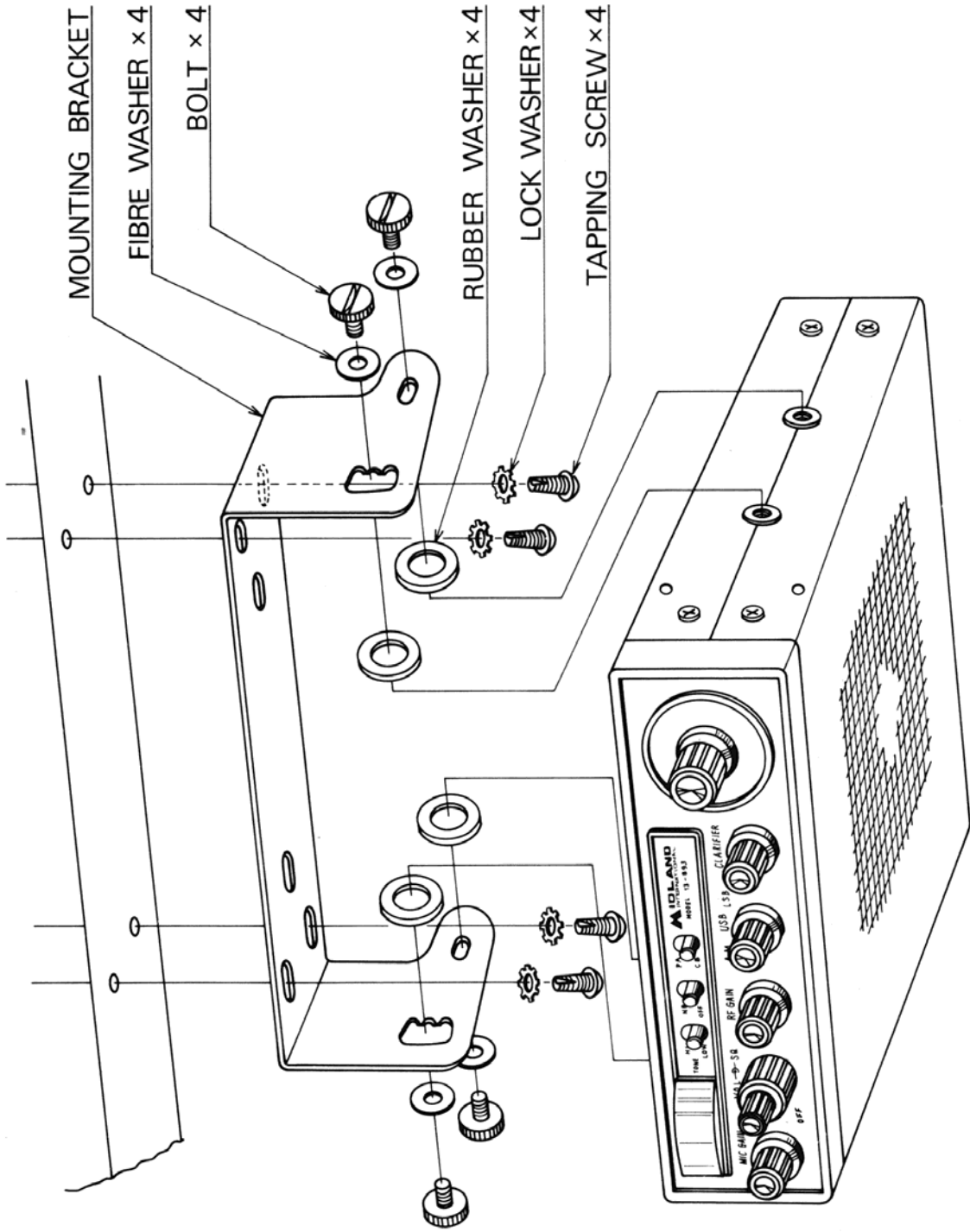


# MOUNTING INSTRUCTION



# SPECIFICATIONS

## GENERAL:

Channels	: 23
Frequency Range	: 26.965 MHz to 27.255 MHz.
Semiconductors	: 26 TR, 2 FET, 56 Diode, 2 IC.
Microphone	: 500 ohms Dynamic Type.
Speaker	: 8 ohms 1W.
Antenna Connector	: M Type.
Meter	: RF Power, RX Signal.
Size	: (D) 10-1/2", (W) 7-1/2", (H) 2-1/2".
Weight	: 5 pounds
Jacks & Connectors:	EXT SP, PA SP = 3.5φ. Microphone = 4P, DC Power, ANT.
Controls	: Channel Selector, Mode Selector (AM-USB-LSB), ON-OFF Power Switch/Volume, Variable Squelch, RF Gain Attenuator, Mic Gain, Clarifier, Noise Blanker Switch, PA-CB Switch, Tone Switch,
Illuminations	: Channel Selector, Meter. (Yellow-RX. Red-TX).
Accessories	: DC Power Cable (Fuse Built in), Microphone, Microphone Hanger, Mounting Bracket.

## TRANSMITTER

	UNIT	AM	SSB
Frequency tolerance (-30°C to +50°C)	%	±0.005	±0.005
Clarifier variable range.	Hz	±350 to ±800	±350 to ±800
RF output power at no mod (AM).	W	3.0 to 4.0	*
RF output power (SSB).	W PEP	*	12 max
Modulation distortion at 80% modulation (AM).	%	10	*
Conducted spurious emission.	dB	-50	-50
Carrier emission (SSB).	dB	*	-40
Battery drain at no modulation (AM).	mA	1600	1000
