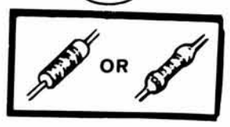
ILLUSTRATION BOOKLET

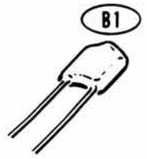
Display Circuit Board
Parts Pictorial

Part of 595-4016-02

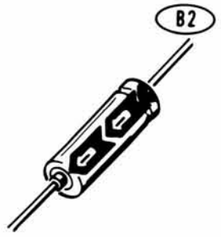
A1



B1



B2

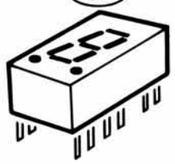


C1

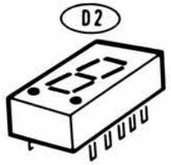
C2

ALWAYS IDENTIFY AN I.C. BY THE PART NUMBER OR TYPE NUMBER
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.

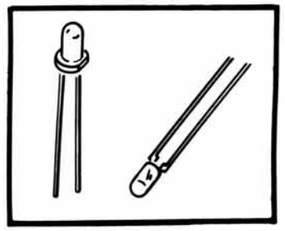
D1



D2



D3



E1

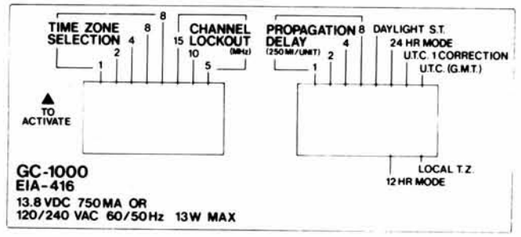
E2

E3

F1

HEATHKIT
Verification of Compliance with Federal Communications Commission Regulations, Part 15, Subpart J.
The Heath Company certifies that this equipment can be expected to comply with the emission limits for a Class B computing device persuant to Subpart J of Part 15 of the FCC rules when assembled in strict accordance with the instructions contained in the applicable Heath Company Instruction Manual, using only components and materials supplied with the kit or the exact equivalent thereof.
Heath Company, Benton Harbor, MI., 49022

F2



F3

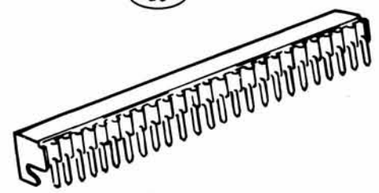
GC-1000-H
HEATH COMPANY
BENTON HARBOR, MI 49022

G1

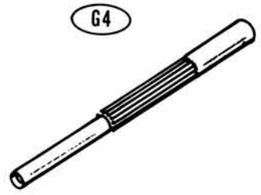
G2

ALWAYS IDENTIFY AN I.C. SOCKET BY COUNTING ITS PINS.
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.

G3



G4



G5

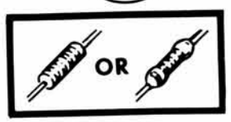
G6

G7

Tone Decoder Circuit Board
Parts Pictorial

A1

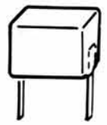
A2



B1

C1

C2

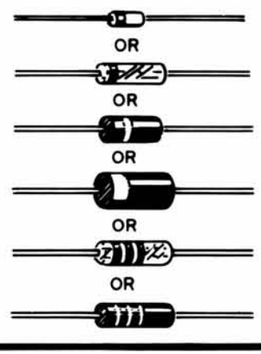


C3

C4

D1

NOTE: HEATH PART NUMBERS ARE STAMPED ON MOST DIODES.



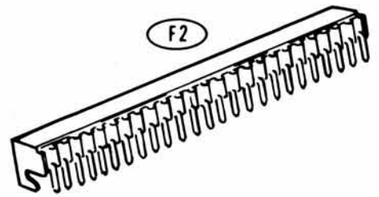
D2

D3

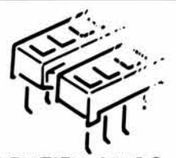
ALWAYS IDENTIFY AN I.C. BY THE PART NUMBER OR TYPE NUMBER
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.

F1

F2



F3



ALWAYS IDENTIFY AN I.C. SOCKET BY COUNTING ITS PINS.
NOTE: THE STYLE MAY BE SLIGHTLY DIFFERENT THAN SHOWN.

