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INSTRUCTION MANUAL
FOR
WATT SSB RADIO SET
TYPE SSOIA-PC6/SSOIA-PC11

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1. GENERAL DESCRIPTION

The Type SSO1A-PC6/SSO1A-PC11 watt SSB Radio Set is a completely transistorized and rain-proof single sideband portable radio-telephone equipment which is designed for professional use and has the high reliability in the field operation.

The power source of the equipment is available by three ways, such as Dry Cell batteries, Nickel-Cadmium batteries and floating operation with batteries or battery charger. On the Nickel-Cadmium Power Pack, a connector for the vehicular battery is provided and also power cord is attached as accessory. These power packs are changed by unsnapping two catch clips located at the both sides of the unit and separating the power pack from the radio section.

The equipment has six simplex channels for Type SSO1A-PC6 and eleven for Type SSO1A-PC11 in the frequency range form three(3) to seven(7) MHz and delivers to the antenna circuit one watt peak RF put power on suppressed carrier single sideband. Receiver sensitivity and selectivity are the finest depending on the razor shape crystal filter which is developed by ANRITSU and application of high I. F. forms good spurious and image rejection.

Dependable operation in high ambient temperature is guaranteed by the use of reliable silicon transistors and screened components

All necessary accessories such as a handset with press-to-talk button,

2.8 meters steel whip antenna, carrying canvas container power cord for vehicular battery and power extension cord are included in this equipment

2. TECHNICAL DATA

2.1 General

(1) Frequency range

(2) No. of channels

(3) Mode of operation

(4) Type of emission

3 to 7MHz

Type SSO1A-PC6 6 channels

Type SSO1A-PC11 11 channels

Simplex, press-to-talk

A3J, suppressed carrier single sideband and Al, manual keying

(5)	Sideband	Lower/upper sideband, selected by a switch
(6)	Ambient conditions	
	Temperature	-10°C to +5 5 °C
	Humidity	95% R.H. +35°C
T	ransmitter	
(1	RF power output	More than 1 watt PEP for 39pF 20 ohms load at nominal battery voltage
(2)	Frequency stability	Better than +100Hz
3)	Carrier suppression	Better than -40dB below P. E. P
4	Spurious emission	Better than -30dB
(5)	Audio response	Less than 10dB from 500Hz to 2500Hz
(6)	Tone frequency	500Hz <u>+</u> 1%
R	eceiver	
(1	Sensitivity	Better than 10dB signal to noise ratio at 1 micro-volt input and 50mW output
(2	Selectivity	-6dB bandwidth More than 1.5KHz
		-40dB bandwidth Less than +2.1KHz
(3)	Image rejection	Better than 40dB
(4)	Audio output	100mW at less than 10% distortic
4 P	ower Supply	
	Ory Cel Power Pack	10 units UM-1 or D-type standard

2.

battery, or Alkaline Manganese battery

(2 Nickel-Cadmium Power Pack

12 units hermetical sealed alkaline nickel-cadmium battery (1200mAH) nominal voltage 14.4 volts.

3) Battery ife

Approx. 6 hours under normal operating conditions.

3. COMPOSITION

This equipment consists of the parts as follows:

Transmitter-Receiver section including the 1 channel crystals 2. Dry Cell Power Pack 229U5928 excluding dry 1	
2 Dry Cell Power Pack 229U5928 excluding dry 1	
cell batteries	
3. Nickel-Cadmium Power Pack 229U5929 l excluding nickel-cadmium batteries	
4 Whip Antenna 1	
5. Carrying canvas Container with straps 1	
6 Power Cord 9CD-2404 for 12 volts vehicular 1 bettery	
7 Power Extention Cord 9CD-2406 1	
8. Handset with press-to-talk button 1	

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a) Transmitter-Receiver Section

The construction of this section is divided into three sub-sections, such as top panel and X-tal Osc. unit, H. F. unit, A. F. & I. F. unit All control and facilities needed for usual operation are mounted on the top panel. At the top panel, a steel handle for handy operation is fixed and it protects the knobs of all controls and facilities on the top panel from damage caused by rough operation in the field top panel and the outer case are combined by rugged catch clips. The H. F. unit is composed of transmitting H. F. amplifier including 2nd balanced modulator and power amplifier, and receiving H. F. amplifier stage including frequency converter. All these circuits are mounted on a printing circuit board except a tuning device of the power amplifier and a channel switch, and it is connected to the top panel by a multi-connector.

The A.F. & I.F. unit is composed of a first local oscillator (9.7MHz, 9.703MHz and lMHz oscillator), low level ring modulator, four stage I.F. amplifiers of the receiver, a product detector and A.G.C amplifiers (I.F. amplifier and DC amplifier), two stage audio amplifiers of the receiver and a Voltage stabilizer. All these circuits except power transistor of the voltage stabilizer are mounted on

a printing circuit board as same as other units, and it is connected to the HF unit by a multi-connector.

b) Dry Cell Power Pack (229U5928)

Ten units of standard flash light battery UM-1 or D-type, which are connected in series, are accommodated in the Dry Cell Power Pack. Power pack is coupled to the Transmitter-Receiver unit by rugged catch clip located at the both sides of the unit as same as the top panel of the Transmitter-Receiver unit and the case is combined. There are ten compartments in the power pack and one Dry Cell battery is accommodated in each compartment. Batteries are contacted with springs and connected in series by printing circuit boards. Therefore, replacement of the alternative battery and maintenance are quite simple.

c) Nickel-Cadmium Power Pack (229U5929)

Nickel-Cadmium Power Pack can be also attached to the radio set. The power pack contains twelve hermetically-sealed cells which are in series connected to provide a nominal 14.4 volts output. In case of using this power pack, operation from either 12 volts vehicular battery or 110/220 volts AC mains by use of the battery charger is also possible. The battery charger is available for long time operation by floating system. The power pack has the same internal construction as the Dry Cell Power Pack.

d) Whip Antonna

This whip antonna comprises chromium molybdenum steels of fine quality, brasses and artificial rubbors.

And it is hardly broken by shocks and impacts.

The total length of the antenna is about 2.8 meters, but the antenna can be folded into 7 sections.

Therefore, when the antenna is accommodated in the carrying canvas, fold it into 7 sections, and insert it into the canvas.

It is very easy to carry it, because the length is short in this condition.

e) Carrying Canvas Container

The carrying Canvas Container may be used for over-shoulder sling-

ing of the equipment.

The accessoried straps of the container is used for protection of movement of the container. In the main part of this container the radio set is accommodated, and a power cord for 12 volts vehicular battery, a power extension cord and a dipole antenna are accommodated in the front part of this container

The handset is inserted into the left side pocket of the bag, keeping the spiral cord connected to the Transmitter-Receiver unit. The antenna bag is able to be tied to the right side of the bag with straps

- f) Power Cord (9CD-2404) for 12 Volts Vehicular Battery
 The Power Cord 9CD-2404 is used for operating the set by means of
 a 12 volts vehicular battery, when the Nickel-Cadmium Power Pack
 is used The length of this cord is 3 meters and connectors and
 battery clips are attached at each end Red clip shall be connected
 to the positive side of the power supply and black clip shall be connected to the negative side
- g) Power Extension Cord (9CD-2406)

The Power Extension Cord is used for supply of a power source to the Transmitter-Receiver unit, instead of the Dry Cell Power Pack or the Nickel-Cadmium Power Pack in case of repair or adjustment The length of this cord is 2 meters attaching a connector which is coupled to power source connector of the Transmitter-Receiver unit and clips at each end.

Red clip shall be connected to the positive side of a power supply and black clip shall be connected to the negative side.

h) Handset

The Handset supplied is complete with a polyvinyl covered spiral cord, which extends up to about 2 meters, and a press-to-talk button which makes transmitter on

The handset will be connected to the radio set by a four pole connector

4 OPERATING INSTRUCTION

4.1 Top Panel Controls and Facilities

The controls and facilities needed for usual operation are arranged

on the top panel. The function of them are described as follows:

a) POWER ON-OFF

This switch is a double pole water-proof switch.

- By setting it to "ON" position, the radio set is supplied power source from the power pack and the set is ready for operation.

 The meter located on the top panel indicates the supply voltage.
- b) TUNING

This control comprises antenna matching network with the slug tuning mechanism. Optimum antenna matching can be achieved by making the meter reading to maximum indication.

c) VOLUME

This control adjusts the output level of the received signal. The signal level continuously becomes loud by turning it clockwise.

d) KEY

The wiring for terminals of connector socket is as follows.

No. 1 terminals:

Earth

No. 2 terminals:

Key line

No. 3 terminals:

No. 4 terminals:

Receiver audio line

e) SPEAKER ON-OFF

The speaker switch connects the receiver output to the speaker.

At OFF position, a dummy resistance is connected instead of the speaker.

f) HANDSET

This socket is a four pole connecting socket plugged by the connector of the handset.

The wiring of terminals of the connector socket is as follows;

No. 1 terminal:

Earth

No. 2 terminal:

Press-to-talk line

No. 3 terminal:

Input line of the transmitter modulator

No. 4 terminal:

Receiver audio output line

g) SPEAKER

The built-in speaker is provided at the upper right part of the top panel, and is used for signal receiving.

h) METER

This meter indicates the power supply voltage in standby condition and the RF power output level in transmitting condition.

i) CHANNEL

This switch selects the operating frequencies. The operating frequency of each switch position is given on a frequency chart attached on the handle.

j) ANTENNA

Base for the Whip Antenna

The mounting base for the whip antenna is provided on the left part of the top panel. The bottom of the whip antenna is plugged into this base

Terminals for the Dipole or Long Wire Antenna
Antenna terminal and earth terminal are provided near the
base. A dipole antenna or a long wire antenna for long distance communications is available.

4.2 Operation

4.2.1 Preparation

- a) Plug the connector of the handset into the "Handset" connector socket located on the right part of the top panel and turn it clockwise until it is tightly locked.
- b) Set the plug of the whip antenna into the antenna mounting base, when the whip antenna is used:
- c) For long distance communications, the dipole antenna will be recommanded Connect the feeder of the dipole antenna to the antenna terminal and the earth terminal

 When the dipole antenna is used, total horizontal length of the dipole antenna shall be adjusted to half wave length of the operating frequency.

Note: Don't use the whip antenna and the dipole antenna at the same time.

4.2.2 Operational Procedure

4.2.2.1 To Receive

- a) Set the power switch to "ON" position. Then the receiver is placed in
 - · operating condition. Check the source voltage by the meter located on the top panel. If the meter indication is under the red mark zone, dry cells shall be replaced.
- b) Set the "CHANNEL" selector to the desired operational frequency channel, and throw the "USB/LSB" switch to the desired side either "USB" or "LSB"
- c) Turn counterclockwise the "LOCK" knob of the "TUNING" slightly to release.
- d) Adjust the "TUNING" to set the maximum meter indication with pressing the "KEY"

 After completion of tuning the "LOCK" knob it shall be turned clockwise to prevent detuning.
- e) Adjust the "VOLUME" control to the proper level.
- f) To watch the coming signals, the monitor speaker will be available, but if you do not need it, the speaker can be cut off by "SPEAKER" switch.

4.2.2.2 To Transmit

- a) Hold the mouthpiece of the handset 2 to 5 c.m. from lips.

 Push the press-to-talk button firmly and hold it. The set becomes transmitting conditions.
- b) Speak slowly and clearly across the mouthpiece in a normal-toloud voice
- c Release the button to listen The receiver becomes inoperative when the press-to-talk button is pushed. Therefore, the button must be released at the end of transmission to receive
- d) To operate on CW (Al emission, push the "KEY" button according to codes at normal speed.

