



**Rockwell
International**

installation

Collins Defense Communications

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851S-1 Receiver

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NOTICE: This section replaces first edition dated 1 January 1979.

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Record of Revisions

RETAIN THIS RECORD IN THE FRONT OF MANUAL.
ON RECEIPT OF REVISIONS, INSERT REVISED PAGES IN THE MANUAL,
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installation

1. GENERAL

The 851S-1 Receiver is ready, as shipped, for mounting in a 178-mm (7-in) high space in standard 483-mm (19-in) equipment rack. This section contains information for installing the 851S-1 in a rack and making the unit operational.

All interconnecting cables are attached to the receiver at the rear panel. The headphone jack is located on the front panel for operator convenience.

The 851S-1 Receiver operates with natural convective cooling in single-unit installations. In multiple-unit installations or where other heat producing equipment is installed in the same cabinet, it is desirable to install a cabinet blower to remove hot air and prevent excessive temperature buildup.

2. UNPACKING AND INSPECTING

Unpack the 851S-1 carefully and check each item received against the shipping invoice. Inspect the items for evidence of damage during shipment. All claims for damage in shipment should be filed promptly with the transportation company involved. If claims for damage are filed, save the original packing cases and material.

3. PREINSTALLATION CHECK/ REQUIREMENTS

3.1 Strapping

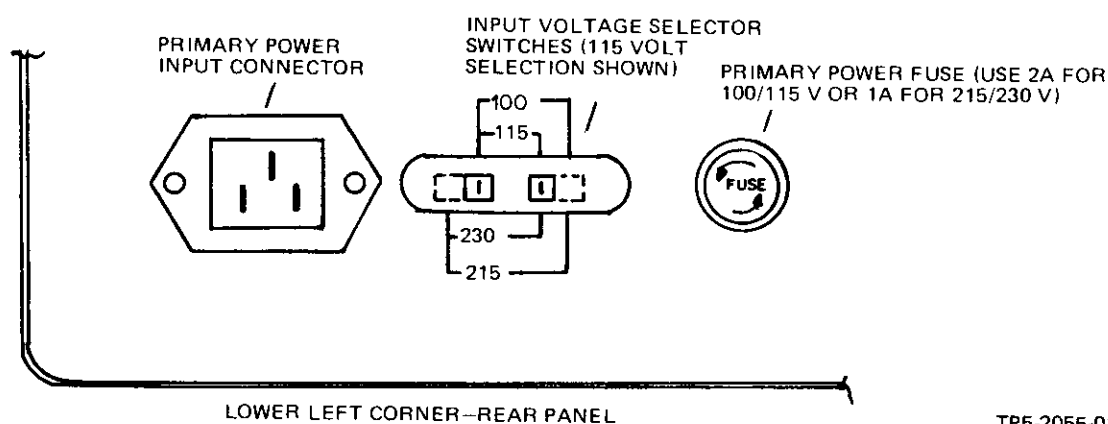
3.1.1 Input Power

Caution

Do not remove or install plug-in cards or modules with power on. Damage to the cards or modules may result.

Do not operate the primary input voltage selector switches with power applied. Be sure switches are in proper position with proper fuse installed before applying power. Connect the ground terminal located on the rear panel to a ground strap that is securely connected to earth ground. (Ground strap should be #14 AWG or larger.)

Switches are provided for strapping the unit for desired primary input power. The unit may be operated from 100, 115, 215, or 230 volts ac, nominal input. In the lower left corner of the rear panel, set the primary input voltage selector switches to the position corresponding to the value nearest the primary input voltage. Figure 1 shows the switches set to the 115-volt position.



TP5-2055-011

Primary Input Voltage Selector Switches
Figure 1

For the 100/115-volt position, install a 2-ampere fuse. For the 215/230-volt position, install a 1-ampere fuse. An initial supply of fuses is included in the maintenance kit supplied with the 851S-1.

3.1.2 Remote Control

Both the receiver and the associated receiver control or processor must operate at the same baud rate and signaling format. This is accomplished by the proper strapping of the serial interface, parallel output, and parallel input cards using the dipswitches and straps provided.

Note

Remote controlled 851S-1 Receivers equipped with a microprocessor-based serial interface remote control are readily adaptable to ASCII word format as well as the 8-bit character format that is in all 851S-1 Receiver builds.

3.1.2.1 Nonmicroprocessor Based

Figure 2 is a partial view of serial interface A13 with the jumper points keyed out. These jumpers control baud rate, FSK/RS-232C signaling, EIA/MIL-STD-188C polarity, and address recognition as follows:

a. Baud Rate

For FSK operation, the baud rate is limited to not more than 600 bauds. Connect a jumper between a center and outer pin corresponding to the desired baud rate, as shown in the following list.

| <u>RATE</u> | <u>CENTER TO PIN</u> |
|----------------|--------------------------|
| 75 | 10 |
| 150 | 9 |
| 300 | 8 |
| 600 | 7 |
| 1200 | 6 |
| 2400 | 5 |
| 4800 | 4 |
| 9600 | 3 |
| 19 200 | 2 |
| External clock | 1 |

b. EIA/RS-232C Polarity

For MIL-STD-188C polarity, add MIL jumper.

For RS-232C polarity, remove MIL jumper.

c. Parity Recognition

For odd parity, install ODD jumper and remove EVEN jumper.

For even parity, install EVEN jumper and remove ODD jumper.

If parity recognition is not required, remove ODD and EVEN jumpers.

d. FSK/RS-232C Signaling

For FSK signaling, remove all R jumpers. Install all F jumpers.

Note

For FSK signaling, EIA data polarity should be selected. See paragraph 3.1.2.1.b.

For RS-232C signaling, remove all F jumpers. Install all R jumpers.

e. Address Recognition Enable/Disable

If an address is to be recognized, install A (address) jumper. Refer to paragraph 3.1.3.

3.1.2.2 Microprocessor Based

Figure 3 is a partial view of serial interface A13 with the dipswitches shown. These switches control baud rate, FSK/RS-232C signaling, word format, EIA/MIL-STD-188C polarity, parity, number of stop bits, application, and address recognition enable/disable as follows. (Note: Switch #1 of each dipswitch is toward the top of the card.)

a. Baud Rate

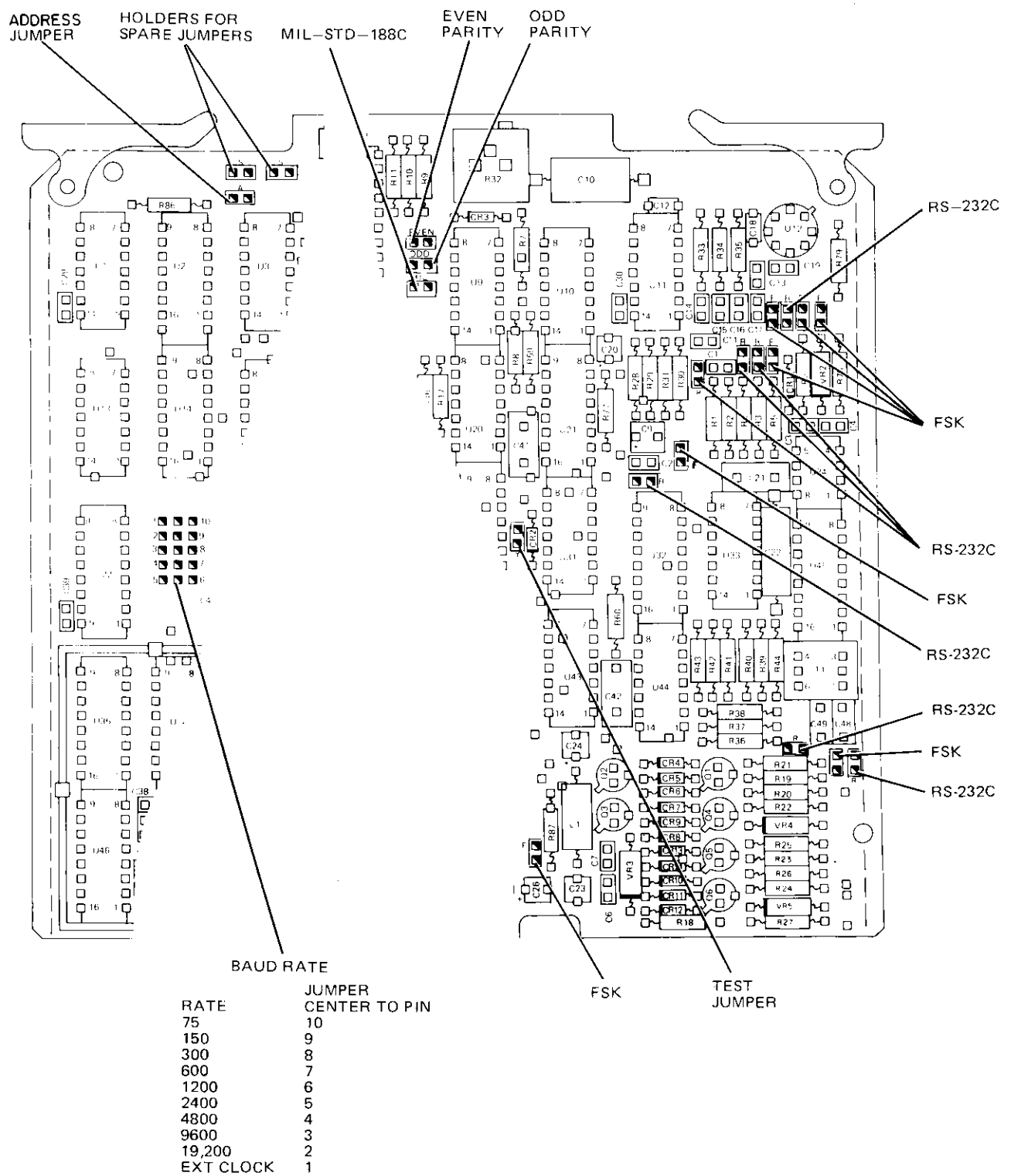
All eight of the switches in S1 and switches 1, 2, and 3 of S2 control the baud rate. Closing one and only one of these switches will select the baud rate as shown in table 1.

b. EIA/MIL-STD-188C Polarity

Open switch 4 of S2 for EIA data polarity and close switch 4 of S2 for MIL-STD-188C polarity.