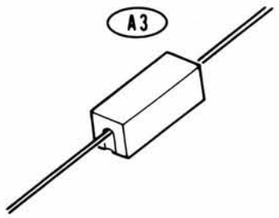
F4

Main and Test Circuit Boards
Parts Pictorial

A1

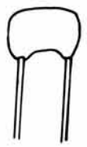
A2

A3



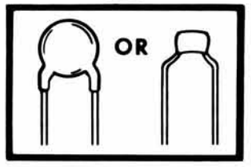
A4

B1



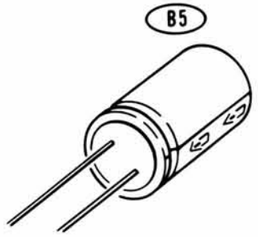
B2

B3

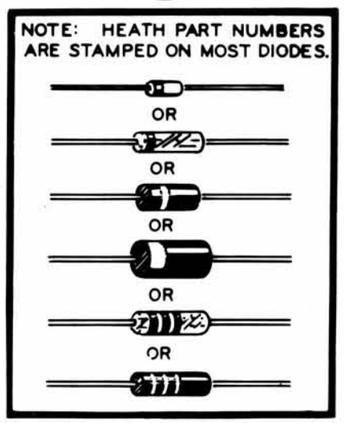


B4

B5



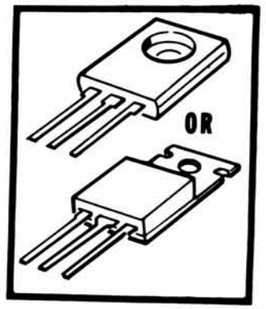
C1



C2

C3

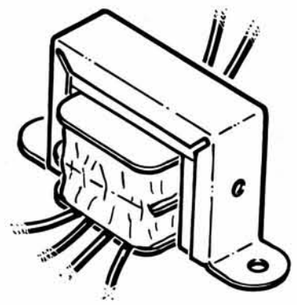
C4



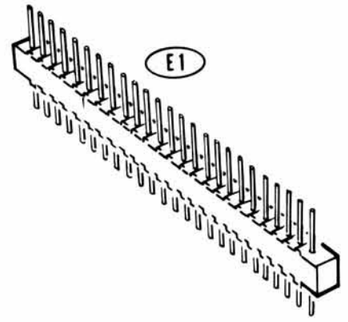
C5

D1

D2



E1



E2

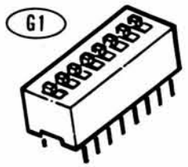
F1

F2

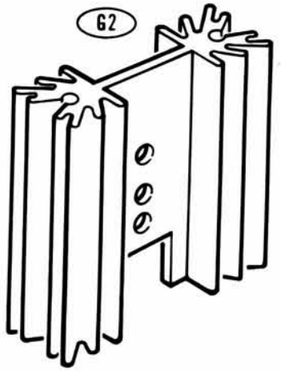
F3

F4

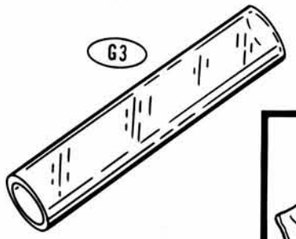
G1



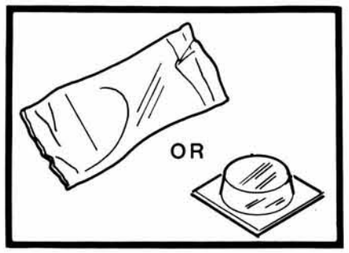