Note: Don't push the key or press-to-talk button without antenna or dummy load.

4.2.3 Operation by External Power Source

The radio set SSO1A-PC6/SSO1A-PC can be used for long term continuous operation by application to external D.C. 12 volts power

V

supplies, such as 12 volts vehicular batteries or rectifier

It is noted, however, that these operations are only available when the nickel-cadmium battery power pack is used with nickel-cadmium batteries. If an external power source is connected to the nickel-cadmium battery power pack without batteries the radio set can not operate, besides it will be in danger of damage to the radio circuit. To operate with External Power Source;

- a) Set the Nickel-Cadmium power pack to the set.
- b) Confirm the installation of nickel-cadmium batteries by the check meter

Note: It is not needed that the check meter indicates the red marked zone.

- c) Connect the power cord for 12 volts vehicular battery (9CD-2404) to the socket which is mounted on the side of the power pack
- d) Connect the red and black clips to the positive and negative terminals of 12 volts battery.

Note Grounded negative power system is recommended for this purpose. If the positive side of the battery is connected to ground, the body of the radio set shall be insulated from the ground.

5. CIRCUIT DESCRIPTION

5. 1 Transmitter

The output of the microphone unit is coupled to the A.F. amplifier Q201, through the variable resister R201 for audio level control. And, the output of the A.F. amplifier Q201 is coupled to the low level ring modulator composed of Q202, Q203, Q204 and Q205.

Also, the output of the carrier frequency oscillator is fed to the ring modulator through C204 and C205

The carrier frequency oscillator is composed of two crystal oscillators, that is, 1MHz oscillator Q214, and 9.7MHz oscillator Q215 (for lower sideband operation) or 9.703MHz oscillator Q216 (for upper sideband operation)

The outputs of these oscillators are injected to the ring modulator consisted of Q210, Q211, Q212 and Q213, the output of the ring modulator is fed to the filter circuit consisted of T204, T205 and several



capacitors, to select the sum frequency of two oscillators which is used for carrier frequency through the buffer amplifier.

The 9.7MHz oscillator Q215 and the 9.703MHz oscillator Q216 are also used for composing the local oscillator. And owing to that the frequencies of carrier frequency oscillator and local oscillator can be changed 3kHz simultaneously, the radio set Type SSO1A-PC6/SSO1A-PC-11 can operate the desired sideband operation either upper or lower. The output of the ring modulator composed of Q202, Q203, Q204 and Q205 which consists of both sidebands (upper and lower sideband) but without carrier is amplified by Q206 and fed to the band pass filter U201 which is composed of crystals, and the unwanted sideband and leaked carrier are rejected The center frequency of the crystal filter is 10701. 5kHz. The desired single sideband signal passed through the crystal filter is fed to the balanced modulator in H. F. unit. The balanced modulator is composed of two transitors Q101 and Q102 which are connected in the push-pull circuit. The output of the local oscillator is applied to both bases of Q101 and Q102 keeping in-phase through the coupling capacitor C105 and C106.

The local oscillator is also composed of two crystal oscillators, that is, channel oscillator Q1, and foregoing 9.7MHz oscillator Q215 (for lower sideband operation) or 9.703MHz oscillator Q216 (for upper sideband operation) The outputs of these oscillators are injected to the ring modulator consisted of Q107, Q108, Q109 and Q110, and the output of the ring modulator is fed to the high pass filter Z102, to select the sum frequency of two oscillators, which is used for local frequency through the buffer amplifier.

The six crystal units (for Type SSO1A-PC6) or eleven crystal units (for Type SSO1A-PC11) are selected by the CHANNEL selector S1-b Relations between carrier frequency and local frequency are as follows

- L. S. B. operation: Local frequency=Carrier frequency+lMHz+9.7MHz
- U.S.B operation: Local frequency=Carrier frequency+lMHz+9.703MHz

Carrier frequency+lMHz=Channel oscillator frequency

Spurious components contained in the output of the balanced modulator are rejected by the low-pass filter Z101 and the desired signal is amplified by the wide-band R. F amplifier, Q103, and Q104. The output of R. F amplifier stage is coupled to the base of the power amplifier Q105 through T104 The R. F output of the power amplifier is supplied to the antenna through an antenna tuning tank L1 and contacts of the press-to-talk relay K101. The antenna tuning device is composed of high "Q" coil and slug tuning mechanism.

The tone oscillator which is composed of Q207 and T203 generates 1.5KHz A.F. signal by pressing the KEY button S3.

The 1.5KHz signal supplied to the modulator produces non-modulated continuous signal and it is useful for tuning and A communication

2 Receiver

T e signal from the antenna is coupled to the base of the R. F. amplir Q114 through the antenna tuning circuit which is commonly used in transmission and reception A load of the R. F. amplifier is composed of a wideband transformer T107. In the mixer stage the incoming R. F. signal and the oscillator requency are mixed and the

The carrier oscillator is commonly used in transmitter and receiver The I.F frequency is amplified by four stages I.F amplifier, Q217 Q218, Q219 and Q220, through the crystal filter

frequency of 10.7MHz is produced

The product detectors Q221 and Q222 convert the F. signal to an audio frequency signal, and the demodulated signal is supplied to the first audio amplifier

The detector circuit consists of two transistors Q221 and Q222 and emitters of them are connected together. One transistor functions as emitter follower amplifier and another functions as negative feed back amplifier. These combined circuit performs linear detection. The audio output of the detector is fed to two audio amplifier stages Q226, Q227 and Q228 through the volume control R12. The audio output power of the A.F. amplifier is 100mW across 8 ohms load.

Voltage Regulator

Output voltage of the power pack changes 5 volts to 11 volts

These voltage variation of batteries is stabilized at 10.5 volts by the

series regulator circuit composed of Q229, Q230, Q231 and Q232. Setting of the regulated voltage can be adjusted by the variable resistor R292.

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6. MAINTENANCE

Routine Maintenance

It is recommended that the set should be kept clean and dry by regular periodic cleaning with a soft dusting brush and blower or vacuum cleaner. At the same time, all external connectors and switch contacts should be checked and cleaned.

Also, the battery voltage should be tested at the meter attached on the top panel. If necessary, it should be tested at the battery terminal under transmit load conditions by using a circuit tester.

The Dry Cell battery should be replaced when the voltage under transmit load conditions is below 11 volts

The Nickel-Cadmium battery should be charged when the voltage under transmit load conditions falls to 10.0 volts.

.2 Battery Replacement

Dry-Cell battery replacement procedure is as follows;

- a) Unsnap the catch clips at lower both sides of the set.
- b) Pull the bottom section of the set (power pack) down and separate it from the upper section (transmitter-receiver section).
- c) Remove the battery compartment cover by undoing the panel lock.
- d) To replace batteries, at first remove the old batteries by turning the power pack upside down. Put the new batteries in the compartment according to the marks on the inner surface of the power pack so that the flat (negative) end of the batteries makes contact with the springs and the tip (positive) end of the batteries makes contact with the round tip contact surface.

6.3 Nickel-Cadmium Battery Charging

The voltage of a nickel-cadmium battery remains approximately constant under load until battery approaches the discharge condition. At this time, a marked decrease in this voltage occurs and the battery reaches discharged condition abruptly. These batteries should be recharged when the voltage under transmit load falls to 10.0 volts.

Our special battery charger is recommended for charging these batteries. The use of other chargers will cause the battery guarantee void and may result in permanent damage to the batteries, if charging current exceeds the normal value.

Normal charging current and charging time are as follows

Charging Current	100% Discharge	50% Discharge
120 mA		
80 mA	21 hours	11 hours
60 mA	28 hours	14 hours

Notes:

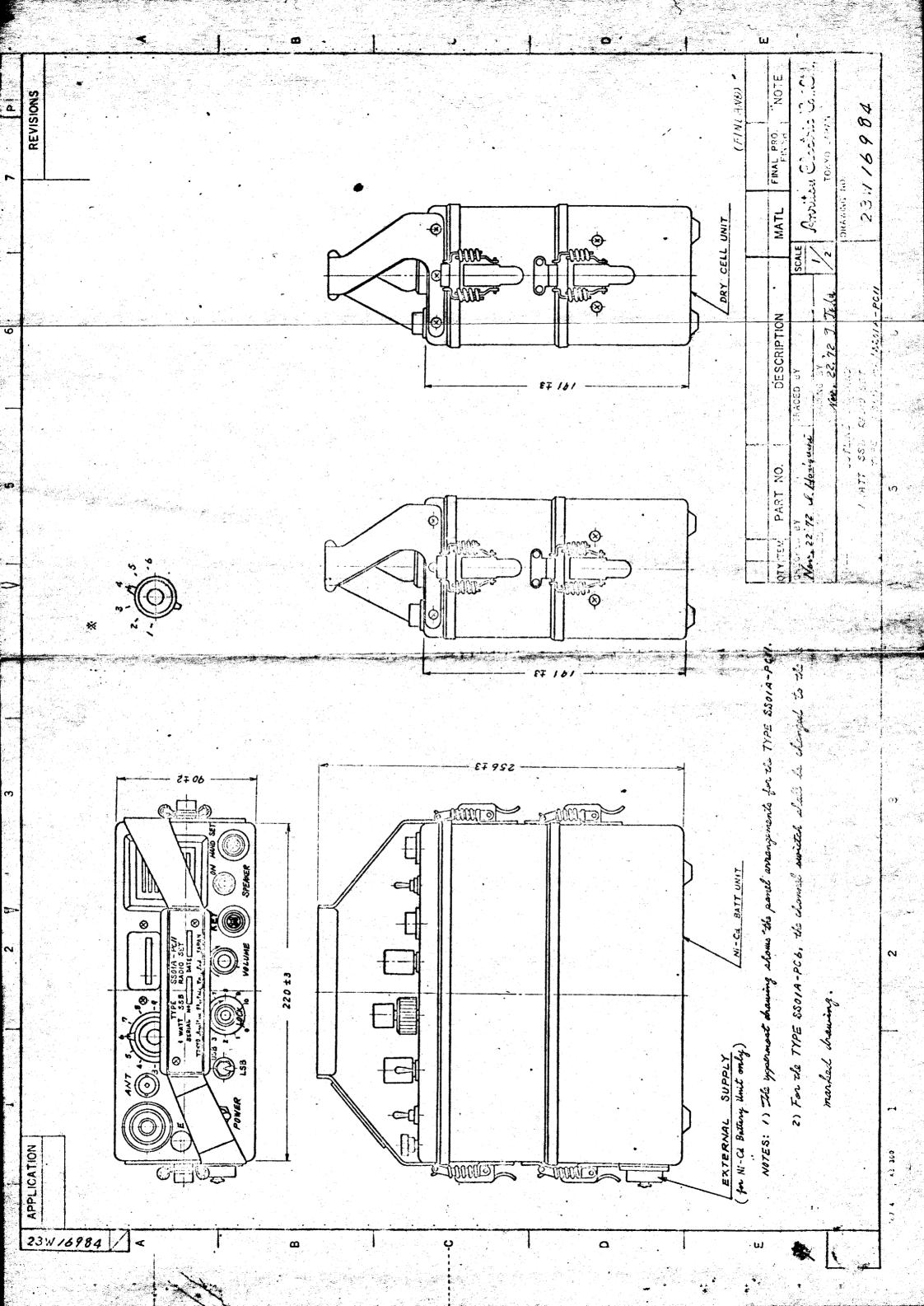
- (1 Maximum charging current should be maintained below 120 mA.
- (2) For the long term charging such as floating operation or trickle charging, the charging current should be adjusted to the value below 40 mA.

