (W1)
(Q1027)



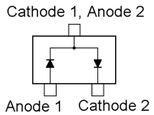
CPH6102 (AB)
(Q1050)



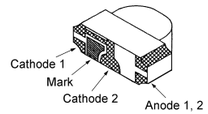
2SC4154E (LE)
(Q1024, 1037
1047, 1058)



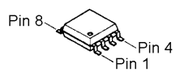
RT1N441U (N3)
(Q1041)



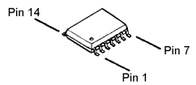
MC2850 (A7)
(D1032)



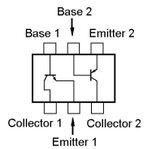
12-22SURSYGC/S530-A2/TR8
(D1028)



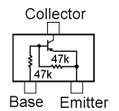
NJM12903R
(Q1045)



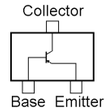
NJM2902V
(Q1017, 1030)



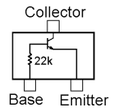
IMZ2 (Z2)
(Q1033)



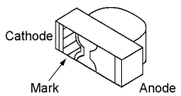
RT1P441U (P3)
(Q1056)



2SA1586Y (SY)
(Q1010, 1042
1057)



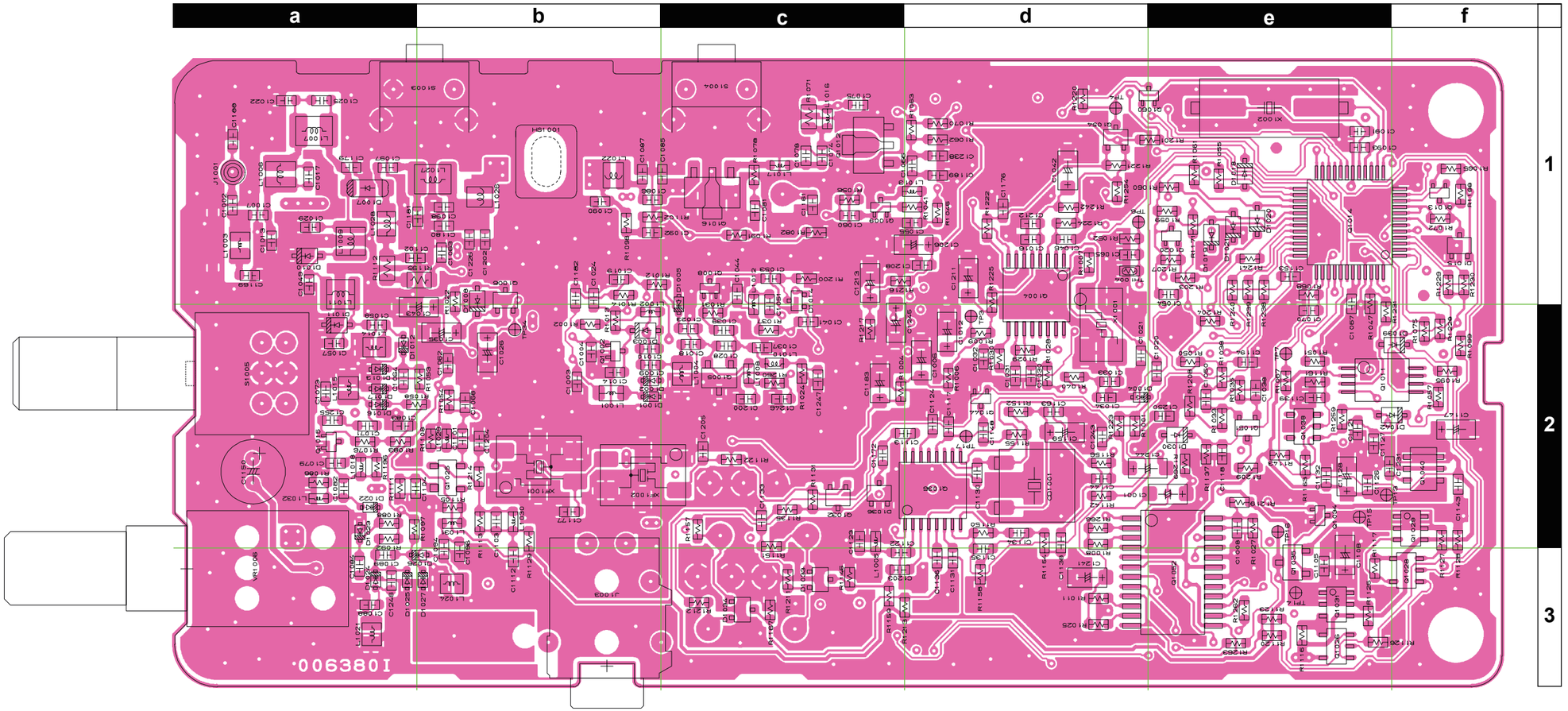
DTC124TE (05)
(Q1059)

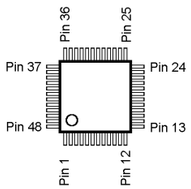


FA1101F (VX-180)
(D1038, 1041)

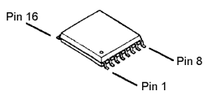
MAIN Unit (Lot. 104~112)

Parts Layout (Side B)

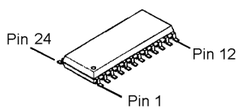




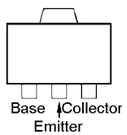
M37516M6-182HP
(Q1014)



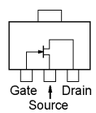
TA31136FN
(Q1036)



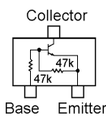
M62364FP
(Q1052)



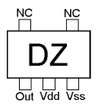
2SC3357-T2
(Q1012)



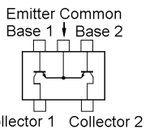
RD01MUS1
(Q1016)



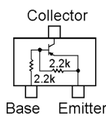
RT1N441U (N3)
(Q1002, 1034
1044, 1060)



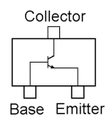
S-80835CNMC
(Q1038)



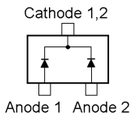
FMW1 (W1)
(Q1026, 1028)



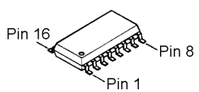
DTB123EK (F12)
(Q1035)



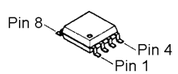
2SC4154E (LE)
(Q1006, 1051)
2SC5005 (73)
(Q1008, 1009)
2SC5006 (24)
(Q1015)
2SC4215Y (QY)
(Q1032)



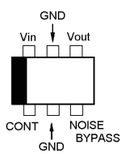
DAN235E (M)
(D1014)



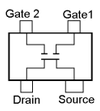
MB15A02PFV1
(Q1004)



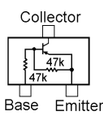
BR93L66FV-WE2
(Q1011)



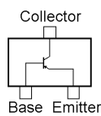
TK11250CMCL
(Q1040)



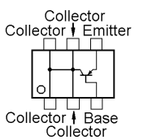
SGM2016AM (MA)
(Q1025)



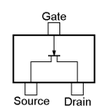
RT1P441U (P3)
(Q1013, 1020)



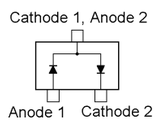
2SA1586Y (SY)
(Q1054)



CPH6102 (AB)
(Q1029, 1031)



2SK508 (K52)
(Q1005)



MC2850 (A7)
(D1015, 1033
1034, 1036)

	FREQUENCY RANGE
Type_D	450MHz~490MHz
Type_AS1	400MHz~430MHz
Type_CS	440MHz~470MHz

	160	180
C1206	***	4.7u
C1207	***	0.1u
C1208	***	0.1u
C1209	***	0.1u
C1210	***	680p
C1213	***	4.7u
C1245	***	1.0u

	160	180
D1038	***	FA1101F
D1041	***	FA1101F
D1042	***	1SS355
DS1001	***	HT-3633
Q1053	***	LC75834W
Q1058	***	2SC4154
Q1059	***	DTC124TE

	160	180
R1215	***	4.7k
R1216	***	2.2k
R1217	***	3.3k
R1255	***	390
R1256	***	390
R1259	***	100k
R1265	***	1.0K

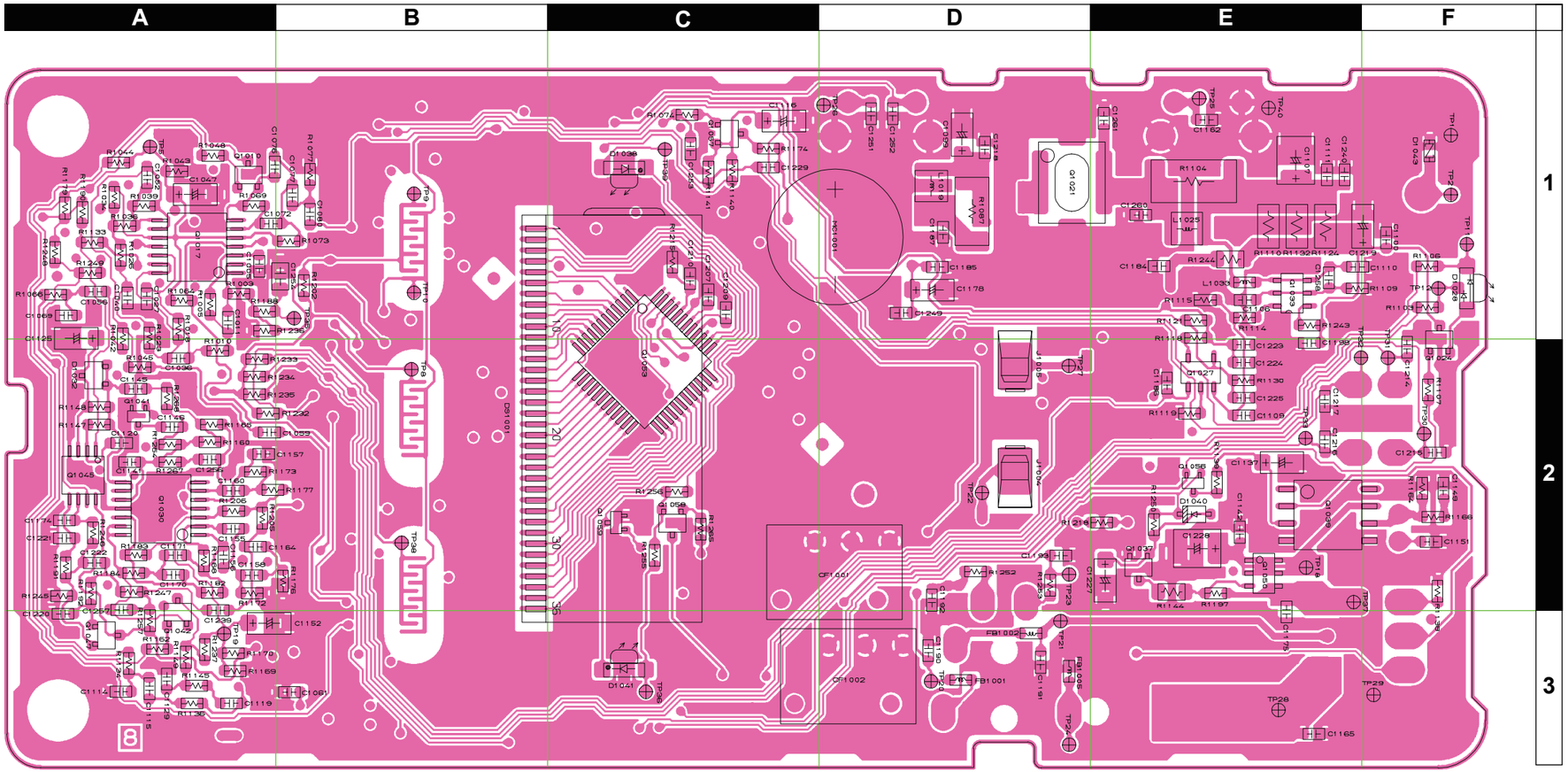
	Type_D	Type_A	Type_CS
C1010	27p	120p	22p
C1013	***	2p	***
C1017	3p	4p	3p
C1018	12p	10p	12p
C1022	3p	5p	3p
C1025	0.5p	***	0.5p
C1049	4p	3p	4p
C1053	4p	5p	4p
C1057	8p	10p	8p
C1058	5p	10p	5p
C1064	3p	7p	4p
C1071	4p	6p	4p
C1073	***	15p	***
C1074	12p	15p	12p
C1078	12p	18p	12p
C1082	100p	1000p	100p
C1084	5p	8p	6p
C1086	12p	18p	12p
C1087	12p	18p	15p
C1089	12p	8p	5p

