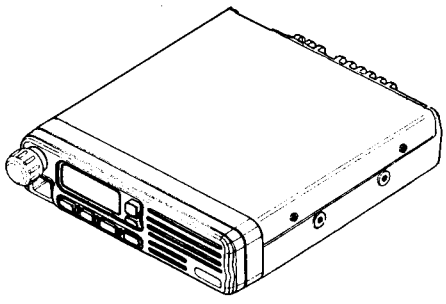
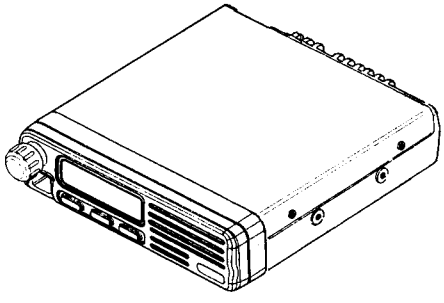
VX-3000U

Service Manual



48 and 120 channel versions



4 channel version

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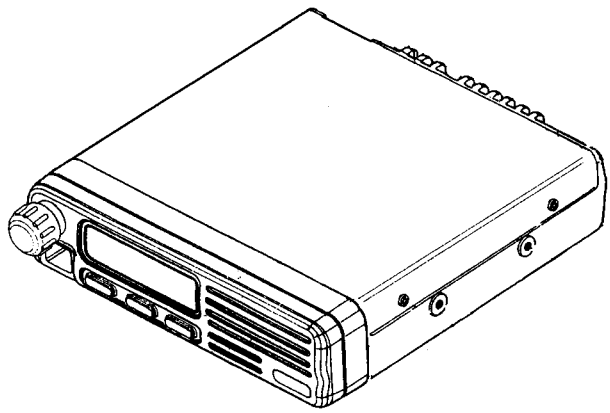
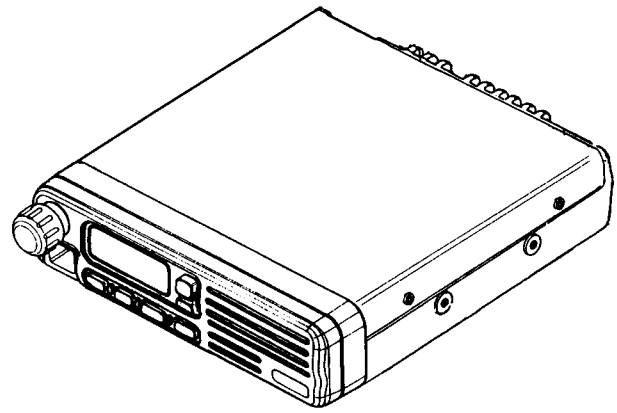
Service Manual

Introduction



4 channel version



48 and 120 channel versions

This manual provides technical information necessary for servicing the VX-3000U UHF Land Mobile transceiver. It does not include information on installation and operation, which are described in the VX-3000U Operating Manual, provided with each transceiver, or on VX-3000U accessories, which are described in manuals provided with each.

The VX-3000U is carefully designed to allow the knowledgeable operator to make nearly all adjustments required for various station conditions, modes and operator preferences simply from the controls on the panels, without opening the case of the transceiver. The VX-3000U Operating Manual describes these adjustments, plus certain internal settings.

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

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

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

While we believe the technical information in this manual is correct, Yaesu 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. Yaesu Musen reserves the right to make changes in this transceiver and the alignment procedures, in the interest of technological improvement, without notification of the owners.

Specifications

General

Frequency Range (version):	400 ~ 460 MHz (vers. A) 450 ~ 490 MHz (vers. D) 480 ~ 512 MHz (vers. F)
No. of Channels & Spacing:	4, 48 or 120 channels 30-kHz, 25-kHz and 12.5-kHz spacing
Modes of Emission:	16K0F3E ,11K0F3E (direct frequency modulation)
Frequency Stability:	±0.00025%
Antenna Requirements:	50 Ohms, unbalanced (SO-239 socket)
Voltage Requirements:	11.8 to 15.6 V DC, negative ground
Current Consumption (approx.):	400 mA Stby, 1.4A Rx, 13 A Tx
Operating Temperature Range:	-30 to +60 °C (-22 °F to +140 °F)
Size (WHD, approx.):	160 x 40 x 160 mm (6-¼ x 1-½ x 6-¼ inches)
Weight (approx.):	1.4 kg (3.1 lbs.)

Receiver

Receiver Circuit Type:	Double Conversion Superheterodyne
Intermediate Frequencies:	73.35 MHz , and 455 kHz
Sensitivity:	0.25/0.3 µV for 12 dB SINAD, 0.35/0.45 µV for 20 dB NQ
Hum & Noise Ratio:	Better than 46 dB (25 kHz/step), 38 dB (12.5 kHz/step)
Adjacent Channel Selectivity:	>70 dB for 25-kHz/step, >60 dB for 12.5-kHz/step
Intermodulation Distortion:	Better than 70 dB
Spurious Rejection:	Better than 70 dB
External Audio Output Power:	10 watts into 4 Ohms with <10% THD

Transmitter

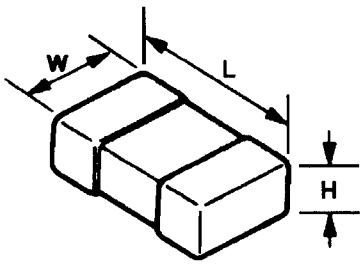
Power Output:	40/5 watts (high/low, programmable)
Modulation Type/Deviation:	Frequency Modulation, ±5 kHz (± 2.5 kHz)
Hum & Noise Ratio:	Better than 46 dB (25 kHz/step), 38 dB (12.5 kHz/step)
Modulation Distortion:	Less than 5%
Spurious Emissions:	Better than 70 dB (below carrier)
Microphone Impedance:	600 Ohms

Specifications are subject to change without notice or obligation.

Chip Component Information

The diagrams below indicate some of the distinguishing features of common chip components .

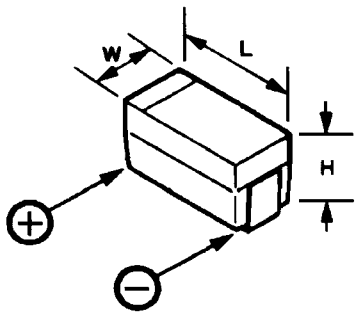
Capacitors



(Unit: mm)

Type	L	W	H
2125	2.0	1.25	0.35 ~ 0.5
1608	1.6	0.8	0.65 ~ 0.95
1005	1.0	0.5	0.45 ~ 0.55

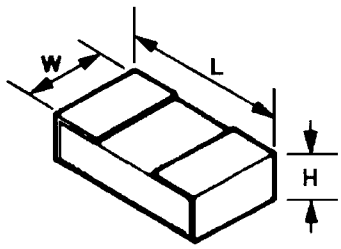
Tantalum Capacitors



(Unit: mm)

Type	L	W	H
P	2.0	1.25	1.2
A	3.2	1.6	1.6
B	3.4	2.8	1.9
C	5.8	3.2	2.3

Resistors



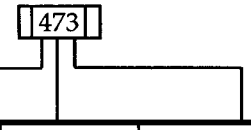
Indicated Letters

1 2 3 4 5 6 7 8 9 0 .

(Unit: mm)

Type	L	W	H
1/10	2.0	1.25	0.5
1/16	1.6	0.8	0.45
1/16S	1.0	0.5	0.35

Marking* 100, 222, 473...



Ten unit	One unit	Multiplier code
0	0	10^0
1	1	10^1
2	2	10^2
3	3	10^3
4	4	10^4
5	5	10^5
6	6	10^6
7	7	10^7
8	8	10^8
9	9	10^9

Examples: 100=10Ω
222=2.2kΩ
473=47kΩ

Chip Component Information

Replacing Chip Components

Chip components are installed at the factory by a series of robots. The first one places a small spot of adhesive resin at the location where each part is to be installed, and later robots handle and place parts using vacuum suction.

For single sided boards, solder paste is applied and the board is then baked to harden the resin and flow the solder. For double sided boards, no solder paste is applied, but the board is baked (or exposed to ultra-violet light) to cure the resin before dip soldering.

In our laboratories and service shops, small quantities of chip components are mounted manually by applying a spot of resin, placing with tweezers, and then soldering by very small dual streams of hot air (without physical contact during soldering). We remove parts by first removing solder using a vacuum suction iron, which applies a light steady vacuum at the iron tip, and then breaking the adhesive with tweezers.

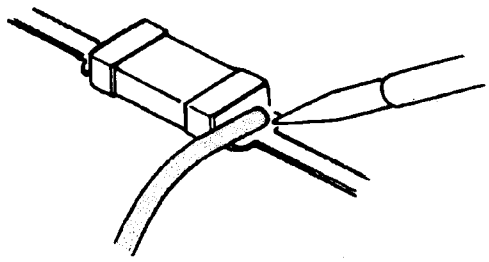
The special vacuum/desoldering equipment is recommended if you expect to do a lot of chip replacements. Otherwise, it is usually possible to remove and replace chip components with only a tapered, temperature-controlled soldering iron, a set of tweezers and braided copper solder wick. Soldering iron temperature should be below 280°C (536°F).

Precautions for Chip Replacement

- ○ Do not disconnect a chip forcefully, or the foil pattern may peel off the board.
- ○ Never re-use a chip component. Dispose of all removed chip components immediately to avoid mixing with new parts.
- ○ Limit soldering time to 3 seconds or less to avoid damaging the component and board.

Removing Chip Components

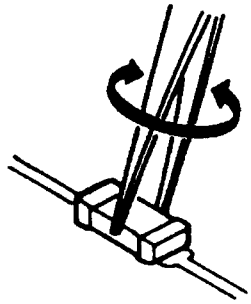
❒ Remove the solder at each joint, one joint at a time, using solder wick whetted with nonacidic fluxes as shown below. Avoid applying pressure, and do not attempt to remove tinning from the chip's electrode.



❒ Grasp the chip on both sides with tweezers, and gently twist the tweezers back and forth (to break the adhesive bond) while alternately heating each electrode. Be careful to avoid peeling the foil traces from the board.

Dispose of the chip when removed.

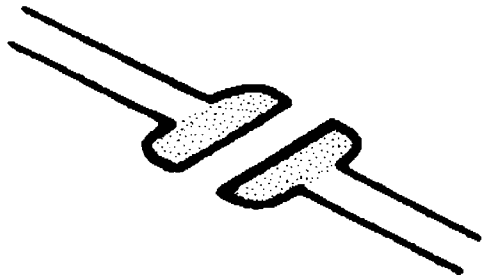
❒ After removing the chip, use the copper braid and soldering iron to wick away any excess solder and smooth the land for installation of the replacement part.



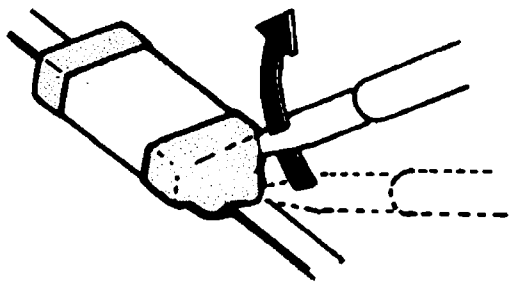
Installing a Replacement Chip

As the value of some chip components is not indicated on the body of the chip, be careful to get the right part for replacement.

❒ Apply a small amount of solder to the land on one side where the chip is to be installed. Avoid too much solder, which may cause bridging (shorting to other parts).



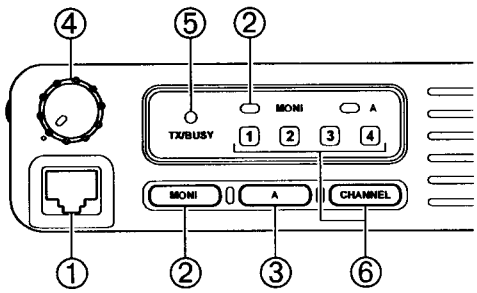
❒ Hold the chip with tweezers in the desired position, and apply the soldering iron with a motion line as indicated by the arrow in the diagram below. Do not apply heat for more than 3 seconds.



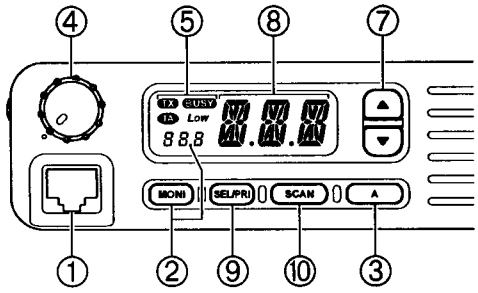
❒ Remove the tweezers and solder the elec trode on the other side in the manner just described.

Operation Manual Reprint

Controls & Connectors



4 channel version



48 and 120 channel versions

① Microphone Jack

Press the microphone plug firmly into this jack until it locks. To remove the microphone, press the lever protruding from the bottom side of the plug while pulling it out.

② MONI Button & Indicator

This button selects the squelch (receiver muting) mode. When the indicator is off, tone (or coded) squelch is active. When you press **MONI** momentarily, the "**MONI**" indicator blinks (4 channel version) or a small Dot [●] will be displayed (48/120 channel versions); in this condition, only the "noise" squelch is active, and any station which transmits on the channel will be heard. Pressing **MONI** *and holding it in for more than 1.5 second*, on the other hand, will open the squelch completely, and background noise will be heard if no signal is present (both the small Dot and the "**BUSY**" indicator will appear on the 48/120 channel versions, while "**MONI**" will glow steadily on the 4-channel version).

If you hear constant background noise, with no signals present ("**MONI**" glows steadily or "**BUSY**" and the small Dot are both present), press the **MONI** button once to return to the previous (quiet) tone-squelched mode.

③ A (Accessory) Button

In VHF Low-band versions, this button can be set by your dealer to activate the noise blanker. Otherwise, this button (and the orange indicator above it) can be set up for special applications, such as high/low power selection, talk-around, and call alert functions, as determined by your network requirements and programmed by your Yaesu dealer.

④ VOLUME and POWER On/Off Knob

Turn this control clockwise to turn the radio on and to increase the volume. Turn it counterclockwise into the click-stop to turn the radio off.

The following items are unique to 4-channel versions:

⑤ TX/BUSY Indicator Lamp

This lamp glows green when the channel is busy, and red during transmission by your radio.

⑥ CHANNEL Numbered Indicators & Button

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

The remaining items are unique to 48 and 120-channel versions:

⑤ BUSY/TX Indicators

This "**BUSY**" icon appears when the channel is busy, and "**TX**" appears while transmitting.

⑦ CHANNEL Selector Buttons (▲) and (▼)

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

⑧ Numeric Channel Display

The display includes an 3-character numeric section showing channel and group numbers plus status and identity information. Additional indicators on the display show priority channel assignments ("**Pr1**" and "**Pr2**") and scan channel selection ("**E**" means "**E**nabled for scanning").

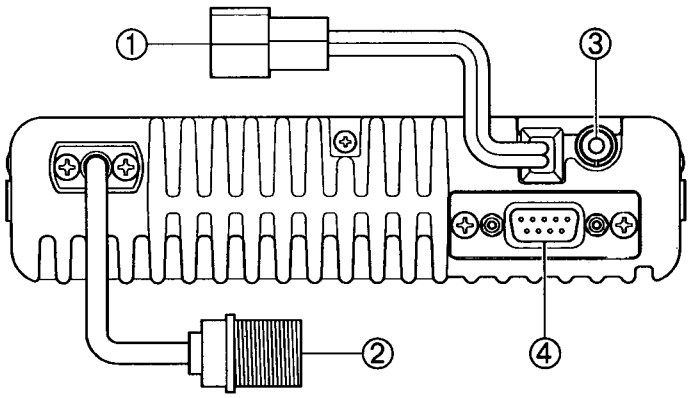
⑨ SEL/PRI Button

This button allows selection of memory channel groups, and (together with the **SCAN** button) selects scanning modes (Dealer, User, Priority/Dealer, Priority/User, Group/Dealer, Group/User, Dealer DW, User DW) as described in the next chapter, *Basic Operation of the Transceiver.*

⑩ SCAN Button

This button is used to activate (current group) channel scanning, to select and deselect channels for scanning, and (together with the **SEL/PRI** button) to select scanning modes, as described in the next section. Pressing the **SCAN** button for more than 1.5 second enables scanning of *all* channels (in all groups).

REAR (Heatsink)



① 13.8-V DC Cable Pigtail w/Connector

The supplied DC power cable must be connected to this 2-pin connector. Use only the supplied (fused) cable, extended if necessary, for power connection.

② Antenna Cable with Connector

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

③ External Speaker Jack

An external loudspeaker may be connected to this 2-contact, 3.5-mm mini-phone jack.
***Caution**: Do not connect this line to ground, and be certain that the speaker has adequate capability to handle the audio output from the VX-3000.*

④ DSUB 9-Pin Data Connector

External TX audio line input, **PTT** (Push To Talk), Squelch, and external RX audio line output signals may be obtained from this connector for use with accessories such as data transmission/reception modems, etc.

Operation Manual Reprint

Basic Operation of the Transceiver

Important! - Before turning on the radio the first time, confirm that the power connections have been made correctly and that a proper antenna is connected to the antenna jack.

Turn the **VOLUME/POWER** knob clockwise to turn on the radio. The display will become illuminated (48/120 channel versions), or the channel indicator will light up (4 channel version). The radio will start up on the last channel used prior to shut-down during the previous operating session.

In 4-channel versions, press the **CHANNEL** button to change channels. In the 48/120 channel versions, the display should show either a channel number or scan mode indicator (**DSC**, **USC**, **GDS**, **GUS**, **PDS**, **PUS**, **DDW** or **UDW**). If "**ERR**" is displayed instead, the transceiver has not yet been programmed with channel frequencies; switch off the power and contact your network administrator or Yaesu dealer. If a scan mode indicator is displayed, you can press the **SCAN** button to display a channel number, and then press either the **UP** (▲) or **DOWN** (▼) button to change channels.

Setting the Volume

If no signals are heard and the "**BUSY**" indicator or "**TX/BUSY**" LED is not illuminated, press and hold the **MONI** button for 1.5 second until background noise is heard and the "**MONI**" or "**BUSY**" indicator glows. Then adjust the volume control for a comfortable level on the background noise. Press **MONI** button again momentarily so the "**MONI**" or "**BUSY**" indicator disappears.

Transmitting

To transmit, wait until the "**BUSY**" indicator is off (the channel is not in use), and press the **PTT** (Push-To-Talk) switch on the side of the microphone (the "**TX**" indicator will appear or the "**TX/BUSY**" lamp will glow red). While holding in the **PTT** switch, speak across the face of the microphone in a clear, normal voice level, and then release the **PTT** switch to receive.

Automatic Time-Out Timer

If the selected channel has been programmed for automatic time-out, you must limit the length of each transmission. While transmitting, a beep will sound five seconds before time-out. Another beep will sound just before the deadline; the "**TX**" indicator will disappear and transmission will cease soon thereafter. To resume transmitting, you must release the **PTT** and wait for the "penalty timer" to expire (if you press the **PTT** before this timer expires, the timer restarts, and you will have to wait another "penalty" period).

The remaining instructions apply to 48-channel or 120-channel versions only:

Selecting Groups and Channels

- Press the **SEL/PRI** button (repeatedly, if necessary) to select a different group of channels.
- Press the **UP** (▲) or **DOWN** (▼) button to select a different channel *within the current group*.
- When you select a group, its number appears as the first digit in the new channel number which appears on the display (in other words, channel "305" represents channel **#05** in channel group **#3**).

Scanning Modes

There are eight scanning modes, described in the list below. Each channel can be independently enabled or disabled for scanning; only channels selected for scanning within the enabled group are scanned. Also, as mentioned before, each group can have up to two priority channels which are scanned more often than the non-priority channels.

The SCAN modes and their corresponding displays are as follows:

Display	Scanning Function
DSC	Dealer Scan (only within the current group)
USC	User Scan: only user-selected channels (only within the current group)
GDS	Group Dealer Scan: scan all Dealer-selected channels in all groups
GUS	Group User Scan: scan all User-selected channels in all groups
PDS	Priority Dealer Scan: DSC plus priority channel(s)
PUS	Priority User Scan: USC plus user priority channel(s)
DDW	Dealer Dual Watch: Monitor one channel and priority channel(s)
UDW	User Dual Watch: Monitor User-selected channel and priority channel(s)

Scanning Operation

With the microphone in its hanger, press the **SCAN** button momentarily to activate scanning. Typically, "**DSC**" will initially appear on the display, indicating Dealer Channel Scan as the scanning mode. If you wish to change to one of the modes described in the list above, press the **SEL/PRI** button repeatedly until that mode appears on the display.

If you pick up the microphone while no signal is being received, operation will shift to a particular channel. Which channel that will be depends on which of the following options the dealer has programmed for off-hook channel selection:

Scan Start Channel

Lifting the microphone causes operation to revert to the group and channel last selected before scanning started or resumed.

Priority Revert
Lifting the microphone activates the Priority 1 channel in the current group. If no channel is assigned level 1 priority, operation will be on the Priority 2 channel. If no priority channels have been assigned, operation reverts to the Scan Start Channel.

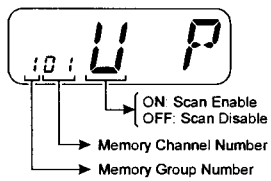
Last Busy
Lifting the microphone causes operation to revert to the group and channel where activity was last detected. If no activity was detected since turning on the radio, operation reverts to the Scan Start Channel.

How to Select Channels to be Scanned

If your radio has been configured by your Dealer to allow you, the operator, to make changes to the list of channels to be scanned, you can make these changes by following this simple process:

① Turn the transceiver OFF by rotating the **VOLUME/POWER** control fully counter-clockwise into the click-stop.

② Press and hold in the **SEL/PRI** button; while holding this button in, rotate the **VOLUME/POWER** control clockwise out of the click-stop to turn the radio on. You may now release the **SEL/PRI** button.



③ Press the **A** button, as necessary, until the Memory Group and Memory Channel numbers will appear in *small* characters in the *left side* of the display area.

④ You may now push the **SEL/PRI** key momentarily as many times as necessary to choose the Memory Group within which you wish to make changes to the channel scan list. Once you have selected the desired Memory Group, you may use the **UP** (▲) or **DOWN** (▼) button to choose a particular channel within the current group.

Pressing the **MONI** button will change the scanning status of the selected channel.
If you are *adding* the channel to those you wish to scan, pressing the **MONI** button causes a "**U**" appear on the display, indicating that the channel has been added to the User Scan List. If you are *deleting* the channel from the User Scan List (the channel's data itself will not be deleted; the channel just will not be scanned), the "**U**" will disappear.

⑤ Repeat step 4 for each channel you wish to enable or disable for scanning.

⑥ When you are done making changes to the channels you wish to scan, press and hold in the **SEL/PRI** button for more than 1.5 second. Operation will return to its normal status, and the display will revert to its previous appearance.

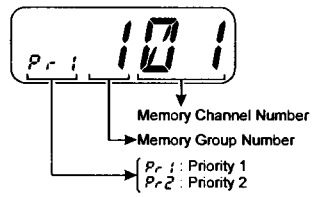
How to Change the "User Priority" Channels

Your Dealer may have configured your radio so as to allow you to make changes to the "User Priority" Channels (the channels you designate to be scanned more frequently than the others). The selection process is almost identical to that used for making changes to the User Scan List.

① Turn the transceiver OFF by rotating the **VOLUME/POWER** control fully counter-clockwise into the click-stop.

② Press and hold in the **SEL/PRI** button; while holding this button in, rotate the **VOLUME/POWER** control clockwise out of the click-stop to turn the radio on. You may now release the **SEL/PRI** button.

③ Press the **A** button, as necessary, until the Memory Group and Memory Channel numbers will appear in *large* characters in the *right side* of the display area (as compared to *small* characters in the case of changes to the Scan List).



④ You may now push the **SEL/PRI** button momentarily as many times as necessary to choose the Memory Group within which you wish to make changes to the User Priority Channel(s). Once you have selected the desired Memory Group, you may use the **UP** (▲) or **DOWN** (▼) button to choose a particular channel within the current group.

Pressing the **SCAN** button will change/assign the Priority status of the selected channel.
If you are assigning the channel to Priority status, pressing the **SCAN** button causes "**Pr1**" or "**Pr2**" to flash on the display, indicating that the channel has been assigned the status of ***Priority 1*** or ***Priority 2***, respectively. Pressing the **SCAN** button repeatedly toggles the Priority Level between "**1**" and "**2**." If you are *deleting* the channel from Priority status, the "**Pr*n***" indicator will disappear.

⑤ Repeat step 4 for each channel you wish to assign to or delete from Priority status.

⑥ When you are done making changes to the Priority Channels, press and hold in the **SEL/PRI** button for more than 1.5 second. Operation will return to its normal status, and the display will revert to its previous appearance.

The A Button Function

The **A** (Accessory) button can be programmed by the dealer to provide two of the other functions described below. In the case of the VHF Low-Band version of the VX-3000, pressing the **A** button can activate the Noise Blanker (a feature not available on the VHF High-Band or UHF versions).

To activate the primary Accessory function, press the **A** button momentarily. To access the secondary Accessory function (which may include the Alarm), press the **A** button and hold it in for 1.5 seconds or longer.

Call/Reset
When this feature is programmed and an selective call has been received (the "**CAL**" indicator is flashing), momentarily press the **A** button to reset the flashing indicator and mute the receiver, otherwise press the **A** button to send your

radio's identification code (ANI) to the dispatcher.

Low Power
With this feature enabled, the **A** button toggles between high and low transmitter power, as programmed by the dealer.

Talk-Around
The feature causes the **A** button to select simplex operation on semi-duplex channels: the transmit frequency becomes the same as the receive frequency (regardless of any programmed offset for the channel).
***Note**: This feature has no effect on simplex channels.* After pressing the button, "**TA**" is displayed on the LCD.

Noise Blanker
Because local noise can be particularly troublesome in the VHF Low-Band frequency spectrum, the Low-Band version of the VX-3000 includes a Noise Blanker feature, which may be toggled on and off by pressing the **A** button for the appropriate length of time.

Encryption
When the Voice Scrambler feature is enabled, pressing the **A** button toggles the Scrambler on and off.

A-On
When this function is enabled, the Noise Blanker will be activated (on the VHF Low-Band version); in other versions, this Accessory function is reserved for future optional features.

Alarm Function
When the "alarm" function is enabled, pressing and holding the **A** button for 1.5 seconds causes the radio to revert to a specially-designated channel, and causes the special "Alarm" identifier code to be transmitted automatically.
***Note**: this feature is only available as a "Secondary" Accessory to prevent accidental activation.*

Optional Accessories

CE-19	Programming Software (for IBM PC/compatibles only)
VPL-1	Programming Cable
T9101411	Radio-to-Radio Cloning Connection Cable
FP-1025A	Heavy-Duty (20A) AC Power Supply
MD-11A8J	Desktop Microphone
MH-600D	DTMF Back-lit Microphone w/Autodial
MLS-100	External Loudspeaker
LF-1	DC Line Filter
VTM-20	VX-Trunk II Trunking Mobile Logic Board

Operation Manual Reprint

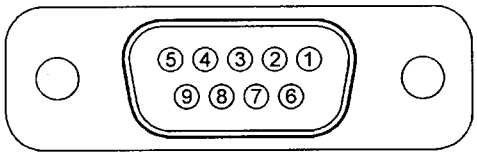
Accessory Connector

1. Abstract

The rear panel's D-SUB 9-pin connector is a versatile accessory interfacing point. This connector includes the following functions:

- ○ TX audio, RX audio and PTT.
- ○ Field Editor switch
- ○ FSK DATA input/output
- ○ HORN Alert output
- ○ SQL output
- ○ Ignition-controlled power switch

All these functions can programmed by jumpers on the RF-UNIT.



2. Pin assignments /:selectable pins

① **SQ**: Squelch output
Open collector output. Maximum sink current 50mA.
Maximum voltage 13.6V (DC power supply)
Sink: A signal is present (Squelch is open)
Open: No signal is present (Squelch is closed)
When using the FSK DATA mode, this pin is controlled by FSK detector.

② **EXT_RX_AUD**: External received audio output
High impedance output (approx. 3K Ohms)
This output is enabled as a default setting at the factory.
This function is enabled by jumper JP1004 on the RF-UNIT.

/② **RXD**: Received DATA output
TTL level (+5V / 0V) output.
In the FSK mode, this line is a Received DATA output.
This function is enabled by jumpers JP1003 and JP1015 on the RF-UNIT.
When you use this output, remove the solder from jumper J1004.

