

# PROFESSIONAL ULTRA-SUPER MULTIBAND RADIO/COMPUTERIZED PROGRAMMABLE SCANNER



UNINTERRUPTED FREQUENCY COVERAGE 100 kHz—1.4 GHz WITH RF CONVERTERS

**J.I.L.**

# SX-400

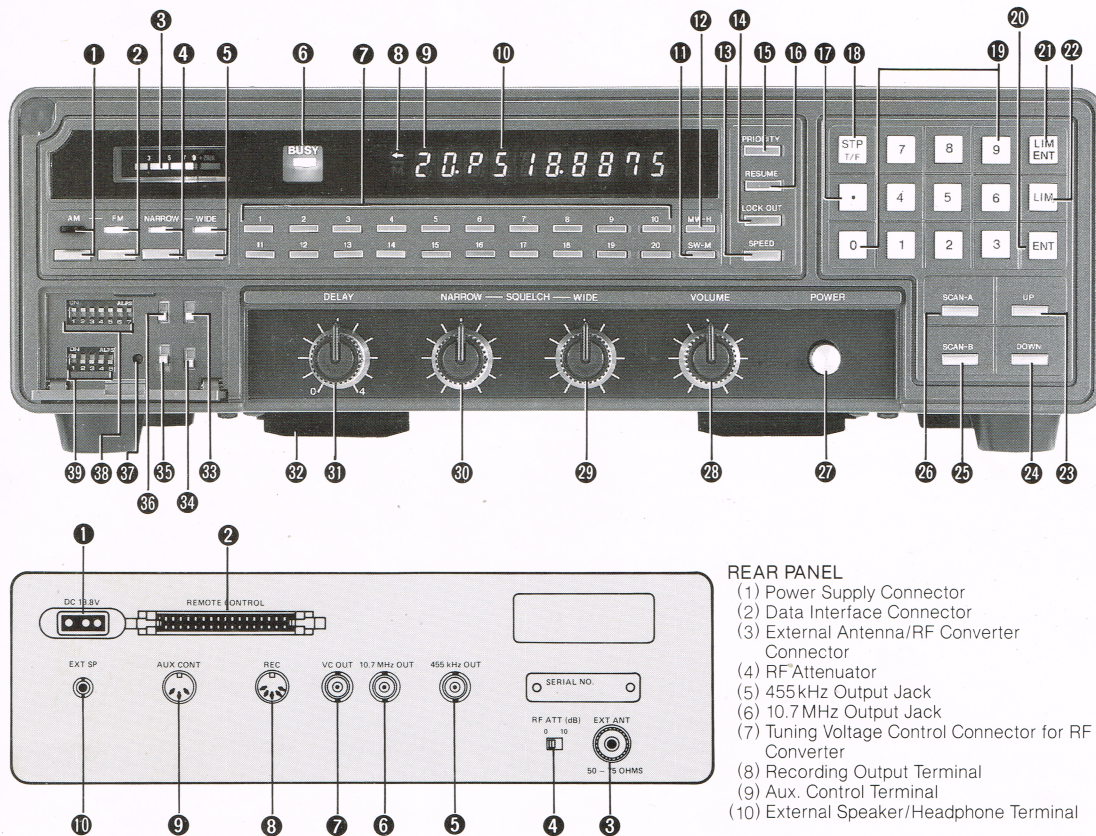
**SERIES**

SCANNING MONITOR RECEIVER

- ULTRA SUPER FEATURED SX-400 SERIES EXPANDS FREQUENCY COVERAGE FROM 100kHz TO 1.4GHz UP WITH RF CONVERTERS (OPTIONAL).
- ADDITIONAL MEMORY CHANNELS MORE THAN 20, RECORD FREQUENCY, TIME AND VOICE, HI-SPEED REPROGRAM OF 20 CHANNEL MEMORIES, AND REMOTE CONTROL OF ALL SX-400'S FUNCTIONS WITH DATA INTERFACE (OPTIONAL).
- BIRDIE-CANCEL CIRCUIT BUILT IN.
- 12 BLOCK CHANNEL SPACE SWITCHES.