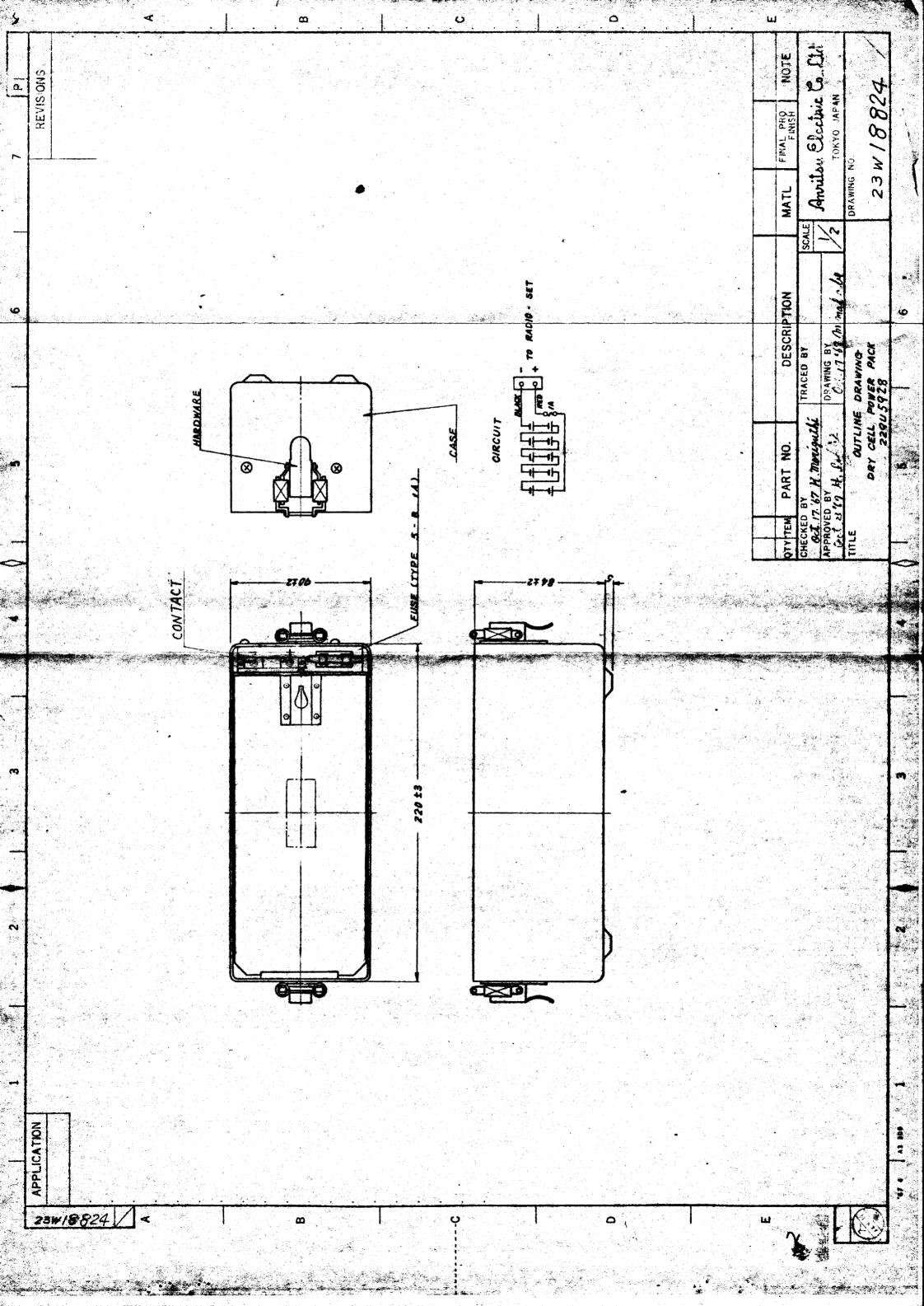
ADDITIONAL INSTRUCTION FOR THE OPERATION OF 1 WATT SSB RADIO SET, TYPE SSO1A-PC6/PC11

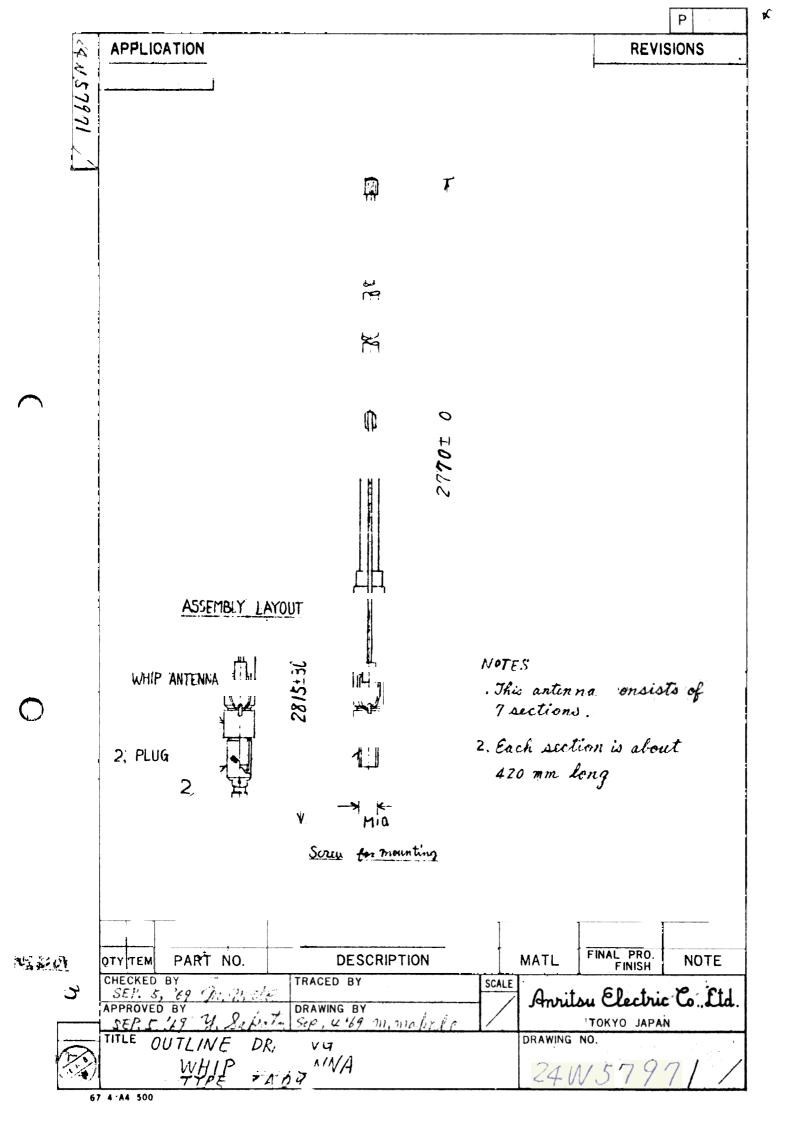
- 1. This set can be divided into three(3) units, which are AF & IF Unit, HF Unit and Panel & X'tal OSC. Unit.

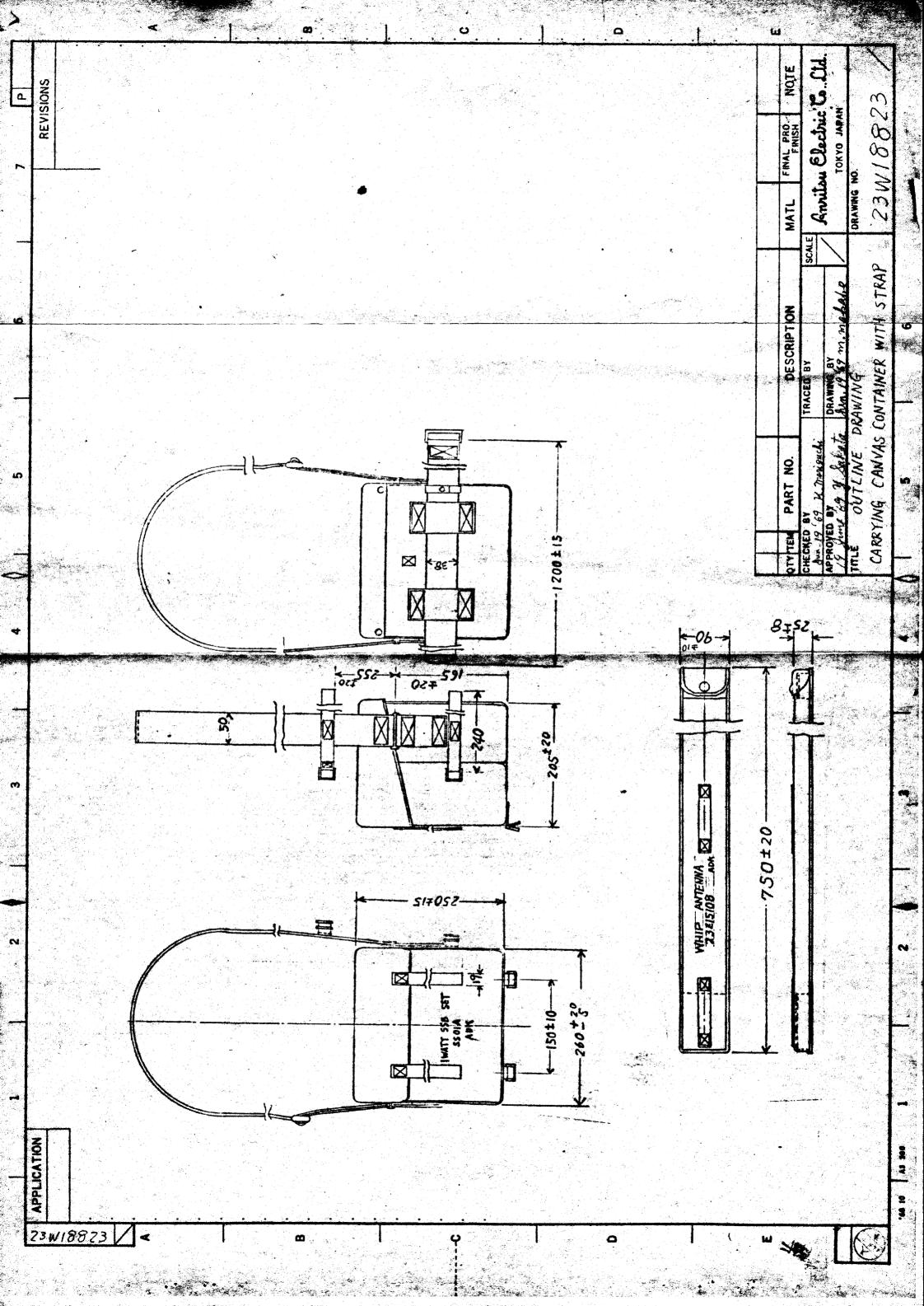
 In order to part each unit, the black-painted screws of the unit should be removed. (4 screws for AF & IF Unit, and 4 screws for HF unit)