③ **EXT_MIC**: External MIC input
High impedance input (approx. 10K Ohms)
Input level: 5.5mV$_{rms}$
This input is enabled as a default setting at the factory.
This function is enabled by jumper JP1006 on the RF-UNIT.
This feature requires activation via the Clone Editor software (check the EXTERNAL MIC flag in the group settings).

/③ **TXD**: Transmit DATA input
TTL level (+5V / 0V) input.
In the FSK mode, this line is a Transmit DATA input.
This function is enabled by jumpers JP1005 and JP1016 on the RF-UNIT.
When you use this output, remove the solder from jumper J1006.

④ **DTR**: Field editor program key input (Active Low)
When you use the Field Editor, this pin must be connected to GND.
Connect to GND: Field Editor available
Open: Field Editor not available (normal mode)
This function is enabled by jumper JP1007 on the RF-UNIT.
JP1008 is a reserved jumper.

⑤ **GND**: Signal Ground

⑥ **HO_AL**: Horn Alert output (Active Low)
Open collector output. Maximum sink current 50mA.
Maximum voltage 13.6V (DC power supply).
Sink: Horn Alert on
Open: Normal

⑦ **PTT**: (Active Low)
TTL level (+5V / 0V) input. This line is internally pulled up to +5V DC.
When pulled low by an external device, it keys the transceiver's transmitter section.

⑧ **13V**
Switched DC 13.6V output for powering an external accessory.
Maximum current 250mA.
This line fuse is F1001 on the RF-UNIT.
This function is enabled by jumper JP1010 on the RF-UNIT. This feature is enabled as a default setting at the factory.

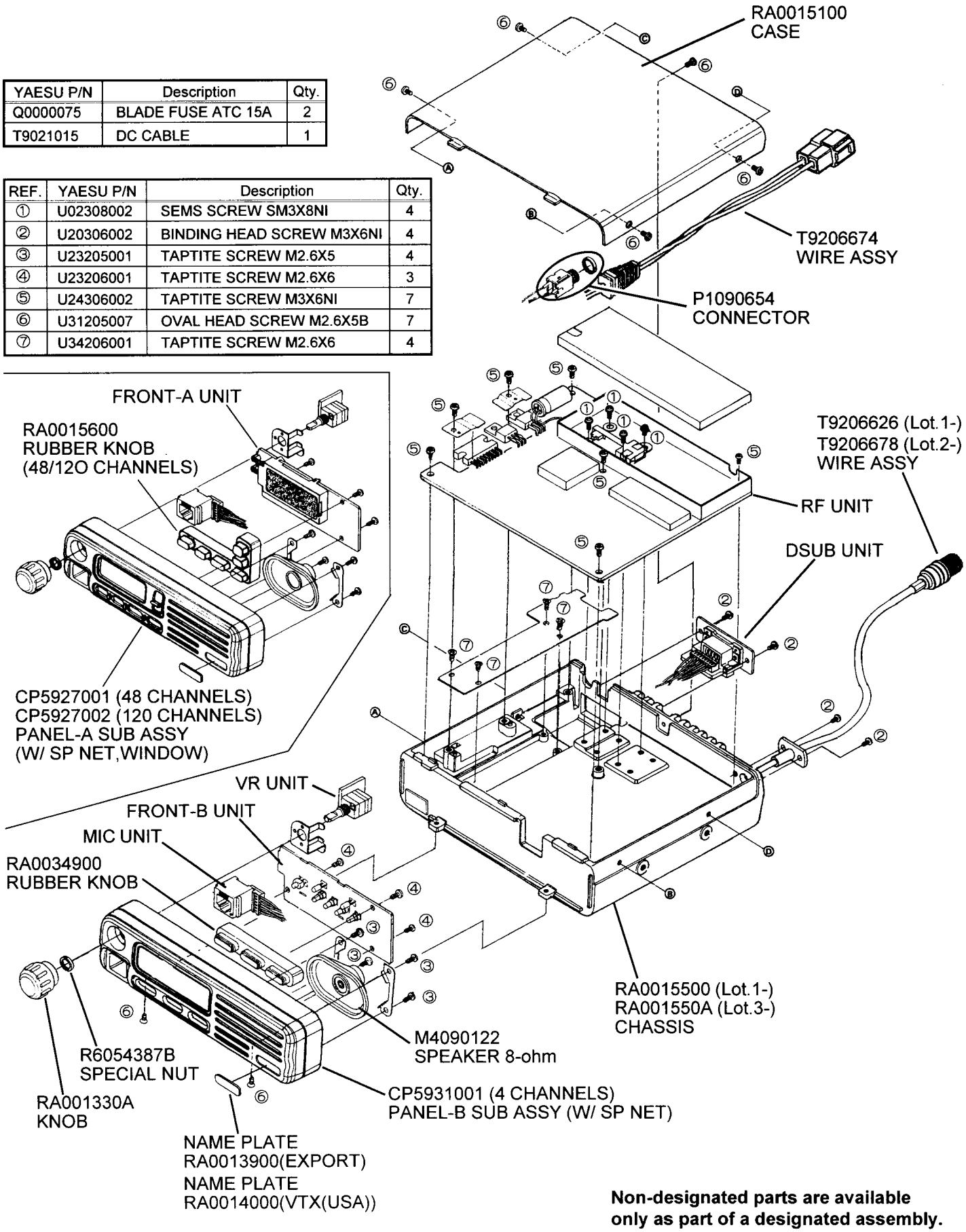
/⑧ 5V
Switched and regulated DC 5V output for powering an external accessory.
Maximum current 50mA.
This function is enabled by jumper JP1009 on the RF-UNIT.

⑨ **IGN**: Car Ignition sense
This pin enables power switch control via the car ignition.
To use this function, remove R1171 and mount R1172 10K Ohms.
Then connect this pin to your car's (ignition-controlled) DC line.

Exploded View & Miscellaneous Parts

YAESU P/N	Description	Qty.
Q0000075	BLADE FUSE ATC 15A	2
T9021015	DC CABLE	1

REF.	YAESU P/N	Description	Qty.
①	U02308002	SEMS SCREW SM3X8NI	4
②	U20306002	BINDING HEAD SCREW M3X6NI	4
③	U23205001	TAPTITE SCREW M2.6X5	4
④	U23206001	TAPTITE SCREW M2.6X6	3
⑤	U24306002	TAPTITE SCREW M3X6NI	7
⑥	U31205007	OVAL HEAD SCREW M2.6X5B	7
⑦	U34206001	TAPTITE SCREW M2.6X6	4



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

Exploded View & Miscellaneous Parts

Notes:

Alignment

The VX-3000U is carefully aligned at the factory for the specified performance across the frequency range specified for each version. Realignment should therefore not be necessary except in the event of a component failure, or altering version. All component replacement and service should be performed only by an authorized Yaesu representative, or the warranty policy may be void.

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 subsequently are placed, 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 Yaesu 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 Yaesu 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, Yaesu reserves the right to change circuits and alignment procedures in the interest of improved performance, without notifying owners.

Under no circumstances should any alignment be attempted unless the normal function and operation of the transceiver are clearly understood, the cause of the malfunction has been clearly pinpointed and any faulty components replaced, and 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

- ❒ RF Signal Generator with calibrated output level at 500MHz
- ❒ Deviation Meter (linear detector)
- ❒ In-line Wattmeter with 5% accuracy at 500MHz
- ❒ 50-Ω RF Dummy Load with power rating 100W at 500MHz
- ❒ 4-Ω AF Dummy Load
- ❒ Regulated DC Power Supply adjustable from 3 to 15V DC, 15A
- ❒ Frequency Counter with 0.2ppm accuracy at 500MHz
- ❒ AF Signal Generator
- ❒ AC Voltmeter

Alignment

- ❒ DC Voltmeter
- ❒ VHF Sampling Coupler
- ❒ SINAD Meter
- ❒ IBM PC / compatible Computer with Microsoft Windows v3.1 or later operating system
- ❒ Yaesu VPL-1 Connection Cable & Alignment program

Alignment Preparation & Precautions

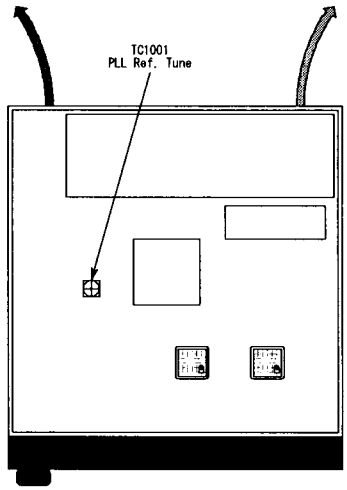
A 50-Ω RF Dummy Load and in-line wattmeter must be connected to the main antenna jack in all procedures that call for transmission, except where specified otherwise. Correct alignment is not possible with an antenna.

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, in connected) before proceeding.

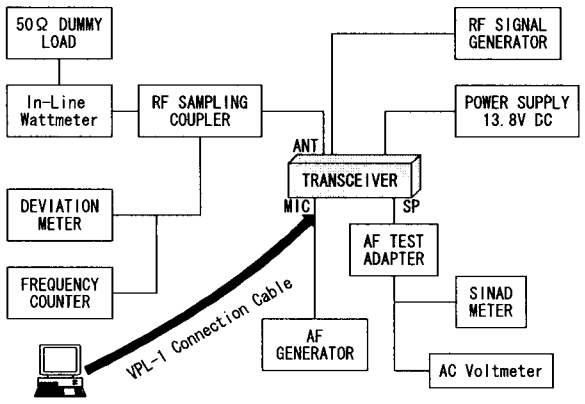
Correct alignment requires that the ambient temperature be the same as that of the transceiver and test equipment, and that this temperature be held constant between 20 and 30° (68 - 86°F). When the transceiver is brought into the shop from hot or cold air, it should be allowed time to come to room temperature 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 the alignment procedure are based on 0dBμ=0.5μV.*



RF unit Alignment Points



Alignment Setup

Setup the test equipment as shown for transceiver alignment, apply 13.8V DC power to the transceiver. Refer to the drawings above for Alignment Points.

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.

To facilitate alignment over the complete switching range of the equipment, the channel data in the transceiver should first be uploaded to the computer and stored to disk. Alignment channels at the upper, lower and middle band edges should then be downloaded to the transceiver. The original data can be replaced at the end of the alignment process.

The alignment mode is accessed by "Auto mode" command from the computer when switching on.

Channels	Frequency(Simplex)		
	Ver. A	Ver. D	Ver. F
LOW	400.000	450.000	480.000
MID	430.000	470.000	496.000
HIGH	460.000	490.000	512.000

In the alignment mode, normal operation is suspended. Use the control command form the computer to change the list of test functions.

PLL & Transmitter

Set up the test equipment as shown above for transmitter alignment. Maintain the supply voltage constant 13.8V for all steps.

PLL Reference Frequency

Select the MID channel and key the transmitter. Adjust TC1001 on the RF unit, if necessary, so the counter frequency is within 100Hz of the channel center frequency for the transceiver version. Also verify that the HIGH and LOW channels are also within tolerance.

Transmitter parameters except PLL Reference Frequency

In the alignment mode, the transmitter parameters are stored by control commands from the computer (Command + Setting Data). The transmitter parameters, commands and data are shown below.

Transmitter parameters

Parameters	Control Command		Data	
	1st	2nd	Fixed	Variable
TX Power (HIGH)	C4	—	01	01~FF(h)
TX Power (MID)	C4	—	02	01~FF(h)
TX Power (LOW)	C4	—	03	01~FF(h)
MIC Sensitivity	B4	47	—	01~FF(h)
Microphone Deviation (WIDE)	B4	4D	—	01~FF(h)
Microphone Deviation (NARROW)	B4	6D	—	01~FF(h)
TX CTCSS Deviation (WIDE)	B4	54	—	01~FF(h)
TX CTCSS Deviation (NARROW)	B4	74	—	01~FF(h)
TX DCS Deviation (WIDE)	B4	43	—	01~FF(h)
TX DCS Deviation (NARROW)	B4	63	—	01~FF(h)
TX DTMF Deviation (WIDE)	B4	44	—	01~FF(h)
TX DTMF Deviation (NARROW)	B4	64	—	01~FF(h)
TX 2/5 Tone Deviation (WIDE)	B4	57	—	01~FF(h)
TX 2/5 Tone Deviation (NARROW)	B4	77	—	01~FF(h)
TX FFSK Deviation (WIDE)	B4	46	—	01~FF(h)
TX FFSK Deviation (NARROW)	B4	66	—	01~FF(h)

Alignment

Receiver parameters

In the alignment mode, the receiver parameters are stored by control command from the computer (Command + Setting Data). The receiver parameters, command and data are shown below.

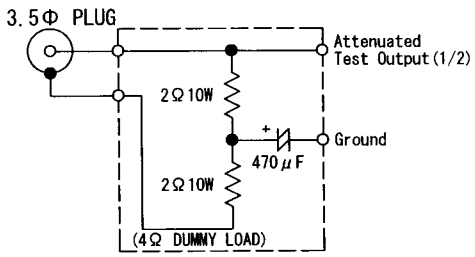
Receiver parameters

Parameters	Control Command		Data	
	1st	2nd	Fixed	Variable
SINAD Sensitivity	B4	51	—	01~FF(h)
Squelch (WIDE)	B4	53	—	01~FF(h)
Squelch (NARROW)	B4	73	—	01~FF(h)
AF Out (WIDE)	B4	41	—	01~FF(h)
AF Out (NARROW)	B4	61	—	01~FF(h)
Line Out (WIDE)	B4	4C	—	01~FF(h)
Line Out (NARROW)	B4	6C	—	01~FF(h)
CTCSS Decode	B4	58	—	01~FF(h)
DCS Decode	B4	59	—	01~FF(h)

Note!

Because of the bridge audio amplifier circuit used in the VX-3000U, it is necessary to construct and use a simple audio load test adapter as shown in the schematic diagram above, when conducting receiver alignment steps.

Do not connect either side of the speaker leads to chassis "ground".



AF Test Adapter Schematic

Address	Device name	Description	Application
		*** RF-UNIT ***	
Q1003	G3070194	TRANSISTOR XN1213-(TX)	BPF Select SW
Q1005	G4070005	FET SGM2016M-T7	1st Mixer
Q1006	G3341167G	TRANSISTOR 2SC4116GR TE85R	Noise Amp
Q1007	G3352268Z	TRANSISTOR 2SC5226-4/5-TL	1st IF Amp
Q1008	G3352268Z	TRANSISTOR 2SC5226-4/5-TL	RX RF Amp
Q1009	G1092616	IC BA4116FV-E2	FM Subsystem
Q1010	G3115867Y	TRANSISTOR 2SA1586Y TE85R	Unlock DET
Q1011	G3070193	TRANSISTOR UN5215-(TX)	Unlock DET
Q1013	G3341167G	TRANSISTOR 2SC4116GR TE85R	Ripple Filter
Q1014	G3350198	TRANSISTOR 2SC5019-(TX)	Buffer Amp
Q1015	G3090122	MOSFET SRF7044	Final Power Amp
Q1016	G3825967	FET 2SK2596BXTL	Pre Driver
Q1017	G3350198	TRANSISTOR 2SC5019-(TX)	Buffer Amp
Q1018	G3090113	MOSFET MRF5015	Driver
Q1019	G3352268Z	TRANSISTOR 2SC5226-4/5-TL	Buffer Amp
Q1020	G3805087B	FET 2SK508-T2B K52	RX VCO
Q1021	G1092541	IC MB15A02PFV1-G-BND-EF	PLL Subsystem
Q1022	G3070195	TRANSISTOR 2SB1201STP-FA-TL	APC
Q1023	G3070192	TRANSISTOR UN5213-(TX)	TX/RX SW
Q1024	G3211327Q	TRANSISTOR 2SB1132 T100 Q	RX +B SW
	G3211228S	TRANSISTOR 2SB1122S-TD (Lot.3~)	
Q1025	G3211327Q	TRANSISTOR 2SB1132 T100 Q	CNTL 5V REG
	G3211228S	TRANSISTOR 2SB1122S-TD (Lot.3~)	
Q1026	G3211327Q	TRANSISTOR 2SB1132 T100 Q	PLL 5V REG
	G3211228S	TRANSISTOR 2SB1122S-TD (Lot.3~)	
Q1027	G1091593	IC TA75S01F TE85R	APC
Q1028	G3341167G	TRANSISTOR 2SC4116GR TE85R	APC
Q1029	G1092550	IC S-8100BF-SA-T1	TEMP Sensor
Q1030	G1092589	IC PST597CNR	Reset
Q1031	G3341167G	TRANSISTOR 2SC4116GR TE85R	REF OSC
Q1032	G1092431	IC MM1216GNRE	CNTL 5V REG
Q1033	G1092431	IC MM1216GNRE	PLL 5V REG
Q 1034	G3805087B	FET 2SK508-T2B K52	TX VCO
Q1035	G3070194	TRANSISTOR XN1213-(TX)	RX +B SW
Q1036	G3070192	TRANSISTOR UN5213-(TX)	TX/RX SW
Q1037	G3070195	TRANSISTOR 2SB1201STP-FA-TL	TX +B SW
Q1038	G1091753	IC AN7709	9V REG
Q1039	G3070194	TRANSISTOR XN1213-(TX)	TX +B SW
Q1042	G3070192	TRANSISTOR UN5213-(TX)	Power Supply SW
Q1043	G1091593	IC TA75S01F TE85R	LPF
Q1044	G3211340R	TRANSISTOR 2SB1134R	Power Supply SW
Q1045	G1092506	IC TDA1519A	AF Amp
Q1046	G1092077	IC HD64F3334YF16	Main Microprocessor
Q1047	G1090893	IC TC4S66F TE85R	AF Mute
Q1048	G1092182	IC SC11372CQ	AF Base Band
Q1049	G3070192	TRANSISTOR UN5213-(TX)	AF Mute
Q1050	G3070194	TRANSISTOR XN1213-(TX)	REF Shift
Q1051	G3070192	TRANSISTOR UN5213-(TX)	SQ SW
Q1052	G3211327Q	TRANSISTOR 2SB1132 T100 Q	Option SW
	G3211228S	TRANSISTOR 2SB1122S-TD (Lot.3~)	
Q1053	G3070192	TRANSISTOR UN5213-(TX)	Option SW
Q1054	G1092480	IC LC7385M-TE-R	DTMF Decode
Q1055	G1092512	IC NM93C86AM8(TAPING)	EEPROM
Q1057	G3070194	TRANSISTOR XN1213-(TX)	REF Shift

Component Application

Address	Device name	Description	Application
Q 1059	G3070194	TRANSISTOR XN1213-(TX)	HORN
Q 1060	G3341167G	TRANSISTOR 2SC4116GR TE85R	TEMP Compensation
Q 1061	G3115867Y	TRANSISTOR 2SA1586Y TE85R	TEMP Compensation
Q 1062	G3070193	TRANSISTOR UN5215-(TX)	TX/RX SW
Q 1063	G3070193	TRANSISTOR UN5215-(TX)	Power Supply SW
Q 1064	G1092479	IC PST9145NR R59-2243	Voltage Sensor
D 1001	G2070536	DIODE MA143-(TX)	Noise DET
D 1002	G2070536	DIODE MA143-(TX)	Noise DET
D 1003	G2070380	DIODE HVU350-TR	BPF
D 1004	G2070380	DIODE HVU350-TR	BPF
D 1008	G2070128	DIODE RLS135 TE-11	ANT SW
D 1009	G2070534	DIODE MA142WK-(TX)	TX/RX SW
D 1010	G2070516	DIODE UM9401F/TR	ANT SW
D 1011	G2070438	DIODE RD6.8UMB2-T1B	REG
D 1012	G2070380	DIODE HVU350-TR	RX VCO Tune
D 1013	G2070380	DIODE HVU350-TR	RX VCO Tune
D 1014	G2070380	DIODE HVU350-TR	RX VCO Tune
D 1015	G2070380	DIODE HVU350-TR	RX VCO Tune
D 1016	G2070080	DIODE 1SS319 TE85R	RF Power DET
D 1018	G2070380	DIODE HVU350-TR	REF Tune
D 1021	G2070380	DIODE HVU350-TR	TX VCO
D 1022	G2070380	DIODE HVU350-TR	TX VCO Tune
D 1023	G2070380	DIODE HVU350-TR	TX VCO Tune
D 1024	G2070380	DIODE HVU350-TR	DCS MOD
D 1025	G2070536	DIODE MA143-(TX)	Protector
D 1026	Q9000534	SURGE ABSORBER P6KE18	+B REG
D 1027	G2070536	DIODE MA143-(TX)	Protector
D 1028	G2070536	DIODE MA143-(TX)	Protector
D 1029	G2070536	DIODE MA143-(TX)	Protector
D 1030	G2070536	DIODE MA143-(TX)	Protector
D 1031	G2070536	DIODE MA143-(TX)	Protector
D 1032	G2070536	DIODE MA143-(TX)	Protector
D 1033	G2070536	DIODE MA143-(TX)	Protector
D 1034	G2070536	DIODE MA143-(TX)	Protector
D 1035	G2070536	DIODE MA143-(TX)	Protector
D 1036	G2070536	DIODE MA143-(TX)	Protector
D 1037	G2070536	DIODE MA143-(TX)	Protector
D 1038	G2070536	DIODE MA143-(TX)	Protector
D 1039	G2070536	DIODE MA143-(TX)	Protector
D 1040	G2070536	DIODE MA143-(TX)	Protector
D 1041	G2070536	DIODE MA143-(TX)	Protector
D 1042	G2070536	DIODE MA143-(TX)	Protector
D 1043	G2070536	DIODE MA143-(TX)	Protector
D 1044	G2070534	DIODE MA142WK-(TX)	BPF Select SW
D 1045	G2070534	DIODE MA142WK-(TX)	BPF Select SW
D 1046	G2070062	DIODE 02CZ5.1Y TE85R	REG
D 1047	G2070394	DIODE 1SS353 TE-17	CNTL 5V SW
	G2070470	DIODE 1SS355 TE-17 (Lot.3~)	
D 1048	G2070394	DIODE 1SS353 TE-17	Protector
	G2070470	DIODE 1SS355 TE-17 (Lot.3~)	
D 1049	G2070470	DIODE 1SS355 TE-17 (Lot.3~)	Protector
D 1050	G2070380	DIODE HVU350-TR (Vers. A, Lot.3~)	Protector
D 1051	G2070380	DIODE HVU350-TR (Vers. A, Lot.3~)	Protector

Address	Device name	Description	Application
		*** FRONT-A-UNIT ***	
Q 5001	G1091305	IC NJM78L09UA TE2	9V REG
Q 5002	G1092531	IC HD4074849TF(NO PROG.)	Microprocessor
Q 5003	G1091325	IC NJM78L05UA TE2	5V REG
Q 5004	G3070194	TRANSISTOR XN1213-(TX)	REF Shift
Q 5005	G1092588	IC PST596CNR	Reset
Q 5006	G3070192	TRANSISTOR UN5213-(TX)	EXT Amp Mute
Q 5007	G3070192	TRANSISTOR UN5213-(TX)	Clone SW
D 5001	G2090692	LED HLMF-KL05	LED
D 5002	G2090692	LED HLMF-KL05	LED
D 5003	G2070536	DIODE MA143-(TX)	Protector
D 5004	G2070536	DIODE MA143-(TX)	Protector
D 5005	G2070536	DIODE MA143-(TX)	Protector
D 5006	G2070536	DIODE MA143-(TX)	Protector
D 5007	G2070536	DIODE MA143-(TX)	Protector
D 5008	G2070536	DIODE MA143-(TX)	Protector
D 5009	G2070536	DIODE MA143-(TX)	Protector
D 5010	G2070536	DIODE MA143-(TX)	Protector
D 5011	G2070536	DIODE MA143-(TX)	Protector
D 5012	G2070536	DIODE MA143-(TX)	Protector
D 5013	G2070536	DIODE MA143-(TX)	Protector
D 5014	G2070536	DIODE MA143-(TX)	Protector
D 5015	G2070536	DIODE MA143-(TX)	Protector
DS5001	G6090126	LCD DLC-7991	Protector
		*** FRONT-B-UNIT***	
Q 6001	G3070196	TRANSISTOR UN511L-(TX)	LED Driver
Q 6002	G3070196	TRANSISTOR UN511L-(TX)	LED Driver
Q 6003	G1092619	IC HD4074394FP(NO PROG.)	Microprocessor
Q 6005	G1091305	IC NJM78L09UA TE2	9V REG
Q 6006	G1092588	IC PST596CNR	Reset
Q 6007	G1091325	IC NJM78L05UA TE2	5V REG
Q 6008	G3070194	TRANSISTOR XN1213-(TX)	REF Shift
Q 6009	G3070192	TRANSISTOR UN5213-(TX)	EXT Amp Mute
Q 6010	G3070192	TRANSISTOR UN5213-(TX)	Clone SW
D 6001	G2070536	DIODE MA143-(TX)	LED
D 6002	G2090696	LED HLMP-1540	LED
D 6003	G2050016	LED SPR-325MVWT31	LED
D 6004	G2090696	LED HLMP-1540	LED
D 6005	G2090696	LED HLMP-1540	LED
D 6006	G2090695	LED HLMP-1440	LED
D 6007	G2090696	LED HLMP-1540	LED
D 6008	G2090695	LED HLMP-1440	LED
D 6009	G2070536	DIODE MA143-(TX)	Protector
D 6010	G2070536	DIODE MA143-(TX)	Protector
D 6011	G2070536	DIODE MA143-(TX)	Protector
D 6012	G2070536	DIODE MA143-(TX)	Protector
D 6013	G2070536	DIODE MA143-(TX)	Protector
D 6014	G2070536	DIODE MA143-(TX)	Protector
D 6015	G2070536	DIODE MA143-(TX)	Protector
D 6016	G2070536	DIODE MA143-(TX)	Protector
D 6017	G2070536	DIODE MA143-(TX)	Protector

Notes:

RECEIVER

1. Receive Signal Path

Incoming signals from the antenna jack within the frequency range of the transceiver are delivered to the RF UNIT and pass through a low-pass filter and band-pass filter consisting of coils L1026, L1027, L1028, L1020, L1015 and L1016 , capacitors C1127, C1128, C1130, C1131, C1092, C1278, C1279, C1280, C1033, C1051, C1275, C1281, C1282 & C1283 and antenna switching diode D1008 (**RLS135**).

The RF signal is then amplified by Q1008 (**2SC5226**) and filtered by a varactor-tuned band-pass filter consisting of coils L1009, L1010, L1011 & L1012, capacitors C1053, C1039, C1040, C1054, C1034, C1041, C1035, C1042, C1055, C1043, C1036, C1044, C1061, C1062, C1045, C1046, C1056 & C1018 before first mixing by Q1005 (**SGM2016M**).

Buffered output from Receive VCO Q1020 (**2SK508**) is amplified by Q1019 (**2SC5226**) to provide a pure first local signal between 326.65 MHz and 438.65 MHz for injection to first mixer Q1005 (**SGM2016M**) along with the amplified receive RF signal. The 73.35 MHz first mixer product then passes through monolithic crystal filters XF1001 & XF1002 (**73S10A** 10 kHz BW) to strip away all but the desired signal, which is then amplified by Q1005 (**2SC5226**) before application to FM IF subsystem IC Q1009 (**BA4116FV**), which contains the second mixer, second local oscillator, limiter amplifier, noise amplifier, and S-meter amplifier.

The 455-kHz second local signal is derived from 72.895-MHz crystal X1001 for mixing with the first IF signal within Q1009. The resulting second IF passes through ceramic filter CF1001 (**PBFS455P9DR**) or CF1002 (**PBFS455P12DR**) to strip away unwanted mixer products, and is applied to the limiter amplifier in Q1009 to remove amplitude variations in the 455-kHz IF before demodulation by ceramic discriminator CD1001 (**CDBC455CX24**).

Detected audio from Q1009 is applied to Baseband Audio Coprocessor Q1048 (**SC11372**) for de-emphasis and band-pass filtering, and then via the volume control to audio amplifier Q1045 (**TDA1519A**), providing up to 10 watts receiver audio output to the optional external speaker jack or internal 4-W loudspeaker.

2. Squelch Control

The squelch circuitry consists of a noise amplifier & band-pass filter within Q1009, and amplifier Q1006 (**2SC4116**) before noise detector D1002/D1003 (**MA143**).

When no carrier is received, noise at the output of the detector stage in Q1009 is amplified and band-pass filtered by the noise amplifier within Q1009 and the network between pins 7 and 8. The resulting high-frequency noise is amplified by Q1006 before rectification by D1001/D1002, and the resulting DC squelch control voltage is applied to A/D converter input pin 30 of microprocessor Q1046(**HD64F3334YF16**). When no carrier is received, this signal causes pin 52 of Q1046 to go low, and pin 53 of Q1046 to go high. Pin 53 turns on Q1049 (**UN5213**) ON to mute audio amplifier Q1043, while pin 52 opens squelch gate Q1045 (**TDA1519A**) to remove input from the audio amplifier. Thus, the microprocessor inhibits output from the audio amplifier, silencing the receiver when no signal is being received, and during transmission.