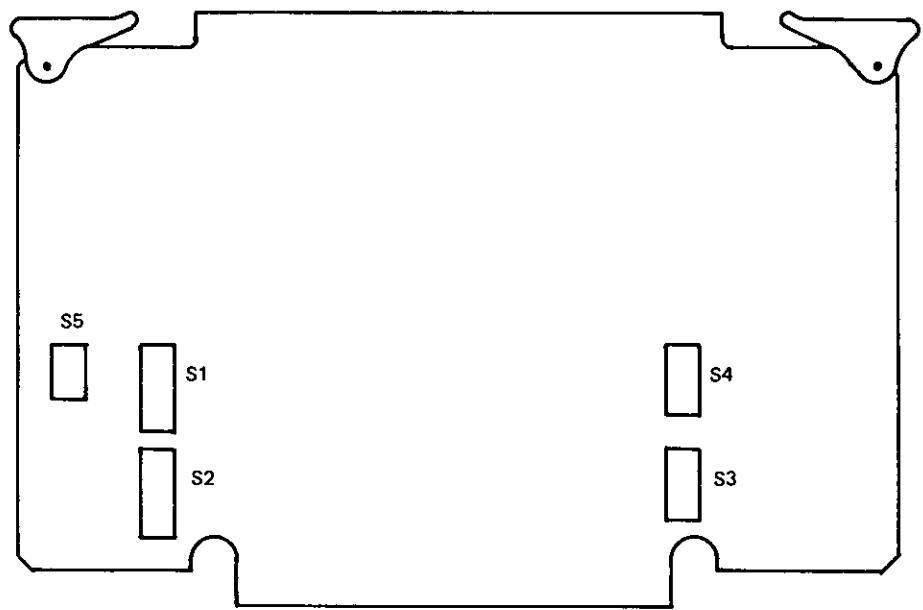
c. Receiver Operation

Open switch 5 of S2 on serial interface A13.



TP5-1569-019

Serial Interface, Strapping
Figure 2



TPA-2674-011

Serial Interface, Dipswitch Locations
Figure 3

Table 1. Baud Rate Selection.

| DIPSWITCH | SWITCH | BAUD RATE |
|-----------|--------|-----------|
| S1 | 1 | 19 200 |
| S1 | 2 | 9 600 |
| S1 | 3 | 4 800 |
| S1 | 4 | 2 400 |
| S1 | 5 | 1 200 |
| S1 | 6 | 600 |
| S1 | 7 | 300 |
| S1 | 8 | 150 |
| S2 | 1 | 109 |
| S2 | 2 | 75 |
| S2 | 3 | External |

Table 2. Format Selection.

| S2 SWITCH* | | | WORD FORMAT | PARITY | NUMBER OF STOP BITS |
|------------|---|---|----------------|--------|---------------------------|
| 8 | 7 | 6 | | | |
| C | C | C | ASCII | Even | 2 |
| C | C | 0 | ASCII | Odd | 2 |
| C | 0 | C | ASCII | Even | 1 |
| C | 0 | 0 | ASCII | Odd | 1 |
| 0 | C | C | 8-bit | None | 2 |
| 0 | C | 0 | 8-bit | None | 1 |
| 0 | 0 | C | 8-bit | Even | 1 |
| 0 | 0 | 0 | 8-bit | Odd | 1 |
| *0 = OPEN | | | C = CLOSED | | |

d. 8-Bit/ASCII Word Format, Parity, and Number of Stop Bits

Switches 6, 7, and 8 of S2 control the basic character format according to table 2.

e. FSK/RS-232C Signaling

Dipswitches S3 and S4 control the type of signaling. Close only switches 1, 2, and 3 of S3 and S4 for FSK. (Note: For FSK signaling, EIA data polarity

should be selected. See paragraph 3.1.2.2.b.) For RS-232C signaling, close only switches 4, 5, and 6 of S3 and S4.

f. Address Recognition Enable/Disable

Open switch 1 of S5 to enable address recognition. Close switch 1 of S5 to disable address recognition. When address recognition is disabled, the receiver or control will accept a word with any address if the word is otherwise correct.

g. Parallel Input (Refer to figure 4.)

Figure 4 is a partial view of parallel input A11 with dipswitch location shown. Close S1 switches 1 thru 8 and S2 switch 1. All other switches are open.

h. Parallel Output Strapping

Parallel output A12 must be strapped for proper operation at initial installation and/or following testing and troubleshooting. Strapping is accomplished using jumper clips over the square pins marked E1 through E6.

Place one jumper connector on each of the square pin pairs labeled E1 thru E4.

Pin pair E5 is strapped between the middle and top pins for a flashing fault indicator or strapped between the middle and bottom pins for a non-flashing fault indicator.

Pin pair E6 is strapped between the middle and left pins.

3.1.3 Address (Remote Controlled Receiver Only)

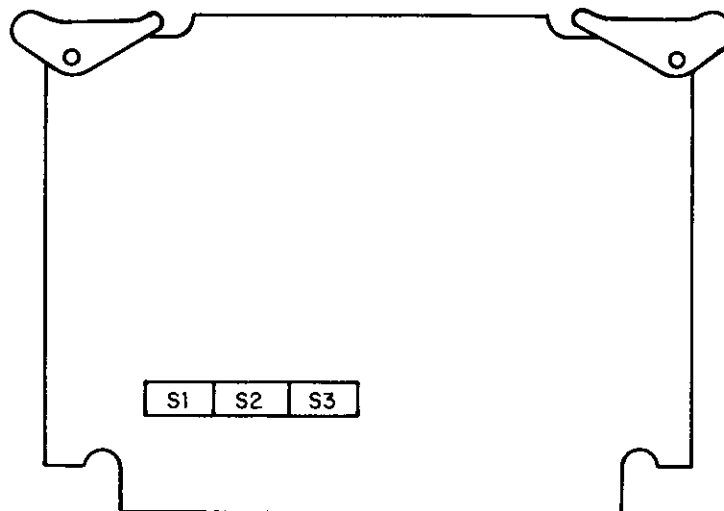
The ADDRESS switch on the HF-8095 Receiver Control front panel develops a 4-bit binary output. Each receiver must be strapped, at interconnecting cable connector J14, to correspond to the address bit pattern for that unit. (When a processor is used to control the receiver, up to 32 units may be controlled using a 5-bit binary output.) Figure 5 shows the strapping for the connector pins associated with each address. Connect a short jumper wire between pins 9-13, as applicable, and ground (pin 22 and/or 24) on the wiring harness connector mating J14 on the receiver.

In a single receiver installation where an HF-8095 Receiver Control operates one-to-one with an 851S-1 Receiver, no strapping is needed. Address 0 (00000) is set by leaving all address pins open. In this case, the ADDRESS selector on the HF-8095 Receiver Control must be set at 0.

3.1.4 Frequency Standard

3.1.4.1 Internal Standard

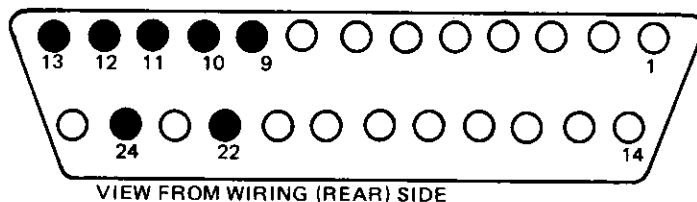
A temperature-compensated crystal oscillator provides an internal 100-kHz frequency standard. To use



TPA-2835-011

*Parallel Input, Dipswitch Locations
Figure 4*

WIRING HARNESS CONNECTOR MATING
WITH J14 ON REAR PANEL OF REMOTE UNIT



| ADDRESS NUMBER | REMOTE UNIT STRAPPING REQD FOR ADDRESS RECOGNITION | | | | |
|-------------------|---|----|----|----|----|
| | A5 | A4 | A3 | A2 | A1 |
| 0 | — | — | — | — | — |
| 1 | — | — | — | — | X |
| 2 | — | — | — | X | — |
| 3 | — | — | — | X | X |
| 4 | — | — | X | — | — |
| 5 | — | — | X | — | X |
| 6 | — | — | X | X | — |
| 7 | — | — | X | X | X |
| 8 | — | X | — | — | — |
| 9 | — | X | — | — | X |
| 10 | — | X | — | X | — |
| 11 | — | X | — | X | X |
| 12 | — | X | X | — | — |
| 13 | — | X | X | — | X |
| 14 | — | X | X | X | — |
| 15 | — | X | X | X | X |
| 16 | X | — | — | — | — |
| 17 | X | — | — | — | X |
| 18 | X | — | — | X | — |
| 19 | X | — | — | X | X |
| 20 | X | — | X | — | — |
| 21 | X | — | X | — | X |
| 22 | X | — | X | X | — |
| 23 | X | — | X | X | X |
| 24 | X | X | — | — | — |
| 25 | X | X | — | — | X |
| 26 | X | X | — | X | — |
| 27 | X | X | — | X | X |
| 28 | X | X | X | — | — |
| 29 | X | X | X | — | X |
| 30 | X | X | X | X | — |
| 31 | X | X | X | X | X |
| PIN | 13 | 12 | 11 | 10 | 9 |

X INDICATES PIN STRAPPED TO GROUND
(PIN 22 OR 24).

