

7. INSTALLATION

Correct installation of the equipment is important for maximum performance and reliability. Antennas and earth connections must be installed with the greatest care using corrosion resistant materials. Cable routing shall be made so the cables are protected from physical damage. Cable bends especially on coaxial cables may not be sharp and a sufficient number of clips or straps should be used for securing the cables.

7.1 Mounting the Control Unit

The Control Unit can be tabletop or bulkhead mounted. Fig. 7.1 shows overall dimensions and a drilling plan for the necessary holes.

The unit is bolted through two holes on the bottom part of the cabinet. The unit must be opened when bolting. Loosen the two front panel screws and lift off the front panel. The front panel is hinged to the bottom part by means of two flexible straps.

To enable cable entry from either side of the unit, the bottom part of the cabinet may be turned 180 degrees relative to the front panel. To alter the position, open the unit and loosen the screws of the hinges in the bottom part of the cabinet and release the hinges. Turn the front panel and fix the hinges in the opposite side of the cabinet bottom.

Be careful not to damage any components or to drop any conducting objects onto the printed circuit boards of the unit.

The front panel can be tilted for convenient operation. To adjust the angle loosen the two front panel screws and open the unit. Move the two stop pins in each side of the unit to the appropriate holes and refit the front panel.

7.2 Mounting the Transceiver Unit

The Transceiver Unit may be mounted up to 100 metres from the Control Unit using a screened 16 x 0.5 mm sq. multiwire cable for interconnection. The unit should be installed in a dry place and consideration should be given to accessibility for servicing. The brackets supplied allow for bulkhead or bench mounting. Fig. 7.1 shows mounting details. It is important to provide plenty of airspace below and above the unit, for adequate air circulation through the heatsink at the back of the unit.

7.3 Mounting the Antenna Tuning Unit

The Antenna Tuning Unit may be mounted up to 100 metres from the Transceiver Unit using RG-213/U (RG-8A/U) coaxial cable and a screened 16 x 0.5 mm sq. multiwire cable for interconnection. The unit should be installed near the antenna feed point. Fig. 7.1 shows mounting details.

7.4 Power Supply

The TRP 8250S operates at voltages between 10.6 and 41.6 VDC and is to be powered from a 12, 24 or 32 volt battery or from a separate AC POWER SUPPLY UNIT. The supply leads are connected to the Transceiver Unit through the cable entry at the rear of the cabinet.

The supply terminal strip is adapted for screened power supply cable as required by some administrations. The screen of the cable is connected to the center terminal. The terminal strip may be removed from the chassis for easier access.

Attention should be paid to CCIR Rec. 218-1 which recommends that cables in the vicinity of the receiving antennas or the radio receiving room, and cables within the radio room, are screened by enclosing them in metal conduits, unless the cables themselves are effectively screened.

The earth connection of the equipment will not cause the battery to be earthed. Maximum permissible peak voltage between the battery terminals and earth is 100 V.

Note that fuses must be provided in the supply leads. Table 7.1 shows the necessary cable cross sections and external fuse ratings.

Battery Voltage	Max. cable length to battery	Conductor area	External fuses
12 V	2.5 m 4.0 m	2x16 mm sq. 2x25 mm sq.*	100 A
24 V	7.0 m 12.0 m 19.0 m	2x 6 mm sq. 2x10 mm sq. 2x16 mm sq.	50 A
32 V	12.0 m 21.0 m 34.0 m	2x 6 mm sq. 2x10 mm sq. 2x16 mm sq.	40 A

* Use pin terminal adaptor 343 428 11

SUPPLY CABLE DIMENSIONS AND EXTERNAL FUSE RATINGS

Table 7.1

7.5 Earth Connections

7.5.1 Antenna Tuning Unit

As the earth connection of a transmitter is part of the total antenna system, it is of the utmost importance that the earth connection to the Antenna Tuning Unit is constructed to have the lowest possible RF-impedance. Losses in the earth connection will result in a decrease in radiated power which means that the range of the transmitter will be reduced.

In steel ships a 100 x 0.5 mm copper strap as short as possible is connected between the earth terminal at the bottom of the Antenna Tuning Unit and two 1/2 " or M12 bolts welded to the superstructure.

Vessels constructed of non-conducting materials must be equipped with a copper earth plate having a minimum area of 1 square metre mounted below the water line. From a copper earth bolt hard soldered to the earth plate a 100 x 0.5 mm copper strap is run, preferably uninterrupted to the earth terminal at the bottom of the Antenna Tuning Unit.

Should it be necessary to break the copper strap, for example to pass through a deck, two 1/2 " or M12 bolts should be used for this feed through.

The copper strap may not be passed through iron pipes and should be kept at minimum distance of 0.5 m from iron parts of some extent. If this minimum distance cannot be kept the copper strap must be effectively connected to these parts using a strap having the same dimensions.

On wooden ships having a superstructure of metal, this superstructure should also be effectively connected to the copper strap by using stainless steel bolts and preferably pieces of stainless steel strips between the metal parts.

7.5.2 Other Units

All other units must be grounded separately to the ships metal in the shortest possible way. The Control Unit is connected to ground from the ground frame at the cable entries using a 2.5 mm sq. wire. In the Transceiver Unit a ground strap is connected to the ground terminal at the cable entry.

On vessels with no metallic superstructure the ground connection at the Control Unit and the Transceiver Unit may be omitted.

7.6 Antennas

The standard equipment is used with separate transmitting and receiving antennas. If, however, the Antenna Tuning Unit is fitted with the optional Antenna Relay Board 641 a common antenna may be used for transmission and reception.

The antennas should be erected well in the clear, away from any objects whose influence on the antenna may vary, such as derricks etc. Insulators should be of the best type having low leakage even when wet. Stays, wires, steel masts etc. should be either effectively earthed or insulated.

The receiving antenna should be kept as far as possible from electrical equipment in order to minimize noise. Electrical installation such as cable braiding (screens) and instruments in the vicinity of the receiving antenna should be earthed effectively, and the instruments in question should be fitted with noise-interference suppression devices, effective in the range 0.1 MHz to 30 MHz.