# SX-400 26 ~ 520 MHz General Coverage Scanner



## FRONT PANEL

- (1) AM Selector Switch/Indicator Lamp
- (2) FM Selector Switch/Indicator Lamp
- (3) Signal Meter
- (4) Narrow FM IF Filter Bandwidth Selector Switch/Indicator
- (5) Wide FM IF Filter Bandwidth Selector Switch/Indicator
- (6) Busy Indicator
- (7) 20 Channel Memory Keys
- (8) Lockout Indicator
- (9) Memory Channel Display
- (10) Frequency Display
- (11) Scan Write/Minute Adjustment Key
- (12) Memory Write/Hour Adjustment Key
- (13) Speed Change Switch
- (14) Lockout Key
- (15) Priority Key
- (16) Resume Key
- (17) Decimal (.) Key
- (18) Stop/Time, Frequency Change Switch
- (19) 0 ~ 9 Frequency Selector Keys
- (20) Frequency Entry Key
- (21) Limit Entry Key
- (22) Limit Search ON/OFF Switch
- (23) Search UP Key
- (24) Search DOWN Key
- (25) Scan-B Key
- (26) Scan-A Key
- (27) Power ON/OFF Switch
- (28) Volume Control
- (29) Wide Squelch Control
- (30) Narrow Squelch Control
- (31) Delay Control
- (32) Stand
- (33) Auto Noise Limiter Switch
- (34) Mute ON/OFF Switch
- (35) Dimmer Control Switch
- (36) Stop Mode Selector Switch
- (37) Memory Reset Switch
- (38) VHF 7 Band Channel Space Selector Switches
- (39) UHF 5 Band Channel Space Selector Switches

## REAR PANEL

- (1) Power Supply Connector
- (2) Data Interface Connector
- (3) External Antenna/RF Converter Connector
- (4) RF Attenuator
- (5) 455 kHz Output Jack
- (6) 10.7 MHz Output Jack
- (7) Tuning Voltage Control Connector for RF Converter
- (8) Recording Output Terminal
- (9) Aux. Control Terminal
- (10) External Speaker/Headphone Terminal

## 10 MAJOR MERITS OF SX-400

- 1 WIDE FREQUENCY COVERAGE** 26 ~ 520 MHz General Coverage Scanning Monitor Receiver, AM/FM Change Mode Switch, Stop Mode Switch (Carrier and Voice, Voice only) on front panel.
- 2 EXPANSIBLE FREQUENCY COVERAGE** Optional RF Converters expand 100 kHz ~ 1.4 GHz UP.
- 3 DATA INTERFACE** Optional Data Interface Model RC-4000 for additional memory channels more than 20, record frequency, time and voice. Hi-speed reprogram of 20 channel memories. AND remote control of all SX-400 functions with DATA INTERFACE.
- 4 MOMENTARY MEMORY RECALL** One-touch, momentary recall of frequency and modulation (AM or FM) on any memory channel.
- 5 BIRDIE-FREE SEARCH** BFS (Birdie-Free Search) Circuit cancels all of the birdies.
- 6 CHANNEL SPACE SWITCHES** For Hi-Fi reception, setting switches for VHF 7 bands (5 or 6.25 kHz step) UHF 5 bands (10 or 12.5 kHz step) on front panel.
- 7 PRIORITY** Samples channel as priority frequently, automatically switches to channel 1 in any operation mode.
- 8 MUTING CIRCUIT** Carrier noise free and clear voice reception.
- 9 DUAL SQUELCH CONTROL** Individual squelch control for FM WIDE and AM/FM NARROW, no readjustment necessary with mode changed (Narrow/Wide).
- 10 AUTOMATIC NOISE LIMITER/FM IF FILTER BANDWIDTH SWITCH** Automatic noise limiter (ANL) circuit incorporated to minimize AM Pulse noise. Narrow/Wide FM IF Filter Bandwidth switch for FM/TV Broadcasts.