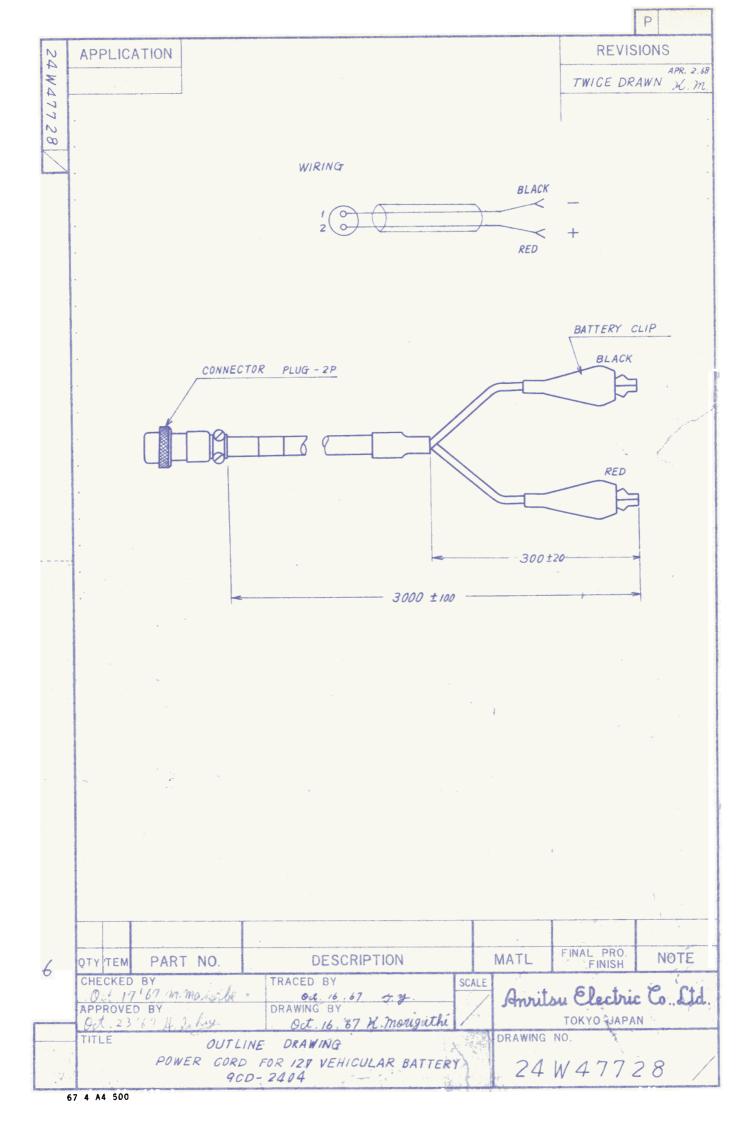
 The removal or change of the crystal units can be carried out by removing the cover of the X'tal OSC. Unit after the parting of the AF & IF Unit. (The removal of the cover can be done by removing a black-painted screw.)
- 2. In case a dipole antenna or long wire antenna is used instead of the whip antenna, the antenna tuning should be made with the indication of a neon lamp (not accessoried).
- 3. In the operation with a dipole antenna, the length of the element should be adjusted if the output power would not be fed efficiently into the antenna due to the excessive difference of the length from the standard.
- 4. The use of counter poise (accessoried) along with a whip antenna or long wire antenna is recommended for more stable and effective communications. The counter poise is to be connected to the earth terminal of the main unit.
 - 5. When it is intended to operate with the whip antenna accessoried, a plug should be removed from the antenna terminal
 of the SSB main unit and then screwed into the base of the
 whip antenna, so that the whip antenna with the plug may be
 inserted into the antenna terminal.