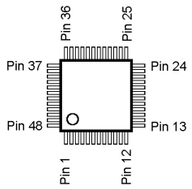
	Type_D	Type_A	Type_CS
C1094	4p	7p	4p
C1096	3p	10p	3p
C1098	0.5p	***	***
C1101	5p	3p	3p
C1169	27p	47p	27p
C1179	***	5p	***
C1180	7p	10p	7p
C1182	56p	27p	82p
C1202	7p	10p	7p
C1226	7p	10p	4p
C1248	2p	3p	2p
C1255	27p	1000p	***
D1005	HVC350B	HVC350B	HVC358B
D1024	1SV280	HVC355B	HVC355B
D1025	***	HVC355B	***
L1004	L0022395	L0022366	L0022395
L1017	TFL_12n	TFL_10n	TFL_12n
L1018	HK_82n	TFL_12n	HK_82n
L1029	HK_27n	TFL_39n	HK_33n
L1032	HK_12n	***	HK_15n

	Type_D	Type_A	Type_CS
R1003	3.3K Ω	1.5K Ω	3.3K Ω
R1008	22K Ω	22K Ω	56K Ω
R102b	56K Ω	47K Ω	56K Ω
R1034	15K Ω	39K Ω	15K Ω
R1063	5.6K Ω	10K Ω	5.6K Ω
R1070	47Ω	10 Ω	10 Ω
R108b	***	100k Ω	***
R1196	470 Ω	330 Ω	470 Ω
R1236	***	***	2.2K Ω
R1261	***	***	0 Ω
R1264	27K Ω	***	***

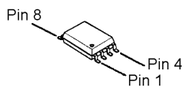
Note:

Parts Layout (Side A)





LC75834W
(Q1053)



NJM2070M
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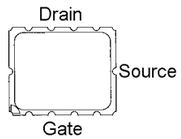
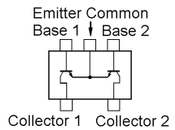
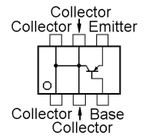


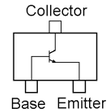
RD07MVS1
(Q1021)



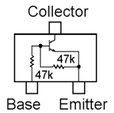
FMW1 (W1)
(Q1027)



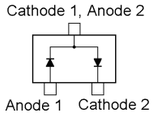
CPH6102 (AB)
(Q1050)



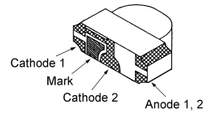
2SC4154E (LE)
(Q1024, 1037
1047, 1058)



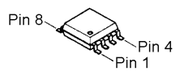
RT1N441U (N3)
(Q1041)



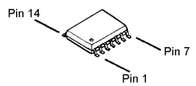
MC2850 (A7)
(D1032)



12-22SURSYGC/S530-A2/TR8
(D1028)



NJM12903R
(Q1045)



NJM2902V
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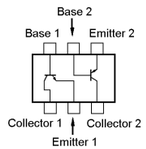
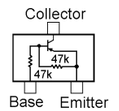
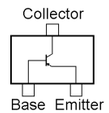


IMZ2 (Z2)
(Q1033)



RT1P441U (P3)
(Q1056)



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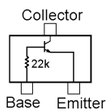
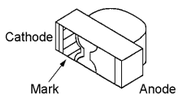
(Q1010, 1042
1057)



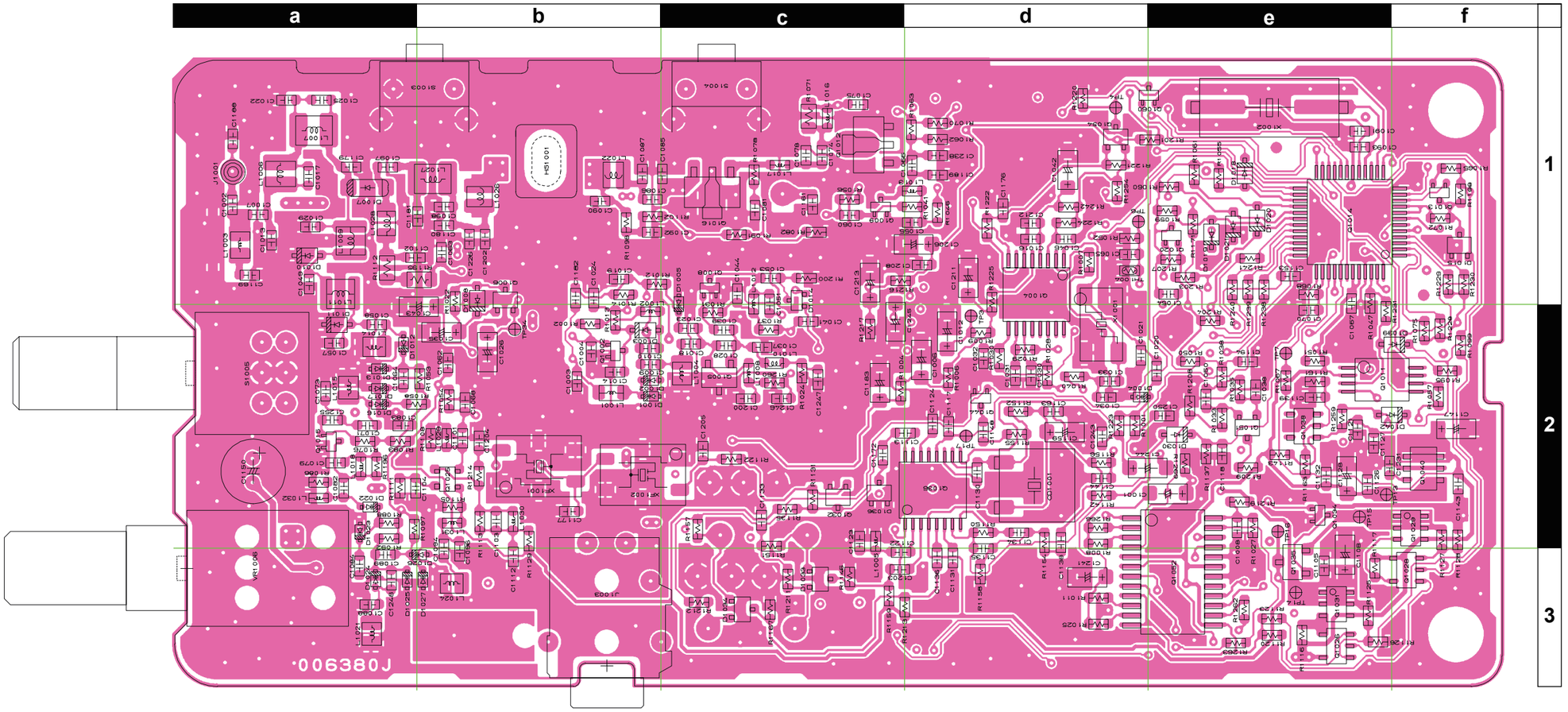
DTC124TE (05)
(Q1059)

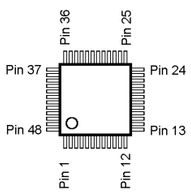


FA1101F (VX-180)
(D1038, 1041)

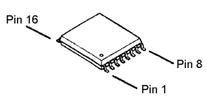
MAIN Unit (Lot. 113~)

Parts Layout (Side B)

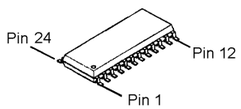




M37516M6-182HP
(Q1014)



TA31136FN
(Q1036)



M62364FP
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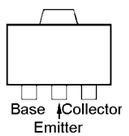

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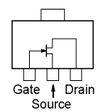
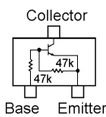
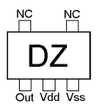
(Q1012)



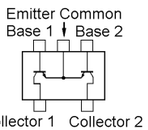
RD01MUS1
(Q1016)



RT1N441U (N3)
(Q1002, 1034
1044, 1060)



S-80835CNMC
(Q1038)



FMW1 (W1)
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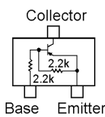
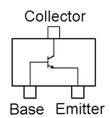
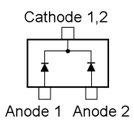


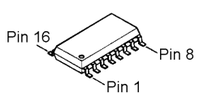
DTB123EK (F12)
(Q1035)



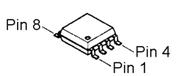
2SC4154E (LE)
(Q1006, 1051)
2SC5005 (73)
(Q1008, 1009)
2SC5006 (24)
(Q1015)
2SC4215Y (QY)
(Q1032)



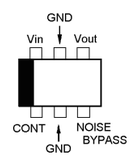
DAN235E (M)
(D1014)



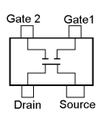
MB15A02PFV1
(Q1004)



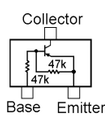
BR93L66FV-WE2
(Q1011)



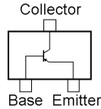
TK11250CMCL
(Q1040)



3SK299-T1
(Q1025)



RT1P441U (P3)
(Q1013, 1020)



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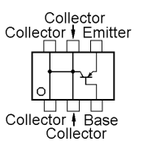
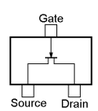
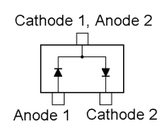
(Q1054)