— INDICATES OPEN (NO STRAP REQUIRED).

TPA-2578-011

Strapping for Unit Address
Figure 5

the internal frequency standard, the strap on synthesizer reference A15 must be set to the INT (internal) position. Refer to figure 6 for placement of strap.

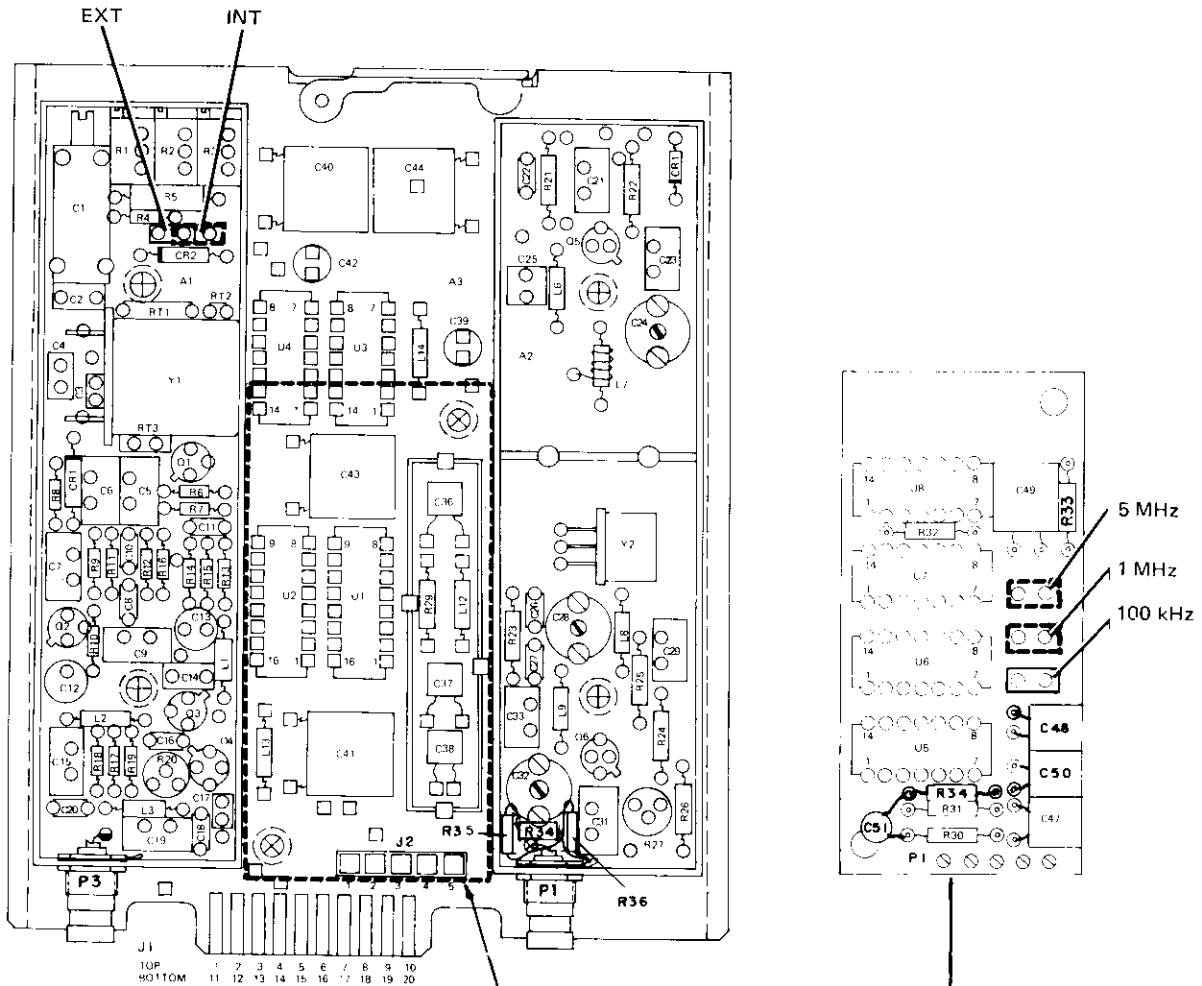
3.1.4.2 Oven Standard

Note

The strapping requirements are the same with a factory installed oven standard as

with a field installed AC-8012 Oven Standard Kit.

To use the oven standard, the strap on synthesizer reference A15 must be set to the EXT (external) position and the strap on external phase-lock A15A4 must be set to the 1-MHz position. Refer to figure 6 for placement of straps.



Strapping for External Frequency Standard
Figure 6

TP5-2249-019

3.1.4.3 External Frequency Standard

Note

The strapping requirements are the same with a factory installed external frequency standard option as with a field installed AC-8013 External Standard Kit.

To use the external frequency standard, the strap on synthesizer reference A15 must be set to the EXT (external) position and the strap on external phase-lock A15A4 must be set to the frequency position of the external standard (100-kHz, 1-MHz, or 5-MHz). Refer to figure 6 for placement of straps.

3.1.5 Tuning Control

3.1.5.1 100-Hz Tuning Control

To provide 100-Hz tuning control, straps on control A10 must be positioned as shown in figure 7.

3.1.5.2 10-Hz Tuning Control

To provide 10-Hz tuning control, straps on control A10 must be positioned as shown in figure 7.

3.1.6 RF Filter Control

3.1.6.1 Standard Filters

To provide rf filter control when using standard rf bandpass, filtering, straps on control A10 must be positioned as shown in figure 8.

3.1.6.2 Half-Octave Filtering

To provide rf filter control when using half-octave filtering, straps on control A10 must be positioned as shown in figure 8.

3.2 Line Audio Outputs

The receive line audio outputs are adjusted at the factory for 0-dB mW output with a 3- μ V rf input in the SSB modes. If your requirements for audio output are different than this, make line audio adjustments as outlined in the maintenance section of this instruction book.

3.3 Operation

The 851S-1 operation was within the specified standards when the unit was shipped from the factory.

The minimum performance test, in the maintenance section, should be performed to ensure that the equipment is operating within specifications.

4. CABLING (Refer to tables 3 and 4 and figure 9.)

4.1 Receiver to HF-8095 Receiver Control (Remote Control Only)

Maximum allowable separation between the HF-8095 Receiver Control and the receiver is dependent upon the characteristics of the transmission lines used, the method of signaling, and the transmission data rates selected. When using FSK signaling and #22 AWG shielded twisted-pair cable or field wire, maximum line length should be not more than 8 kilometres (5 miles). Transmission of the FSK data signals over private carrier leased lines, commercial telephone lines, microwave links, or satellite communications links permits unlimited separation between the receiver control and receiver. When using RS-232C or MIL-STD-188C signaling, maximum line length should be not more than 152 metres (500 feet).

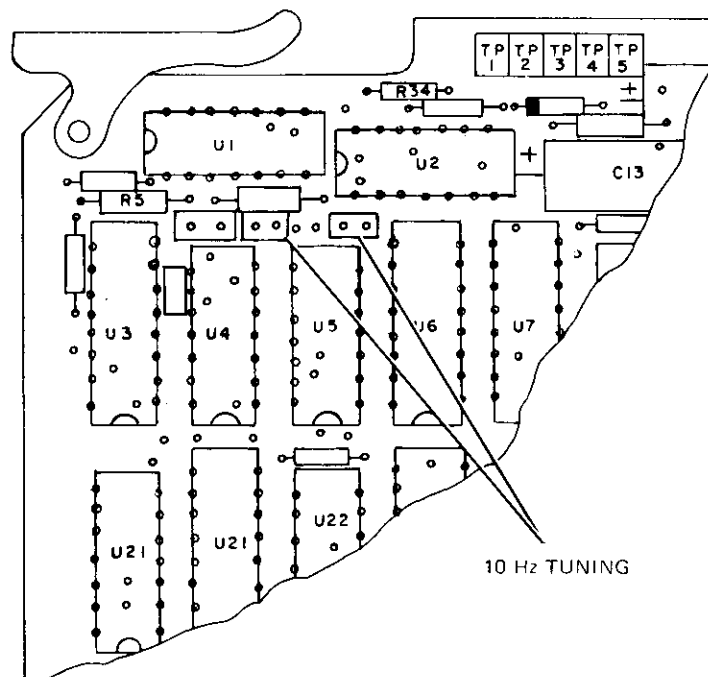
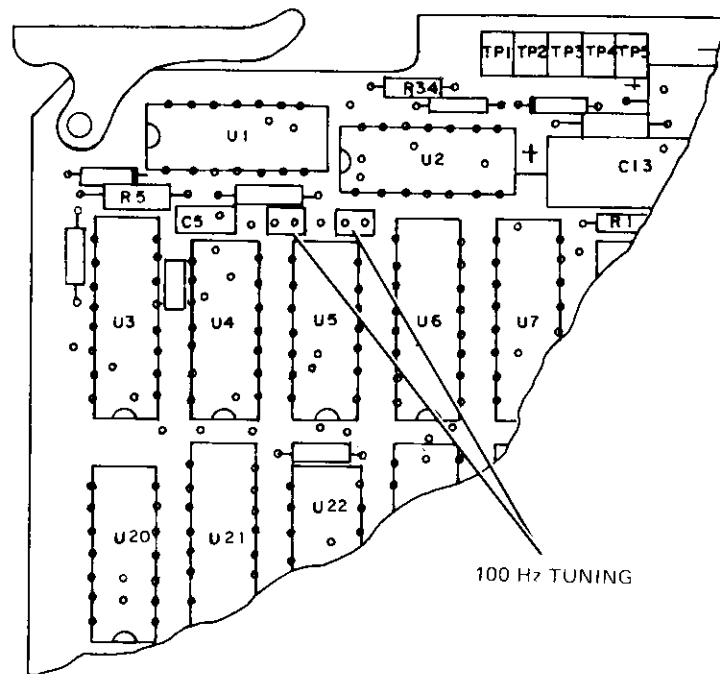
Preamsembled cables 6.1 metres (20 feet) long are available from Rockwell-Collins as part of kit AC-8091 (622-3449-001) for use in installations where the remote control and receiver are within this distance of each other.