## ● SPECIFICATIONS

1. Type	AM-FM
2. Frequency Range	VHF ..... 26 MHz ~ 299.990000 MHz UHF ..... 300 MHz ~ 520.000000 MHz
3. Sensitivity	VHF ..... FM (S/N = 12 dB) 0.5 $\mu$ V AM (S/N = 10 dB) 1.0 $\mu$ V UHF ..... FM (S/N = 12 dB) 0.5 $\mu$ V AM (S/N = 10 dB) 2.0 $\mu$ V
4. S/N Ratio	45 dB
5. Image Rejection	VHF ..... 50 dB UHF ..... 40 dB

6. Selectivity	FM ..... 60 dB at $\pm$ 15 kHz AM ..... 60 dB at $\pm$ 10 kHz
7. Squelch Threshold	FM ..... Within 1.0 $\mu$ V AM ..... Within 2.0 $\mu$ V
8. Scan Stop Sens	Less than 2 $\mu$ V
9. Center Detector	$\pm$ 4 ~ $\pm$ 7 kHz
10. Frequency Stability	VHF ..... Less than 1 kHz UHF ..... Less than 1 kHz
11. Audio Output	4 W (load 4 $\Omega$ )
12. Scan Speed	Fast ..... 8 channel/sec. Slow ..... 4 channel/sec.

13. Search Speed	Fast ..... 10 channel/sec. Slow ..... 5 channel/sec.
14. Delay Time	0 ~ 4 sec. variable
15. Memory Channels	20 channel
16. Clock Error	Less than $\pm$ 10 sec.
17. Antenna Impedance	50 ~ 70 $\Omega$
18. Power Supply	DC 13.8 V
19. External Speaker Impedance	4 ~ 8 $\Omega$
20. Dimensions	W 300 x H 90 x D 210 (mm)
21. Weight	3.5 kg (excluding AC adaptor)

## RC-4000 DATA INTERFACE

## Control of SX-400 series Scanner and RF Converters through Computer

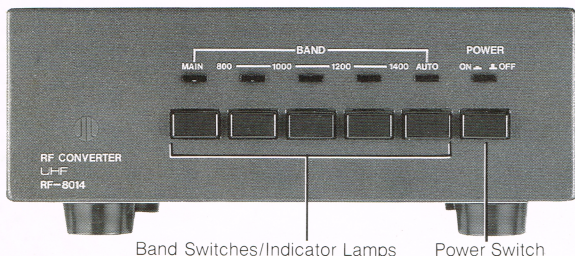
- Direct system for NEC 8801A computer.
- High-Speed Reprogramming of 20 channels.
- Scan of unlimited channels stored in computer.
- Record of Frequencies and Time of signals received.
- Automatic Control of Bands and Modes of RF converters and ACB-300.



# OPTIONAL for SX-400 SERIES SYSTEM

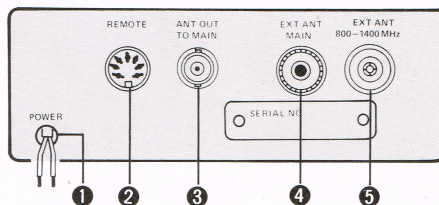
## RF-8014 DOWN CONVERTER

800MHz ~ 1.4GHz RF converter for SX-400



Band Switches/Indicator Lamps Power Switch

- Bands: • MAIN (to cover 26 ~ 520MHz with SX-400) • 800MHz ~ 1.0GHz • 1.0GHz ~ 1.2GHz • 1.2GHz ~ 1.4GHz • AUTO (Automatic control of RF-8014 with an external computer, etc.)
- Frequencies shown in SX-400 display: 500MHz lower between 800MHz ~ 1.0GHz, 700MHz lower between 1 ~ 1.2GHz, 900MHz lower between 1.2 ~ 1.4GHz.
- Individual Band Switches and LED Indicators.
- Current Drain: 250mA (approx.)
- Accessories: 1 BNC/M-adaptor, 1 Cable with BNC terminals.
- Dimensions: W. 148 × H. 51 × D. 225 (mm)