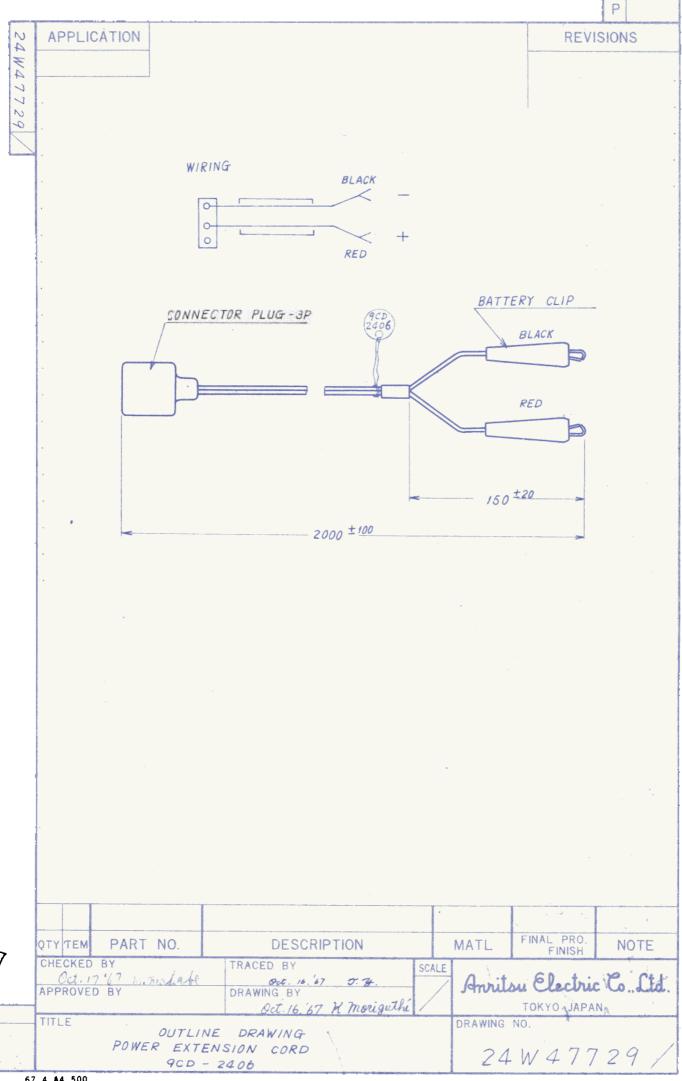


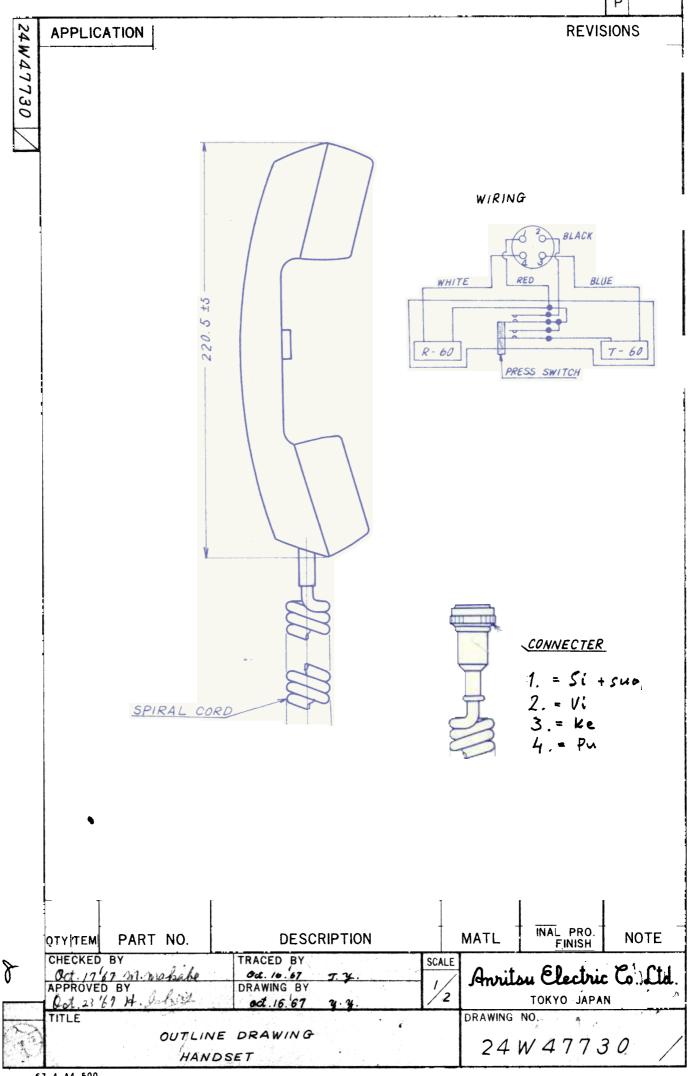


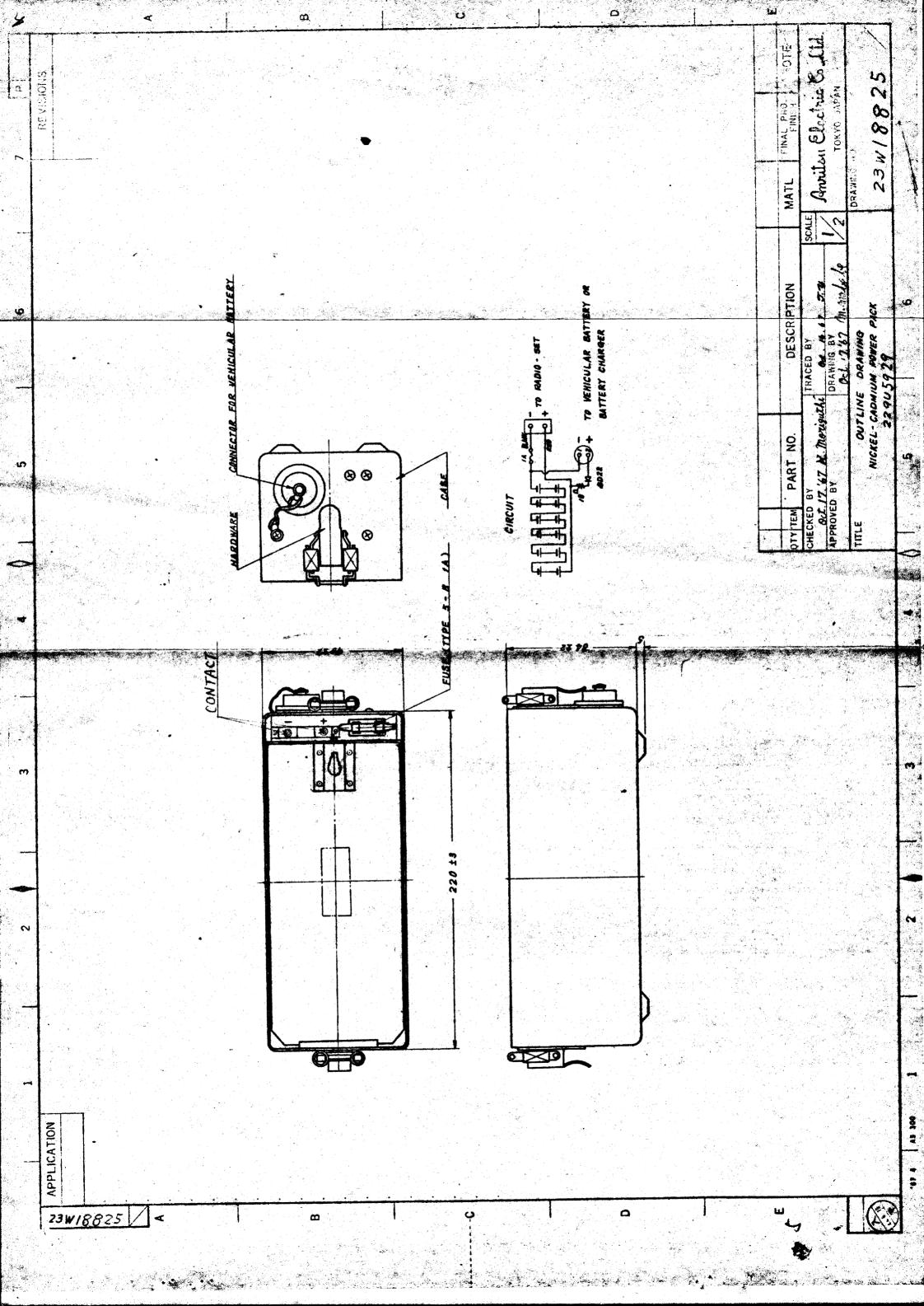


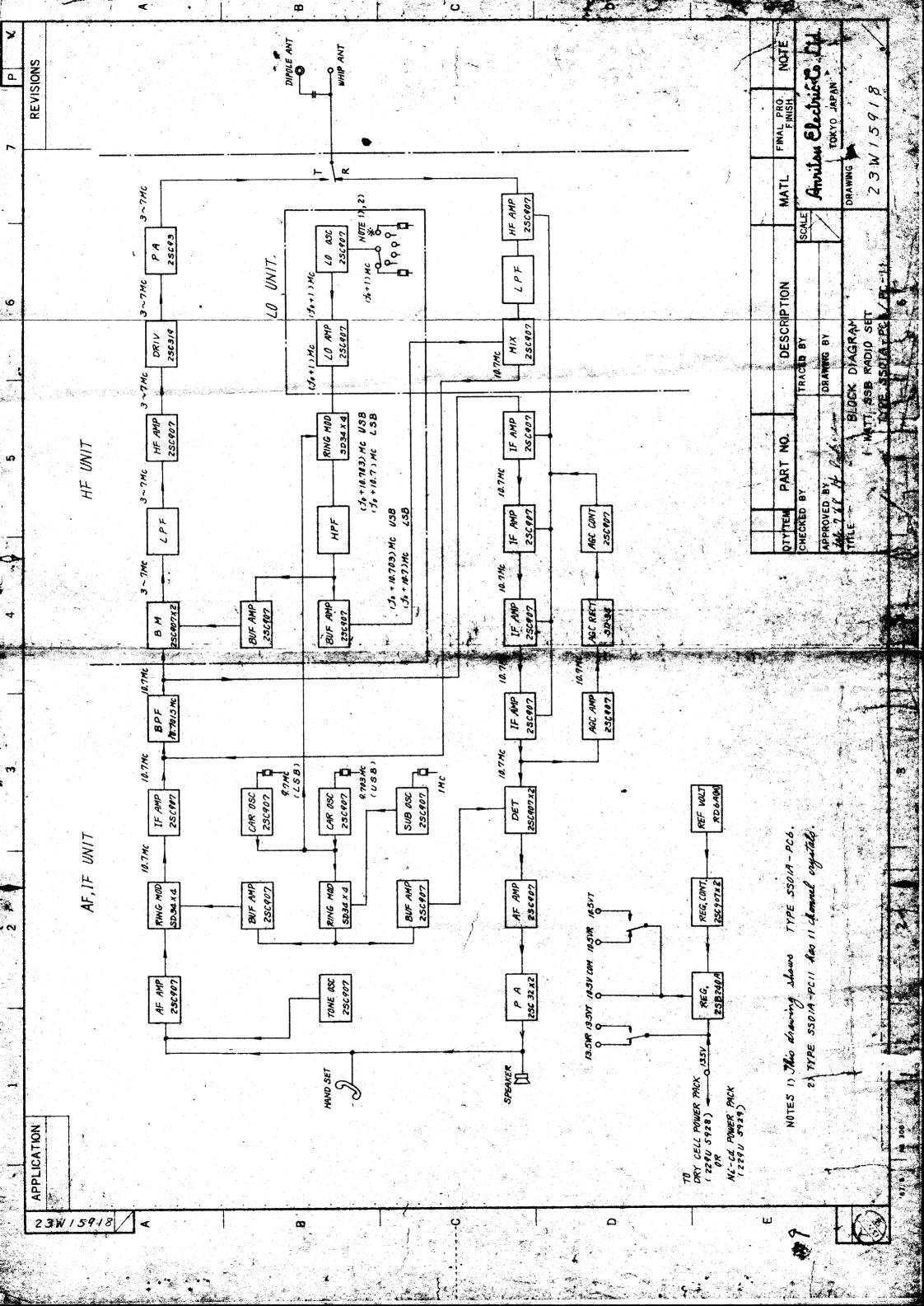












RCUIT REF.	DESC	CRIPTION	ORDERING DATA
201	Tantalum cond.	CSO2HIV3R3	
202	Ceramic cond.	ULD 10J103P	
203	Tantalum cond.	CS02HIV3R3	
204	Ceramic cond.	ECC-D05-121KC	
205	Ceramic cond.	ECC-D05-121KC	
206	Ceramic cond.	ECC-D05-220KC-470KC(390KC)	
207	Ceramic cond.	ECC-D05-330KC	
208	Ceramic cond.	ECK-D05 104ZJ	
209	Ceramic cond.	ULD 08J502P	
210	Ceramic cond.	ECC-D05-WOKC-121KC(330KC)	
211	Ceramic cond.	ULD 08J502P	
212	Ceramic cond.	ULD 08J502P	
213	Tantalum cond.	CSO2HIC22OM	
214	Polystyrene cond.	CQ08S2B15001G02	
215	Not used		
216	Tantalum cond.	CSO2HIC22OM	
217	Ceramic cond.	ULD 08J502P	
218	Ceramic cond.	ULD 08J502P	
219	Ceramic cond.	ULD 08J502P	
220	Ceramic cond.	ULD 08J502P	
221	Ceramic cond.	ULD 08J502P	
222	Ceramic cond.	ULD 08J502P	
223	Ceramic cond.	ECC-DO5-470KC	
224	Ceramic cond.	US209 CHO.5pF±0.05pF	240 25855
225	Ceramic cond.	ECC-DO5-470KC	
226	Ceramic cond.	ULD 10J103P	
227	Mylar cond.	CQ92M1H102K	JISC5113
228	Mylar cond.	CQ92M1H102K	JISC5113
229	Ceramic trimmer	ECV-1ZW10P32	
230	Ceramic cond.	US206SH270J	
231	Ceramic trimmer	ECV-1ZW10P32	
232	Polystyrene cond.	CQ08S1H39OROKO3	
233	Polystyrene cond.	CQ08S1H39OROKO3	
234	Ceramic cond.	ULD 08J502P	
235	Ceramic cond.	ULD 08J502P	
236	Ceramic cond.	ULD 08J502P	
237	Ceramic cond.	ULD 08J502P	
238	Polystyrene cond.	CQ08s1H39OROKO3	
239	Polystyrene cond.	CQO8s1H39OROKO3	
240	Ceramic trimmer	ECV-1ZW10P32	



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43.4	2	1
V	1	

11

CUIT EF.	DESCI	RIPTION	ORDERING DATA
241	Ceramic cond.	US206SH270J	
242	Ceramic cond.	ECC_DO5-560KC	
243	Ceramic cond.	ULD 08J502P	
244	Ceramic cond.	ECC-D05-470KC	
245	Ceramic cond.	ULD 08J502P	
246	Ceramic cond.	ULD 08J502P	
247	Ceramic cond.	ULD 08J502P	
248	Ceramic cond.	ECC-D05-470KC	
249	Ceramic cond.	ULD 08J502P	
250	Ceramic cond.	ULD 08J502P	
251	Ceramic cond.	ULD 08J502P	
252	Ceramic cond.	ECC-D05-470KC	
253	Ceramic cond.	ULD 08J502P	
254	Ceramic cond.	ULD 08J502P	
255	Ceramic cond.	ULD 08J502P	
256	Ceramic cond.	ECC-D05-470KC	
257	Ceramic cond.	ULD 08J502P	
258	Ceramic cond.	ULD 08J502P	
259	Ceramic cond.	ULD 08J502P	
260	Tantalum cond.	CSO2HIC22OM	
261	Ceramic cond.	ULD 06J102P	
262	Ceramic cond.	ULD 06J102P	
263	Ceramic cond.	ULD 06J102P	고 하는 경험이 많아 하는 것이 되었다. 그래 같은 것이 되었다.
264	Ceramic cond.	ULD 08J502P	
265	Ceramic cond.	ECC-D05-470KC	
266	Ceramic cond.	ULD 08J502P	
267	Ceramic cond.	ULD 08J502P	
268	Ceramic cond.	ULD 10J103P	
269	Ceramic cond.	ULD 10J103P	
270	Ceramic cond.	ULD 08J502P	
271	Tantalum cond.	CSO2HIC22OM	
272	Tantalum cond.	CSO2HIC22OM	
273	Tantalum cond.	CSO2HIC22OM	
274	Ceramic cond.	ULD 10 J103P	
275	Ceramic cond.	ULD 10J103P	
276	Electrolytic cond.	165200	
277	Ceramic cond.	ULD 08J502P	
278	Ceramic cond.	ULD 12J503P	
279	Electrolytic cond.	25W200	
280	Polystyrene cond.	CQ08s1H390R0K03	
F 773 8517	T OF 1 WATT SSB RADIO	arm muha aa Ail	ELECTRICAL PARTS L

Values are fixed unless marked Variable

24W 49595



24L17986	

ORDERING DATA

24E49331

24J24399

201	Transistor	2SC907 (H)	В	
202	Diode	SD34		
203	Diode	SD34		
204	Diode	SD34	•	
205	Diode	SD34		
206	Transistor	2SC907 H	В	
207	Transistor	25C907 H	В	
208	Transistor	2SC907 H	В	
209	Transistor	2SC907 (H)	В	
210	Diode	SD34		
211	Diode	SD34		
	202 203 204 205 206 207 208 209 210	Diode Diode Diode Diode Diode Diode Diode Transistor Transistor Transistor Diode Transistor Diode Diode Diode Diode Diode	202 Diode SD34 203 Diode SD34 204 Diode SD34 205 Diode SD34 206 Transistor 2SC907 H 207 Transistor 2SC907 H 208 Transistor 2SC907 H 209 Transistor 2SC907 H 210 Diode SD34	202 Diode SD34 203 Diode SD34 204 Diode SD34 205 Diode SD34 206 Transistor 2SC907 H B 207 Transistor 2SC907 H B 208 Transistor 2SC907 H B 209 Transistor 2SC907 H B 210 Diode SD34

210	Diode	SD34
211	Diode	SD34
212	Diode	SD34
213	Diode	SD34
214	Transistor	2SC907 (H) B
215	Transistor	250907 H B
216	Transistor	25C907 (H) B
217	Transistor	2SC907 (H) B
218	Transistor	2SC907 H B
219	Transistor	250907 H B
220	Transfeton	25(00)7 (H) B

220 Transistor	2SC907 H	В

			-
221	Transistor	25C907 (H)	R

²²² Transistor 25C907 (H) B

ELECTRICAL PARTS LIST

タイプ

AF, IF UNIT OF 1 WATT SSB RADIO SET TYPE SS-Ola Values are fixed unless marked Variable

24 W

49595

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Transistor 223 25C907 (H) B 224 Diode SD34

²²⁵ 2SC907 H B Transistor

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CUIT REF.	DES	CRIPTION	ORDERING DATA
226	Transistor	2SC907 (H) B	
227	Transistor	2SC32	
228	Transistor	2SC32	
229	Diode	RD-6AM	
230	Transistor	2SC907 B B	
231	Transistor	2SC907 H B	
232	Transistor	2SB240A	•
233	Diode	15953	
	. 1918 (1918) . 1 919 (1919) . 2018 (1919) . 1919 (1919) . 1919 (1919) .		
R 201	Variable resistor	RV13YN10SB 50kg	•
202	Resistor	SA 2.2kΩJ	24R46872
203	Resistor	SA 22kΩJ	24R46872
204	Resistor	SA 4709J	24R46872
205	Resistor	SA 1kΩJ	24R46872
206	Resistor	SA 1kΩJ	24R46872
207	Resistor	SA 1kΩJ	24R46872
208	Variable resistor	RV13YN10SB 3000	
209	Resistor	SA 4.7kΩJ	24R46872
210	Resistor	SA 22kΩJ	24R46872
211	Resistor	SA 470ΩJ	24R46872
212	Resistor	SA 1kΩJ	24R46872
213	Not used		
214	Not used		
215	Resistor	SA 1kΩJ	24R46872
216	Resistor	SA 1kQJ	24R46872
217	Resistor	SA 4.7kΩJ	24T46872
218	Résistor	SA 1.5kΩJ	24R46872
219	Resistor	SA 100ΩJ~2.2kΩJ(220ΩJ)	24R46872
220	Resistor	SA 270ΩJ	24R46872
221	Resistor	SA 1kΩJ	24R46872
222	Resistor	SA 18kQJ	24R46872
223	Resistor	SA 5.6kΩJ	24R46872
224	Resistor	SA 270QJ	24R46872
225	Resistor	SA 1kOJ	24R46872
226	Resistor	SA 18kQJ	24R46872
227	Resistor	SA 5.6kΩJ	24R46872 · ,
228	Resistor	SA 270ΩJ	24R46872