7.6.1 Transmitter Antenna

The Antenna Tuning Unit will tune on any frequency in the range 1.6 to 30 MHz to wire and/or whip antennas of 7 to 18 metres total length. A long antenna is preferable with regard to radiated power.

The antenna is terminated at the insulator at the top of the Antenna Tuning Unit. The insulator must be relieved from mechanical stress by using a short flexible wire between the insulator and a support.

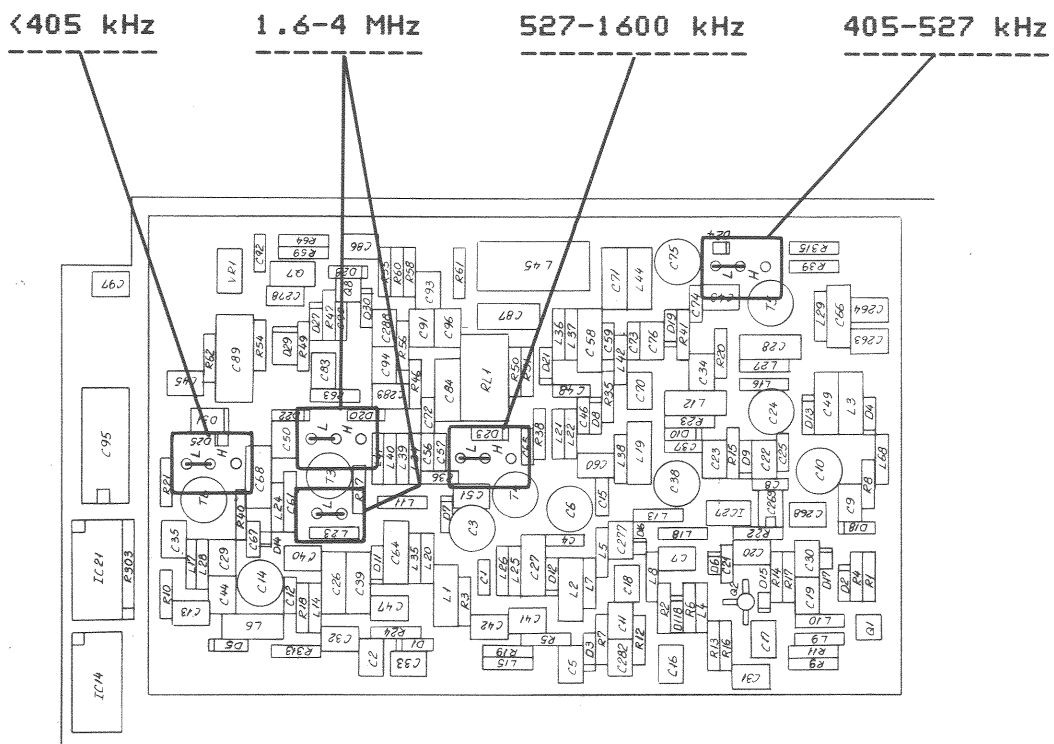
7.6.2 Receiver Antenna

Length: 7-30 m. The antenna feed-in should be coaxial cable. The receiver antenna terminal is a UHF-connector (PL 259 type) located in the Transceiver Unit.

If a long cable is used an impedance matching transformer should be inserted at the antenna end of the feeder. In one-antenna installations using the optional Antenna Relay Board **641** this transformer is built-in.

The receiver is normally delivered to 50 ohms input impedance. In the frequency range below 4 MHz it is possible to change the input to high impedance, which can be advantageous when using a short receiving antenna with no impedance matching transformer and a short feed-in.

Selection of high input impedance in the range below 4 MHz is carried out, by means of a soldering iron, by moving the strap from L to H in the desired frequency range. Below figure shows a section of p.c.b. **610** with all straps set to low impedance (50 ohms).



7.7 Interconnection of Units

7.7.1 Control Unit-to-Transceiver Unit connections

The units are interconnected by a length of 16 x 0.5 mm sq. screened multiwire cable (max. 100 metres).

In order to connect the cable to the Control Unit the front panel is removed. The cable is entered through the threaded cable entry and the wires are then connected to the terminal strip marked [601] TS 2 TRANSCEIVER UNIT. NOTE: Wire ends should be fitted with cable end sleeves before mounting. The screen is connected to the ground frame at the cable entry. Use wire colors as suggested in fig. 7.2 or list alternatives as appropriate.

To connect the cable to the Transceiver Unit the front must be opened. The cable is entered through the cable entry at the back of the unit and the wires are connected to the terminal strip marked [620] TS 3 CONTROL UNIT. The screen must be connected to the chassis bracket. Use wire colors as listed in fig. 7.2.

7.7.2 Transceiver Unit-to-Antenna Tuning Unit connections

The units are interconnected by an RG-213/U (RG-8A/U) coaxial cable and a 16 x 0.5 mm sq. screened multiwire cable (max. 100 metres). In one-antenna installations using the optional Antenna Relay Board [641] an additional RG-213/U coaxial cable is used.

The coaxial cables are terminated in UHF-connectors (PL 259 type). The sockets in the Transceiver Unit may be removed from the chassis for easier access.

The multiwire cable is mounted in the same way in the Transceiver Unit as the cable from the Control Unit. The wires are connected to the terminal strip marked [620] TS 1 ANTENNA TUNING UNIT. Use wire colors as suggested in fig. 7.3 or list alternatives as appropriate.

NOTE: If the TRP 8250S is not operated with an ATU 8250 Antenna Tuning Unit a strap must be placed between terminal no. 6 (TUNE) and terminal no. 7 (TPR) of [620] TS 1. A missing strap will cause the Power Meter display to flash 11 sec. after a TUNE sequence has been initiated.

The cables enter the Antenna Tuning Unit through the threaded cable entries at the bottom of the unit. The wires must be connected as listed in fig. 7.3. The screen of the multiwire cable must be connected to the receptacle at the grounding tab next to the terminal strip.

NOTE: Wire ends of the multiwire cable should be fitted with cable end sleeves before mounting.