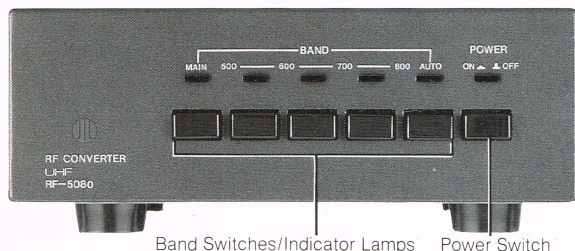


### REAR PANEL

- (1) Power Lead
- (2) Remote Connector
- (3) ANT. Out Connector
- (4) EXT. ANT. Connector (for 26 ~ 520MHz)
- (5) EXT. ANT. Connector (for 800 ~ 1,400MHz)

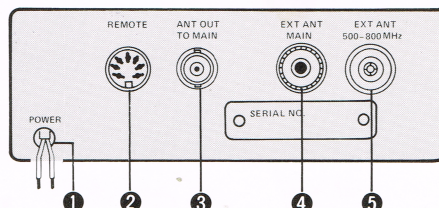
## RF-5080 DOWN CONVERTER

500 ~ 800MHz RF converter for SX-400



Band Switches/Indicator Lamps Power Switch

- Bands: • MAIN (to cover 26-520MHz with SX-400) • 500 ~ 600MHz • 600 ~ 700MHz • 700 ~ 800MHz • AUTO (Automatic control of RF-5080 with an external computer, etc.)
- Frequencies shown in SX-400 display: 300MHz lower between 500 ~ 600MHz, 400MHz lower between 600 ~ 700MHz, 500MHz lower between 700 ~ 800MHz.
- Individual Band Switches and LED Indicators.
- Current Drain: 250mA (approx.)
- Accessories: 1 BNC/M-adaptor, 1 Cable with BNC terminals.
- Dimensions: W. 148 × H. 51 × D. 225 (mm)

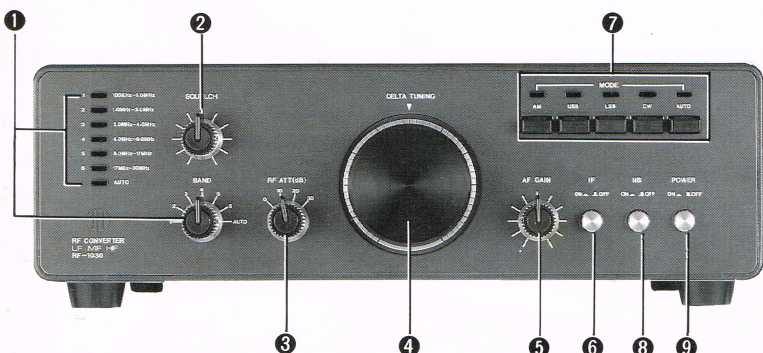


### REAR PANEL

- (1) Power Lead
- (2) Remote Connector
- (3) ANT. Out Connector
- (4) EXT. ANT. Connector (for 26 ~ 520MHz)
- (5) EXT. ANT. Connector (for 500 ~ 800MHz)

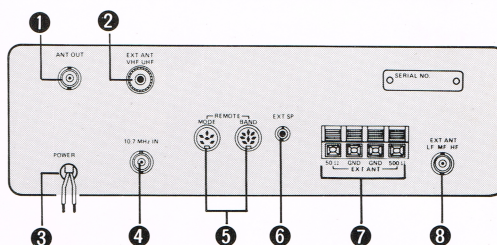
## RF-1030 UP CONVERTER

100kHz ~ 30MHz RF converter for SX-400



FRONT PANEL (1) Band Switch/Indicator Lamps (2) Squelch Control (3) RF Attenuator (4) Delta Tuning (5) AF Gain Control (6) IF ON/OFF Switch (7) Mode Switches/Indicator Lamps (8) Noise Blanker (9) Power Switch