CPH6102 (AB)
(Q1029, 1031)



2SK508 (K52)
(Q1005)



MC2850 (A7)
(D1015, 1033
1034, 1036)

Parts List

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
	PCB with Components					CB1391006	VX-180 (EXP):TYP CS			
						CB1391007	VX-160 (VTX):TYP D			
						CB1391008	VX-160 (EXP):TYP D			
						CB1391009	VX-160 (VTX):TYP AS1			
						CB1391010	VX-160 (EXP):TYP AS1			
						CB1391011	VX-160 (EXP):TYP CS			
						CB1391012	VX-160 (AUS):TYP D			
						CB1391015	VX-180 (VTX):TYP D			
						CB1391016	VX-180 (EXP):TYP D			
						CB1391017	VX-180 (VTX):TYP AS1			
						CB1391018	VX-180 (EXP):TYP AS1			
	Printed Circuit Board					FR006380E		1-		
						FR006380F		20-		
						FR006380G		35-		
						FR006380I		104-		
						FR006380J		113-		
C 1001	CHIP TA.CAP.	1uF	16V		TEESVA1C105M8R	K78120009		1-	B	e2
C 1002	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	a1
C 1003	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	b2
C 1004	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b2
C 1005	CHIP CAP.	150pF	50V	CH	GRM1882C1H151JA01D	K22174239		1-	A	A1
C 1005	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		20-	A	A1
C 1006	CHIP TA.CAP.	0.1uF	35V		TEESVA1V104M8R	K78160025		1-	B	d2
C 1007	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	a1
C 1008	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	e2
C 1008	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	e2
C 1009	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	b2
C 1010	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		1-	B	b2
C 1010	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		5-	B	b2
C 1010	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		11-18	B	b2
C 1010	CHIP CAP.	120pF	50V	CH	GRM1882C1H121JA01D	K22174237	AS1	20-	B	b2
C 1010	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219	CS1	19-	B	b2
C 1010	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219	D	19-	B	b2
C 1010	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	D	42-	B	b2
C 1011	CHIP CAP.	0.0033uF	50V	B	GRM188B11H332KA01D	K22174831		1-	A	A1
C 1011	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		20-	A	A1
C 1012	CHIP TA.CAP.	2.2uF	6.3V		TEESVA0J225M8R	K78080009		1-	B	d2
C 1013	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	AS1	20-	B	a1
C 1013	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203	AS1	33-	B	a1
C 1013	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203	AS1	104-	B	a1
C 1013	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	93-103	B	a1
C 1013	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	D	93-103	B	a1
C 1014	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b2
C 1016	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d1
C 1017	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-18	B	a1
C 1017	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	AS1	20-	B	a1
C 1017	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	19-	B	a1
C 1017	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203	CS1	93-	B	a1
C 1017	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	104-	B	a1
C 1017	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203	D	19-	B	a1
C 1017	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	D	104-	B	a1
C 1018	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		1-	B	c2
C 1018	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		9-18	B	c2
C 1018	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	AS1	20-	B	c2
C 1018	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	19-	B	c2
C 1018	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	19-	B	c2
C 1019	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b1
C 1020	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e2
C 1020	CHIP CAP.	120pF	50V	CH	GRM1882C1H121JA01D	K22174237		5-	B	e2
C 1020	CHIP CAP.	33pF	50V	CH	GRM1882C1H330JA01D	K22174223		140-	B	e2
C 1021	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-	B	d2
C 1021	CHIP CAP.	6pF	50V	CH	GRM1882C1H6R0DZ01D	K22174207		5-	B	d2
C 1021	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208		140-	B	d2
C 1022	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-18	B	a1
C 1022	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	AS1	20-92	B	a1
C 1022	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	19-92	B	a1
C 1022	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	D	19-92	B	a1

MAIN Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
C 1022	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		93-103	B	a1
C 1022	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	AS1	104-	B	a1
C 1022	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	104-	B	a1
C 1022	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	D	104-	B	a1
C 1023	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50BZ01D	K22174265		1-	B	c2
C 1024	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	b1
C 1025	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50BZ01D	K22174265		1-18	B	a1
C 1025	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50BZ01D	K22174265	CS1	19-	B	a1
C 1025	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50BZ01D	K22174265	D	19-	B	a1
C 1026	CHIP TA.CAP.	4.7uF	16V		TEESVA1C475M8R	K78120031		1-	B	b2
C 1027	CHIP CAP.	470pF	50V	CH	GRM1882C1H471JA01D	K22174249		1-	A	A1
C 1027	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		20-	A	A1
C 1028	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-	B	c2
C 1030	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	B	d2
C 1031	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	B	d2
C 1032	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	B	d2
C 1033	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	B	d2
C 1033	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221		36-	B	d2
C 1034	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227		1-	B	d2
C 1034	CHIP CAP.	68pF	50V	CH	GRM1882C1H680JA01D	K22174231		5-	B	d2
C 1035	CHIP TA.CAP.	4.7uF	16V		TEESVA1C475M8R	K78120031		1-	B	b2
C 1036	CHIP CAP.	680pF	50V	B	GRM188B11H681KA01D	K22174807		1-	A	A2
C 1036	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		20-	A	A2
C 1037	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	c2
C 1038	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	B	e2
C 1039	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50BZ01D	K22174265		1-	B	c2
C 1040	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A1
C 1041	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	c2
C 1042	CHIP TA.CAP.	10uF	6.3V		TEESVA0J106M8R	K78080027		1-	B	d1
C 1043	CHIP TA.CAP.	4.7uF	16V		TEESVA1C475M8R	K78120031		1-	B	b2
C 1044	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c1
C 1046	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d1
C 1047	CHIP TA.CAP.	10uF	6.3V		TEESVA0J106M8R	K78080027		1-	A	A1
C 1049	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	a1
C 1049	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		9-18	B	a1
C 1049	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	AS1	20-	B	a1
C 1049	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	CS1	19-	B	a1
C 1049	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	D	19-	B	a1
C 1049	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	D	93-	B	a1
C 1049	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	D	104-	B	a1
C 1050	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	e2
C 1050	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	e2
C 1051	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-	B	c2
C 1052	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219		1-	A	A1
C 1053	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-18	B	c1
C 1053	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	AS1	20-	B	c1
C 1053	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	CS1	19-	B	c1
C 1053	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	D	19-	B	c1
C 1054	CHIP CAP.	2.2uF	10V	B	GRM31MB11A225KA01L	K22101801		20-	B	e1
C 1054	CHIP CAP.	2.2uF	10V	B	GRM21BB11A225KA01L	K22100804		35-	B	e1
C 1054	CHIP CAP.	2.2uF	10V	B	GRM188B31A225KE18D	K22104805		104-	B	e1
C 1055	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d1
C 1056	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A1
C 1057	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-18	B	a2
C 1057	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	AS1	20-	B	a2
C 1057	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209	CS1	19-	B	a2
C 1057	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209	D	19-	B	a2
C 1058	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206		1-18	B	a2
C 1058	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	AS1	20-	B	a2
C 1058	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	CS1	19-	B	a2
C 1058	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	D	19-	B	a2
C 1059	CHIP CAP.	0.0033uF	50V	B	GRM188B11H332KA01D	K22174831		1-	A	A2
C 1060	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208		1-	B	c1
C 1061	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	B3
C 1062	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b2
C 1063	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b1
C 1064	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	a2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
C 1064	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		9-18	B	a2
C 1064	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	AS1	20-	B	a2
C 1064	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	CS1	19-	B	a2
C 1064	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	D	19-	B	a2
C 1065	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d1
C 1066	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-	B	d1
C 1067	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e1
C 1068	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208		1-2	B	b2
C 1069	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	A	A1
C 1070	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e2
C 1071	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-18	B	a2
C 1071	CHIP CAP.	6pF	50V	CH	GRM1882C1H6R0DZ01D	K22174207	AS1	20-	B	a2
C 1071	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	CS1	19-	B	a2
C 1071	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	D	19-	B	a2
C 1072	CHIP CAP.	0.033uF	16V	R	GRM188R11C333KA01D	K22124801		1-	A	A1
C 1073	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a2
C 1073	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		4-	B	a2
C 1073	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		9-18	B	a2
C 1073	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215	AS1	20-	B	a2
C 1074	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		1-18	B	c1
C 1074	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215	AS1	20-	B	c1
C 1074	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	19-	B	c1
C 1074	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	19-	B	c1
C 1075	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c1
C 1076	CHIP CAP.	470pF	50V	CH	GRM1882C1H471JA01D	K22174249		1-	A	A1
C 1077	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		1-	A	B1
C 1077	CHIP CAP.	0.022uF	50V	B	GRM188B11H223KA01D	K22174839		134-	A	B1
C 1078	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		1-	B	c1
C 1078	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		57-58	B	c1
C 1078	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217	AS1	59-	B	c1
C 1078	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	59-	B	c1
C 1078	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	59-	B	c1
C 1079	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a2
C 1080	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	B1
C 1080	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	B1
C 1081	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c1
C 1082	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a2
C 1082	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		4-	B	a2
C 1082	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		9-	B	a2
C 1082	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		19	B	a2
C 1082	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821	AS1	20-	B	a2
C 1082	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235	CS1	20-	B	a2
C 1082	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235	D	20-	B	a2
C 1083	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a2
C 1084	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	a3
C 1084	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		9-18	B	a3
C 1084	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209	AS1	20-	B	a3
C 1084	CHIP CAP.	6pF	50V	CH	GRM1882C1H6R0DZ01D	K22174207	CS1	19-	B	a3
C 1084	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	D	19-	B	a3
C 1086	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-18	B	b1
C 1086	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217	AS1	20-	B	b1
C 1086	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	19-	B	b1
C 1086	CHIP CAP.	10pF	50V	CH	GRM1882C1H100RZ01D	K22174248	CS1	93-	B	b1
C 1086	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	104-	B	b1
C 1086	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215	D	19	B	b1
C 1086	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	20-	B	b1
C 1086	CHIP CAP.	10pF	50V	CH	GRM1882C1H100RZ01D	K22174248	D	93-	B	b1
C 1086	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	104-	B	b1
C 1087	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217		1-18	B	b1
C 1087	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	AS1	20-	B	b1
C 1087	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	AS1	57-	B	b1
C 1087	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217	AS1	59-	B	b1
C 1087	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219	CS1	19-	B	b1
C 1087	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219	CS1	57-	B	b1
C 1087	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	59-	B	b1
C 1087	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215	CS1	93-	B	b1
C 1087	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217	D	19-	B	b1