In installations with long earth straps to the Antenna Tuning Unit, high RF voltages may be present on the ATU ground terminal. To avoid this voltage being coupled to the Transceiver Unit the interconnection cables must be run from the Transceiver Unit to the point where the copper strap from the Antenna Tuning Unit is connected to earth. From this point the cables must follow the copper strap to the Antenna Tuning Unit. The cables should be placed upon the center of the copper strap to ensure good coupling. The part of the cable-run between earth and the Transceiver Unit must not be run in parallel with the earth strap within a distance of at least 1 metre.

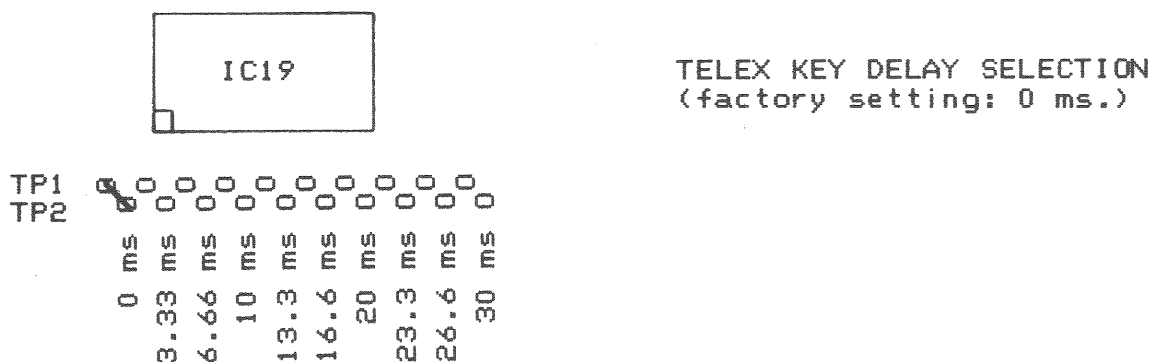
7.8 Connection of External Equipment

Auxiliary terminals in the Control Unit and the Transceiver Unit allows various external equipment to be connected to the TRP 8250S. In tables 7.2 and 7.5 terminal assignments are listed for the Control Unit and the Transceiver Unit respectively. Screened cable should be used with the screen connected to ground frame or chassis.

7.8.2 Timing of TELEX KEY signal

The transmitter pre-keying time should be approx. 7 ms. not less. Telex modems with programmable pre-keying time must be programmed to this value. In case of telex modems with a fixed pre-keying time longer than 7 ms. a time delay may be introduced by the TELEX KEY DELAY circuit on p.c.b. [601] in the CONTROL UNIT.

The leading edge of the TELEX KEY signal may be delayed by up to 30 ms. in steps of 3.33 ms. by moving a strap to the appropriate position.



Telex modem pre-keying time minus selected telex key delay time must be equal to 7 ms. or more.

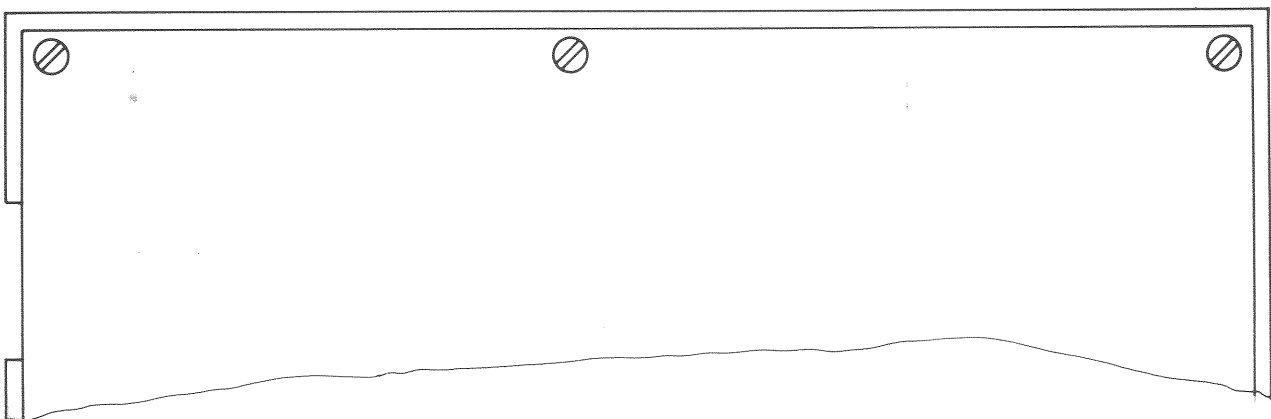
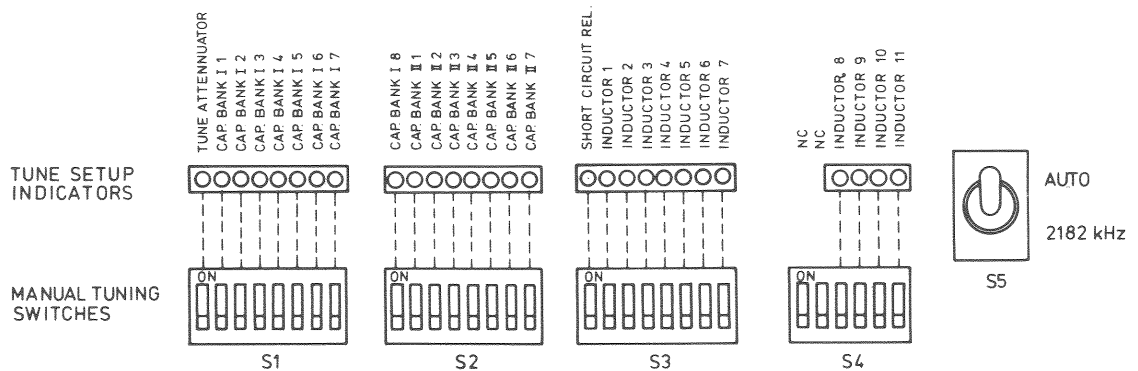
7.9 Final Installation Check

7.9.1 For operation of the equipment please refer to chapter 2. Note that an appropriate programmed Configuration PROM must be installed in the Control Unit, see section 7.10

The Antenna Tuning Unit will tune automatically to the transmitter antenna when the equipment is keyed or the TUNE button is pressed. The standing wave ratio (SWR) at the input of the tuning unit is automatically measured after the tuning sequence. If the SWR exceeds approx. 3 the Power Annunciator on the Control Unit will flash, indicating that correct tuning has not been obtained. In this case, investigate the antenna installation and control that the antenna length is within the boundaries.