When a carrier appears at the discriminator, noise is suppressed from the squelch control voltage applied to the A/D converter in (Q1046), causing pin 52 of Q1046 to go high, and pin 53 to go low, closing squelch gate Q1047 and unmuting audio amplifier Q1045 by turning Q1049 OFF, respectively.

Demodulated receive audio from Q1009 is de-emphasized and amplified by the de-emphasis amplifier section of Q1048, and then band-pass filtered by the band-pass filter section of Q1048. If the audio was scrambled by voice-band inversion at the transmitter, it is descrambled by the voice-band inverter section within Q1048 to recover clear speech.

If a received signal contains a subaudible tone or ANI code sequence, it is detected by Baseband Audio Coprocessor Q1048 and compared to the tone or code stored in microprocessor Q1046. If the received tone or code matches that programmed, the microprocessor stops scanning, if active, and allows audio to pass through audio amplifier Q1045 to the loudspeaker.

TRANSMITTER

1, Transmit Signal Path

Speech input from the microphone is delivered to the FRONT UNIT to Baseband Audio Coprocessor Q1048 (**SC11372**) on the RF UNIT, which includes microphone amplifier, pre-emphasis, limiter and low-pass filter stages for transmit audio.

After pre-emphasis, the limiter amplifier within Q1048 applies IDC (Instantaneous Deviation Control) and splatter filtering to the speech signal, to suppress any high-frequency audio components that could result in over-deviation.

The processed audio from Q1048 is applied through Q1043 (**TA75S01F**) to varactor D1021 (**HVU350**), which frequency modulates transmit PLL VCO Q1034 (**2SK508-K52**) oscillating at the transmitting frequency up to ±2.5 or ±5 kHz from the unmodulated carrier.

If a CDCSS or CTCSS code is enabled for transmission, the modulating code is generated by microprocessor Q1046 and Baseband Audio Coprocessor Q1048 and applied to varactor D1024 (**HVU350**) to modulate 14.4-MHz PLL reference oscillator Q1031 (**2SC4116GR**) so as to produce the desired tones in the transmit PLL VCO output.

If DTMF is enabled for transmission, the tones are applied to the splatter filter section of Baseband Audio Coprocessor Q1048 instead of the speech audio. The DTMF tones are also amplified for monitoring in the loudspeaker.

The modulated signal from transmit PLL VCO Q1034 (**2SK508**) is buffered by Q1019 (**2SC5226**) and then amplified by Q1017 (**2SC5019**), predriver Q1014 (**2SC5019**), driver Q1016 (**2SC2596**) and finally RF power amplifier Q1015 (**SRF-7044**) up to 45 watts.

2, Automatic Power Control (APC)

RF output from the final amplifier is sampled by C1129 and C1132 and rectified by D1015 (**1SS319**). The resulting DC is applied to comparator Q1027 (**TA75S01**) along with power control DC voltage from microprocessor Q1046. Output voltage from the comparator is amplified by Q1028 (**2SC4116**) to regulate the supply voltage to predriver Q1016 through Q1022

(**2SB1201**), controlling the gain of the predriver so as to maintain the RF power output determined by the power control voltage from the microprocessor. The microprocessor allows selecting either high, or one of two low power levels.

3. Transmit Inhibit

When the transmit PLL is unlocked, pin 7 of PLL chip Q1021 goes to a logic low, switching Q1010 (**2SA1586**) so that Q1011 (**UN5215**) output goes high. The resulting DC unlock control voltage is applied to pin 14 of microprocessor Q1046. While the transmit PLL is unlocked, pin 62 of Q1046 remains high, inhibiting supply of power to the transmit circuitry by supply switch Q1039 (**XN1213**) and Q1037 (**2SB1201**).

4. Spurious Suppression

Generation of spurious products by the transmitter is minimized by the fundamental carrier frequency being equal to the final transmitting frequency, modulated directly in the transmit VCO. Harmonic spurious suppression is provided by a low-pass filter consisting of L1026, L1027 & L1028 and C1127, C1128, C1130 & C1131, resulting in more than 60 dB of harmonic suppression prior to delivery to the antenna.

PLL Frequency Synthesizer

1. Frequency Reference

Stability is maintained by a regulated 5V supply via Q1026 (**2SB1132**) and Q1033 (**MM1216**). The 14.4MHz frequency reference crystal X1002whith in temperature compensationg, high temparature compensatio for thermister TH1001 (**NTCCM20123NH153**) and Q1060 (**2SC4116**), low temparature compensation for thermister TH1002 (**NTCCM20123SH223**) and Q1061 (**2SA1586**).

2. Synthesizer

PLL circuitry on the RF UNIT consists of Receive VCO Q1020 (**2SK508**), Transmit VCO Q1034 (**2SK508**), VCO buffer Q1019 (**2SC5226**), and PLL subsystem IC Q1021 (**MB15A02**), which contains a reference divider, serial-to-parallel data latch, programmable divider, phase comparator and charge pump.

During receive, Receive VCO Q1020 (**2SK508**) oscillates between 326.65 and 438.65 MHz according to the transceiver version and the programmed receiving frequency. A sample of the VCO output buffered by Q1019 is applied to the prescaler section at pin 8 of Q1021. There the VCO signal is divided by 64 or 65 and 128 or 129, according to a control signal from the data latch section of Q1021, before being applied to the programmable divider section.

The data latch section of Q1021 also receives serial dividing data from microprocessor Q1048, 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-, 6.25- or 7.5-kHz derivative of the VCO frequency. Meanwhile, the reference divider section of Q1021 divides the 14.4-MHz reference from oscillator Q1031 (**2SC4116GR**) to produce a reference signal corresponding to the PLL derivative.

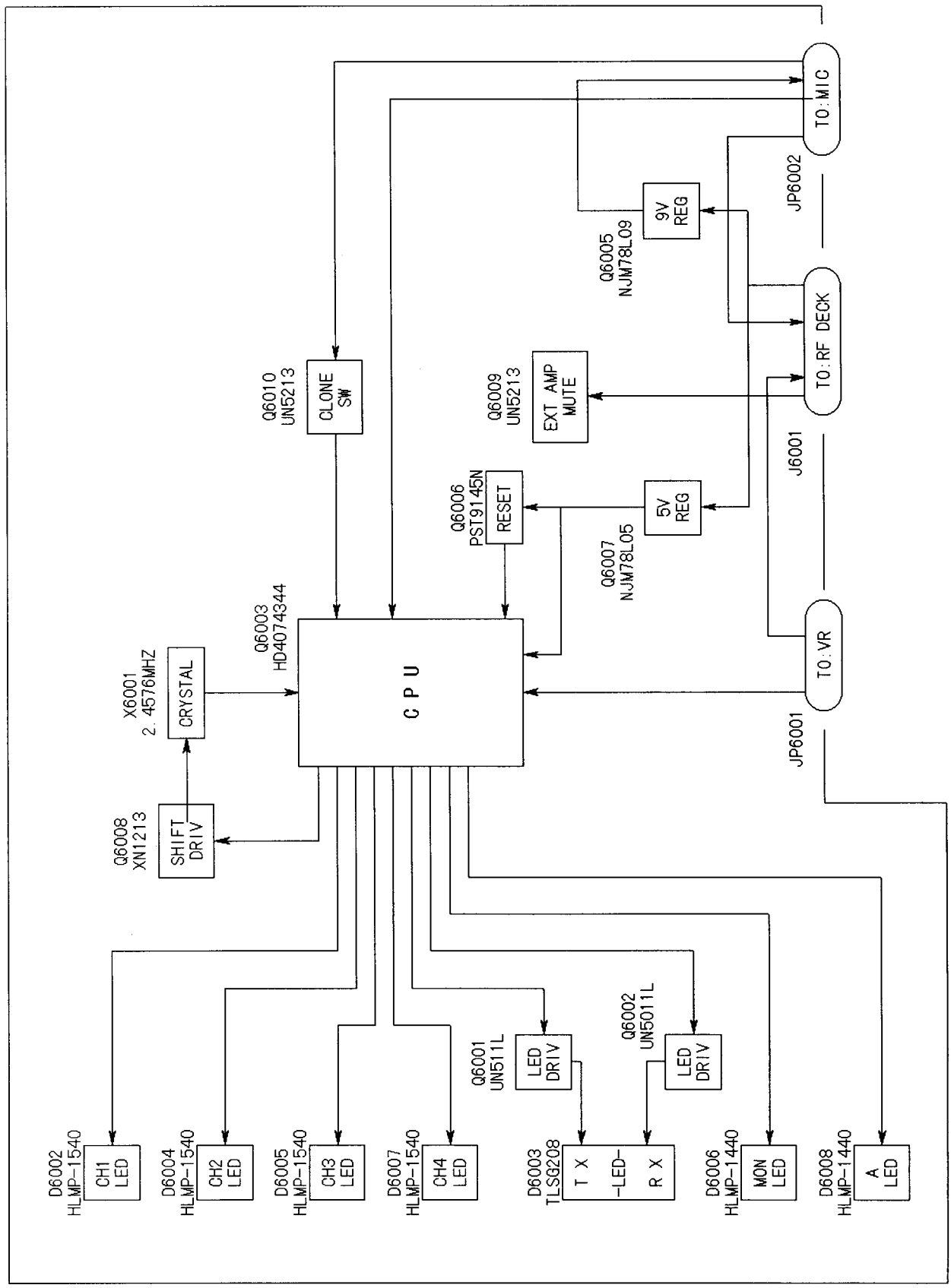
The 5-, 6.25- or 7.5-kHz signal from the programmable divider (derived from the VCO) and that derived from the reference oscillator are applied to the phase detector section of Q1021, which produces a pulsed output with pulse

duration depending on the phase difference between the input signals. This pulse train is filtered to DC and applied to varactors D1012, D1013, D1014 and D1015 (all **HVU350**). Changes in the level of the DC voltage applied to the varactors affects the reactance in the tank circuit of the VCO, changing the oscillating frequency 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 Receive VCO Q1020, after buffering by Q1019, is applied to the first mixer as described previously.

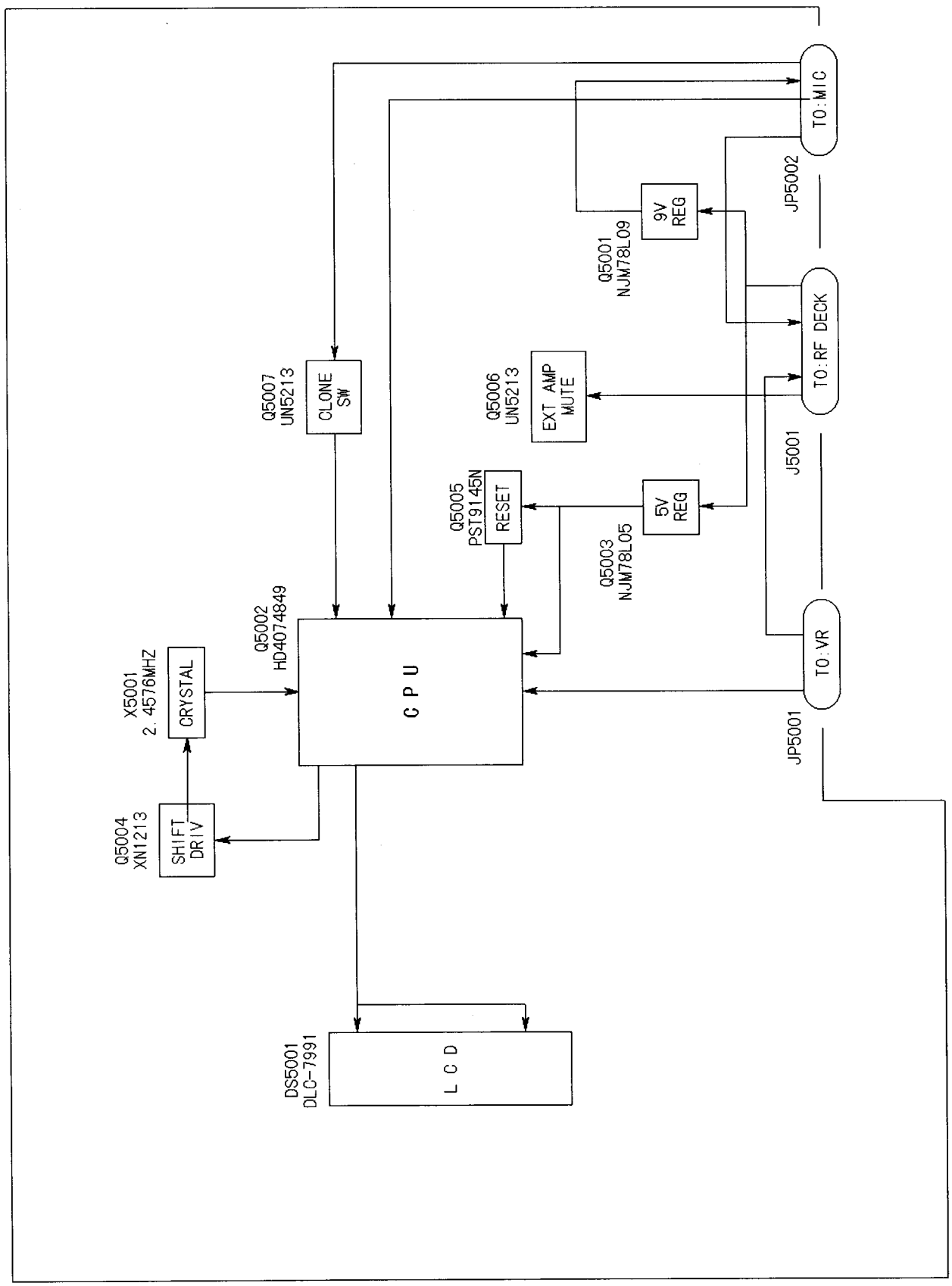
During transmission, Transmit VCO Q1034 oscillates between 400 and 512 MHz according to the version and programmed transmit frequency. The remainder of the PLL circuitry is shared with the receiver. However, the dividing data from the microprocessor is such that the VCO frequency is at the actual transmit frequency (rather than offset for IFs, as in the receiving case). Also, the VCO is modulated by speech audio applied to D1021 (**HVU350**), as described previously.

VX-3000U 4ch Front Block Diagram

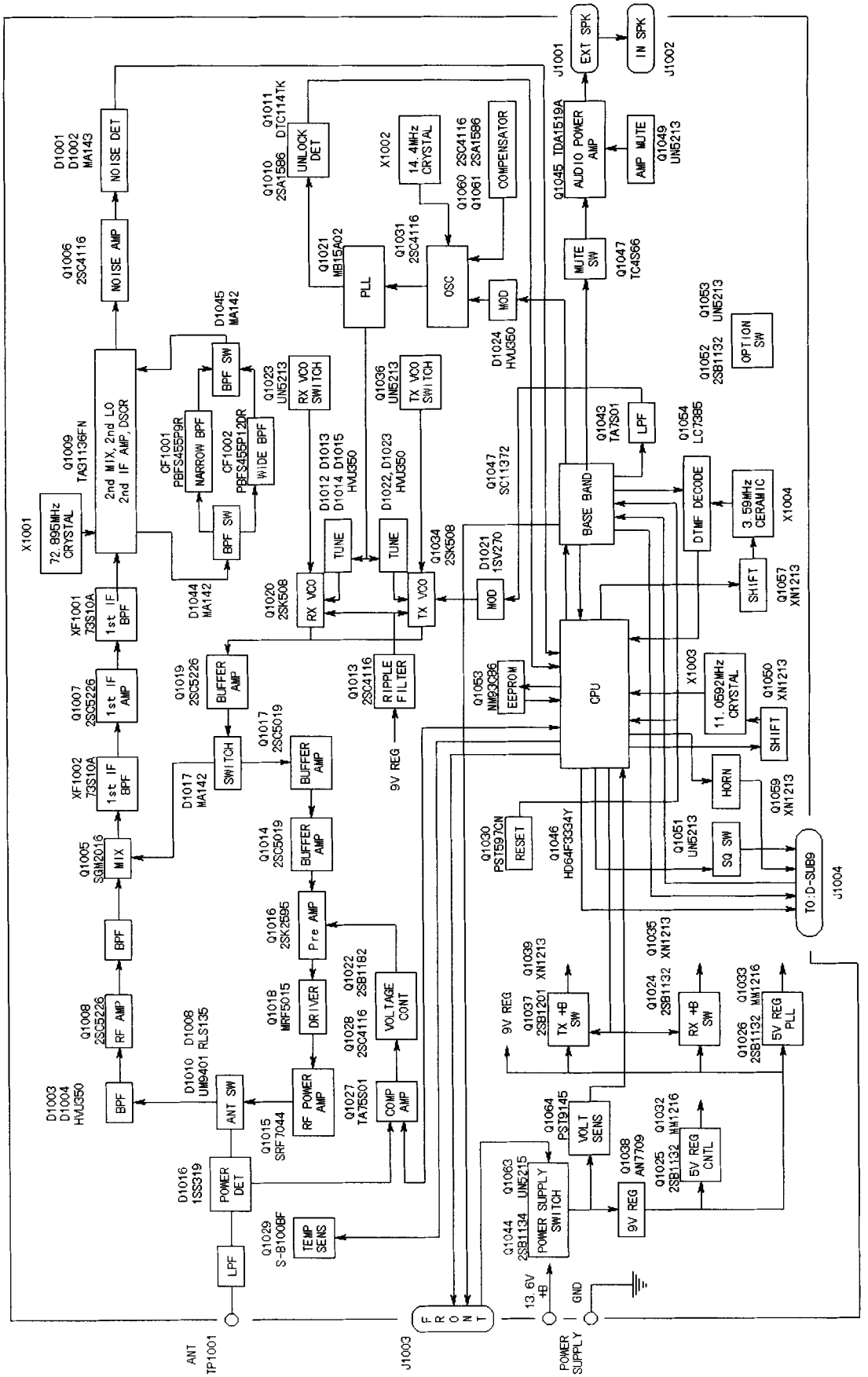


Block Diagram

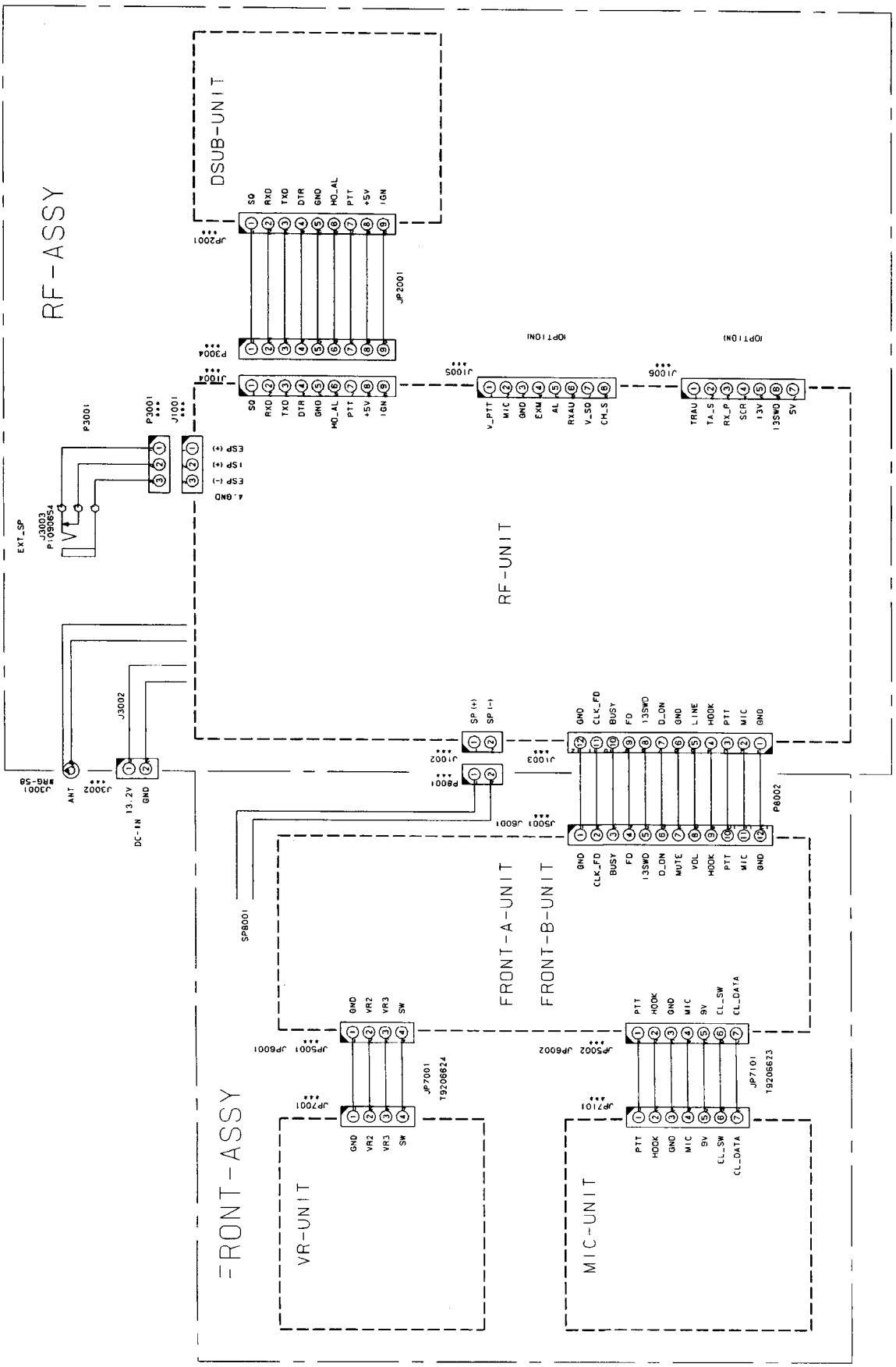
VX-3000U 48ch Front Block Diagram



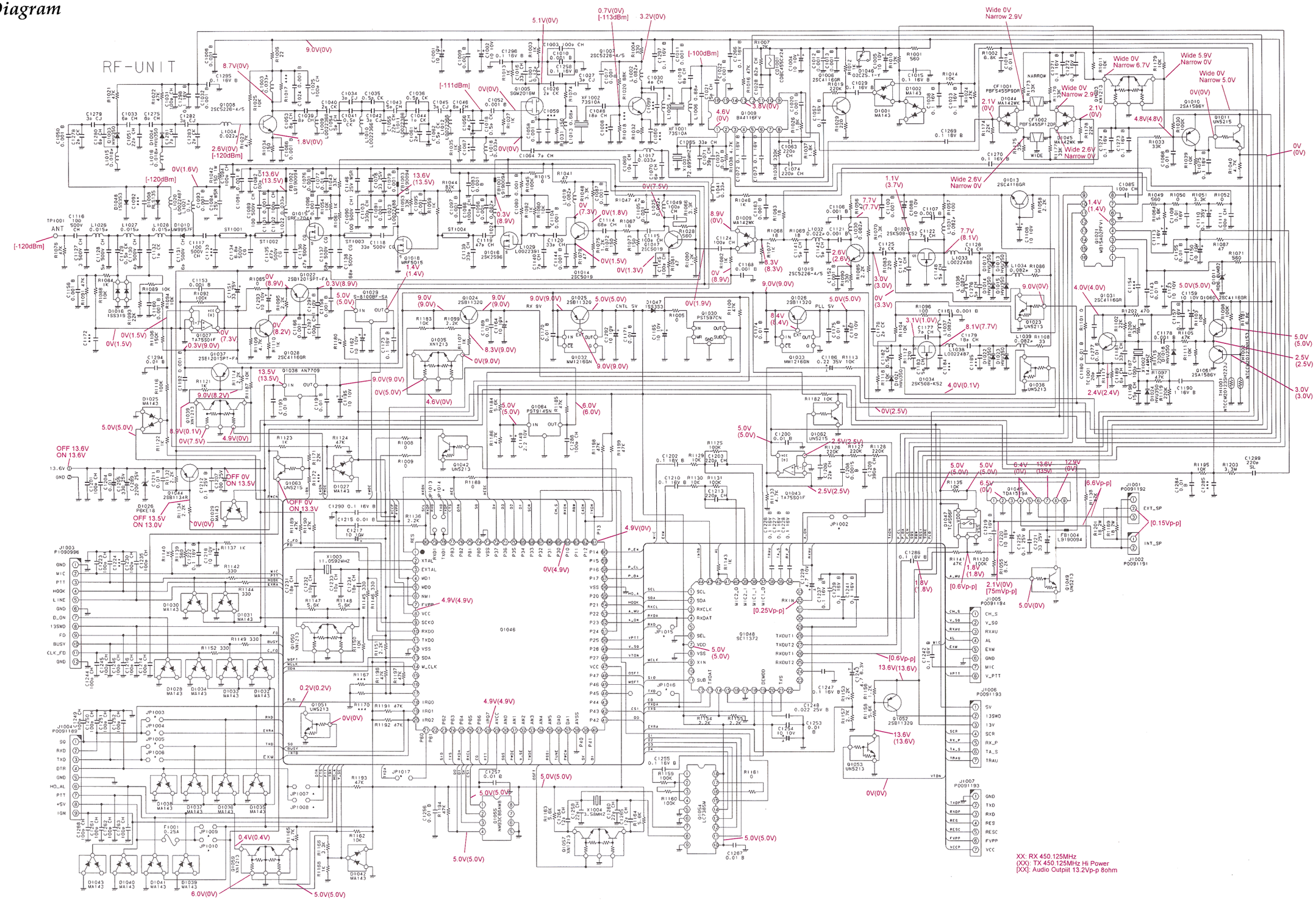
VX-3000U RF Unit Block Diagram



Interconnection Diagram

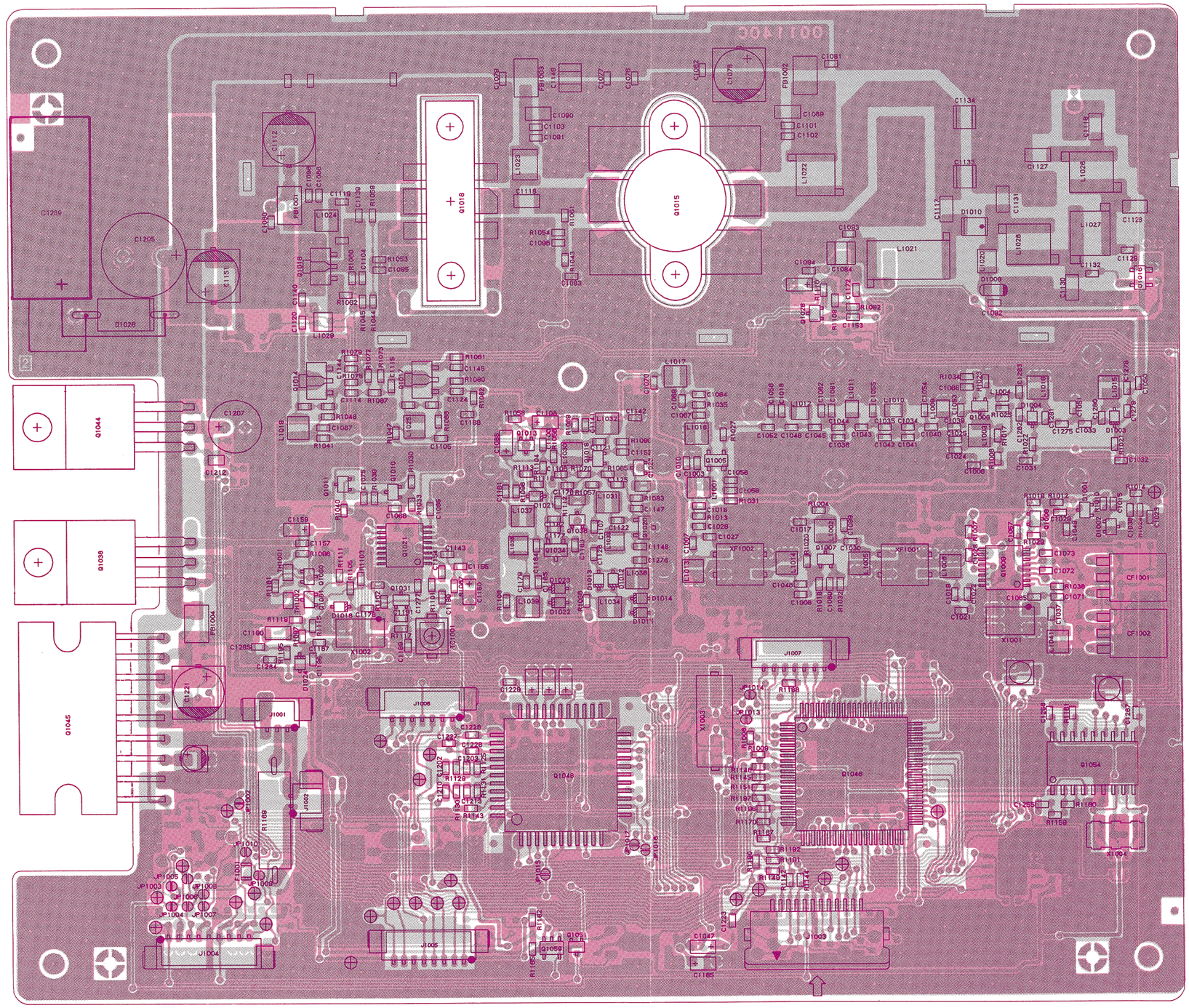


Circuit Diagram



Notes:

Parts Layout



Collector
Base Emitter
2SA1586Y (SY)
(Q1010,1061)

Collector
Base Emitter
2SC4116GR (LG)
(Q1006, Q1013, 1028, 1031, 1060)
2SC5226-4/5-TL (R22)
(Q1007, 1008, 1019)

Collector
47k
47k
Base Emitter
UN5213-(TX) (8C)
(Q1023, 1036, 1051)

Output
Ground
Input
AN7709
(Q1038)

Source Gate Source
Source
Drain Source
MRF5015
(Q1018)

Source Gate
Drain Source
SRF7044
(Q1015)

Collector
Base Emitter Collector
2SC5019-(TX) (1W)
(Q 1014, 1017)

Pin 1 Pin 9
TDA1519A
(Q1045)

Pin 18 Pin 9
Pin 1
LC7385M-TE-R
(Q1054)

Emitter
Collector
Base
2SB1134R
(Q1044)

Pin 16 Pin 8
Pin 1
BA4116FV-E2
(Q1009)
MB15A02PFV1-G-BND-EF
(Q1021)

Collector
10k
Base Emitter
UN5215-(TX) (8E)
(Q1011)

Gate
Source Drain
2SK508 (K52)
(Q1020, 1034)

Emitter Common
Base 1 Base 2
Collector 1 Collector 2
XN1213-(TX) (9L)
(Q1059)

Source
Gate Drain
Source
2SK2596BXTL (BX)
(Q1016)

Cathode 1, Anode 2
Anode 1 Cathode 2
MA143-(TX) (MC)
(D1001, 1002)

Cathode 1 Cathode 2
Anode 1 Anode 2
1SS319 (A4)
(D1016)

Pin 44 Pin 34
Pin 1 Pin 33
Pin 11 Pin 23
Pin 12 Pin 22
SC11372CQ
(Q1048)

Pin 80 Pin 61
Pin 1 Pin 60
Pin 20 Pin 41
Pin 21 Pin 40
HD64F3334YF16
(Q1046)

J1004

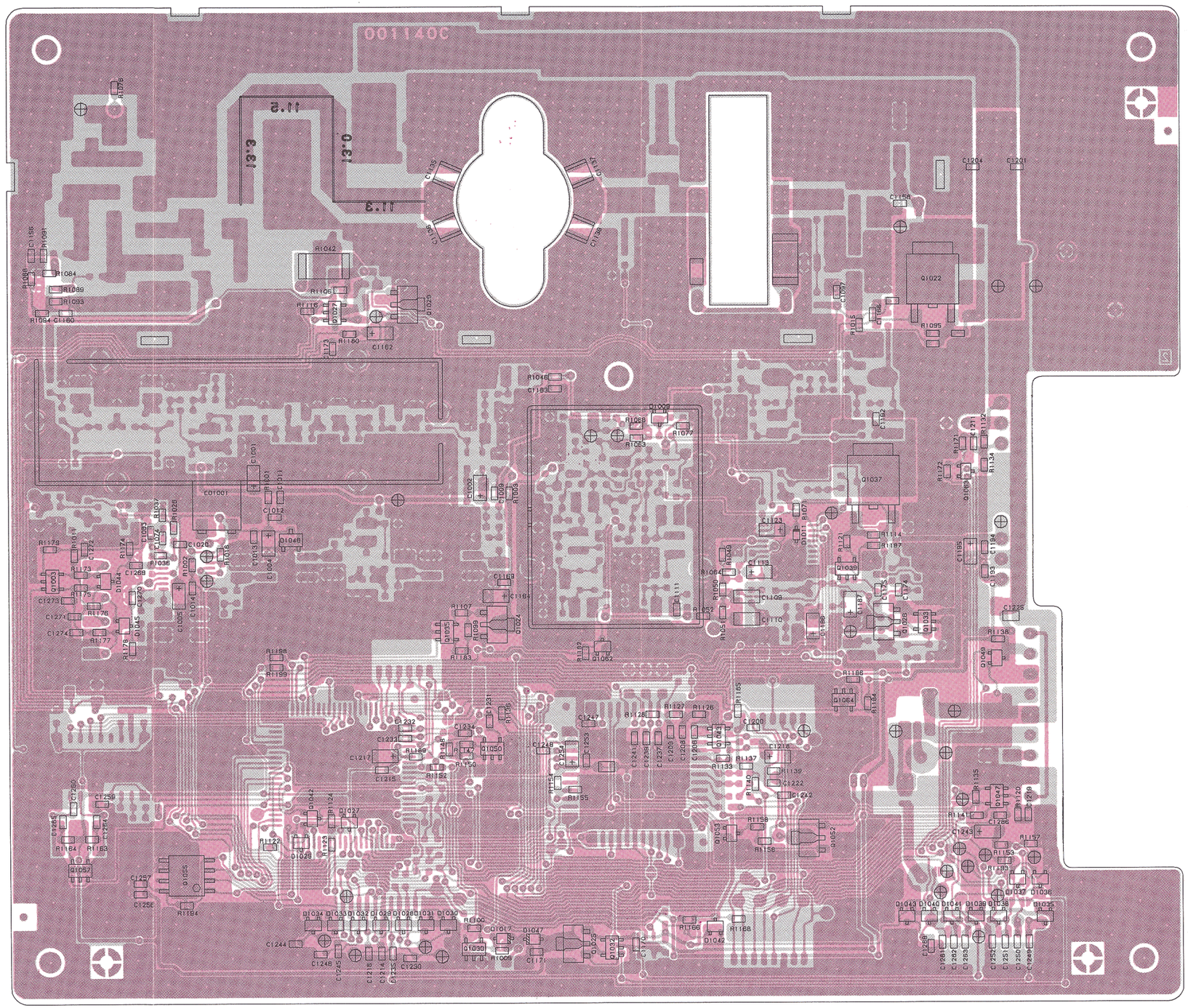
SQ	RXD	TXD	DTR	GND	HO_AL	PTT	+5V	IGN

To DSUB Unit JP2001
(See Page 4A-3)

J1003

GND	MIC	PTT	HOOK	LINE	GND	D_ON	1SS400	FD	BUSY	CLK_FD	GND

To FRONT-A Unit J5001, FRONT-B Unit J6001
(See Page 4C-4, 4D-4)



Pin 5 Pin 4
Pin 1 Pin 3
Pin 2
MM1216GNRE (1C)
(Q1032, 1033)

Pin 5 Pin 4
Pin 1 Pin 3
Pin 2
PST9145NR (45)
(Q1064)

Emitter Common
Base 1 Base 2
Collector 1 Collector 2
XN1213-(TX) (9L)
(Q1003, 1035, 1039, 1050, 1057)

Pin 8
Pin 4
Pin 1
NM93C86AM8
(Q1055)

Collector
Emitter
Base
2SB1201STP
(Q1022, 1037)

Vcc OUT
SA
IN (+) IN (-)
Vee
TA75S01F (SA)
(Q 1043)

Vcc OUT
7C
M/R GND
SUB
PST597CNR
(Q1030)

Collector
Base Emitter
Collector
2SB1132 T100 Q (BA)
(Q1024, 1025, 1026, 1052)

Cathode 1,2
Anode 1 Anode 2
MA142WK-(TX) (MU)
(D1009, 1044, 1045)

Collector
47k
47k
Base Emitter
UN5213-(TX) (8C)
(Q1042, 1049, 1053)

Cathode 1, Anode 2
Anode 1 Cathode 2
MA143-(TX) (MC)
(D1025, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043)

Vdd Vout
Vss
S-8100BF-SA-T1
(Q1029)

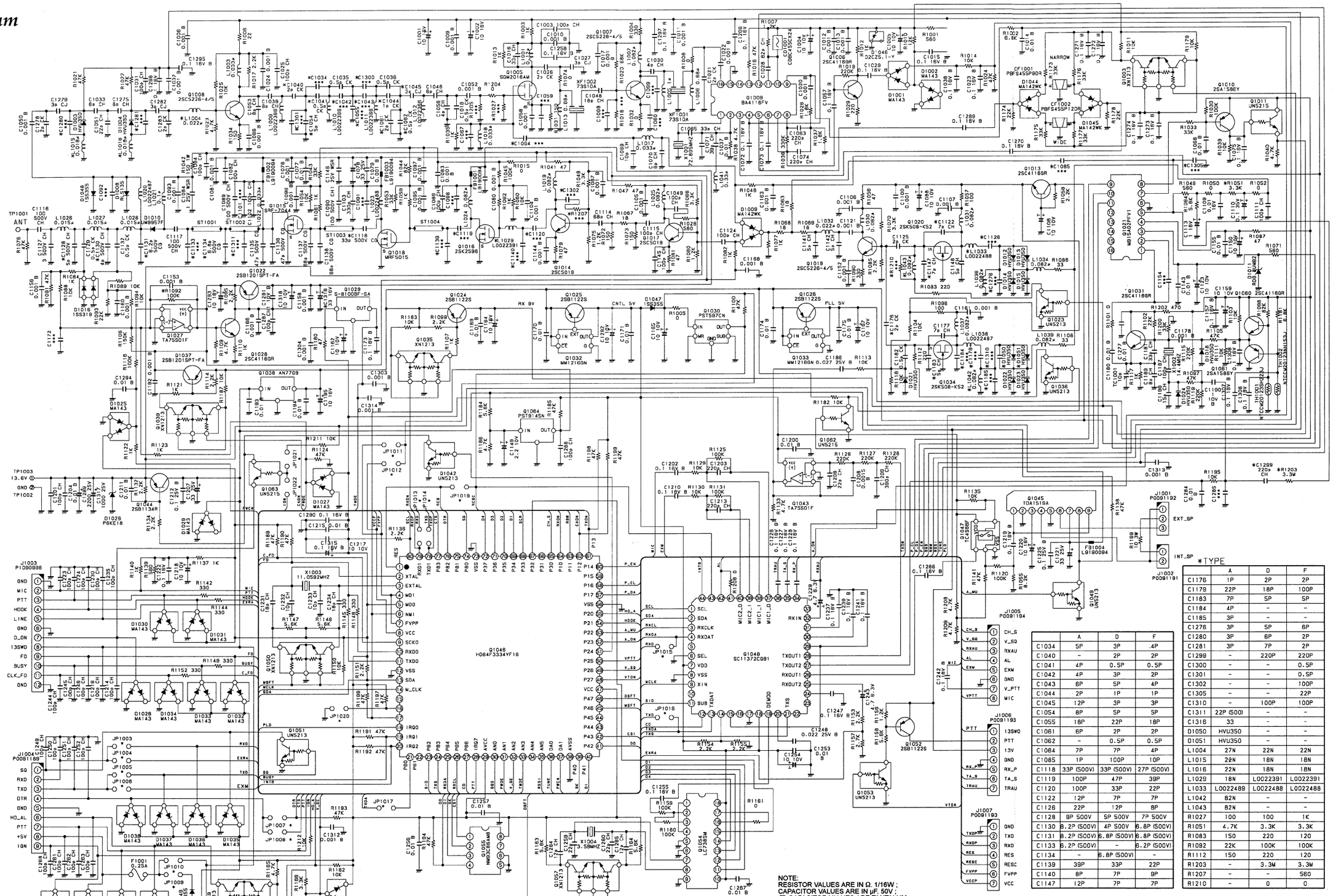
Cathode
Anode N.C.
02CZ5.1Y (5.1)
(D1046)

Collector
10k
Base Emitter
UN5215-(TX) (8E)
(Q1062, 1063)

Vdd Control
IN/OUT Vss
OUT/IN
TC4S66F (C9)
(Q1047)

Chip Side

Circuit Diagram



*TYPE

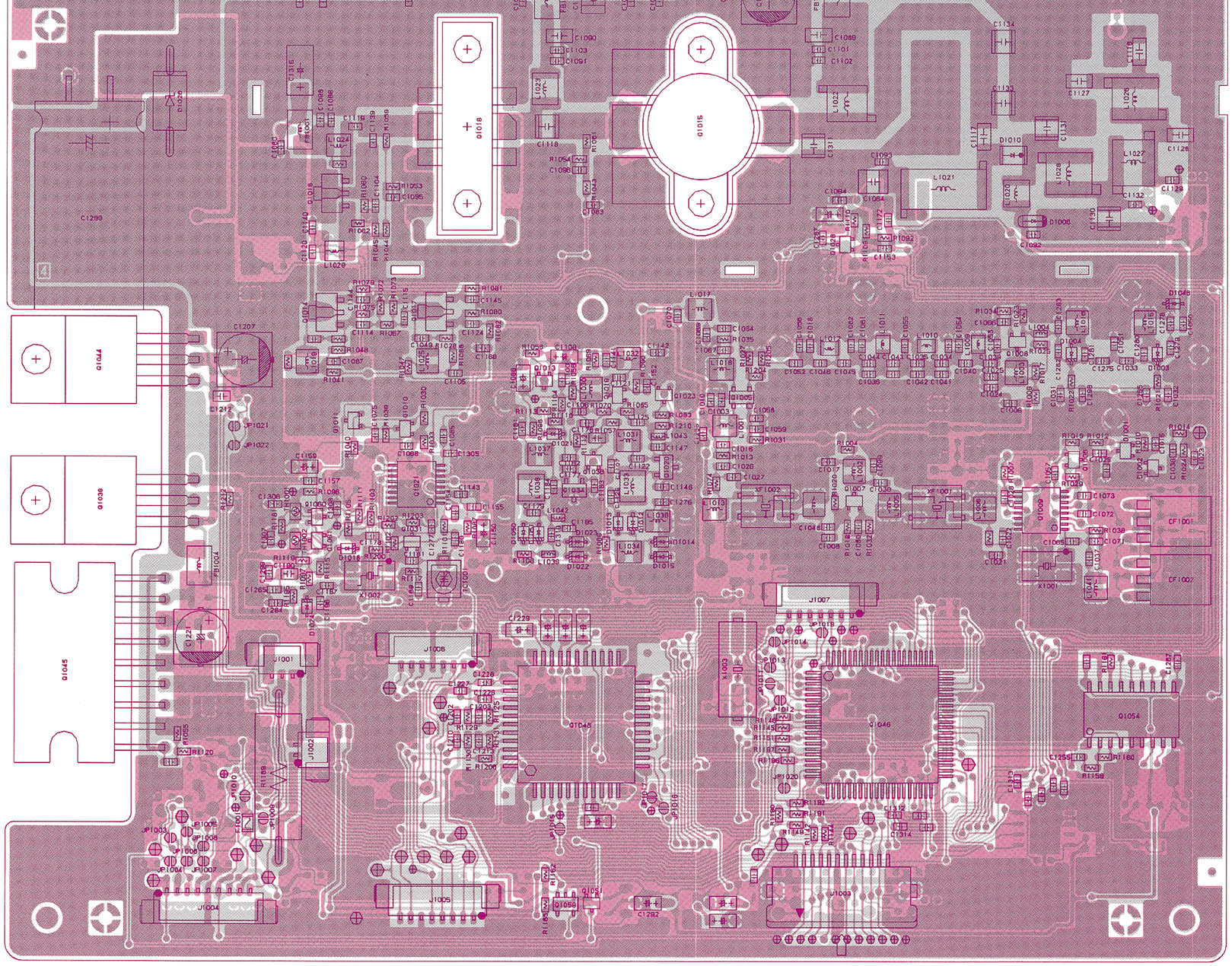
	A	D	F
C1176	1P	2P	2P
C1179	22P	18P	100P
C1183	7P	5P	5P
C1184	4P	-	-
C1185	3P	-	-
C1276	3P	5P	6P
C1280	3P	6P	2P
C1281	3P	7P	2P
C1298	-	220P	220P
C1300	-	-	0.5P
C1301	-	-	0.5P
C1302	-	-	100P
C1305	-	-	22P
C1310	-	100P	100P
C1311	22P (500)	-	-
C1316	33	-	-
D1050	HVU350	-	-
D1051	HVU350	-	-
L1004	27N	22N	22N
L1015	22N	18N	18N
L1016	22N	18N	18N
L1029	18N	L0022391	L0022391
L1033	L0022489	L0022488	L0022488
L1042	82N	-	-
L1043	82N	-	-
R1027	100	100	1K
R1051	4.7K	3.3K	3.3K
R1083	150	220	120
R1092	22K	100K	100K
R1112	150	220	120
R1203	-	3.3M	3.3M
R1207	-	-	560
R1210	-	0	0

	A	D	F
C1034	5P	3P	.4P
C1040	-	2P	2P
C1041	4P	0.5P	0.5P
C1042	4P	3P	2P
C1043	6P	5P	4P
C1044	2P	1P	1P
C1045	12P	3P	3P
C1054	8P	5P	5P
C1055	18P	22P	18P
C1061	6P	2P	2P
C1062	-	0.5P	0.5P
C1064	7P	7P	4P
C1085	1P	100P	10P
C1118	33P (500V)	33P (500V)	27P (500V)
C1119	100P	47P	39P
C1120	100P	33P	22P
C1122	12P	7P	7P
C1126	22P	12P	8P
C1128	9P 500V	5P 500V	7P 500V
C1130	8.2P (500V)	4P 500V	6.8P (500V)
C1131	8.2P (500V)	6.8P (500V)	6.8P (500V)
C1133	6.2P (500V)	-	6.2P (500V)
C1134	-	6.8P (500V)	-
C1139	39P	33P	22P
C1140	8P	7P	9P
C1147	12P	7P	7P

RF Unit (Lot. 3~)

Notes:

Parts Layout



Collector
Base Emitter
2SA1586Y (SY)
(Q1010,1061)

Collector
Base Emitter
2SC4116GR (LG)
(Q1006, Q1013, 1028, 1031, 1060)
2SC5226-4/5-TL (R22)
(Q1007, 1008, 1019)

Collector
47k
47k
Base Emitter
UN5213-(TX) (8C)
(Q1023, 1036, 1051)

Output
Ground
Input
AN7709
(Q1038)

Source Gate Source
Source
Drain Source
MRF5015
(Q1018)

Source Gate
Drain Source
SRF7044
(Q1015)

Collector
Base Emitter Collector
2SC5019-(TX) (1W)
(Q 1014, 1017)

Pin 1 Pin 9
TDA1519A
(Q1045)

Pin 18 Pin 9
Pin 1
LC7385M-TE-R
(Q1054)

Emitter
Collector
Base
2SB1134R
(Q1044)

Pin 16 Pin 8
Pin 1
BA4116FV-E2
(Q1009)
MB15A02PFV1-G-BND-EF
(Q1021)

Collector
10k
Base Emitter
UN5215-(TX) (8E)
(Q1011)

Gate
Source Drain
2SK508 (K52)
(Q1020, 1034)

Emitter Common
Base 1 Base 2
Collector 1 Collector 2
XN1213-(TX) (9L)
(Q1059)

Source
Gate Drain
Source
2SK2596BXTL (BX)
(Q1016)

Cathode 1, Anode 2
Anode 1 Cathode 2
MA143-(TX) (MC)
(D1001, 1002)

Cathode 1 Cathode 2
Anode 1 Anode 2
1SS319 (A4)
(D1016)

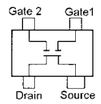
Pin 44 Pin 34
Pin 1 Pin 33
Pin 11 Pin 23
Pin 12 Pin 22
SC11372CQB1
(Q1048)

Pin 80 Pin 61
Pin 1 Pin 60
Pin 20 Pin 41
Pin 21 Pin 40
HD64F3334YF16
(Q1046)

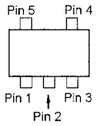
J1004 — SQ, RXD, TXD, DTR, GND, HOOK, PTT, +5V, IGN
To DSUB Unit JP2001 (See Page 4A-3)

J1003 — GND, MIC, PTT, HOOK, LINE, GND, DTMF, 13SVID, FD, BUSY, CLK_FD, GND
To FRONT-A Unit J5001, FRONT-B Unit J6001 (See Page 4C-4, 4D-4)

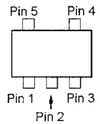
RF Unit (Lot. 3~)



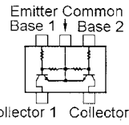
SGM2016AM (M-)
(Q1005)



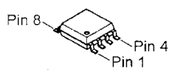
MM1216GNRE (1C)
(Q1032, 1033)



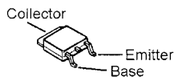
PST9145NR (45)
(Q1064)



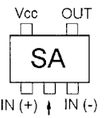
XN1213-(TX) (9L)
(Q1003, 1035, 1039, 1050, 1057)



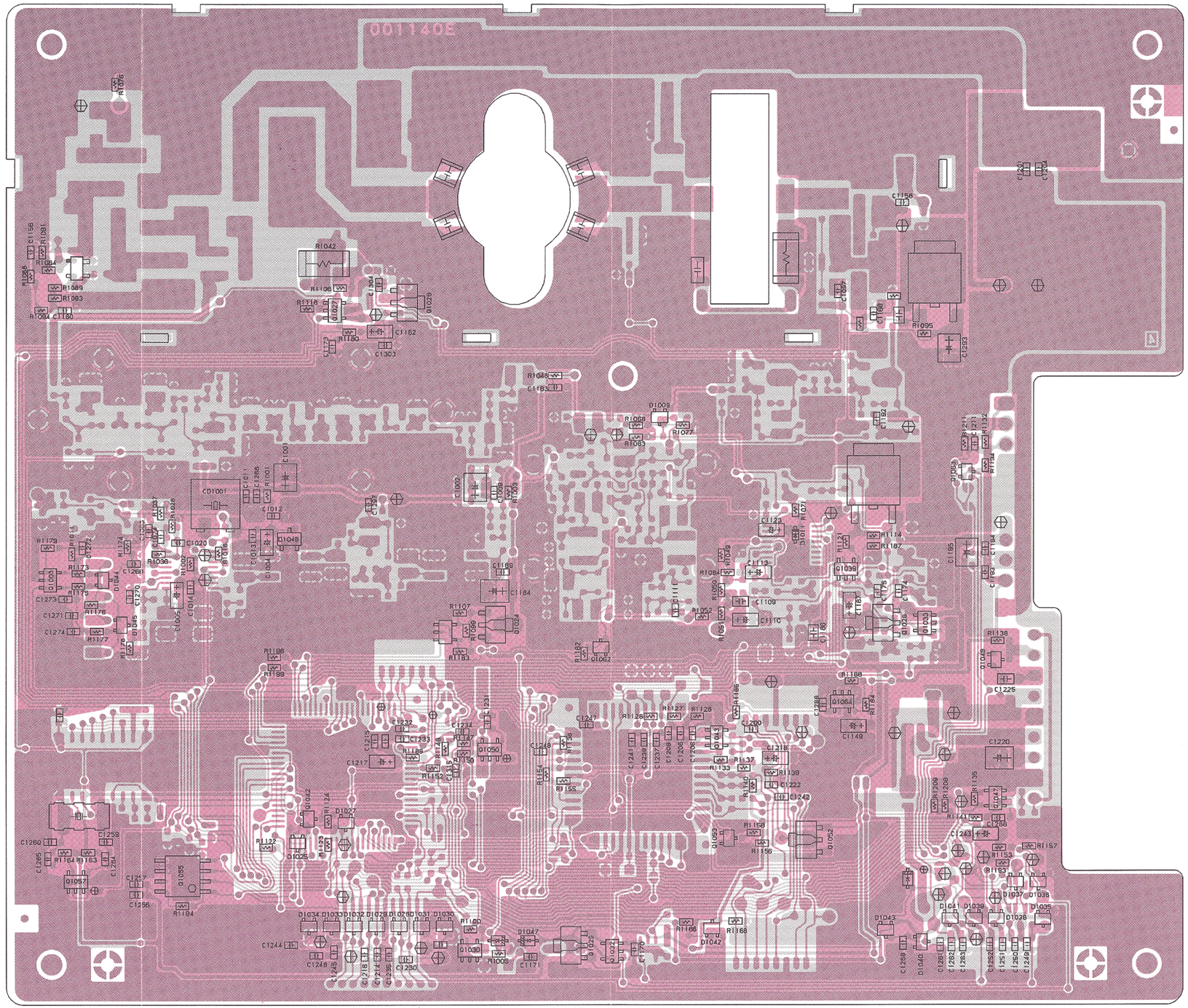
NM93C86AM8
(Q1055)



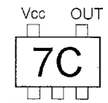
2SB1201STP
(Q1022, 1037)



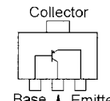
TA75S01F (SA)
(Q 1043)



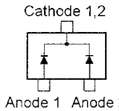
Chip Side



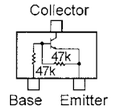
PST597CNR
(Q1030)



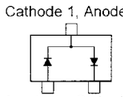
2SB1122S (BE)
(Q1024, 1025, 1026, 1052)



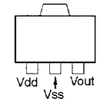
MA142WK-(TX) (MU)
(D1009, 1044, 1045)



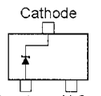
UN5213-(TX) (8C)
(Q1042, 1049, 1053)



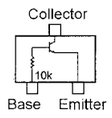
MA143-(TX) (MC)
(D1025, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043)



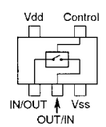
S-8100BF-SA-T1
(Q1029)



02CZ5.1Y (5.1)
(D1046)

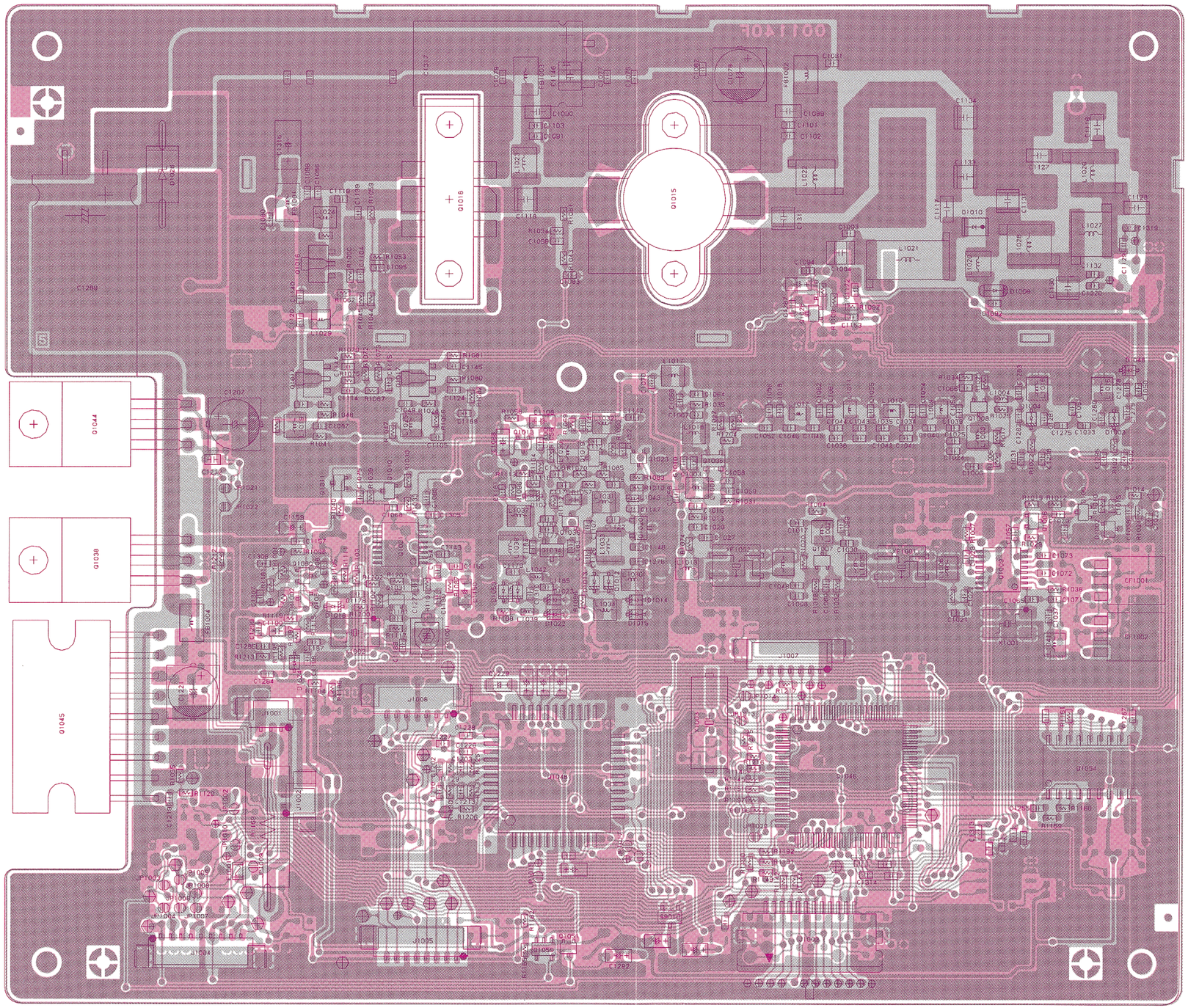


UN5215-(TX) (8E)
(Q1062, 1063)