Battery drain at 80%			

	UNIT	AM	SSB
modulation (AM) 8W PEP (SSB).	mA	2300	2000
Microphone input preamp maximum sensitivity for 50% modulation (AM), 4W PEP (SSB).	mV	7	7

## RECEIVER

	UNIT	AM	SSB
* Noise Blanker-ON, Tone Switch-High. Sensitivity for 10 dB S/N.	μV	1	0.5
A.G.C. figure of merit 50KμV for 10dB change in audio output.	dB	60	60
Bandwidth at 6 dB down.	KHz	3	3
Adjacent channel selectivity (10 KHz).	dB	50	50
Cross modulation.	dB	50	50
Maximum audio output power.	W	5	5
Maximum audio output power at 10% distortion.	W	3.5	3.5
RF gain attenuation, 0.5μV standard.	dB	min 50	min 50
Fidelity (1 KHz 0 dB reference) at 450 Hz.	dB	-6	-6
Fidelity (1 KHz 0 dB reference) at 2.2 KHz.	dB	-16	-6
Squelch sensitivity at maximum.	μV	500 to 4000	500 to 4000
Squelch sensitivity at threshold.	μV	0.7	0.7
S meter sensitivity for S-9, at no mod (AM).	μV	50 to 500	50 to 500
Image rejection.	dB	50	50
Frontend attenuation (7.8 MHz feed through).	dB	80	80
Hum & noise ratio below antenna input 1000 μV.	dB	30	26
Oscillator drop out voltage.	V	11	11
Battery drain at no signal.	mA	500	500

## PA

Output power at 10% distortion (1 KHz).	W	3.5
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# CRYSTAL FREQUENCY CHART