G2



G3



G4

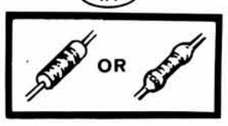


G5

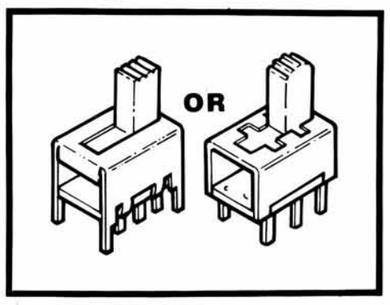
G6

G7

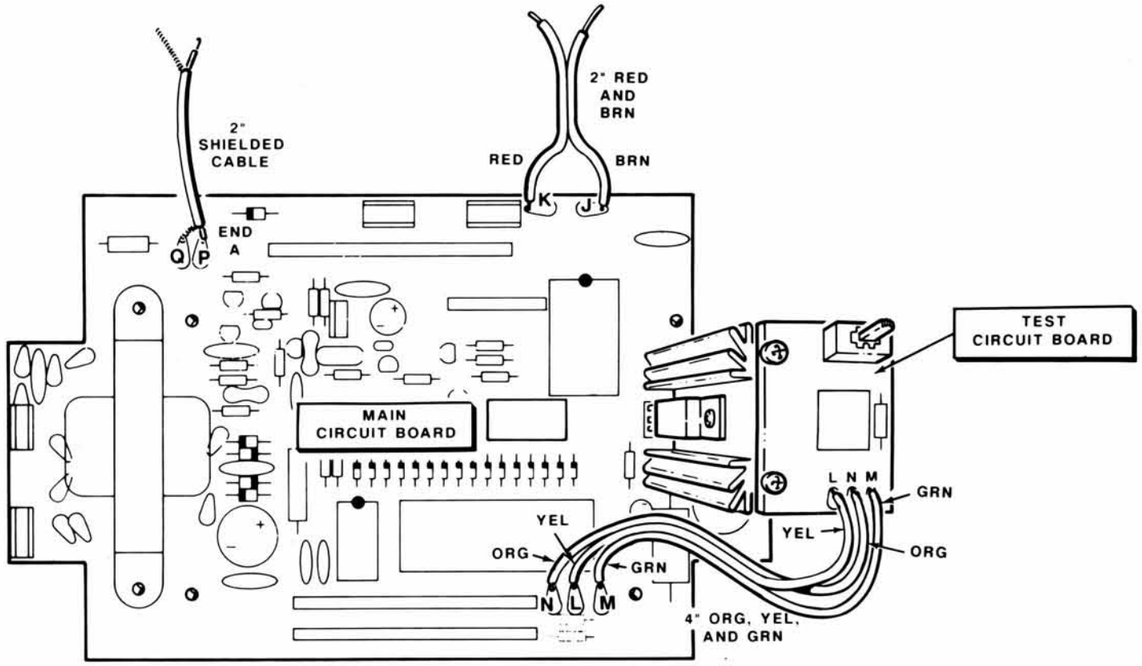
H1



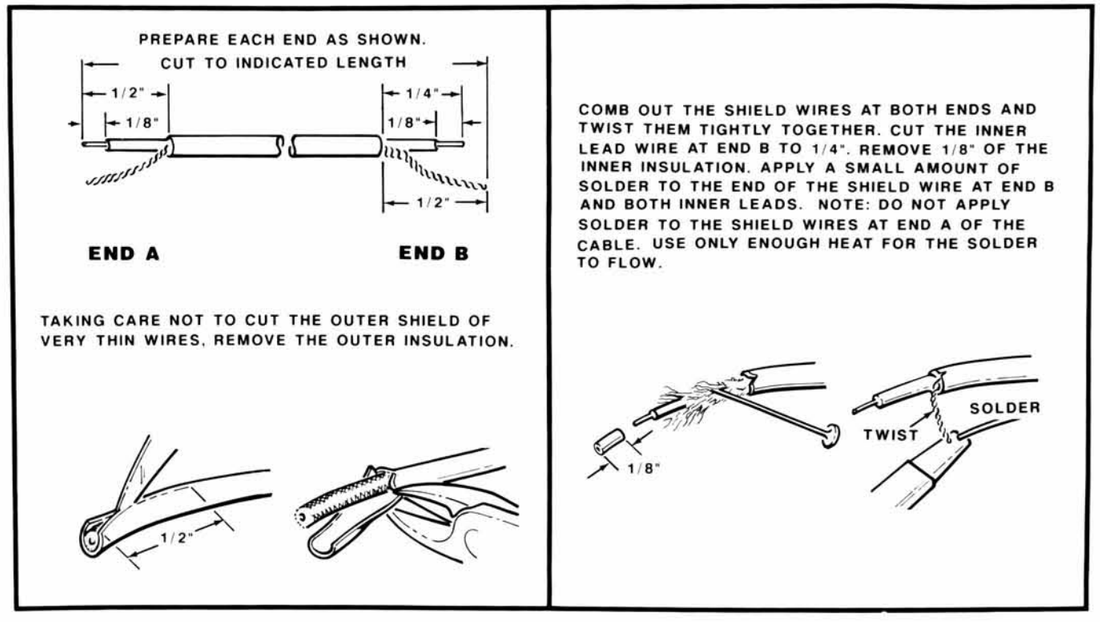
H2



H3

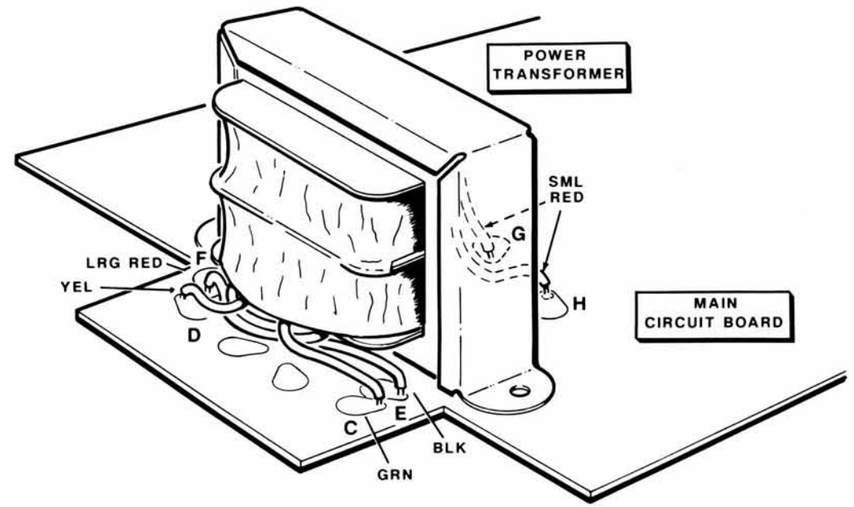


PICTORIAL 3-14

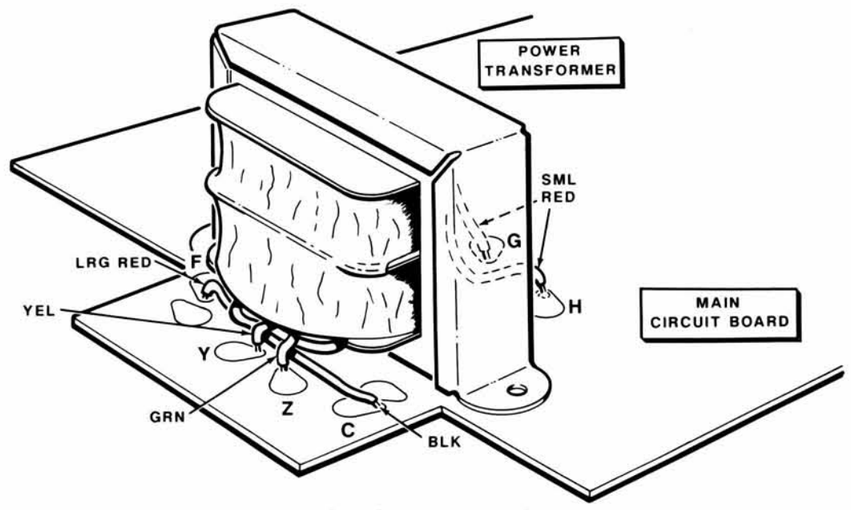


Detail 3-14B

PART A 120 VAC WIRING

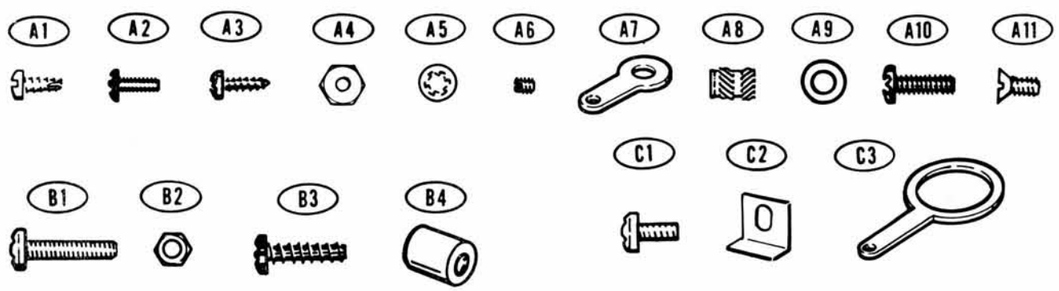


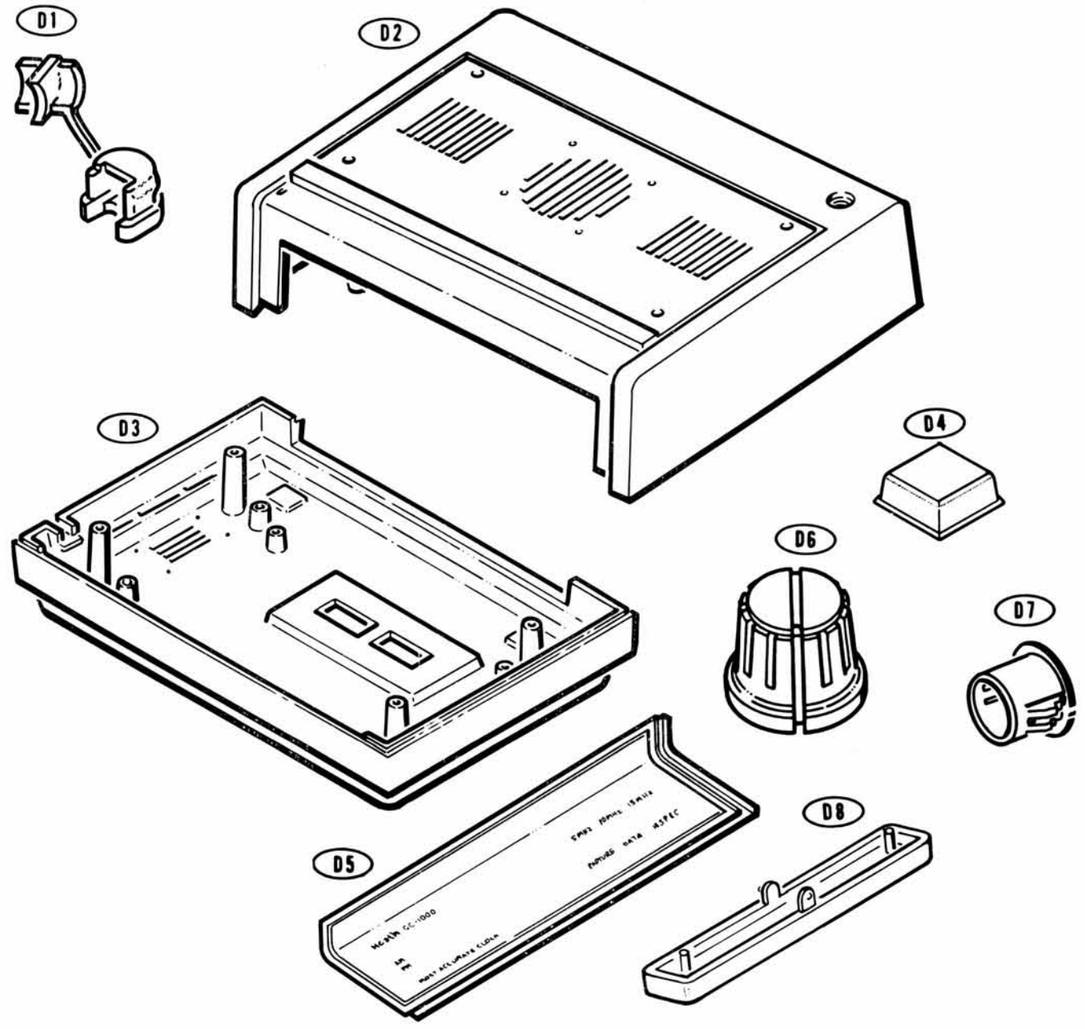
PART B 240 VAC WIRING

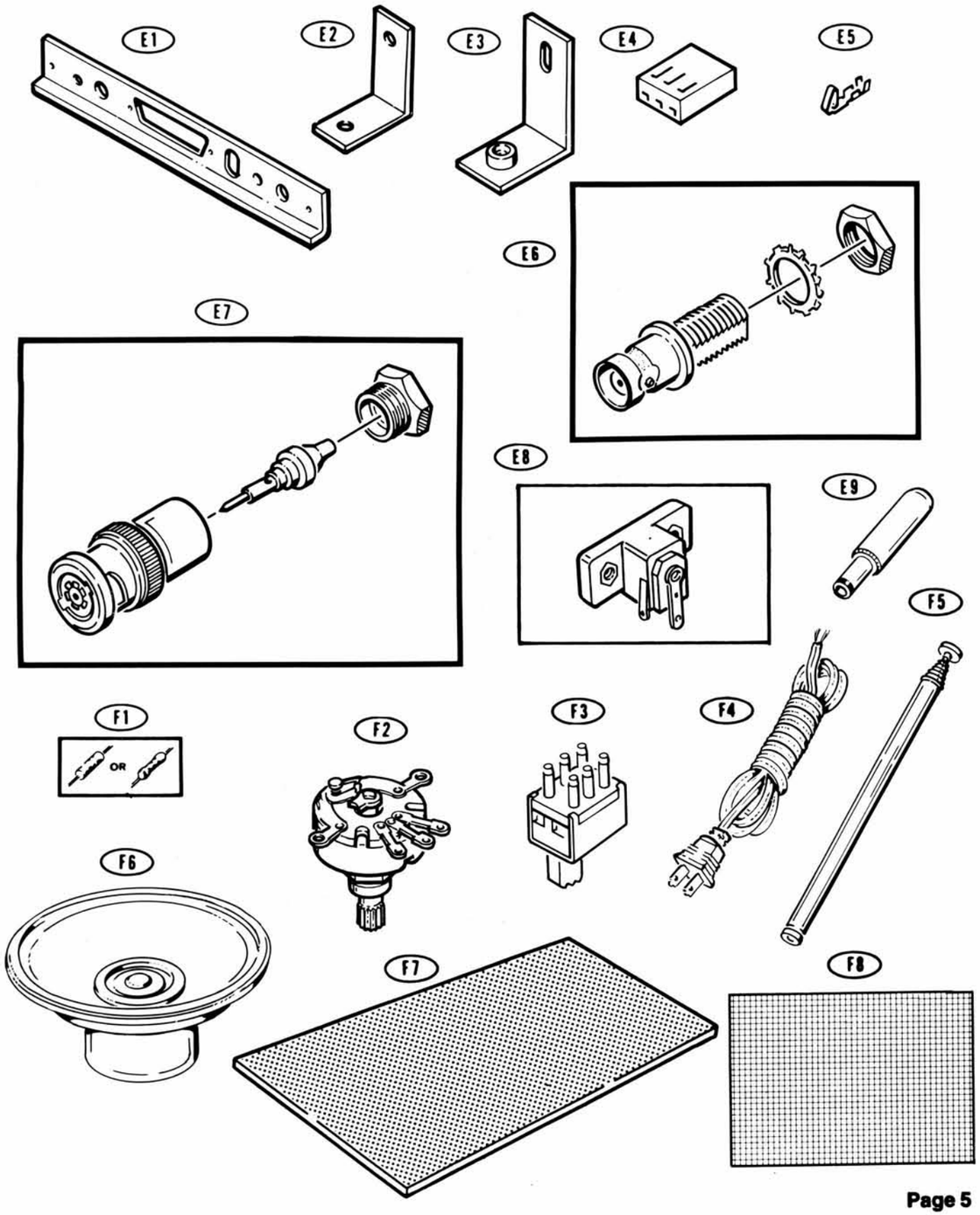


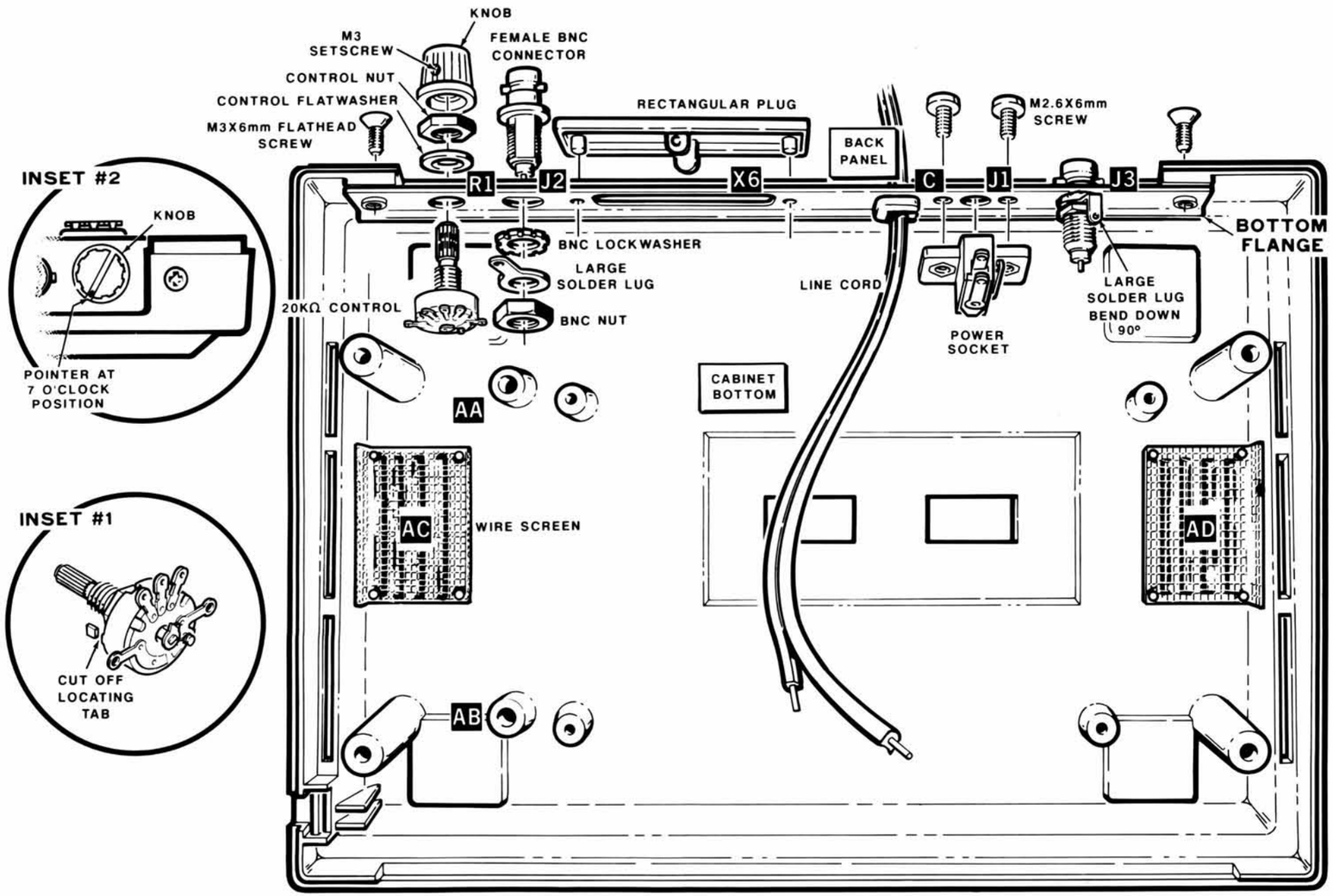
PICTORIAL 3-15

Cabinet Parts Pictorial

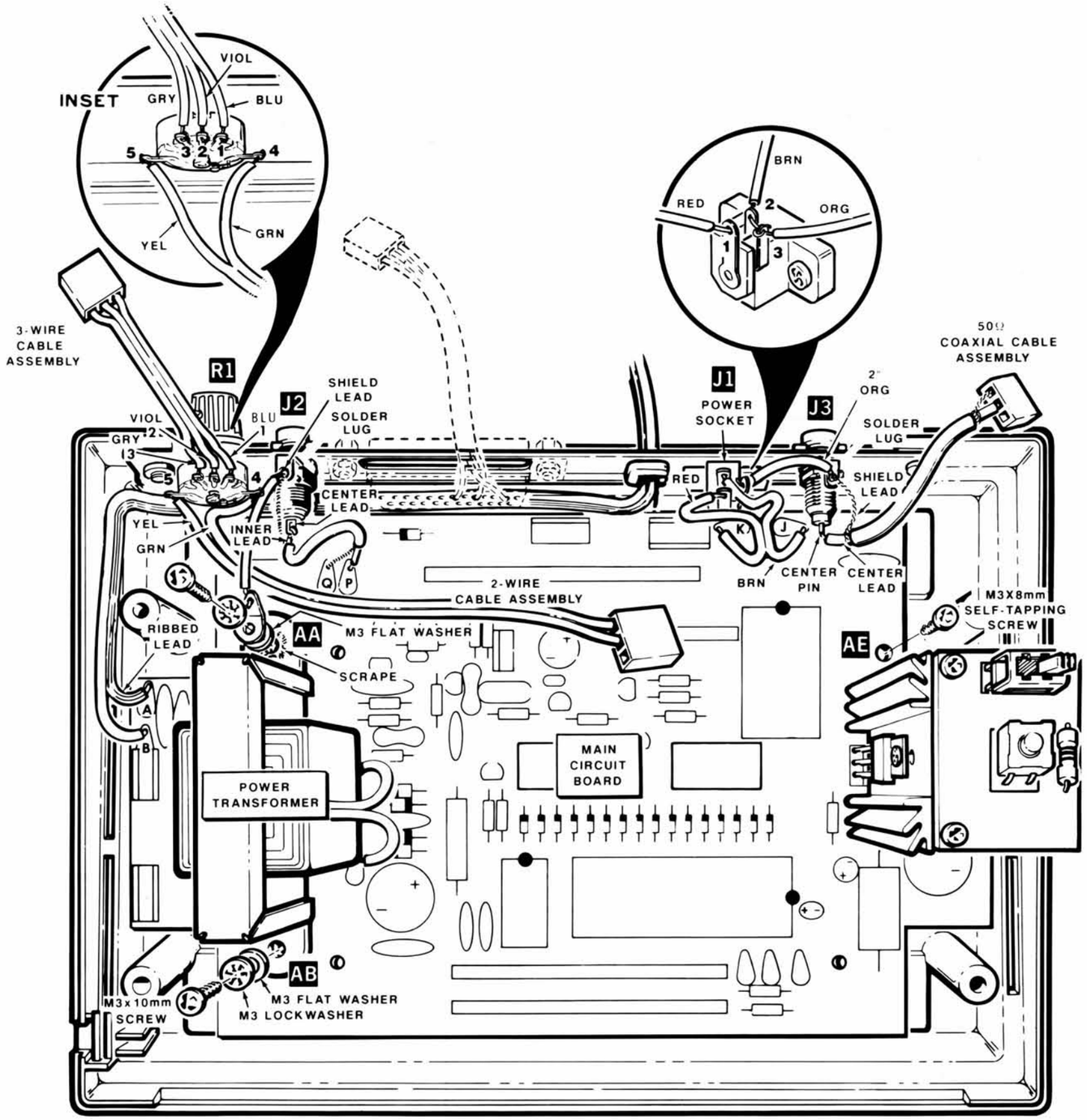