4.2 Multiple Receivers to Remote Control (Remote Control Only)

Remote control of multiple receivers is accomplished by connecting in parallel all control data bus (J14-2 and J14-6) and monitor data bus (J14-3 and J14-16) of the receivers. Each receiver must be strapped for a unique address, as described in paragraph 3.1.3. The receivers also must be strapped for the same data rates, same parity, and same signal levels. (The signal level strapped must be either RS-232C or MIL-STD-188C; FSK cannot be used for multiple receiver systems.)

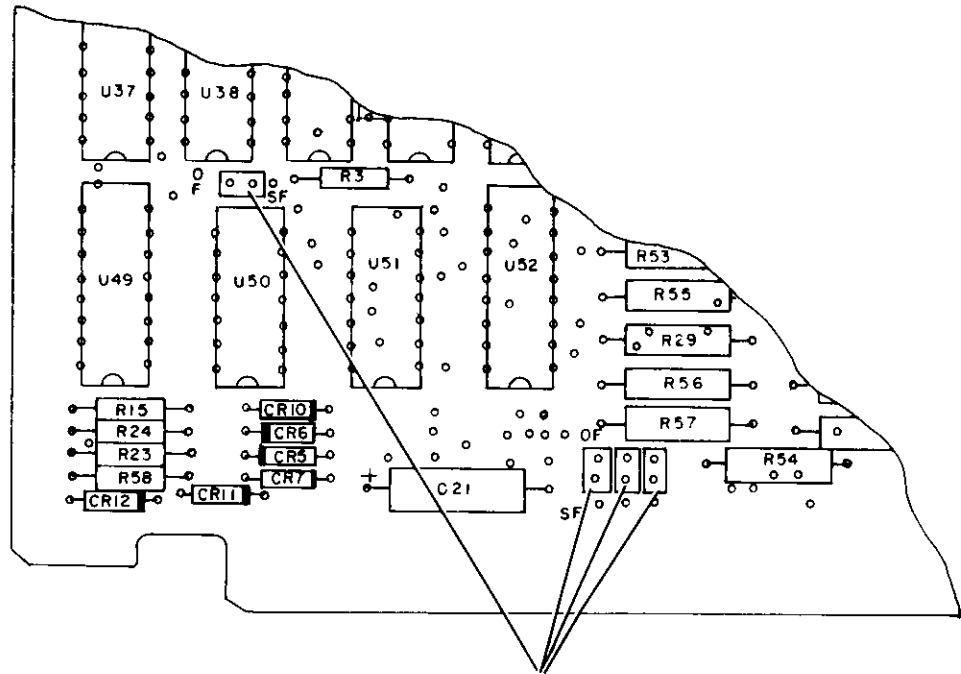
4.3 Receiver to Primary Power Source

Separation between receiver and primary power source (100, 115, 215, or 230 V ac) should be kept to a minimum. A preassembled power cable is supplied as a part of the 851S-1 Receiver.

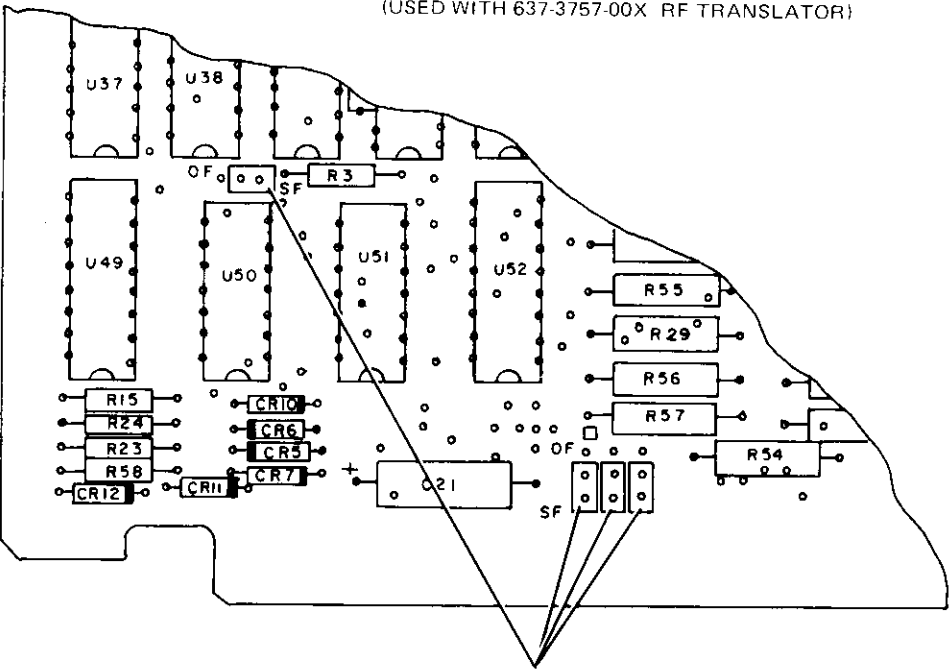


TPA-0849-019

Strapping for Tuning Control
Figure 7



1/2 OCTAVE FILTERS
(USED WITH 637-3757-00X RF TRANSLATOR)



STANDARD FILTERS
(USED WITH 637-1767-00X RF TRANSLATOR)

TPA-0850-019

Strapping for RF Filter Control
Figure 8

Table 3. Preassembled Cables.

| TYPE | COLLINS PART NUMBER | DESCRIPTION |
|------|---------------------|--|
| W1 | 637-4630-001 | 6.1 metres (20 feet) long. Interconnects TB1 and TB2 on the receiver with TB1 and TB2 on the receiver control. Uses six pairs of shielded wires, with terminal lugs on each wire of five pairs, and spade lugs connected to the shields of four pairs. |
| W2 | 637-4631-001 | 6.1 metres (20 feet) long. Interconnects J14 on the receiver to J14 on the receiver control. Uses two Cannon type DBM-25P (371-0170-000) connectors and three pairs of shielded wires. |
| W4 | 637-9284-001 | 1.8 metres (6 feet) long. Interconnects J21 on the receiver to J4 on the power amplifier. Uses one BNC (357-9292-000) connector, one type C (357-0008-000) connector, and an RG-58C/U rf cable. |
| W5 | 637-4769-001 | 1.8 metres (6 feet) long. Uses two BNC (357-9292-000) connectors and an RG-58C/U rf cable. May be used as a substitute for W13, W14, or W17. |
| W12 | 637-9286-001 | 1.45 metres (4.75 feet) long. Interconnects J16 on receiver to J1 on preselector. Uses one Cannon type DCMM-37S (371-0358-230) connector, one Cannon type DDMM-50S (371-0358-240) connector, and required cabling. |
| W13 | 637-4769-002 | 1.45 metres (4.75 feet) long. Interconnects J21 on the receiver to J3 on the preselector. Uses two BNC (357-0202-000) connectors and an RF-58C/U rf cable. May be used as a substitute for W5, W14, or W17, or to connect to a receive antenna. |
| W14 | 637-4769-003 | 1.45 metres (4.75 feet) long. Uses two BNC (357-0202-000) connectors and an RG-58C/U rf cable. May be used as a substitute for W5, W13, or W17. |
| W17 | 637-4769-004 | 2.2 metres (7.3 feet) long. Uses two BNC (357-9292-000) connectors and an RG-58C/U rf cable. May be used as a substitute for W5, W13, or W14, or to connect to receive antenna. |

Table 4. Cable/Connector Kits.

| TYPE | COLLINS PART NUMBER | DESCRIPTION |
|---------|---------------------|---|
| AC-8060 | 622-3456-001 | Preselector control kit, includes W12 only and interconnects receiver and preselector. |
| AC-8091 | 622-3449-001 | Remote control kit, includes W1 and W2 and interconnects receiver and receiver control. |
| AC-8150 | 622-3457-001 | Receiver-exciter/control mating connector kit includes mating connectors and associated hardware for: <ul style="list-style-type: none"> a. 851S-1 Receiver, HF-8010() Exciter, HF-8050() Receiver, or HF-8070() Receiver-Exciter b. HF-8090 Exciter Control, HF-8091 Receiver Control, HF-8092 Receiver-Exciter Control, or HF-8095 Receiver Control |
| AC-8150 | 622-3457-003 | Receiver-exciter/control/preselector mating connector kit includes mating connectors and associated hardware for: <ul style="list-style-type: none"> a. 851S-1 Receiver, HF-8010() Exciter, HF-8050() Receiver, or HF-8070() Receiver-Exciter b. HF-8090 Exciter Control, HF-8091 Receiver Control, HF-8092 Receiver-Exciter Control or, HF-8095 Receiver Control c. HF-8060 Preselector. |

4.4 Receiver to External Speaker

Separation between receiver and external speaker should be kept to a minimum. However, field grade twisted-pair wire should be acceptable for most external speaker requirements. Terminal clips or wires can be attached to 851S-1 Receiver. Refer to applicable speaker for connection requirements. Jumper between TB3-1 and TB3-2 is removed for external speaker, and external speaker leads are connected to TB3-2 and TB3-3.

4.5 Receiver to HF-8060 Preselector and/or Antenna

Separation between receiver and preselector or antenna should be kept to a minimum. Preassembled cables are available from Rockwell-Collins for use in installations where the preselector and antenna are used or where only an antenna is used.