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CIRCUIT REF.		DESCRIPTION	ORDERING DATA
R 229	Resistor	SA 470ΩJ	24R46872
230	Resistor	SA 4700J	24R46872
231	Resistor	SA 22kQJ	24R46872
232	Resistor	SA 5.6kQJ	24R46872
233	Resistor	SA 1.5kΩJ	24R46872
234	Resistor	SA 3.3kΩJ	24R46872
235	Resistor	SA 470ΩJ	24R46872
236	Resistor	SA 270ΩJ	24R46872
237	Resistor	SA 470ΩJ	24R46872
238	Resistor	SA 470ΩJ	24R46872
239	Resistor	SA 3.3kΩJ	24R46872
240	Resistor	SA 1.5kQJ	2 4R46872
241	Resistor	SA 47kΩJ	24R46872
242	Resistor	SA 47kΩJ	24R46872
243	Resistor	SA 2.2kΩJ	24R46872
244	Resistor	SA 100ΩJ	24R46872
245	Resistor	SA 1kΩJ	24R46872
246	Resistor	SA 1kQJ	24R46872
247	Resistor	SA 47kSJ	24R46872
248	Resistor	SA 33kQJ	24R46872
249	Resistor	SA lkΩJ	24R46872
250	Resistor	0~SA100 QJ (82QJ)	24R46872
251	Resistor	SA 1kQJ	24R46872
252	Resistor	SA lkQJ	24846982
253	Resistor	SA 47kQJ	24R46872
254	Resistor	SA 33kΩJ	24R46872
255	Resistor	SA 6800J	24R46872
256	Resistor	SA 330J	24R46872
257	Resistor	SA 1kQJ	24R46872
258	Resistor	SA 1kQJ	24R46872
259	Resistor	SA 33 kΩJ	24 R 468 72
260	Resistor	SA 33kΩJ	24R46872
261	Resistor	SA lkΩJ	24R46872
262	Resistor	0~SA 100ΩJ(68ΩJ)	24R46872
263	Resistor	SA lkΩJ	24R46872
264	Resistor	SA 1kQJ	24R46872
265	Resistor	SA 56kQJ	24R46872
266	Resistor	SA 15kΩJ	24R46872
267	Resistor	SA 2.2kQJ	24R46872
268	Resistor	SA 1kΩJ	24R46872
		B RADIO SET TYPE SS-01A	ELECTRICAL PARTS LIST

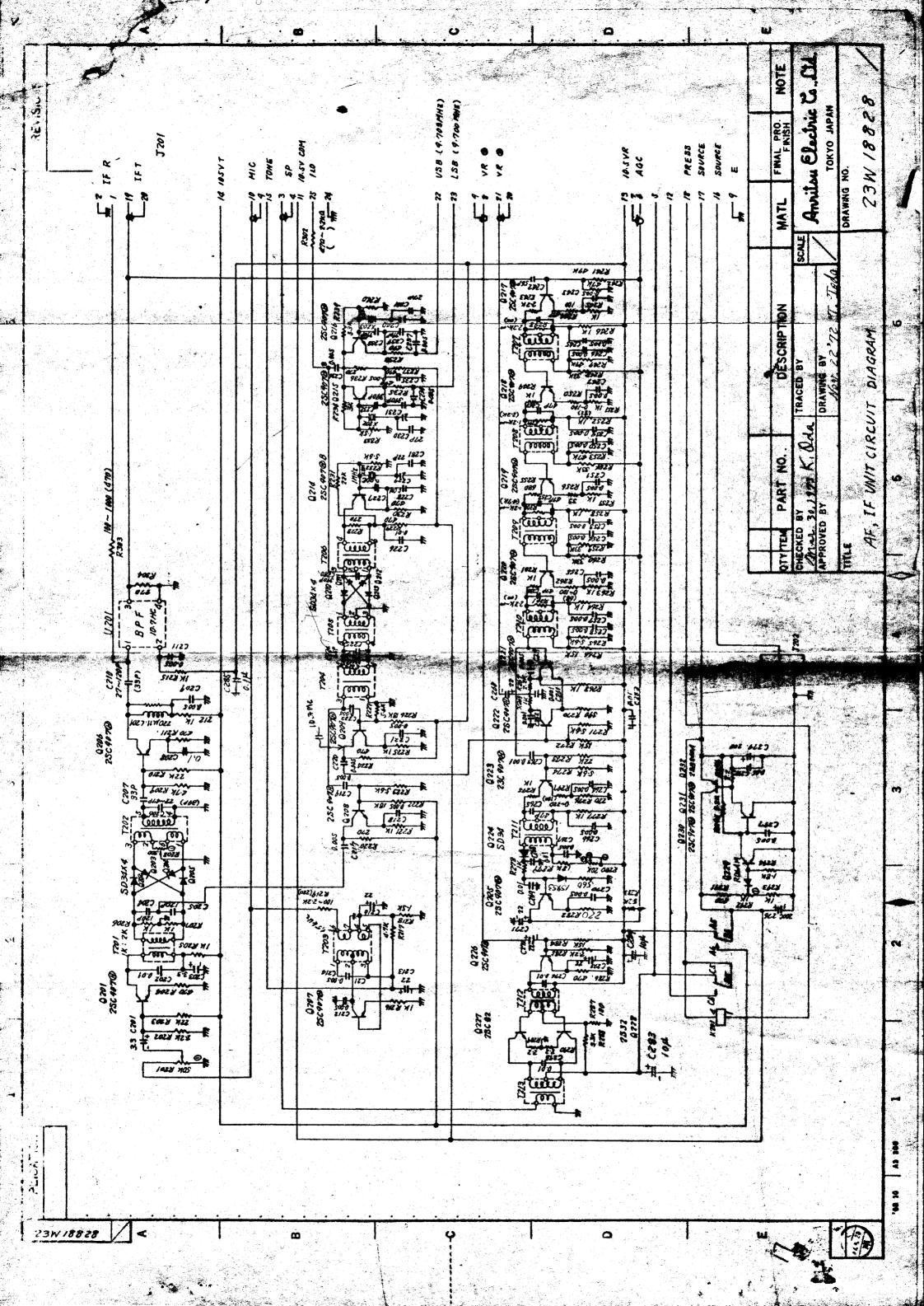
Values are fixed unless marked Variable

49595 2 4 W



CIRCUIT REF.	DE	SCRIPTION	ORDERING DATA
T 205	IF transformer	10.7MHz	249749614
206	IF transformer	RM input	249T49615
207	IF transformer	10.7MHz	249748040
208	IF transformer	10.7MHz	249T48040
209	IF transformer	10.7MHz	2 49T48040
210	IF transformer	10.7MHz	249T48041
211	IF transformer	10.7MHz	249T48042
212	LF transformer	input	24T48757
213	LF transformer	output	24 T 48 758
U 201	Crystal filter	QFK 107A	23w15128
X 201	Crystal unit	lMHz	23X15935A (24W58115)
202	Crystal unit	9.7MHz	23X15025B (24W58114)
203	Crystal unit	9.703MHz	23x15025c (24w58114)





CIRCUIT REF.	DE	SCRIPTION	ORDERING DATA
C 101	Ceramic cond.	ECC_DO5_101KC	
102	Ceramic cond.	ULD-10J103P	
103	Ceramic cond.	ULD 10J103P	
104	Ceramic cond.	ULD 10J103P	
105	Ceramic cond.	ECC-D05-100FC~470KC(470KC)	
106	Ceramic cond.	ECC_DO5_100FC-470KC(470KC)	
107	Ceramic cond.	ECK-D05 104ZJ	
108	Ceramic cond.	ECK-105 104ZJ	
109	Ceramic cond.	ECC-D05-330KC~121KC(47KC)	
110	Ceramic cond.	ULD 10J103P	
111	Ceramic cond.	ECK-D05 104ZJ	
112	Ceramic cond.	TCK-D05 104ZJ	
113	Ceramic cond.	DCK-D05 1042J	
114	Ceramic cond.	BCK-D05 104ZJ	
115	Ceramic cond.	ECK-D05 104ZJ	
116	Ceramic cond.	ECK-D05 104ZJ	
117	Mica cond.	DM-198103J1	
118	Mica cond.	DM-158471J5	
119	Ceramic cond.	ULD 10J103P	
120	Ceramic cond.	ULD 10J103P	
121	Ceramic cond.	ECC-DO5-560KC	
122	Ceremic cond.	_ 6092M1H402K	
123	Mylar cond.	cq92MlH104k	
124	Ceramic cond.	ULD 08J502P	
125	Ceramic cend.	ULD 08J502P	
126	Ceramic cond.	ULD 08J502P	
127	Ceramic cond.	ULD 10J103P	
128	Mylar cond.	SQD Z RELOWK	
129	Ceramic cond.	ECC-DO5101KC	
130	Ceramic cond.	ULD 10J103P	
131	Ceramic cond.	ULD 10J103P	476
132	Ceramic cond.	ULD 10J103P	
133	Ceramic cond.	ULD loj103P	
134	Ceramic cond.	ECK-D05 104ZJ	
135	Ceramic cond.	ULD 10J103P	
136	Ceramic cond.	CQ7_M1H472K	Control of the Contro
137	Polystyrene cond.	CQ08S2B470 R 0G02	



IRCUIT REF.	DESC	RIPTION	ORDERING DATA
101	Jack		
102	Plug	16P	24E49331
103	Multiple connector	NBJ 25 P4 PA	
K 101	Relay	Type SM-12	Cat.No. 1256
L 101	RF choke	94µН	242T47293
102	RF choke		242150607
103	RF choke		242150607
104	RF choke		242L 52 765
Q 101	Transistor	25C907 (H) B	
102	Transistor	2SC907 B B	
103	Transistor	2SC907 H B	
104	Transistor	250319	
105	Transistor	2sc93	
106	Diode	SD34	
107	Diode	SD34	
108	Diode	SD34	
109	Diode	SD34	
110	Diode	SD34	• •
111	Transistor	2SC907 (H) B	
112	Transistor	2SC907 (H) B	
113	Transistor	2SC907 H B	
114	Transistor	2SC907 (H) B	
R 101	Resistor	SA 6.8kΩJ	24R46872
102	Resistor	SA 6.8kQJ	24R46872
103	Resistor	SA 2700J ~ (3300J)	
104	Resistor	SA 1kΩJ	24R46872
105	Resistor	SA 1kΩJ	24R46872