MAIN Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
C 1087	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217	D	57-	B	b1
C 1087	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	59-	B	b1
C 1087	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215	D	93-	B	b1
C 1087	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	104-	B	b1
C 1088	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	a3
C 1089	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	a3
C 1089	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		4-	B	a3
C 1089	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		9-18	B	a3
C 1089	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209	AS1	20-	B	a3
C 1089	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	CS1	19-	B	a3
C 1089	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	19-	B	a3
C 1091	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	e1
C 1092	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b1
C 1093	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211		1-	B	e1
C 1094	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-18	B	b3
C 1094	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	AS1	20-	B	b3
C 1094	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	CS1	19-	B	b3
C 1094	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	D	19-	B	b3
C 1096	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-18	B	b3
C 1096	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	AS1	20-	B	b3
C 1096	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	19-	B	b3
C 1096	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	D	19-	B	b3
C 1097	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-92	B	a1
C 1097	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235	AS1	93-103	B	a1
C 1097	CHIP CAP.	22pF	50V	CH	GRM1882C1H220JA01D	K22174219	CS1	93-103	B	a1
C 1097	CHIP CAP.	10pF	50V	CH	GRM1882C1H100RZ01D	K22174248	D	93-103	B	a1
C 1097	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		104-	B	a1
C 1098	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	CS1	93-103	B	b1
C 1098	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203	CS1	138-	B	b1
C 1098	CHIP CAP.	9pF	50V	CH	GRM1882C1H9R0DZ01D	K22174210	D	55-59	B	b1
C 1098	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	D	93-	B	b1
C 1098	CHIP CAP.	0.5pF	50V	CK	GRM1884C1HR50BZ01D	K22174265	D	104-	B	b1
C 1101	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-109	B	b2
C 1101	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	AS1	110-	B	b2
C 1101	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	110-	B	b2
C 1101	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	D	110-	B	b2
C 1102	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a1
C 1103	CHIP CAP.	15pF	50V	CH	GRM1882C1H150JA01D	K22174215		1-	B	b2
C 1104	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	a2
C 1105	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e3
C 1106	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	E1
C 1106	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	E1
C 1107	CHIP TA.CAP.	10uF	16V		TEESVB21C106M8R	K78120025		1-	A	E1
C 1108	CHIP TA.CAP.	10uF	6.3V		TEESVA0J106M8R	K78080027		1-	B	e3
C 1109	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E2
C 1110	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E1
C 1111	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	A	E1
C 1112	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	b3
C 1113	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	d2
C 1114	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	A	A3
C 1115	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A3
C 1115	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	A3
C 1116	CHIP TA.CAP.	4.7uF	16V		TEESVA1C475M8R	K78120031		1-	A	C1
C 1117	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804		1-	B	d2
C 1117	CHIP CAP.	0.047uF	25V	B	GRM188B11E473KA01D	K22144811		134-	B	d2
C 1118	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804		1-	B	e2
C 1118	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804		59-116	B	e2
C 1118	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804	AUSTRALIA	117-	B	e2
C 1118	CHIP CAP.	0.047uF	25V	B	GRM188B11E473KA01D	K22144811	AUSTRALIA	134-	B	e2
C 1118	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804	EXPORT	117-	B	e2
C 1118	CHIP CAP.	0.047uF	25V	B	GRM188B11E473KA01D	K22144811	EXPORT	134-	B	e2
C 1118	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804	VTX(USA)	117-	B	e2
C 1118	CHIP CAP.	0.047uF	25V	B	GRM188B11E473KA01D	K22144811	VTX(USA)	134-	B	e2
C 1119	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A3
C 1120	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A2
C 1120	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		20-	A	A2
C 1120	CHIP CAP.	0.022uF	50V	B	GRM188B11H223KA01D	K22174839		134-	A	A2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
C 1121	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e2
C 1122	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c3
C 1123	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213		1-	B	c2
C 1124	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	d2
C 1124	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		59-	B	d2
C 1124	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	d2
C 1125	CHIP TA.CAP.	1uF	16V		TEESVA1C105M8R	K78120009		1-	A	A1
C 1126	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	e2
C 1127	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	e2
C 1127	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	e2
C 1128	CHIP TA.CAP.	10uF	6.3V		TEESVA0J106M8R	K78080027		1-	B	e2
C 1129	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A3
C 1130	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		1-	B	d2
C 1131	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d3
C 1132	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e2
C 1133	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	c2
C 1134	CHIP CAP.	470pF	50V	CH	GRM1882C1H471JA01D	K22174249		1-	B	d2
C 1134	CHIP CAP.	470pF	50V	CH	GRM1882C1H471JA01D	K22174249		59-	B	d2
C 1135	CHIP CAP.	470pF	50V	CH	GRM1882C1H471JA01D	K22174249		1-	B	d3
C 1135	CHIP CAP.	470pF	50V	CH	GRM1882C1H471JA01D	K22174249		59-	B	d3
C 1136	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	d3
C 1136	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	d3
C 1137	CHIP TA.CAP.	10uF	6.3V		TEESVA0J106M8R	K78080027		1-	A	E2
C 1138	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	d2
C 1138	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		59-	B	d2
C 1138	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	d2
C 1139	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		1-	B	e2
C 1139	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		20-	B	e2
C 1141	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	A2
C 1141	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		20-	A	A2
C 1142	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	E2
C 1143	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	f2
C 1144	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	B	d2
C 1145	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		1-	A	A2
C 1145	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		20-	A	A2
C 1146	CHIP CAP.	0.0033uF	50V	B	GRM188B11H332KA01D	K22174831		1-	A	A2
C 1147	CHIP TA.CAP.	4.7uF	16V		TEESVA1C475M8R	K78120031		1-	B	f2
C 1148	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d2
C 1149	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	F2
C 1150	AL.ELECTRO.CAP.	220uF	10V		ESMG100ELL221ME11S	K40109027		1-	B	a2
C 1151	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	A	F2
C 1152	CHIP TA.CAP.	1uF	16V		TEESVA1C105M8R	K78120009		1-	A	A3
C 1153	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e1
C 1155	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A2
C 1155	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	A2
C 1156	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		1-	A	A2
C 1157	CHIP CAP.	0.0047uF	50V	B	GRM188B11H472KA01D	K22174833		1-	A	A2
C 1157	CHIP CAP.	0.0033uF	50V	B	GRM188B11H332KA01D	K22174831		20-	A	A2
C 1158	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A2
C 1158	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	A2
C 1159	CHIP TA.CAP.	10uF	6.3V		TEESVA0J106M8R	K78080027		1-	B	d2
C 1160	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A2
C 1160	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		20-	A	A2
C 1160	CHIP CAP.	0.022uF	50V	B	GRM188B11H223KA01D	K22174839		134-	A	A2
C 1161	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c1
C 1162	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E1
C 1163	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d2
C 1164	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A2
C 1164	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	A2
C 1165	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		1-	A	E3
C 1169	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221		1-18	B	a1
C 1169	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227	AS1	20-92	B	a1
C 1169	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	CS1	19-92	B	a1
C 1169	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	D	19-92	B	a1
C 1169	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227		93-103	B	a1
C 1169	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227	AS1	104-	B	a1
C 1169	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	CS1	104-	B	a1

MAIN Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
C 1169	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	D	104-	B	a1
C 1170	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A2
C 1171	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A2
C 1172	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	B	c2
C 1174	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	A2
C 1176	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	d1
C 1177	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	b2
C 1177	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		9-18	B	b2
C 1178	CHIP TA.CAP.	2.2uF	6.3V		TEESVA0J225M8R	K78080009		1-	A	D1
C 1178	CHIP TA.CAP.	0.1uF	20V		TEESVA21D104M8R	K78130020		104-	A	D1
C 1179	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	AS1	20-	B	a1
C 1179	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	93-103	B	a1
C 1179	CHIP CAP.	1pF	50V	CK	GRM1884C1H1R0BZ01D	K22174267	D	93-103	B	a1
C 1180	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-	B	b1
C 1180	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		9-18	B	b1
C 1180	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	AS1	20-	B	b1
C 1180	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	AS1	104-	B	b1
C 1180	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	CS1	19-	B	b1
C 1180	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	93-	B	b1
C 1180	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	CS1	104-	B	b1
C 1180	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	D	19-	B	b1
C 1180	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	D	93-	B	b1
C 1180	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	D	104-	B	b1
C 1181	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		1-	B	a1
C 1181	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		9-18	B	a1
C 1181	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	AS1	20-	B	a1
C 1181	CHIP CAP.	5pF	50V	CH	GRM1882C1H5R0CZ01D	K22174206	AS1	57-	B	a1
C 1181	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	AS1	59-103	B	a1
C 1181	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	CS1	19-	B	a1
C 1181	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	CS1	57-	B	a1
C 1181	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	CS1	59-	B	a1
C 1181	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	CS1	93-103	B	a1
C 1181	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205	D	19-	B	a1
C 1181	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	D	93-103	B	a1
C 1181	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		104-	B	a1
C 1182	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		1-	B	b1
C 1182	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229		9-18	B	b1
C 1182	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	AS1	20-	B	b1
C 1182	CHIP CAP.	18pF	50V	CH	GRM1882C1H180JA01D	K22174217	AS1	136-	B	b1
C 1182	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229	CS1	19-	B	b1
C 1182	CHIP CAP.	82pF	50V	CH	GRM1882C1H820JA01D	K22174233	CS1	53-	B	b1
C 1182	CHIP CAP.	56pF	50V	CH	GRM1882C1H560JA01D	K22174229	D	19-	B	b1
C 1183	CHIP TA.CAP.	0.1uF	35V		TEESVA1V104M8R	K78160025		1-	B	c2
C 1184	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E1
C 1185	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	D1
C 1185	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	D1
C 1186	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E2
C 1189	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	d1
C 1190	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	A	D3
C 1191	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	A	D3
C 1191	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		9-	A	D3
C 1191	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		20-	A	D3
C 1192	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	A	D2
C 1193	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	A	D2
C 1194	CHIP CAP.	0.047uF	16V	B	GRM39B473K16PT	K22124804		1-	B	e2
C 1194	CHIP CAP.	0.047uF	25V	B	GRM188B11E473KA01D	K22144811		134-	B	e2
C 1198	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E2
C 1200	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	c2
C 1200	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		19-	B	c2
C 1202	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208		1-18	B	b1
C 1202	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	AS1	20-	B	b1
C 1202	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	AS1	104-	B	b1
C 1202	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	CS1	19-92	B	b1
C 1202	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	CS1	104-	B	b1
C 1202	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	D	19-54	B	b1
C 1202	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	D	60-92	B	b1
C 1202	CHIP CAP.	7pF	50V	CH	GRM1882C1H7R0DZ01D	K22174208	D	104-	B	b1