Preassembled cable 1.45 metres (4.75 feet) long is available from Rockwell-Collins, type AC-8060 (622-3456-001), for use in installations where the receiver and preselector are within this distance of each other. A BNC-to-BNC rf cable (W13 or W14) of similar length is also required for receiver-to-preselector installations.

If the preselector is not used, a BNC-to-antenna connector type rf cable is required.

4.6 Receiver to External Frequency Standard

Separation between receiver and external frequency standard should be kept to a minimum. A BNC-to-BNC cable is required. W5, W13, W14, or W17 could be used for this application.

4.7 Receiver IF Output to External Detector or TTY Converter

Separation between receiver and external receive audio modem should be kept to a minimum. Two BNC-to-BNC cables are required. W5, W13, W14, or W17 could be used for this application.

4.8 Receiver Mute Line

The receiver may be muted by connecting an external mute line to TB1-10. This line must be grounded to mute, open, or high-level logic 1 to receive. If high-level 1 is used for receive, applied voltage must not exceed +30 V dc.

4.9 Receiver to AGC Output Monitor

AGC output signals provided by channel A and channel B if's are proportional to the gain reduction of the receiver. The AGC output signals are caused by AGC action or by manual or remote rf gain control. Channel A AGC output is on TB1-8 and channel B AGC output is on TB1-9. These outputs can be used as an indicator of signal strength when AGC is enabled. Output indicates signal strength above a 1- μ V input. To monitor the AGC output, a resistive load of not less than 10 k Ω may be connected. External lines connected to these terminals must be shielded to prevent noise or hum pickup from modulating the gain of the receiver.

4.9.1 Diversity Connection (AGC Crosscoupling Between Receivers)

If two receivers are used in space diversity, it may be desirable to crosscouple the AGC output terminals to minimize the increase in output noise of a receiver whose input signal is fading. Crosscoupling is accomplished by connecting together the channel A AGC outputs of the two receivers, using a shielded line. If ISB operating mode is to be used, similarly connect the channel B AGC outputs.

5. INSTALLATION PROCEDURES

Figure 10 shows the outline and mounting dimensions of the 851S-1 Receiver. The 851S-1 has standard 483-mm (19-in) rack-mounting characteristics and can be mounted using four mounting screws through the edges of the front panel; however, on all rack-mounting configurations, slide mounting is recommended for ease of service and side support. Table 5 shows the mounts available for 851S-1 installations. When installation is complete, ensure all electrical connections are made (including strapping) and all dust covers and shields are in place.

5.1 Installation of Slide Mounts

- a. Refer to figures 10 and 11. Attach the CA-8030 Mounting Kit (slide rails) to the proper location in the CA-8020() Equipment Cabinet or CA-8026 Equipment Dest Cabinet and to the 851S-1.
- b. Lift the 851S-1, position it squarely, and engage the slides of the mounting kit. Slide the 851S-1 completely into the cabinet to assure that the slides function properly.
- c. Refer to cabling, paragraph 4, and make the necessary cable connections as applicable to your unit.

- d. Connect a ground strap (#14 AWG or larger) from the GND terminal, located on the rear of the 851S-1, to a suitable ground point in the equipment cabinet. Be sure that the cabinet ground point is free of paint or foreign material.
- e. Slide the 851S-1 into place in the equipment cabinet and secure it with four screws on each side of the front panel.

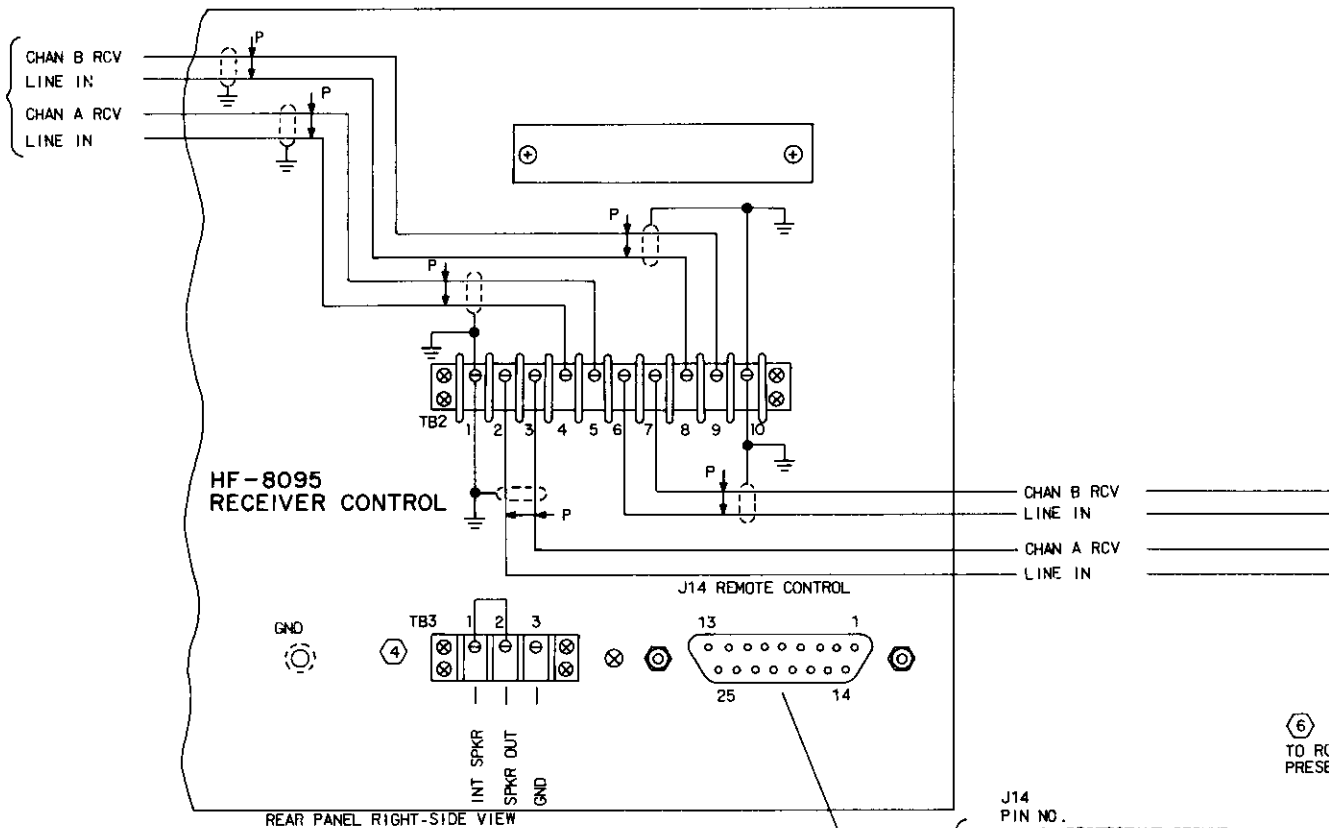
6. POSTINSTALLATION CHECK/ REQUIREMENTS

There are no postinstallation check/requirements to be performed on the 851S-1 as a unit. The operation procedures presented in the operation section of this instruction book should be used as a postinstallation operational check.

Table 5. 851S-1 Mounts.

| EQUIPMENT | COLLINS PART NUMBER | FUNCTION | CHARACTERISTIC |
|--------------------------------|---------------------|--|---|
| CA-8010 Desk-Top Cabinet | 622-3416-001 | Desk-top enclosure for 851S-1 Receiver | Standard EIA mounting characteristics and includes foldown tilt stand. Gray color and weighs 6.8 kg (15 lb). |
| CA-8020 Equipment Cabinet | 622-3417-001 | Rack-mounting cabinet enclosure for 851S-1 Receiver | Standard EIA mounting characteristics. Size: 1397 mm (55 in) high, 635 mm (25 in) wide, and 787 mm (31 in) deep. Gray color and weighs 93 kg (205 lb). |
| CA-8020A Equipment Cabinet | 622-3437-001 | Rack-mounting cabinet enclosure for 851S-1 Receiver | Standard EIA mounting characteristics. Size: 1753 mm (69 in) high, 635 mm (25 in) wide, and 787 mm (31 in) deep. Gray in color and weighs 111.2 kg (245 lb). |
| CA-8026 Equipment Desk Cabinet | 622-3388-001 | Mounting enclosure with a desk-top work space for 851S-1 and associated equipments | Standard EIA mounting characteristics. Size: 762 mm (30 in) high, 1524 mm (60 in) wide, and 914 mm (36 in) deep. Gray color and weighs 90.6 kg (200 lb). |
| CA-8030 Slide Mounting Kit | 622-3418-001 | Slide-mounting kit for 851S-1 when installed in CA-8020/8020A or CA-8026 cabinets | Mounting support with slides for 483-mm (19-in) rack-mounted 851S-1 Receivers. |