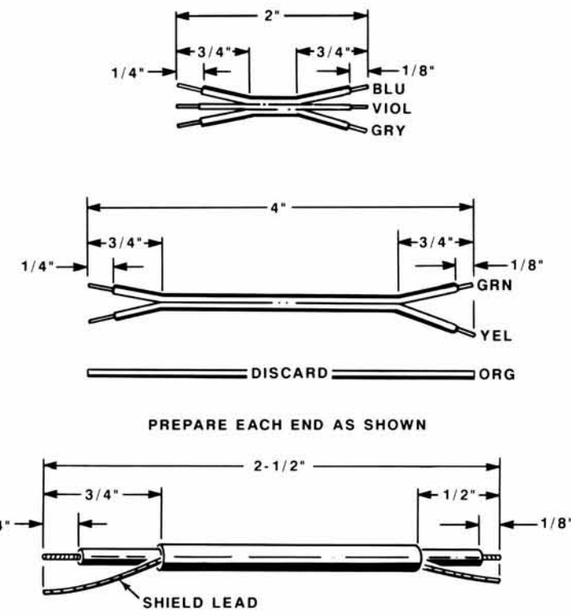




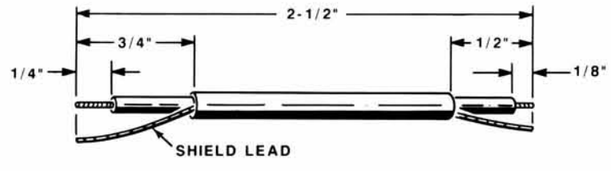
PICTORIAL 4-1



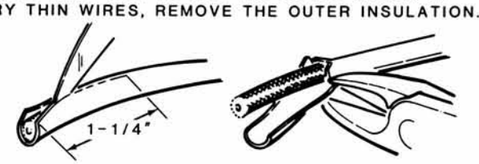
PICTORIAL 4-2



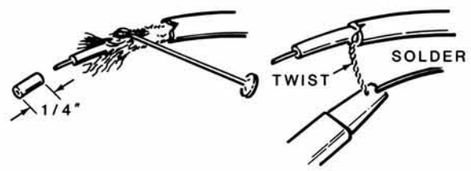
PREPARE EACH END AS SHOWN



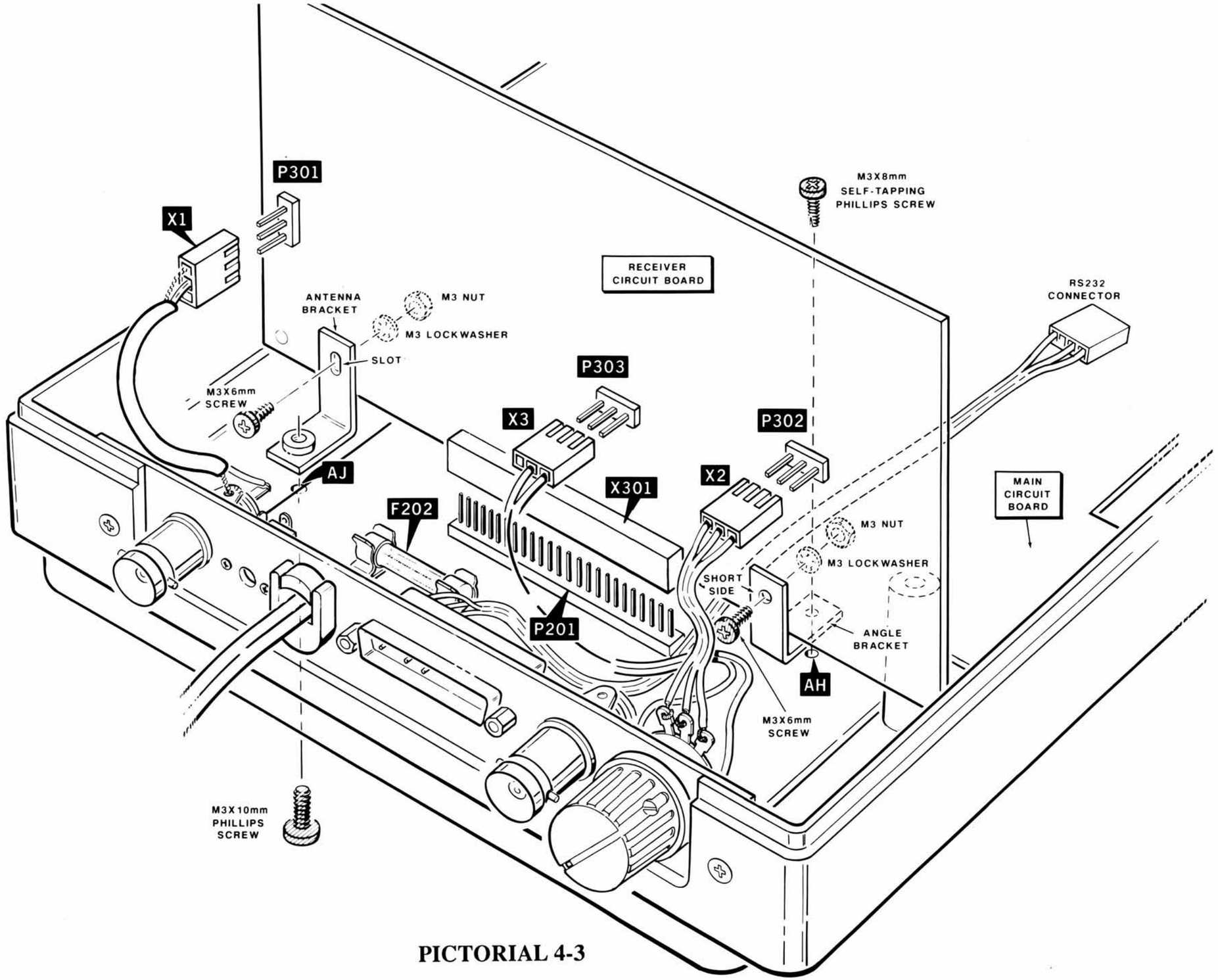
TAKING CARE NOT TO CUT THE OUTER SHIELD OF VERY THIN WIRES, REMOVE THE OUTER INSULATION.



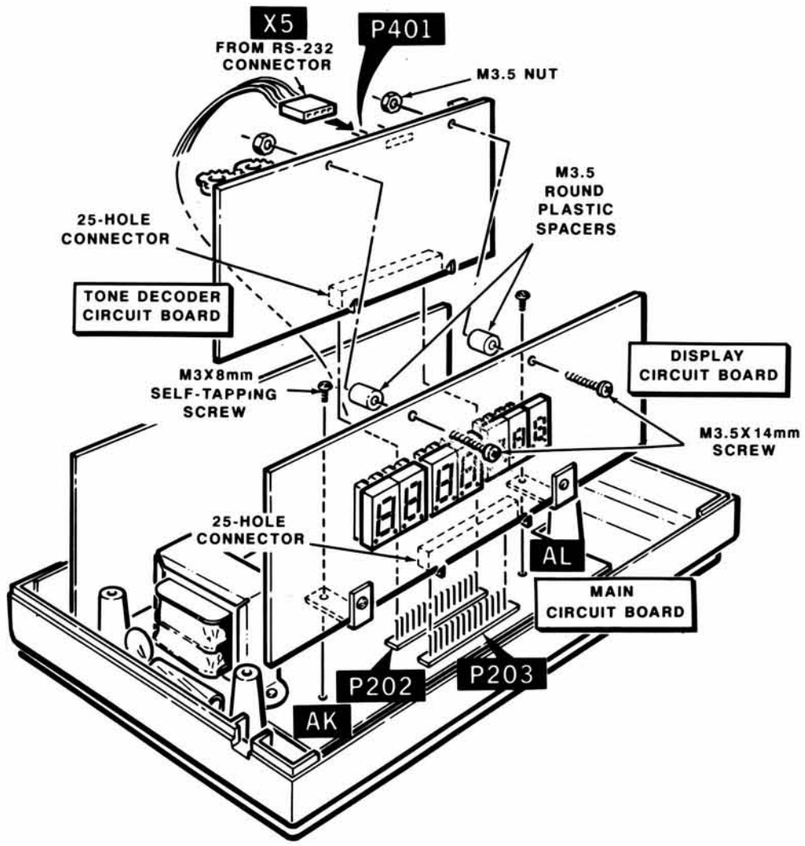
COMB OUT THE SHIELD WIRES AT THE 1-1/4" END AND TWIST THEM TIGHTLY TOGETHER. REMOVE 1/4" OF THE INNER INSULATION. APPLY A SMALL AMOUNT OF SOLDER TO THE END OF THE SHIELD WIRES AND THE INNER LEAD. USE ONLY ENOUGH HEAT FOR THE SOLDER TO FLOW.