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
C 1203	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	c3
C 1203	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	c3
C 1205	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		1-	B	c2
C 1205	CHIP CAP.	4pF	50V	CH	GRM1882C1H4R0CZ01D	K22174205		9-18	B	c2
C 1206	CHIP TA.CAP.	4.7uF	6.3V		TEESVA0J475M8R	K78080017	VX-180	1-	B	d1
C 1207	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805	VX-180	1-	A	C1
C 1208	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805	VX-180	1-	B	d1
C 1209	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805	VX-180	1-	A	C1
C 1210	CHIP CAP.	680pF	50V	B	GRM188B11H681KA01D	K22174807	VX-180	1-	A	C1
C 1212	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	d1
C 1212	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	d1
C 1213	CHIP TA.CAP.	4.7uF	6.3V		TEESVA0J475M8R	K78080017	VX-180	1-	B	c1
C 1218	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	D1
C 1220	CHIP CAP.	0.0022uF	50V	B	GRM188B11H222KA01D	K22174822		1-	A	A3
C 1221	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A2
C 1221	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	A2
C 1222	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	A	A2
C 1222	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	A	A2
C 1226	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		1-	B	b1
C 1226	CHIP CAP.	8pF	50V	CH	GRM1882C1H8R0DZ01D	K22174209		9-18	B	b1
C 1226	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	AS1	20-	B	b1
C 1226	CHIP CAP.	10pF	50V	CH	GRM1882C1H100RZ01D	K22174248	AS1	33-	B	b1
C 1226	CHIP CAP.	12pF	50V	CH	GRM1882C1H120JA01D	K22174213	CS1	19-92	B	b1
C 1226	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	CS1	104-	B	b1
C 1226	CHIP CAP.	10pF	50V	CH	GRM1882C1H100JA01D	K22174211	D	19	B	b1
C 1226	CHIP CAP.	9pF	50V	CH	GRM1882C1H9R0DZ01D	K22174210	D	20-92	B	b1
C 1226	CHIP CAP.	9pF	50V	CH	GRM1882C1H9R0DZ01D	K22174210	D	104-	B	b1
C 1227	CHIP TA.CAP.	10uF	6.3V		TEESVA0J106M8R	K78080027		1-	A	E2
C 1229	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	C1
C 1231	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	B	e2
C 1239	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-19	A	A2
C 1240	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		1-	A	E1
C 1241	CHIP TA.CAP.	0.1uF	35V		TEESVA1V104M8R	K78160025		1-	B	d3
C 1243	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	d2
C 1243	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	d2
C 1244	CHIP TA.CAP.	1uF	16V		TEESVA1C105M8R	K78120009		1-	B	d2
C 1245	CHIP TA.CAP.	1uF	16V		TEESVA1C105M8R	K78120009	VX-180	1-	B	c2
C 1246	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	c2
C 1246	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821		19-	B	c2
C 1247	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		1-	B	c2
C 1247	CHIP CAP.	220pF	50V	CH	GRM1882C1H221JA01D	K22174243		9-18	B	c2
C 1248	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203		1-18	B	a3
C 1248	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204	AS1	20-	B	a3
C 1248	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203	CS1	19-	B	a3
C 1248	CHIP CAP.	2pF	50V	CK	GRM1884C1H2R0CZ01D	K22174203	D	19-	B	a3
C 1249	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	D1
C 1250	CHIP CAP.	0.01uF	25V	B	GRM39B103K25PT	K22144803		1-	B	e2
C 1250	CHIP CAP.	0.01uF	50V	B	GRM188B11H103KA01D	K22174823		134-	B	e2
C 1254	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		1-	A	B1
C 1254	CHIP CAP.	1uF	10V	B	GRM219B11A105KC01D	K22100803		19-	A	B1
C 1255	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		4-	B	a2
C 1255	CHIP CAP.	100pF	50V	CH	GRM1882C1H101JA01D	K22174235		9-18	B	a2
C 1255	CHIP CAP.	0.001uF	50V	B	GRM188B11H102KA01D	K22174821	AS1	20-	B	a2
C 1255	CHIP CAP.	27pF	50V	CH	GRM1882C1H270JA01D	K22174221	D	19-	B	a2
C 1256	CHIP CAP.	180pF	50V	CH	GRM1882C1H181JA01D	K22174241		20-	A	A2
C 1257	CHIP CAP.	0.1uF	16V	B	GRM188B11C104KA01D	K22124805		20-	A	A2
C 1258	CHIP CAP.	47pF	50V	CH	GRM1882C1H470JA01D	K22174227		104-	A	E1
C 1260	CHIP CAP.	3pF	50V	CJ	GRM1883C1H3R0CZ01D	K22174204		104-	A	E1
CD1001	CERAMIC DISC				CDBCB450KCAY24-R0	H7901340		1-	B	d2
CD1001	CERAMIC DISC				JTBM450CX24	H7901530		121-	B	d2
CF1001	CERAMIC FILTER				ALFYM450F=K	H3900531		1-	A	C2
CF1002	CERAMIC FILTER				ALFYM450G=K	H3900534		1-	A	C3
D 1001	DIODE				HVC355B TRF-E	G2070588		1-	B	b2
D 1001	DIODE				HVC355B TRF-E	G2070588		9-	B	b2
D 1001	DIODE				HVC350B-TRF-E	G2070596		19-	B	b2
D 1002	DIODE				HVC355B TRF-E	G2070588		1-	B	b2
D 1003	DIODE				HSU277TRF-E	G2070118		1-	B	b2