7.9.2 2182 kHz Manual Tune Set-up

To enable manual tuning on 2182 kHz the Manual Tuning Switches in the Antenna Tuning Unit must be preset on the final antenna installation. Remove the cover of the Antenna Tuning Unit and follow below procedure.



7.9.2 Continued

Control that all Manual Switches are in position off.

With the switch AUTO/2182 kHz (S5) in position "AUTO", a normal tuning procedure is performed on 2182 kHz. The Manual Tuning Switches are then switched "ON", as indicated by light in the Tune Set-up Indicators.

Ensure that the transmitter is not keyed. Check correct setting of the Manual Tuning Switches by switching S5 to position 2182 kHz and simultaneously control that none of the Tune Set-up Indicators change. If any of the indicators change, repeat the procedure. When S5 is switched back to "AUTO" the Tune Set-up will be reset.

7.10 CONFIGURATION PROM PROGRAMMING

The Configuration Prom contains 4 kbytes in which legal frequencies and special system parameters can be programmed for customizing the equipment.

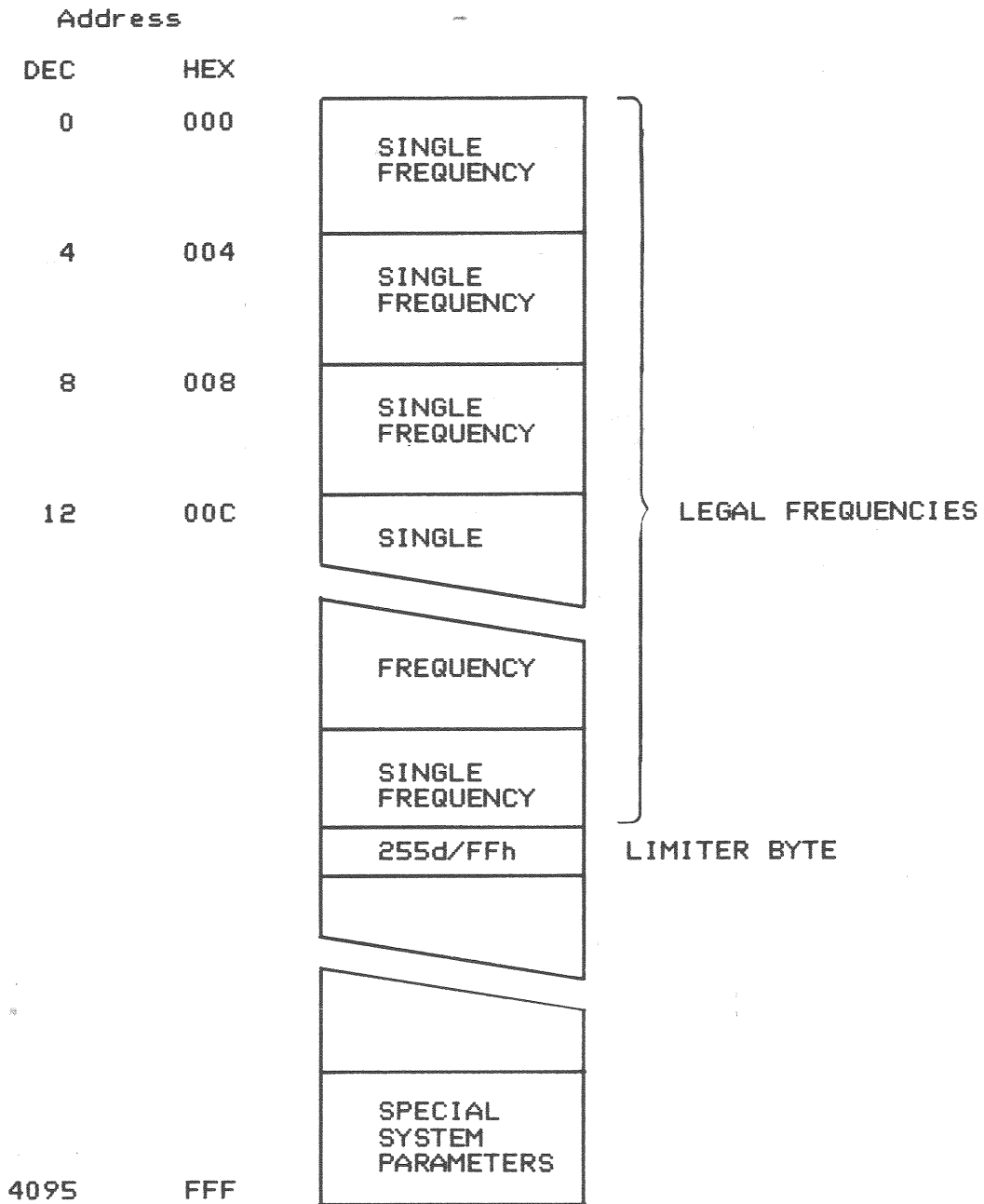
Legal frequencies are stacked in the lower part of the Prom together with legal modulation beginning at Prom address 0 and progressing upward in 4 byte steps until a limiter byte containing the data 255d/FFh are located.

Special system parameters are stacked in the higher part of the Prom beginning at Prom address 4095d/FFFh progressing downward.