## USB. LSB. AM TX.

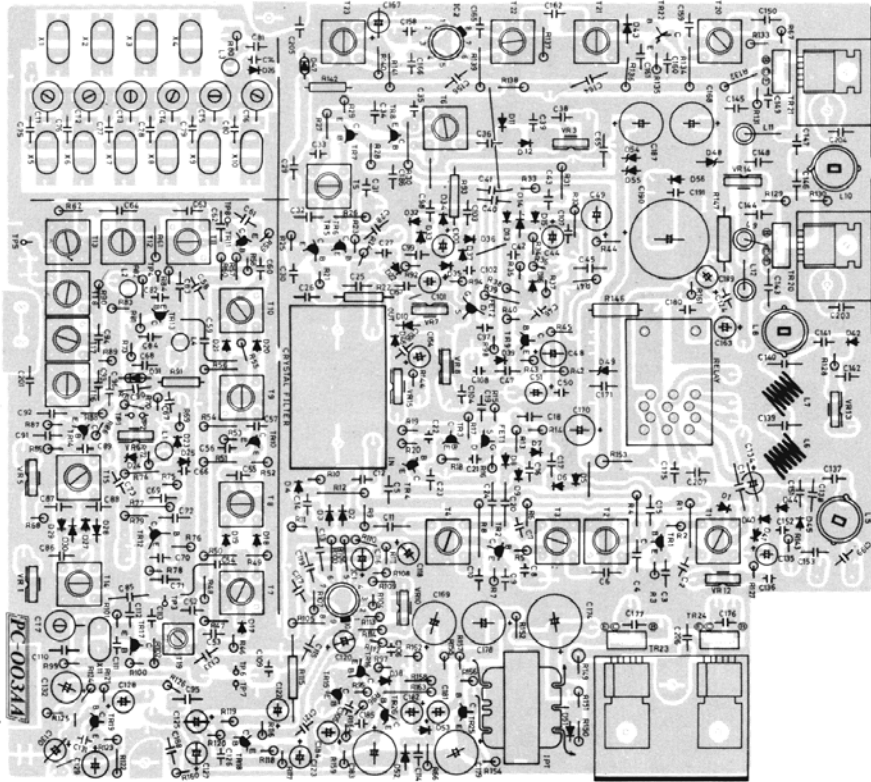
XTAL (MHz)	CHANNEL																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MASTER (USB/LSB)																							
8.1590	○	○	○	○																			
8.2090					○	○	○	○															
8.2590									○	○	○	○											
8.3090													○	○	○	○							
8.3590																	○	○	○	○			
8.4090																					○	○	○
USB																							
11.0035	○				○				○				○				○				○		
11.0135		○				○				○				○				○				○	
11.0235			○				○				○				○				○				
11.0435				○				○				○				○				○			○
7.8025	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
7.8025 × 2	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
LSB, AM TX																							
11.0035	○				○				○				○				○				○		
11.0135		○				○				○				○				○				○	
11.0235			○				○				○				○				○				
11.0435				○				○				○				○				○			○
7.8025	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

## AM RX

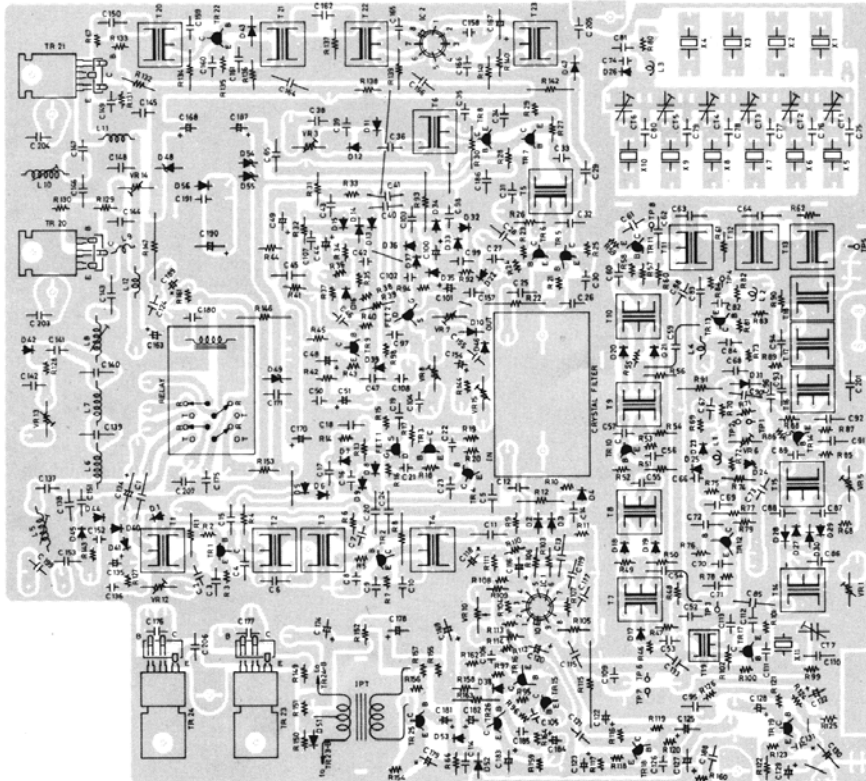
XTAL (MHz)	CHANNEL																						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
MASTER PLUS 2.5 KHz SHIFT																							
8.1615	○	○	○	○																			
8.2115					○	○	○	○															
8.2615									○	○	○	○											
8.3115													○	○	○	○							
8.3615																	○	○	○	○			
8.4115																					○	○	○
11.0035	○				○				○				○				○				○		
11.0135		○				○				○				○				○				○	
11.0235			○				○				○				○				○				
11.0435				○				○				○				○				○			○