MAIN Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
D 1004	DIODE				HVC350B-TRF-E	G2070596		1-	B	d2
D 1005	DIODE				HVC350B-TRF-E	G2070596		1-52	B	c2
D 1005	DIODE				HVC350B-TRF-E	G2070596	AS1	53-	B	c2
D 1005	DIODE				HVC358B TRF-E	G2070590	CS1	53-	B	c2
D 1005	DIODE				HVC350B-TRF-E	G2070596	D	53-	B	c2
D 1007	DIODE				RLS135 TE-11	G2070128		1-	B	a1
D 1008	DIODE				1SS355 TE-17	G2070470		1-	B	b1
D 1010	DIODE				HSU277TRF-E	G2070118		1-	B	a1
D 1011	DIODE				HSU277TRF-E	G2070118		1-	B	a2
D 1012	DIODE				HVC355B TRF-E	G2070588		1-	B	a2
D 1013	DIODE				HVC355B TRF-E	G2070588		1-	B	a2
D 1014	DIODE				DAN235E TL	G2070612		1-	B	c1
D 1015	DIODE				MC2850-T111-1	G2070704		1-	B	f1
D 1015	DIODE				DAN217U T106	G2071236		135-	B	f1
D 1016	DIODE				HVC355B TRF-E	G2070588		1-	B	a2
D 1017	DIODE				HVC355B TRF-E	G2070588		1-	B	a2
D 1018	DIODE				1SS355 TE-17	G2070470		1-	B	e1
D 1019	DIODE				1SS355 TE-17	G2070470		1-	B	e1
D 1020	DIODE				1SS355 TE-17	G2070470		1-	B	e1
D 1021	DIODE				1SS355 TE-17	G2070470		1-	B	e1
D 1022	DIODE				HVC355B TRF-E	G2070588		1-	B	a2
D 1023	DIODE				HVC355B TRF-E	G2070588		1-	B	a2
D 1024	DIODE				HVC355B TRF-E	G2070588		1-	B	a3
D 1024	DIODE				HVC355B TRF-E	G2070588		9-18	B	a3
D 1024	DIODE				HVC355B TRF-E	G2070588	AS1	20-	B	a3
D 1024	DIODE				HVC355B TRF-E	G2070588	CS1	19-	B	a3
D 1024	DIODE				1SV280(TPH3.F)	G2070550	D	19-	B	a3
D 1025	DIODE				HVC355B TRF-E	G2070588	AS1	20-	B	a3
D 1026	DIODE				HVC355B TRF-E	G2070588		1-	B	b3
D 1027	DIODE				HVC355B TRF-E	G2070588		1-	B	b3
D 1028	LED				12-22SURSYGC/S530-A2/TR8		G2070810		1-	AF1
D 1028	LED				LTST-S326KGJRKT	G2071172		132-	A	F1
D 1030	DIODE				1SS355 TE-17	G2070470		1-	B	e2
D 1030	DIODE				1SS355 TE-17	G2070470		59-	B	e2
D 1032	DIODE				MC2850-T111-1	G2070704		1-	A	A2
D 1032	DIODE				DAN217U T106	G2071236		135-	A	A2
D 1033	DIODE				MC2850-T111-1	G2070704		1-	B	c3
D 1033	DIODE				DAN217U T106	G2071236		135-	B	c3
D 1034	DIODE				MC2850-T111-1	G2070704		1-	B	c3
D 1034	DIODE				DAN217U T106	G2071236		135-	B	c3
D 1036	DIODE				MC2850-T111-1	G2070704		1-	B	c2
D 1036	DIODE				DAN217U T106	G2071236		135-	B	c2
D 1038	LED				FA1101F-TR	G2070842	VX-180	1-	A	C1
D 1039	DIODE				1SS355 TE-17	G2070470		1-	B	f2
D 1041	LED				FA1101F-TR	G2070842	VX-180	1-	A	C3
D 1042	DIODE				1SS355 TE-17	G2070470	VX-180	1-	B	e2
D 1043	SURGE ABSORBER				TVSF0805	Q9000807		104-	A	F1
D 1043	SURGE ABSORBER				TVSF0603	Q9000847		113-	A	F1
D 1043	SURGE ABSORBER				1608SGX	Q9000891		141-	A	F1
DS1001	LCD				HT-3633-TFZWH	G6090139	VX-180	1-	A	C2
FB1001	FERRITE BEADS				BLM18PG600SN1D	L1690601		1-	A	D3
FB1002	FERRITE BEADS				BLM18PG600SN1D	L1690601	AS1	20-103	A	D3
FB1002	FERRITE BEADS				BLM18PG600SN1D	L1690601	CS1	19-103	A	D3
FB1002	FERRITE BEADS				BLM18PG600SN1D	L1690601	D	19-103	A	D3
FB1002	FERRITE BEADS				BLM18PG600SN1D	L1690601		104-	A	D3
FB1005	FERRITE BEADS				BLM18PG600SN1D	L1690601		1-	A	D3
HS1001	HEATSINK PLATE				135t	RA0724500		104-	B	b1
HS1001	HEATSINK PLATE				135t	RA072450A		106-	B	b1
J 1001	SPRING CONECTOR				MS0062-10	S5000227		1-	B	a1
J 1003	CONNECTOR				HSJ1594-010055	P1090896		1-	B	b3
J 1004	SHIELD FINGER				3525 3100103	S5000226		1-	A	D2
J 1005	SHIELD FINGER				3525 3100103	S5000226		1-	A	D2
J 1006	TERMINAL				NC-0.5-2.0-T	Q9000828	CS1	93-103		
J 1006	TERMINAL				NC-0.5-2.0-T	Q9000828	D	93-103		
L 1001	CHIP COIL	0.22uH			LQW2BHNR22J03L	L1690600		1-	B	b2
L 1001	M.RFC	0.22uH			ELJ-NDR22JF	L1690628		19-	B	b2
L 1002	M.RFC	2.2uH			LK1608 2R2K-T	L1690634		1-	B	b2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
L 1003	COIL				E2 0.28-1.0-6T-R	L0022366		1-	B	a1
L 1004	COIL				E2 0.28-1.0-4.5T-R	L0022395		1-18	B	c2
L 1004	COIL				E2 0.28-1.0-6T-R	L0022366	AS1	20-	B	c2
L 1004	COIL				E2 0.28-1.0-4.5T-R	L0022395	CS1	19-	B	c2
L 1004	COIL				E2 0.28-1.0-4.5T-R	L0022395	D	19-	B	c2
L 1005	M.RFC	0.82uH			LK1608 R82K-T	L1690417		1-	B	c2
L 1006	COIL				E2 0.5-1.4-2.5T-L	L0022613		1-92	B	a1
L 1006	COIL				E2 0.5-1.4-2.5T-L	L0022613	AS1	93-103	B	a1
L 1006	COIL	0.014uH			AS050425-14NK	L0022583	CS1	93-103	B	a1
L 1006	COIL	0.014uH			AS050425-14NK	L0022583	D	93-103	B	a1
L 1006	COIL				E2 0.5-1.4-2.5T-L	L0022613		104-	B	a1
L 1007	COIL				E2 0.45-1.5-4.5T-L	L0022601		1-92	B	a1
L 1007	COIL				E2 0.45-1.5-4.5T-L	L0022601	AS1	93-103	B	a1
L 1007	COIL	0.014uH			AS050425-14NK	L0022583	CS1	93-103	B	a1
L 1007	COIL	0.014uH			AS050425-14NK	L0022583	D	93-103	B	a1
L 1007	COIL				E2 0.45-1.5-4.5T-L	L0022601		104-	B	a1
L 1008	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	c2
L 1009	COIL				E2 0.35-1.6-4.5T-L	L0022577		1-	B	a1
L 1010	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		1-	B	c2
L 1010	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		9-	B	c2
L 1010	M.RFC	0.22uH		5%	C1608CB-R22J-RF	L1691068		19-	B	c2
L 1010	M.RFC	0.22uH		2%	C1608CB-R22G-RF	L1691103		83-	B	c2
L 1011	COIL				E2 0.35-1.6-4.5T-L	L0022577		1-	B	a1
L 1012	M.RFC	0.022uH			TFL0816-22	L1690495		1-	B	c2
L 1012	M.RFC	0.022uH			HK1608 22NJ-T	L1690520		20-	B	c2
L 1013	M.RFC	0.015uH			TFL0816-15	L1690493		1-	B	d1
L 1014	COIL				E2 0.28-1.0-4.5T-R	L0022395		1-	B	a2
L 1015	COIL				E2 0.28-1.0-4.5T-R	L0022395		1-	B	a2
L 1016	M.RFC	0.015uH			TFL0816-15	L1690493		1-	B	c1
L 1017	M.RFC	0.012uH			TFL0816-12	L1690492		1-18	B	c1
L 1017	M.RFC	0.01uH			TFL0816-10	L1690491	AS1	20-	B	c1
L 1017	M.RFC	0.012uH			TFL0816-12	L1690492	CS1	19-	B	c1
L 1017	M.RFC	0.012uH			TFL0816-12	L1690492	D	19-	B	c1
L 1018	M.RFC	0.015uH			TFL0816-15	L1690493		1-	B	a2
L 1018	M.RFC	0.01uH			TFL0816-10	L1690491		4-	B	a2
L 1018	M.RFC	0.01uH			TFL0816-10	L1690491		9-18	B	a2
L 1018	M.RFC	0.012uH			TFL0816-12	L1690492	AS1	20-	B	a2
L 1018	M.RFC	0.082uH			HK1608 82NJ-T	L1690527	CS1	19-	B	a2
L 1018	M.RFC	0.082uH			HK1608 82NJ-T	L1690527	D	19-	B	a2
L 1019	COIL				E2 0.45-1.4-4T-L	L0022391		1-92	A	D1
L 1019	COIL				E2 0.45-1.4-4T-L	L0022391	AS1	93-103	A	D1
L 1019	M.RFC	0.0033uH			KQ0805TTE3N3J	L1691333	CS1	93-103	A	D1
L 1019	M.RFC	0.0033uH			KQ0805TTE3N3J	L1691333	D	93-103	A	D1
L 1019	COIL				E2 0.45-1.4-4T-L	L0022391		104-	A	D1
L 1021	COIL				E2 0.28-1.0-4.5T-R	L0022395		1-	B	a3
L 1022	COIL	0.0033uH			AS050221-3R3NK	L0022635		1-	B	b1
L 1024	COIL				E2 0.28-1.0-4.5T-R	L0022395		1-	B	b3
L 1025	COIL				E2 0.45-1.4-4T-L	L0022391		1-	A	E1
L 1026	COIL	0.0033uH			AS050221-3R3NK	L0022635		1-92	B	b1
L 1026	COIL	0.0033uH			AS050221-3R3NK	L0022635	AS1	93-103	B	b1
L 1026	COIL	0.0033uH			AS050221-3R3NK	L0022635		104-	B	b1
L 1027	COIL				E2 0.45-1.5-4.5T-L	L0022601		1-92	B	b1
L 1027	COIL				E2 0.45-1.5-4.5T-L	L0022601	AS1	93-103	B	b1
L 1027	COIL	0.0054uH			AS050321-5R4NJ	L0022581	CS1	93-103	B	b1
L 1027	COIL	0.0054uH			AS050321-5R4NJ	L0022581	D	93-103	B	b1
L 1027	COIL				E2 0.45-1.5-4.5T-L	L0022601		104-	B	b1
L 1028	CHIP COIL	0.22uH			LQW2BHNR22J03L	L1690600		1-	B	a1
L 1029	M.RFC	0.068uH			TFL0816-68	L1690501		1-	B	b2
L 1029	M.RFC	0.027uH			TFL0816-27	L1690496		4-18	B	b2
L 1029	M.RFC	0.039uH			TFL0816-39	L1690498	AS1	20-	B	b2
L 1029	M.RFC	0.039uH			HK1608 39NJ-T	L1690523	AS1	158-	B	b2
L 1029	M.RFC	0.033uH			HK1608 33NJ-T	L1690522	CS1	19-	B	b2
L 1029	M.RFC	0.027uH			HK1608 27NJ-T	L1690521	D	19-	B	b2
L 1029	M.RFC	0.022uH			HK1608 22NJ-T	L1690520	D	104-	B	b2
L 1029	M.RFC	0.027uH			HK1608 27NJ-T	L1690521	D	110-	B	b2
L 1030	M.RFC	0.82uH			LK1608 R82K-T	L1690417		1-	B	b2
L 1031	M.RFC	0.039uH			TFL0816-39	L1690498		1-	B	b2