APPLICABLE PROMS

TEXAS:	TMS2532JL TMS25L32JL
HITACHI:	HN462532 HN462532G HN462532G-2

CONFIGURATION PROM MAP



SINGLE FREQUENCY FORMAT

	D7	D6	D5	D4	D3	D2	D1	D0
ADDR n	TX	RX	ITU	ITU-BAND	BCD x 10 MHz			
n + 1	BCD x 1 MHz				BCD x 100 kHz			
n + 2	BCD x 10 kHz				BCD x 1 kHz			
n + 3	BCD x 100 Hz				MODULATION			

MODULATION HEXADECIMAL

0 : J3E
 1 : R3E
 2 : H3E
 3 : A1A
 4 : H2A
 5 : F1B
 6 : LSB
 7 : J3E & R3E
 8 : reserved for future use
 9 : reserved for future use
 A : reserved for future use
 B : reserved for future use
 C : reserved for future use
 D : reserved for future use
 E : reserved for future use
 F : don't care

RX AND TX BITS

0 : Frequency and modulation do not apply to RX or TX respectively.

1 : Frequency and modulation apply to RX or TX respectively.

Both bits may be programmed in the same array.

ITU BIT

0 : ITU channel apply to programmed frequency in accordance with selected channel-number.

1 : ITU channel do not apply to programmed frequency.

ITU BAND-BIT

0 : The programmed frequency is within the band specified by the short-number.

1 : The programmed frequency is 1 MHz above the band specified by the short-number.

ITU CHANNELS

When programming a "LEGAL FREQUENCY" table consisting of the ITU channel frequencies and/or other frequencies to be selected by the "RECALL ITU - - -" syntaxes, it is necessary to consider the search-algorithm used. This algorithm initiates the search at PROM addr. 0 and progresses until either the "LIMITER BYTE" (255d/FFh) or the desired "SINGLE FREQUENCY" is found. The "RECALL ITU FREQUENCY PAIRS FROM PROM" syntax utilizes 2 separate searches to obtain the pair. Having entered "RX"-"RCL"-"8"-"1"-"5"-"ENTER" the desired frequency is found as the 15th "SINGLE FREQUENCY" in the 8 MHz band (if ITU BAND-BIT = 0) having the RX-BIT = 1, ITU-BIT = 0 and the modulation nibble validating the present receiver mode.

SPECIAL SYSTEM PARAMETERS

ADDR	DATA	DESCRIPTION
4095d/FFFh		- <u>Telex Subcarrier</u>
	21d/15h :	1500 Hz
	22d/16h :	1600 Hz
	:	:
	37d/25h :	2500 Hz
		Any other data are defaulted to 23d/17h
4094d/FFEh		<u>Transmitter frequency status</u>
	165d/A5h :	Free transmitter frequencies
	255d/FFh :	Only transmitter frequencies contained in lower part of the Prom
		Any other data are defaulted to 255d/FFh
4093d/FFDh		<u>Dummy load during alarm test</u>
	180d/B4h :	Enable dummy load
	255d/FFh :	Disable dummy load
		Any other data are defaulted to 255d/FFh
4092d/FFCh		<u>Morse</u>
	195d/C3h :	Disable 500, CW, MCW, FILTER and BFO keys
	255d/FFh :	Enable - - - - -
		Any other data are defaulted to 255d/FFh
4091d/FFBh		<u>AGC and Sensitivity</u>
	195d/C3h :	Disable AGC and Sensitivity keys
	255d/FFh :	Enable - - - - -
		Any other data are defaulted to 255d/FFh
4090d/FFAh		<u>RF Amplifier and Antenna Attenuator</u>
	195d/C3h :	Disable RF-AMP and ANT-ATT keys
	255d/FFh :	Enable - - - - -
		Any other data are defaulted to 255d/FFh
4089d/FF9h		<u>Alarm</u>
	195d/C3h :	Disable 500, 2182 and ALARM keys
	255d/FFh :	Enable - - - - -
		Any other data are defaulted to 255d/FFh
4088d/FF8h		<u>R3E</u>
	195d/C3h :	Disable R3E key
	255d/FFh :	Enable - -
		Any other data are defaulted to 255d/FFh

4087d/FF7h		<u>LSB</u>
	195d/C3h :	Disable LSB key
	255d/FFh :	Enable - -
		Any other data are defaulted to 255d/FFh
4086d/FF6h		<u>SCAN</u>
	210d/D2h :	Enable SCAN key
	255d/FFh :	Disable - -
		Any other data are defaulted to 255d/FFh
4085d/FF5h		<u>Fast AGC & Slow AGC</u>
	210d/D2h :	Enable AGC-SLOW and AGC-FAST keys
	255d/FFh :	Disable - - - - -
		Any other data are defaulted to 255d/FFh
4084d/FF4h		<u>LSB Transmitting</u>
	6d/06h :	Enable transmitter in LSB mode
	255d/FFh :	Disable - - - - -
		Any other data are defaulted to 255d/FFh
4083d/FF3h		<u>H3E Transmitting</u>
	2d/02h :	enable transmitter in H3E mode
	255d/FFh :	disable - - - - -
		Any other data are defaulted to 255d/FFh
4082d/FF2h		<u>VERY NARROW FILTER</u>
	195d/C3h :	Disable VERY-NARROW key
	255d/FFh :	Enable - - - - -
		Any other data are defaulted to 255d/FFh
4081d/FF1h		<u>Antenna in TX-Off-State</u>
	180d/B4h :	Antenna disconnected
	255d/FFh :	Antenna connected
		Any other data are defaulted to 255d/FFh

4077d/FEDh Maritex

210d/D2h : Enable Maritex interface
255d/FFh : Disable - - - -
Any other data are defaulted to 255d/FFh.

4076d/FECh Receiver frequency status

32d/20h : Only receiver frequencies contained in lower part of the Prom.
255d/FFh : Free receiver frequencies.
Any other data are defaulted to 255d/FFh.

4075d/FEBh Frequency Display

195d/C3h : Disable frequency display. Only channel numbers can be entered and displayed except using special procedure.
255d/FFh : Enable frequency display.
Any other data are defaulted to 255d/FFh.

4074d/FEAh Output power range

255d/FFh : Full output power range.
BCD : Programming in packed BCD will produce an output power range of ten times the programmed value.

Ex: Data Output power
 10d/10h 100 W (low limit)
 24d/18h 180 W

Any non-BCD data or BCD-data exceeding the max. power of the equipment are defaulted to 255d/FFh.

4073d/FE9h Output power range below 4 MHz

21d/15h : 150 W output power range.
255d/FFh : Full output power range.
Any other data are defaulted to 255d/FFh.