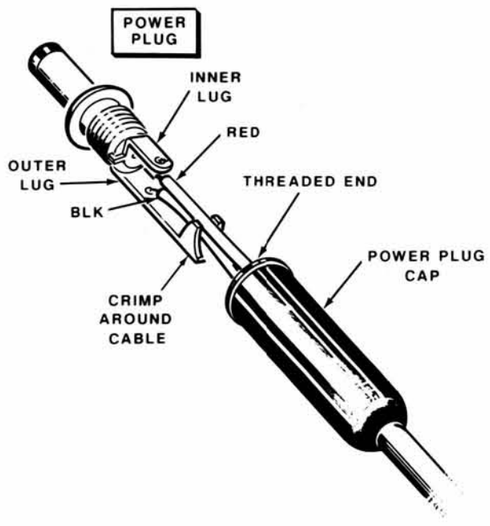
Detail 4-2B



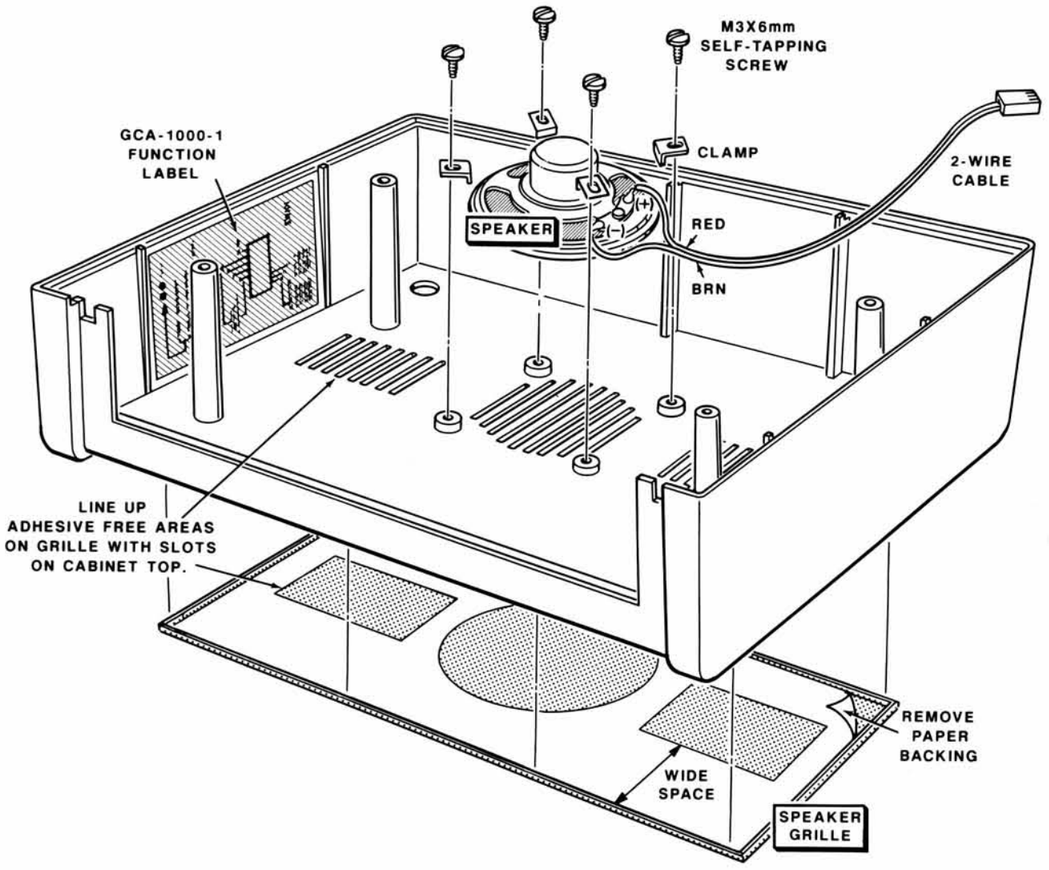
PICTORIAL 4-3



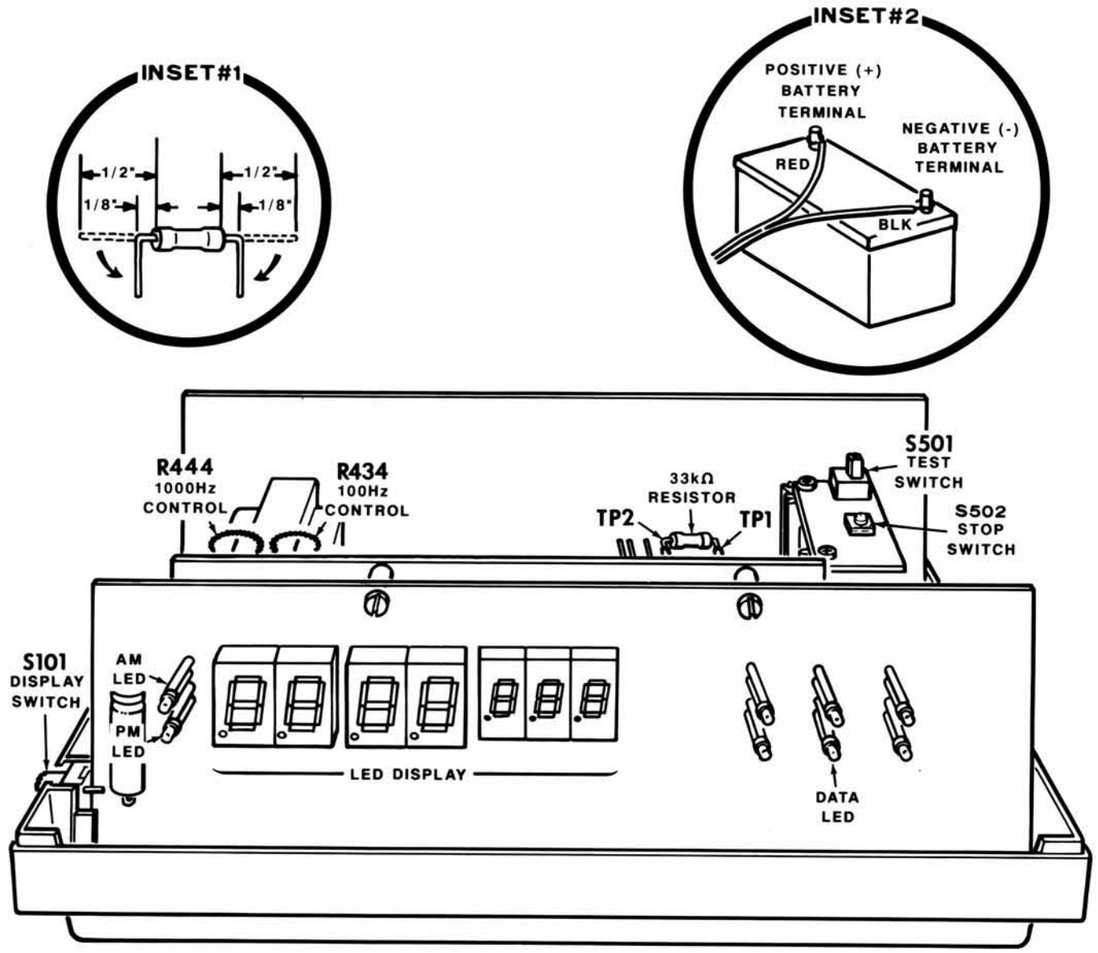
PICTORIAL 4-4

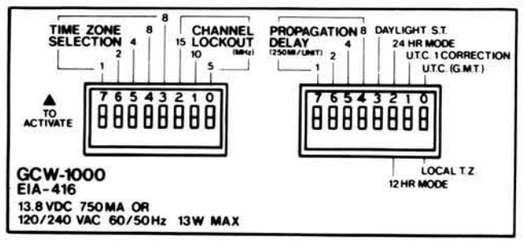


PICTORIAL 4-7

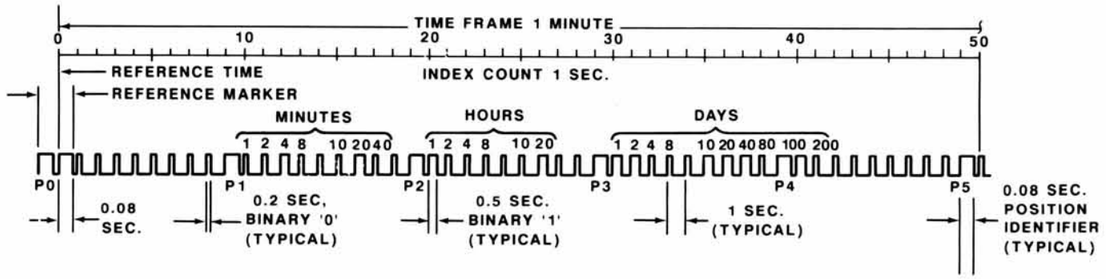


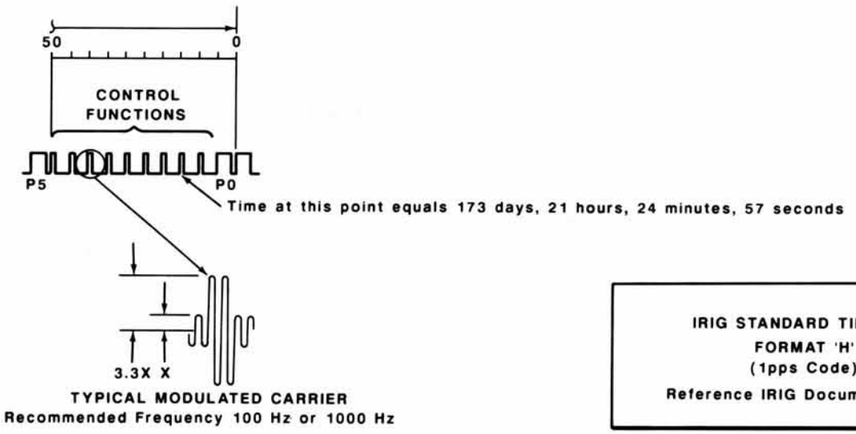
PICTORIAL 4-6





PICTORIAL 5-1



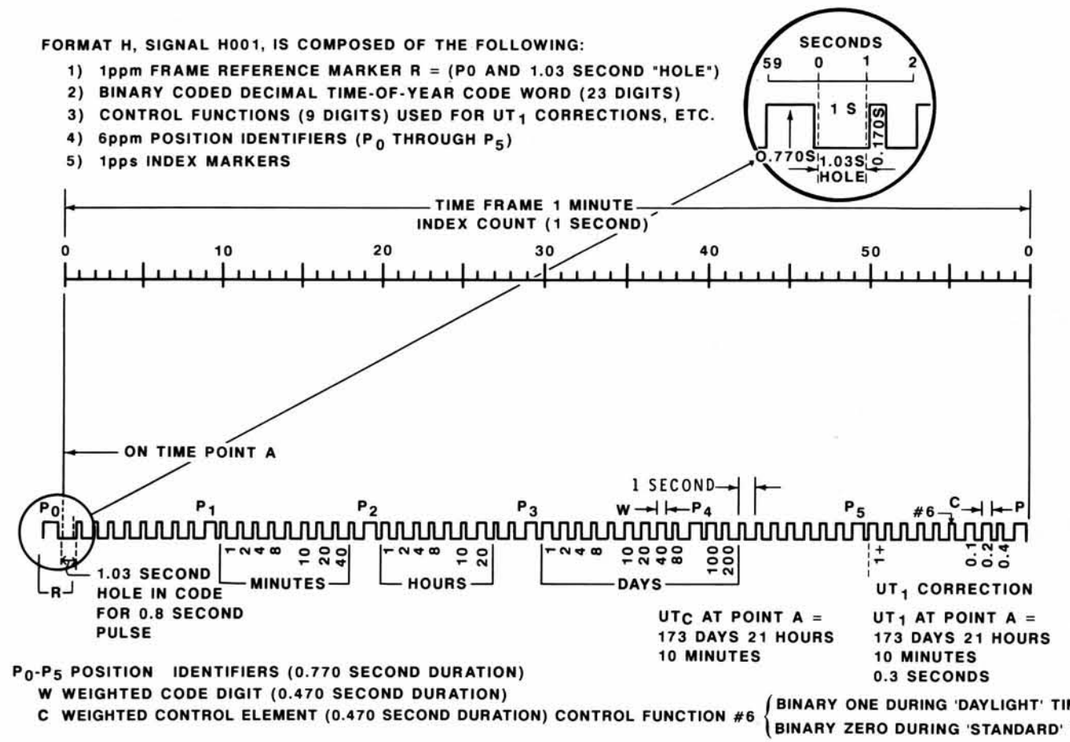


IRIG STANDARD TIME CODE
FORMAT 'H'
(1pps Code)
Reference IRIG Document 104-70

PICTORIAL 7-1

FORMAT H, SIGNAL H001, IS COMPOSED OF THE FOLLOWING:

1) 1ppm FRAME REFERENCE MARKER R = (P0 AND 1.03 SECOND "HOLE")
2) BINARY CODED DECIMAL TIME-OF-YEAR CODE WORD (23 DIGITS)
3) CONTROL FUNCTIONS (9 DIGITS) USED FOR UT_1 CORRECTIONS, ETC.
4) 6ppm POSITION IDENTIFIERS (P_0 THROUGH P_5)
5) 1pps INDEX MARKERS



P_0-P_5 POSITION IDENTIFIERS (0.770 SECOND DURATION)
W WEIGHTED CODE DIGIT (0.470 SECOND DURATION)
C WEIGHTED CONTROL ELEMENT (0.470 SECOND DURATION) CONTROL FUNCTION #6 { BINARY ONE DURING 'DAYLIGHT' TIME / BINARY ZERO DURING 'STANDARD' TIME

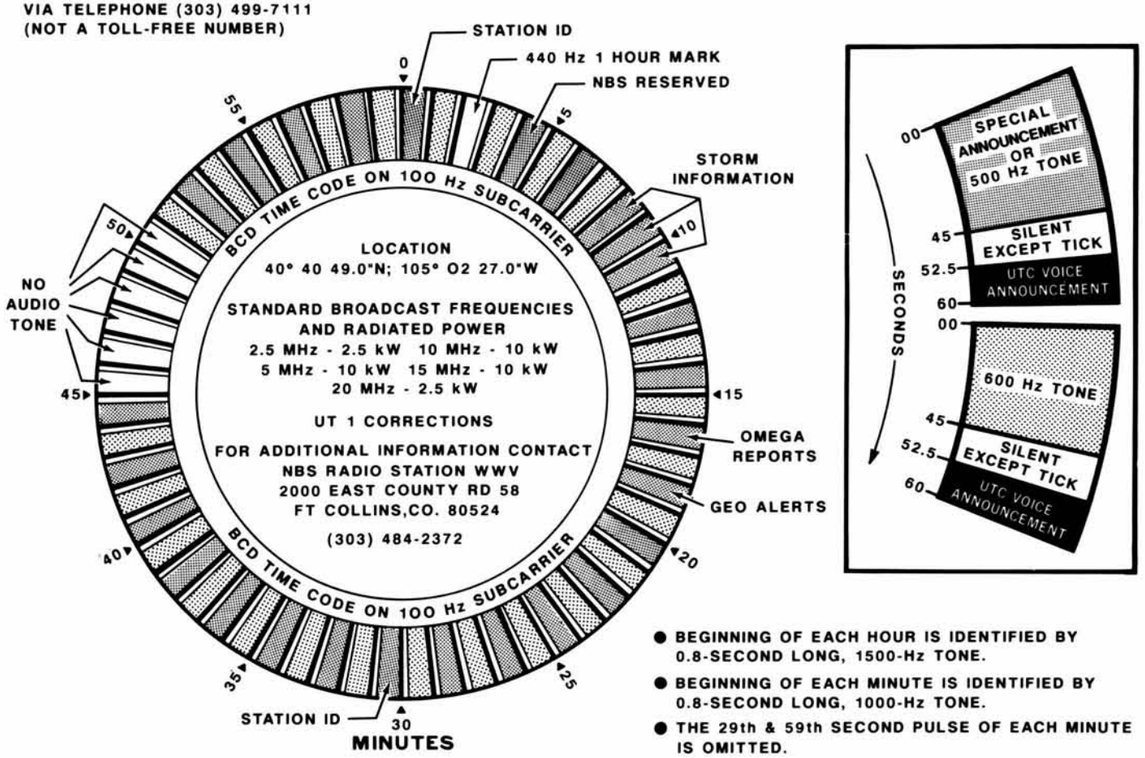
DURATION OF INDEX MARKERS. UNWEIGHTED CODE, AND UNWEIGHTED CONTROL ELEMENTS = 0.170 SECONDS

NOTE BEGINNING OF PULSE IS REPRESENTED BY POSITIVE-GOING EDGE.