# PARTS LAYOUT

## FRONT VIEW

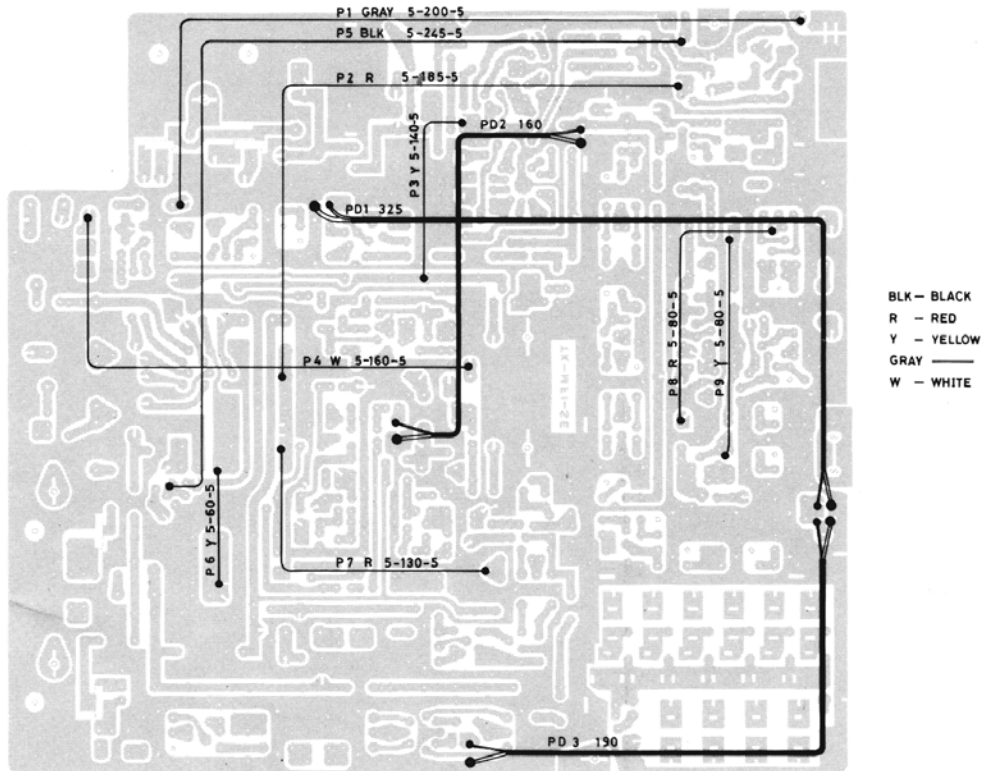


## BACK VIEW

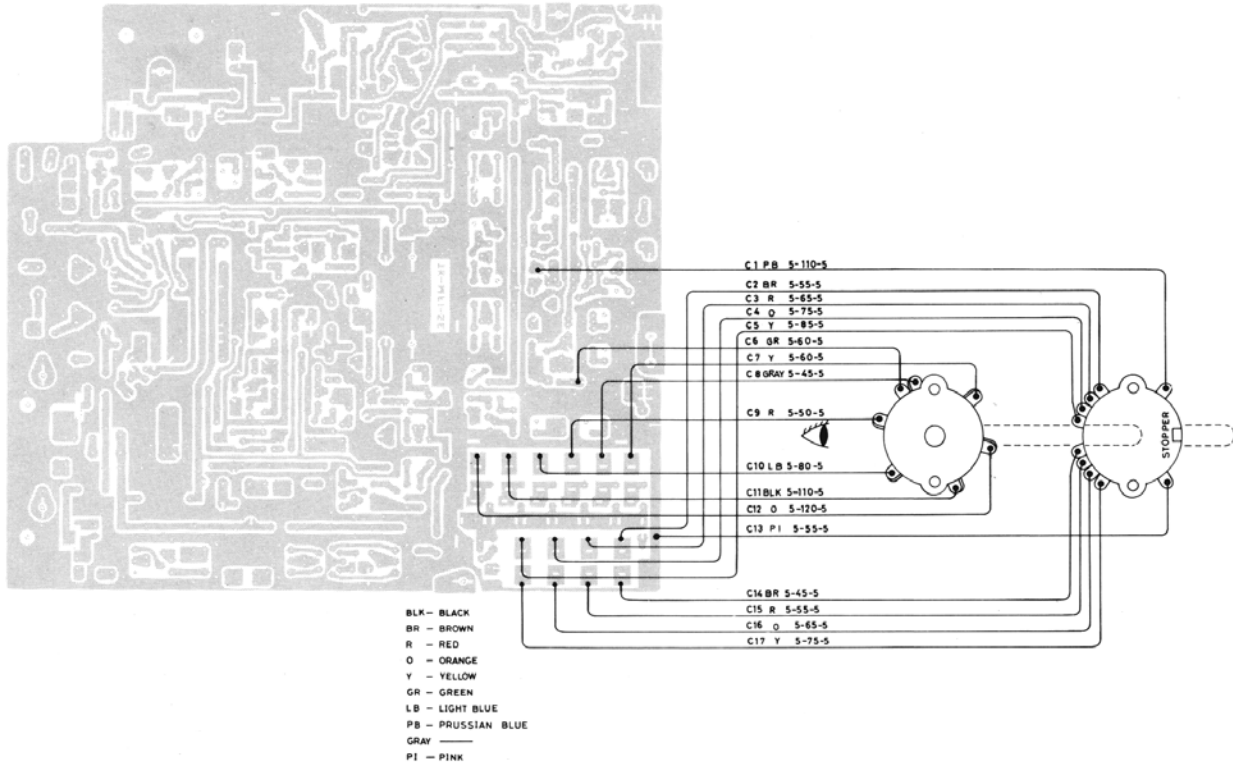


# WIRING DIAGRAM

## P.C.B. WIRING

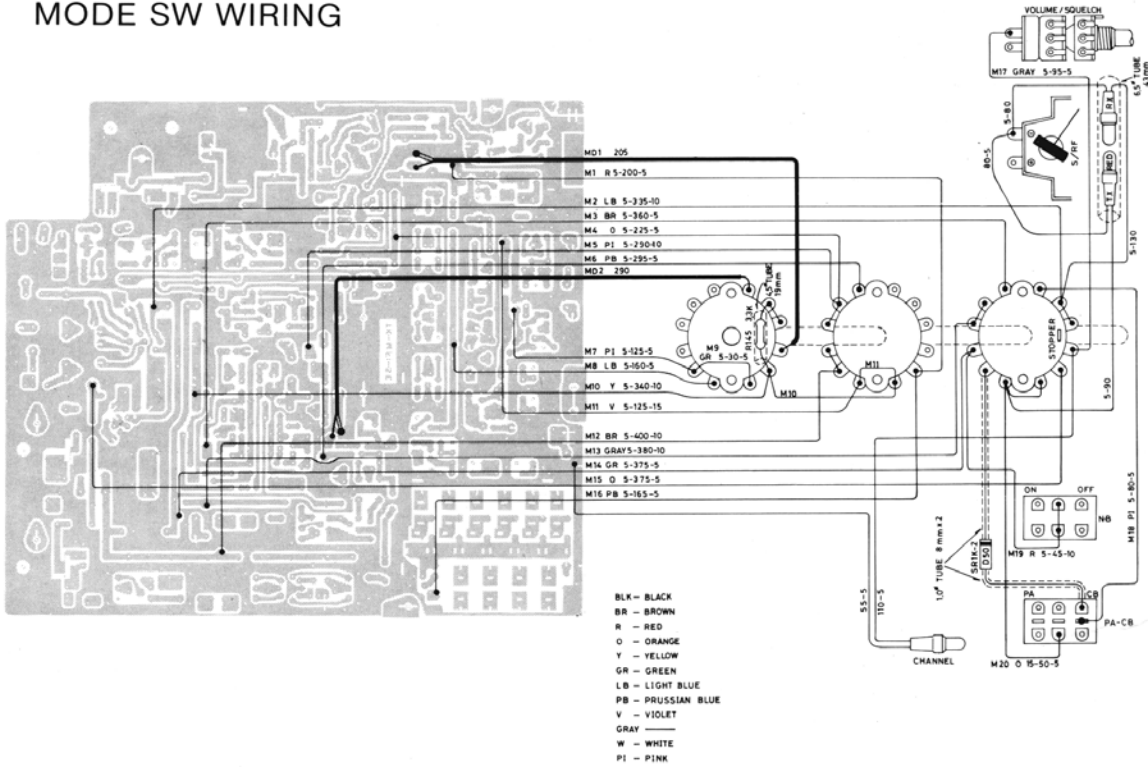


## CHANNEL SW WIRING

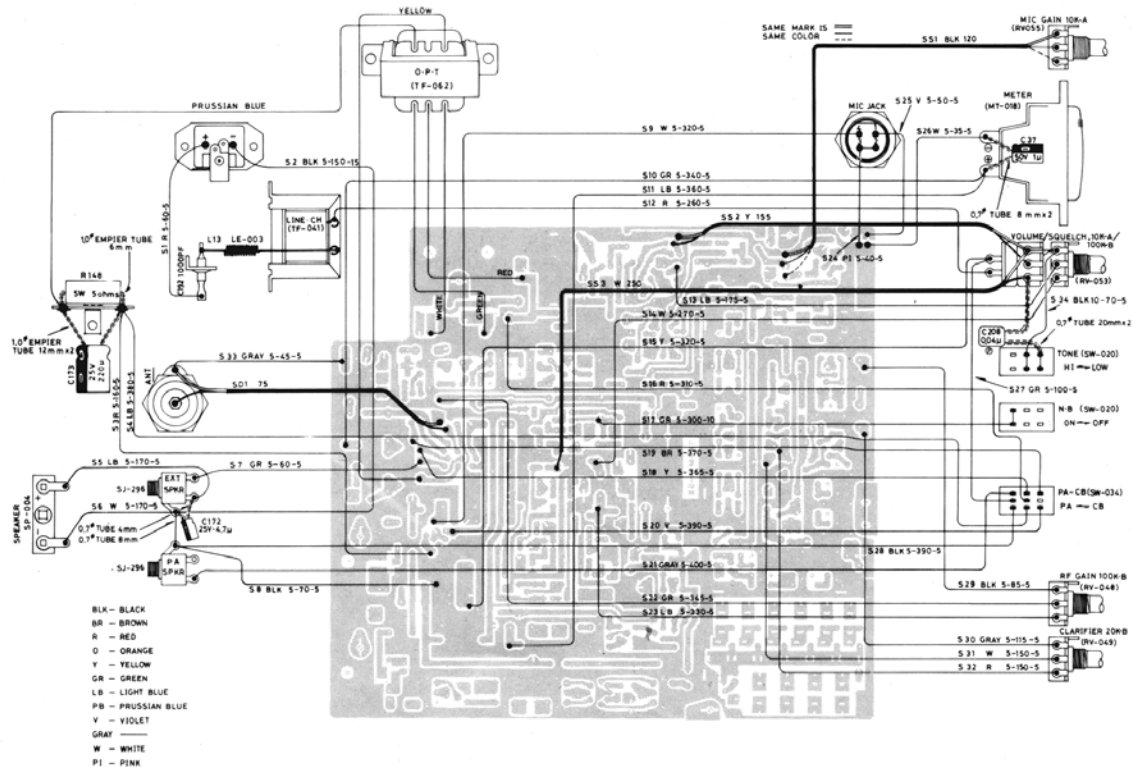


# WIRING DIAGRAM

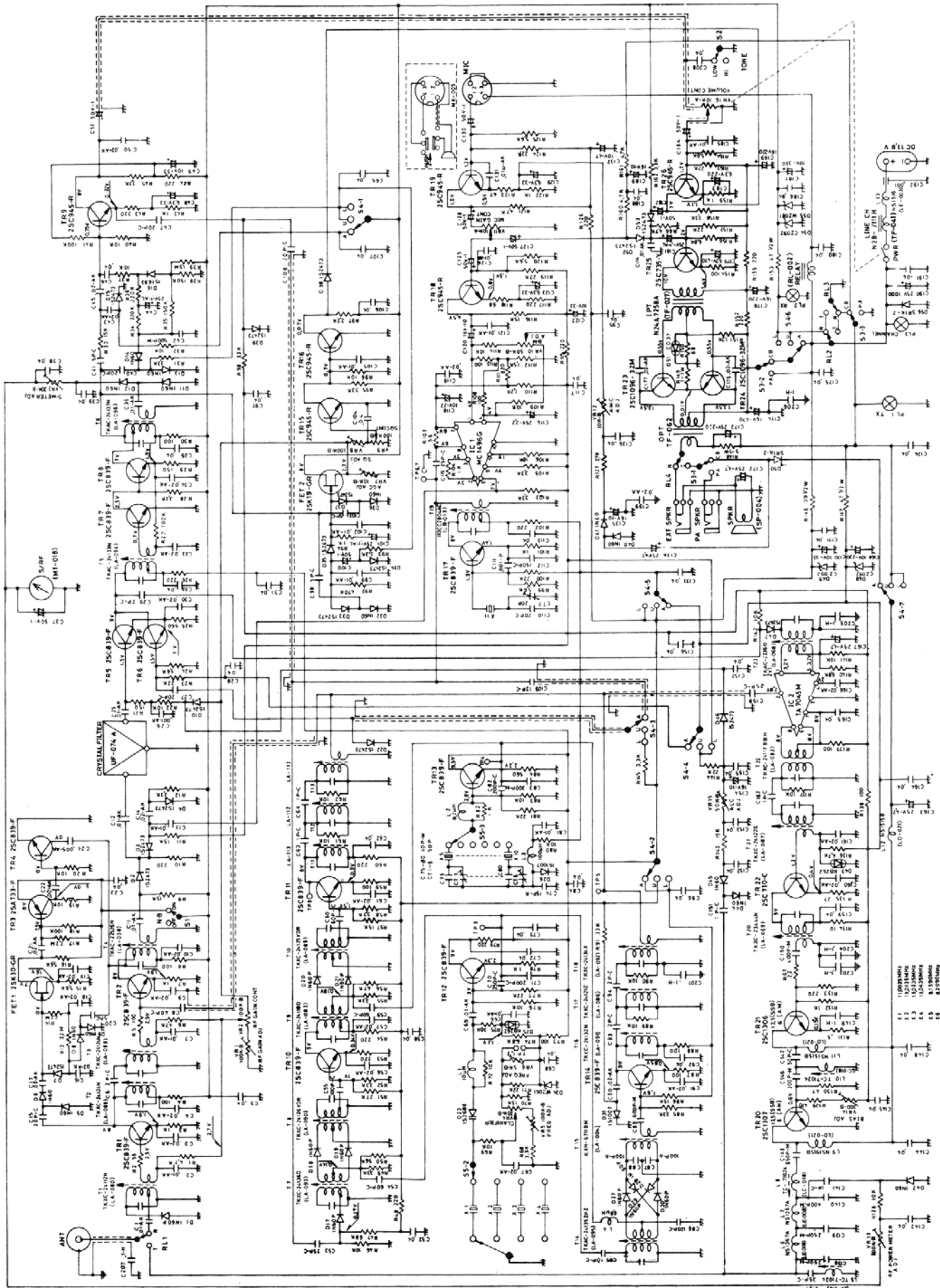
## MODE SW WIRING



## CHASSIS WIRING



# MODEL 13-893 SCHEMATIC DIAGRAM



## LIMITED WARRANTY

Midland International Corporation warrants each new Midland product to be free from defects in material and workmanship under normal use and service for a period of 90 days after delivery to the ultimate user and will replace or repair the product at our option, at no charge should it become defective and which our examination shall disclose to be defective and under warranty.

This warranty shall not apply to any Midland product which has been subject to misuse, neglect, accident, incorrect wiring not of our own installation, or to use in violation or instructions furnished by us, nor extended to units which have been repaired or altered outside of our factory.

This warranty does not cover carrying cases, earphones, batteries, antenna, broken or cracked cabinets, or any other accessory used in connection with this product.

This warranty is in lieu of all other warranties expressed or implied and no representative or person is authorized to assume for us any other liability in connection with the sales of our products.

Sales receipt must accompany product to validate the date of purchase.

**MIDLAND**  
INTERNATIONAL CORPORATION  
**Communications Division**

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