4072d/FE8h

External_scan_control

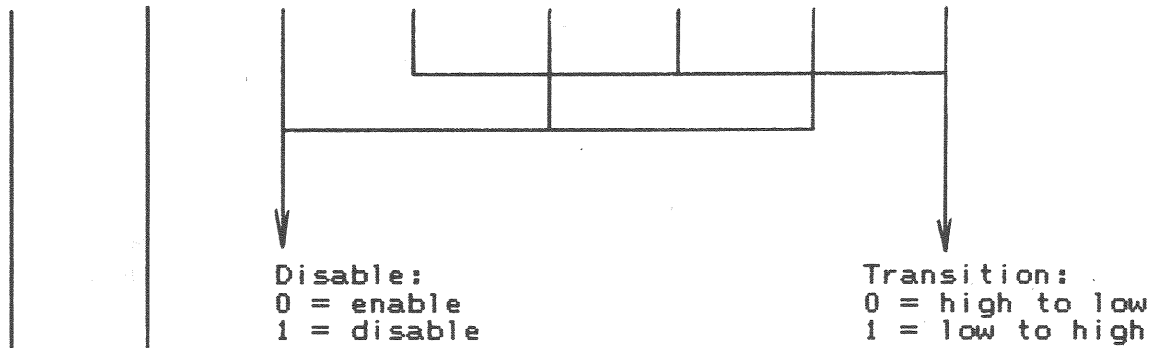
D7	D6	D5	D4	D3	D2	D1	D0
dis- able	RX/TX keys	dis- able	tran- sition	dis- able	tran- sition	dis- able	tran- sition

Master

Stop

Step

Start



RX/TX keys:

0 = enable use of
RX key to enable external scan and
TX key to disable external scan
1 = disable use of keys to control
external scan

0 = enable use of external scan
1 = disable external scan and neglect D6 - D0

STANDARD PROGRAMMING

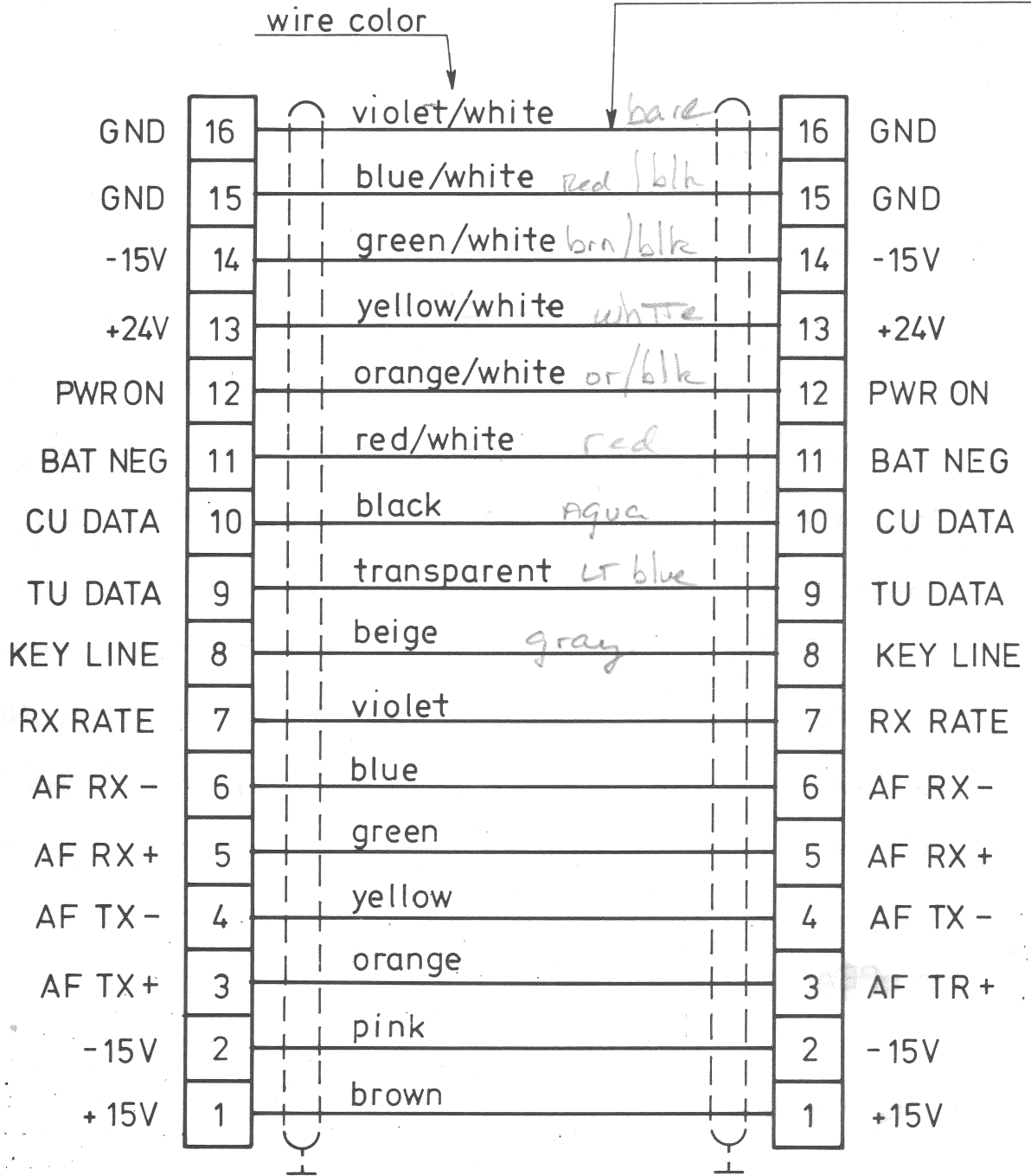
The following lists apply to SKANTI standard programming of special system parameters for each type unless otherwise agreed (ref. Factory programming of Configuration PROM). Only data different from 255d/FFh are listed.