PICTORIAL 7-4

WWV BROADCAST FORMAT

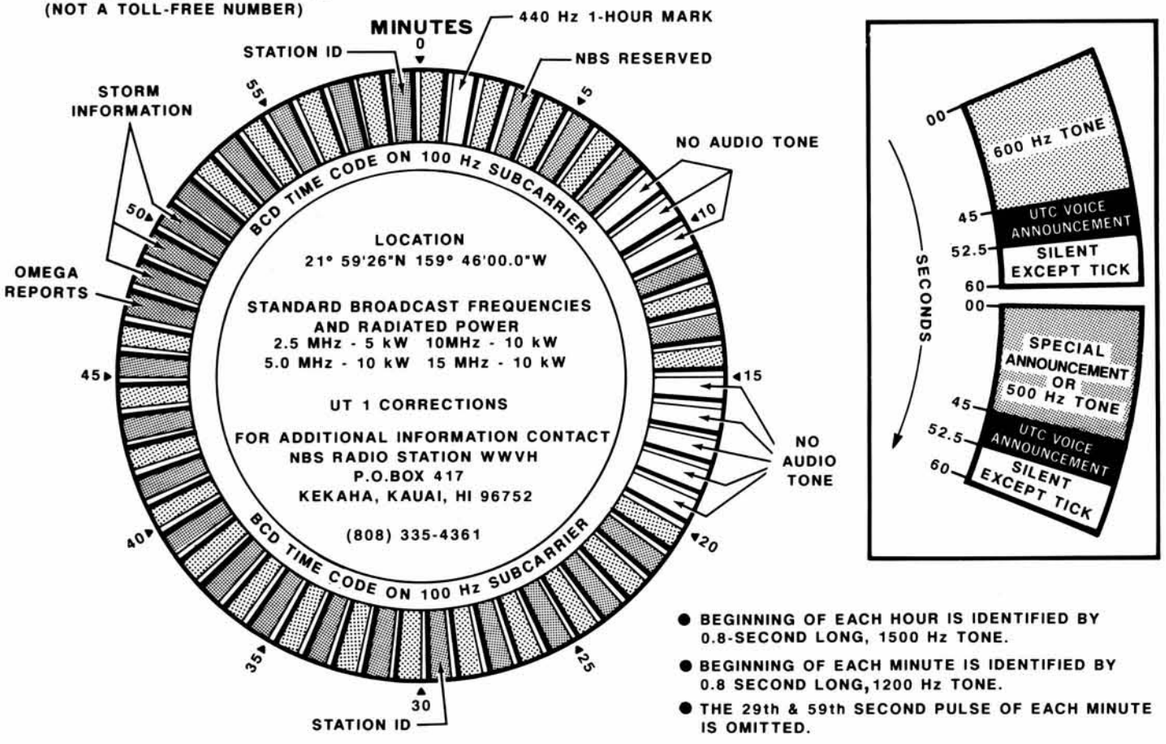
VIA TELEPHONE (303) 499-7111
(NOT A TOLL-FREE NUMBER)



- BEGINNING OF EACH HOUR IS IDENTIFIED BY 0.8-SECOND LONG, 1500-Hz TONE.
- BEGINNING OF EACH MINUTE IS IDENTIFIED BY 0.8-SECOND LONG, 1000-Hz TONE.
- THE 29th & 59th SECOND PULSE OF EACH MINUTE IS OMITTED.

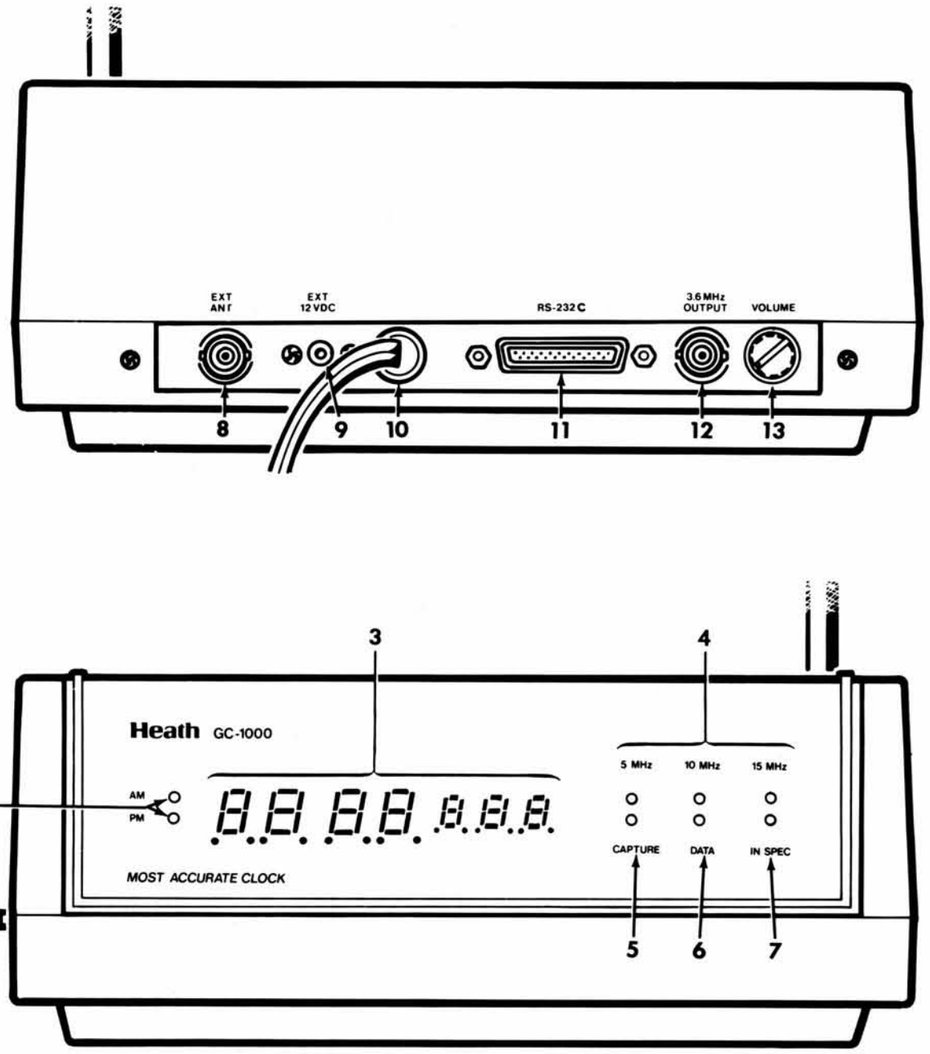
WWVH BROADCAST FORMAT

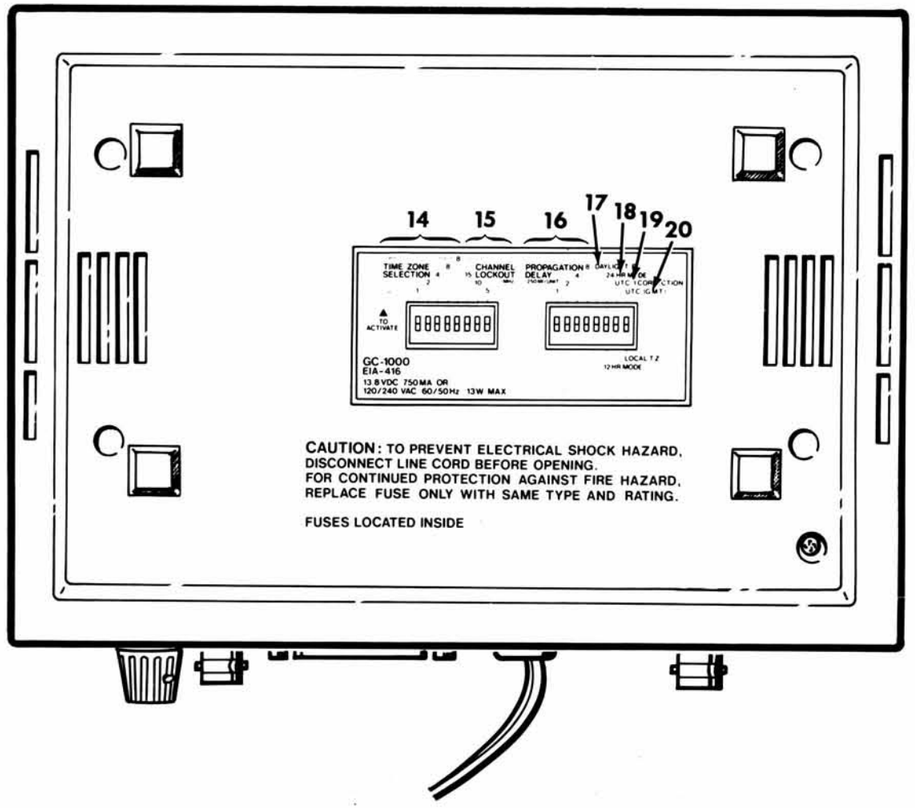
VIA TELEPHONE (808) 335-4363
(NOT A TOLL-FREE NUMBER)



- BEGINNING OF EACH HOUR IS IDENTIFIED BY 0.8-SECOND LONG, 1500 Hz TONE.
- BEGINNING OF EACH MINUTE IS IDENTIFIED BY 0.8 SECOND LONG, 1200 Hz TONE.
- THE 29th & 59th SECOND PULSE OF EACH MINUTE IS OMITTED.