TC4S66F (C9)
(Q1047)

Parts Layout



Collector
Base Emitter
2SA1586Y (SY)
(Q1010,1061)

Collector
Base Emitter
2SC4116GR (LG)
(Q1006, Q1013, 1028, 1031, 1060)
2SC5226-4/5-TL (R22)
(Q1007, 1008, 1019)

Collector
47k 47k
Base Emitter
UN5213-(TX) (8C)
(Q1023, 1036, 1051)

Output Ground Input
AN7709
(Q1038)

Source Gate Source
Source Drain Source
MRF5015
(Q1018)

Source Gate
Drain Source
SRF7044
(Q1015)

Collector
Base Emitter Collector
2SC5019-(TX) (1W)
(Q 1014, 1017)

Pin 1 Pin 9
TDA1519A
(Q1045)

Pin 18 Pin 9 Pin 1
LC7385M-TE-R
(Q1054)

Emitter Collector Base
2SB1134R
(Q1044)

Pin 16 Pin 8 Pin 1
BA4116FV-E2
(Q1009)
MB15A02PFV1-G-BND-EF
(Q1021)

Collector
10k
Base Emitter
UN5215-(TX) (8E)
(Q1011)

Gate
Source Drain
2SK508 (K52)
(Q1020, 1034)

Emitter Common
Base 1 Base 2
Collector 1 Collector 2
XN1213-(TX) (9L)
(Q1059)

Source
Gate Drain
Source
2SK2596BXTL (BX)
(Q1016)

Cathode 1, Anode 2
Anode 1 Cathode 2
MA143-(TX) (MC)
(D1001, 1002)

Cathode 1 Cathode 2
Anode 1 Anode 2
1SS319 (A4)
(D1016)

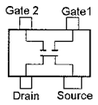
Pin 44 Pin 34
Pin 1 Pin 33
Pin 11 Pin 23
Pin 12 Pin 22
SC11372CQB1
(Q1048)

Pin 80 Pin 61
Pin 1 Pin 60
Pin 20 Pin 41
Pin 21 Pin 40
HD64F3334YF16
(Q1046)

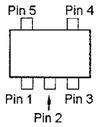
J1004: SQ, RXD, TXD, DTR, GND, HOOK, PTT, +5V, IGN
To DSUB Unit JP2001 (See Page 4A-3)

Component Side

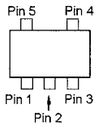
J1003: GND, MIC, PTT, HOOK, LINE, GND, D_ON, 13SWD, FD, BUSY, CLK, FD, GND
To FRONT-A Unit J5001, FRONT-B Unit J6001 (See Page 4C-4, 4D-4)



SGM2016AM (M-)
(Q1005)

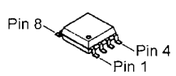


MM1216GNRE (1C)
(Q1032, 1033)

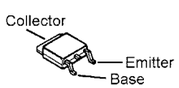


PST9145NR (45)
(Q1064)

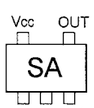
XN1213-(TX) (9L)
(Q1003, 1035, 1039, 1050, 1057)



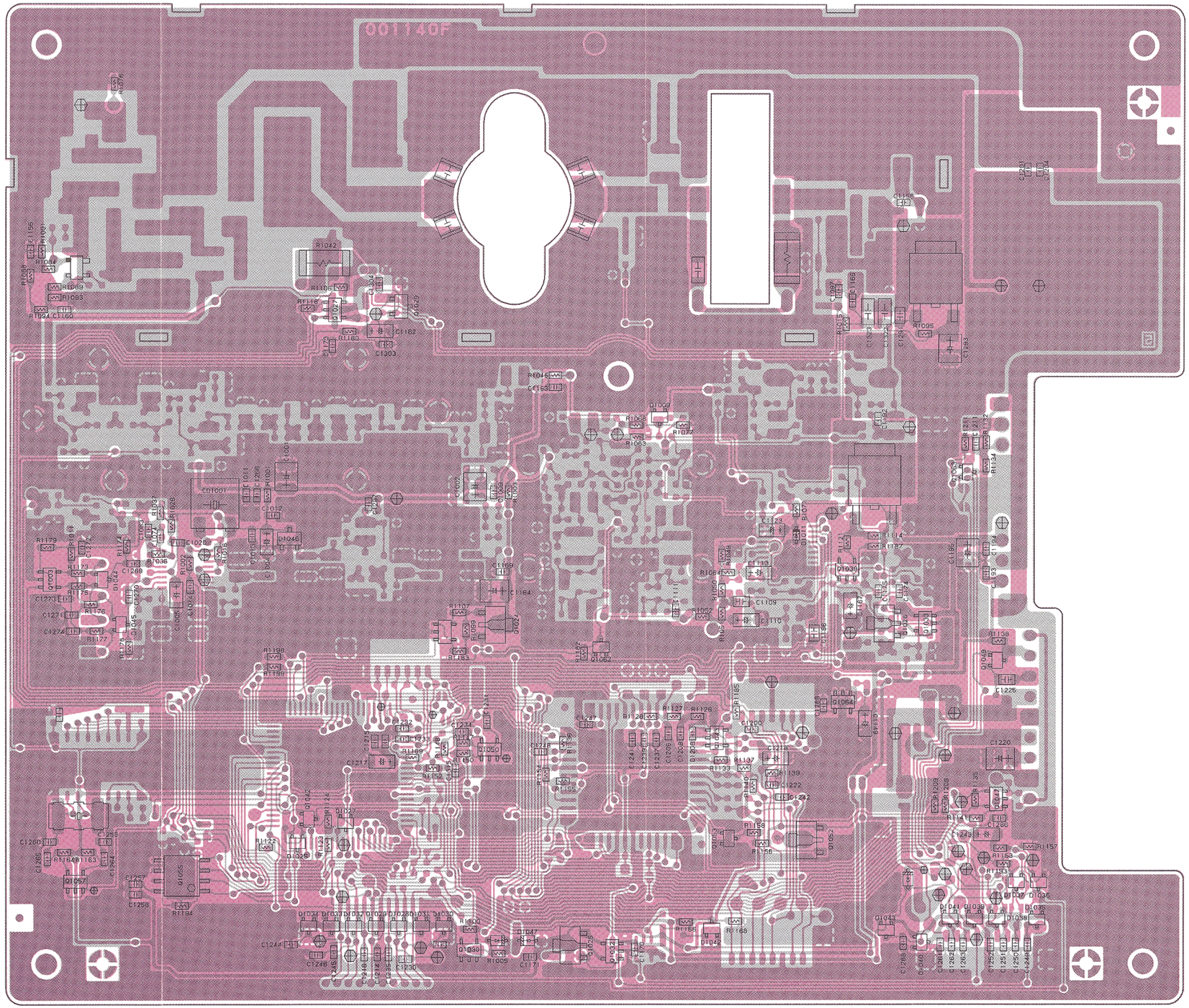
NM93C86AM8
(Q1055)



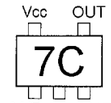
2SB1201STP
(Q1022, 1037)



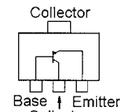
TA75S01F (SA)
(Q 1043)



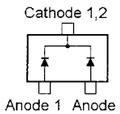
Chip Side



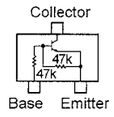
PST597CNR
(Q1030)



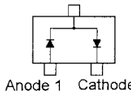
2SB1122S (BE)
(Q1024, 1025, 1026, 1052)



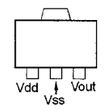
MA142WK-(TX) (MU)
(D1009, 1044, 1045)



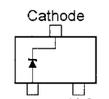
UN5213-(TX) (8C)
(Q1042, 1049, 1053)



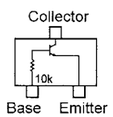
MA143-(TX) (MC)
(D1025, 1027, 1028, 1029, 1030, 1031, 1032, 1033, 1035, 1036, 1037, 1038, 1039, 1040, 1041, 1042, 1043)



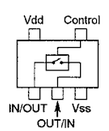
S-8100BF-SA-T1
(Q1029)



02CZ5.1Y (5.1)
(D1046)



UN5215-(TX) (8E)
(Q1062, 1063)



TC4S66F (C9)
(Q1047)

Parts List

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
			*** RF UNIT ***					
	PCB with Components					CS1546011	VERSION D	
	PCB with Components					CS1546012	VERSION F	
	PCB with Components					CS1546013	VERSION A	
	Printed Circuit Board					FR001140C		1-
	Printed Circuit Board					FR001140E		3-
	Printed Circuit Board					FR001140F		11-
C 1001	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1001	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		3-
C 1002	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1002	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		3-
C 1003	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1004	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1005	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1006	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1009	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1010	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1011	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1012	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1013	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1014	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1015	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1016	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223		1-
C 1017	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1018	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201		1-
C 1019	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207		1-2
C 1020	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1021	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1-
C 1021	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		3-
C 1022	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1023	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1024	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1025	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1026	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		1-
C 1027	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204		1-
C 1028	CHIP CAP.	82pF	50V	CH	GRM39CH820J50PT	K22174233		1-
C 1029	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1030	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205		1-
C 1031	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1032	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1033	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207		1-
C 1034	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204		1-
C 1034	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION D	3-
C 1034	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205	VERSION F	3-
C 1034	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION A	3-
C 1035	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201		1-
C 1036	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201		1-
C 1037	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1038	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1039	CHIP CAP.	8pF	50V	CH	GRM39CH080D50PT	K22174209		1-
C 1040	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		1-
C 1040	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION D	3-
C 1040	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205	VERSION A	3-
C 1040	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION F	3-
C 1041	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201		1-
C 1041	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION D	3-
C 1041	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION F	3-
C 1042	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204		1-
C 1042	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION F	3-
C 1042	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION D	3-
C 1042	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205	VERSION A	3-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
C 1043	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1-
C 1043	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION D	3-
C 1043	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205	VERSION F	3-
C 1043	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207	VERSION A	3-
C 1044	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202		1-
C 1044	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION D	3-
C 1044	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION F	3-
C 1044	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION A	3-
C 1045	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204		1-
C 1045	CHIP CAP.	12pF	50V	CH	GRM39CH120J50PT	K22174213	VERSION A	3-
C 1045	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION D	3-
C 1045	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION F	3-
C 1046	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207		1-
C 1048	CHIP CAP.	18pF	50V	CH	GRM39CH180J50PT	K22174217		1-
C 1049	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1050	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1051	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219		1-
C 1052	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1053	CHIP CAP.	8pF	50V	CH	GRM39CH080D50PT	K22174209		1-
C 1054	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1-
C 1054	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION D	3-
C 1054	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION F	3-
C 1054	CHIP CAP.	8pF	50V	CH	GRM39CH080D50PT	K22174209	VERSION A	3-
C 1055	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219		1-
C 1055	CHIP CAP.	18pF	50V	CH	GRM39CH180J50PT	K22174217	VERSION F	3-
C 1055	CHIP CAP.	18pF	50V	CH	GRM39CH180J50PT	K22174217	VERSION A	3-
C 1055	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219	VERSION D	3-
C 1056	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205		1-
C 1057	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1058	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1061	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		1-
C 1061	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION D	3-
C 1061	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION F	3-
C 1061	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207	VERSION A	3-
C 1062	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201		1-
C 1062	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION F	3-
C 1062	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION D	3-
C 1063	CHIP CAP.	220pF	50V	CH	GRM39CH221J50PT	K22174243		1-
C 1064	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208		1
C 1064	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205	VERSION F	2-
C 1064	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION D	2-
C 1064	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION A	3-
C 1064	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION D	5-
C 1065	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223		1-
C 1066	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1068	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1069	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 1070	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207		1-
C 1071	CHIP CAP.	39pF	50V	CH	GRM39CH390J50PT	K22174225		1-
C 1072	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1073	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1074	CHIP CAP.	220pF	50V	CH	GRM39CH221J50PT	K22174243		1-
C 1075	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1076	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1077	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1078	AL.ELECTRO.CAP.	33uF	25V		EEVHA1E330P	K48140011		1-
C 1079	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1080	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1081	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1082	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1083	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
C 1084	CHIP CAP.	1uF	25V	W5R	CM32W5R105K25AT	K22145801		1-
C 1084	CHIP CAP.	1uF	50V	B	GRM42-2B105K50PT	K22175801		20-
C 1085	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1
C 1085	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211	VERSION F	2-
C 1085	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235	VERSION D	2-
C 1085	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211	VERSION A	3-
C 1086	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1087	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1088	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1089	CHIP CAP.	100pF	500V	CH	CF316CH101J500AT	K22271267		1-
C 1090	CHIP CAP.	100pF	500V	CH	CF316CH101J500AT	K22271267		1-
C 1091	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1
C 1093	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1094	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1095	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1096	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1097	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1098	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1
C 1100	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1101	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1
C 1102	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1103	CHIP CAP.	330pF	50V	CH	GRM39CH331J50PT	K22174253		1-
C 1104	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1105	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1106	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1107	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1108	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1109	FILM CAP.	0.01uF	16V		ECHU1C103JB5	K57120007		1-
C 1110	CHIP TA.CAP.	0.1uF	35V		TESVA1V104M1-8R	K78160025		1-
C 1111	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1113	CHIP TA.CAP.	1uF	16V		TESVA1C105M1-8R	K78120009		1-
C 1114	CHIP CAP.	68pF	50V	CH	GRM39CH680J50PT	K22174231		1-
C 1115	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1116	CHIP CAP.	100pF	500V	CH	CF316CH101J500AT	K22271267		1-
C 1117	CHIP CAP.	100pF	500V	CH	CF316CH101J500AT	K22271267		1-
C 1118	CHIP CAP.	33pF	500V	CG	C17CG330K4TXLT	K22273235		1-
C 1118	CHIP CAP.	27pF	500V	CG	C17CG270K4TXLT	K22273234	VERSION F	3-
C 1118	CHIP CAP.	33pF	500V	CG	C17CG330K4TXLT	K22273235	VERSION A	3-
C 1118	CHIP CAP.	33pF	500V	CG	C17CG330K4TXLT	K22273235	VERSION D	3-
C 1118	CHIP CAP.	27pF	500V	CG	ATC700B270KW500XT	K22273241	VERSION F	20-
C 1119	CHIP CAP.	47pF	50V	CH	GRM39CH470J50PT	K22174227		1-
C 1119	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235	VERSION A	3-
C 1119	CHIP CAP.	39pF	50V	CH	GRM39CH390J50PT	K22174225	VERSION F	3-
C 1119	CHIP CAP.	47pF	50V	CH	GRM39CH470J50PT	K22174227	VERSION D	3-
C 1120	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223		1-
C 1120	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223	VERSION D	3-
C 1120	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235	VERSION A	3-
C 1120	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219	VERSION F	3-
C 1121	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1122	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208		1-
C 1122	CHIP CAP.	12pF	50V	CH	GRM39CH120J50PT	K22174213	VERSION A	3-
C 1122	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION D	3-
C 1122	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION F	3-
C 1123	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1124	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1125	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		1-
C 1126	CHIP CAP.	12pF	50V	CH	GRM39CH120J50PT	K22174213		1-
C 1126	CHIP CAP.	8pF	50V	CH	GRM39CH080D50PT	K22174209	VERSION F	3-
C 1126	CHIP CAP.	12pF	50V	CH	GRM39CH120J50PT	K22174213	VERSION D	3-
C 1126	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219	VERSION A	3-
C 1127	CHIP CAP.	3pF	500V	CH	CF316CH030C500AT	K22271248		1-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
C 1128	CHIP CAP.	5pF	500V	CH	GRM42-6CH050C500PT	K22271208		1-
C 1128	CHIP CAP.	5pF	500V	CH	CF316CH050C500AT	K22271250	VERSION D	3-
C 1128	CHIP CAP.	7pF	500V	CH	CF316CH070D500AT	K22271252	VERSION F	3-
C 1128	CHIP CAP.	9pF	500V	CH	CF316CH090D500AT	K22271254	VERSION A	3-
C 1129	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201		1-
C 1129	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION F	3-
C 1129	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION D	3-
C 1129	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION A	3-
C 1129	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION F	11-
C 1129	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION D	11-
C 1130	CHIP CAP.	4pF	500V	CH	GRM42-6CH040C500PT	K22271207		1-
C 1130	CHIP CAP.	4pF	500V	CH	CF316CH040C500AT	K22271249	VERSION D	3-
C 1130	CHIP CAP.	6.8pF	500V	CG	C17CG6R8K4TXLT	K22273218	VERSION F	3-
C 1130	CHIP CAP.	8.2pF	500V	CG	C17CG8R2K4TXLT	K22273228	VERSION A	3-
C 1131	CHIP CAP.	6pF	500V	CH	GRM42-6CH060D500PT	K22271209		1-
C 1131	CHIP CAP.	8.2pF	500V	CG	C17CG8R2K4TXLT	K22273228	VERSION A	3-
C 1131	CHIP CAP.	6.8pF	500V	CG	C17CG6R8K4TXLT	K22273218	VERSION D	3-
C 1131	CHIP CAP.	6.8pF	500V	CG	C17CG6R8K4TXLT	K22273218	VERSION F	3-
C 1132	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202		1-
C 1132	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION A	3-
C 1132	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION D	3-
C 1132	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION F	3-
C 1132	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION F	11-
C 1132	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION D	11-
C 1133	CHIP CAP.	6.2pF	500V	CG	C17CG6R2D4TXLT	K22273239	VERSION A	3-
C 1133	CHIP CAP.	6.2pF	500V	CG	C17CG6R2D4TXLT	K22273239	VERSION F	3-
C 1134	CHIP CAP.	6.8pF	500V	CG	C17CG6R8K4TXLT	K22273218		1-
C 1134	CHIP CAP.	6.8pF	500V	CG	C17CG6R8K4TXLT	K22273218	VERSION D	3-
C 1135	CHIP CAP.	47pF	500V	CG	C17CG470K4TXLT	K22273219		1-
C 1135	CHIP CAP.	47pF	500V	CG	C17CG470J4TXLT	K22273240		6-
C 1135	CHIP CAP.	47pF	500V	CG	ATC700B470KW500XT	K22273242		14-
C 1136	CHIP CAP.	47pF	500V	CG	C17CG470K4TXLT	K22273219		1-
C 1136	CHIP CAP.	47pF	500V	CG	C17CG470J4TXLT	K22273240		6-
C 1136	CHIP CAP.	47pF	500V	CG	ATC700B470KW500XT	K22273242		14-
C 1137	CHIP CAP.	68pF	500V	CG	C17CG680K4TXLT	K22273220		1-
C 1138	CHIP CAP.	68pF	500V	CG	C17CG680K4TXLT	K22273220		1-
C 1139	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223		1-
C 1139	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219	VERSION F	3-
C 1139	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223	VERSION D	3-
C 1139	CHIP CAP.	39pF	50V	CH	GRM39CH390J50PT	K22174225	VERSION A	3-
C 1140	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208		1-
C 1140	CHIP CAP.	9pF	50V	CH	GRM39CH090D50PT	K22174210	VERSION F	3-
C 1140	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION D	3-
C 1140	CHIP CAP.	8pF	50V	CH	GRM39CH080D50PT	K22174209	VERSION A	3-
C 1141	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1-
C 1142	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1-
C 1143	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1144	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1145	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1146	CHIP CAP.	1uF	25V	W5R	CM32W5R105K25AT	K22145801		1-
C 1146	CHIP CAP.	1uF	50V	B	GRM42-2B105K50PT	K22175801		20-
C 1147	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208		1-
C 1147	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION F	3-
C 1147	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION D	3-
C 1147	CHIP CAP.	12pF	50V	CH	GRM39CH120J50PT	K22174213	VERSION A	3-
C 1148	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1-
C 1149	CHIP TA.CAP.	2.2uF	10V		TESVA1A225M1-8R	K78100021		1-
C 1150	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1151	AL.ELECTRO.CAP.	33uF	25V		EEVHA1E330P	K48140011		1-2
C 1152	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1153	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
C 1155	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1156	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1157	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1158	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1159	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1160	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1161	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1162	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1163	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1164	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1164	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		3-
C 1165	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1166	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1167	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1168	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1169	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1170	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1171	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1173	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-10
C 1174	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1175	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1176	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		1-
C 1176	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION F	3-
C 1176	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION A	3-
C 1176	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION D	3-
C 1177	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208		1-
C 1178	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1179	CHIP CAP.	18pF	50V	CH	GRM39CH180J50PT	K22174217		1-
C 1179	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211	VERSION F	3-
C 1179	CHIP CAP.	18pF	50V	CH	GRM39CH180J50PT	K22174217	VERSION D	3-
C 1179	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219	VERSION A	3-
C 1180	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1181	CHIP CAP.	33pF	50V	CH	GRM39CH330J50PT	K22174223		1-
C 1182	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201		1-
C 1183	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1-
C 1183	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION F	3-
C 1183	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION A	3-
C 1183	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION D	3-
C 1184	CHIP CAP.	4pF	50V	CH	GRM39CH040C50PT	K22174205	VERSION A	3-
C 1185	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION A	3-
C 1186	CHIP TA.CAP.	0.22uF	35V		TESVA1V224M1-8R	K78160027		1-
C 1186	CHIP CAP.	0.015uF	50V	B	GRM40B153M50PT	K22170819	VERSION A	3-
C 1186	CHIP CAP.	0.027uF	25V	B	GRM40B273M25PT	K22140808	VERSION D	3-
C 1186	CHIP CAP.	0.027uF	25V	B	GRM40B273M25PT	K22140808	VERSION F	3-
C 1187	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1189	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207		1-
C 1189	CHIP CAP.	8pF	50V	CH	GRM39CH080D50PT	K22174209		3-
C 1190	CHIP CAP.	1uF	16V	B	GRM42-6B105K16NPT	K22121803		1-
C 1190	CHIP CAP.	1uF	10V	B	GRM40B105K10PT	K22100802		3-
C 1192	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		1-
C 1193	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1194	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1195	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1195	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		3-
C 1196	CHIP CAP.	15pF	50V	CH	GRM39CH150J50PT	K22174215		1-
C 1200	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1201	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1202	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1203	CHIP CAP.	220pF	50V	CH	GRM39CH221J50PT	K22174243		1-
C 1204	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1205	AL.ELECTRO.CAP.	330uF	25V		RE2-25V331M 330UF	K40149030		1-2