RCV
LINE
AUDIO
OUTPUTS



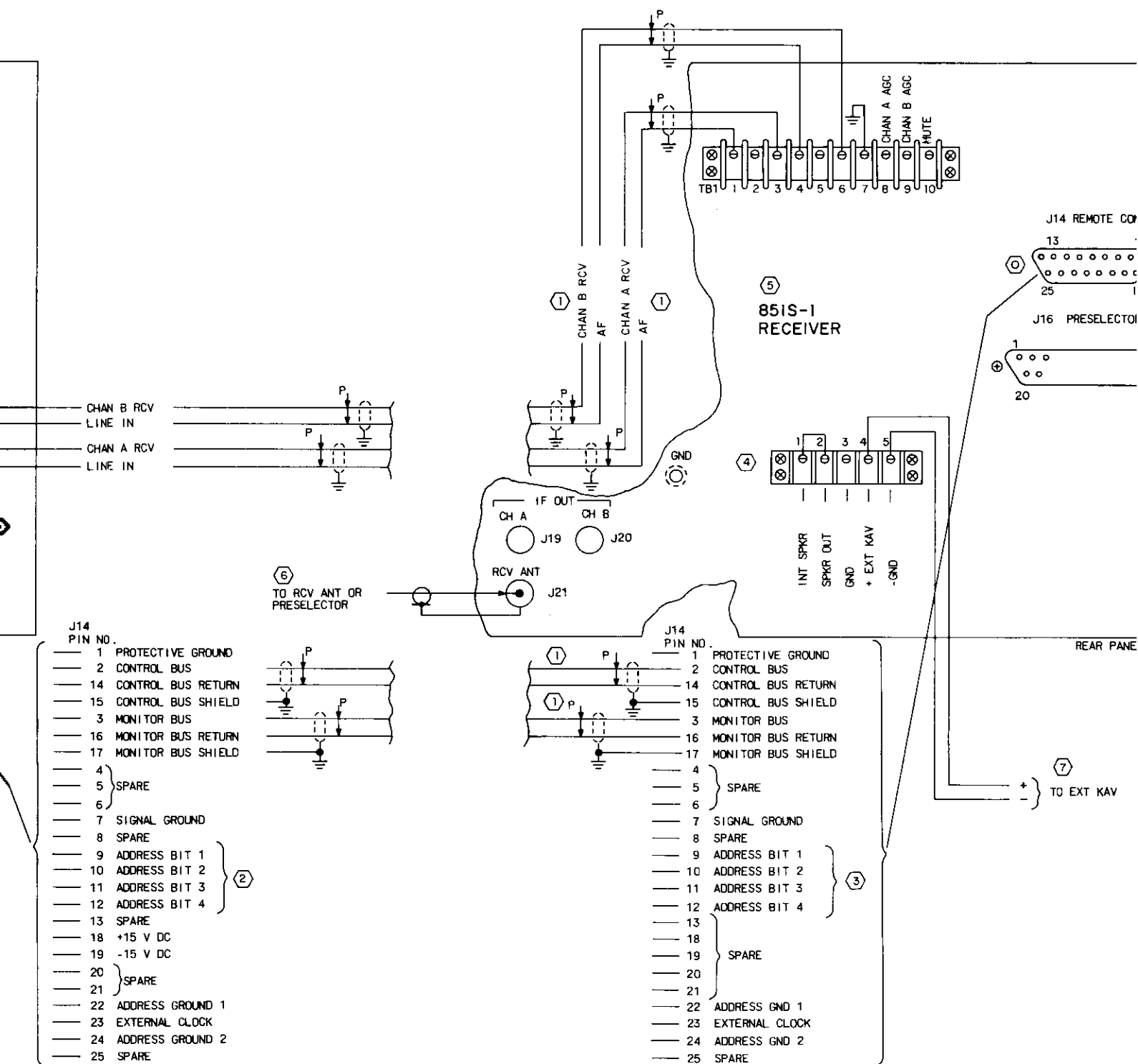
NOTES:

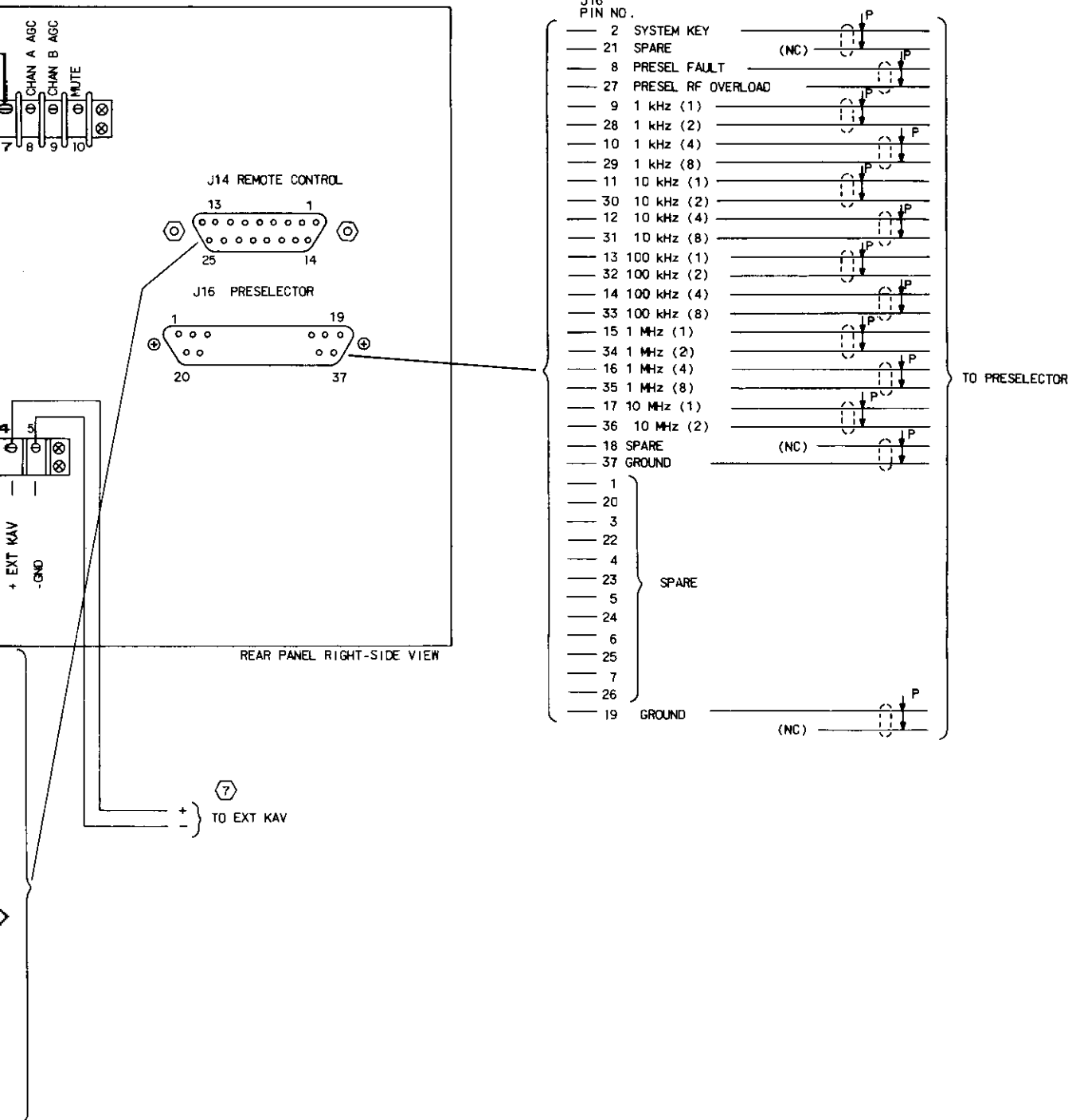
- ① NO. 22 AWG TWISTED, SHIELDED PAIR CABLE IS RECOMMENDED FOR THESE CIRCUIT.
- ② THESE ADDRESS BITS ARE CONTROLLED BY THE ADDRESS SELECTOR THUMBWHEEL SWITCH ON THE RECEIVER CONTROL FRONT PANEL AND ARE BROUGHT OUT TO THE REMOTE CONTROL CONNECTOR FOR CONVENIENCE. NO STRAPPING IS REQUIRED ON THESE LINES.
- ③ THE RECEIVER ADDRESS LINES MUST BE STRAPPED TO CORRESPOND TO AN ADDRESS SELECTED ON THE RECEIVER CONTROL ADDRESS SWITCH.
- ④ TB3-1 AND 2 ARE FACTORY STRAPPED FOR INTERNAL SPEAKER OPERATION. FOR EXTERNAL SPEAKER OPERATION, REMOVE STRAP FROM TB3-1 AND 2 AND CONNECT EXTERNAL SPEAKER (8 Ω NOM.) BETWEEN TB3-2 AND 3.
- ⑤ RECEIVER CONTROL USED ONLY WITH REMOTE CONTROLLED 8515-1 RECEIVER.
- ⑥ IF PRESELECTOR NOT USED, CONNECTED DIRECTLY TO RECEIVE ANTENNA.
- ⑦ IF INSTALLATION REQUIRES THE SAVING OF FREQUENCY AND VBFO OFFSET INFORMATION FOR MOMENTARY OR SHORT-TERM POWER LOSSES THE EXTERNAL KAV MUST BE CONNECTED TO A SEPARATE POWER SOURCE OF 5 TO 15 V DC (USUALLY A BATTERY). IF EXTERNAL KAV IS NOT USED, STRAP ON VBFO MUST BE IN PLACE.

J14
PIN NO.