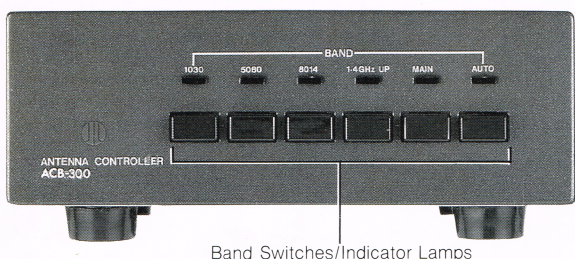
- Bands: (1) 100kHz ~ 1MHz, (2) 1 ~ 2MHz, (3) 2 ~ 4MHz, (4) 4 ~ 8MHz, (5) 8 ~ 17MHz, (6) 17 ~ 30MHz • AUTO (Automatic control of 6 bands of RF-1030 with an external computer, etc.)
- Frequencies shown in SX-400 display: 50MHz higher on all bands than the frequencies received.
- Individual Mode Switches and LED Indicators: AM, USB, LSB, CW, AUTO • CW filter (optional) required for CW reception • AUTO—Automatic Control of modes of RF-1030 with an external computer, etc.
- Band Switch and LED Band Indicators, Squelch Control, RF Att., AF Gain Control, Delta Tuning, IF ON/OFF Switch, NB (Noise Blanker) Switch.
- Current Drain: 1A (approx.)
- Accessories: 1 BNC/M-adaptor, 2 Cable with BNC terminals
- Dimensions: W. 300 × H. 90 × D. 233 (mm)



### REAR PANEL

- (1) ANT. Out Connector
- (2) EXT. ANT. Connector (for 26 ~ 520MHz)
- (3) Power Lead
- (4) 10.7MHz In Connector
- (5) Remote Connectors
- (6) EXT. SP Jack
- (7) Antenna Terminal
- (8) EXT. ANT. Connector (for 100kHz ~ 30MHz)

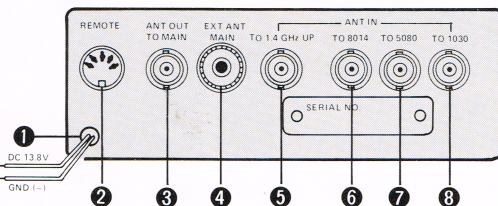
## ACB-300 ANTENNA CONTROL BOX



Band Switches/Indicator Lamps

### Manual and Automatic antenna control system for SX-400 series RF converters

- Individual Band Switches and LED Indicators: 1030, 5080, 8014, 1.4GHz UP (for reception of 1.4GHz above) AUTO (Automatic control of antennas for RF-1030, RF-5080, RF-8014 and for MAIN scanner)
- Current Drain: 50mA (approx.)
- Accessories: 1 Cable with BNC terminals
- Dimensions: W. 148 × H. 51 × D. 225 (mm)

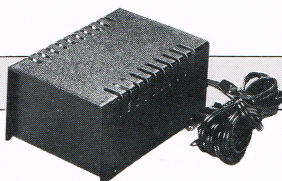


### REAR PANEL

- (1) Power Lead
- (2) Remote Connector
- (3) ANT. Out to Main Connector
- (4) EXT. ANT. Main Connector
- (5) to 1.4GHz Up Connector
- (6) to 8014 Connector
- (7) to 5080 Connector
- (8) to 1030 Connector