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CIRCUIT REF.		DESCRIPTION	ORDERING DATA
R 106	Resistor	SA 680ΩJ	24R46872
107	Resistor	SA 680QJ	24R46872
108	Resistor	SA 2.2kΩJ	24R46872
109	Resistor	SA 220 QJ	24R46872
110	Resistor	1/8w 6.8kn	
111	Resistor	SA 1.5KGJ	24R46872
112	Resistor	1/3W 472	
113	Resistor	1/8W 5.63	
114	Resistor	SA 100QJ	24R46872
115	Resistor	1/SM FKU	
116	Resistor	1/3时、220分	
117	Resistor	1/4W 2.20	
118	Resistor	HES1/4G47QJ	24R31073
119	Not used		
120	Resistor	1/44/19	
121	Resistor	1/by 1k.	
122	Resistor	SA 100J~2.2k0J(1500J)	24R46872
123	Resistor	SA 0~10k@J(4.7k@J)	24R46872
124	Resistor	SA 470 QJ	24R46872
125	Resistor	SA 470NJ	24R46872
.126	Resistor	SA 2.2kQJ	24R46872
127	Resistor	SA 18kΩJ	24R46872
128	Resistor	SA 5.6kQJ	24R46872
129	Resistor	SA 1kΩJ	24R46872
130	Not used		
131	Resistor	SA 1000J	24R46872
132	Resistor	SA 5.6kΩJ	24R46872
133	Resistor	SA 18kΩJ	24R46872
134	Resistor	SA lkQJ	24R46872
135	Resistor	1/8M 533	
136	Resistor	SA 1000J	24R46872
137	Resistor	SA 100QJ	24R46872
138	Resistor	SA 68kQJ	24R46872
139	Resistor	SA 5.6kQJ	24R46872
140	Resistor	SA 2.2kOJ	24R46872
141	Resistor	SA lkQJ	24R46872
142	Resistor	SA 1kΩJ	24R46872
143	Resistor	SA 39kΩJ	24R46872
144	Resistor	SA 47kOJ	24R46872
145	Resistor	Meter multi	

Values are fixed unless marked Variable

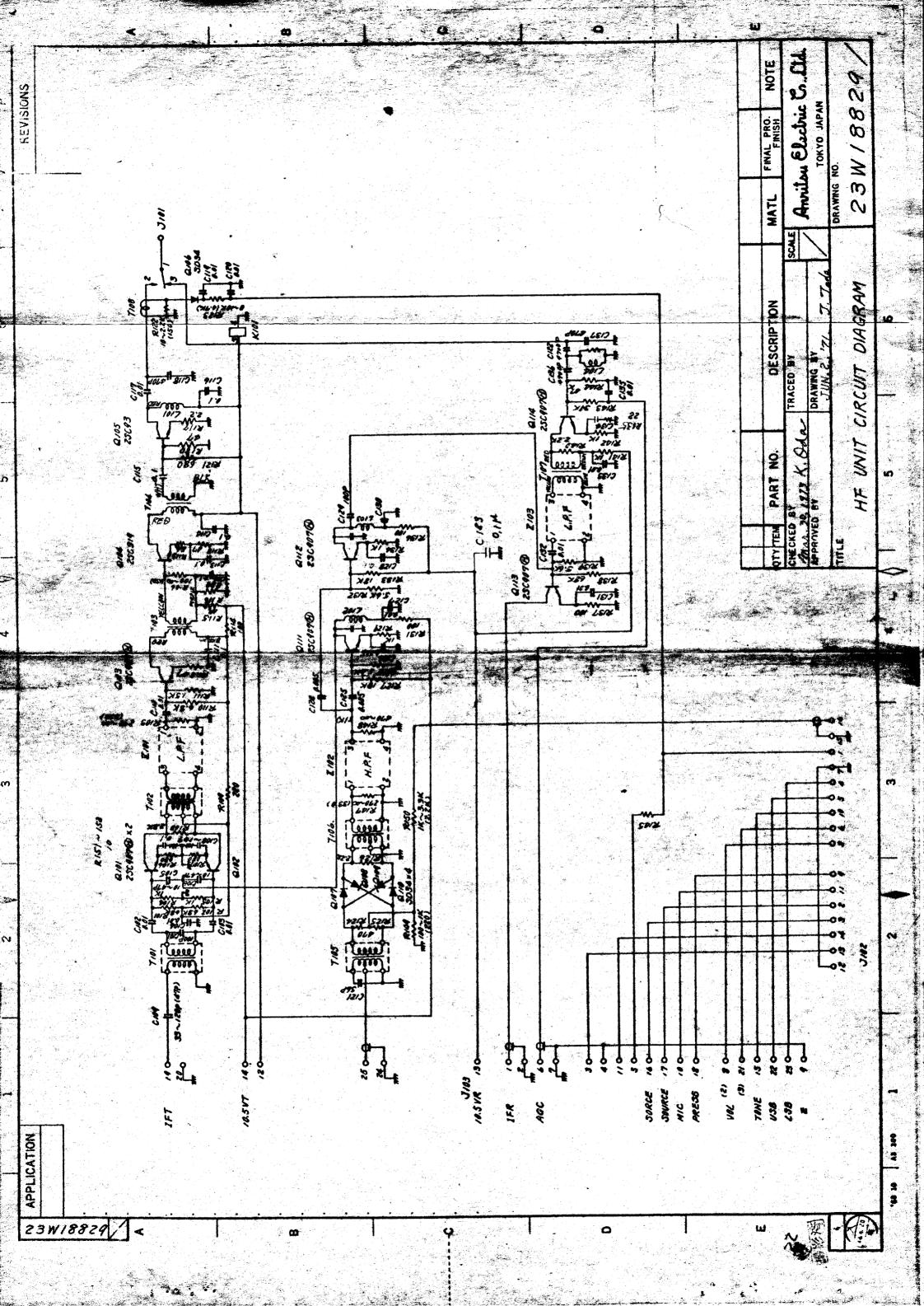
24W 49678



CIRCUIT REF.	I	DESCRIPTION	ORDERING DATA
R 146	Resistor	1/8w 150Ω	
147	Resistor	1/8W 270Ω ~ ∞ (330Ω)	
148	Resistor	1/8W 470Ω ~ ∞ (1KΩ)	
149	Resistor	$1/8W 100\Omega \sim 1K\Omega (220\Omega)$	1.2
150	Resistor	1/8W 1KΩ ~ 3.3KΩ (2.2KΩ)	
1 <i>5</i> 1 1 <i>5</i> 2	Resistor Resistor	1/8μ 10Ω 1/8w 10Ω	
T 101	IF Transformer	10.7 MHz	249T47780
102	RF Transformer	3~7 MHz	249T47781
103	RF Transformer	3-7 MHz	249T47783
104	RF Transformer	3~7 MHz	249147784
105	RF Transformer	9.7 MHz	249T49612
106	RF Transformer	13.7~17.7 MHz	249T49577
107	RF Transformer	3~7 MHz	249T47785
108	RF Transformer	3~7 MHz	242T48484
	· · · · · · · · · · · · · · · · · · ·		
Z 101	Filter	8 MHz Low Pass	239015911
102	Filter	12.5 MHz High Pass	239015912
103	Filter	8 MHz Low Pass	23 9 01 5911 B







タイプ

	1	Loudspeaker	EAS-5P78S
	1	Mylar cond.	CQ92M1H102K JISC 5113
	2	Polystyrene cond.	CQ08S-1H-390RO-K03
	3	Ceramic cond.	ULD 10J103P
,	4	Ceramic cond.	ULD 10J103P
	5	Ceramic cond.	ULD 08J502P
	6	Ceramic cond.	ULD 10J103P
	7	Ceramic cond.	ULD 08J502P
	8	Ceramic cond.	US206SH270 J
	9	Ceramic cond.	US206SH270 J
	10	Ceramic cond.	US206SH270J
	11	Ceramic cond.	US206SH270J
	12	Ceramic cond.	US206SH270 J
	13	Ceramic cond.	US206SH270 J
	14	Ceramic cond.	US206SH270J for type PC11 use
	15	Ceramic cond.	US206SH270J for type PC11 use
	16	Ceramic cond.	US206SH270J for type PC11 use
	17	Ceramic cond.	US206SH270J for type PC11 use
	18	Ceramic cond.	US206SH270J for type PC11 use
	19	Ceramic trimmer	ECV-1ZW10P32
	20	Ceramic trimmer	ECV-1ZW10P32
	21	Ceramic trimmer	ECV-1ZW10P32
	22	Ceramic trimmer	ECV-1ZW10P32
	23	Ceramic trimmer	ECV-1ZWloP32
	24	Ceramic trimmer	ECV-1ZW10P32
	25	Ceramic trimmer	ECV-1ZW10P32 for type PC11 use
	26	Ceramic trimmer	ECV-1ZW10P32 for type PC11 use
	27	Ceramic trimmer	ECV-1ZW10P32 for type PC11 use
	28	Ceramic trimmer	ECV-1ZW10P32 for type PC11 use
	29	Ceramic trimmer	ECV-1ZW10P32 for type PC11 use
, i	30	Ceramic cond.	CC30CH390 JY500 JISC 6423
	31	Ceramic cond.	ULD 10J103P
	32	Ceramic cond.	ULD 10,103P
	33	Tantalum cond.	CSO 2HIC22OM
	34	Ceramic cond.	ULD 10J103P



PANEL & X-TAL OSC. UNIT OF

1 WATT SSB RADIO SET TYPE SS-Ola PC6

ELECTRICAL PARTS LIST

Values are fixed unless marked Variable

24 W 49691 CIRCUIT REF.

DESCRIPTION

ORDERING DATA

Х	1	Crystal unit	HC-25/U		23X15961 (24W58113)
	2	Crystal unit	HC-25/U		23X15961 (24W58113)
	3	Crystal unit	HC -25/U		23X15961 (24W58113)
	4	Crystal unit	HC-25/U		23X15961 (24W58113)
	5	Crystal unit	HC-25/U		23X15961 (24W58113)
	6	Crystal unit	HC-25/U		23X15961 (24W58113)
	7	Crystal unit	HC-25/U	for type PCll use	23X15961 (24W58113)
	8	Crystal unit	HC-25/U	for type PCll use	23X15961 (24W58113)
	9	Crystal unit	HC_25/U	for type PCll use	23x15961 (24w58113)
	10	Crystal unit	HC-25/U	for type PCll use	. 23X15961 (24W58113)
	11	Crystal unit	HC-25/U	for type PCll use	23X15961 (24W58113)