- | | |
|----|--------------------|
| 1 | PROTECTIVE GROUND |
| 2 | CONTROL BUS |
| 14 | CONTROL BUS RETURN |
| 15 | CONTROL BUS SHIELD |
| 3 | MONITOR BUS |
| 16 | MONITOR BUS RETURN |
| 17 | MONITOR BUS SHIELD |
| 4 | SPARE |
| 5 | SPARE |
| 6 | SPARE |
| 7 | SIGNAL GROUND |
| 8 | SPARE |
| 9 | ADDRESS BIT 1 |
| 10 | ADDRESS BIT 2 |
| 11 | ADDRESS BIT 3 |
| 12 | ADDRESS BIT 4 |
| 13 | SPARE |
| 18 | +15 V DC |
| 19 | -15 V DC |
| 20 | SPARE |
| 21 | SPARE |
| 22 | ADDRESS GROUND 1 |
| 23 | EXTERNAL CLOCK |
| 24 | ADDRESS GROUND 2 |
| 25 | SPARE |

⑥
TO RC
PRESE




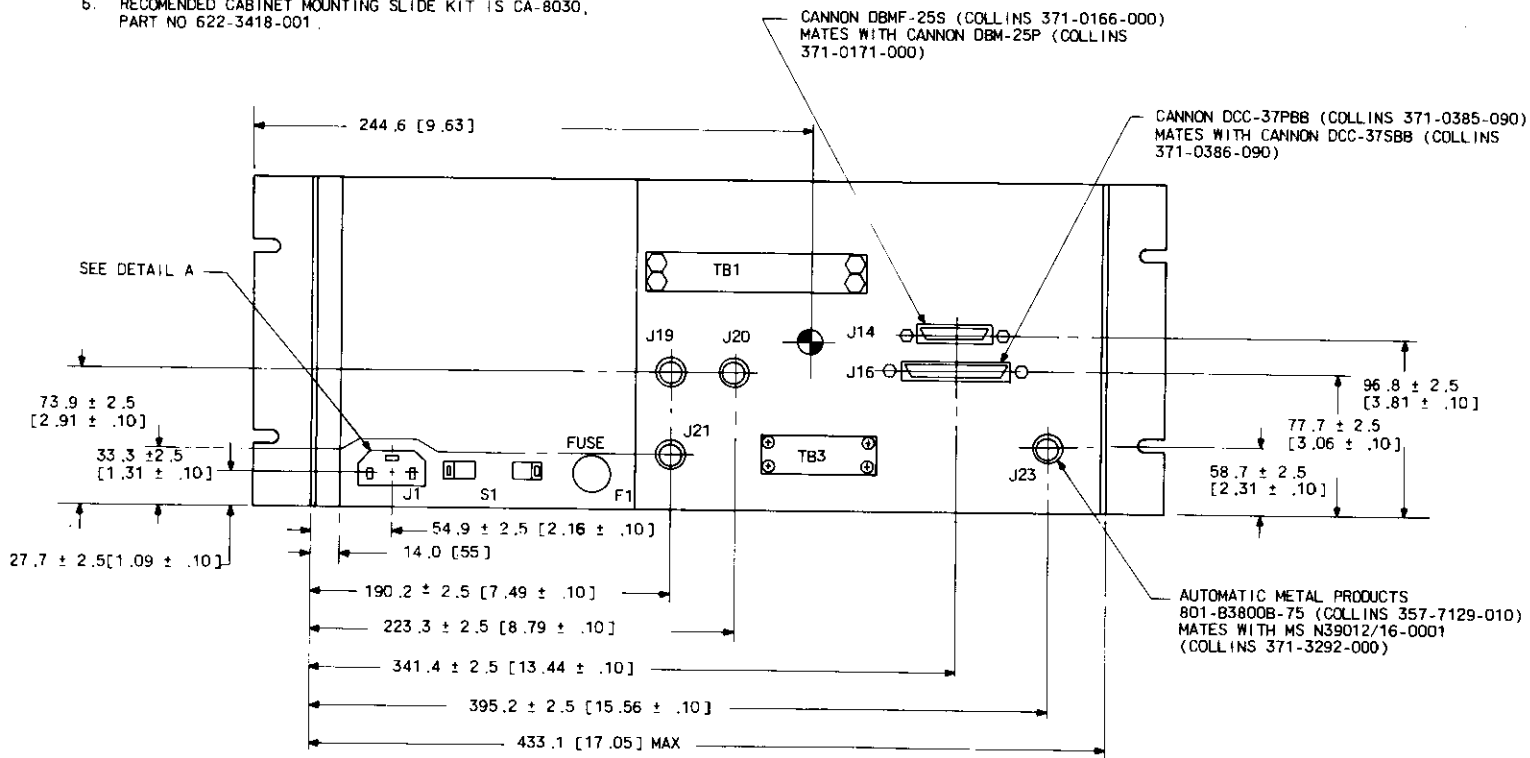


TPA-0848-G15

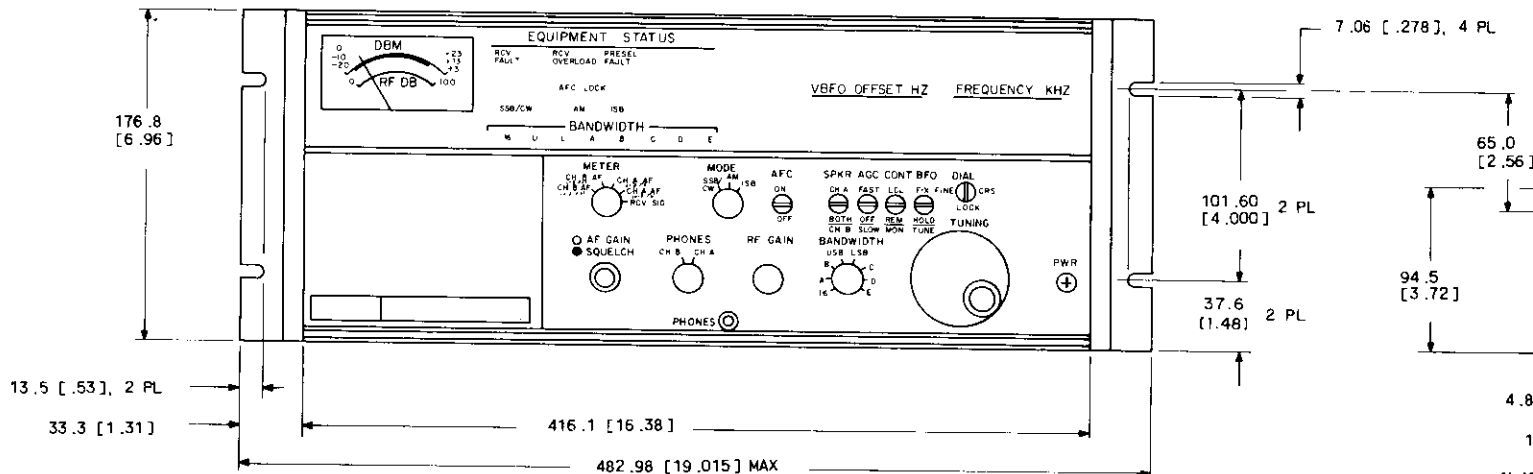
851S-1 Receiver, Typical Installation
Figure 9

NOTES:

1. WEIGHT: 18.6 kg [41.0 lb].
2. CENTER OF GRAVITY INDICATED BY .
3. WEIGHT AND CENTER OF GRAVITY DOES NOT INCLUDE MATING CONNECTORS.
4. NO EXTERNAL COOLING AIR REQUIRED.
5. PRIMARY POWER REQUIREMENT: 100/115/215/230 VAC \pm 10%; SINGLE PHASE 50-60 Hz \pm 5%; MAX POWER CONSUMPTION: 80 WATTS.
6. RECOMMENDED CABINET MOUNTING SLIDE KIT IS CA-8030, PART NO 622-3418-001.

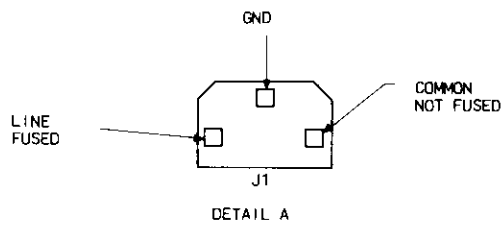


VIEW A-A



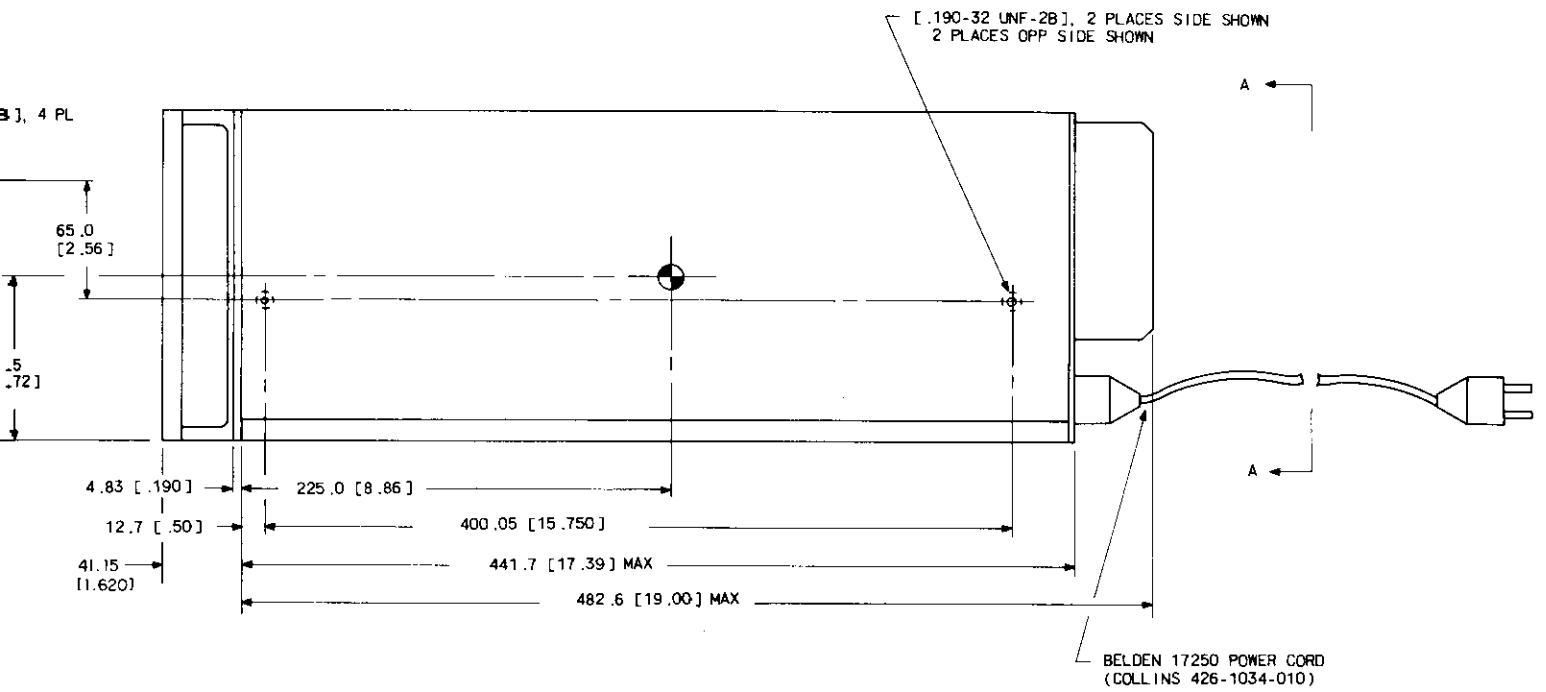
0385-090)
COLLINS

2.5
[.10]