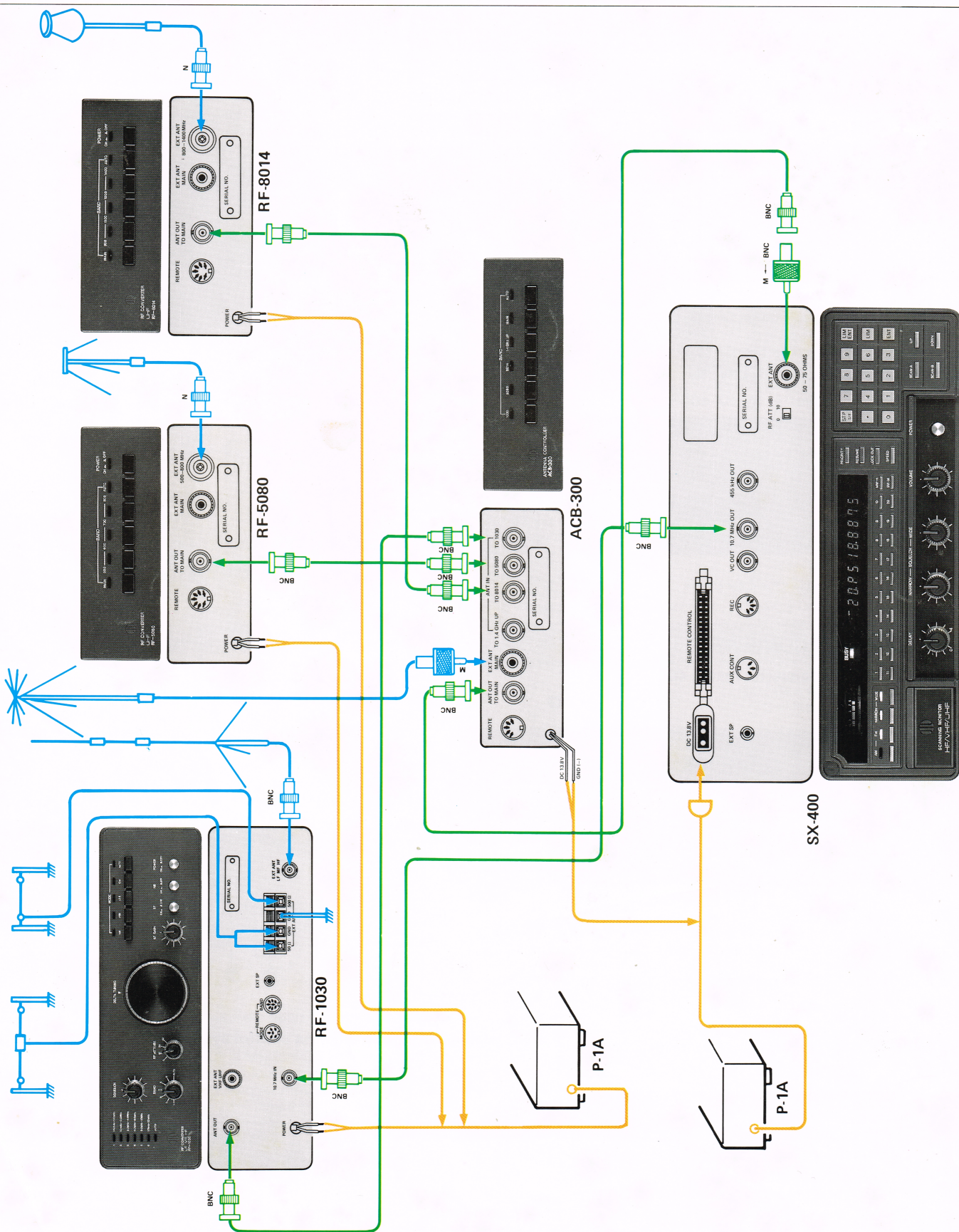
## P-1A REGULATED POWER SUPPLY UNIT

- 1A ● AC 120V (220V, 240V, 100V available) to DC 13.8V
- Dimensions: W. 90 × H. 60 × D. 135 (mm)





# SX-400 SERIES SYSTEM CONNECTION DIAGRAM



Note: Circuit and ratings subject to change without notice due to development in technology.

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