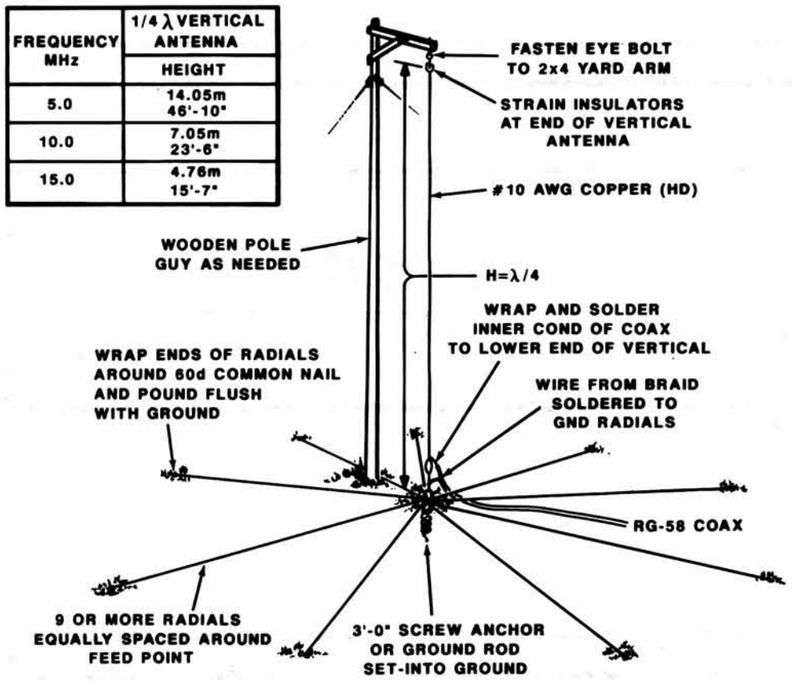
PICTORIAL 7-5





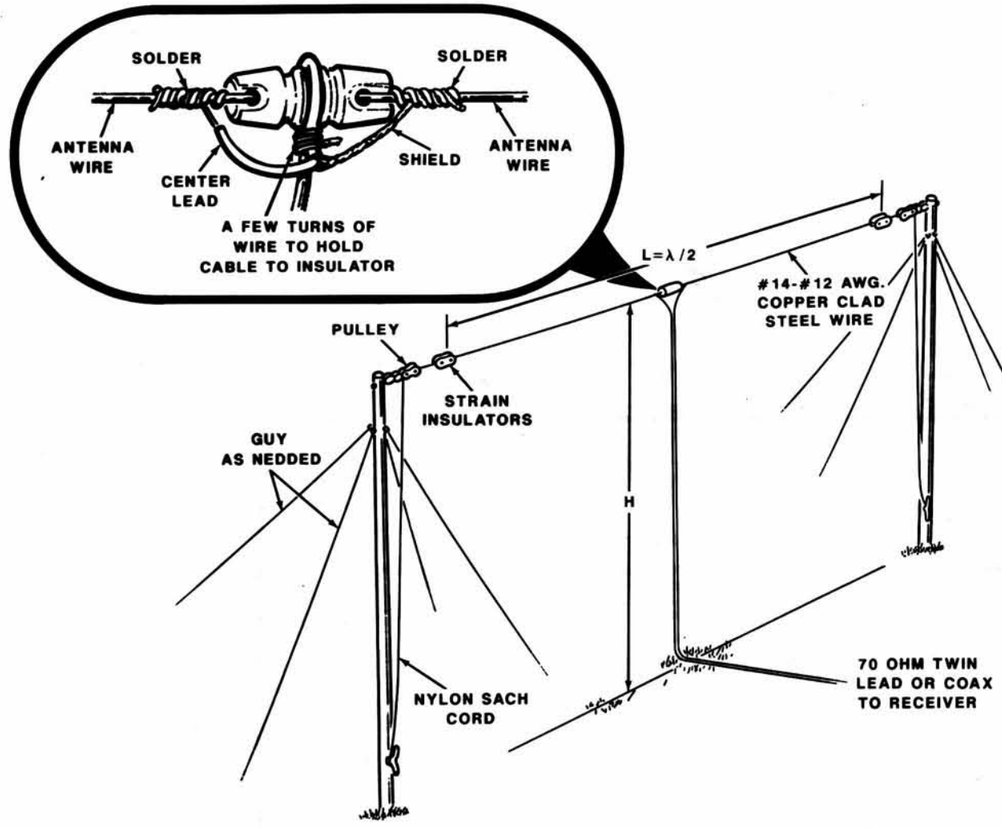
PICTORIAL 8-1

FREQUENCY MHz	1/4 λ VERTICAL ANTENNA HEIGHT
5.0	14.05m 46'-10"
10.0	7.05m 23'-6"
15.0	4.76m 15'-7"



QUARTER-WAVELENGTH ANTENNA

PICTORIAL 8-2

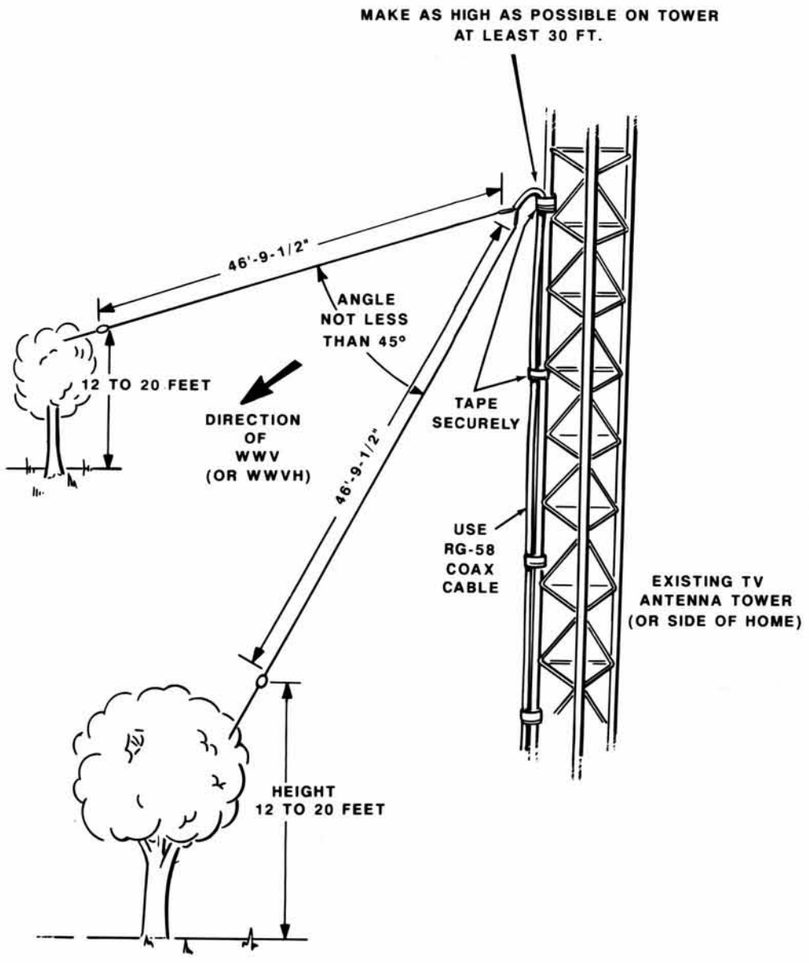


FREQUENCY MHz	1/2 λ HORIZONTAL DIPOLE ANTENNA	
	LENGTH	HEIGHT
5.0	28.07M 93'-7"	9M TO 15M 30' TO 50'
10.0	14.05M 46'-10"	7.5M TO 15M 25' TO 50'
15.0	9.4M 31'-2"	6.1M TO 15M 20' TO 50'