7129-010)
J1

3], 4 PL

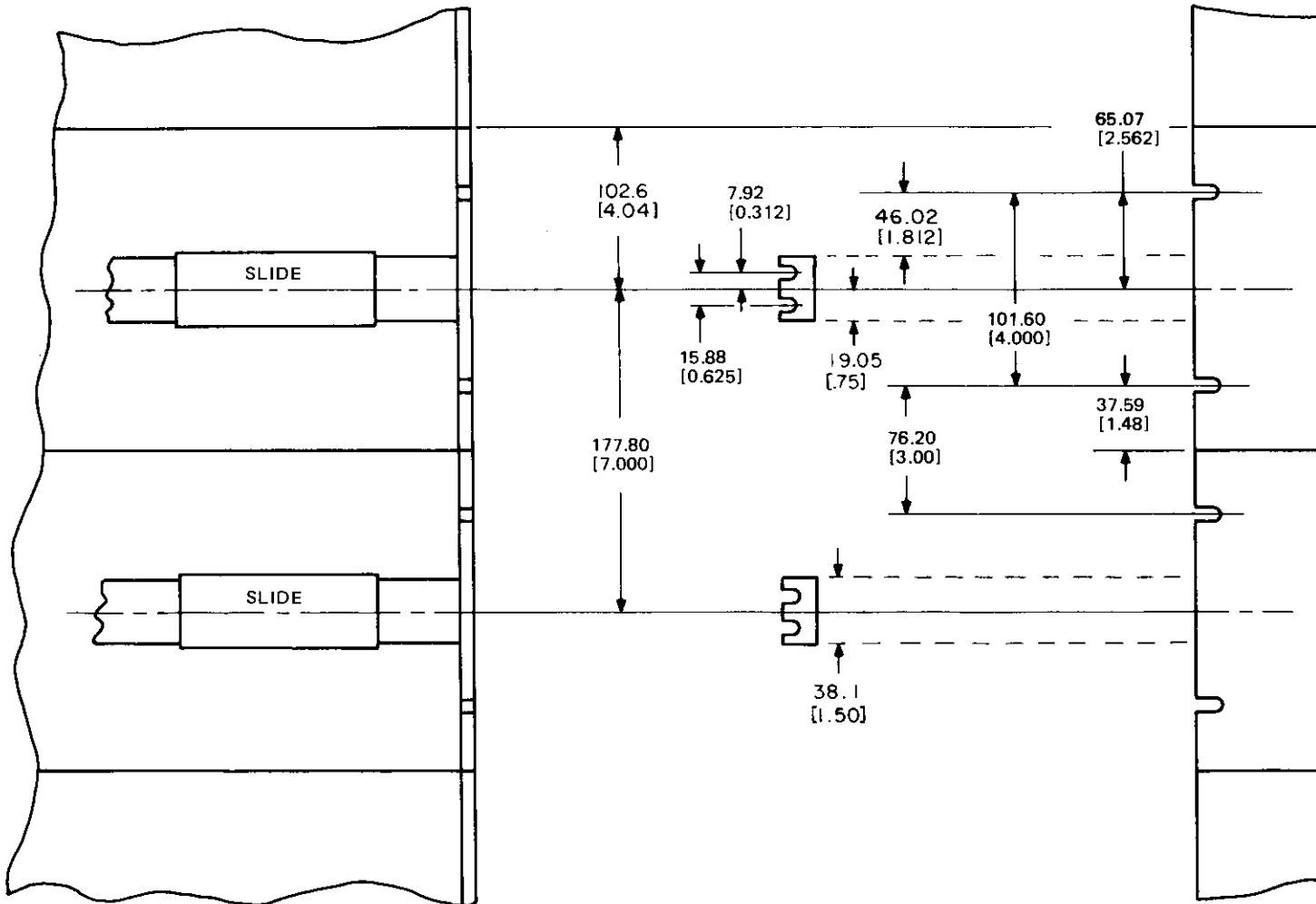


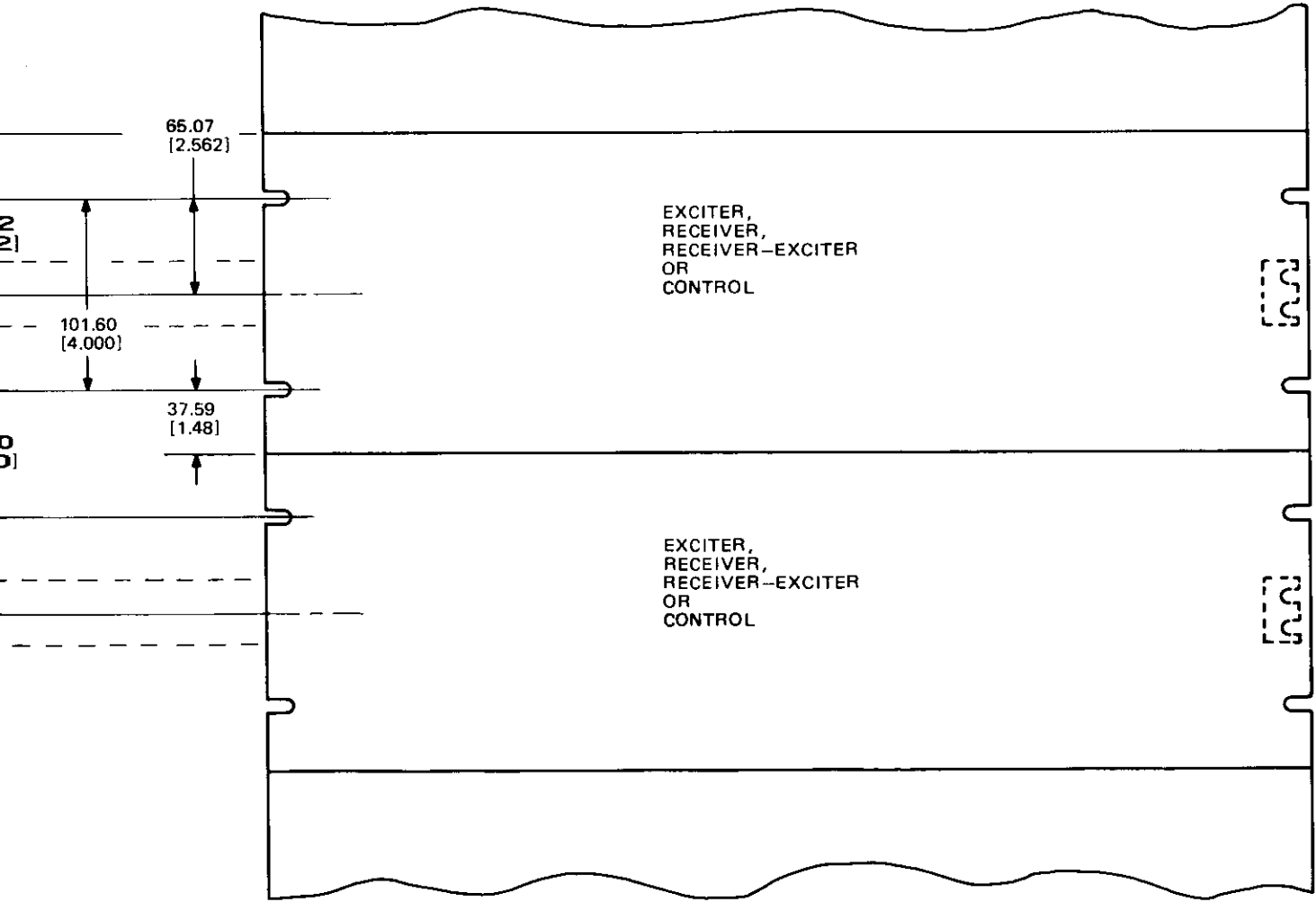
TPA-0955-014

851S-1 Receiver, Outline and Mounting Dimensions
Figure 10

NOTES:

- ① SLIDE BRACKETS MOUNT TO REAR SURFACE OF FRONT CABINET RAILS AND FRONT SURFACE OF REAR RAILS.
- ②
 - a. FOR CABINETS WITH THREADED MOUNTING HOLES USE SCREWS AND FLAT WASHERS FROM BRACKET SIDE INTO CABINET. SCREW MUST NOT PROJECT BEYOND PANEL MOUNTING SURFACE.
 - b. FOR CABINETS WITH CLEARANCE HOLES IN THE RAILS, THE HOLES USED FOR MOUNTING THE SLIDE BRACKETS MUST BE COUNTERSUNK AND FLAT HEAD SCREWS USED FOR MOUNTING.
- ③ DIMENSIONS ARE IN MILLIMETRES [INCHES].





TP5-1869-013

Installation of Slides in Rack Mounts
Figure 11