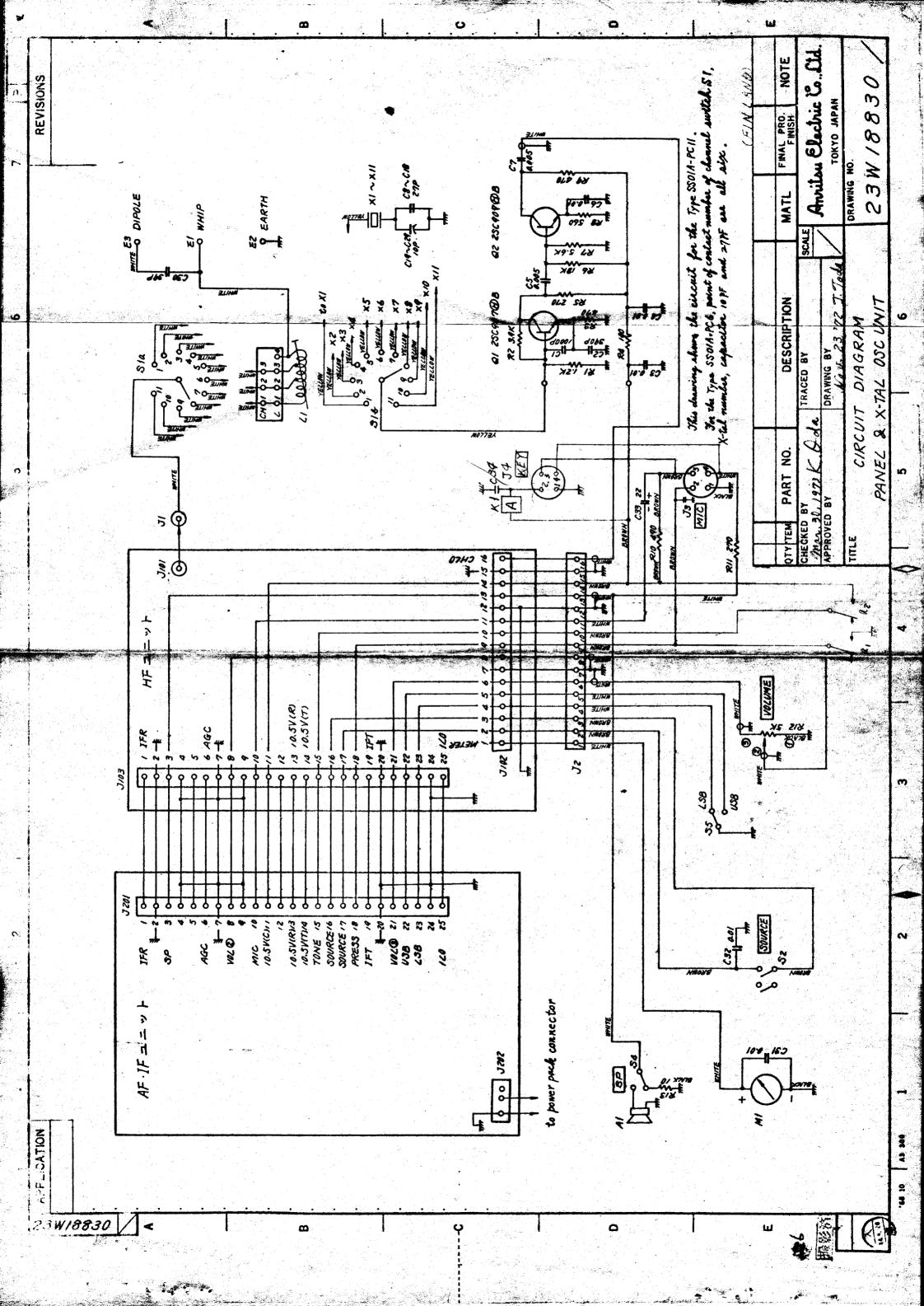
PANEL & X-TAL UNIT OF

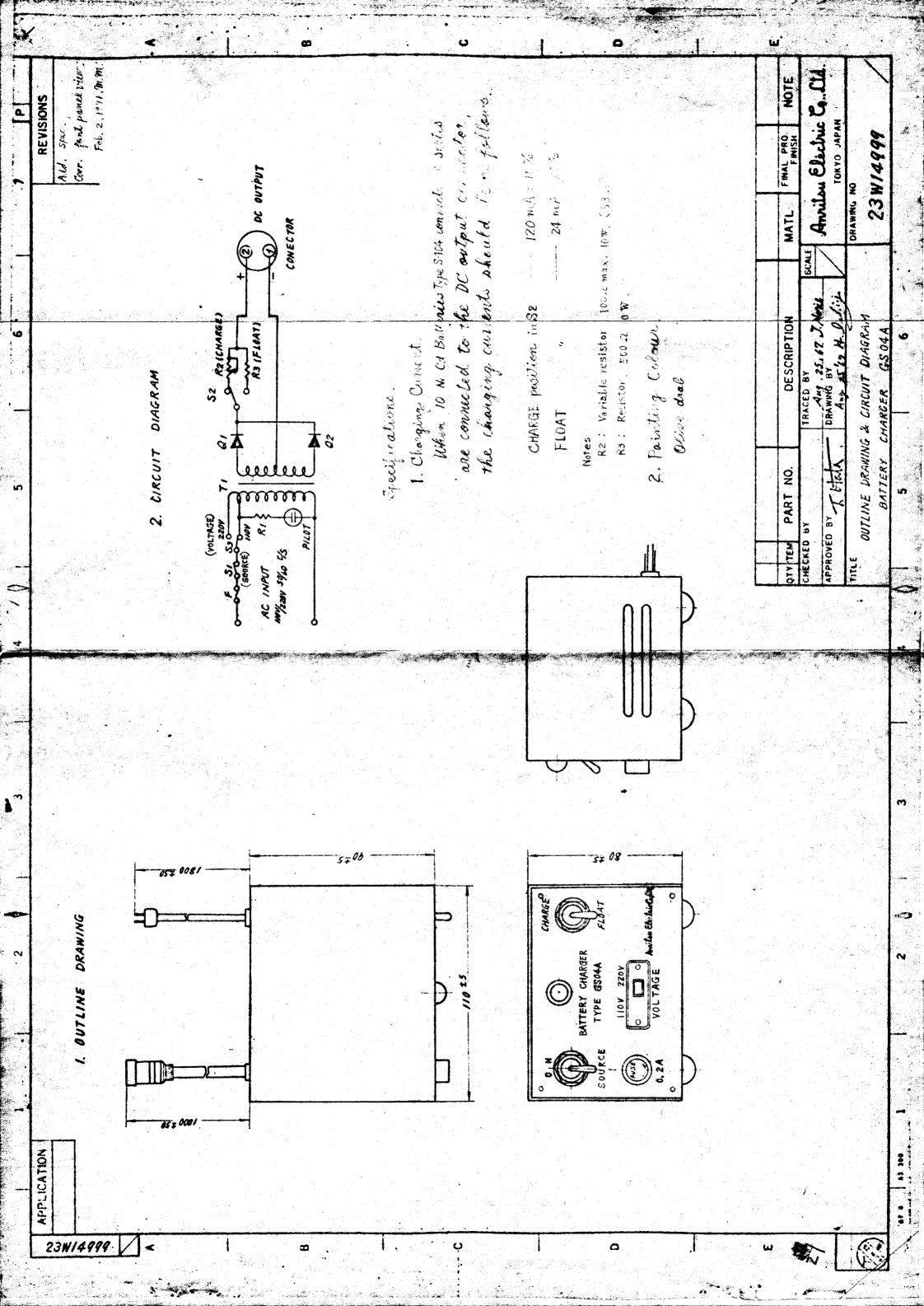
1 WATT SSB RADIO SET TYPE SS-O1A PC6 ELECTRICAL PARTS LIST

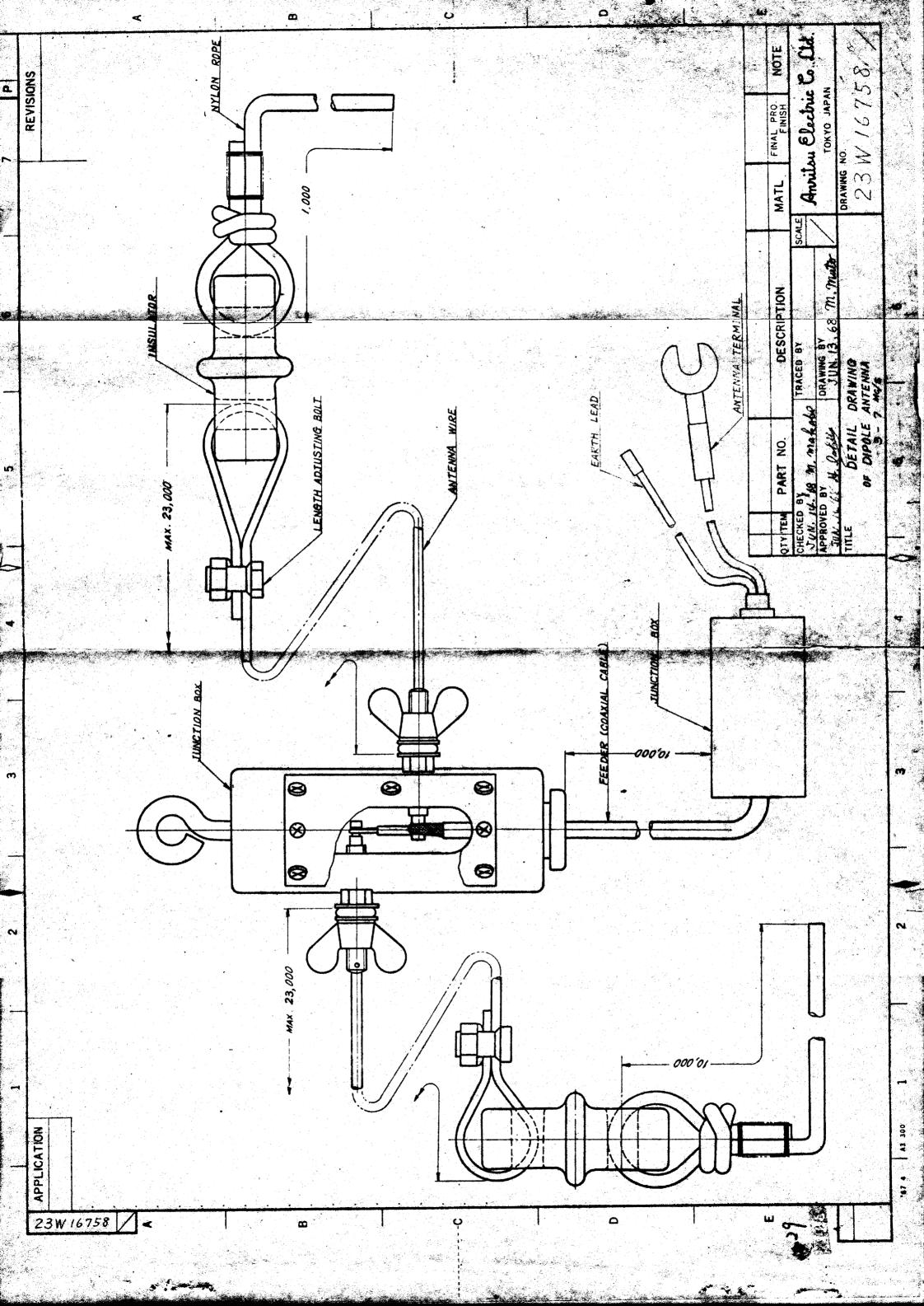
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24W 49691



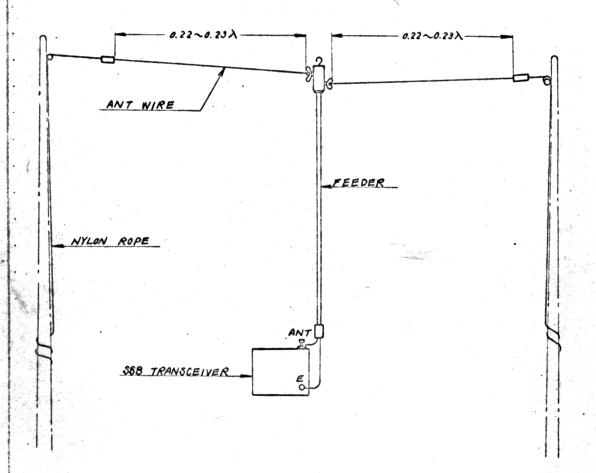






APPLICATION 24W51698

REVISIONS



NOTE 1. A IS WAVELENGTH OF OPERATIONAL FREQUENCY

2. LENGTH OF ANTENNA WIRE SHALL BE ADJUSTED TO MATCH

THE OPERATIONAL FREQUENCY

FINAL PRO. OTY TEM MATL PART NO. DESCRIPTION NOTE TUN. 14 18 m. makabel TRACED BY Amritan Electric Co. Old. DRAWING BY JUN. 13, TOKYO JAPAN DRAWING NO. JUN. 14 1/8 68 m. muto INSTALLATION DRAWING 24W51698 OF DIPOLE ANTENNA