	ADDR	DATA
TRP 8250S : -----	4092d/FFCh 4086d/FF6h 4072d/FE8h	195d/C3h 210d/D2h 16d/10h
TRP 8251S : -----	4094d/FFEh 4092d/FFCh 4086d/FF6h 4072d/FE8h	165d/A5h 195d/C3h 210d/D2h 16d/10h
TRP 8252S : -----	4094d/FFEh 4086d/FF6h 4085d/FF5h 4072d/FE8h	165d/A5h 210d/D2h 210d/D2h 16d/10h
TRP 8253S : -----	4094d/FFEh 4092d/FFCh 4086d/FF6h 4072d/FE8h	165d/A5h 195d/C3h 210d/D2h 16d/10h
TRP 8254S : -----	4094d/FFEh 4092d/FFCh 4089d/FF9h 4088d/FF8h 4086d/FF6h 4084d/FF4h 4083d/FF3h 4072d/FE8h	165d/A5h 195d/C3h 195d/C3h 195d/C3h 210d/D2h 6d/06h 2d/02h 16d/10h
TRP 8255S : -----	4094d/FFEh 4089d/FF9h 4086d/FF6h 4085d/FF5h 4084d/FF4h 4083d/FF3h 4072d/FE8h	165d/A5h 195d/C3h 210d/D2h 210d/D2h 6d/06h 2d/02h 16d/10h
TRP 8256S : -----	4094d/FFEh 4092d/FFCh 4091d/FFBh 4090d/FFAh 4089d/FF9h 4088d/FF8h 4086d/FF6h 4084d/FF4h 4083d/FF3h 4072d/FE8h	165d/A5h 195d/C3h 195d/C3h 195d/C3h 195d/C3h 195d/C3h 210d/D2h 6d/06h 2d/02h 16d/10h

TRP 8257S : 4094d/FFEh 165d/A5h
----- 4086d/FF6h 210d/D2h
 4085d/FF5h 210d/D2h
 4072d/FE8h 16d/10h

TRP 8258S : 4094d/FFEh 165d/A5h
----- 4092d/FFCh 195d/C3h
 4091d/FF8h 195d/C3h
 4090d/FFAh 195d/C3h
 4089d/FF9h 195d/C3h
 4086d/FF6h 210d/D2h
 4084d/FF4h 6d/06h
 4083d/FF3h 2d/02h
 4072d/FE8h 16d/10h

List alternative marking if suggested color code is not used



601 TS2

620 TS3

Cable type : 16×0,5 mm²
screened

TRP 8250
CONTROL UNIT

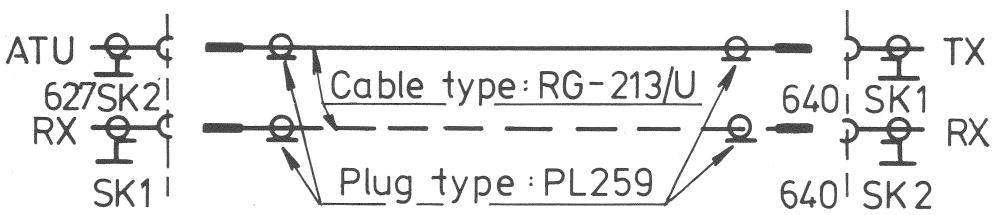
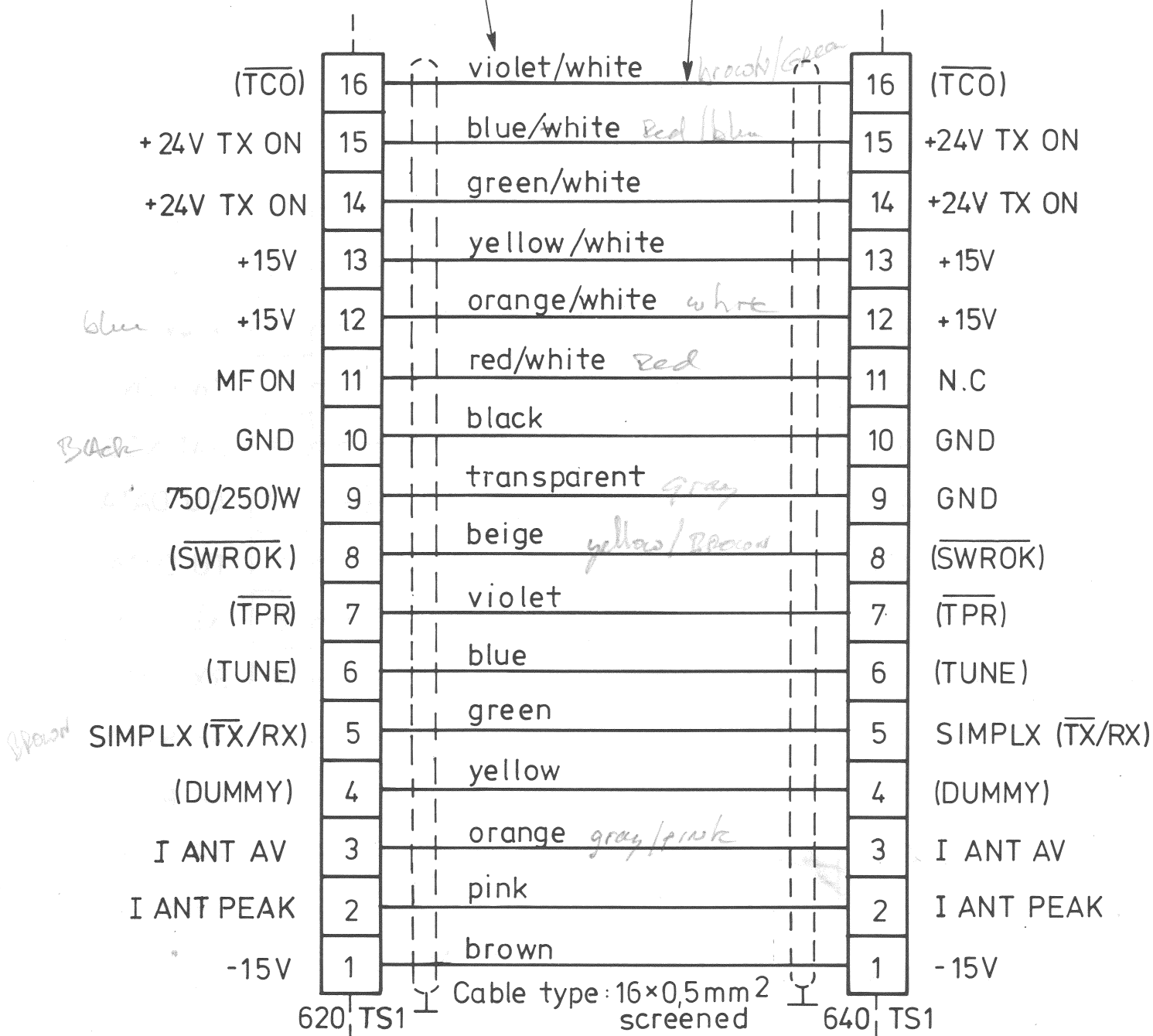
TRP 8250
TRANSCEIVER UNIT