MAIN Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
L 1031	M.RFC	0.039uH			HK1608 39NJ-T	L1690523		158-	B	b2
L 1032	M.RFC	0.015uH			HK1608 15NJ-T	L1690518	CS1	19-	B	a2
L 1032	M.RFC	0.012uH			HK1608 12NJ-T	L1690517	D	19-	B	a2
L 1033	M.RFC	0.82uH			LK1608 R82K-T	L1690417		104-	A	E1
MC1001	MIC. ELEMENT				EM-100PT	M3290029		1-	A	D1
MC1001	MIC. ELEMENT				PF0-1055P	M3290045		145-	A	D1
Q 1002	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	B	b2
Q 1002	TRANSISTOR				DTC144EE TL	G3070075		142-	B	b2
Q 1004	IC				MB15A02PFV1-G-BND-EFE1	G1092541		1-	B	d1
Q 1005	FET				2SK508-T2B K52 A	G3805087B		1-	B	c2
Q 1005	FET				2SK508-T1B-A K52	G3805088B		128-	B	c2
Q 1006	TRANSISTOR				2SC4154-T111-1E	G3341548E		1-	B	b1
Q 1006	TRANSISTOR				2SC4081 T106 R	G3340818R		135-	B	b1
Q 1008	TRANSISTOR				2SC5005-T1	G3350058		1-	B	c1
Q 1009	TRANSISTOR				2SC5005-T1	G3350058		1-	B	c1
Q 1010	TRANSISTOR				2SA1586Y(TE85R.F)	G3115867Y		1-	A	A1
Q 1010	TRANSISTOR				2SA1586Y(TE85L.F)	G3115868Y		128-	A	A1
Q 1011	IC				BR93LC66FV-E2	G1092853		1-	B	e2
Q 1011	IC				BR93L66FV-WE2	G1093910		44-	B	e2
Q 1012	TRANSISTOR				2SC3357-T2 RF	G3333577F		1-	B	c1
Q 1012	TRANSISTOR				2SC3357-T1 RF	G3333578F		128-	B	c1
Q 1013	TRANSISTOR				RT1P441U-T11-1	G3070248		1-	B	f1
Q 1013	TRANSISTOR				DTA144EE TL	G3070074		140-	B	f1
Q 1014	IC				M37516E6HP(NO PROG.)			1-	B	e1
Q 1014	IC				M37516M6-121HP			6-	B	e1
Q 1014	IC				M37516M6-146HP			37-	B	e1
Q 1014	IC				M37516M6-182HP			79-	B	e1
Q 1015	TRANSISTOR				2SC5006-T1	G3350068		1-	B	a2
Q 1016	FET				2SK2973-T13	G3829738		1-	B	c1
Q 1016	FET				2SK2973-T13	G3829738		57-	B	c1
Q 1016	FET				RD01MUS1-T113	G3070321		59-	B	c1
Q 1017	IC				NJM2902V-TE1	G1091679		1-	A	A1
Q 1020	TRANSISTOR				RT1P441U-T11-1	G3070248		1-	B	e1
Q 1020	TRANSISTOR				DTA144EE TL	G3070074		140-	B	e1
Q 1021	FET				2SK2974-T11	G3829747		1-	A	D1
Q 1021	FET				2SK2974-T11	G3829747		57-	A	D1
Q 1021	FET				RD07MVS1-T12	G3070320		59-	A	D1
Q 1024	TRANSISTOR				2SC4154-T111-1E	G3341548E		1-	A	F1
Q 1024	TRANSISTOR				2SC4081 T106 R	G3340818R		135-	A	F1
Q 1025	FET				SGM2016AM-T7	G4070012		1-	B	b2
Q 1025	FET				3SK299-T1(U73)	G4802998		113-	B	b2
Q 1026	TRANSISTOR				FMW1 T98	G3070009		1-	B	e3
Q 1027	TRANSISTOR				FMW1 T98	G3070009		1-	A	E2
Q 1028	TRANSISTOR				FMW1 T98	G3070009		1-	B	f3
Q 1029	TRANSISTOR				CPH6102-TL	G3070223		1-	B	f2
Q 1030	IC				NJM2902V-TE1	G1091679		1-	A	A2
Q 1031	TRANSISTOR				CPH6102-TL	G3070223		1-	B	e3
Q 1032	TRANSISTOR				2SC4215Y(TE85R.F)	G3342157Y		1-	B	c2
Q 1033	TRANSISTOR				IMZ2A T108	G3070060		1-	A	E1
Q 1034	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	B	e2
Q 1034	TRANSISTOR				DTC144EE TL	G3070075		142-	B	e2
Q 1035	TRANSISTOR				DTB123EK T146	G3070022		1-	B	e3
Q 1036	IC				TA31136FNG(EL)	G1091605		1-	B	d2
Q 1037	TRANSISTOR				2SC4154-T111-1E	G3341548E		1-	A	E2
Q 1037	TRANSISTOR				2SC4081 T106 R	G3340818R		135-	A	E2
Q 1038	IC				S-80735SN-DZ-T1	G1091876		1-	B	e2
Q 1038	IC				S-80835CNMC-B8U-T2-G	G1093606		33-	B	e2
Q 1039	IC				NJM2070M-TE2	G1092944		1-	A	E2
Q 1039	IC				NJM2070M-TE1	G1094509		128-	A	E2
Q 1040	IC				TK11250BMCL	G1092952		1-	B	f2
Q 1040	IC				TK11250CMCL-G	G1093694		42-	B	f2
Q 1041	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	A	A2
Q 1041	TRANSISTOR				DTC144EE TL	G3070075		142-	A	A2
Q 1042	TRANSISTOR				2SA1586Y(TE85R.F)	G3115867Y		1-	A	A2
Q 1042	TRANSISTOR				2SA1586Y(TE85L.F)	G3115868Y		128-	A	A2
Q 1044	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	B	d2
Q 1044	TRANSISTOR				DTC144EE TL	G3070075		142-	B	d2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
Q 1045	IC				NJM12903R-TE1	G1093336		1-	A	A2
Q 1047	TRANSISTOR				2SC4154-T111-1E	G3341548E		1-	A	A3
Q 1047	TRANSISTOR				2SC4081 T106 R	G3340818R		135-	A	A3
Q 1050	TRANSISTOR				CPH6102-TL	G3070223		1-	A	E2
Q 1051	TRANSISTOR				2SC4154-T111-1E	G3341548E		1-	B	e2
Q 1051	TRANSISTOR				2SC4081 T106 R	G3340818R		135-	B	e2
Q 1052	IC				M62364FP 600D	G1093033		1-	B	e3
Q 1053	IC				LC75834W	G1093288	VX-180	1-	A	C2
Q 1054	TRANSISTOR				2SA1586Y(TE85R.F)	G3115867Y		1-	B	d1
Q 1054	TRANSISTOR				2SA1586Y(TE85L.F)	G3115868Y		128-	B	d1
Q 1056	TRANSISTOR				RT1P441U-T11-1	G3070248		1-	A	E2
Q 1056	TRANSISTOR				DTA144EE TL	G3070074		140-	A	E2
Q 1057	TRANSISTOR				2SA1586Y(TE85R.F)	G3115867Y		1-	A	C1
Q 1057	TRANSISTOR				2SA1586Y(TE85L.F)	G3115868Y		128-	A	C1
Q 1058	TRANSISTOR				2SC4154-T111-1E	G3341548E	VX-180	1-	A	C2
Q 1058	TRANSISTOR				2SC4081 T106 R	G3340818R	VX-180	135-	A	C2
Q 1059	TRANSISTOR				DTC124TE TL	G3070128	VX-180	1-	A	C2
Q 1060	TRANSISTOR				RT1N441U-T11-1	G3070247		1-	B	d1
Q 1060	TRANSISTOR				DTC144EE TL	G3070075		142-	B	d1
R 1001	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	d2
R 1002	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	b2
R 1003	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	A1
R 1003	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		4-18	A	A1
R 1003	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152	AS1	20-	A	A1
R 1003	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332	CS1	19-	A	A1
R 1003	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332	D	19-	A	A1
R 1004	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-18	B	c2
R 1004	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272	CS1	19	B	c2
R 1004	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272	D	19	B	c2
R 1004	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		20-	B	c2
R 1005	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		1-	A	A1
R 1005	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		20-	A	A1
R 1006	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-18	B	d2
R 1006	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272	CS1	19	B	d2
R 1006	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272	D	19	B	d2
R 1006	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		20-	B	d2
R 1007	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		35-	B	d1
R 1007	CHIP RES.	6.8k	1/16W	5%	RMC1/16 682JATP	J24185682		134-	B	d1
R 1007	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		140-	B	d1
R 1008	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-52	B	d2
R 1008	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223	AS1	53-	B	d2
R 1008	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563	CS1	53-	B	d2
R 1008	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223	D	53-	B	d2
R 1009	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d2
R 1010	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-	A	A2
R 1011	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	d3
R 1012	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	b1
R 1013	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	b2
R 1014	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	b1
R 1018	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A1
R 1022	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	b1
R 1023	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A1
R 1024	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-	B	c2
R 1024	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		20-	B	c2
R 1025	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	d3
R 1026	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-19	A	A1
R 1026	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473	AS1	20-	A	A1
R 1026	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563	CS1	20-	A	A1
R 1026	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563	D	20-	A	A1
R 1027	CHIP RES.	3.9k	1/16W	5%	RMC1/16 392JATP	J24185392		1-	B	e2
R 1027	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		94-	B	e2
R 1028	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d2
R 1029	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d2
R 1030	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d2
R 1031	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-	B	c2
R 1033	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	e2
R 1033	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		20-	B	e2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
R 1034	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	A	A1
R 1034	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		19	A	A1
R 1034	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393	AS1	20-	A	A1
R 1034	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153	CS1	20-	A	A1
R 1034	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153	D	20-	A	A1
R 1035	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-	B	e2
R 1036	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	A	A1
R 1037	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-	B	c2
R 1038	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-	B	e2
R 1039	CHIP RES.	1.2M	1/16W	5%	RMC1/16 125JATP	J24185125		1-	A	A1
R 1040	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	d2
R 1041	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-	B	d1
R 1042	CHIP RES.	1.8M	1/16W	5%	RMC1/16 185JATP	J24185185		1-	A	A1
R 1043	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-	A	A1
R 1044	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	A	A1
R 1045	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-	A	A2
R 1046	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	d1
R 1047	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e1
R 1048	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	A1
R 1050	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		20-	B	e2
R 1051	CHIP RES.	10k	1/16W	1%	RMC1/16 103FTP	J24183103		1-	B	e2
R 1052	CHIP RES.	220k	1/16W	1%	RMC1/16 224FTP	J24183224		1-	B	d1
R 1053	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	b2
R 1054	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-	B	b2
R 1055	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e1
R 1056	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-	B	c1
R 1057	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	f2
R 1058	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	a2
R 1059	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		1-	B	e1
R 1060	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	B	e1
R 1061	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	e1
R 1062	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d1
R 1063	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-19	B	d1
R 1063	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103	AS1	20-	B	d1
R 1063	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562	CS1	20-	B	d1
R 1063	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562	D	20-	B	d1
R 1064	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	A1
R 1065	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	f1
R 1066	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		1-	A	A1
R 1067	CHIP RES.	330k	1/16W	1%	RMC1/16 334FTP	J24183334		1-	B	e2
R 1068	CHIP RES.	82k	1/16W	1%	RMC1/16 823FTP	J24183823		1-	B	e1
R 1069	CHIP RES.	1.5M	1/16W	5%	RMC1/16 155JATP	J24185155		1-	A	A1
R 1070	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		1-	B	d1
R 1070	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		9-	B	d1
R 1070	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		19	B	d1
R 1070	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100		20-	B	d1
R 1070	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		98	B	d1
R 1070	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100	AS1	99-	B	d1
R 1070	CHIP RES.	10	1/16W	5%	RMC1/16 100JATP	J24185100	CS1	99-	B	d1
R 1070	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470	D	99-	B	d1
R 1071	CHIP RES.	390	1/10W	5%	RMC1/10T 391J	J24205391		1-	B	c1
R 1072	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	f1
R 1073	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	B1
R 1074	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	C1
R 1075	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	f2
R 1076	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	a2
R 1077	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	B1
R 1078	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-	B	c1
R 1078	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		9-	B	c1
R 1078	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		19-19	B	c1
R 1078	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470	AS1	20-103	B	c1
R 1078	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	CS1	20-	B	c1
R 1078	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470	CS1	34-103	B	c1
R 1078	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	D	20-103	B	c1
R 1078	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		104-	B	c1
R 1082	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		1-42	B	c1
R 1082	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		59-92	B	c1

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
R 1082	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273	AS1	93-103	B	c1
R 1082	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		104-	B	c1
R 1083	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	B	a2
R 1086	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	a2
R 1086	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		9-18	B	a2
R 1086	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	AS1	20-	B	a2
R 1087	CHIP RES.	220	1/2W	5%	RMC1/2 221JCTP	J24275221		1-	A	D1
R 1088	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	a2
R 1091	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	c1
R 1092	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	a2
R 1095	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	f2
R 1097	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	a2
R 1098	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	B	b1
R 1099	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	f2
R 1102	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	b1
R 1103	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-	A	F1
R 1104	CHIP RES.	220	1W	5%	RMC1 221JTE	J24305221		1-	A	E1
R 1105	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	b2
R 1105	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		19-	B	b2
R 1106	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	F1
R 1107	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	F2
R 1108	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	b2
R 1109	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	E1
R 1109	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		19-	A	E1
R 1109	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		92-	A	E1
R 1110	CHIP RES.	0.33	1/8W	10%	RMC1/8 R33KTP	J24219001		1-	A	E1
R 1111	CHIP RES.	33	1/16W	5%	RMC1/16 330JATP	J24185330		1-	B	a2
R 1111	CHIP RES.	180	1/16W	5%	RMC1/16 181JATP	J24185181		113-	B	a2
R 1112	CHIP RES.	68	1/10W	5%	RMC1/10T 680J	J24205680		1-	B	a1
R 1113	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-	B	b2
R 1114	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-92	A	E1
R 1114	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103	AS1	93	A	E1
R 1114	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562	CS1	93	A	E1
R 1114	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562	D	93	A	E1
R 1114	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		94-	A	E1
R 1114	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		105-	A	E1
R 1115	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-	A	E1
R 1115	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		94-	A	E1
R 1116	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e3
R 1117	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e3
R 1118	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	E1
R 1119	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391		1-	A	E2
R 1119	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		94-	A	E2
R 1120	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	e3
R 1121	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	E1
R 1122	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391		1-	B	c2
R 1122	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391		9-	B	c2
R 1122	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		19-	B	c2
R 1123	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	e3
R 1124	CHIP RES.	0.33	1/8W	10%	RMC1/8 R33KTP	J24219001		1-	A	E1
R 1125	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	e3
R 1127	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	f2
R 1129	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-	B	b2
R 1130	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		43-	A	E2
R 1130	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		57-58	A	E2
R 1130	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273	CS1	93-103	A	E2
R 1130	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273	D	93-103	A	E2
R 1131	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	c2
R 1132	CHIP RES.	0.33	1/8W	10%	RMC1/8 R33KTP	J24219001		1-	A	E1
R 1133	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	A1
R 1134	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	A3
R 1135	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	c2
R 1136	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A3
R 1137	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		1-	B	e2
R 1137	CHIP RES.	470k	1/16W	5%	RMC1/16 474JATP	J24185474		59-	B	e2
R 1138	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-	A	F2
R 1139	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	E2