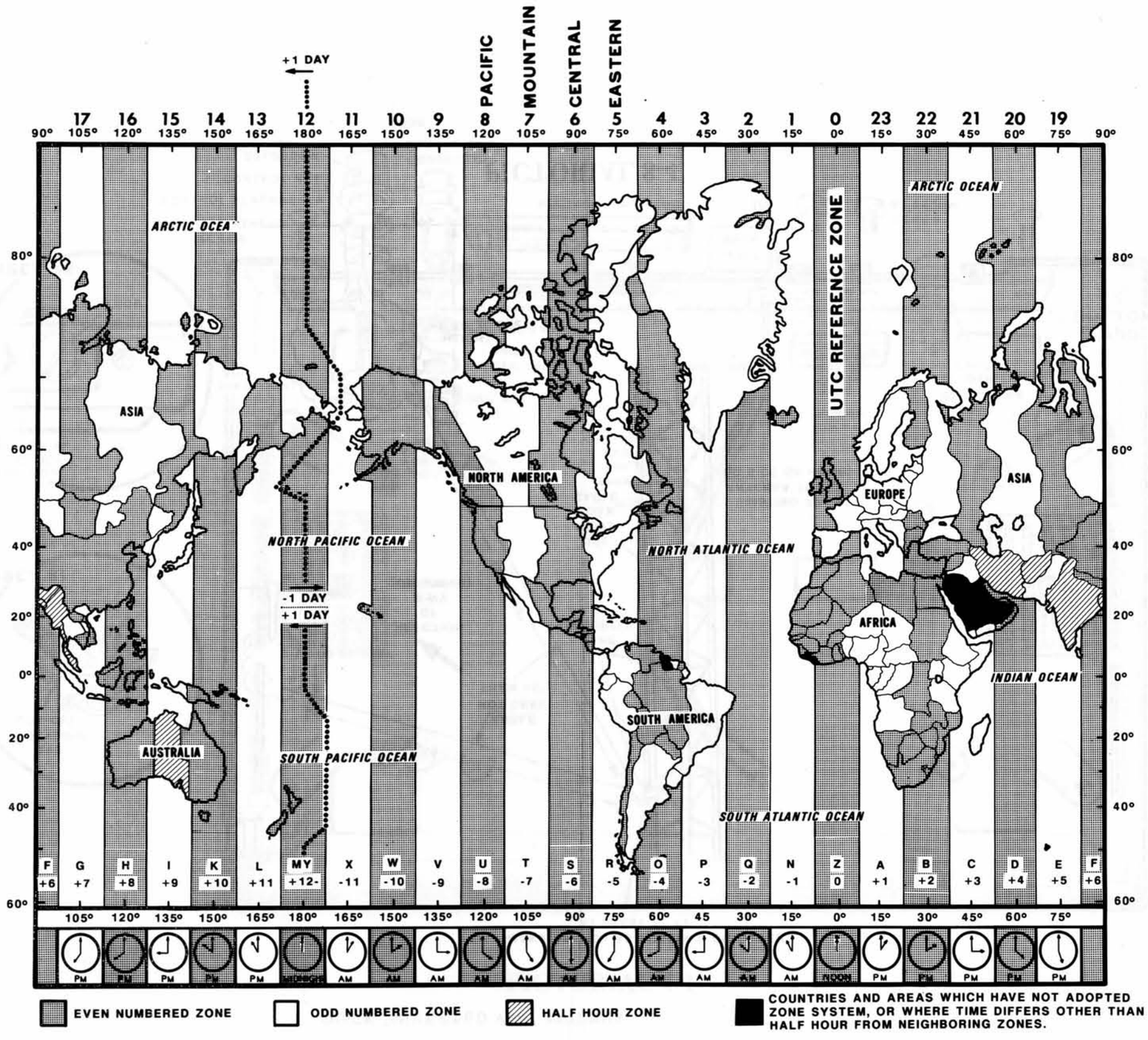
HORIZONTAL HALF-WAVELENGTH ANTENNA

PICTORIAL 8-3

QUICK "INVERTED Vee" ANTENNA

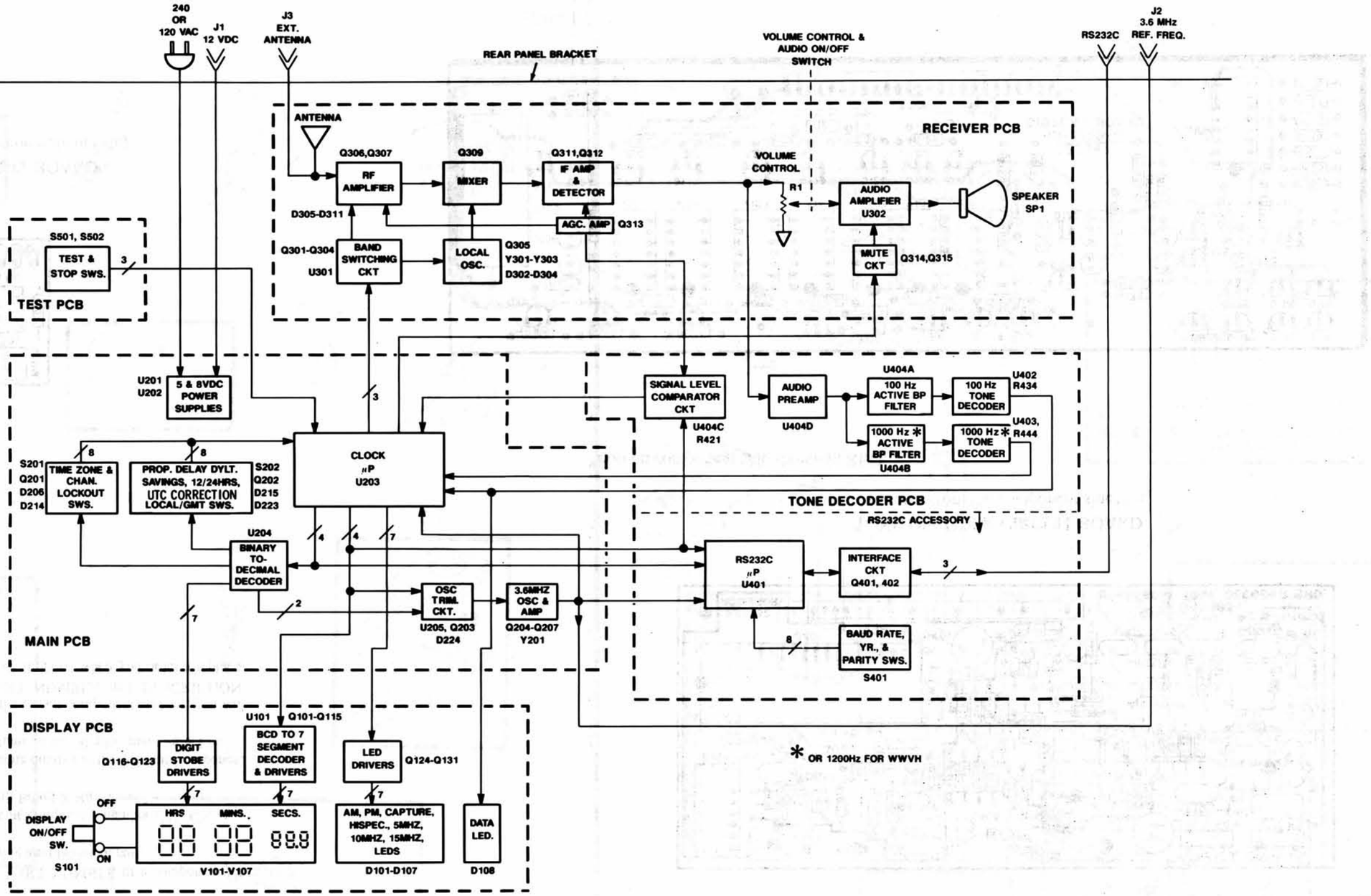


PICTORIAL 8-4



STANDARD TIME ZONES OF THE WORLD REFERENCED TO UTC

PICTORIAL 8-5



BLOCK DIAGRAM

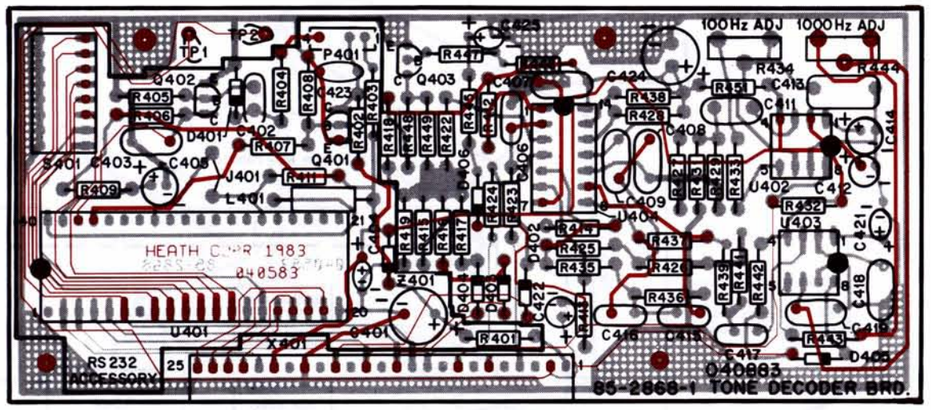
CIRCUIT BOARD X-RAY VIEWS

NOTE: To find the PART NUMBER of a component for the purpose of ordering a replacement part:

A. Find the circuit component number (U1, C3, etc.) on the "Circuit Board X-Ray View."

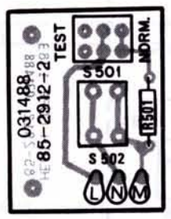
B. Locate this same number in the "Circuit Component Number" column of the "Replacement Parts List."

C. Adjacent to the circuit component number, you will find the PART NUMBER and DESCRIPTION, which must be supplied when you order a replacement part.

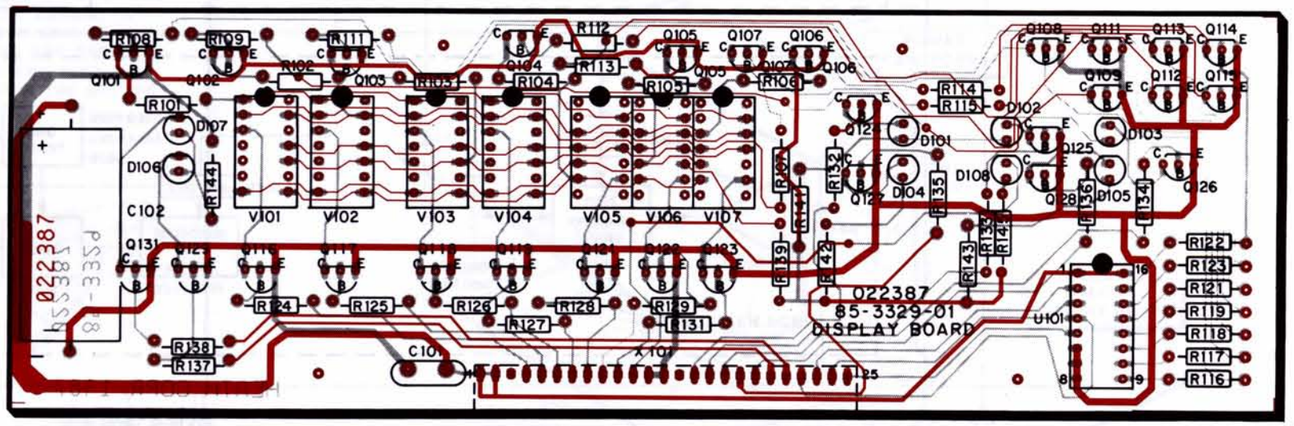


TONE DECODER CIRCUIT BOARD
(Shown from the component side*)

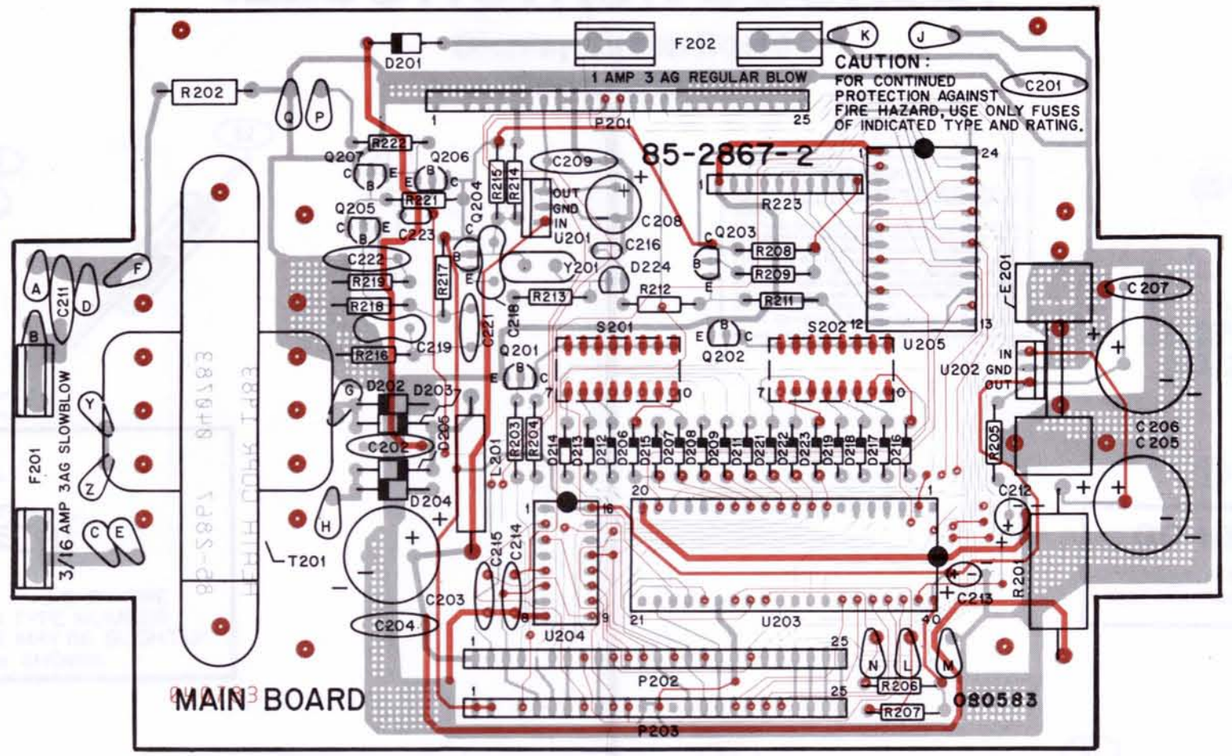
*Foil on component side shown in RED.



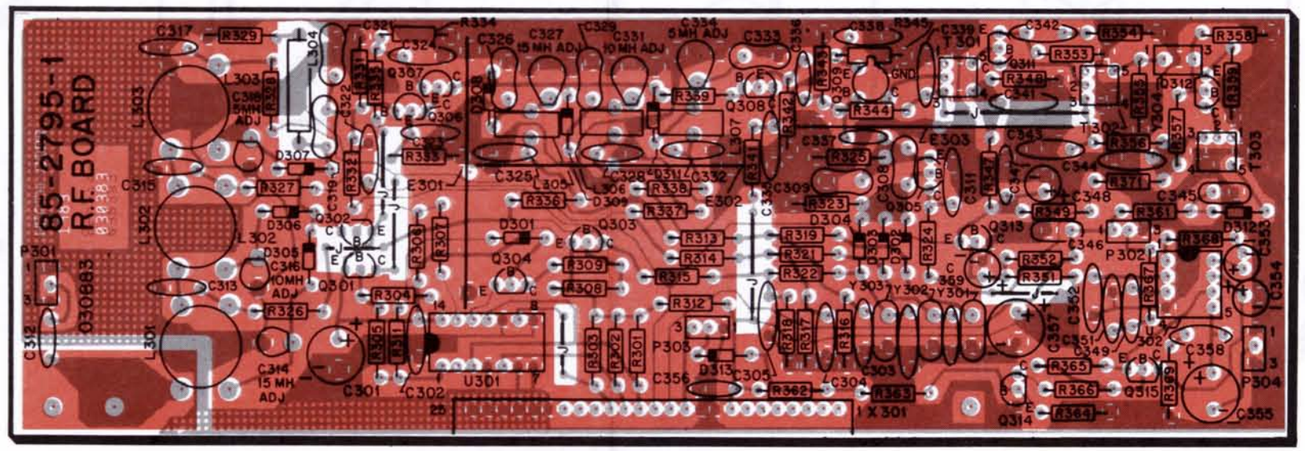
TEST CIRCUIT BOARD
(Shown from the component side)



DISPLAY CIRCUIT BOARD
(Shown from the component side*)



MAIN CIRCUIT BOARD
(Shown from the component side*)



RECEIVER CIRCUIT BOARD
(Shown from the component side*)

*Foil on component side shown in red.