CONTROL UNIT - TO - TRANSCEIVER UNIT CONNECTIONS

Fig. 7.2

List alternative marking if suggested color code is not used.

wire color



TRP 8250
Transceiver
Unit

ATU 8250
Antenna
Tuning Unit

TRANSCEIVER UNIT - TO - ANTENNA TUNING UNIT CONNECTIONS
Fig. 7.3

Terminal No.	Designation	Direction	Remarks
1	+	Input -	Supply from 12/24/32 V battery or P 8250
2	GND	-	Screen
3	-	Input	Supply from 12/24/32 V battery or P 8250

TS 1 SUPPLY TERMINALS, TRANSCEIVER UNIT

Table 7.4

Terminal No.	Designation	Direction	Max. Current	Remarks
1	+ 24 V	Output	Note 1	+ 24 V available when equipment is ON
2	TX ON	Output	250 mA	Open collector. Low when TX on
3	+ 24 V	Output	Note 1	+ 24 V available when equipment is ON
4	TX KEYED	Output	250 mA	Open collector. Low when TX KEYED
5	+ 24 V	Output	Note 1	+ 24 V available when equipment is ON
6	2182 KEYED	Output	250 mA	Open collector. Low when TX KEYED on 2182 kHz
7	GND	-		
8	RX MUTE	Input		0/12 V. Rx is muted when connected to GND
9	+ 24 V TX ON	Output	Note 1	+ 24 V available when TX is ON
10	GND	-		

Note 1: Max. total current 1000 mA

620 TS 2 AUXILIARY TERMINALS, TRANSCEIVER UNIT

Table 7.5

HANDSET SOCKET:

Terminal No.	Designation	Direction	Signal level	Remarks
1	MIC	Input	50 mV - 1 V	Internally adjustable +/-8 dB
2	GND	-		
3	EARPIECE	Output	0 - 10 mW	500 ohms. Controlled by VOLUME
4	+ 12 V	Output	+ 12 V	Supply for MIC. Amplifier
5	HANDSET KEY	Input	0/12 V	Keyes Tx in USB, LSB, AM or R3E when LOW

HEADPHONE SOCKET:

Terminal No.	Designation	Direction	Signal level	Remarks
1	-	Output	0 TO 10-160 mW	Mono or stereo headphones may be used. 8 ohm - 5 kohm Built-in speaker is disconnected when jack is inserted
2	-			
3	- LS			

MORSE KEY SOCKET:

Terminal No.	Designation	Direction	Signal level	Remarks
1	MORSE KEY	Input	0/12 V	Keyes Tx in CW or MCW when LOW
2	GND	-		

EXTERNAL CONNECTIONS, CONTROL UNIT

Table 7.3

Terminal No.	Designation	Direction	Signal level	Remarks
1	TX REM	Output	RS232C	Remote Control Serial Data
2	GND	-		
3	RX REM	Input	RS232C	Remote Control Serial Data
4	GND	-		
5	2182 SEL	Output	74LS00	High when 2182 is selected
6	GND	-		
7	SCAN S/S	Input	0/12 V	Start/Stop of scanning (user programmable)
8	GND	-		
9	TELEX KEY	Input	0/12 V	Keyes Tx in TELEX mode when LOW
10	GND	-		
11	AUX KEY	Input	0/12 V	Keyes Tx in USB, LSB, AM or R3E modes when LOW
12	GND	-		
13	TELEX IN	Input	-16 to +10 dBm	600 ohms audio input. Open in TELEX mode *
14	GND	-		
15	AUX IN	Input	-16 to 10 dBm	600 ohms audio input. Open in USB, LSB, AM or R3E modes when AUX KEY is LOW *
16	GND	-		
17	LINE OUT	Output	-10 to 10 dBm	600 ohms audio output. Internally adjustable *
18	GND	-		
19	SPEAKER -	Output	0 to 5 W	Load impedance 8 ohms

* An optional LINE TRANSFORMER BOARD 603 is available providing balanced input/output.

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Table 7.2

Terminal No.	Designation	Direction	Remarks
1	+	Input -	Supply from 12/24/32 V battery or P 8250
2	GND	-	Screen
3	-	Input	Supply from 12/24/32 V battery or P 8250

TS 1 SUPPLY TERMINALS, TRANSCEIVER UNIT

Table 7.4

Terminal No.	Designation	Direction	Max. Current	Remarks
1	+ 24 V	Output	Note 1	+ 24 V available when equipment is ON
2	TX ON	Output	250 mA	Open collector. Low when TX on
3	+ 24 V	Output	Note 1	+ 24 V available when equipment is ON
4	TX KEYED	Output	250 mA	Open collector. Low when TX KEYED
5	+ 24 V	Output	Note 1	+ 24 V available when equipment is ON
6	2182 KEYED	Output	250 mA	Open collector. Low when TX KEYED on 2182 kHz
7	GND	-		
8	RX MUTE	Input		0/12 V. Rx is muted when connected to GND
9	+ 24 V TX ON	Output	Note 1	+ 24 V available when TX is ON
10	GND	-		

Note 1: Max. total current 1000 mA

620 TS 2 AUXILIARY TERMINALS, TRANSCEIVER UNIT

Table 7.5