MAIN Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
R 1140	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-	A	C1
R 1141	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	C1
R 1142	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	d2
R 1142	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		59-	B	d2
R 1143	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	e2
R 1144	CHIP RES.	470	1/10W	5%	RMC1/10T 471J	J24205471		1-	A	E2
R 1145	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	A3
R 1146	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c3
R 1147	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A2
R 1147	CHIP RES.	56k	1/16W	5%	RMC1/16 563JATP	J24185563		20-	A	A2
R 1148	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	A2
R 1149	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-105	A	A3
R 1149	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183	AUS/VX-160	106-	A	A3
R 1149	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183	EXP/VX-160	106-	A	A3
R 1149	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183	EXP/VX-180	106-	A	A3
R 1149	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183	VTX/VX-160	106-	A	A3
R 1149	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183	VTX/VX-180	106-	A	A3
R 1150	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-	B	d2
R 1150	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		59-	B	d2
R 1151	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c2
R 1152	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-	B	d2
R 1154	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d2
R 1154	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		59-	B	d2
R 1155	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	B	d2
R 1156	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	B	d2
R 1157	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c2
R 1158	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152		1-	B	d3
R 1158	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152		59-	B	d3
R 1159	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c3
R 1160	CHIP RES.	120k	1/16W	5%	RMC1/16 124JATP	J24185124		1-	A	A2
R 1160	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		20-	A	A2
R 1161	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	e2
R 1161	CHIP RES.	15k	1/16W	5%	RMC1/16 153JATP	J24185153		20-	B	e2
R 1162	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	A3
R 1163	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	e2
R 1163	CHIP RES.	6.8k	1/16W	5%	RMC1/16 682JATP	J24185682		20-	B	e2
R 1164	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	A	F2
R 1165	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-	A	A2
R 1165	CHIP RES.	180k	1/16W	5%	RMC1/16 184JATP	J24185184		20-	A	A2
R 1166	CHIP RES.	2.2	1/16W	5%	RMC1/16 2R2JATP	J24185229		1-	A	F2
R 1167	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c3
R 1168	CHIP RES.	470k	1/16W	1%	RMC1/16 474FTP	J24183474		1-105	A	A2
R 1168	CHIP RES.	470k	1/16W	1%	RMC1/16 474FTP	J24183474	AUS/VX-160	106-	A	A2
R 1168	CHIP RES.	470k	1/16W	1%	RMC1/16 474FTP	J24183474	EXP/VX-160	106-	A	A2
R 1168	CHIP RES.	470k	1/16W	1%	RMC1/16 474FTP	J24183474	EXP/VX-180	106-	A	A2
R 1168	CHIP RES.	470k	1/16W	1%	RMC1/16 474FTP	J24183474	VTX/VX-160	106-	A	A2
R 1168	CHIP RES.	470k	1/16W	1%	RMC1/16 474FTP	J24183474	VTX/VX-180	106-	A	A2
R 1169	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-	A	A3
R 1170	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-	A	A3
R 1171	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	e1
R 1172	CHIP RES.	22k	1/16W	1%	RMC1/16 223FTP	J24183223		1-	A	A2
R 1173	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A2
R 1173	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		20-	A	A2
R 1174	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-	A	C1
R 1176	CHIP RES.	10k	1/16W	1%	RMC1/16 103FTP	J24183103		1-	A	B2
R 1177	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A2
R 1179	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	A	A1
R 1182	CHIP RES.	100k	1/16W	1%	RMC1/16 104FTP	J24183104		1-	A	A2
R 1183	CHIP RES.	120k	1/16W	1%	RMC1/16 124FTP	J24183124		1-	A	A2
R 1183	CHIP RES.	100k	1/16W	1%	RMC1/16 104FTP	J24183104		20-	A	A2
R 1184	CHIP RES.	470	1/16W	1%	RMC1/16 471FTP	J24183471		1-	A	A2
R 1184	CHIP RES.	560	1/16W	1%	RMC1/16 561FTP	J24183561		20-	A	A2
R 1188	CHIP RES.	18k	1/16W	5%	RMC1/16 183JATP	J24185183		1-	A	A1
R 1188	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		19-	A	A1
R 1190	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	A1
R 1191	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	A2
R 1191	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		20-	A	A2

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
R 1192	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	A2
R 1195	CHIP RES.	68	1/10W	5%	RMC1/10T 680J	J24205680		1-	B	b1
R 1196	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-18	B	a2
R 1196	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331	AS1	20-	B	a2
R 1196	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	CS1	19-	B	a2
R 1196	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	D	19-	B	a2
R 1197	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	E2
R 1198	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	f1
R 1200	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152		1-	B	c1
R 1201	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	e1
R 1202	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	B1
R 1203	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	e1
R 1204	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	e2
R 1205	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	A2
R 1207	CHIP RES.	6.8k	1/16W	5%	RMC1/16 682JATP	J24185682		1-	B	e1
R 1208	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	e2
R 1208	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152		20-135	B	e2
R 1208	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332	AS1	136-	B	e2
R 1208	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222	AS1	140-	B	e2
R 1208	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152	CS1	136-	B	e2
R 1208	CHIP RES.	1.5k	1/16W	5%	RMC1/16 152JATP	J24185152	D	136-	B	e2
R 1209	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e2
R 1211	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c3
R 1212	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c3
R 1213	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-	B	c3
R 1214	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	b2
R 1215	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473	VX-180	1-	A	C1
R 1216	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222	VX-180	1-	B	c1
R 1217	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332	VX-180	1-	B	c2
R 1218	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	E2
R 1219	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-	B	e2
R 1220	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	d1
R 1221	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	d1
R 1222	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	d1
R 1223	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	B	d2
R 1224	CHIP RES.	33	1/16W	5%	RMC1/16 330JATP	J24185330		1-	B	d1
R 1225	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	d1
R 1228	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	B	f2
R 1229	CHIP RES.	39k	1/16W	5%	RMC1/16 393JATP	J24185393		1-	B	f1
R 1230	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		1-	B	f1
R 1231	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	e2
R 1232	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A2
R 1233	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A2
R 1234	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A2
R 1235	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-	A	A2
R 1236	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222	CS1	53-	A	A1
R 1237	CHIP RES.	2.2M	1/16W	5%	RMC1/16 225JATP	J24185225		1-	A	A3
R 1238	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e1
R 1239	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e1
R 1240	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e1
R 1241	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-	B	e1
R 1242	CHIP RES.	33	1/16W	5%	RMC1/16 330JATP	J24185330		1-	B	d1
R 1243	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-78	A	E1
R 1243	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331	AS1	79-	A	E1
R 1243	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391	AS1	81-	A	E1
R 1243	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	AS1	92-93	A	E1
R 1243	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	CS1	79-93	A	E1
R 1243	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331	D	79-	A	E1
R 1243	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391	D	81-	A	E1
R 1243	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471	D	93	A	E1
R 1243	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		94-	A	E1
R 1244	CHIP RES.	0	1/10W	5%	RMC1/10T 000J	J24205000		1-	A	E1
R 1245	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-	A	A2
R 1246	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-	A	A2
R 1247	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	A	A2
R 1248	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	A1
R 1249	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	A1

MAIN Unit

REF.	DESCRIPTION	VALUE	V/W	TOL.	MFR'S DESIG	VXSTD P/N	VERS.	LOT.	SIDE	LAY ADR
R 1250	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-	A	E2
R 1251	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-		
R 1251	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		9-18		
R 1252	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	D2
R 1253	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	A	D2
R 1254	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-	B	d1
R 1255	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391	VX-180	1-	A	C2
R 1256	CHIP RES.	390	1/16W	5%	RMC1/16 391JATP	J24185391	VX-180	1-	A	C2
R 1257	CHIP RES.	820k	1/16W	5%	RMC1/16 824JATP	J24185824		1-	A	A3
R 1258	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-103		
R 1259	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104	VX-180	1-	B	e2
R 1260	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-	B	c2
R 1260	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		9-	B	c2
R 1260	CHIP RES.	270	1/16W	5%	RMC1/16 271JATP	J24185271		19-	B	c2
R 1261	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-3		
R 1261	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	CS1	19-		
R 1261	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	CS1	104-		
R 1262	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e3
R 1263	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-	B	e3
R 1264	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-19	A	A2
R 1265	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102	VX-180	1-	A	C2
R 1266	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-	B	d2
R 1267	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		20-	A	A2
R 1268	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		20-	A	A2
R 1269	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273	D	104-	B	e2
S 1003	TACT SWITCH				SKHLLD	N5090066		1-	B	b1
S 1004	TACT SWITCH				SKHLLD	N5090066		1-	B	c1
S 1005	ROTARY SWITCH				EC10SP16-85A0	Q9000764		1-	B	a2
TH1004	THERMISTOR				TBPS1R103K440H5Q	G9090067		1-	B	d1
VR1006	POT.				RK0971111 20KA/SW	J60800256		1-	B	a3
X 1001	XTAL SX-2112	14.6MHz			14.6MHZ	H0103237		1-	B	d2
X 1001	XTAL SX-2112	14.6MHz			14.6MHZ	H0103260		3-	B	d2
X 1001	XTAL S-6	14.6MHz			14.600MHZ	H0103359		133-	B	d2
X 1001	XTAL TOP-B	14.6MHz			14.600MHZ	H0103387		140-	B	d2
X 1002	XTAL SX-1319	3.6864MHz			3.6864MHZ	H0103214		1-	B	e1
X 1002	XTAL U3B	3.6864MHz			3.686400MHz (11p)	H0103307		85-	B	e1
XF1002	XTAL FILTER				HDF0042 44.25MHZ	H1102346		1-	B	b2
XF1002	XTAL FILTER				MF44P 44.25MHZ	H1102434		132-	B	b2
	INTER CONNECTOR					RA0294800	VX-180	1-		
	LCD HOLDER					RA0294400	VX-180	1-		
	LCD HOLDER					RA0438200	VX-180	104-		
	LIGHT GUIDE				(LCD)	RA0294500	VX-180	1-		
	LIGHT GUIDE				(LCD)	RA029450A	VX-180	10-		
	LIGHT GUIDE				(LCD)	RA029450B	VX-180	86-		
	TERMINAL HOLDER					RA010340A		1-		
	TERMINAL HOLDER					RA010340B		36-		
	TERMINAL PLATE				(+)	RA0351700		1-		
	TERMINAL PLATE				(+)	RA035170A		122-		
	HOLDER RUBBER				(MIC)	RA0110200		1-		
	REFLECTOR SHEET					RA033490A	VX-180	1-		
	SPONGE RUBBER					RA0988800		132-