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
C 1206	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219		1-
C 1207	AL.ELECTRO.CAP.	100uF	25V		RE2-25V101M 100UF	K40149028		1-
C 1207	AL.ELECTRO.CAP.	33uF	25V		EEVHA1E330P	K48140011		3-
C 1208	CHIP CAP.	0.0015uF	50V	B	GRM39B152M50PT	K22174811		1-
C 1209	CHIP CAP.	390pF	50V	CH	GRM39CH391J50PT	K22174255		1-
C 1210	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1211	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1212	CHIP CAP.	0.1uF	25V	B	GRM40B104M25PT	K22140811		1-
C 1213	CHIP CAP.	220pF	50V	CH	GRM39CH221J50PT	K22174243		1-
C 1214	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1215	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1216	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1217	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1218	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1219	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1220	AL.ELECTRO.CAP.	10uF	16V		ECEV1CS100SR	K48120001		1-
C 1220	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		3-
C 1221	AL.ELECTRO.CAP.	33uF	25V		EEVHA1E330P	K48140011		1-
C 1222	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1223	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1224	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		3-
C 1225	CHIP CAP.	0.1uF	25V	B	GRM40B104M25PT	K22140811		1-
C 1226	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1227	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1228	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1229	TANTALUM CAP.	4.7uF	10V		SS2-1A475M	K70100007		1-
C 1229	CHIP TA.CAP.	4.7uF	6.3V		TEMSVA0J475M-8R	K78080017		3-
C 1230	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1231	CHIP CAP.	18pF	50V	CH	GRM39CH180J50PT	K22174217		1-
C 1232	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 1233	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 1234	CHIP CAP.	18pF	50V	CH	GRM39CH180J50PT	K22174217		1-
C 1235	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1237	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1239	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1241	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1242	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1243	CHIP TA.CAP.	4.7uF	6.3V		TMCMA0J475MTR	K78080026		1-
C 1244	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1245	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1246	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1247	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1248	CHIP CAP.	0.022uF	25V	B	GRM39B223K25PT	K22144807		1-
C 1249	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1250	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1251	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1252	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1253	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1254	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1255	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1256	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1257	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1258	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1259	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219		1-
C 1260	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219		1-
C 1261	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1262	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1263	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1264	CHIP CAP.	12pF	50V	CH	GRM39CH120J50PT	K22174213		1-
C 1265	CHIP CAP.	12pF	50V	CH	GRM39CH120J50PT	K22174213		1-
C 1266	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
C 1267	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1268	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1269	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1270	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1271	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1272	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1273	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1274	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1275	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207		1-
C 1276	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206		1
C 1276	CHIP CAP.	5pF	50V	CH	GRM39CH050C50PT	K22174206	VERSION D	2-
C 1276	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207	VERSION F	2-
C 1276	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION A	3-
C 1277	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1278	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		1-
C 1279	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204		1-
C 1280	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207		1-
C 1280	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION A	3-
C 1280	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION F	3-
C 1280	CHIP CAP.	6pF	50V	CH	GRM39CH060D50PT	K22174207	VERSION D	3-
C 1281	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208		1-
C 1281	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION F	3-
C 1281	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204	VERSION A	3-
C 1281	CHIP CAP.	7pF	50V	CH	GRM39CH070D50PT	K22174208	VERSION D	3-
C 1282	CHIP CAP.	3pF	50V	CJ	GRM39CJ030C50PT	K22174204		1-
C 1283	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203		1-
C 1284	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1285	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805	VERSION A	3-
C 1286	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1287	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1288	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 1289	AL.ELECTRO.CAP.	2200uF	25V		RE3-25V222M	K40149055		1-
C 1290	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1291	CHIP CAP.	1uF	10V	B	GRM40B105K10PT	K22100802		1-
C 1292	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1293	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 1293	CHIP TA.CAP.	10uF	16V		TEMSVB21C106M-8R	K78120025		3-
C 1294	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 1295	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1296	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-2
C 1297	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1298	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		1-
C 1299	CERAMIC CAP.	220pF	50V	SL	DD107SL221J50	K00175221		1-
C 1299	CHIP CAP.	220pF	50V	CH	GRM39CH221J50PT	K22174243	VERSION D	3-
C 1299	CHIP CAP.	220pF	50V	CH	GRM39CH221J50PT	K22174243	VERSION F	3-
C 1300	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION F	3-
C 1301	CHIP CAP.	0.5pF	50V	CK	GRM39CK0R5C50PT	K22174201	VERSION F	3-
C 1302	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235	VERSION F	3-
C 1303	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		3-
C 1304	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		3-
C 1305	CHIP CAP.	22pF	50V	CH	GRM39CH220J50PT	K22174219	VERSION F	2-
C 1305	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211	VERSION A	3-
C 1306	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		3-
C 1307	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		3-
C 1308	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		3-
C 1310	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235	VERSION D	3-
C 1310	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235	VERSION F	3-
C 1311	CHIP CAP.	22pF	500V	CG	C17CG220K4TXLT	K22273233	VERSION A	3-
C 1312	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		3-
C 1313	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		3-
C 1314	CHIP CAP.	0.001uF	50V	B	GRM39B102M50PT	K22174809		3-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
C 1314	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		11-
C 1315	CHIP CAP.	0.1uF	16V	B	GRM39B104K16PT	K22124805		3-
C 1316	CHIP TA.CAP.	33uF	16V		TEMSVC1C336M12R	K78120033	VERSION A	3-
C 1317	AL.ELECTRO.CAP.	1000uF	25V		RE3-25V102M 1000UF	K40149045		3-
C 1318	CHIP TA.CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		3-
C 1319	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION A	3-
C 1319	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION D	11-
C 1319	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION F	11-
C 1320	CHIP CAP.	2pF	50V	CK	GRM39CK020C50PT	K22174203	VERSION A	3-
C 1320	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION D	11-
C 1320	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202	VERSION F	11-
C 1321	CHIP CAP.	1pF	50V	CK	GRM39CK010C50PT	K22174202		5-
C 1322	CHIP CAP.	4.7uF	10V	BJ	LMK316BJ475ML-T	K22101802		11-
C 1323	CHIP CAP.	4.7uF	10V	BJ	LMK316BJ475ML-T	K22101802		11-
C01131	CHIP CAP.	6.2pF	500V	CG	C17CG6R2D4TXLT	K22273239	VERSION D	1-2
CD1001	CERAMIC DISC				CDBC455CX24-TC	H7900980		1-
CF1001	CERAMIC FILTER				PBFS455P9DR	H3900500		1-
CF1002	CERAMIC FILTER				PBFS455P12DR	H3900501		1-
D 1001	DIODE				MA143-(TX)	G2070536		1-
D 1002	DIODE				MA143-(TX)	G2070536		1-
D 1003	DIODE				HVU350TRF	G2070380		1-
D 1004	DIODE				HVU350TRF	G2070380		1-
D 1008	DIODE				RLS135 TE-11	G2070128		1-
D 1009	DIODE				MA142WK-(TX)	G2070534		1-
D 1010	DIODE				UM9957F/TR	G2070562		1-
D 1011	DIODE				RD6.8UMB2-T1B	G2070438		1-
D 1012	DIODE				HVU350TRF	G2070380		1-
D 1013	DIODE				HVU350TRF	G2070380		1-
D 1014	DIODE				HVU350TRF	G2070380		1-
D 1015	DIODE				HVU350TRF	G2070380		1-
D 1016	DIODE				1SS319 TE85R	G2070080		1-
D 1018	DIODE				HVU350TRF	G2070380		1-
D 1021	DIODE				HVU350TRF	G2070380		1-
D 1022	DIODE				HVU350TRF	G2070380		1-
D 1023	DIODE				HVU350TRF	G2070380		1-
D 1024	DIODE				HVU350TRF	G2070380		1-
D 1025	DIODE				MA143-(TX)	G2070536		1-
D 1026	SURGE ABSORBER				P6KE18	Q9000534		1-
D 1026	SURGE ABSORBER				P6KA18	Q9000721		4-
D 1027	DIODE				MA143-(TX)	G2070536		1-
D 1028	DIODE				MA143-(TX)	G2070536		1-
D 1029	DIODE				MA143-(TX)	G2070536		1-
D 1030	DIODE				MA143-(TX)	G2070536		1-
D 1031	DIODE				MA143-(TX)	G2070536		1-
D 1032	DIODE				MA143-(TX)	G2070536		1-
D 1033	DIODE				MA143-(TX)	G2070536		1-
D 1034	DIODE				MA143-(TX)	G2070536		1-
D 1035	DIODE				MA143-(TX)	G2070536		1-
D 1036	DIODE				MA143-(TX)	G2070536		1-
D 1037	DIODE				MA143-(TX)	G2070536		1-
D 1038	DIODE				MA143-(TX)	G2070536		1-
D 1039	DIODE				MA143-(TX)	G2070536		1-
D 1040	DIODE				MA143-(TX)	G2070536		1-
D 1041	DIODE				MA143-(TX)	G2070536		1-
D 1042	DIODE				MA143-(TX)	G2070536		1-
D 1043	DIODE				MA143-(TX)	G2070536		1-
D 1044	DIODE				MA142WK-(TX)	G2070534		1-
D 1045	DIODE				MA142WK-(TX)	G2070534		1-
D 1046	DIODE				02CZ5.1Y TE85R	G2070062		1-
D 1047	DIODE				1SS353 TE-17	G2070394		1-
D 1047	DIODE				1SS355 TE-17	G2070470		3-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
D 1048	DIODE				1SS353 TE-17	G2070394		1-
D 1048	DIODE				1SS355 TE-17	G2070470		3-
D 1049	DIODE				1SS355 TE-17	G2070470		3-
D 1050	DIODE				HVU350TRF	G2070380	VERSION A	3-
D 1051	DIODE				HVU350TRF	G2070380	VERSION A	3-
D 1065	DIODE				HZM5.6NB2 TR	G2070722		11-
F 1001	CHIP FUSE	0.25A			F0805B0R25FWTR	Q0000072		1-
F 1001	CHIP FUSE	0.25A			TF20N0.25TE	Q0000100		11-
FB1001	FERRITE BEADS				SMB304729	L9190094		1-
FB1002	FERRITE BEADS				SMB304729	L9190094		1-
FB1003	FERRITE BEADS				SMB304729	L9190094		1-
FB1004	FERRITE BEADS				SMB304729	L9190094		1-
J 1001	CONNECTOR				53398-0390	P0091192		1-
J 1002	CONNECTOR				53398-0290	P0091191		1-
J 1003	CONNECTOR				12FPZ-SM-TF	P1090996		1-
J 1004	CONNECTOR				53398-0990	P0091189		1-
J 1005	CONNECTOR				53398-0890	P0091194		1-
J 1006	CONNECTOR				53398-0790	P0091193		1-
J 1007	CONNECTOR				53398-0790	P0091193		1-
L 1001	CHIP COIL	0.12uH			C2520C-R12J	L1690545		1-
L 1002	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1003	CHIP COIL	0.033uH			C2520C-33NK	L1690538		1-
L 1004	M.RFC	0.022uH			LL1608-F22NK	L1690363		1-
L 1004	M.RFC	0.022uH			LL1608-F22NK	L1690363	VERSION D	3-
L 1004	M.RFC	0.022uH			LL1608-F22NK	L1690363	VERSION F	3-
L 1004	M.RFC	0.027uH			LL1608-F27NK	L1690364	VERSION A	3-
L 1005	CHIP COIL	1uH			C2520F-1R0K	L1690584		1-
L 1006	CHIP COIL	0.68uH			C2520C-R68J	L1690554		1-
L 1009	COIL				E2 0.28-1.0-6T-R	L0022366		1-
L 1010	COIL				E2 0.28-1.0-6T-R	L0022366		1-
L 1011	COIL				E2 0.28-1.0-6T-R	L0022366		1-
L 1012	COIL				E2 0.28-1.0-6T-R	L0022366		1-
L 1013	CHIP COIL	0.68uH			C2520C-R68J	L1690554		1-
L 1015	CHIP COIL	0.018uH			C2520C-18NK	L1690535		1-
L 1015	CHIP COIL	0.018uH			C2520C-18NK	L1690535	VERSION F	3-
L 1015	CHIP COIL	0.022uH			C2520C-22NK	L1690536	VERSION A	3-
L 1015	CHIP COIL	0.018uH			C2520C-18NK	L1690535	VERSION D	3-
L 1016	CHIP COIL	0.018uH			C2520C-18NK	L1690535		1-
L 1016	CHIP COIL	0.018uH			C2520C-18NK	L1690535	VERSION D	3-
L 1016	CHIP COIL	0.018uH			C2520C-18NK	L1690535	VERSION F	3-
L 1016	CHIP COIL	0.022uH			C2520C-22NK	L1690536	VERSION A	3-
L 1017	CHIP COIL	0.033uH			C2520C-33NK	L1690538		1-
L 1018	CHIP COIL	0.033uH			C2520C-33NK	L1690538		1-
L 1019	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1020	COIL				E2 0.5-2.0-5T-R	L0022487		1-
L 1021	COIL	0.1uH			AS0811-A0NM	L0022486		1-
L 1021	COIL	0.11uH			AS0810-B0NK	L0022542		10-
L 1022	COIL	0.033uH			AS0804-33NM	L0022483		1-
L 1022	COIL	0.033uH			AS0804-33NK	L0022538		10-
L 1023	COIL				E2 0.5-2.0-6T-R	L0022488		1-
L 1024	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1025	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1026	COIL	0.015uH			AS1203-15NM	L0022482		1-
L 1026	COIL	0.015uH			AS1203-15NK	L0022543		10-
L 1027	COIL	0.015uH			AS1203-15NM	L0022482		1-
L 1027	COIL	0.015uH			AS1203-15NK	L0022543		10-
L 1028	COIL	0.015uH			AS1203-15NM	L0022482		1-
L 1028	COIL	0.015uH			AS1203-15NK	L0022543		10-
L 1029	COIL				E2 0.45-1.4-4T-L	L0022391		1-
L 1029	CHIP COIL	0.018uH			C2520C-18NK	L1690535	VERSION A	3-
L 1029	COIL				E2 0.45-1.4-4T-L	L0022391	VERSION D	3-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
L 1029	COIL				E2 0.45-1.4-4T-L	L0022391	VERSION F	3-
L 1030	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1031	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1032	CHIP COIL	0.022uH			C2520C-22NK	L1690536		1-
L 1033	COIL				E2 0.5-2.0-6T-R	L0022488		1-
L 1033	COIL				E2 0.5-2.0-6T-R	L0022488	VERSION F	3-
L 1033	COIL				E2 0.5-2.0-7T-R	L0022489	VERSION A	3-
L 1033	COIL				E2 0.5-2.0-6T-R	L0022488	VERSION D	3-
L 1034	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1036	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1037	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1038	COIL				E2 0.5-2.0-5T-R	L0022487		1-
L 1039	CHIP COIL	0.082uH			C2520C-82NK	L1690543		1-
L 1039	M.RFC	0.082uH			HK1608 82NJ-T	L1690527		3-
L 1041	CHIP COIL	0.33uH			C2520C-R33J	L1690550		1-
L 1042	M.RFC	0.082uH			HK1608 82NJ-T	L1690527	VERSION A	3-
L 1043	M.RFC	0.082uH			HK1608 82NJ-T	L1690527	VERSION A	3-
L 1044	M.RFC	0.018uH			HK1608 18NJ-T	L1690519	VERSION A	9-
P 1001	TERMINAL				B4 AG M3	Q6000114		3-
Q 1003	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 1005	FET				SGM2016M-T7	G4070005		1-
Q 1005	FET				SGM2016AM-T7	G4070012		4-
Q 1006	TRANSISTOR				2SC4116GR TE85R	G3341167G		1-
Q 1007	TRANSISTOR				2SC5226-4/5-TL	G3352268Z		1-
Q 1008	TRANSISTOR				2SC5226-4/5-TL	G3352268Z		1-
Q 1009	IC				BA4116FV-E2	G1092616		1-
Q 1010	TRANSISTOR				2SA1586Y TE85R	G3115867Y		1-
Q 1011	TRANSISTOR				UN5215-(TX)	G3070193		1-
Q 1013	TRANSISTOR				2SC4116GR TE85R	G3341167G		1-
Q 1014	TRANSISTOR				2SC5019-(TX)	G3350198		1-
Q 1015	FET				SRFJ7044	G3090122		1-
Q 1016	FET				2SK2596BXTL	G3825967		1-
Q 1017	TRANSISTOR				2SC5019-(TX)	G3350198		1-
Q 1018	FET				MRF5015	G3090113		1-
Q 1019	TRANSISTOR				2SC5226-4/5-TL	G3352268Z		1-
Q 1020	FET				2SK508-T2B K52	G3805087B		1-
Q 1021	IC				MB15A02PFV1-G-BND-EF	G1092541		1-
Q 1022	TRANSISTOR				2SB1201STP-FA-TL	G3070195		1-
Q 1023	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 1024	TRANSISTOR				2SB1132 T100 Q	G3211327Q		1-
Q 1024	TRANSISTOR				2SB1122S-TD	G3211228S		3-
Q 1025	TRANSISTOR				2SB1132 T100 Q	G3211327Q		1-
Q 1025	TRANSISTOR				2SB1122S-TD	G3211228S		3-
Q 1026	TRANSISTOR				2SB1132 T100 Q	G3211327Q		1-
Q 1026	TRANSISTOR				2SB1122S-TD	G3211228S		3-
Q 1027	IC				TA75S01F TE85R	G1091593		1-
Q 1028	TRANSISTOR				2SC4116GR TE85R	G3341167G		1-
Q 1029	IC				S-8100BF-SA-T1	G1092550		1-
Q 1029	IC				S-8110AMP-DSB-T1	G1092937		11-
Q 1030	IC				PST597CNR	G1092589		1-
Q 1031	TRANSISTOR				2SC4116GR TE85R	G3341167G		1-
Q 1032	IC				MM1216GNRE R59-2494	G1092431		1-
Q 1033	IC				MM1216GNRE R59-2494	G1092431		1-
Q 1034	FET				2SK508-T2B K52	G3805087B		1-
Q 1035	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 1036	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 1037	TRANSISTOR				2SB1201STP-FA-TL	G3070195		1-
Q 1038	IC				AN7709	G1091753		1-
Q 1039	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 1042	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 1043	IC				TA75S01F TE85R	G1091593		1-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
Q 1044	TRANSISTOR				2SB1134R	G3211340R		1-
Q 1045	IC				TDA1519A	G1092506		1-
Q 1046	IC				HD64F3334YF16(FLASH)	G1092077		1-
Q 1046	IC				HD64F3337YF16(FLASH)	G1092971		5-
Q 1046	IC				DF3337YF16(FLASH)	G1093352		10-
Q 1046	IC				HD64F3337YF16(FLASH)	G1092971		12-
Q 1047	IC				TC4S66F TE85R	G1090893		1-
Q 1048	IC				SC11372CQ	G1092182		1
Q 1048	IC				SC11372CQB1	G1092739		2-
Q 1049	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 1050	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 1051	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 1052	TRANSISTOR				2SB1132 T100 Q	G3211327Q		1-
Q 1052	TRANSISTOR				2SB1122S-TD	G3211228S		3-
Q 1053	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 1054	IC				LC7385M-TE-R	G1092480		1-
Q 1055	IC				NM93C86AM8(TAPING)	G1092512		1-
Q 1057	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 1059	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 1060	TRANSISTOR				2SC4116GR TE85R	G3341167G		1-
Q 1061	TRANSISTOR				2SA1586Y TE85R	G3115867Y		1-
Q 1062	TRANSISTOR				UN5215-(TX)	G3070193		1-
Q 1063	TRANSISTOR				UN5215-(TX)	G3070193		1-
Q 1064	IC				PST9145NR R59-2243	G1092479		1-
R 1001	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-
R 1002	CHIP RES.	6.8k	1/16W	5%	RMC1/16 682JATP	J24185682		1-
R 1003	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1004	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1005	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1006	CHIP RES.	22	1/16W	5%	RMC1/16 220JATP	J24185220		1-
R 1007	CHIP RES.	1.2k	1/16W	5%	RMC1/16 122JATP	J24185122		1-
R 1008	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1008	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 1009	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-2
R 1010	CHIP RES.	12k	1/16W	5%	RMC1/16 123JATP	J24185123		1-
R 1011	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1012	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1013	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1014	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1015	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1016	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1017	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		3-
R 1019	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-
R 1020	CHIP RES.	68k	1/16W	5%	RMC1/16 683JATP	J24185683		1-
R 1021	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1022	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1023	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 1024	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1025	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1026	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-
R 1027	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1027	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102	VERSION F	3-
R 1027	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	VERSION A	3-
R 1027	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	VERSION D	3-
R 1027	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221	VERSION D	5-
R 1028	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-
R 1029	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-
R 1030	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1031	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-
R 1031	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101	VERSION A	3-
R 1031	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151	VERSION D	3-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
R 1031	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151	VERSION F	3-
R 1032	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1033	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1034	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-
R 1035	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1036	CHIP RES.	330k	1/16W	5%	RMC1/16 334JATP	J24185334		1-
R 1037	CHIP RES.	1.8k	1/16W	5%	RMC1/16 182JATP	J24185182		1-
R 1038	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 1039	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1040	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 1041	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-
R 1042	CHIP RES.	150	1W	5%	ERJ1WYJ151U	J24309017		1-
R 1042	CHIP RES.	150	1W	5%	RMC1 151JTE	J24305151		12-
R 1043	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1044	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		1-
R 1045	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1046	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1047	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-
R 1048	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-
R 1049	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-
R 1050	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1051	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-
R 1051	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332	VERSION D	3-
R 1051	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332	VERSION F	3-
R 1051	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472	VERSION A	3-
R 1052	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1053	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1054	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1055	CHIP RES.	8.2k	1/16W	5%	RMC1/16 822JATP	J24185822		1-
R 1056	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-
R 1057	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-
R 1058	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1059	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1060	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1061	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1062	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1063	CHIP RES.	18	1/16W	5%	RMC1/16 180JATP	J24185180		1-
R 1064	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 1065	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-2
R 1066	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-
R 1067	CHIP RES.	18	1/16W	5%	RMC1/16 180JATP	J24185180		1-
R 1068	CHIP RES.	18	1/16W	5%	RMC1/16 180JATP	J24185180		1-
R 1069	CHIP RES.	18	1/16W	5%	RMC1/16 180JATP	J24185180		1-
R 1070	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-
R 1071	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-
R 1072	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-
R 1073	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151		1-
R 1074	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1075	CHIP RES.	1.2k	1/16W	5%	RMC1/16 122JATP	J24185122		1-
R 1076	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1077	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1079	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-
R 1080	CHIP RES.	1.2k	1/16W	5%	RMC1/16 122JATP	J24185122		1-
R 1081	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-
R 1082	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1083	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-
R 1083	CHIP RES.	120	1/16W	5%	RMC1/16 121JATP	J24185121	VERSION F	3-
R 1083	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151	VERSION A	3-
R 1083	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221	VERSION D	3-
R 1084	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1085	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-

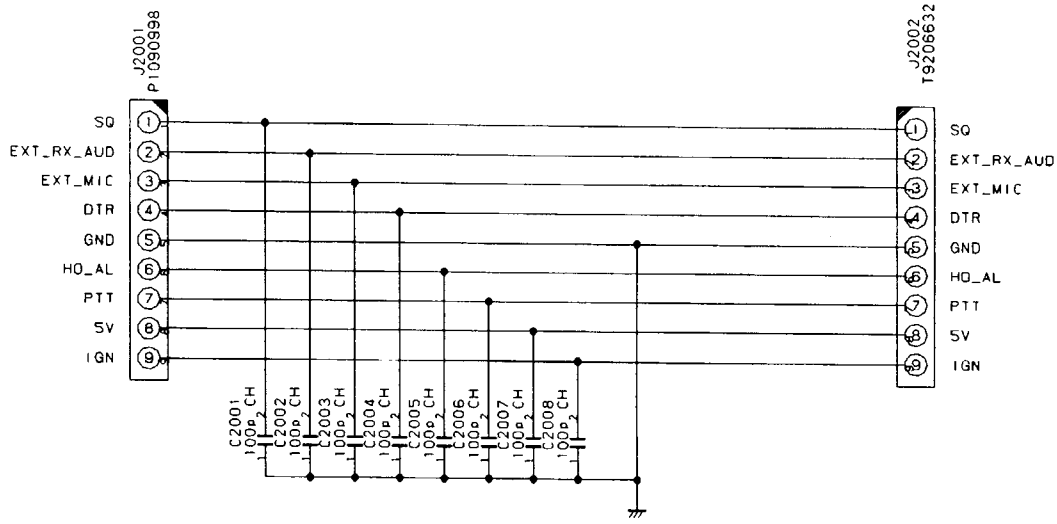
REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
R 1086	CHIP RES.	33	1/16W	5%	RMC1/16 330JATP	J24185330		1-
R 1087	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-
R 1088	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1089	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1090	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1091	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1092	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1092	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		3-
R 1093	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-
R 1094	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1095	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1096	CHIP RES.	100	1/16W	5%	RMC1/16 101JATP	J24185101		1-
R 1097	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1098	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1098	CHIP RES.	82k	1/16W	5%	RMC1/16 823JATP	J24185823		3-
R 1099	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1100	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1101	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1102	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-
R 1103	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1104	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1105	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1106	CHIP RES.	150k	1/16W	5%	RMC1/16 154JATP	J24185154		1-
R 1107	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1108	CHIP RES.	33	1/16W	5%	RMC1/16 330JATP	J24185330		1-
R 1109	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 1110	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1111	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1112	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221		1-
R 1112	CHIP RES.	120	1/16W	5%	RMC1/16 121JATP	J24185121	VERSION F	3-
R 1112	CHIP RES.	150	1/16W	5%	RMC1/16 151JATP	J24185151	VERSION A	3-
R 1112	CHIP RES.	220	1/16W	5%	RMC1/16 221JATP	J24185221	VERSION D	3-
R 1113	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1114	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1115	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-
R 1116	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1117	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1118	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1119	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-
R 1120	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1121	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1122	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1123	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1124	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1125	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1126	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-
R 1127	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-
R 1128	CHIP RES.	220k	1/16W	5%	RMC1/16 224JATP	J24185224		1-
R 1129	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1130	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1131	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1132	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1133	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 1134	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1135	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1136	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1137	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1138	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1139	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561		1-
R 1140	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1141	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
R 1142	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1143	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-2
R 1144	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1145	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1146	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1147	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 1148	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 1149	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1150	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1151	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1152	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 1153	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1154	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1155	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222		1-
R 1156	CHIP RES.	1.2k	1/16W	5%	RMC1/16 122JATP	J24185122		1-
R 1157	CHIP RES.	2.7k	1/16W	5%	RMC1/16 272JATP	J24185272		1-
R 1158	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 1159	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1160	CHIP RES.	100k	1/16W	5%	RMC1/16 104JATP	J24185104		1-
R 1161	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 1162	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1163	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 1164	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 1165	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 1166	CHIP RES.	3.3k	1/16W	5%	RMC1/16 332JATP	J24185332		1-
R 1167	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	120 CHANNELS	2-
R 1168	CHIP RES.	1k	1/16W	5%	RMC1/16 102JATP	J24185102		1-
R 1169	METAL FILM RES.	18	2W	5%	ERG-2SJ180P 18	J22339004		1
R 1169	METAL FILM RES.	10	3W	5%	ERG-3SJ100P 10	J22359031		2-
R 1171	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-2
R 1173	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1174	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-
R 1175	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1176	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1177	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1178	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223		1-
R 1179	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1180	CHIP RES.	47	1/16W	5%	RMC1/16 470JATP	J24185470		1-
R 1181	CHIP RES.	6.8k	1/16W	5%	RMC1/16 682JATP	J24185682		1-
R 1182	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1183	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1184	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 1185	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1186	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 1187	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1188	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-2
R 1189	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1190	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1191	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1192	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1193	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1194	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1195	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 1195	CHIP RES.	27k	1/16W	5%	RMC1/16 273JATP	J24185273		7-
R 1196	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1197	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1198	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1199	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 1200	CHIP RES.	33k	1/16W	5%	RMC1/16 333JATP	J24185333		1-
R 1201	METAL FILM RES.	18	2W	5%	ERG-2SJ180P 18	J22339004		1
R 1202	CHIP RES.	470	1/16W	5%	RMC1/16 471JATP	J24185471		1-

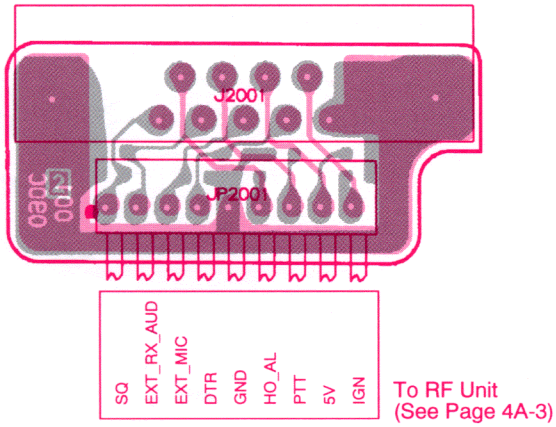
REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
R 1203	CARBON FILM RES.	3.3M	1/6W	5%	RD16PJ335 3.3M	J01225335		1-
R 1203	CHIP RES.	3.3M	1/16W	5%	RMC1/16 335JATP	J24185335	VERSION D	3-
R 1203	CHIP RES.	3.3M	1/16W	5%	RMC1/16 335JATP	J24185335	VERSION F	3-
R 1204	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 1206	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 1207	CHIP RES.	560	1/16W	5%	RMC1/16 561JATP	J24185561	VERSION F	3-
R 1208	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		3-
R 1209	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		3-
R 1210	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	VERSION D	3-
R 1210	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000	VERSION F	3-
R 1211	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		3-
R 1212	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		3-
R 1213	CHIP RES.	22k	1/16W	5%	RMC1/16 223JATP	J24185223	VERSION A	3-
R 1214	CHIP RES.	2.2k	1/16W	5%	RMC1/16 222JATP	J24185222	VERSION A	3-
R 1215	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		11-
R 1216	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		11-
R 1217	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		11-
TC1001	TRIMMER CAP.	20pF			ECR-JA020E11X	K91000228		1-
TC1001	TRIMMER CAP.	10pF			ECR-JA010A11X	K91000227		3-
TH1001	THERMISTOR				NTCCM20123SH223JCT	G9090106		1-
TH1002	THERMISTOR				NTCCM20123NH153JCT	G9090105		1-
X 1001	XTAL TOP-B	72.895MHz			72.895MHZ	H0103161		1-
X 1001	XTAL TOP-B	72.895MHz			72.895MHZ	H0103161A		3-
X 1002	XTAL TOP-B	14.4MHz			14.4MHZ	H0103160		1-
X 1003	XTAL LP-5.0S.2S	11.0592MHz			11.0592MHZ	H0103165		1-
X 1003	XTAL SD3	11.0592MHz			11.0592MHZ	H0103170		3-
X 1004	CERAMIC OSC	3.58MHz			PBRC3.58AR03-LC6	H7901190		1-
XF1001	XTAL FILTER				73S10A	H1102297		1-
XF1002	XTAL FILTER				73S10A	H1102297		1-
	SHIELD CASE					RA0014300		1-
	SHIELD CASE					RA0014200		1-
	SHIELD CASE					RA0015000		1-
	SHIELD CASE					RA001500A		3-
	LEAF SPRING					R0132100		1-
	LEAF SPRING					R0132100		3-

Notes:

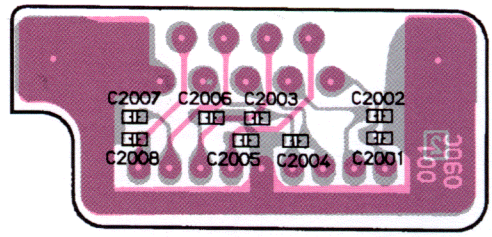
Circuit Diagram



Parts Layout



Component Side



Solder Side

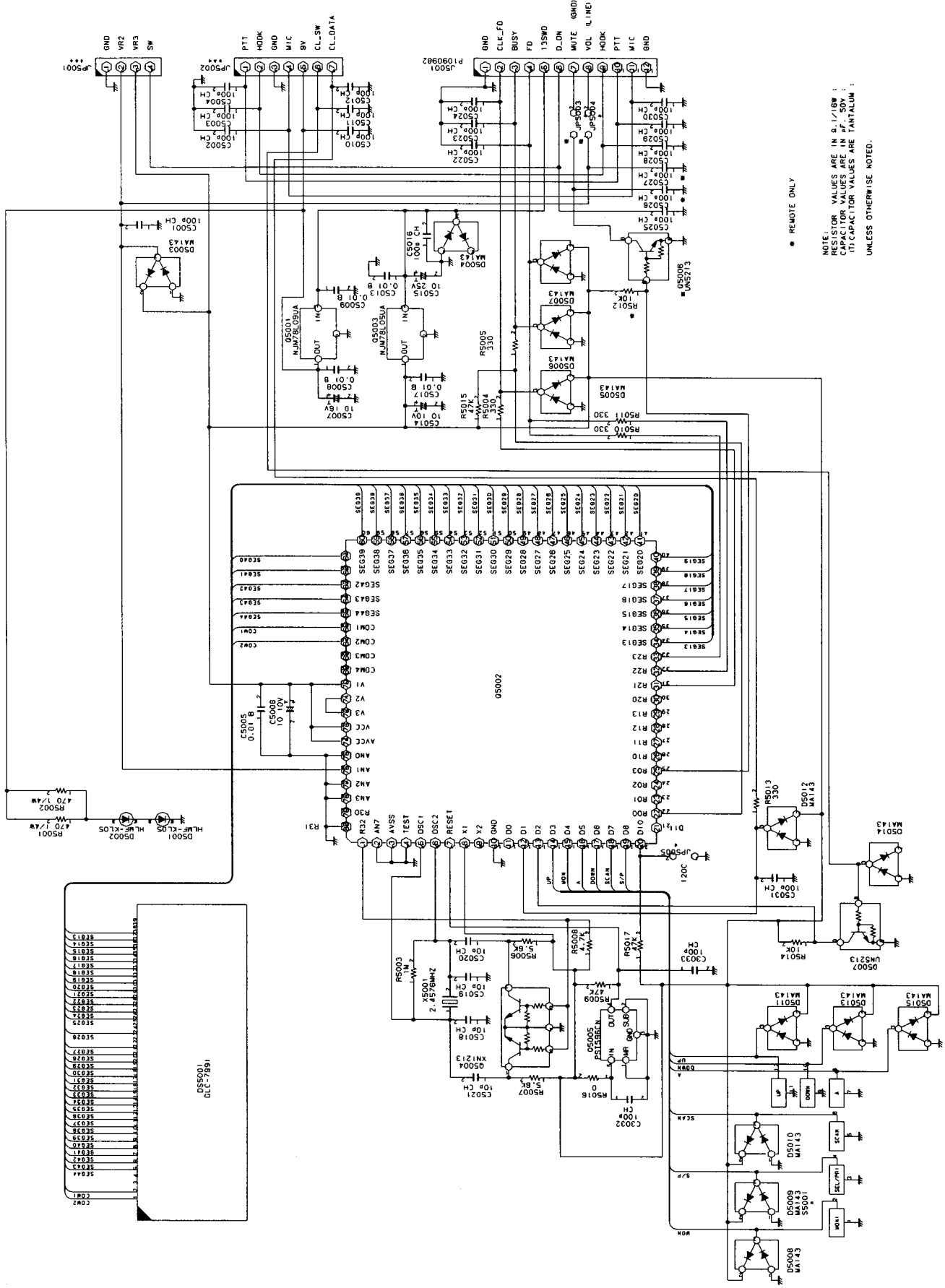
Parts List

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
		*** DSUB UNIT ***						
	PCB with Components					CB0256001		
	Printed Circuit Board					FR001090C		1-
C 2001	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 2002	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 2003	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 2004	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 2005	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 2006	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 2007	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 2008	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
J 2001	CONNECTOR				AE0031-00	P1090998		1-
J 2002	WIRE ASSY				A0834+	T9206632		1-
	HOLDER					RA0014400		1-

DSUB Unit

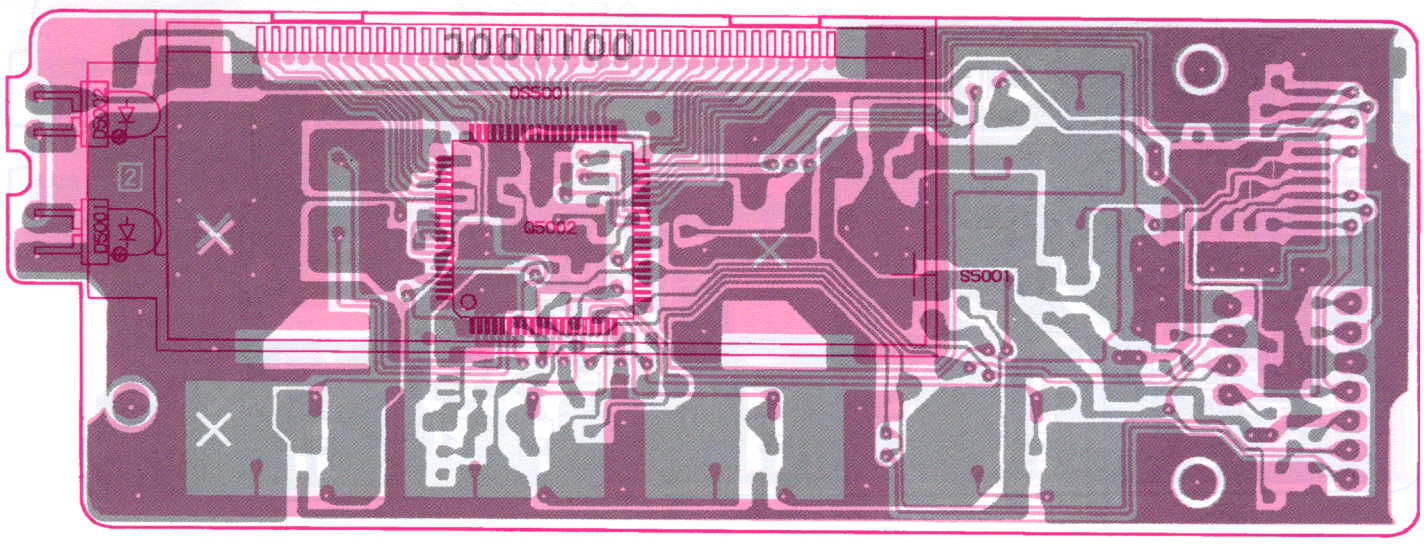
Notes:

Circuit Diagram

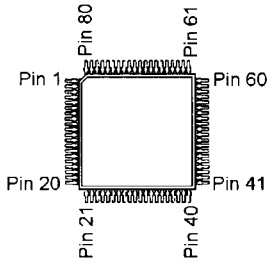


Notes:

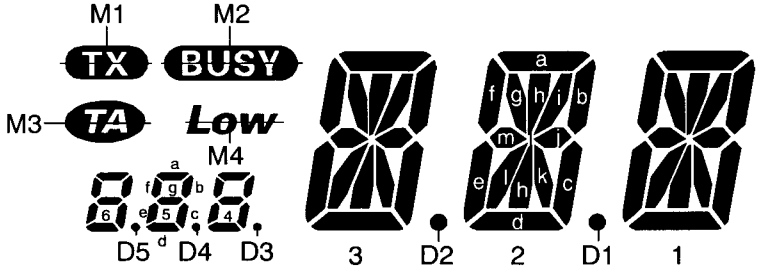
Parts Layout



LCD Side



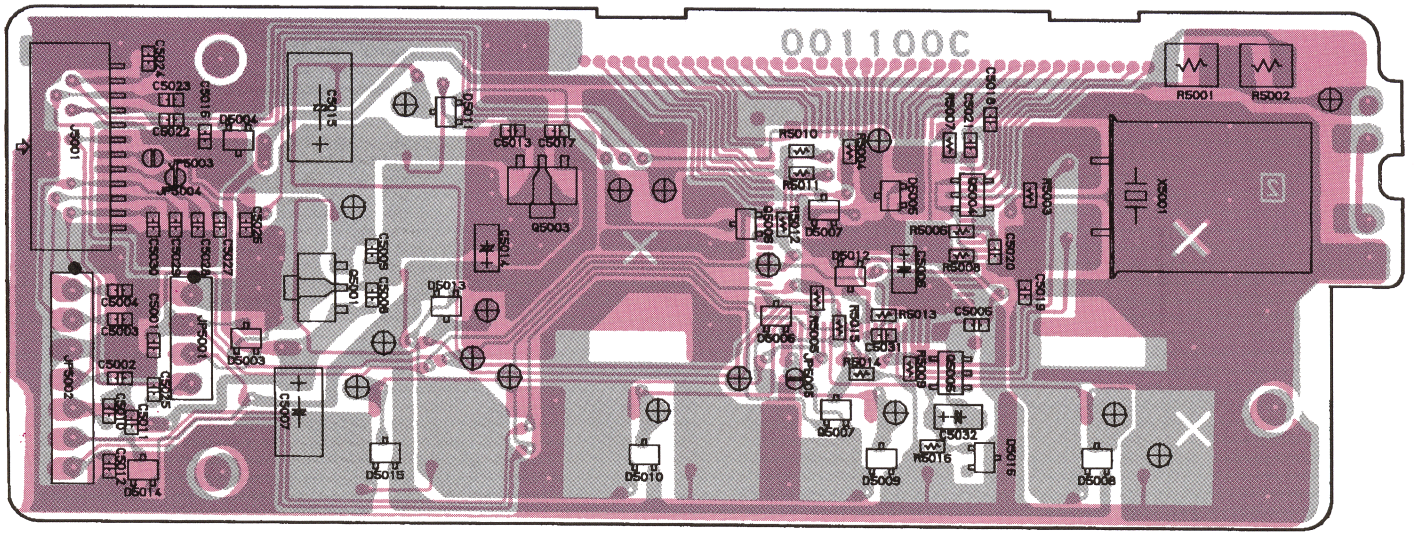
HD4074849TF
(Q5002)



Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		COM1		D5	6d	6e	6f	6a	5a	5f	5e	5d	M2	4a	4f	4e	4d	3e	3f	3a
	COM2		D3		6c	6g	6b	M3	M1	5b	5g	5c	M4	D4	4b	4g	4c	3l	3m	3g

Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
	3b	3c		3d	D2	2c	2d	2e	2f	2a	2b	2j	1f	1a	1b	1c	1d	1e	
	3i	3j	3k	3h		2k	2h	2l	2m	2g	2i	1m	1g	1i	1j	1k	1h	1l	D1

DS5001 LCD Display



Component Side

J5001

GND
CLK_FD
BUSY
FD
13SWD
D_ON
MUTE
VOL
HOOK
PTT
MIC
GND

To RF Unit J1003
(See Page 4A-3)

JP5001

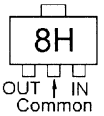
GND
VR2
VR3
SW

To VR Unit JP7001
(See Page 4E-1)

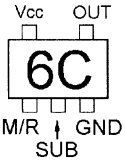
JP5002

PTT
HOOK
GND
MIC
9V
CL_SW
CL_DATA

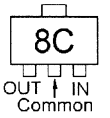
To MIC Unit JP7101
(See Page 4F-1)



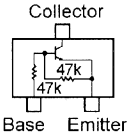
NJM78L09UA (8H)
(Q5001)



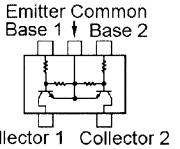
PST596CNR (6C)
(Q 5005)



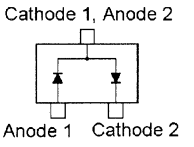
NJM78L05UA (8C)
(Q5003)



UN5213-(TX) (8C)
(Q5006, 5007)

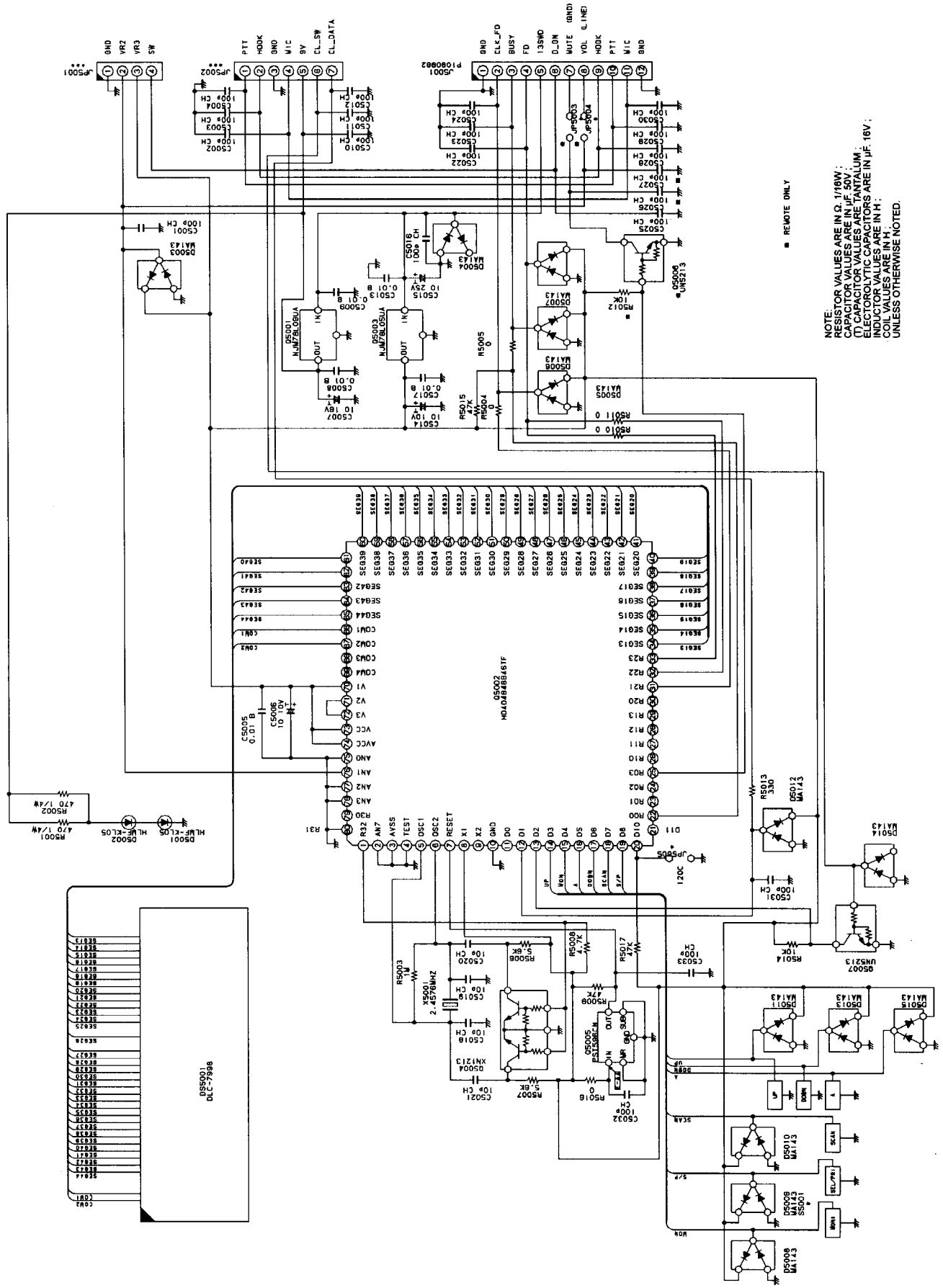


XN1213-(TX) (9L)
(Q5004)



MA143-(TX) (MC)
(D5003, 5004, 5005, 5006, 5007, 5008, 5009, 5010, 5011, 5012, 5013, 5014, 5015)

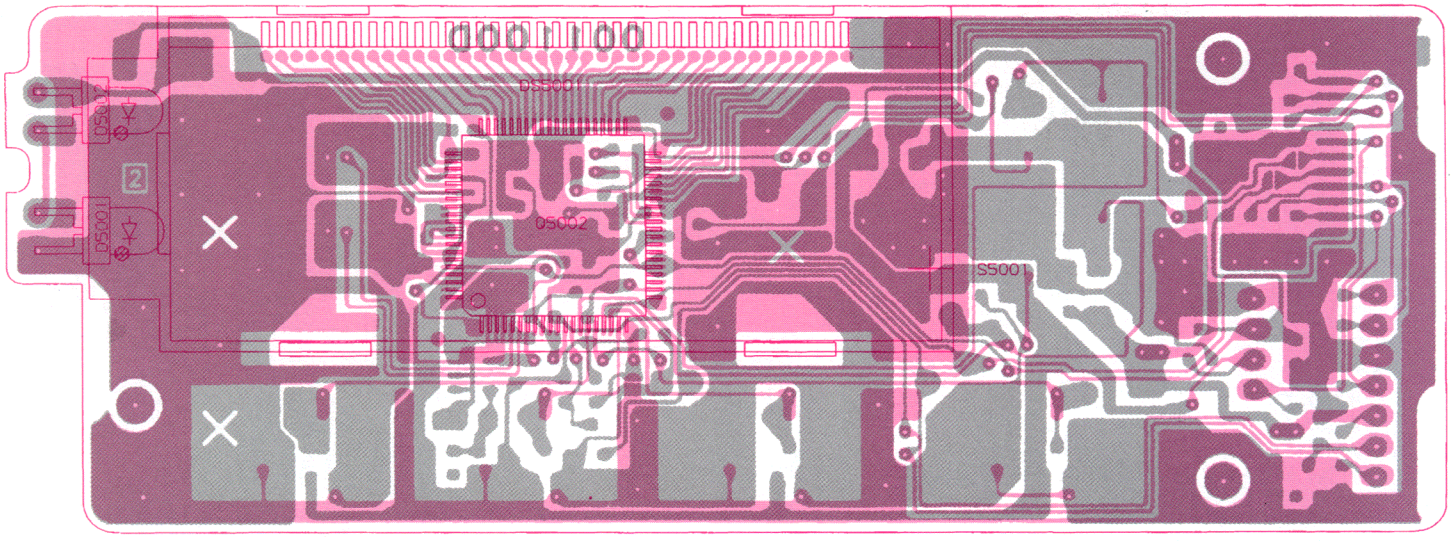
Circuit Diagram



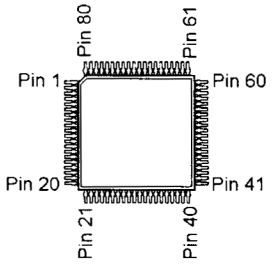
Front-A Unit (Lot. 3~)

Notes:

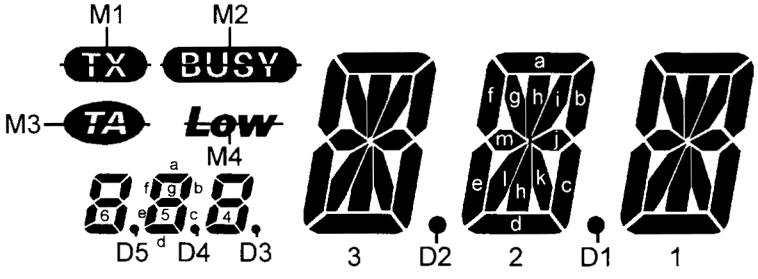
Parts Layout



LCD Side



HD4074849TF
(Q5002)

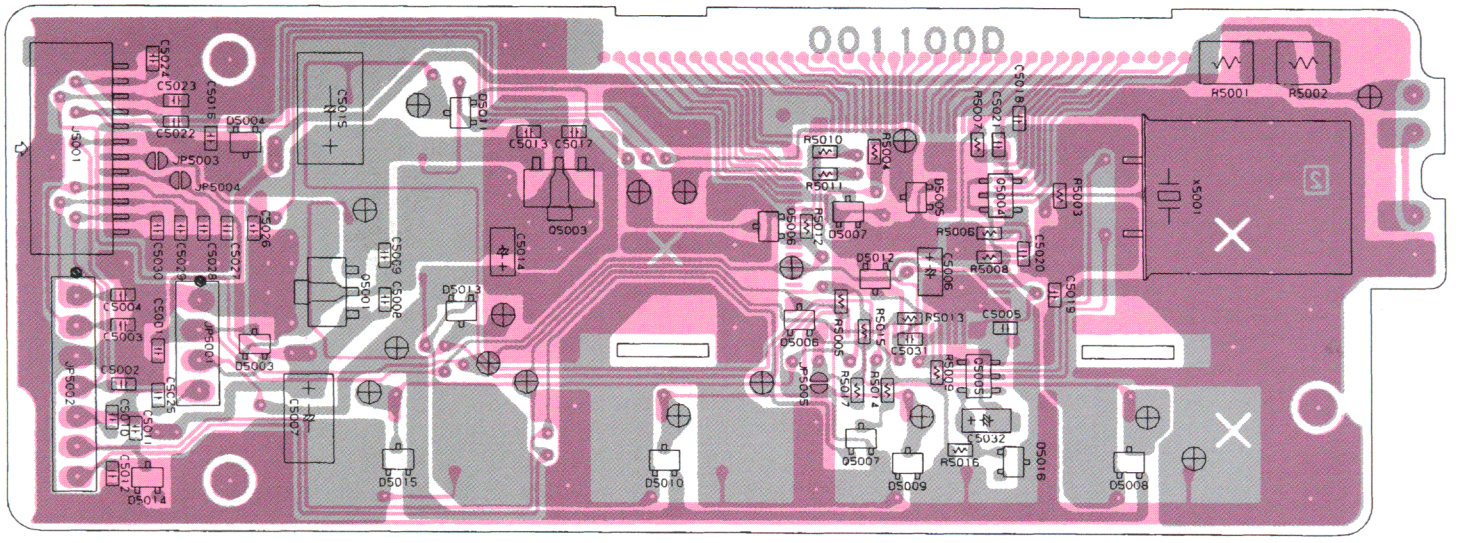


Pin No.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
		COM1		D5	6d	6e	6f	6a	5a	5f	5e	5d	M2	4a	4f	4e	4d	3e	3f	3a
	COM2		D3		6c	6g	6b	M3	M1	5b	5g	5c	M4	D4	4b	4g	4c	3l	3m	3g

Pin No.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39
	3b	3c		3d	D2	2c	2d	2e	2f	2a	2b	2j	1f	1a	1b	1c	1d	1e	
	3i	3j	3k	3h		2k	2h	2l	2m	2g	2i	1m	1g	1i	1j	1k	1h	1l	D1

DS5001 LCD Display

Front-A Unit (Lot. 3~)



Component Side

J5001

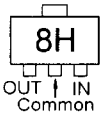
GND
CLK_FD
BUSY
FD
13SWD
D_ON
MUTE
VOL
HOOK
PTT
MIC
GND

To RF Unit J1003
(See Page 4A-3)

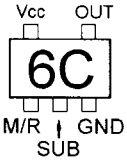
JP5002

PTT
HOOK
GND
MIC
9V
CL_SW
CL_DATA

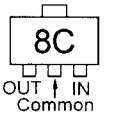
To MIC Unit JP7101
(See Page 4F-1)



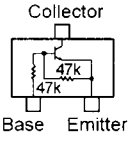
NJM78L09UA (8H)
(Q5001)



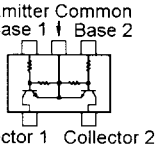
PST596CNR (6C)
(Q 5005)



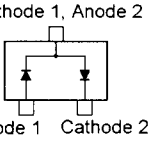
NJM78L05UA (8C)
(Q5003)



UN5213-(TX) (8C)
(Q5006, 5007)



XN1213-(TX) (9L)
(Q5004)



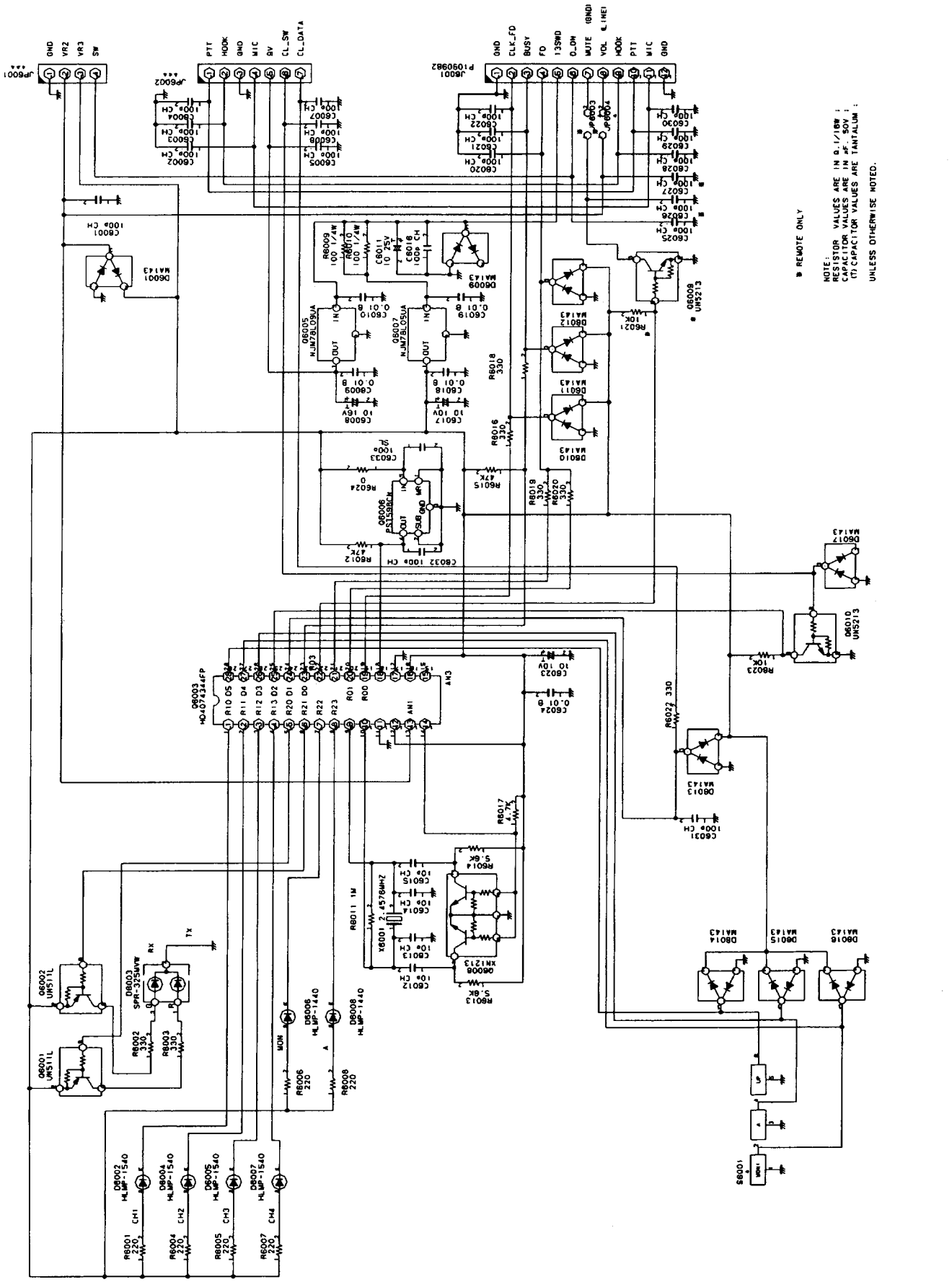
MA143-(TX) (MC)
(D5003, 5004, 5005, 5006, 5007, 5008, 5009, 5010, 5011, 5012, 5013, 5014, 5015)

Parts List

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
		*** FRONT-A UNIT ***						
	PCB with Components					CB0170101	48 CHANNELS	
	PCB with Components					CB0170102	120 CHANNELS	
	Printed Circuit Board					FR001100C		1-
	Printed Circuit Board					FR001100D		3-
C 5001	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5002	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5003	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5004	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5005	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 5006	TANTALUM CHIP CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 5007	TANTALUM CHIP CAP.	10uF	16V		TESVC1C106M12R	K78120011		1-
C 5008	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 5009	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 5010	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5011	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5012	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5013	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 5014	TANTALUM CHIP CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 5015	TANTALUM CHIP CAP.	10uF	25V		TESVD1E106M12R	K78140018		1-
C 5016	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5017	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 5018	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 5019	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 5020	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 5021	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 5022	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5023	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5024	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5025	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5026	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5027	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5028	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5029	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5030	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5031	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5032	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 5033	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
D 5001	LED				HLMF-KL05	G2090692		1-
D 5002	LED				HLMF-KL05	G2090692		1-
D 5003	DIODE				MA143-(TX)	G2070536		1-
D 5004	DIODE				MA143-(TX)	G2070536		1-
D 5005	DIODE				MA143-(TX)	G2070536		1-
D 5006	DIODE				MA143-(TX)	G2070536		1-
D 5007	DIODE				MA143-(TX)	G2070536		1-
D 5008	DIODE				MA143-(TX)	G2070536		1-
D 5009	DIODE				MA143-(TX)	G2070536		1-
D 5010	DIODE				MA143-(TX)	G2070536		1-
D 5011	DIODE				MA143-(TX)	G2070536		1-
D 5012	DIODE				MA143-(TX)	G2070536		1-
D 5013	DIODE				MA143-(TX)	G2070536		1-
D 5014	DIODE				MA143-(TX)	G2070536		1-
D 5015	DIODE				MA143-(TX)	G2070536		1-
DS5001	LCD				DLC-7998	G6090129		1-
J 5001	CONNECTOR				12FMS-1.0SP-TF	P1090982		1-
JP5006	WIRE ASSY				BLK100 B2/(3)	T9318038		2-
Q 5001	IC				NJM78L09UA TE2	G1091305		1-
Q 5002	IC				HD4074849TF(NO PROG.)	G1092531		1-
Q 5002	IC				HD404848B46TF	G1092950		5-
Q 5003	IC				NJM78L05UA TE1	G1091325		1-

REF.	DESCRIPTION	VALUE	WV	TOL.	YAESU P/N	YAESU P/N	VERS.	LOT.
Q 5004	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 5005	IC				PST596CNR R59-2978	G1092588		1-
Q 5006	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 5007	TRANSISTOR				UN5213-(TX)	G3070192		1-
R 5001	CHIP RES.	470	1/4W	5%	RMC1/4 471JATP	J24245471		1-
R 5002	CHIP RES.	470	1/4W	5%	RMC1/4 471JATP	J24245471		1-
R 5003	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-
R 5004	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 5004	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 5005	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 5005	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 5006	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 5007	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 5008	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 5009	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 5010	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 5010	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 5011	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 5011	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 5012	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 5013	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 5014	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 5015	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 5016	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
R 5017	CHIP RES.	47k	1/10W	5%	RMC1/10T 473J	J24205473		1-
R 5017	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		3-
X 5001	XTAL HC-49/U.2S	2.4576MHz			2.4576MHZ	H0103166		1-
	LCD HOLDER					RA0014900		1-
	LIGHT GUIDE					RA0013200		1-
	REFLECTOR SHEET					RA0013500		1-
	DIFFUSER SHEET					RA0013600		1-
	INTER CONNECTOR					RA0013700		1-
	SPONGE RUBBER					R7130200		1-
	LED SPACER				LH-5-4	S6000237		1-

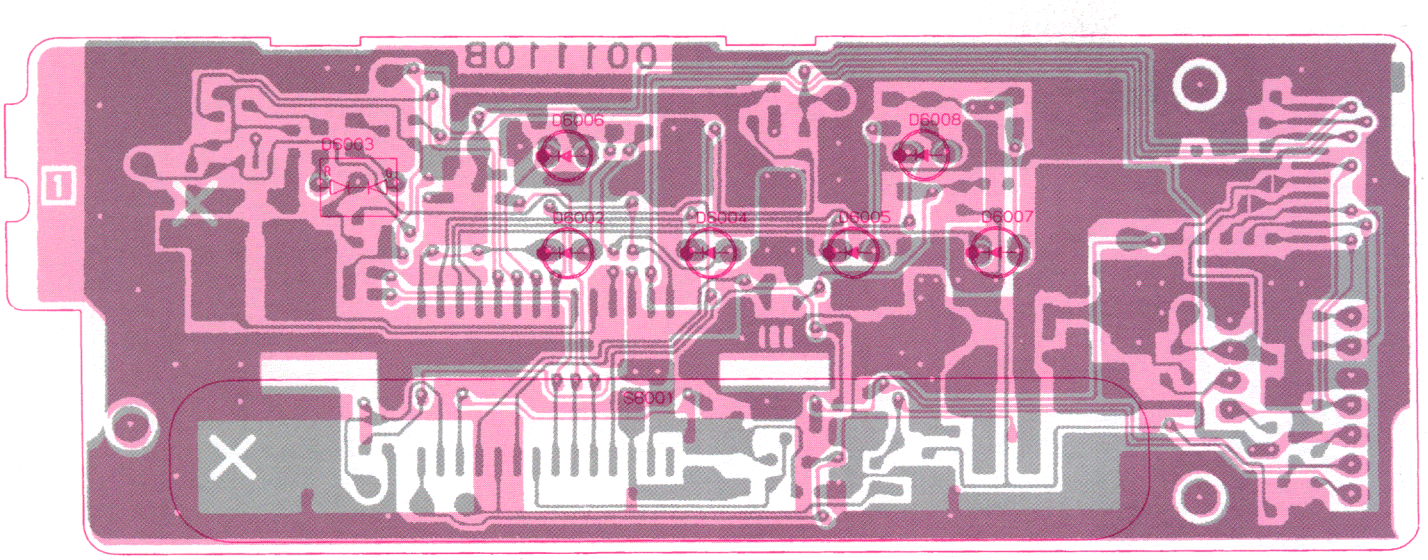
Circuit Diagram



Front-B Unit

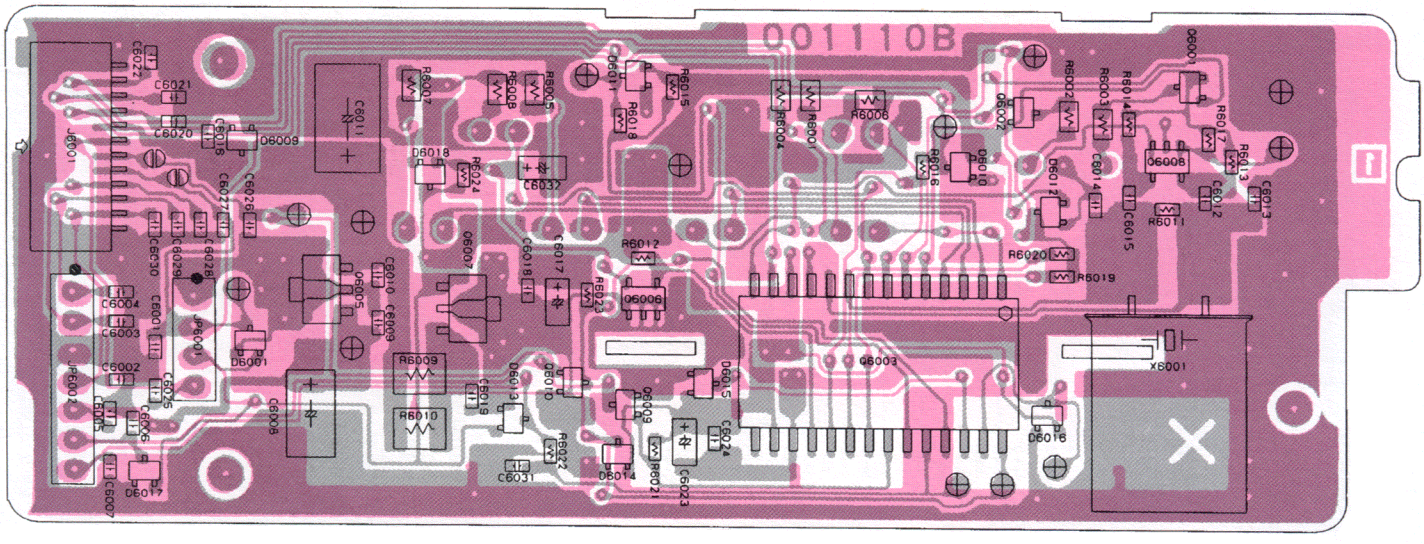
Notes:

Parts Layout



LED Side

Front-B Unit



Component Side

J6001

GND
CLK_FD
BUSY
FD
13SWD
D_ON
MUTE
VOL
HOOK
PTT
MIC
GND

To RF Unit J1003
(See Page 4A-3)

JP6002

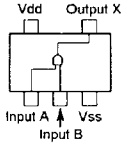
PTT
HOOK
GND
MIC
9V
CL_SW
CL_DATA

To MIC Unit JP7101
(See Page 4F-1)

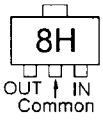
JP6001

GND
VR2
VR3
SW

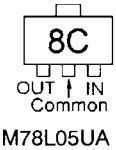
To VR Unit JP7001
(See Page 4E-1)



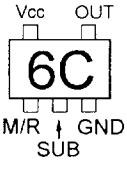
TC4S81F (C2)
(Q6004)



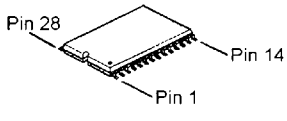
NJM78L09UA (8H)
(Q6005)



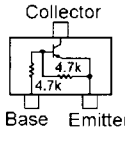
NJM78L05UA (8C)
(Q 6007)



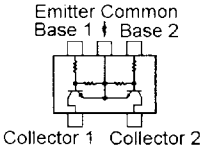
PST596CNR (6C)
(Q 6006)



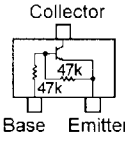
HD4074394FP
(Q6003)



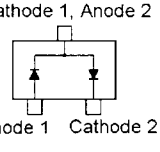
UN511L-(TX) (6J)
(Q6001, 6002)



XN1213-(TX) (9L)
(Q6008)

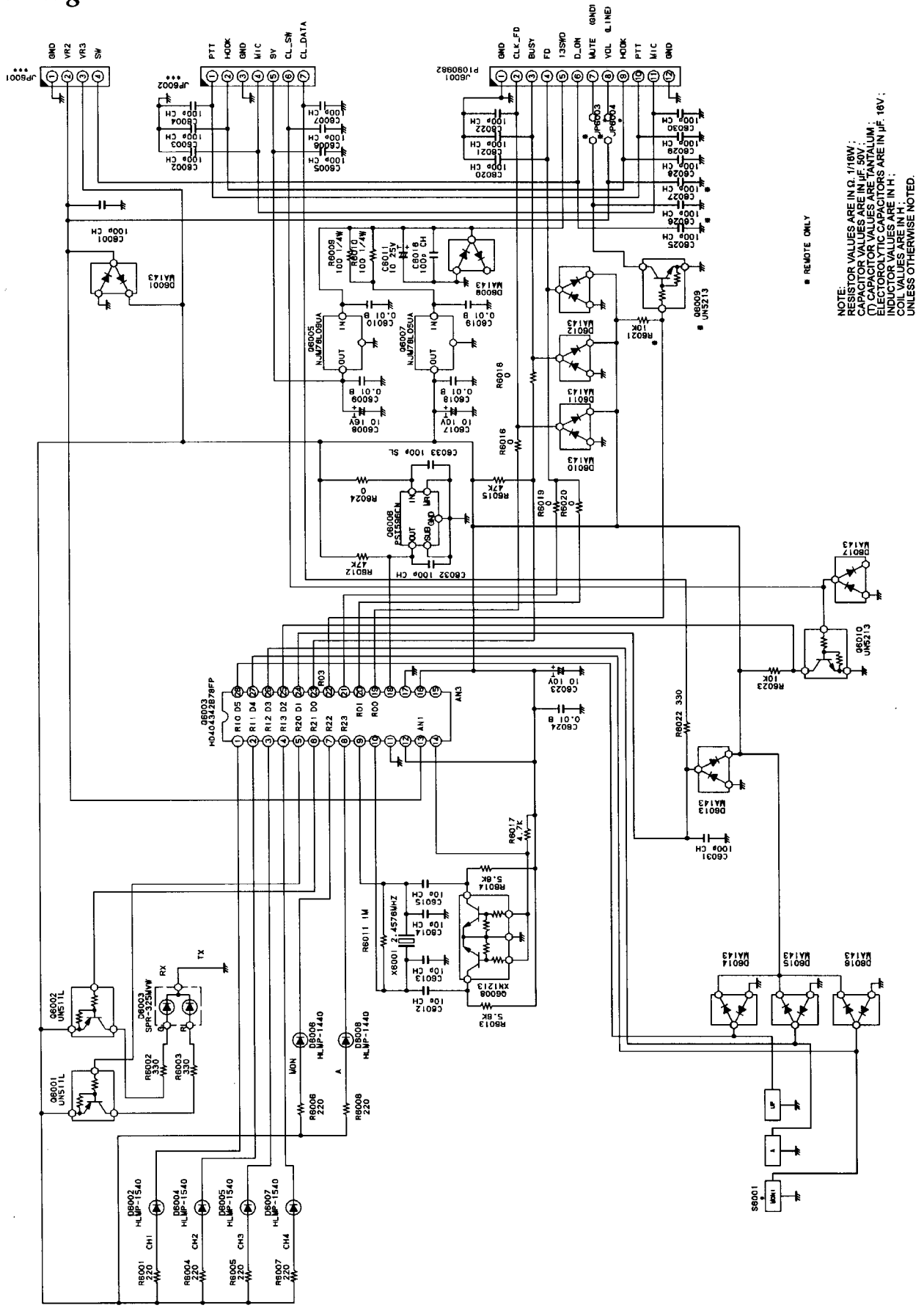


UN5213-(TX) (8C)
(Q6009, 6010)



MA143-(TX) (MC)
(D6001, 6009, 6010, 6011, 6012, 6013, 6014, 6015, 6016, 6017)

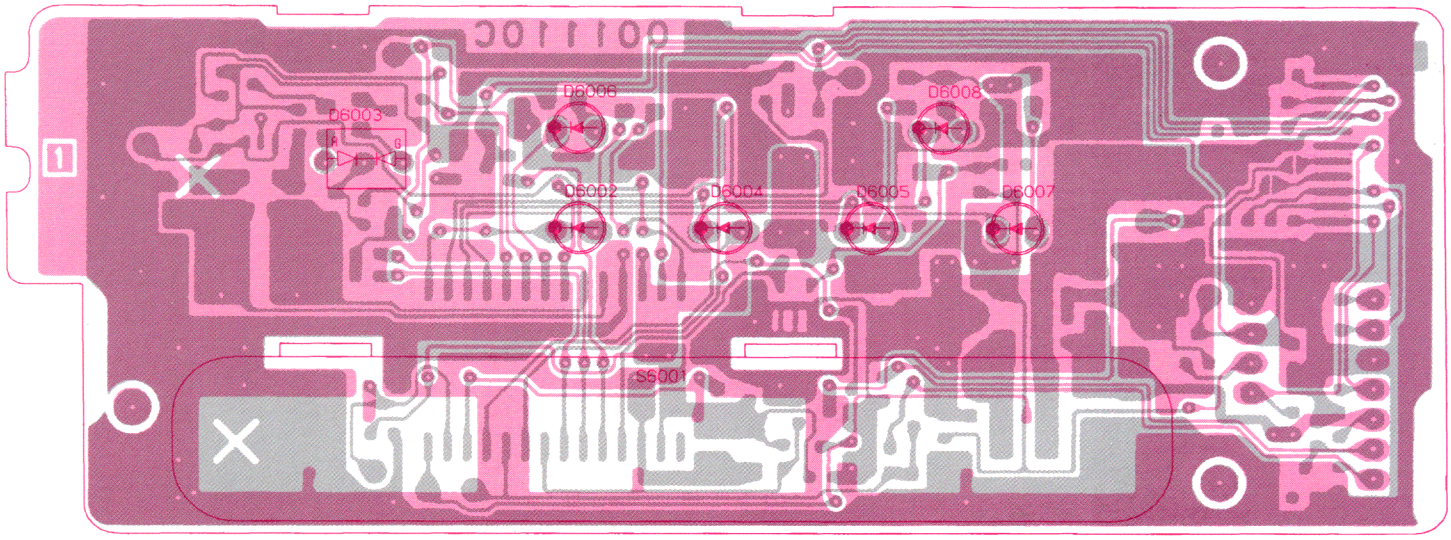
Circuit Diagram



Front-B Unit (Lot. 3~)

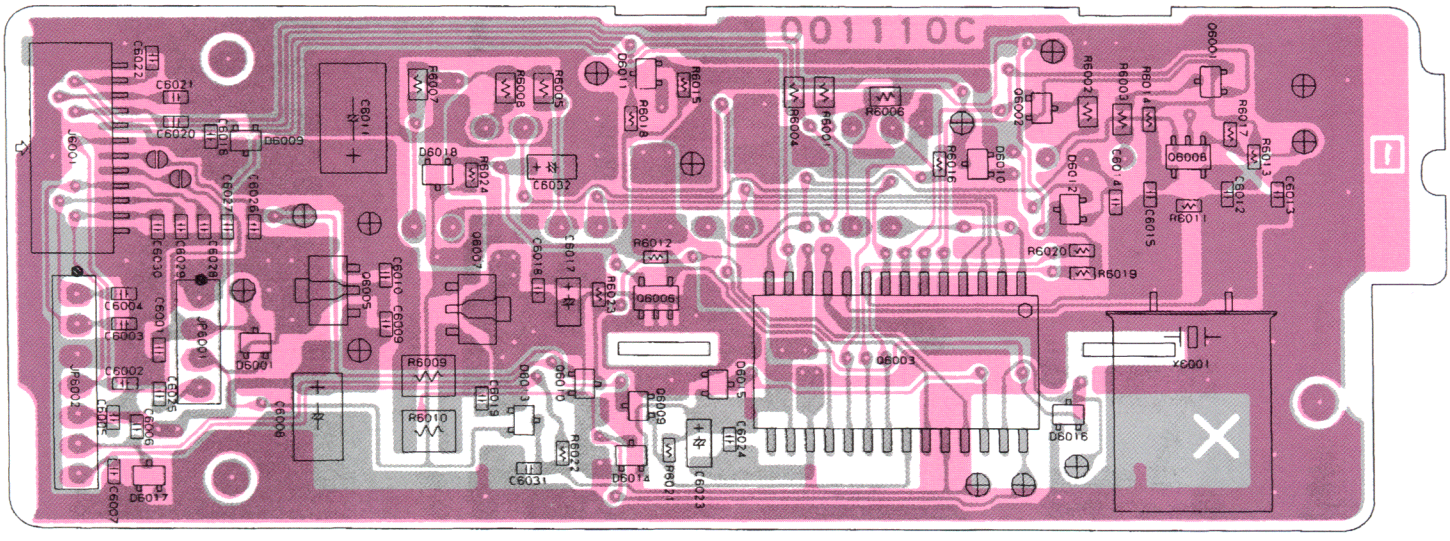
Notes:

Parts Layout



LED Side

Front-B Unit (Lot. 3~)



Component Side

J6001

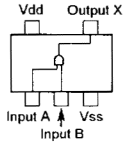
GND
CLK_FD
BUSY
FD
13SWD
D_ON
MUTE
VOL
HOOK
PTT
MIC
GND

To RF Unit J1003
(See Page 4A-3)

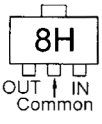
JP6002

PTT
HOOK
GND
MIC
9V
CL_SW
CL_DATA

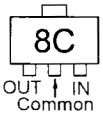
To MIC Unit JP7101
(See Page 4F-1)



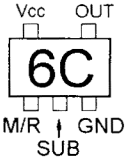
TC4S81F (C2)
(Q6004)



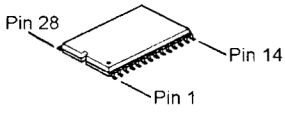
NJM78L09UA (8H)
(Q6005)



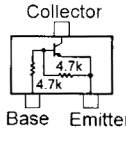
NJM78L05UA (8C)
(Q 6007)



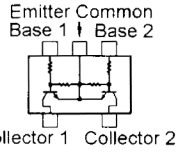
PST596CNR (6C)
(Q 6006)



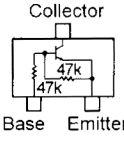
HD4074394FP
(Q6003)



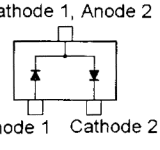
UN511L-(TX) (6J)
(Q6001, 6002)



XN1213-(TX) (9L)
(Q6008)



UN5213-(TX) (8C)
(Q6009, 6010)



MA143-(TX) (MC)
(D6001, 6009, 6010, 6011, 6012, 6013, 6014, 6015, 6016, 6017)

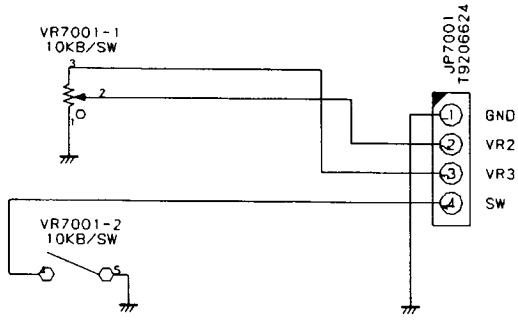
Parts List

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
					*** FRONT-B UNIT ***			
	PCB with Components					CB0171101	4 CHANNELS	
	Printed Circuit Board					FR001110B		1-
	Printed Circuit Board					FR001110C		3-
C 6001	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6002	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6003	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6004	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6005	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6006	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6007	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6008	TANTALUM CHIP CAP.	10uF	16V		TESVC1C106M12R	K78120011		1-
C 6009	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 6010	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 6011	TANTALUM CHIP CAP.	10uF	25V		TESVD1E106M12R	K78140018		1-
C 6012	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 6013	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 6014	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 6015	CHIP CAP.	10pF	50V	CH	GRM39CH100D50PT	K22174211		1-
C 6016	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6017	TANTALUM CHIP CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 6018	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 6019	CHIP CAP.	0.01uF	50V	B	ECUV1H103KBV	K22179626		1-
C 6020	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6021	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6022	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6023	TANTALUM CHIP CAP.	10uF	10V		TEMSVA1A106M-8R	K78100028		1-
C 6024	CHIP CAP.	0.01uF	50V	B	GRM39B103M50PT	K22174823		1-
C 6025	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6026	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6027	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6028	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6029	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6030	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6031	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6032	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 6033	CERAMIC CAP.	100pF	50V	SL	DD105SL101J50	K00175101		1-
D 6001	DIODE				MA143-(TX)	G2070536		1-
D 6002	LED				HLMP-1540	G2090696		1-
D 6003	LED				SPR-325MVWT31	G2050016		1-
D 6004	LED				HLMP-1540	G2090696		1-
D 6005	LED				HLMP-1540	G2090696		1-
D 6006	LED				HLMP-1440	G2090695		1-
D 6007	LED				HLMP-1540	G2090696		1-
D 6008	LED				HLMP-1440	G2090695		1-
D 6009	DIODE				MA143-(TX)	G2070536		1-
D 6010	DIODE				MA143-(TX)	G2070536		1-
D 6011	DIODE				MA143-(TX)	G2070536		1-
D 6012	DIODE				MA143-(TX)	G2070536		1-
D 6013	DIODE				MA143-(TX)	G2070536		1-
D 6014	DIODE				MA143-(TX)	G2070536		1-
D 6015	DIODE				MA143-(TX)	G2070536		1-
D 6016	DIODE				MA143-(TX)	G2070536		1-
D 6017	DIODE				MA143-(TX)	G2070536		1-
J 6001	CONNECTOR				12FMS-1.0SP-TF	P1090982		1-
JP6005	WIRE ASSY				BLK100 B2/(3)	T9318038		2-
Q 6001	TRANSISTOR				UN511L-(TX)	G3070196		1-
Q 6002	TRANSISTOR				UN511L-(TX)	G3070196		1-
Q 6003	IC				HD4074344FP(NO PROG.)	G1092095		1-
Q 6003	IC				HD404342B78FP	G1092771		5-

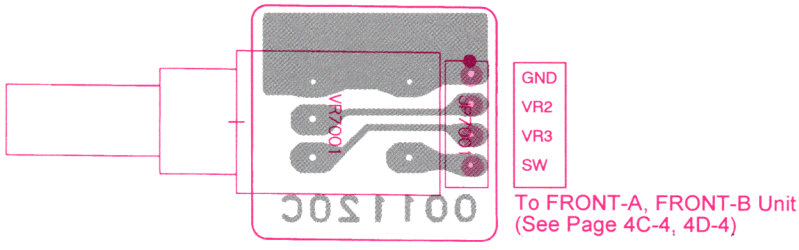
Front-B Unit

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
Q 6005	IC				NJM78L09UA TE2	G1091305		1-
Q 6006	IC				PST596CNR R59-2978	G1092588		1-
Q 6007	IC				NJM78L05UA TE1	G1091325		1-
Q 6008	TRANSISTOR				XN1213-(TX)	G3070194		1-
Q 6009	TRANSISTOR				UN5213-(TX)	G3070192		1-
Q 6010	TRANSISTOR				UN5213-(TX)	G3070192		1-
R 6001	CHIP RES.	220	1/10W	5%	RMC1/10T 221J	J24205221		1-
R 6002	CHIP RES.	330	1/10W	5%	RMC1/10T 331J	J24205331		1-
R 6003	CHIP RES.	330	1/10W	5%	RMC1/10T 331J	J24205331		1-
R 6004	CHIP RES.	220	1/10W	5%	RMC1/10T 221J	J24205221		1-
R 6005	CHIP RES.	220	1/10W	5%	RMC1/10T 221J	J24205221		1-
R 6006	CHIP RES.	220	1/10W	5%	RMC1/10T 221J	J24205221		1-
R 6007	CHIP RES.	220	1/10W	5%	RMC1/10T 221J	J24205221		1-
R 6008	CHIP RES.	220	1/10W	5%	RMC1/10T 221J	J24205221		1-
R 6009	CHIP RES.	100	1/4W	5%	RMC1/4 101JATP	J24245101		1-
R 6010	CHIP RES.	100	1/4W	5%	RMC1/4 101JATP	J24245101		1-
R 6011	CHIP RES.	1M	1/16W	5%	RMC1/16 105JATP	J24185105		1-
R 6012	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 6013	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 6014	CHIP RES.	5.6k	1/16W	5%	RMC1/16 562JATP	J24185562		1-
R 6015	CHIP RES.	47k	1/16W	5%	RMC1/16 473JATP	J24185473		1-
R 6016	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 6016	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 6017	CHIP RES.	4.7k	1/16W	5%	RMC1/16 472JATP	J24185472		1-
R 6018	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 6018	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 6019	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 6019	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 6020	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 6020	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		3-
R 6021	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 6022	CHIP RES.	330	1/16W	5%	RMC1/16 331JATP	J24185331		1-
R 6023	CHIP RES.	10k	1/16W	5%	RMC1/16 103JATP	J24185103		1-
R 6024	CHIP RES.	0	1/16W	5%	RMC1/16 000JATP	J24185000		1-
X 6001	XTAL HC-49/U.2S	2.4576MHz			2.4576MHZ	H0103166		1-
	LED SPACER				LH-5-2	S6000235		1-
	LED SPACER				LH-36-3	S6000301		1-

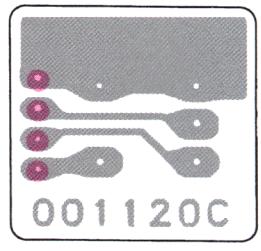
Circuit Diagram



Parts Layout



Component Side



Solder Side

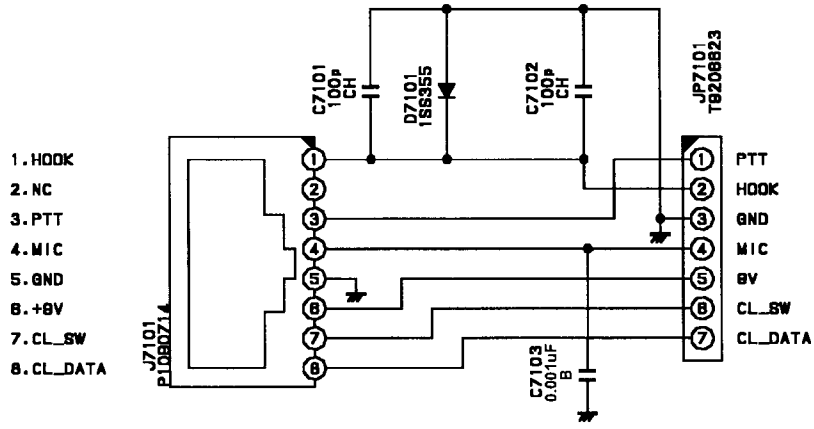
Parts List

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
				*** VR UNIT ***				
	PCB with Components					CB0172001		
	Printed Circuit Board					FR001120C		1-
JP7001	WIRE ASSY				A0834	T9206624		1-
VR7001	POT.				RK0971111 10KB/SW	J60800228		1-

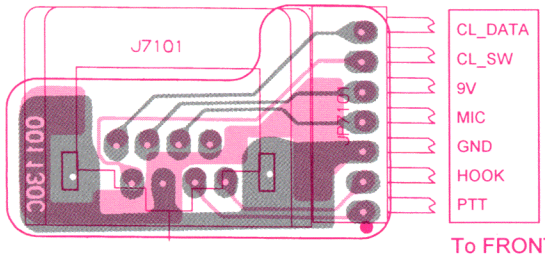
VR Unit

Notes:

Circuit Diagram

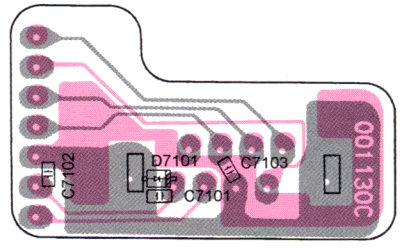


Parts Layout



Component Side

To FRONT-A, FRONT-B Unit
(See Page 4C-4, 4D-4)



Solder Side

Parts List

REF.	DESCRIPTION	VALUE	WV	TOL.	MFGR'S DESIG	YAESU P/N	VERS.	LOT.
				*** MIC UNIT ***				
	PCB with Components					CB0173101		
	Printed Circuit Board					FR001130C		1-
C 7101	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 7102	CHIP CAP.	100pF	50V	CH	GRM39CH101J50PT	K22174235		1-
C 7103	CHIP CAP.	0.001uF	50V	B	GRM39B102K50PT	K22174821		14-
D 7101	DIODE				1SS355 TE-17	G2070470		1-
J 7101	CONNECTOR				R41-2509H	P1090714		1-
JP7101	WIRE ASSY				A0834	T9206623		1-

Notes:

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